Water Resources Division PUBLICATIONS GUIDE

Volume 1. Publications Policy and Text Preparation

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Water Resources Division

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UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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FOREWORD

In 1962, Donald Wiesnet conceived a guide for Water Resources Division authors that provided information on procedures and policies not readily accessible elsewhere. Wiesnet and James Warman prepared the earliest articles for the original Publications Guide, most of which pertained to illustrations. In the late 1960's and early 1970's, the first edition of the Water Resources Division Publications Guide was completed under the able direction of Donald Hillier, who prepared many of the articles. Over the years, additional articles were added in response to changes in report policy and preparation.

The first edition of the Water Resources Division Publications Guide was regarded by those who worked with publications on a daily basis as the source for reliable guidance in the policy and mechanics of report preparation. In 1980, it became apparent that the evolution of the Water Resources Division, and the many changes in report policy, preparation, and production stemming therefrom, resulted in a need to update the Publications Guide.

The new Water Resources Division Publications Guide consists of two volumes--Volume I discusses Geological Survey publication policy and text preparation and describes in detail the various aspects of report preparation, review, and publication; Volume II (in preparation, 1982) discusses Geological Survey policy regarding illustrations, and describes the various techniques for planning, designing, drafting, reviewing, and printing illustrations, including hydrologic maps. Until Volume II becomes available, the first edition of the Publications Guide should be retained for information on illustration policy and preparation not included in Volume I.

Philip Cohen
Chief Hydrologist

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

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WATER RESOURCES DIVISION PUBLICATIONS GUIDE

INTRODUCTION

The first edition of the Water Resources Division Publications Guide was begun during the 1960's to provide those involved in report preparation with a source of detailed information on the mechanics of report preparation and processing. It was designed to supplement our two other broader guides, Suggestions To Authors of the Reports of the United States Geological Survey and the Government Printing Office Style Manual, with which all people involved with reports should be familiar. Procedures have changed throughout the years, and the Water Resources Division decided to revise the Publications Guide to reflect these changes and also to incorporate the comments that were received regarding needed improvements.

The revised edition of the Publications Guide contains many of the older articles on planning, writing, reviewing, processing, and printing reports and maps; it also incorporates recent changes in publication policy and format made by the Division, the Bureau, and the Department. For ease of use, the Publications Guide is now divided into two volumes: Volume I contains information on report policy and manuscript preparation; Volume II (in preparation, 1982) covers the preparation of maps and illustrations.

The most significant differences between the old and the new editions are that: (1) The content has been updated and reorganized under new headings to help users more easily locate specific articles, and (2) several new sections have been added. Among the additions are articles on report policy; typographic specifications for all manuscript components; principles of layout and typography used in preparing camera-ready copy; and use of numerals, signs, and symbols, including the metric system and significant figures. An index has been added to increase the Publications Guide's usability.

The revised Publications Guide will help authors and others concerned with report preparation to complete their responsibilities with increased efficiency.

To keep the Publications Guide current, users of the Guide who see a need for new articles or revisions are encouraged to submit their suggestions. The usefulness of the Publications Guide will depend largely upon contributions from its users. Please mail all suggestions to:

Chief, Publications Planning Unit
Water Resources Division
U.S. Geological Survey
418 National Center
Reston, Virginia 22092

Future editions of the Publications Guide will be published periodically in response to changes in Department, Division, and Bureau report policy.

Acknowledgments

Appreciation is extended to the many individuals who contributed their time and effort in writing, compiling, reviewing, editing, and typing the 1982 edition of the Water Resources Division Publications Guide. They include:

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WATER RESOURCES DIVISION PUBLICATIONS GUIDE

SECTION 1

U.S. GEOLOGICAL SURVEY POLICY

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Subject: U.S. GEOLOGICAL SURVEY POLICY--Written Reports

1.01.1 References on report policy

Widespread respect for the U.S. Geological Survey is the result of its integrity and impartiality and its ability to release results of its investigations in a manner that serves the whole public rather than the interest of any special group or individual. For this purpose, the Geological Survey has devoted itself to the publication of reports that archive and disseminate its findings.

The following is a list of references that have affected the policy of the Geological Survey regarding written reports. They should be read in their entirety by all authors.

The Act of Congress (Organic Act) that created the Geological Survey in 1879 established the Survey's obligation to make public the results of its investigations and research.

Water Resources Division Policy Statement No. 1, June 4, 1959, by Luna B. Leopold, Chief Hydraulic Engineer (1957-66) lists report goals and author responsibility. (See article 1.01.2.)

Water Resources Division Memorandum No. 79.43, "Policy of Water Resources Division Regarding Written Reports," December 22, 1978, by Joseph S. Cragwall, Jr., Chief Hydrologist (1974-79) updates but does not change Policy Statement No. 1. (See article 1.01.3.)

Geological Survey Manual, No. 500.14, January 28, 1980, "Safeguard and Release of Geological Survey Information," enumerates general policy and requirements regarding release of Geological Survey information. (See article 1.02.1.)

Geological Survey Manual, No. 500.9, July 15, 1976, "Outside Publication and Oral Presentation - Clearance from the Director," states that all writings in which the Geological Survey has proprietary interest and all writings in which the author's Survey affiliation is shown should be submitted to the Director for approval prior to release for outside publication. (See article 1.02.5.)

Suggestions To Authors of the Reports of the United States Geological Survey (5^{th} ed., 1958; 6^{th} ed., 1978) describes Geological Survey publications policy and author responsibility.

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Article 1.01.2

Subject: U.S. GEOLOGICAL SURVEY POLICY--Written Reports

1.01.2 Policy of the Water Resources Division regarding written reports (Water Resources Division Policy Statement No. 1)

On June 4, 1959, the Chief Hydraulic Engineer, Luna B. Leopold, released a statement which, for the first time, gave the Water Resources Division a concise definition of the policy of the Division with respect to report preparation and publication. Leopold's statement is known as Water Resources Division Policy Statement No. 1. This statement has never been rescinded, although it was updated by Water Resources Division Memorandum No. 79.43, December 22, 1978. Both of these documents are included for your guidance. Although the Leopold statement makes reference to sections or job positions that no longer exist, such as Branch Area Chiefs, this minor obsolescence does not affect the policy concepts that were developed.

WATER RESOURCES DIVISION POLICY STATEMENT NO. 1

June 4, 1959

Memorandum

To: *All Professional Personnel*

From: *Chief Hydraulic Engineer*

Subject: *PUBLICATIONS--Policy of the Water Resources Division*

The effectiveness of the Water Resources Division depends largely on its ability to produce reports that meet the great variety of needs for water information. The solution to present and future water problems may well hinge upon the availability, quality, and timeliness of reports. Therefore, we must emphasize the production of reports that will appraise the Nation's water resources, describe techniques and methods to meet water problems, and inform the public generally about water.

Our reports should have the content, quality, and timeliness necessary to establish and maintain leadership in the field of water. Those who are responsible for project planning and execution should plan to use fully all publication media, including the Survey series, publications of cooperating agencies, journals of scientific organizations, and communications outlets to the lay public, such as newspapers, magazines, radio, and television. We must learn 1) to select from our water facts those that are newsworthy, and 2) to present those facts in a manner that will stimulate public interest and satisfy public curiosity.

Much of the success of the Division results from the composite effort of individual authors; therefore, we must continue to recognize the importance of authorship in the Division, and make every effort to aid individuals in their training and growth in proficiency as authors.

Scope of Reports

Goals for reporting during the next decade should reflect the program goals outlined in the Division memorandum, "PROGRAMS AND PLANS: Policy Guides," dated March 27, 1959. The report aspects of those goals are summarized below:

1. *Publication of basic data generally will be in one of the following types of presentation:*

   (a) *Supporting evidence in a technical report. A technical report will not be used as a vehicle for publishing data in bulk form.*

(b) *In reports designed specifically for the release of basic data, as exemplified by "Surface Water Supply of the United States." For extensive data tabulation, this form is to be used, whether the data are discharge records, well logs, chemical analyses, or others.*

2. *Comprehensive appraisal reports by basins, aquifers, or regions.*

3. *Reports on principles and techniques. Publication of these reports would partly fulfill our responsibility for leadership in hydrology. These reports ordinarily would be published in the Survey series, but some might be published in professional journals.*

4. *Long-range plans for water-resources investigations in a State may be published by the Survey if their contents have general interest.*

5. *Interim or progress reports may appear either in the Survey's series or in series of the cooperating agencies. These reports would be written for many different readership levels and developed to fulfill better the needs for timely reports for our cooperating agencies.*

6. *Technical handbooks and manuals describing current investigation methods used in the Division. These would include those for educational and training purposes.*

7. *Lay-reader reports summarizing, by States, basins, or regions, the Nation's water situation.*

8. *Nationwide summary reports presenting generalized hydrologic data in map or graphic form to meet general public needs. The National Atlas Series has advantages for this type of material.*

9. *Hydrologic almanacs, or gazetteers, for each State.*

10. *Books on hydrology and related fields.*

11. *News releases, "popular" articles, speeches, and special topics of public interest, using all effective means of communications with lay audiences.*

Attainment Guides

Achievement of goals will depend on the willingness of each individual in the Division to accept fully his responsibility. Each individual must also discipline his energies and actions, using the following guides in planning and executing work:

1. *Reports are the principal tangible product of the Division; therefore, in the promotion of individuals whose duties include or are related to report preparation, great weight will be given to achievement in report production. In the case of an individual not directly participating in report preparation, report production in his unit and his effectiveness in report review will be considered in promotion. The Division will examine the record of such production in considering any promotion or transfer.*

2. *Leadership in the field of water is in great part related to our ability to achieve a well-balanced publication program. Therefore, the number of administrative and open-file reports not designed for publication should be kept to a minimum. An administrative report usually will be abstracted from material being prepared for publication.*

3. *The production of timely, well-written reports results from adequate project planning and scheduling of work to allow time for evaluation of basic data and report writing. It is imperative that an author develop a report outline early in his project, preferably before results and conclusions are available--before work begins, if possible. It is imperative also that maximum use of planning aids (project description, yearly work plan) be made in developing a well-thought-out publication schedule. This schedule should include as many as possible of the various forms of reports, such as lay-reader reports, progress reports, journal articles, and final reports.*

4. *The responsibility as project chief and as author must be assigned at the beginning of a project and administrative controls should be exercised to assure that the assigned responsibility is fulfilled according to plan.*

5. *The principal author or authors of a report must remain on their assignment at least until they have completed a manuscript which has had adequate technical review and acceptably meets editorial standards.*

6. *Work related to manuscript preparation, review, and revision has first priority over most other duties. All personnel who are competent to review manuscripts are expected to do some manuscript review on request. Once review responsibility is assigned, a reviewer must apply himself immediately and diligently to the review task and must meet the deadlines mutually agreed upon.*

7. *The immediate supervisor of an author is responsible to assure that the author's report adequately meets standards before transmitting it to higher levels for review. The Division policy is to provide an author with the assistance and constructive criticism of specialists who are qualified in the subject matter of his report.*

8. *The effectiveness of a supervisor in generating and handling reports will be judged on the quality of the reports that come out of his office, and this factor will be considered in appraisals of the supervisor's qualifications for greater responsibilities.*

9. *Within the general policy of the Geological Survey, it is the intent of the Water Resources Division to provide an author with the opportunity to publish his individual ideas, whether or not they are accepted by his colleagues. The author must, however, show that he is acquainted with previous work by others, present a clear and logical argument in defense of his own ideas, and show that he has responded constructively to the comments, suggestions, and criticism of reviewers.*

Responsibility of Author, Supervisor, and Review Personnel

We aim to release from the office of origin only those reports that meet reasonable technical and editorial standards. We intend to accomplish this by providing a workable and constructive procedure for quality control. The basic element in this scheme is to place on the supervisor from whose office a report originates the principal responsibility for these standards. A definition of responsibility at all levels is described in the following paragraphs:

1. *It is an author's responsibility to keep his supervisor informed and to seek his help in planning for a report as the project proceeds.*

   An author bears the primary responsibility for the content of his report, but he is expected to seek and judiciously use the advice of his supervisor, of his colleagues, and of technical advisors recommended by any administrative level.

   An author is expected to keep himself informed on correct editorial practices and to prepare his report conscientiously in accordance with high editorial standards. Review at higher levels shall not be depended upon to compensate for poor work on the part of an author.

   When a manuscript is considered to be ready for review, the supervisor will arrange for review by one or more qualified professionals within the Survey (in some cases from outside the Survey). The author may assist his supervisor by suggesting appropriate reviewers. Comments by the reviewers must be considered in the preparation of a final draft to be presented to the author's supervisor for subsequent transmittal through channels toward ultimate publication. The manuscript should be accompanied on its movement to all administrative levels by a brief summary of the comments of each reviewer and of the changes that were made in response to the reviewer's suggestions. This summary should be matter-of-fact and dispassionate. If necessary, the supervisor will prepare the summary. If any significant suggestions made by the reviewers are not accepted, the author will present reasons why he found the suggestions unacceptable.

   Regardless of where an author may be during the final stages of the review and publication of his paper, he has the responsibility to do whatever work on his manuscript that may be necessary at any time. Supervisors should assure that commitments on new projects will allow for work on unpublished manuscripts from previous projects.

2. *The principal administrative responsibility for the technical and editorial adequacy of an author's report rest with his immediate supervisor. It is not the intent of this policy, however, to make an editor out of a supervisor. Nevertheless, a supervisor will be held accountable if he forwards to higher level a report that clearly is inadequate in any important respect. This responsibility requires that a supervisor will give each report passing through his hands sufficient review to assure himself of the worth of its content, the adequacy of the technical review it has received, and emphasizes that if a supervisor properly consulted and advised with an investigator throughout the progress of a project and in the planning of the report, little additional burden is imposed by the responsibilities outlined above.*

   The immediate supervisor of an author shall transmit a manscript to the next higher administrative level along with his comments and recommendations on type of publication.

3. *Branch Area Chiefs will receive report manuscripts from the originating offices, or project chiefs where appropriate. They will give sufficient review to reports to satisfy themselves that they are adequate in quality. Suitable reports will be forwarded with Area Chiefs' recommendations to the Branch headquarters through channels specified by the Branch Chief. Report appraisals will be a principal source of information on the performance of District Chiefs and Project Supervisors. A Branch Area Chief, having received a report deemed inadequate either by himself or by the Reports Section of his Branch, will inform himself fully on the nature of the inadequacies and give whatever help he can to the supervisor and to the author in preventing future recurrences of deficiencies, as well as in improving the report in question.*

4. *The principal purpose of review by the Branch Reports Sections is to judge the scientific and technical quality and the overall adequacy of the reports received, to make editorial and technical improvements of modest character, and to keep adequate records and control of report production and progress. The Branch headquarters will provide Branch Area Chiefs and the Division Chief with quarterly summaries showing the status of reports.*

   Reports found by a Reports Section to require more than minor adjustments shall be returned promptly to the originating office through appropriate channels.

   A Reports Section should make only such technical review of a manuscript as is necessary to judge the overall quality, except in cases where, because of the nature of the subject, a member of the Reports Section staff is a logical technical reviewer. A Reports Section is expected to depend largely on the technical reviews made before the report is submitted. A Reports Section, however, must satisfy itself that the technical review has been competent and thorough. In the case of a report which has had inadequate technical review, the Branch should see to it that further review is arranged for. A Branch has the responsibility for setting up standards for appraising the adequacy of technical review, including prior approval of proposed reviewers, if appropriate.

Reports having met all requirements, including those of a Reports Section, shall be forwarded to the Division Publications Officer, through channels prescribed by the Branch.

5. *The Division Publications Officer is responsible to assure himself of continuing adequate quality of reports submitted for release or publication. Although the Publications Officer does not have routine technical review functions, he will review reports to the extent necessary to discharge his responsibilities. He will devise and maintain records and control documents needed for constant surveillance of the quality, progress and production schedule of reports.*

Reports for which release or publication is desired will be channeled through the Division Publications Officer, who is the central and principal contact with units outside the Division in all matters pertaining to reports. He transmits reports to the Director's Office, for example, and they are routed back through him from that office. Printer's proofs of reports also pass through the Division Publications Officer.

The Division Publications Officer will make summary quarterly reports to the Office of the Division Chief on the status of reports, and will furnish copies of this report to Branch Chiefs.

Luna B. Leopold

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Article 1.01.3

Subject: U.S. GEOLOGICAL SURVEY POLICY--Written Reports

1.01.3 Policy of the Water Resources Division regarding written reports (Water Resources Division Memorandum 79.43)

December 22, 1978

WATER RESOURCES DIVISION MEMORANDUM NO. 79.43

Subject: PUBLICATIONS--Policy of the Water Resource Division Regarding Written Reports

This memorandum updates WRD Policy Statement No. 1 (June 4, 1959) and amend ment (March 7, 1963). My purpose is to reemphasize the importance of the written report, to review and emphasize the placement of responsibility and credit for reports, and to reiterate that authorship enhances professional development and career opportunity.

I have refrained here from discussing the planning and writing of reports, the publications media available for Survey authors, and the organizational and hierarchial responsibilities and procedures for review and publication. These are important, but they are addressed in the several editions of Suggestions To Authors culminating in the Sixth Edition, recently published--and in the Publications Guide and technical memorandums of the Water Resources Division, with which you should be familiar.

The Written Report

The Act of Congress which created the U.S. Geological Survey in 1879 established the obligation to make public the results of its investigations. The written report (cartographic or textual) fulfills this obligation for the Survey's program of investigation and research. It serves to archive our findings and to disseminate them.

Three developments during the past dozen or so years--the advent of the computer age, the enlargement and diversification of the user audience, and the effects of inflation on the cost of the traditional Survey book publications--have influenced attitudes toward the written report. These developments have led to a reevaluation of the most suitable form for presenting the results of our work, and have engendered a feeling by some that the written report is being deemphasized as the principal product of the Division. Indeed, the computer printout and computer program are new forms of products, and others are likely to come. However, the written report will continue as a primary vehicle for disseminating and archiving results of research and investigations. Well-written, timely reports are more important than ever because of the enlarged user audience and increased relevance of our work to real world problems.

Responsibility and Credit for Reports

It is Geological Survey policy that its investigators bear primary responsibility for their findings and be credited publicly for their work. This policy stems from recognition that the success of the Survey in carrying out its mission is entirely reliant upon the skill and dedication of its employees. Implementation of this policy requires that Survey investigators document their work and findings, and that authorship of reports be displayed clearly.

The Geological Survey has a proprietary interest in, and is accountable for, the work performed by its employees. Accordingly, supervisors at all levels share the responsibility for assuring that reports prepared under their super vision are accurate, well-written, impartial, and in conformance with Survey policies.

Procedures exist to provide support to authors in the preparation, review, and publication of reports, and to facilitate the carrying out of supervisors' responsibility. Of particular note, because it is part of the nucleus of our system of assuring technical excellence, is the practice in the Water Resources Division of technical reviews by colleagues. As an integral part of their Survey responsibilities, all employees are expected to participate in technical review when asked. Participation in such reviews has priority over other duties, within realistic management constraints. The colleague should take responsibility for technical reviews as seriously as he does his respon sibility for his own reports. The District Chief or Program Manager has primary responsibility for assuring the adequacy of colleague review--at both ends, the author's office and colleague reviewer's office.

Authorship

I emphasize here the benefits of authorship to the individual. Authorship credits professional achievement for it associates, on the record for all to see, the individual and his contribution. There are, of course, other expressions of professional achievement, but none so clear and lasting in our kinds of work as that expressed by authorship. Careers are not made by bibliographies, but professional reputations are enhanced by good work as expressed in high-quality reports. The aid to career advancement should be self-evident.

Summary

The written report will continue to serve the Survey as a most important medium of information transfer to the public. The timeliness and high quality of the written report brings credit to the Survey and enhances the pro fessional reputation and chances for career advancement of the author. All levels of project and program supervision share the responsibility for assuring the timeliness and quality of our written reports.

J. S. Cragwall, Jr.
Chief Hydrologist

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.1 Safeguard and release of Geological Survey information (modified from Geological Survey Manual, Chapter 14, No. 500.14)

Geological Survey Manual, Chapter 14, No. 500.14, dated January 28, 1980, discusses Geological Survey policy regarding the release of information. This article reproduces Chapter 14, with minor modifications.

Purpose.--Geological Survey Order No. 202, issued on September 25, 1950, enumerates general policies and requirements regarding release of Geological Survey information, including proprietary information received from private sources. The purpose of this chapter is to incorporate Geological Survey Order No. 202, with appropriate revisions, into the Geological Survey Manual.

Background.--As a Federal agency dedicated to public service, the Geological Survey is under obligation to conduct its activities and to make the results of its scientific and engineering investigations available in a manner that will best serve the whole public, rather than the interest and benefit of any special group, corporation, or individual.

The widespread respect for the Geological Survey's integrity and impartiality, and its consequent value to the Nation, has been based, and will continue to depend, largely upon its careful fulfillment of that obligation.

For guidance of Geological Survey staff members in their day-to-day tasks and in their dealings with outside groups or persons, certain policies and requirements have been established for practical application of Geological Survey standards.

Safeguarding unpublished Geological Survey information.--All information (particularly information of economic significance) obtained through investigations and observations by the staff of the Geological Survey or by its contractors must be held confidential and not be disclosed to others until the information is made available to all, impartially and simultaneously through Director-approved formal publication or other means of public release, except to the extent that such release is mandated by law. (See article 1.03.5.) (The term "confidential" as used here is not to be confused with security classification, but merely means protection from disclosure before release to the public.)

With approval of the Director, the following information has been excluded or excepted from the requirements to hold unpublished information confidential:

1. Water Resources Division. Hydrologic measurements resulting from observations and laboratory analyses, after they have been reviewed for accuracy by designated Water Resources Division personnel.

2. National Mapping Division. Copies of unpublished or incomplete topographic maps, image products, and associated cartographic data in graphic and digital form including geodetic-control survey data, elevation data, reproductions of space and aerial photographs, and copies of color-feature separates.

3. Conservation Division. Administrative maps, well information, subsurface interpretations, and related data released to lessees, permittees, and contractors as necessary for enforcement of the mineral leasing laws and promotion of sound prospecting and development practices.

The phrase "disclosed to others," as used in this chapter, does not include cooperative or other Federal, State, and local governmental agencies and their staffs, to whom, under joint funding agreement or in the public interest, the results of the investigations should be made available. However, it is important that when the results of an investigation are made available to an agency prior to general release to the public, the Geological Survey shall make it a condition of the release to the other agency that the report must not be made public until it has been released by the Geological Survey or until the Director has authorized release by the other agency. To meet the public need for timely information, formal publication or other approved methods of release should be accomplished as promptly as possible. When there is an immediate demand for Geological Survey data and prompt publication is impossible or unlikely, open-file releases should be appropriately announced, and where applicable, the reports thus released should contain an adequate statement of their preliminary nature and the fact that they are subject to change.

A longstanding but limited exception permits Geological Survey personnel to communicate orally with the owner or manager of a mineral property during the progress of its investigation, provided that the information relates to geologic results and observations that may be of value in the development of the property; however, written statements must be avoided, lest they be used for promoting or unduly enhancing values. The propriety of disclosing any such information orally must of course be appraised while considering local conditions and the possibility of misuse of information; no data that might be detrimental to a neighboring property owner should be released under this authorization. Individual Geological Survey personnel must not leave notes or sketches that could be used for promotional or other purposes that could be judged unethical.

This information, to the extent it may be exempted from disclosure under the Freedom of Information Act, 5 U.S.C.[1] 522(b), must be carefully safeguarded in accordance with Geological Survey standards for the transmittal and storage of proprietary data. (See article 1.03.5.) Proprietary information furnished voluntarily, and information acquired through regulations and contracts (during their proprietary term), must not be disclosed outside of the Federal Government unless specific written permission is obtained from the person or organization that furnished the information or unless specific statutes require disclosure. If disclosure is required by statute, the person or organization receiving the information must agree to protect the proprietary nature of the information as required by the statute. (See Geological Survey Manual No. 450.2 for procedures for protecting such information if a Survey member is called upon to testify in court.)

If proprietary information is furnished voluntarily, it is desirable to obtain at the same time a memorandum of agreement that should be explicit in describing the material and the nature of its permissible use. If a letter is written requesting permission to include or use proprietary information in a report to be published or otherwise released, a similar procedure should be followed. However, except with specific prior approval of the Director, Geological Survey representatives may not submit to any person or organization the written text of a report or even the part of it based on the information furnished by that person or organization prior to public release of the report.

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[1] United States Code.

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Article 1.02.2

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.2 Release of information to the news media (Modified from Geological Survey Manual, Chapter 5, No. 500.5.1)

Purpose and Scope.--This chapter establishes Geological Survey policy and procedures for the release of written information to the news media. Specific instructions for preparing news releases is given in article 3.02.4.

Policy.

A. The Public Affairs Office of the Geological Survey, through established channels of review and clearance within the Geological Survey and the Department of the Interior, prepares and distributes most of the Geological Survey's news releases.

B. Authorization for others outside Headquarters to issue statements to news media is limited to employees at supervisory levels. This applies to statements or information given to news-media representatives, such as reporters, editors, or writers for newspapers, magazines, trade, scientific, or technical publications; and radio or television stations. It also applies to statements requested by cooperating agencies for their use in drafting such statements to be released by them. In general, statements issued to local or regional media should be factual, noncontroversial, and brief (usually not more than a page or two in length), avoiding specialized scientific or technical terminology. Statements that discuss policy matters or that editorialize, endorse, or recommend should be referred to higher levels of authority for evaluation.

C. Statements should not be used as vehicles for the premature disclosure of new scientific and technical information. Information about results of current Geological Survey programs that has not been incorporated in reports already available to the public must be brief, general, and properly qualified as preliminary and tentative.

Procedures.

A. Liaison.--Employees should be aware that each Geological Survey Division or Office has named a specific person at Headquarters to act as liaison to the Public Affairs Office. Such liaison helps in the orderly and timely process of assessing subjects or circumstances that require news coverage, reviewing and approving releases, and, in general, working with the Public Affairs Office so that news services can be performed in an effective manner. The liaison representative for the Water Resources Division is:

Chief, Scientific Publications Section
Water Resources Division
U.S. Geological Survey
439 National Center
Reston, Virginia 22092
(Phone FTS: 928-6881)

B. Copy Identification.--After Director's approval, a copy of each release shall be sent to the liaison.

C. Release.--News releases of all Division offices will be issued on the regular Bureau and office letterhead of those offices unless otherwise prescribed by the Public Affairs Office, and will include the name and telephone number of the spokesperson for the release, and release date or date of mailing. (See article 3.02.4.)

If there are questions relating to the issuance of news releases at Division offices outside the National Center, employees are urged to contact their organizational liaison representative or the Public Affairs Office for guidance on subject matter, news-release format, content, and distribution.

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.3 Transmittal of information through correspondence and conversation

Over the years, the Water Resources Division has advanced from merely providing data and facts toward developing interpretations and identifying trends. As a result, it has become increasingly difficult to retain our traditional unbiased role, and we have increased the risk of losing credibility by extending conclusions to areas outside our expertise, by advocacy or endorsement, or by premature or preferential release of findings or interpretations.

To guard against this danger in all writings and communications, including written and oral replies to inquiries, Division personnel must consider the following:

1. Avoid competition with private consultants.

2. Avoid preaching and lecturing.

3. Avoid advocacy. (Do not advise other agencies as to what they must, should, or ought to do.)

4. Avoid discussion of unannounced or unsettled Bureau or Division plans and policies.

5. Avoid premature disclosure of results of investigations, or of data not yet released to the open file. (See article 1.02.1.)

6. Avoid reference to publications and interpretations that have not yet been written, completed, or approved for release.

7. Avoid using the words "never," "must," "should," and "ought to."

8. Approach problem solving by examining alternatives rather than choosing solutions.

9. Use readily understandable terms in place of technical jargon and terms with specialized meaning that could lead to ambiguity or misunderstanding.

10. Use brand names only when necessary for purposes of identification, and include a disclaimer as a footnote. (Specific guidelines are given in article 1.03.3.)

11. Give credits and acknowledgments as appropriate. (See article 1.03.4.)

The above constraints do not preclude discussion of technical considerations based on information that has been published or formally released, or geohydrologic data available to the public. (See article 1.02.1.)

Note that any reply that requires interpretation of data is considered a report and not a letter, and must receive Director's approval through normal review procedures. The document may be issued either as an administrative report (for sole distribution to another Federal agency for which the report was prepared) or as an open-file report (for public inspection). To expedite processing, the report should be as concise as possible. The cooperator must be informed of the time needed to obtain Director's approval. If the material is needed urgently, processing for Director's approval may be expedited by the Chief, Scientific Publications Section. (See article 1.03.1.) Brief communications may be transmitted by any available electronic system to avoid delays caused by mailing.

Judgment concerning the above constraints is the responsibility of the program manager (District or Research Project Chiefs in most instances). The program manager is responsible for assuring adherence to Geological Survey policy as well as technical review and accuracy of the content of the report. If there is any doubt as to the content or tone of the report or whether it contains interpretive material, the report should be submitted to the appropriate Regional Hydrologist for review.

References: Water Resources Division Memorandum No. 76.05, "Policy Concerning Letter Responses to Requests for Information."

Memorandum from Chief, Office of Scientific Publications: "Technical Writing Directed to Policymakers, Planners, and Decisionmakers," July 15, 1974.

Article 1.02.4

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.4 Preliminary transmittal of manuscripts to cooperating agencies.

Interpretive reports prepared by the Geological Survey for other Federal, State, or local agencies with whom it is making a study commonly are transmitted in manuscript form to that agency for review before submittal to the Director.

Whenever this is done, the cooperator should sign the routing sheet and follow the same procedure as any colleague reviewer. Furthermore, it must be stated in writing to that agency that results contained therein must not be quoted or released in any way, and that the report must be regarded as preliminary and subject to revision until approved by the Director. (See article 1.02.1.) As a precaution, each page and illustration should be stamped with a disclaimer as shown below, indicating that the material is provisional and not to be quoted or released. A page or illustration used out of context could be more damaging than the entire report.

PROVISIONAL DRAFT

Subject to Revision
DO NOT QUOTE OR RELEASE
Pending Approval by Director,
U.S. Geological Survey

Exceptions to this policy are noninterpretive reports containing only data that would be normally available to the public, such as streamflow records; these may be transmitted to the cooperating agency without the above restrictions.

References: Geological Survey Manual, Chapter 9, No. 500.9.5.
Geological Survey Manual, Chapter 14, No. 500.14.

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Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.5 Outside publication and oral presentation

All interpretive writings in which the Geological Survey has a proprietary interest, and all writings in which author's title, Geological Survey affiliation, or both will be shown, must be submitted to the Director through the Offices of the Regional Hydrologist (or Regional Research Hydrologist) and Assistant Chief Hydrologist for Scientific Publications and Data Management for approval before release.

The Geological Survey is considered to have a proprietary interest in all manuscripts based on research or investigations under Geological Survey auspices, and on data obtained under those auspices that have not already been released to the public.

Guidelines for obtaining Director's approval for reports are given in Section 3 of the Publications Guide. Exceptions to that policy are described below.

A. Non-Survey manuscripts in which the Geological Survey has no proprietary interests and in which the author's official connection with the Geological Survey is not to be shown do not require Director's approval for publication. For example, a member of the Geological Survey may wish to publish results of some investigation conducted under other auspices prior to joining the Geological Survey, and for which a manuscript was prepared on non-Survey time and wholly without cost to the Geological Survey. However, the author should send a memorandum briefly outlining the intention and circumstances through his supervisor to the Chief, Scientific Publications Section. This action will make the transaction a matter of record. Information on outside employment and nonofficial expression is given in Geological Survey Manual Nos. 370.735.5 and 370.735.4. (See also article 2.03.7.)

B. Abstracts to be published in conference proceedings, and so forth, must be approved by the Director[1] in the usual manner, unless the abstract is from a report that has previously been approved for publication or for another meeting. (See article 1.02.1.)

C. Oral presentations must safeguard the Geological Survey against embarrassment, must use discretion in discussing controversial topics, must not discuss unsettled or unannounced Department or Bureau plans and policies, nor prematurely disclose the results of investigations. If the propriety of the content or tone of a proposed speech is in doubt, the statements should be submitted in writing for review and evaluation by Division officers. NOTE: If copies of the speech are to be given out, the speech must be approved by the Director.

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[1] Currently (1982), authority to approve abstracts is delegated to the Regional Hydrologists by the Director.

D. Letters must not prematurely disclose results of investigations or include interpretations not yet approved for release. If the person responsible for the letter is in doubt as to the content, tone, or technical accuracy of the letter, he should refer it to the next level supervisor for review. (See articles 1.02.3 and 1.03.5.)

Reference: Geological Survey Manual, Chapter 9, No. 500.9.

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.1 Time needed for approval of reports and abstracts

Authors are advised to allow 6 weeks for Director's approval of symposium abstracts, and for administrative and open-file reports, and as much as 12 weeks for other reports and other lengthy documents, from the time the manuscript is transmitted to the Regional Hydrologist.

If an abstract or report must be processed in less than 6 weeks, a detailed justification for priority processing must be given in the transmittal memorandum, and the material should be submitted in the usual manner with all necessary support documents listed on the chart in article 3.01.1. A red tag marked "SPECIAL" should be attached to the transmittal memorandum. "SPECIAL" tags must reflect realistic needs, otherwise they will become meaningless.

If the material has not been approved by the requested deadline, the author is responsibile for ensuring either that the material is not published, or that the author's name and all reference to the Geological Survey are deleted from the publisher's copy.

It also is the author's responsibility to insure that all changes made during Division review are transferred to the copy transmitted to the publisher. Failure to do so is regarded by the Geological Survey as a breach of professional ethics.

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Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.2 Use of copyrighted material

It is the author's responsibility to secure the permission of the owner of any copyrighted material quoted or reproduced in a report. Such permission generally is given for use in scientific publications, but many publishers require specific forms of acknowledgment, and a few charge a fee. Copies of the letter granting permission must be forwarded with the manuscript when it is submitted for Director's approval for publication.

Works originally copyrighted on or after January 1, 1978 (Copyright Act of 1978) are protected throughout the author's life plus an additional 50 years. For works prepared by two or more authors, the copyright lasts for 50 years after the death of the last surviving author.

Works copyrighted before the Copyright Act of 1978 are protected for a first term of 28 years from the copyright date. The 1978 copyright law has extended the renewal term from 28 to 47 years for material that was copyrighted as of January 1, 1978. Copyrights not renewed during the 28th year of the first term may be considered in the public domain.

If an author wishes to reproduce or adapt an illustration or section of text from a copyrighted document, permission must be obtained from the copyright holder(s). The following letter is a suitable example of a request for permission:

(Department, Bureau, and office letterhead)

Date:

Gentlemen:

The U.S. Geological Survey is publishing a report titled _____

_____, and requests permission to reproduce figure/plate/page (select one or more as appropriate)_____ from the paper by_____in your copyrighted publication _____. The source will be cited in full. Please send us your response on this page at your earliest convenience.

Thank you in advance for your attention to this request.

_____
Signature

_____
Title

Permission is granted for the U.S. Geological Survey to reproduce at no cost the above cited illustration(s) or page(s):

_____
Signature Date

_____
Title

If permission to reproduce an illustration is granted, the statement of permission must be given in the caption. If a text passage is quoted or closely paraphrased from a copyrighted document, a statement of permission must be given directly before or after the passage or in a footnote. If the copyright holder does not request specific wording, the note may be written as follows:

> "Reprinted [or paraphrased] from .... and published with permission."

After Director's approval, the letter of permission will be returned to the author and should be retained for several years.

Federal Government publications are not copyrighted; therefore, a journal or other outside publisher may not legally claim copyright on material written by a Federal employee as part of his official work, although some may attempt to do this. This policy is stated in 17 U.S.C., Section 105, which states:

> "Copyright protection under this title is not available for any work of the U.S. Government, but the U.S. Government is not precluded from receiving and holding copyrights transferred to it by assignments, requests, or otherwise."

A "work" in the above statute is defined in 17 U.S.C., Section 101 as follows:

> "A work of the U.S. Government is a work prepared by an officer or employee of the U.S. Government as part of that person's official duties."

It is the obligation of all Geological Survey employees to inform journals or other outside publishers that, for all Geological Survey reports to be published, the Government may publish, reproduce, and use all technical data in any manner and for any purpose, without limitations, and may authorize others to do the same. Manuscripts submitted to journals for publication, therefore, must be accompanied by the following notation in the letter of transmittal:

> "This manuscript is submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes."

Sometimes the Geological Survey and individual authors receive requests for permission to republish part or all of a Survey-generated report. Geological Survey publications are in the public domain and may be reproduced in quantity by anyone who wishes to do so. Accordingly, such requests are always to be acknowledged and granted, but it is customary to request that the Geological Survey and author be credited as the source, and that the original title be retained and the series number given.

Although federally published maps and texts are not subject to copyright, authors citing or reproducing parts of Federal documents must give proper credit. It also is courteous to notify the original author that his work is being used.[1] Additional information concerning the 1978 copyright law may be obtained from:

Library of Congress
Copyright Office
Public Information Office
Washington, D.C. 20559
(202) 287-8700

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[1] See Water Resources Division Memorandum No. 82.97, dated June 15, 1982.

References: Suggestions To Authors of the Reports of the United States Geological Survey (6th ed.), p. 34, 35.

U.S. Library of Congress, Copyright Office, 1980, Copyright basics: Washington, D.C., Library of Congress Circular R1, 11 p.

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.3 Trade-name disclaimer

The use of trade names should be avoided in Geological Survey reports where possible; a named product should be used only to identify the type of equipment used in a specific process. When a trade name must be referred to, or is visible in a photograph, a trade-name disclaimer must be used. A trade-name disclaimer states that the Geological Survey does not specially endorse the named firm, company, or product.

If the report mentions only one trade name, the trade name should be footnoted, and the footnote should state:

> "Use of the brand/firm/trade name [select one or more as appropriate] in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey."

If the report mentions two or more different trade names, the first trade name should be footnoted as indicated below

> "Use of brand/firm/trade names [select one or more as appropriate] in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey."

Additional trade names in the report do not require a footnote.

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Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.4 Credit statement in reports prepared in cooperation with other agencies

Many scientific and technical reports of the Water Resources Division are prepared in cooperation with other government agencies. Such cooperation must be acknowledged. Serious problems have occurred because of inadvertent omission of appropriate credit to cooperating agencies.

A cooperating agency is: (1) A Federal agency that has a memorandum of agreement to work with the Geological Survey, or (2) a State or local agency that has a joint-funding agreement with the Geological Survey, whereby water-resources surveys, investigations, or research in the public interest are performed by, or jointly with, the Geological Survey as authorized by law.

Supervisors, such as District Chiefs and Regional Research Hydrologists are responsible for insuring that proper credit to cooperating agencies appears on the cover and title page, in the acknowledgment section of book reports, and in the center of the upper margin of maps and plates. They also are responsible for ascertaining the exact name and spelling of the cooperating agency. The statement must be added to a report before colleague review. The name of the cooperating agency should be given in the same type size (in capitals) as the words "U.S. GEOLOGICAL SURVEY," and the form of statement that is selected for a report should have concurrence of the cooperator.

Examples of credit statements for the cover and title page of book reports and separate maps and atlases are:

Prepared in cooperation with the
COLORADO DEPARTMENT OF NATURAL RESOURCES

Prepared in cooperation with the
CITY OF DALLAS and the TEXAS WATER DEVELOPMENT BOARD

Prepared in cooperation with the STATES OF ALABAMA, FLORIDA,
and MISSISSIPPI and with other agencies

Report prepared on behalf of the U.S. ENVIRONMENTAL PROTECTION AGENCY

Report prepared jointly by the U.S. GEOLOGICAL SURVEY and the NATIONAL
OCEANIC and ATMOSPHERIC ADMINISTRATION

Reference: Water Resources Division Memorandum No. 80.73, "Credit Statement in Reports Prepared in Cooperation With Other Government Agencies," April 23, 1980.

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Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.5 Release of information under the Freedom of Information Act

Purpose.--The purpose of this article is to present general guidelines for release of information under the provisions of the Freedom of Information Act. Detailed guidelines are contained in Part 318 of the Geological Survey Manual, which also incorporates the Department of the Interior codified text (43 CFR[1] 2.11).

Background.--The Freedom of Information Act of 1966 was enacted by Congress to deal with the problem of government secrecy. The Act made it clear that it was Congress' intent that "any person" should have access to identifiable records without having to identify a need or even a reason. The burden of proof for withholding information, moreover, was placed on the Government. The Act also broadened the scope of information available to the public and provided judicial remedies for those wrongfully denied information. It was amended during 1974 to insure full compliance by Federal agencies.

It is unrealistic to expect Geological Survey employees to be totally familiar with all provisions, requirements, and related legislation of the Act. However, certain guidelines have been established by the Geological Survey for applying the requirements of the Act to information requests by outside groups or persons.

Guidelines.--If your office receives a Freedom of Information Act request, Region and Headquarters (Chief, Scientific Publications Section) should be notified. All responses should be coordinated through Headquarters. Upon receipt of a Freedom of Information Act request, the date it is received and the date processing begins should be recorded. The request should be forwarded as quickly as possible to the office or person who will prepare the response. The responder has 10 working days in which to inform the requestor of the Government's disclosure intentions. If the records are not exempt from disclosure they must be released. If they are exempt and sound grounds exist for nondisclosure, a letter of denial must be prepared for the Director's signature. Copies of all correspondence must be sent to the Freedom of Information Act Officer, 206 National Center, Reston, VA 22092.

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[1] Code of Federal Regulations

Exemptions to the Act.--Government agencies can refuse to disclose information in nine specified categories. However, the legislative history of the Act makes it clear that Congress did not intend for agencies to use these exempt categories to justify the automatic withholding of information. Rather, the exemptions are intended to designate those areas in which, under certain circumstances, information may be withheld. Two of the exemptions (5 and 9) have special significance regarding requests for information made to the Water Resources Division.

The Act provides that disclosure is not required for:

> Exemption 5--Inter or intra-agency memoranda or letters such as discussions and recommendations;[1]
>
> Exemption 9--Geological and geophysical information and data, including maps, concerning wells.

These exclusions do not necessarily apply to requests from other Federal agencies and their staffs, except as noted in article 1.02.1 of this Guide.

Relation of Freedom of Information Act to Geological Survey Policy.--When processing requests for information, consideration should be given to both Freedom of Information Act and Geological Survey policy. Geological Survey policy regarding the release of information, as summarized in article 1.02.1, largely reflects, and in many ways parallels, the provisions of the Act. However, should a conflict arise, it should be brought to the attention of the Geological Survey's Freedom of Information Act Officer before final disclosure action is begun. (See "Guidelines," above.)

Appeals to Denial Under the Act.--If a request for information is refused, the requestor must be notified of the specific reasons for the denial; the reasons given should refer to specific statutes of the Act. Also, the person(s) responsible for the denial must be identified. An improper denial may subject the person(s) responsible to suspension, or dismissal, or a fine. If a denial is made, the requestor may appeal to the Assistant Secretary of the Department of the Interior for Policy, Budget, and Administration by writing to:

> Freedom of Information Act Officer
> Office of the Assistant Secretary
> Policy, Budget, and Administration
> U.S. Department of the Interior
> Washington, D.C. 20240

An appeal must be in writing and must be received by the Interior Department's Freedom of Information Act Officer within 20 days (Saturday, Sunday, and public legal holidays excepted) of the date of the letter of refusal.

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1 Report review comments and unapproved drafts of manuscripts also are exempted.

Legal interpretations or advice also can be obtained from the Office of the Solicitor. A list of the Solicitor's Washington, D.C. and Regional Specialists is included at the end of this article. Each specialist is familiar with the Act and will provide useful advice and assistance upon request. Inasmuch as certain addresses may have changed since the completion of the list, the correct address should be verified before writing.

Fee for Supplying Information Under the Act.--A requestor seeking information under the Act may be charged a fee based on actual costs involved in searching for, compiling, duplicating, and transmitting the information. The fee must be agreed upon by the requestor before the information is released. A billing document (form 1028) should then be sent with the response. Fees of $3.00 or less generally are waived in the public interest.

Department of the Interior
Office of the Solicitor
Room 6116
Washington, D. C. 20240

Regional Solicitor
Office of the Solicitor
Department of the Interior
510 L Street, Suite 408
Anchorage, Alaska 99501

Office of Field Solicitor
Department of the Interior
Valley Bank Center, Suite 280
201 N. Central Avenue
Phoenix, Arizona 85073

Office of Field Solicitor
c/o Bureau of Indian Affairs
Window Rock, Arizona 86515

Field Solicitor
Office of the Solicitor
Department of the Interior
3610 Central Avenue, Suite 104
Riverside, California 92506

Regional Solicitor
Office of the Solicitor
Department of the Interior
2800 Cottage Way E-2753
Sacramento, California 95825

Field Solicitor
Office of the Solicitor
Department of the Interior
450 Golden Gate Avenue, Room 14126
San Francisco, California 94102

Regional Solicitor
Office of the Solicitor
Department of Interior
P.O. Box 25007
Denver, Colorado 80225

Regional Solicitor
Department of the Interior
148 E. Cain Street, N.E.
Atlanta, Georgia 30303

Field Solicitor
Department of the Interior
P.O. Box 020
Federal Building, U.S. Courthouse
550 West Fort Street
Boise, Idaho 83724

Office of the Regional Solicitor
Department of the Interior
Suite 306
One Gateway Center
Newton Corner, Massachusetts 02158

Field Solicitor
Office of the Solicitor
Department of the Interior
Room 686 Federal Building,
Ft. Snelling
Twin Cities, Minnesota 55111

Field Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 1538
Billings, Montana 59103

Field Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 427
Boulder City, Nevada 89005

Field Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 1696
500 Gold Avenue, S.W.
Albuquerque, New Mexico 87103

Field Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 1042
Santa Fe, New Mexico 87501

Office of the Solicitor
Department of the Interior
P.O. Box 397
Anadarko, Oklahoma 73005

Field Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 1508
Muskogee, Oklahoma 74402

Field Solicitor
Office of the Solicitor
Department of the Interior
c/o Osage Indian Agency
Grandview Avenue
Pawhuska, Oklahoma 74056

Regional Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 3156
Tulsa, Oklahoma 74101

Regional Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 3621
Portland, Oregon 97208

Field Solicitor
Office of the Solicitor
Department of the Interior
P.O. Box 549
Aberdeen, South Dakota 57401

Field Solicitor
Office of the Solicitor
Department of the Interior
Box H-4393, Herring Plaza
Amarillo, Texas 79101

Regional Solicitor
Office of the Solicitor
Department of the Interior
125 S. State Street, Federal Building
Suite 6201
Salt Lake City, Utah 84111

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SECTION 2

2

REPORT PLANNING AND MANAGEMENT

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Article 2.01.1

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.1 List of available publication outlets

The publication outlets available to Water Resources Division authors include the Geological Survey's Federal book series, the map series, and slide cassettes or video-tape presentations. Authors also are encouraged to use non-Survey outlets, such as scientific journals, cooperator-published series, or privately published books.

A list of publication outlets is given below; their characteristics and requirements are given in article 2.01.2.

A. SURVEY

1. Book publications

   a. Formal Series

      1) Water-Supply Paper
      2) Professional Paper
      3) Bulletin
      4) Circular
      5) Techniques of Water-Resources Investigations
      6) Special Reports

   b. Informal Series

      1) Water Resources Investigations Report
      2) Open File Report
         a) Data reports
         b) Preliminary interpretive reports
         c) Reports pending formal publication
      3) Administrative Report

2. Map publications

   a. Hydrologic Investigations Atlas
   b. Water-Resources Investigations Report
   c. Open-File Report
   d. Miscellaneous Investigations Map
   e. Miscellaneous Field Studies Map

B. NON-SURVEY

1. Reports published by cooperators
2. Scientific and trade journals conference proceedings
3. Symposium abstracts
4. Speech handouts and poster sessions.
5. Contractor-prepared reports

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.2 Characteristics of Water Resources Division book publications

Book publications of the Water Resources Division include those published in the formal and informal series.

FORMAL SERIES

1. Water-Supply Paper
2. Professional Paper
3. Bulletin
4. Circular
5. Techniques of Water-Resources Investigations
6. Special reports

Reports in the formal book series are printed through the U.S. Government Printing Office (GPO). Illustrations generally are prepared inhouse. Most reports are paperbound, although some may be produced in hard cover for distribution to libraries. Production time from manuscript approval to receipt of printed copies is generally from less than 1 year to 3 years.

Distribution of formal reports is by the GPO from mailing lists provided by the Geological Survey. Those reports selected for sale by the GPO are available through the Superintendent of Documents; reports not selected for sale by the GPO are sold in limited number by the Branch of Distribution (a Superintendent of Documents licensee). Major libraries worldwide serve as depositories. Public announcement of a report's availability is made through Geological Survey news releases and the monthly pamphlet "New Publications of the Geological Survey." In certain cases, a special flyer or other advertising device may be used to announce a publication that is particularly important. Reports approved for the formal series sometimes are released to the open file pending publication to accommodate the immediate needs of cooperating agencies; upon release of the formal publication, undistributed open-file copies are destroyed.

1. Water-Supply Paper

   a. Purpose.--To present significant interpretive results of hydrologic investigations of broader than local interest.

   b. Format.--Page size is 8 1/2 X 11 inches as of 1981. Reports of wide interest or major significance may be given special covers. Folded plates, glossy paper, and color are permitted if essential. Either metric or inch-pound units may be used.

c. Distribution.--Major libraries and hydrologic agencies nationwide. Availability is announced in "New Publications of the Geological Survey" and through news releases. Offered to the GPO as a sales item.

2. Professional Paper

a. Purpose.--To present comprehensive or topical reports on any field in the earth sciences. This series commonly is used for summaries of wide popular, scientific, or geographic interest, and for significant scientific contributions--generally on topics other than hydrology.

b. Format.--Large page size (9 1/4 X 11 3/8 inches) accommodates most illustrations. Folded plates, glossy paper, and color are permitted if essential. A specially designed cover may be provided for reports of wide interest. Metric units are preferred.

c. Distribution.--Major libraries and appropriate scientific agencies nationwide and worldwide. Availability is announced in "New Publications of the Geological Survey" and through news releases. Offered to GPO as a sales item.

3. Bulletin

a. Purpose.--To present comprehensive or short topical reports on geologic or natural resources subjects; some of these are byproducts of hydrologic studies.

b. Format.--Page size is 6 X 9 inches. Oversize plates, color, and glossy paper are permitted where necessary. Either metric or inch-pound units may be used.

c. Distribution.--Major libraries and geologic agencies nationwide. Availability is announced in "New Publications of the Geological Survey" and through news releases. Offered to GPO as a sales item.

4. Circular

a. Purpose.--To present to general or scientific audiences short summaries or articles of short-term, popular, or local interest. Circulars are also used to present speeches and policy addresses by Geological Survey officials; examples are Circulars 527 and 645.

b. Format.--Page size is 7 7/8 X 10 1/4 inches. Oversize illustrations are occasionally permitted. Illustrations are restricted to simple linework and black-and-white photographs. A cover design is permitted. Color is not permitted. Either metric or inch-pound units may be used.

c. Distribution.--Selected libraries and scientific agencies. Circulars are distributed by means of regular Geological Survey mailing lists. Availability is announced in "New Publications of the Geological Survey" and through news releases. Available to the public on request.

5. Techniques of Water-Resources Investigations

a. Purpose.--To present to technically oriented audiences reports on methods and techniques used in collecting, analyzing, and processing hydrologic data.

b. Format.--Page size is 7 7/8 X 10 1/4 inches. Color or glossy paper is not permitted. Oversize illustrations are occasionally permitted. Either metric or inch-pound units may be used.

c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the Geological Survey" and through news releases. Offered to GPO as a sales item.

6. Special Reports

A few reports that are prepared for special purposes are published outside the regular Geological Survey series. These have no prescribed format; an example is "Suggestions to Authors." Because this series is seldom used, most Geological Survey authors should not consider it as a potential outlet.

INFORMAL SERIES

1. Water-Resources Investigations (WRI) Report (books and maps)
2. Open-File Report (books and maps)
3. Administrative Report

The informal series differ from the formal series in that they are used for subjects that are of local or short-term interest, or where, because of the nature of the reports, more expensive printing is not warranted. WRI and Open-File reports are prepared in typescript by the originating office and duplicated inhouse or through the Government Printing Office for distribution to cooperators; distribution is by the originating office. Availability is announced in "New Publications of the Geological Survey" and by news release. Administrative reports are prepared by the originating office and duplicated inhouse; copies are distributed only to the Federal agency that requested the study.

1. Water-Resources Investigations Report (books and maps)

a. Purpose.--To (a) present to interdisciplinary audiences comprehensive or topical interpretive reports and maps that are mainly of local or short-term interest; (b) provide a medium of release for reports and maps that would not be feasible in any other series or journal or that must be published quickly. WRI reports require Director's approval. Copies are reproduced locally for distribution to cooperators.

b. Format.--Page size is 8 1/2 X 11 inches; map size is restricted only by paper size and press capacity.[1] Text, drafting, layout, and distribution are done by the originating office after Director's approval; copies are either duplicated inhouse or printed through GPO. Color and oversize illustrations are permitted with the approval of the Chief, Scientific Publications Section. Either metric or inch-pound units may be used. (Specifications for preparing camera-ready copy are given in Section 7; additional information on the WRI series is given in Section 10.)

c. Distribution.--Maximum number of copies is 300 unless permission is obtained from the Publications Management Unit in advance. WRI reports are distributed by the originating office to major libraries and interested agencies statewide and to local libraries near and within the study area. One reproducible copy must be sent to the Open-File Services Section (OFSS) in Denver, Colorado, for reproduction and sale to the public; one copy must also be available at the originating office and other designated repositories for public inspection. Paper or microfiche copies may be purchased by the public through OFSS. Page-size color illustrations will be reproduced in color by OFSS; color illustrations larger than page size will be reproduced in black and white. Availability of all WRI reports is announced in "New Publications of the Geological Survey" and by news release issued by the originating office.

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[1] Standard paper sizes for oversize maps are 26 X 36 inches (optimum), 36 X 44 inches, and 44 x 58 inches. Maximum Geological Survey image size is 42 X 56 inches. Maximum image size of commercial presses is 48 X 75 inches.

2. Open-File Report (book and maps)

The open file contains three report categories--data reports, preliminary interpretive reports, and reports pending publication. Data reports should not contain interpretive material.[2] They must receive Regional review and may require Director's approval. Interpretive reports require Division review and Director's approval through the same channels as the formal reports. (Complete information on Open-File reports is given in Section 11.)

a. Purpose.--To make available (1) data reports, (2) reports of preliminary findings that would be of interest to few persons other than the cooperating agency, and (3) reports and maps pending publication elsewhere but requiring immediate release.

b. Format.--Book size is 8 1/2 x 11 inches; map size is restricted only by paper size and press capacity.[1] Drafting and final typing are done by the originating office. Duplication may be done either inhouse or through GPO, depending on the desired quantity and quality. Illustrations may be hand drawn and lettered but must be neat and reproducible; oversized plates are permitted; color is not permitted. Either metric or inch-pound units may be used. Maximum number of copies is 300 unless special permission is obtained from the Publications Management Unit in advance.

c. Distribution.--Copies are distributed to cooperating agencies as needed. One reproducible black and white copy must be sent to the Open-File Services Section in Denver for reproduction and sale to the public; one copy must also be available at the originating office and other designated repositories[3] for public inspection. Reports for interim use pending publication are removed from circulation and destroyed when the formal publication is available. Availability is announced in "New Reports of the Geological Survey" and by news release issued by the originating office.

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[2] The "Summary of Hydrologic Conditions" statement in State water-data reports may contain interpretations. (See Water Resources Division Memorandum No. 81.111.)

[3] A list of repositories is given in article 8.01.1.

3. Administrative Report

Administrative reports require Director's approval. They may not be cited or quoted except in a follow-up administrative report to the same agency, or if the agency releases the report to the public. They may later be resubmitted for Director's approval to publish in a regular series if the funding agency grants written permission. (Complete information on administrative reports is given in Section 12.)

a. Purpose.--To furnish information to requesting Federal agencies to meet their immediate needs. These reports are not for public release.

b. Format.--. Prepare copy to meet specific needs. Either metric or inch-pound units may be used. Duplication cost is borne by the District.

c. Distribution.--None beyond the requesting Federal agency. The Geological Survey cannot release an administrative report prepared for another agency even if requested under the Freedom of Information Act. The report is the property of the receiving agency, and any Freedom of Information Act request for the report should be directed to the agency for which the report was prepared. (See article 1.03.5.)

Subject: REPORT PLANNING AND MANAGEMENT--Publications Outlets Available to Water Resources Division Authors

2.01.3 Characteristics of Water Resources Division map publications

Maps other than open-file maps are printed through Headquarters and offered for sale to the public by the Geological Survey or its agents. Most are maintained in print for many years; production time at Headquarters ranges from 1 month to 3 years depending on the material received from the authors. Availability is announced in "New Publications of the Geological Survey" and by news release issued through the Public Affairs Office. (See article 1.02.2.)

Water Resources Division map publications include:

1. Hydrologic Investigations Atlas
2. Water Resources Investigations Report (map)
3. Open-File Report (map)
4. Miscellaneous Investigations Map
5. Miscellaneous Field Studies Map

1. Hydrologic Investigations Atlas

   a. Purpose.--To present reports on hydrology or geohydrology in map format to a wide range of hydrologically oriented audiences. The Hydrologic Investigations Atlas may be used as the basis for regional or national comparison of hydrologic features or conditions and may also serve as a special-purpose report depicting significant hydrologic events, disasters, or discoveries of national interest.

   b. Format.--Sheet size generally is 29 X 42 inches or smaller. Design is flexible; color is used as needed. Text must be short and is used only to supplement the illustrations. Either metric or inch-pound units may be used. The printing is of high quality.

   c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the Geological Survey" and through news releases issued through the Public Affairs Office. (See article 3.02.4.) Sold by Branch of Distribution.

2. Water-Resources Investigations Report (map)

   See article 2.01.2.

3. Open-File Report (map)

See article 2.01.2.

4. Miscellaneous Investigations Map

a. Purpose.--To present in map format significant geologic and hydrologic information.

b. Format.--Sheet size is optional; short text and use of color are permitted. The printing is of high quality. Either metric or inch-pound units may be used.

c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the Geological Survey" and through news releases issued through the Public Affairs Office.

5. Miscellaneous Field Studies Map

a. Purpose.--An interim map designed to present detailed geologic mapping to geologically oriented audiences.

b. Format.--Sheet size generally is 21 X 29 inches; either 7.5-minute or 15-minute Geological Survey topographic maps serve as the base. Modest to low quality printing; black and white only. Either metric or inch-pound units may be used.

c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the Geological Survey" and through news releases issued through the Public Affairs Office. (See article 1.02.2.) Controlled by the Geologic Division.

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.4 Characteristics of non-Survey publications

Non-Survey publications include:

- Reports published by cooperators
- Scientific and trade journals; conference proceedings
- Symposium abstracts
- Speech handouts and poster sessions
- Contractor-prepared reports

All the above types of releases have a place in the Geological Survey program, depending on the purpose, content, and desired distribution. All must be approved by the Director before submittal to the publisher.

1. Reports published by cooperators

   a. Purpose.--to present to a professional or general audience comprehensive or short topical reports that are primarily of local or statewide interest. In most cases, the camera-ready copy, including illustrations, is prepared by the originating District, with the printing arranged and funded by the cooperator.

   b. Format.--Depends on the cooperator's printing capability and preference; some permit use of color and plates. Specifications and requirements should be ascertained before the manuscript is prepared. Either metric or inch-pound units may be used, depending on the editorial policy of the cooperator.

   c. Distribution.--Generally to libraries and scientific agencies in the study area and major libraries statewide. Availability is not announced by the Geological Survey, but generally is announced by the cooperator from a news release supplied by the author. Authors are required to submit 4 copies of cooperator-published reports to the Publications Management Unit.

2. Scientific and trade journals; conference proceedings

   a. Purpose.--To present papers on specialized subjects to an audience of the author's choice or by invitation. These reports may serve any of the following purposes:

      - convey new ideas for discussion by the profession;

      - describe some subject that is either too narrow or too highly technical to be appropriate for regular Geological Survey publications;

      - describe specialized research on subjects developed in the course of other project work (for example, a paper on advances in digital modeling of an aquifer).

b. Format.--Articles for journals and conference proceedings may be limited with regard to number of pages and size of illustrations. Most require camera-ready illustrations, and many journals impose a page fee. This may be paid from project funds. (See article 2.01.7.) Copy for a journal should be prepared to publisher's editorial and format specifications. All Geological Survey review manuscripts must be double spaced.

c. Distribution.--Major libraries and all subscribers to the journal. Availability is not announced by the Geological Survey. Reprints may be purchased from the publisher with project funds. Authors are required to submit 4 copies of reprints to the Publications Management Unit.

SPECIAL NOTES.--As a general policy, articles prepared for journals are not open filed before publication. Some journals do not wish to publish an article that is already available to the public; others have firm policies against publication of an article after a certain number of copies have been distributed. Some journal articles are published within a year of submittal, which may make open-file release unnecessary. An exception would be when information is needed urgently by a cooperator, or by an individual under the Freedom of Information Act.

Manuscripts submitted to journals for publication must be accompanied by the following notation in the letter of transmittal to the publisher:

> This manuscript is submitted for publication with the understanding that the United States Government may reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.

3. Symposium Abstracts

a. Purpose.--To present short summaries of research that are adapted from recent reports or from ongoing studies. Many accompany invited talks. Because abstracts commonly are published in the conference program, Director's approval is required unless a report containing the substance and conclusions of the abstract has been approved already.

b. Format.--Abstracts must be double spaced for review and Director's approval. Follow publisher's specifications when submitting an approved abstract to the publisher.

c. Distribution.--Determined by symposium committee. Release is not announced by the Geological Survey. Authors are required to submit 4 copies of a published abstract to the Publications Management Unit.

SPECIAL NOTE.--Request for approval must be made a least 6 weeks in advance of the publisher's deadline. When the deadline is shorter, a letter justifying the request for rapid processing must be included. (See article 1.03.1.) Additional guidelines for preparing abstracts are given in articles 3.02.1 and 5.05.3 and in "Suggestions to Authors" (6th ed., p. 42).

4. Speech handouts and poster sessions

a. Purpose.--To present to a selected audience information on a specialized subject in a form that does not warrant formal publication. A speech handout or poster must receive Director's approval.

b. Format.--Determined by sponsors of symposium.

c. Distribution.--Symposium participants only. Authors are required to submit 4 copies of a speech handout or poster mockup (or photograph thereof) to the Publications Management Unit.

5. Contractor-prepared reports

a. Purpose.--To present results of research or investigations conducted (1) by a contractor under Geological Survey auspices to be published by the Geological Survey or by the contractor, and (2) by the Geological Survey for a fee at the request of a commercial publisher. Reports prepared by contractors to be published by the Geological Survey and reports prepared by the Geological Survey for a commercial publisher require Director's approval. Reports prepared by contractors to be published by the contractor or in outside journals may require Director's approval. (See article 2.03.7.)

b. Format.--Depends on publication series if published by the Geological Survey, on contractor's printing capability, and on GPO regulations concerning the maximum number of copies that can be printed outside the GPO or its contracting authority. Specifications and requirements of Geological Survey report products must be stated in the provisions of the contract.

c. Distribution.--Distribution and announcement depend on publication outlet. If published by the Geological Survey, distribution and announcement will follow guidelines established for the series selected; if published by the contractor, distribution and announcement are to be specified in the contract.

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Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.5 Selecting the appropriate publication outlet

The purpose of the Water Resources Division's publications program is to release the results of our work to the public promptly and in the most attractive design feasible within cost limits. Because Division projects differ in size, scope, purpose, significance, and duration, a variety of publication formats is needed. The Division provides more than a dozen publication outlets, each characterized by a specific design, intended audience, range of content, and distribution. The Division also encourages the use of scientific journals and cooperator-published series.

Selection of an appropriate publication outlet depends on several factors, including length of the report, technical level or specialty of the primary audience, geographic location of study, size and character of illustrations and tables, and need for timely release. Authors and their supervisors should evaluate the publication outlets available and select the most appropriate one early in the project.

In order to simplify the procedure for selecting the proper publication outlet for Water Resources Division books and maps, the following decision-tree diagrams should prove useful. The purpose, format, and distribution of the various outlets shown on the diagrams are described in articles 2.01.2 and 2.01.3; several of the more important selection criteria indicated on the diagrams are explained in detail below.

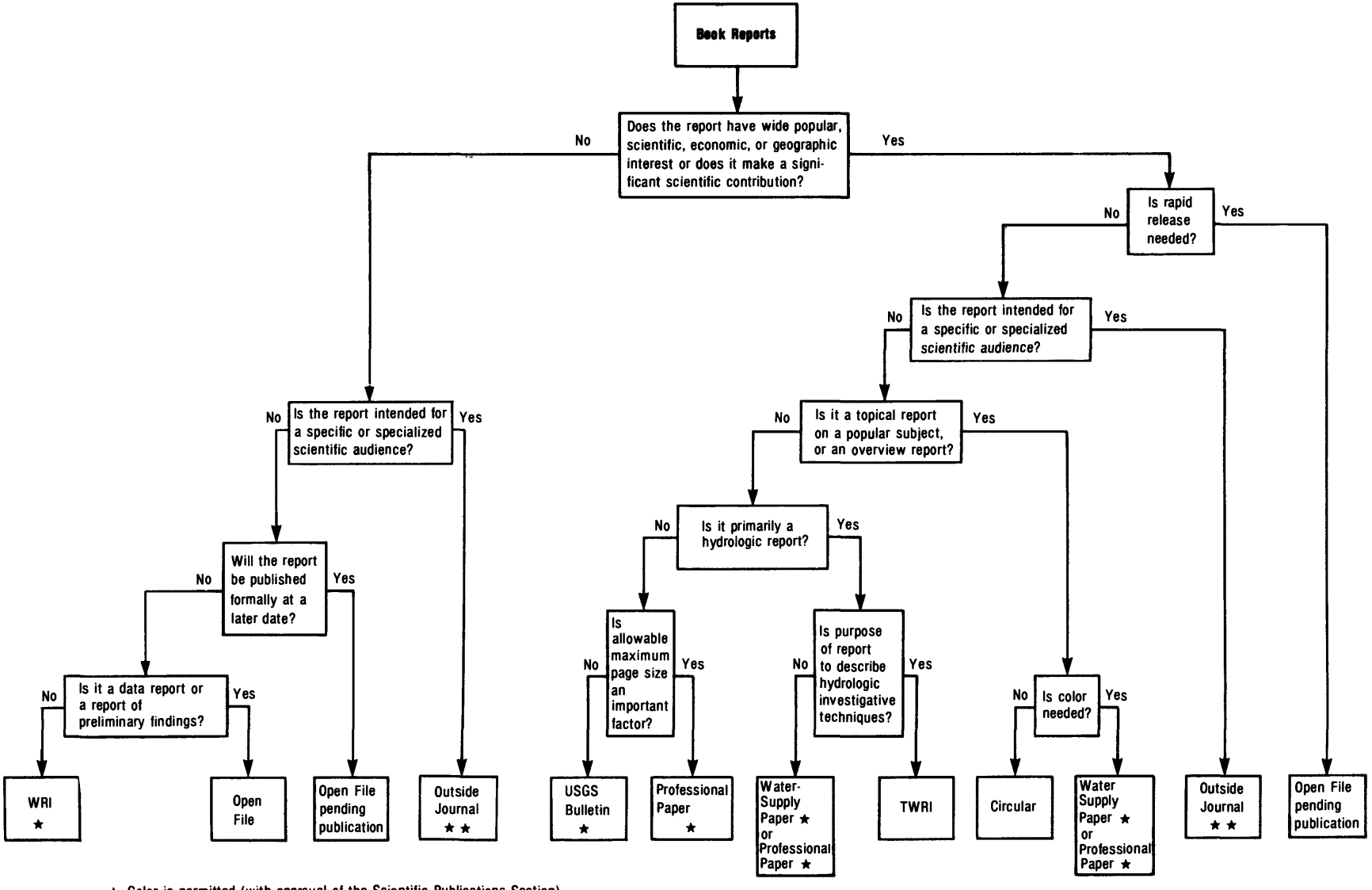
A. Scientific importance.--In general, the greater the scientific significance of the report, the greater the need for prompt publication and adequate distribution. Printing quality and prestige of the medium may also be factors, depending on the duration of interest and usefulness of the material.

   Distribution to a specific target audience is sometimes best achieved through scientific journals. Publication time for journals ranges from a few months to more than a year. The formal Geological Survey series are distributed to libraries and appropriate public agencies nationwide. Publication typically takes a year or more but may be expedited if sufficient need is demonstrated. Rapid publication may be attained through the WRI and Open-File series, but the design and printing quality may be inferior and distribution inadequate beyond the local level.

Effective: July 1, 1982

DECISION TREE FOR SELECTING PROPER OUTLET FOR WRD-PREPARED BOOK REPORTS

(Any book or map report released to the public may be published by a cooperating agency. The quality and distribution of book and map reports published by cooperating agencies may equal or surpass that of equivalent USGS publications.)



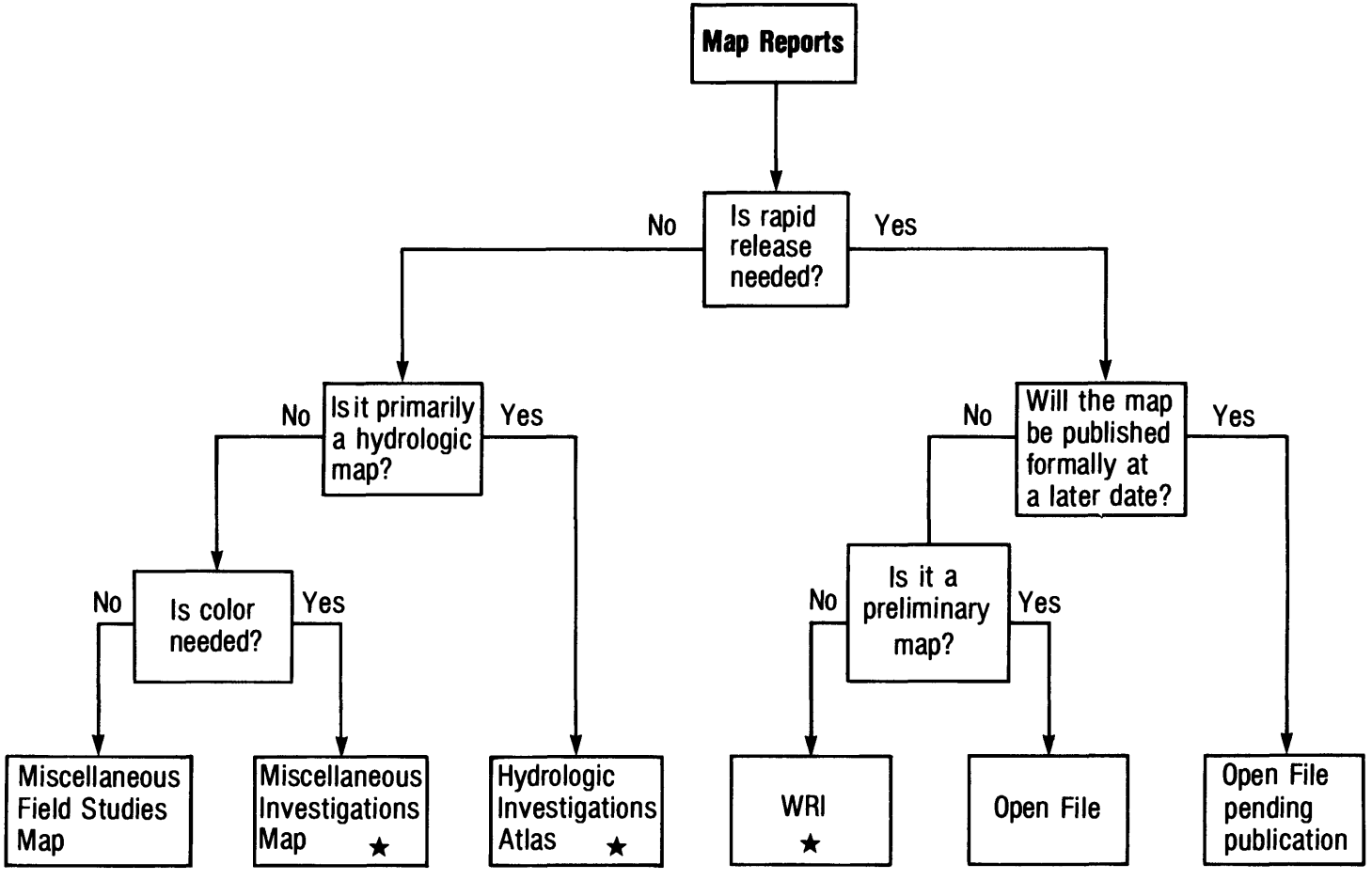
★ Color is permitted (with approval of the Scientific Publications Section)

★★ Use of color, plates, or oversize illustrations optional with publisher

Prepared by: Office of Assistant Chief Hydrologist for Scientific Publications and Data Management
440 National Center, Reston, Virginia 22092

DECISION TREE FOR SELECTING PROPER OUTLET FOR WRD-PREPARED MAP REPORTS

(Any book or map report released to the public may be published by a cooperating agency. The quality and distribution of book and map reports published by cooperating agencies may equal or surpass that of equivalent USGS publications.)



★ Color is permitted (with approval of the Scientific Publications Section)

Prepared by: Office of Assistant Chief Hydrologist for
Scientific Publications and Data Management
440 National Center, Reston, Virginia 22092

B. Urgency.--Production in most scientific journals and the formal Geological Survey series entails typesetting, review of galley and page proofs, and drafting, which together may take more than a year unless a high priority is assigned, although several scientific journals have a turnaround time of only a few months. Informal Geological Survey series handled through the originating office, such as WRI and Open-File reports, and reports in cooperator-published series, may be printed within a matter of weeks, depending on the amount of drafting and whether the report is to be copied inhouse or printed through GPO. (Printing through GPO generally takes 5 to 7 weeks.)

If a report is intended to be released in one of the formal series, but the information needs to be made available immediately, the author may request that the report be released to the open file pending publication as a formal report. Permission to do so must be requested when the report is submitted for Director's approval, and repository copies must be prepared in the same manner as for other open-file releases. When the formal publication becomes available, undistributed open-file copies should be destroyed.

C. Duration of usefulness or interest.--Interpretive material of short-term value should be published promptly--generally as a WRI or Open-File report, journal article, or in a cooperator-published series. The WRI and Open-File series provide the most rapid release but may have inadequate distribution. Scientific journals reach a specific audience but vary in turnaround time; if time is a significant factor, authors should discuss the matter with the publisher before submitting the manuscript for Director's approval.

Interpretive material of long-term interest should be considered for a formal Geological Survey series if it is of regional or national significance; interpretive material of only local importance may be more suitable for a WRI report or a cooperator-published series.

D. Distribution and technical level of audience.--All reports published or released by the Geological Survey are announced internationally in the monthly pamphlet "New Publications of the Geological Survey" and locally or nationally through news releases. Administrative reports, articles in the WRD Bulletin, and reports published outside the Geological Survey are not announced.

Data reports and preliminary reports that will be of interest only to the cooperator should be open filed; final reports of local interest should be published in the WRI series.

Reports that are highly technical or directed toward a specialized audience may be more suitable for scientific journals than for Geological Survey series, but authors are advised to verify the selected journal's suitability in terms of subject matter, distribution, number of pages permitted, size of illustrations, and whether the page fee[1] (if any) can be accommodated.

Reports having only local interest may receive adequate distribution in the WRI, Open-File, or cooperator-published series; those having greater areal scope or scientific interest may require the wider distribution provided through the formal Geological Survey series or scientific journals.

E. Publication cost and quality of printing.--Oversized plates and foldout pages, commercial typesetting, additional colors, unusual size or dimensions, and glossy or textured paper for cover and/or text substantially increase the cost of preparation and printing. If any of these items are essential for effective presentation, the formal Geological Survey series, scientific journals, or cooperator-published series should be considered, and the author should discuss the details with the publisher early in the planning stages.

Rush-order printing (less than 3 weeks) of office-generated reports (WRI and Open File) may increase the printing cost by as much as 75 percent; use of glossy or textured paper for the cover may increase the cost by 15 percent.

F. Relation to similar studies or companion reports.-- If a report is related to others already published, it may be desirable to use the same publication series and design for uniformity and continuity. This decision should be made early in the project, however, to avoid the need to reformat the material later on.

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[1] Page fee may be paid from project or District funds if the journal is sponsored by a not-for-profit organization. (See article 2.01.7.)

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Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.6 Requirements for changing publication outlet after Director's approval

Occasionally it becomes undesirable or infeasible to publish an article or report in the series for which it was approved. In such cases the report should not be abandoned, but should be submitted elsewhere for publication. The following guidelines are given to avoid confusion in procedures and recordkeeping.

A. Changing from one non-Survey publication outlet to another.--Submit the article or report to the newly selected outlet; no contact with the Division is needed. If the report is again refused, submit it to another. When the material is published, send 4 copies of the printed report or article, with the journal's title page and a memorandum explaining the change, to:

Publications Management Unit
Water Resources Division
435 National Center
Reston, Virginia 22092

The records will then be corrected and the copies filed in the Water Resources Division's reference collection.

B. Changing from a non-Survey series to a Geological Survey series.--The original approval notice, routing sheet, and transmittal memorandum must be resubmitted with all support documents to Headquarters[1] with a memorandum explaining the situation. The material will be reviewed for appropriateness for the proposed series and, if suitable, will be assigned a Geological Survey series number.

C. Changing from a Geological Survey series to a non-Survey series.--This is not recommended, but, if essential, approval must be obtained from the Chief, Scientific Publications Section.

D. Publication of open-file releases.--If a report that has been released to the open file is later considered for formal publication, it should be submitted as a new manuscript with a memorandum explaining the background and need for formal publication.

E. Publication of administrative reports.--If the report was approved for administrative release only, the agency for which it was prepared must indicate in writing its willingness to have the report published by the Geological Survey. (See Section 12.)

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[1] Submit material to Chief, Publications Management Unit, 435 National Center, Reston, Virginia 22092

F. Inclusion of published reports in non-Survey publications.--If an outside institution or agency wishes to include all or part of a published Geological Survey report under separate cover, such as in a collection of articles, that agency is free to do so because Federal publications are not copyrighted. However, the publisher should be requested to (1) include a statement crediting both the Geological Survey and author, and (2) cite the original title, year of publication, and Geological Survey series and series number.

Article 2.01.7

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.7 Reimbursement of page fees for journal articles

Many technical journals levee page fees for printing articles they have accepted. In some cases, the payment of page fees entitles the author to a stated number of reprints. Page fees are usually integral to a journal's publication policy, and information on them is presented in the editorial policy statement. Consequently, authors who plan to publish in journals should plan to pay fees as necessary.

The Water Resources Division does not maintain a fund at Headquarters to cover page fee costs; authors are expected to secure page-fee (and reprint) funds from project or District funds.

In the rare event that a manuscript originally designed for publication in a Federal series is diverted for publication in a journal, page-fee funds may be made available from the Scientific Publications Section. District or Research Project Chiefs should contact the Chief, Scientific Publications Section, in advance of submitting such a manuscript to ascertain the availability of page-fee funds.

Federal printing regulations forbid payment of page fees to profit-making publishers; page fees may be paid only to not-for-profit publishers, such as those who print technical journals for not-for-profit societies. A list of not-for-profit journals is maintained by the Office of Scientific Publications, Geologic Division, and may be obtained from the Chief, Scientific Publications Section, Water Resources Division, 439 National Center, Reston, VA 2092 (FTS: 928-6881).

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Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.1 General format considerations

Format is determined largely by the publication outlet, but selection of the outlet, is in turn, influenced by the purpose and objectives of the report, the target audience, and its technical level. Format of formal or informal publications, map publications, or non-Survey publication should be planned early in the project because the format affects both the cost of copy preparation and printing and the dimensions of tables and illustrations. Prior knowledge of page dimensions, publisher's style, and printing requirements can prevent costly alteration after completion of the manuscript and illustrations.

Guidelines to selecting an appropriate publication outlet are covered in article 2.01.5; some considerations for planning the format are listed below.

A. Purpose and content.--Would the material be best presented as a map (or series of maps), book, pamphlet, or journal article? Does it merit high-quality printing? Should it be designed for the lay reader or for a specialized technical audience?

B. Page size and dimensions.--Is the page size of the proposed medium large enough to accommodate the necessary illustrations and tables? Are foldouts and plates permitted? Would the material be more effective oriented vertically or horizontally? If a map is large, could it be divided onto two or more sheets of a more convenient size, or could it be put on facing pages?

C. Length.--Does the proposed publication series have a restriction on number of pages, figures, or tables?

D. Color.--Is color permitted, and can suitable paper for high-quality reproduction, if needed, be provided?

E. Drafting and composition.--Does the material warrant typesetting and professional drafting, or will typewriter and inhouse drafting be sufficient? (Most of the Geological Survey's inhouse drafting is of professional quality.)

F. Binding.--Will the material need a special binding, such as looseleaf, to allow insertion of new pages, or spiral binding, to allow the pages to lie flat? (This consideration does not apply to formal reports.)

G. Column width.--Would two-column or three-column text layout enhance the design?

H. Artwork.--Do the photographs have sufficient contrast and clarity for reproduction? Can graphs be reduced and grouped together on a page (or facing pages) to save space and facilitate comparison? Do diagrams need redrawing by an illustrator or draftsman? Are enough illustrations available to fulfill the need for clarity?

I. Tables.--Can the tables be formatted to fit the page dimensions without extreme reduction?

J. Appendixes, long tables, and attachments.---Does the proposed publication accommodate these items? (See article 5.05.6 on appendixes and attachments.)

K. Headings.--Would display headings appreciably enhance the appearance of the report? Would running heads help the reader?

L. Map explanation.--On page-size maps, will the explanation fit within image area? If not, could the explanation be placed on a facing page?

M. Map data.--Will one sheet adequately show the information, or should the data be presented on two or more sheets to improve legibility? Would one or more additional colors significantly improve legibility? Could a pattern or screen be used in place of color?

N. Map jacket.--For map reports, would a jacket be desirable or necessary?

Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.2 Book design

The physical components of a book that differentiate it from a map, leaflet, or newsletter, are described below; adequate planning for each component can prevent later difficulties in both manuscript preparation and printing. (These guidelines do not apply to journal articles or chapters to be placed within larger publications.)

- Cover (front, inside front, inside back, back) and backstrip (spine). These covers are known as covers 1, 2, 3, and 4 respectively.

- Binding (side stitch, saddle stitch, perfect (glue), looseleaf, wirebound, among others).

- Front matter (title page, foreword, table of contents, table of conversion factors).

- Body (abstract, text with tables and illustrations, references, appendixes or attachments, plates, and foldouts).

Cover.--A book cover may be hard (casebound) or soft (paperbound). Most Geological Survey reports are softbound, but a few copies of important works may be hardbound for preservation. The front cover of a book should be attractively designed. Inside covers and the back cover of a book may contain printing, depending on the individual design. The inside of the back cover may be used to hold a map pocket. The spine of the report should contain author name, title of report, and Geological Survey series and number. This information will be printed on the spine if the book is perfect (glue) bound, or on cover 4 of a saddle-stitched report.

Pagination.--In nearly all books, the pages are printed on both sides so that upon opening the book the reader sees two facing pages. The first numbered page of any printed book is on the right and the following page is on the left. Thus, all even-numbered pages in a book are on the left, and the odd numbers on the right. Awareness of this fact will help plan layouts so that selected components can be made to face one another in the printed copy. (See article 6.01.6 for detailed instructions on pagination.)

Binding.--Depending on the need, a book may be bound in several ways. Books containing less than 96 pages generally are saddle stitched (stapled down the center when opened flat) or side-stitched (stapled down left margin when closed); the latter is cheaper but prevents the material from opening flat. If the book contains more than 96 pages, it will be squared off and perfect bound (glue bound), which, again, will not open flat. Thick books may also be side-stitched. Other options are punching for insertion in a looseleaf binder, and use of plastic or spiral bindings, which are costly and do not permit spine lettering but do enable the material to open flat. Other options are also available. Assistance in determining an appropriate binding may be obtained from the Chief, Scientific Publications Section.

Column width.--Large-format books (7 7/8 X 10 1/4 inches and larger) that are typeset generally are designed with two or three columns of type to a page in order to keep the line width within comfort range for reading. Books that are produced by typewriter (such as WRI's), and most books 6 X 9 inches or smaller, generally contain a single column of type. (It is possible to type copy oversized for photoreduction to create a two-column layout, but this entails special calculation and is recommended only for typists and designers having specialized equipment.) Camera-ready copy of Geological Survey reports to be printed on 8 1/2 X 11-inch paper should be typed on a 6-inch column width; justification of the right margin is optional. Regardless of plans for final layout, all review manuscripts should be typed double spaced on a 6-inch column without right-margin justification.

Illustration size.-- Illustrations should be no larger than necessary and, except for foldouts and plates, must fit within the image area of the printed page. Foldouts and separate plates increase printing costs significantly and should be used only when necessary. All major lettering should be at least 8 point size.[1] Illustrations may span one, two, or three columns of text, depending upon layout, or they may be separated down the middle to span two facing pages. Similar illustrations, particularly graphs, may often be reduced and grouped with several to a page; this both saves paper and facilitates comparison. All illustrations should be designed to allow room for the caption(s). Additional information on illustrations will be presented in Volume II of the Publications Guide.

Use of color.--Printing in more than one color increases costs; therefore, any multicolor printing should contribute demonstrable value in improving the final product.[2] Examples of color printing that do not meet this requirement are:

- Printed items in which color is used in lieu of effective layout and design.

- Printed items in which color is used primarily for decorative effect.

- Printed items in which color is excessive, such as four colors when two would suffice.

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[1] This footnote is typed in 8 point lettering.

[2] See Water Resources Division Memorandum No. 82.116, "Use of Color in U.S. Geological Survey Publications," dated July 15, 1982.

When planning a report to be produced in book format, the most important items to be considered, once the publication series has been selected, are the size and content of illustrations and tables, number of colors (if used), and the editorial requirements of the publisher. The Geological Survey's or other publisher's specifications should be studied before the manuscript is typed or the figures designed. Other questions, such as those pertaining to page layout, type of binding, and style of typefaces, can generally be resolved in the latter stages of production.

Only books designed in STOP[3] format require attention to page layout from the beginning; preparation of books and maps in STOP format is explained in article 2.02.4.

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[3] Sequential Thematic Organization of Publications--a design technique whereby each pair of facing pages presents an individual topic.

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Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.3 Map reports

A map report is any publication consisting of one or more maps or sections on a single sheet, or series of sheets. A short text may be included but must be printed on the same sheet(s). Map reports are used when the image area is too large and the text too short to be suitable in book form. They may be black and white or may contain color.

The main aspects to consider when planning the format of a map report are:

A. Sheet size.--Any standard size within printer's capability may be used but should be as small as feasible for economy and convenience.[1] If a map must be extremely large, authors should consider dividing it into two or more separate sheets. (See articles 2.01.2 through 2.01.5 for determining publication series.)

B. Color.--Use of color depends on the publisher's restrictions.[2] If the material can be shown clearly in black with one or two screened values, color should not be used. If the data are likely to overlap, authors must decide whether to present the information on one map having two or more colors or on two or more maps having black and screened black only. This decision should be made in consultation with District and Division staff and also will depend upon the publisher's capability. Contrasting colors should be used to facilitate review. Final colors can be designated by the author or, in some cases, are standard. Use of patterns or a color code in place of color will avoid the need to hand color multiple copies.

C. Mockup.--Map reports submitted for Division review should include (1) a mockup showing the exact position of every component at publication scale, and (2) a double-spaced copy of the text and explanation. Diazo or similar paper prints will suffice for review. The mockup may be hand lettered, but the lettering size must approximate that used in the final version.

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[1] Standard paper sizes for oversize maps are 26 X 36 inches (optimum), 36 X 44 inches, and 44 X 58 inches. Maximum Geological Survey image size is 42 X 56 inches. Maximum image size of commercial presses is 48 X 75 inches.

[2] See Water Resources Division Memorandum No. 82.116, "Use of Color in U.S. Geological Publications," dated July 15, 1982.

D. Essential Map Components.--

title	latitude and longitude
author's name	location map
base credit	scale
research credit	explanation
publisher	text (optional)
statement of cooperation	border
report series and number	north arrow (only if map is not north oriented)

Specific instructions for map preparation are given in Volume II of the Publications Guide (in preparation, 1982).

Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.4 STOP format[1]

The appearance of many reports prepared by the Water Resources Division, particularly those directed toward the general or nontechnical audience, could be improved through use of more illustrations, condensed text, and a planned balance of text, tables, and figures on each set of facing pages. Use of the STOP design technique, whereby each set of facing pages forms a unit with a major heading and a leading sentence, and whereby the text and figures are balanced across facing pages, is one way to enhance the information transfer potential of such reports.

Detailed planning is essential from the beginning; attempts to adapt an already completed manuscript to STOP format require considerable effort and may result in frustration. The STOP procedure may be followed literally or interpreted broadly, depending on the nature of the topic and concensus as to what design will be most effective. Preparation of STOP-format reports requires willing and close cooperation of authors, supervisors, and reports support personnel.

The STOP format is feasible in nearly all publication outlets used by the Geological Survey; the early planning and design of material for the STOP format for a specific outlet will avoid the need for modification later on.

The STOP format described in the following pages has several advantages. First, the overall approach maximizes the efficiency of authors, editors, reviewers, and readers. The flexibility of design allows rapid shifting, addition, deletion, or modification of paragraphs, artwork, and text during review. This format forces the authors to plan ahead and to think graphically, which generally results in a more effective and esthetic product. The reader's efficiency is increased because the facing-page concept is developed around a specific subject unit consisting of minimal text with well-planned graphics. In addition, the reader can quickly grasp the essence of the report by scanning only the headings and topic sentences. It should be noted that, although STOP format is a useful tool for presenting information, it is not appropriate for some technical subjects.

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[1] STOP is an acronym for Sequential Thematic Organization of Publications. Although the principle is not new, the concept of preparing adequately illustrated technical reports in facing-page units, each with a subject heading and summary statement, was developed by the Hughes Aircraft Company, Fullerton, California, and was first formally described by the Martin Marietta Corporation, Orlando, Florida, in 1970.

When a STOP report is submitted for Director's approval, a mockup showing the exact position of each component must be included with the regular manuscript and a print of each photograph (not photocopy) must also be included.

The following pages, modified from instructions published by the West Virginia Geological Survey[2] and the Martin Marietta Corporation[3], present guidelines for preparing WRD reports in STOP format. An example of a report in STOP format is cited below[4].

PROCEDURES FOR PREPARING PUBLICATIONS IN STOP FORMAT

Description

"STOP" is a layout technique that facilitates comprehension and enhances the visual appeal of a report by dividing the subject into a series of short topics and presenting each one in an independent, two-page unit. The left-hand page generally contains text, the right-hand page the graphics, so that each unit contains all text and illustrations needed to explain the individual topic. Together the units form a logical progression toward the author's conclusions. STOP format is especially suitable for reports written to a non-technical audience and can be used to depict highly complex, technical subjects.

Reports to be presented in STOP format must be planned in two-page units from the beginning; attempts to convert completed manuscripts to STOP format will invariably require extensive reformatting and revision. (Guidelines for converting conventional text to STOP format are given at the end of this article.)

The left-hand (even-numbered) page of each two-page unit begins with a chapter heading and an appropriate subtitle, a topic headline describing the message of the two-page unit, and a thesis sentence summarizing the unit. Beneath these headings is the text. The right-hand (odd-numbered) page contains the supporting illustrations and tables. (The preliminary pages and appendixes, if any, need not be illustrated but are designed on a facing-page basis to insure visual balance.) The STOP design is flexible and may be modified in a variety of ways to accommodate special needs. Several variations are depicted on the next page.

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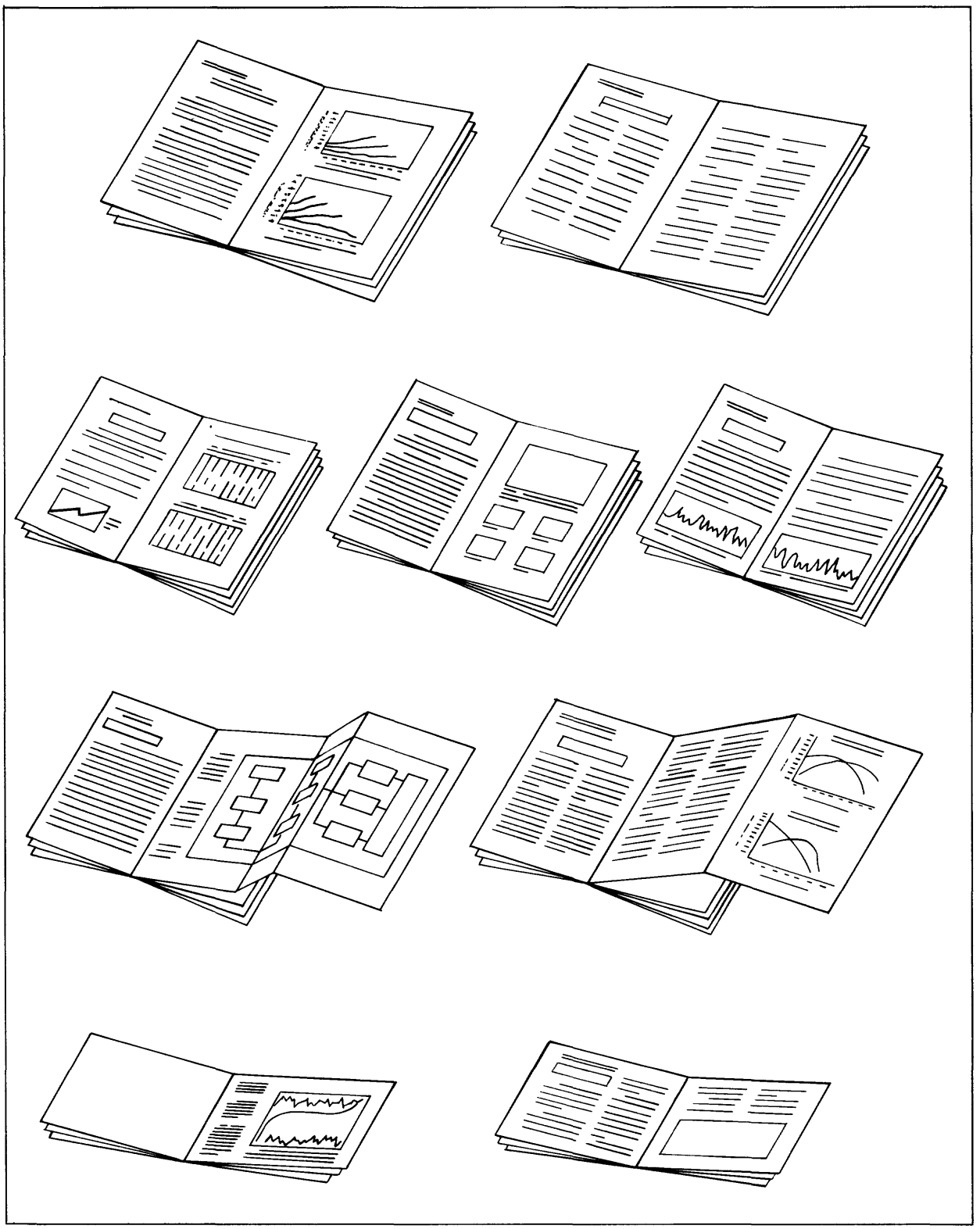
[2] Carte, J. A., and Landers, R. A., 1975, STOP: A path to more useful Earth science reports: Geology, v. 3, no. 7, p. 405-406.

[3] Martin Marietta Corp., 1970, STOP, a procedure for effective publications: Orlando, Florida, Martin Marietta Corp., Orlando Report OR-988, 29 p.

[4] Wyrick, G.G., and Borchers, J.W., Hydrologic effects of stress-relief fracturing in an Appalachian Valley: U.S. Geological Survey Water-Supply Paper 2177, 51 p.



Facing-page layouts for STOP reports
(Modified from Martin-Marietta Corp., 1970)

The principle of the two-page unit is to present all material on a given topic at a glance so that the page need not be turned nor the continuity interrupted. If the copy or illustrations require additional space, the material should be reassigned to other units or presented as two smaller units. Alternatively, a foldout may be used, but this circumvents the basic precept of brevity and will substantially increase the printing cost.

It is important to maintain unity and visual balance not only within each two page unit, but to provide continuity between units. STOP format, as the name suggests, has a tendency to produce abrupt transitions, or to "jump" from one topic to the next; authors are therefore advised to give special attention to the overall continuity.

Guidelines for Page Layout

The key components of each two-page unit are the chapter heading, topic headline, thesis statement, text, and graphics. Special consideration must be given to the selection of appropriate typefaces and to effective use of white space, which together can appreciably enhance the visual appearance. The key components of the basic two-page unit are discussed below.

Chapter heading.--Analogous to a first-order heading of a technical report. In STOP format it is generally placed in the upper left corner of the lefthand page, in prominent type.

Subtitle (optional).--Analogous to a second-order heading of a technical report; generally placed just beneath the chapter heading but in smaller type.

Topic headline.--Similar to the headline of a newspaper; commonly but not necessarily centered above the text column(s). The headline should contain from four to eight words that accurately state the message of the two-page unit. The headline helps the reader determine whether to study the entire unit in detail, and, for the reader who is merely scanning the publication, it provides a quick idea of the theme and conclusions.

Thesis statement.-- Similar to a short abstract; generally placed below the topic headline. The summary statement should give the gist of the two-page unit and emphasize major conclusions or contributions. It may be expanded to two or three sentences if necessary.

Text.--Usually written after the outline and layout have been approved by Project Chief and District Chief. A maximum of 650 words is recommended for each page of text, assuming a publication size of 8 1/2 X 11 inches. (This equals about 1 1/2 pages of double-spaced elite type or 2 pages of pica type, including headline and thesis statement. If the material is to be set in commercial [10 pt.] type, the amount of text may be increased by about 25 percent.)

The text for each unit may be designed for a one-, two-, or three-column format, depending on whether the material is to be typewritten or commercially typeset, whether the book is designed for upright or broad-measure layout, and how the illustrations are to be arranged. The column arrangement may be varied from page to page, if necessary, to maintain balance.

Graphics.-- These include graphs, tables, maps, diagrams, photos, and display lettering. Graphics should be carefully selected and designed to complement or substantiate key points of the text, and are not used simply to fill space. If there are too many graphics for a given unit, it may be possible to redraw and combine, photoreduce, crop, or simply eliminate them. Only in rare instances should a foldout page be necessary.

After the headings have been developed and the graphics designed, authors will sketch a publication-size layout of each two-page unit indicating the final size and position of each component, allowing room for captions and page numbers and keeping consistent margins. If appropriately reduced copies of the graphics can be obtained, they will be helpful in planning the page layouts and will reveal discrepancies in lettering, contrast, content, or general effect that could detract from the visual quality of the printed book.

Elements of Planning and Development

The first considerations in planning a STOP report are formulating purpose and objectives, assessing the target audience and its technical level, and selecting a suitable publication medium. In addition are four key planning aids--the topic outline and the detailed outline, which are similar to those made for standard technical reports; the profiles (layout sketches) of the two-page units; and the storyboard conference (management review that takes place before the final text is written). The procedure for developing STOP reports from these planning aids is described in detail below.

Topic outline.--Lists the major headings, subheadings, graphics, and appendixes and is virtually the same as the outline for any technical report. This component is generally the first step in organizing the subject matter into discrete, sequential topics.

Detailed outline.--Developed by (1) dividing the topic outline into smaller concepts of equal importance that can be presented in two-page units, then (2) filling in the details that will be given in the text. The degree to which the material is subdivided will depend on the subject and the technical level of the target audience. The detailed outline provides the writer with a guide to the content of each unit and should also suggest the wording of the topic headline and summary statement.

Mockup (layout sketch).--A two-page mockup showing the size and position of all components of a given unit. The mockup not only forces detailed planning, but, by giving a visual image of the completed publication, facilitates review and revision before the text is written, which minimizes rewriting later on. Each mockup page is drawn at publication size and indicates margins, chapter heading, subtitle, topic headline, summary statement, text column(s), graphics, captions, and page number.[5] A mockup must be prepared for all pages of the book, including table of contents, lists of illustrations, and tables, as well as the front, inside front, inside back, and back covers. As a group, the mockups should serve as a comprehensive, step-by-step writing plan.

Storyboard conference (management review).--All mockup pages are displayed in sequence on a table or wall for a scheduled group review. This system provides efficient review by facilitating discussion and permitting easy reorganization or modification of units and components. After review, the mockup pages should be revised to incorporate all changes. The text and graphics can then be developed in detail in preparation for colleague review.

Writing from mockup and outline.--The revised mockups and detailed outline form the writing plan for each two-page unit; therefore, the actual writing will consist primarily of expanding and explaining the key points listed in the outline. This process may reveal several problems in the organization, emphasis, or page layout, but reference to the mockups and outline should suggest a logical solution. The illustration on the next page depicts some common difficulties and their solution.

When the text has been completed and the graphics sketched in a form suitable for colleague review, all components should be compared with the mockups, and appropriate corrections made. A clean, doublespaced copy of the text should then be typed, with the mockups included, for colleague review.

Converting Conventional Manuscripts to STOP Format

Occasionally a decision will be made to convert an already completed manuscript to STOP format. This tail-end approach should be avoided if possible because it will require a large amount of rewriting and redrafting. If the effort is deemed necessary, however, the following approach is suggested.

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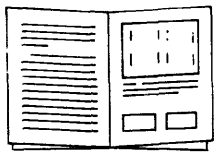
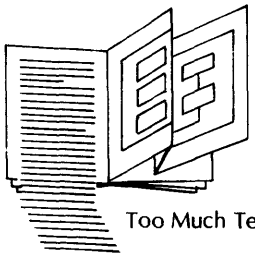
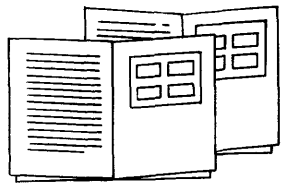
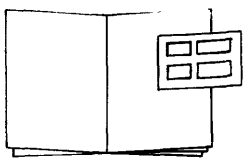
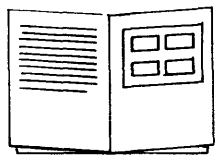
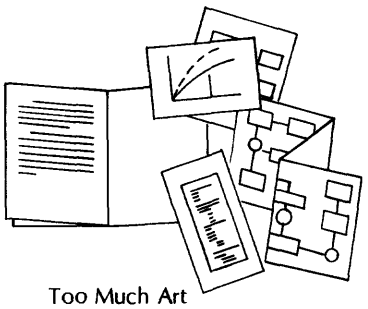
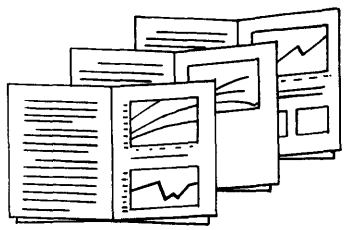
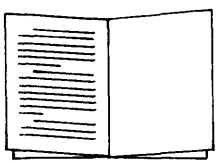
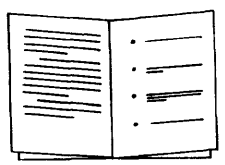
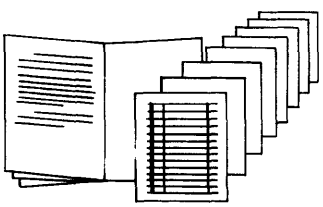
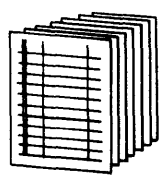
[5] Preliminary pages will have roman numerals, and all pages, including blanks, must be accounted for. All right-hand pages will be odd numbered, beginning with the title page as page i.

The first step is to spread out the manuscript pages and illustrations to determine the location of all changes in topic and all reference to figures and tables. The text is then cut apart at topic boundaries and reassembled to form a series of descrete units. Concurrently, new graphics for each unit are sketched and old ones appropriately modified, and the topic headlines and summary statements are written.

Once the material has been assembled into units containing a suitable balance of graphics and text, a detailed outline of the report and a mockup of each unit may be prepared for review at the storyboard conference. When the review has been completed and all revisions incorporated, the material should be ready for colleague review.

If, after Director's approval, camera-ready copy of the report is to be prepared by the originating office, refer to Section 7, which describes preparation of final copy for printing.

Situation	Probable Cause	Solution
 Adequate Information, Presented Properly	Thoughtful Development and Review of Outline and Mockup plus Effort by Writer to Achieve Page Budget	Review, Draft, Edit as Required, and Publish Document
 Too Much Text	Inadequate Review, or Insufficient Thought to Outline and Mockup	 Break Unit into Additional Stop Units
 No Text	Inadequate Review of Mockup	 Create a Message with Text or Combine with Another Unit
 Too Much Art	Inadequate Preparation or Review of Mockup	 Expand to More Topics or Create Appendix Revise or Eliminate Unnecessary Illustrations
 No Art	Inadequate Preparation or Review of Mockup	 Create Tabular Summary, Conceptual Diagram, or a Key Word List
 Too Much Data	Failure to Summarize and Plan for Appendix	 Put in Appendix to Preserve Topical Coherence in Body

Common difficulties in STOP format
(Modified from Martin-Marietta Corp., 1970)

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.1 Planning project and report

The most frequent cause for delayed completion of reports and for technical deficiencies is inadequate planning. Report planning and project planning go hand in hand and should start at the same time. Systematic project planning consists of a long-range plan, project proposal, project description, detailed work schedule, and report plan, including a detailed report outline and list of illustrations. Sound planning should provide the project chief with the tools needed to design and complete the project within the allotted time and budget. Some major considerations in developing a project plan are given below.

A. Project proposal.--Presents a clear description of the project. Key elements of a project proposal are title, need for the study, objectives, scope, approach, relation to long-range plan, benefits, planned reports, time frame, manpower, and costs.

B. Project description.--The first step after Regional approval and funding of the project. It puts the project into the Management Information System and gives official status to the project.

C. Work plan.--Lists project milestones and dates for starting and completing each activity.

D. Project file.--Contains work plans, financial plan, manpower plan, and quarterly reviews. It should also include the report outlines and publication plans.

E. Annual District program review.--All projects are reviewed annually by the Region.

Report planning should be a major component of project planning, and both should start at the same time. Some major considerations in developing a report plan are given below:

A. Basic Requirements

- A well prepared project proposal with report plans.
- A detailed report schedule.
- Quarterly review of report plans and progress.

B. Project File

- The report components that belong in the project file are the work schedule, a short outline and an annotated outline, a list of illustrations, and a statement of purpose and scope.

C. Report-Management Team

- Each office should maintain a team for report preparation and review.

- Members of this team should be the District Chief (or Subdistrict Chief), section chief, report specialist, project chief, editor, typist, and illustrator.

- Report responsibility and authority should be defined for each report-team member.

- Regional reports advisors should play a major consulting role in the planning of projects and reports.

D. Report Format

- Determine report series early in project and follow publisher's specifications from the start.

E. Colleague Review

- Insure that qualified personnel are selected as reviewers.

- Obtain at least one review from outside the originating District or Research Project Office.

- Have authors and reviewers attend training courses.

- Use reviewers outside the Geological Survey.

- Use more group review within the originating office.

- Allow time for colleague review.

F. Assistance

- Assistance in report writing may be obtained from District report specialists, Regional reports advisors, and discipline specialists.

G. Recognition of Excellence

- Proficiency in report writing and review is a major consideration for promotion and awards.

H. Some Causes for Poor Reports

- Poorly prepared project proposals.
- Inadequate project planning.
- Author not involved in planning.
- Inadequate funding.
- Poor supervision.
- Lack of interdisciplinary viewpoint.
- Failure to request consultants when needed.
- Lack of a well organized annotated report outline, updated as required.
- Failure to obtain needed field data.
- Incomplete review of project and report status by District Chief, supervisors, and project chiefs.
- Poor technical (colleague) review.
- Failure of author to respond properly to colleague review comments and suggestions.
- Failure of supervisors to check report closely for technical quality of review.
- Poor training of authors, technical reviewers, and editors.

These and other considerations regarding project and report planning and management are stated in detail in the "Water Resources Division Project and Report Management Guide" by John E. Moore and Edith B. Chase, a copy of which may be obtained upon request to the Deputy Assistant Chief Hydrologist for Scientific Publications and Data Management. It provides a systematic approach to improving the quality, timeliness, readability, and usefulness of Geological Survey reports.

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Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.2 Procedures for obtaining a bibliographic search

To keep abreast of pertinent literature and to obtain the documents needed for preparing scientific reports, Geological Survey authors should obtain a bibliographic search early in the project, as well as during the project. A bibliographic search can be done either manually or by computer, depending on the availability of local resources and on the scope of the search.

A. Manual Search

1. Define the topic and scope of the literature desired and select 5 to 10 key words or index terms. These should be obtained from the WRSIC[1] Water Resources Thesaurus (1980), which is the source book for descriptors used on the WRSIC information sheet that accompanies all manuscripts. Every District and field office should have a copy.

2. Obtain an abstracting or indexing guidebook that contains references (with or without abstracts) to literature on the topic. The one used most commonly in Division studies is "Selected Water Resources Abstracts," published by the U.S. Water Resources Scientific Information Center and issued twice a month. Cumulative indexes by author and subject are issued yearly. Copies of the biweekly index must be retained indefinitely because the annual cumulative indexes do not repeat the abstracts. All Districts receive this publication free of charge.

   Additional indexes such as "Chemical Abstracts," "Biological Abstracts," "Pollution Abstracts," and so forth, are available at college and State libraries, and at Geological Survey libraries at Headquarters and in Menlo Park, California and Denver, Colorado. These listings contain full bibliographic references and abstracts.

B. Computerized Search

This type of search retrieves information from hard-copy indexing guides that have been converted to a machine-readable form. A computerized search is more efficient than a manual search because of the volume of data available and the speed with which it can be done. The basis for this system is that commercial information-retrieval services purchase machine-readable tapes from the owners of indexing guides, such as "Chemical Abstracts," and manipulate and add the tapes to a central computer. Thus, the original index becomes part of a data base. Online retrieval from the file can increase the number of access points (or indexing terms) by an order of magnitude over individual hard-copy indexes. The three types of data bases are (1) bibliographic, (2) directory, and (3) statistical.

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[1] U.S. Water Resources Scientific Information Center. (See article 9.01.1.)

To obtain a computerized search:

1. Define the topic and choose 5 to 10 key words, then prepare a list of other information that may help define the research topic, such as time and geographic limits. The "Water Resources Thesaurus" may be used in selecting key words; however, most data bases have their own thesauri.

2. Write or phone the nearest regional Geological Survey Library reference desk (Menlo Park, Denver, or Reston) to place the request for literature search. Provide the key words and describe the topic. There may be a charge for the search.

3. The search is conducted through an online information-retrieval system. A printout of references with or without abstracts (depending on the data base) is mailed to the requestor.

C. Sources of Documents

It is the author's responsibility to obtain the actual documents. Most Geological Survey documents not available in libraries are available to authors from the originating office, through the National Technical Information Service[2] or Open-File Services Section[3] on a cost-per-page basis, or through the GPO.[4]

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[2] WRI/NTIS reports published before the WRI series was restructured in May 1982 may be purchased in paper or microfiche copy at cost from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

[3] Geological Survey Open-File reports may be obtained through the originating office or purchased at cost from:

Open-File Services Section
Branch of Distribution
U. S. Geological Survey
Box 25425, Federal Center
Denver, CO 80225

[4] Selected government-produced documents may be purchased from:

Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

Most Federal Publications may be borrowed from the Regional Geological Survey Libraries or obtained through interlibrary loan. To arrange for an interlibrary loan, phone or write the nearest Regional Geological Survey Library reference desk. (See Circular 777 for addresses of Regional Geological Survey Libraries.) State and local government agencies may also be sources for non-Federal publications.

Occasionally, the only way to obtain a document will be to purchase it directly from the publisher.

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Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.3 Suggestions for internal review

The internal review process will differ from office to office, depending on staff, number of reports processed annually, and District or office policy. The process may also differ from report to report, depending on the complexity, urgency for release, and publisher's requirements. The basic requirements for review before transmittal to Headquarters are:

1. Section chief's approval of first draft.

2. General editorial review for coherence, internal consistency, and adherence to Geological Survey publication and editorial policies.

3. Author's revision of edited draft.

4. District Chief's or Regional Research Hydrologist's review.

5. At least two technical reviews of revised draft, with author's written response to comments. For interpretive material, at least one reviewer should be outside the District or Research Project Office.

6. Proofreading and verification review for coherence, accuracy, internal consistency, and adherence to Geological Survey format requirements.

7. Final evaluation by District Chief or Regional Research Hydrologist.

The following procedures have proved useful to many offices in meeting publication deadlines and improving the technical, editorial, and esthetic quality of reports:

1. Hold a planning session soon after the project is approved to discuss report content, scientific significance, intended audience, potential publication outlet, and publication costs.

2. Establish target dates for completion of the various manuscript components. The first draft should be completed and submitted to the section chief 6 months before the project-termination date.

3. Prepare a detailed outline early in the project and revise it periodically to reflect changes in the course of the study.

4. Write the introduction, purpose and scope, methods, list of references, and table of contents early in the project. Like the outline, these will help keep the author from going astray during the project and will result in fewer last-minute chores for author and reviewers alike.

5. Neatly sketch and hand letter the illustrations at publication size in pencil on mylar. For graphs, use only blue-ruled mylar. On review copies of maps, use only patterns or colors that are easily distinguished. Avoid final drafting until after Director's approval.

6. Have the entire manuscript and illustrations reviewed for coherence, consistency, and accuracy before obtaining colleague reviews. This will save the reviewers time by minimizing editorial distractions. (See article 2.03.5, "Manuscript check lists.")

7. Hold training sessions to instruct and refresh reviewers and authors in Geological Survey policy and publication requirements as well as principles of organization, expression, illustration, and layout.

8. Establish a publications group to coordinate editorial, typing, drafting, layout, and distribution services. Encourage regular contact between authors and the publications group.

9. Be sure that reports are reviewed by qualified people. Select no more reviewers than are needed to guarantee complete review of all topics covered. At least one reviewer (not necessarily a Geological Survey employee), should be outside the originating District or Research Project Office.

10. Obtain simultaneous reviews to save time and enable the author to evaluate all responses at once.

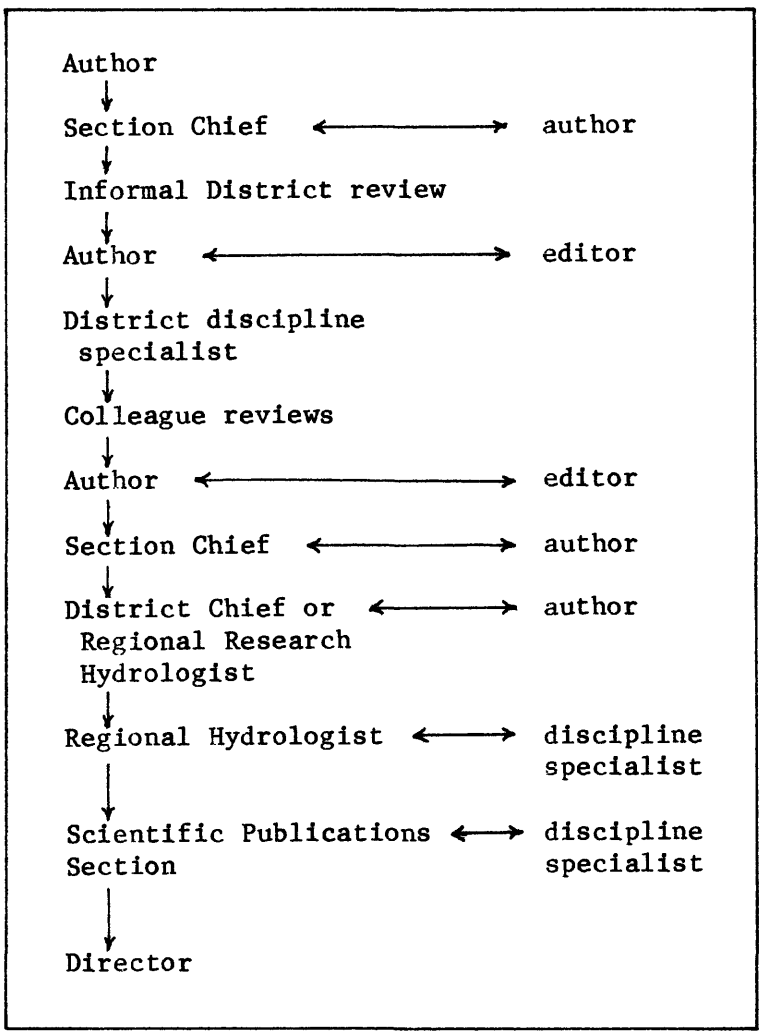
11. Have a section chief within the District review the manuscript after suggestions of colleague reviewers have been incorporated to ascertain whether the reviews and author's responses to them are adequate.

12. Give a final verification review to insure accuracy and completeness of the manuscript.

13. Insure that all staff members responsible for reports understand their purpose and goals and have ready access to the standard references.

14. Insure that all required report components and supporting documents are complete and included in the manuscript package transmitted to Region.

The chart below is an example of how a report might proceed from first draft to transmittal for Director's approval.



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Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.4 Region and Headquarters evaluation

The Region and Headquarters evaluation is the last quality check for each report before publication. The objectives of these evaluations are to insure technical adequacy, quality of colleague review, and conformance to Geological Survey policies.

Region.--Evaluation of editorial quality and adherence to Geological Survey policies by the Regional reports advisor and technical review by discipline specialists. (Not every report sent to a Region is evaluated by a discipline specialist. The Regional reports advisor generally decides whether a discipline specialist should review a report.)

Headquarters.--Evaluation of technical quality, adequacy of colleague review, and adherence to Geological Survey policies. A check is also made to verify adherence of illustrations and text format to prescribed standards, and conformance of geologic names to those accepted by the Geologic Names Committee.

Director's Office.--Evaluation of conformance to Geological Survey policy.

CRITERIA FOR REGION AND HEADQUARTERS EVALUATION

Colleague Review.--Has the review introduced errors into the report? Did reviewers spend sufficient time on the report? Are comments primarily technical or editorial? Are the technical disciplines represented by the reviewers appropriate for the report content? Was a review summary written? Are all comments answered adequately? Has author taken a constructive approach to criticism?

Report title.--Does it clearly and correctly describe subject of report? Does it indicate the geographic location? Does it have a consulting tone?

Abstract.--Does it describe purpose of the investigation and adequately summarize what the report contributes? Is it free of such phrases as "is discussed" and "are described"?

Introduction and content.--Is the need for the report stated? Are its purpose and scope defined? Is the approach described? Are results described?

Approach.--Were the methods appropriate and techniques valid?

Credit.--Is acknowledgment given for all previous work on which ideas, illustrations, tables, or data are based? Is appreciation expressed for non-Survey cooperation.

Summary, Conclusions.--Are they adequately supported by the data? Do they follow logically from material presented in text? Are assumptions and limitations adequately stated? Do they fulfill purposes of report?

Clarity.--Can the report be readily understood by its intended audience? Is it free of jargon, cliches, and awkward expression?

News Release.--Does it clearly present the facts or is it sensationalistic? Is it written in overly technical language? Is it interesting? Is it supported by the report?

Routing Sheet.--Is publication series suitable? How long has report been in review? Has the report previously been rejected by the Region? Has report been evaluated by the District Chief and Section Chief? How many colleague reviewers are listed? Was at least one reviewer outside the District? Which discipline specialist in the District or Regional office, if any, evaluated the report?

Article 2.03.5

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.5 Manuscript check lists

Accurate, well-written reports are the Water Resources Division's principal tangible product. To insure the accuracy of reports and their conformance to the many Geological Survey and Division editorial standards, a systematic verification review is necessary. Check lists are one means of achieving this goal.

Check lists used in three Districts (Nevada, Maryland, and New York) were selected from among many currently in use to illustrate the procedures that authors and editors should follow during the various stages of report preparation.

The verification-review check lists of the Nevada District are included for use at three critical stages in a manuscript's progress from rough draft to final report. These stages are: (1) just before colleague review, (2) during preparation for transmittal to the Regional Hydrologist, and (3) during final preparation of camera-ready copy.

The check list of Maryland is used by the author and by subsequent colleague reviewers.

The check list of New York is completed by the author before the report is submitted for editorial review.

INITIAL VERIFICATION REVIEW[1]
NEVADA DISTRICT

Short title _____

Senior author _____

(Initial each item when complete)

EDITORIAL STAFF'S RESPONSIBILITY

___ *Text headings versus "Contents" list:* Wording, rank, and page numbers agree.

___ *Illustrations list:* Type of illustration is indicated (Graph showing---, etc). For figures, this applies only to list, not to titles beneath figures themselves. In other respects, titles in list are complete or properly condensed versions of titles beneath illustrations. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references.

___ *Tables list:* Duplicates titles above tables, omitting units of measure. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references.

___ *Units of measure:* Except for QW, geophysical, and related units, use all metric or all inch-pound, not a mixture of both. For QW, geophysical, and related items, use metric only. Units of measure are always spelled out in abstract, and everywhere else except as follows: abbreviations should be used in tables and illustration "explanations" only where space is a problem. In text, they can be used if the unit of measure is lengthy, the abbreviation saves appreciable space (for example, mg/L for milligrams per liter, acre-ft/yr for acre-feet per year), and it appears frequently in a specific manuscript. Where abbreviations are needed, use proper format (for example, ft^3/s, not cfs).[2]

___ *List of conversion factors:* Includes all inch-pound units of measure used in text, illustrations, and tables, and no others.[2] Format correct (plural; first column listed alphabetically). Conversion factors correct (to four significant figures). No scientific notation (1.193×10^{-3}). Do not list metric water-quality or geophysical units (instead, spell them out in text, parenthetically, after first use of abbreviation).

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[1] For use prior to colleague review.

[2] Use "search" feature on word processor to determine frequency or consistency of word use.

___ *Altitude datum:* Explanation of the National Geodetic Vertical Datum of 1929 is included only if text, tables, or illustrations refer to altitude. First reference to altitude in text must be specific ("4,500 feet above sea level," for example, NOT just "Cow City is at 4,500 feet"). Be sure "mean sea level" is replaced with "sea level" throughout manuscript.[2]

___ *Illustrations and tables:* Illustrations and tables themselves are grouped separately, rather than interleaved with text, for easier review. Titles, explanations, column headings, and footnotes are double spaced to facilitate editing. Data within body of table can be single spaced, often with a double space every five lines or so. Mathematical totals checked using word processor.

___ *Bibliographic References:* All references in text, illustrations, and tables, are in list, and vice versa (except in list of "Selected references"). Authorship and year of publication agree between text and list. Format in text is correct ("and others" for more than two authors). Format in list is correct (only allowable abbreviations aside from those in title: U.S., v., no., p., and State names); references are listed in proper alphabetical and, where necessary, chronological order.

___ *Manuscript format:* Conforms with that of intended publication medium (for example, Water-Supply Paper, open-file report, State bulletin series, journal).

___ *Editorial aids:* Left margins of text, illustrations, and tables show letters identifying references to illustrations, tables, bibliographic citations, and other pages in the manuscript.

___ *Numerical values in text:* Verify agreement with data in tables, illustrations.

___ *Geographic names:* All names in text, tables, and non-map illustrations are shown on a map, unless they are outside the study area and outside the areas covered by maps in the report.

___ *Trade-name disclaimer:* Proper footnote, for first trade name only.

AUTHOR'S RESPONSIBILITY

___ *Report title:* Adequately identifies study topic and study-area location (not just "Nevada," unless study is statewide; however, avoid county names if study area includes more than two counties). Title is as brief as possible, avoiding "the" or "an" as first word. For example, "Ground-water quality in the Talapoosa area, west-central Nevada," rather than "An evaluation of ground-water quality in the Talapoosa area, Nevada."

___ *Contents list:* Rank of headings and subheadings is internally consistent and correct. Single subheadings are avoided except in unusual circumstances (for example, stratigraphic discussions). See Nevada Reports Section Technical Note No. 4.

___ *Illustrations and tables lists:* Page numbers in lists are those of principal references in text (exception: basic-data table at end of report; put "Back of report" instead of a specific page number). Circle principal reference to each figure and table in text, as an aid to reviewers.

___ *Illustrations and tables:* References to illustrations and tables in the text, as well as in other illustrations and tables, are correctly numbered. Generally, such references in illustrations and tables should be avoided to reduce the possibility of inadvertent errors.

___ *Plates:* On plates only, title must identify type of illustration and geographic location. For example: "MAP SHOWING CANDIDATE SITES FOR WATER-QUALITY NETWORK, LAS VEGAS VALLEY, NEVADA." If altitude is referred to on a plate, the term "sea level" may be used, but the phrase "Altitude: National Geodetic Vertical Datum of 1929 (sea level)" must appear somewhere (preferably under the scale but above the plate title).

___ *Figures:* Except for plates and "facing-page" maps, illustrations should conform as closely as possible to size limitations (see Nevada Reports Section Technical Note 9 for guidelines).

___ *Maps:* Scale included (Publications Guide 3.09.1).
Land grids (latitude-longitude, township-range) included (3.09.2). Show at least two values each for latitude and longitude (see especially 3.09.2G).
North arrow included when required (3.09.6).
Base-map credit included when required (3.09.4).
Topographic contour interval and altitude datum included when appropriate.
Proper credit for geology or hydrology included when appropriate (3.09.5).
Proper format for "Explanations" (3.10.2, 3.06.3).
Title and "Explanation" typed, double spaced, on separate sheet attached to map for review purposes.
Data and site locations proofed against basic-data tabulations.

___ *Map explanations:* Format and wording conform with guidelines (Publications Guides 3.06.3, 3.10.2). Proper sequence of items (3.10.2, page 1).

___ *Photographs:* Credit if photographer is not author. Date of photograph included as part of title.

___ *Tables of computer output:* Abbreviations and symbols are explained in headnotes or footnotes.

___ *Page numbers:* Fill in proper page numbers for references to other specific items in text [for example, "The amount of lake-surface precipitation (page 17) is ---" or "Recharge estimates are discussed on page 23"]. Generally, such references should be avoided to reduce the possibility of inadvertent errors.

___ *Calculations:* Computed values in text and tables checked for correctness (for example, computed ground-water flow, streamflow averages, dissolved-solids tonnages, etc). Checking preferably not done by person who made original calculations.

___ *Data and statements in text:* Agree with material shown in tables and illustrations, whether specifically referenced or not.

___ *Non-USGS material:* Written permission to publish, and proper credit, are required for photographs, copyrighted material, and unpublished data supplied from outside Survey.

___ *Written or oral communications:* Acknowledged properly, including affiliation of communicator. For example, "--- according to B. F. Jones (U.S. Geological Survey, written communication, 1975)."

___ *Conclusions versus objectives:* Objectives of the report, as outlined in "Purpose and Scope," are properly accounted for among the conclusions.

___ *Conclusions, Summary:* All statements and data agree with material shown elsewhere in manuscript (including illustrations and tables). All material in Summary also appears elsewhere in manuscript.

___ *Bibliographic References:* For references cited in text, illustrations, and tables, always include a specific page number (or table or illustration number), unless you are referring to the article or book as a whole, or unless an alternative format is required, as in a journal manuscript. Reference to an administrative report is not permitted except in another administrative report; instead, use "written communication" format.

August 1982

PRINCIPAL VERIFICATION REVIEW[1]
NEVADA DISTRICT

Short title _____

Senior author _____

*(Initial each item when complete. Items marked * deserve special attention; they did not appear on "Initial Verification" form. Resolve non-* items for parts of manuscript that have been changed or added since "Initial Verification.")*

EDITORIAL STAFF'S RESPONSIBILITY

___ *Text headings versus "Contents" list:* Wording, rank, and page numbers agree.

___ *Illustrations list:* Type of illustration is indicated (Graph showing---, etc). For figures, this applies only to list, not to titles beneath figures themselves. In other respects, titles in list are complete or properly condensed versions of titles beneath illustrations. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references.

___ *Tables list:* Duplicates titles above tables, omitting units of measure. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references.

___ *Units of measure:* Except for QW, geophysical, and related units, use all metric or all inch-pound, not a mixture of both. For QW, geophysical, and related items, use metric only. Units of measure are always spelled out in abstract, and everywhere else except as follows: abbreviations should be used in tables and illustration "explanations" only where space is a problem. In text, they can be used if the unit of measure is lengthy, the abbreviation saves appreciable space (for example, mg/L for milligrams per liter, acre-ft/yr for acre-feet per year), and it appears frequently in a specific manuscript. Where abbreviations are needed, use proper format (for example, ft^3/s, not cfs).[2]

___ *List of conversion factors:* Includes all inch-pound units of measure used in text, illustrations, and tables, and no others. Format correct (plural; first column listed alphabetically). Conversion factors correct (to four significant figures). No scientific notation (1.193×10^{-3}). Do not list metric water-quality or geophysical units (instead, spell them out in text, parenthetically, after first use of abbreviation).

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[1] For use before transmittal to Regional Hydrologist.

[2] Use "search" feature on word processor to determine frequency or consistency of word use.

___ *Altitude datum:* Explanation of the National Geodetic Vertical Datum of 1929 is included only if text, tables, or illustrations refer to altitude. First reference to altitude in text must be specific ("4,500 feet above sea level," for example, NOT just "Cow City is at 4,500 feet"). Be sure "mean sea level" is replaced with "sea level" throughout manuscript.[2]

___ *Illustrations and tables:* Illustrations and tables themselves are grouped separately, rather than interleaved with text, for easier review. Titles, explanations, column headings, and footnotes are double spaced to facilitate editing. Data within body of table can be single spaced, often with a double space every five lines or so. Mathematical totals rechecked as necessary using word processor.

___ *Bibliographic References:* All references in text, illustrations, and tables are in list, and vice versa (except in list of "Selected references"). Authorship and year of publication agree between text and list. Format in text is correct ("and others" for more than two authors). Format in list is correct (only allowable abbreviations aside from those in title: U.S., v., no., p., and State names); references are listed in proper alphabetical and, where necessary, chronological order.

___ *Manuscript format:* Conforms with that of intended publication medium (for example, Water-Supply Paper, open-file report, State bulletin series, journal).

___ *Editorial aids:* Left margins of text, illustrations, and tables show letters identifying references to illustrations, tables, bibliographic citations, and other pages in the manuscript.

*___ *Numerical values in text:* Verify agreement with data in tables, illustrations. Values included in abstract and summary must also be in tables, illustrations, or main body of text.

___ *Geographic names:* All names in text, tables, and non-map illustrations are shown on a map, unless they are outside the study area and outside the areas covered by maps in the report.

___ *Trade-name disclaimer:* Proper footnote, for first trade name only.

*___ *Year of publication:* Last-minute verification of correctness on title page and, for some series, on cover.

AUTHOR'S RESPONSIBILITY

___ *Report title:* Adequately identifies study topic and study-area location (not just "Nevada," unless study is statewide; however, avoid county names if study area includes more than two counties). Title is as brief as possible, avoiding "the" or "an" as first word. For example, "Ground-water quality in the Talapoosa area, west-central Nevada," rather than "An evaluation of ground-water quality in the Talapoosa area, Nevada."

___ *Cooperation:* Properly expressed credit for cooperation with other Federal or State agency(s) is included on report cover, title page, and, in certain instances, in acknowledgment section (for example, specific individuals), as well as on separate illustrations (plates).

___ *Contents list:* Rank of headings and subheadings is internally consistent and correct. Single subheadings are avoided except in unusual circumstances (for example, stratigraphic discussions). See Nevada Reports Section Technical Note No. 4.

*___ *Illustrations list:* If more than 2 consecutive figures are of the same type, their titles are combined in the following manner:

7-9. Photographs of Lake Abert showing:
7. Maximum level attained in June 1958 ---------
8. Beach line at an altitude of 4,269.7 feet ---
9. Anchored instrument raft ----------

Titles in list are properly modified versions of titles beneath the illustrations themselves. Page numbers in list are those of the principal (not necessarily the first) reference in text. Please circle the principal reference to each figure in the text, as an aid to reviewers.

___ *Tables list:* Page numbers are those of the principal (not necessarily the first) reference in text (exception: basic-data table at end of report; put "Back of report" instead of a specific page number). Circle principal reference to each table in text, as an aid to reviewers.

*___ *Text:* Numerical values may be repeated three or more times (in abstract, main body, and "Summary and Conclusions"). Be sure such repetitions are checked for agreement throughout.

*___ *Abstract:* Contains nothing that isn't in report. Gives all pertinent results (facts) and conclusions, but preferably contains less than 500 words (about 2 typewritten pages, double spaced). No abbreviations used for units of measure.

___ *Illustrations and tables:* References to illustrations and tables in the text, as well as in other illustrations and tables, are correctly numbered. Generally, such references in illustrations and tables should be avoided to reduce the possibility of inadvertent errors.

*___ *Illustrations and tables:* Titles and explanations of similar illustrations have similar wording; likewise for titles and column headings of similar tables. Geographic area is not included in figure and table titles if it is about the same as that given in the report title.

___ *Plates:* On plates only, title must identify type of illustration and geographic location. For example: "MAP SHOWING CANDIDATE SITES FOR WATER-QUALITY NETWORK, LAS VEGAS VALLEY, NEVADA." If altitude is referred to on a plate, the term "sea level" may be used, but the phrase "Altitude: National Geodetic Vertical Datum of 1929 (sea level)" must appear somewhere (preferably under the scale but above the plate title).

___ *Figures:* Except for plates and "facing-page" maps, illustrations should conform as closely as possible to image-area limitations (see Nevada Reports Section Technical Note 9 for guidelines).

___ *Maps:* Scale included (Publications Guide 3.09.1).
Land grids (latitude-longitude, township-range) included (3.09.2). Show at least two values each for latitude and longitude (see especially 3.09.2G).
North arrow included when required (3.09.6).
Base-map credit included when required (3.09.4).
Topographic contour interval and altitude datum included when appropriate.
Proper credit for geology or hydrology included when appropriate (3.09.5).
Proper format for "Explanations" (3.10.2, 3.06.3).
Title and "Explanation" typed, double spaced, on separate sheet attached to map for review purposes.
Data and site locations proofed against basic-data tabulations.

___ *Map explanations:* Format and wording conform with guidelines (Publications Guides 3.06.3, 3.10.2). Proper sequence of items (3.10.2, page 1).

___ *Photographs:* Credit if photographer is not author. Date of photograph included as part of title.

___ *Tables of computer output:* Abbreviations and symbols are explained in headnotes or footnotes.

___ *Page numbers:* References to other specific pages in text [for example, "The amount of lake-surface precipitation (page 17) is ---" or "Recharge estimates are discussed on page 23"] must be checked for correct page number. Generally, such references should be avoided to reduce the possibility of inadvertent errors. Where they are used, please indicate location of material to which you refer by listing its page, paragraph, and line numbers (for example, 23/2/6) in the margin adjacent to the page-number reference.

___ *Calculations:* Computed values in text and tables checked for correctness (for example, computed ground-water flow, streamflow averages, dissolved-solids tonnages, etc). Checking preferably not done by person who made original calculations.

___ *Data and statements in text:* Agree with material shown in tables and illustrations, whether specifically referenced or not.

*___ *Significant figures:* Calculated values in text, tables, and illustrations shouldn't indicate more significant figures than are justified (365.3 x 25 = 9,100 rather than 9,132.5). Round off properly.

___ *Non-USGS material:* Written permission to publish, and proper credit, are required for photographs, copyrighted material, and unpublished data supplied from outside Survey.

___ *Written or oral communications:* Acknowledged properly, including affiliation of communicator. For example, "--- according to B. F. Jones (U.S. Geological Survey, written communication, 1975)."

*___ *Quotations:* Proofed against original source, word by word (also, verify page numbers in original reference).

*___ *Ground-water site designation:* Proper format must be used for the "local" (Nevada) identification. Complete designation is 108 N13 E25 5ABBB1. Abbreviated designations (for example, N13 E25 5ABBB1, if report discusses only one hydrographic area, or even 5AB or ABBB1, etc., on a map) can be used in all places except well-data and spring-data tables. Fifteen-digit site ID's should be included along with the "local" identifications in the data tables.

*___ *Organization:* The structure of the report should be carefully checked as follows: Does each sentence relate to the topic of its paragraph? Does each paragraph have a topic sentence? Does the overall topic of each paragraph relate logically to the subject of the section within which the paragraph is located? Do subordinate sections relate logically to superior sections? Do all the sections relate to the objectives of the report (no extraneous material)? Does the text avoid needless repetition of material? Unless each question can be answered affirmatively, some editing, rewriting, or deleting is required.

*___ *Advocacy:* Report does not include biased statements and recommendations; beware of words such as "should" and "must."

*___ *Criticism:* Report does not include criticism of organizations or individuals. Naming of specific "culprits" is avoided wherever possible.

___ *Conclusions versus objectives:* Objectives of the report, as outlined in "Purpose and Scope," are properly accounted for among the conclusions.

___ *Conclusions, Summary:* All statements and data agree with material shown elsewhere in manuscript (including illustrations and tables). All material in Summary also appears elsewhere in manuscript.

___ *Bibliographic References:* For references cited in text, illustrations, and tables, always include a specific page number (or table or illustration number), unless you are referring to the article or book as a whole, or unless an alternative format is required, as in a journal manuscript. Reference to an administrative report is not permitted except in another administrative report; instead, use "written communication" format.

*___ *Changes resulting from colleague and editorial review:* Verify that all such changes have been completely and accurately transferred to revised manuscript.

*___ *Entire manuscript:* Read carefully, word by word (including illustrations and tables), looking for typographical errors, awkward wording, etc., before transmittal to Regional Hydrologist.

*___ *WRSIC abstract, press release:* Items, in proper format, prepared after colleague review for transmittal to Regional office. Neither contains anything that isn't in report. See Reports Section for guidelines.

*___ *WATSTORE:* If the report states that basic data are available in WATSTORE, the data should in fact be entered, and the entries should be checked for accuracy, prior to publication or release of the report.

AUTHOR AND EDITORIAL STAFF

*___ *Proofing basic data:* For typed (non-printout) tabulations of basic data, proof orally against originals (well logs, laboratory analytical sheets, etc.).

August 1982

FINAL VERIFICATION REVIEW[1]
NEVADA DISTRICT

Short title _____

Senior author _____

(Cross out A, *for author,* E, *for Editorial staff,* I, *for Illustrator,* R.S., *for Reports Specialist, or* D.C., *for District Chief, when complete)*

PART 1. BEFORE FINAL SINGLE SPACING

E *Text:* All changes on approved copy properly transferred to final version and proofed. Text checked carefully for corrections that may be repetitive.

E *Title:* Identical on cover, title page, and first page of text.

E *"Contents" list:* Wording and rank of headings agree with text.

E *Table list:* Duplicates titles above the tables themselves, omitting units of measure.

E *Editorial aids:* Left margins of text, illustrations, and tables show letters identifying (1) references to illustrations, tables, and other pages in the manuscript, and (2) items that will require italics and scientific symbols in camera-ready copy.

E *Figures and tables:* All caps for the words "figure" and "table" in titles themselves (not in lists). In tables, mathematical totals rechecked as necessary (use addition feature on word processor).

A *Abstract and summary:* Still agree with illustrations, tables, and main body of text (all items, including numerical values, that were changed or removed during review are also resolved in abstract and summary).

A *Illustrations and tables:* Specific references in text, as well as in other illustrations and tables, are correctly numbered. Circle the principal (not necessarily first) reference in text for each figure and table.

A *Page references:* Indicate page number(s), paragraph number(s), and line number(s) for references to other pages in text (such references can be in illustrations and tables as well as in the text itself).

---

[1] For use during final preparation of camera-ready copy, after Director's approval.

A *Information that was preliminary or provisional (unpublished) when first included:* Verify current status, and modify reference to it (and list of references) if necessary. For example, are "in press" or "written commun." citations still correct, or has their status changed?

A *Text:* Entire manuscript read carefully for final time.

R.S. *Final scan:* Text and tables scanned by Reports Specialist prior to final single-spacing.

PART 2. AFTER CAMERA-READY ILLUSTRATIONS ARE COMPLETE

I,A, E *Illustrations:* Final versions carefully proofed against review copies.

E *Illustrations list:* Titles are complete or properly condensed versions of those beneath the illustrations.

PART 3. AFTER FINAL PAGE LAYOUT

E,I *Proofread:* All changes/corrections made during Parts 1 and 2 have been carefully proofread.

E *Cover and title page:* Coincides with guidelines concerning format (type style, spacing, capitalization, seal, etc.).[2] Year of publication correct on title page and, for some series, on cover.

E *Back of title page:* Proper information prepared.[2]

E *Page numbers:* All centered, on same line, for uniform appearance and printer's needs.[2]

E *Line check:* Final pages checked line by line against double-spaced version to be sure lines and paragraphs have not been inadvertently deleted or repeated.

E *Margins:* Proper margins on all four sides.[2]

E *Italics:* Added where necessary on camera-ready copy (table titles, footnote numbers and letters, equation letters, etc.).[2]

E,A *Symbols:* Verify that all symbols are correct (incorrect printwheel can give "%" rather than "±," for example).[2]

---

[2] Verify on word-processor screen and after print out. In some cases, "search" feature can be used.

E *Page references:* References to other pages in text have correct page numbers (such references can be in illustrations and tables as well as in the text itself).

E *Bibliographic reference list:* References are in proper alphabetical and, where necessary, chronological order.

E *Illustrations and tables:* Incorporated into text according to author's designation of principal references.

E *Page numbers:* Page numbers in lists of contents, illustrations, and tables agree with text (be sure this isn't done until final space allotments have been made for figures and tables).

A *Formulas:* Proofread formulas carefully to ensure correctness of, and proper relationship between, all components.

A,E, I, R.S., D.C. *Final examination:* Text, illustrations, and tables examined carefully by Reports Section staff and author and scanned by District Chief prior to reproduction.

E,A *Reproduction quality:* Careful appraisal after printing but prior to distribution.

April 1982

Maryland

DISTRICT REVIEW

MANUSCRIPT ROUTING SHEET

Author(s)	Project No.
Title	
Type of Publication	

CODE: ☑ Step checked. Author can resolve minor suggestions.
☒ Step requires review after author resolves problems.

Signature	Date		Hours	Check Step(s) Reviewed								Next Routing
				Verify				Technical	Editorial	Illustrations		
	In	Out		Math	Tables	Text	References			Content	Style	
Author												

Report is ready for Colleague Review. Date _____

Initials _____

Maryland

DISTRICT-REVIEW CHECKLIST

REFER TO: Suggestions to Authors, Sixth Edition (STA 6), Fifth Edition (STA 5)
WRD Publications Guide (Pub Guide)
GPO Style Manual
Stratigraphic Nomenclature in Reports of the U.S.G.S.

Checklist is to be used as a reminder of items with frequent problems, but do not restrict review to listed items.

Mark step(s) and items considered as per code and sign District routing sheet.

CODE: ☑ = Checked. Author can resolve minor suggestions.
☒ = Requires review after author resolves problems.
⊟ = Not considered or not applicable.

Author

- ☐ Illustrations and tables are legible.
- ☐ Text has been proofread.
- ☐ Author has reviewed assembled draft.

Author		1st Review	Follow-up Review (If needed)	
	Verify - Math			
☐	All computations are accurate.	☐	☐	☐
☐	Mathematical expressions are accurate.	☐	☐	☐
☐	Mathematical expressions agree with source, if referenced.	☐	☐	☐
☐	All elements of mathematical expressions are defined (except standard arithmetic symbols).	☐	☐	☐
	Verify - Tables			
	All quantities, locations, well numbers, station numbers, names, etc:			
☐	Agree with source.	☐	☐	☐
☐	Are consistent with text, illustrations, and other tables.	☐	☐	☐
	Verify - Text			
	All quantities, locations, well numbers, station numbers, names, etc:			
☐	Agree with source.	☐	☐	☐
☐	Are consistent with tables, illustrations, and elsewhere in text.	☐	☐	☐
☐	All locations are shown on map or are described.	☐	☐	☐

Author	1st Review	Follow-up Review (If needed)	

Verify - References (STA 6, p. 74-81)

☐	Referenced material agrees with source.	☐	☐	☐
☐	Quotations are exact, except as noted in STA 6, p. 92.	☐	☐	☐
☐	Reference is cited correctly in text and citation includes page or illustration number(s).	☐	☐	☐
☐	References are given accurately in list of references.	☐	☐	☐

Technical

☐	Title reflects report content.	☐	☐	☐
☐	Purpose and scope are clearly stated.			
☐	Body and terminal section relate to purpose and scope.			
☐	Organization is logical.	☐	☐	☐
☐	Statements are valid and accurate, and are consistent with statements elsewhere in report.	☐	☐	☐
☐	Interpretations and conclusions are logical.	☐	☐	☐
☐	Data, assumptions, opinions, and interpretations are clearly distinguishable.	☐	☐	☐

Editorial (STA 6, p. 12, p. 23-26, p. 74-98, p. 206-257)

☐	Organization is clear.	☐	☐	☐
☐	Statements cannot be misunderstood.	☐	☐	☐
☐	Discussion is brief and to the point.	☐	☐	☐
☐	Material in tables and illustrations is referred to, but not repeated, in text, except where needed for clarity or emphasis.	☐	☐	☐
☐	Fiscal cooperation is stated in the introduction.	☐	☐	☐

Author	1st Review	Follow-up Review (If needed)

Illustrations - Content

☐	Show what text and title say they show.	☐	☐ ☐
☐	Referred to in text.	☐	☐ ☐
☐	Information presented is consistent with text, tables, and other illustrations.	☐	☐ ☐
☐	Control points and values are shown or otherwise provided. (Exceptions are justifiable.)	☐	☐ ☐
☐	Information presented agrees with control.	☐	☐ ☐

Illustrations - Style

☐	Titles and list of illustrations.	☐	☐ ☐
☐	Base-map credit.	☐	☐ ☐
☐	Geologic and hydrologic mapping credit.	☐	☐ ☐
☐	Bar or rake scale.	☐	☐ ☐
☐	North arrow or lat.—long.	☐	☐ ☐
☐	Map explanation format.	☐	☐ ☐
☐	All information is explained, except common base-map features.	☐	☐ ☐
☐	Example in explanation is duplicate of information shown on map.	☐	☐ ☐
☐	Geologic cross sections are prepared according to Pub Guide.	☐	☐ ☐
☐	Geologic cross sections agree in detail with trace on map, with other sections, and with well or other data.	☐	☐ ☐
☐	Graphs and related diagrams follow Pub Guide.	☐	☐ ☐

U.S. GEOLOGICAL SURVEY
New York District

August 1982

MANUSCRIPT CHECK LIST FOR AUTHORS

Title _____

Authors _____

Publications Series _____ Project no. _____

This form must be completed by the author and signed by his supervisor before the report is submitted to the Publications Unit for processing. The author writes in each box either his initials to indicate OK or a dash if the item is not applicable. The author is expected to be familiar with the pertinent sections of STA and WRD Publications Guide.

A. MANUSCRIPT

Entire manuscript is double spaced to allow editorial work	
Purpose of study is stated in introduction; report fulfills stated purpose	
Publisher's specifications have been obtained and followed; copy of specification sheet for non-Survey reports is included with manuscript	
Preliminary pages and support documents are in correct format. (Refer to WRD Pub. Guide and published samples; cross out those that do not apply) ☐cover ☐conversion table ☐title page ☐text abstract ☐table of contents ☐press release ☐list of illustrations and tables ☐WRSIC sheet	
Title of report is as short and explicit as possible	
Wording of title is same on cover, title page, abstract, and support documents	
Cooperating agencies are named on cover, title page, and in introduction	
List of illustrations identifies each figure as map, graph, photo, etc.	
Conversion table contains all units of measure used in text, illustrations, and tables; conversion factors have been verified	
Use of metric or U.S. Customary units is consistent in text, tables, and figures	
Acknowledgments are in accordance with STA guidelines (6th ed., p. 44)	
Abstract is written in accordance with WRD Pub. Guide and tells what report contributes	
Abstract and conclusions contain only information that is given in text	
Pagination is consecutive with cover page as 1 (not i)	
Headings and subheads are in publisher's style (see published reports); their rank is indicated by indention in table of contents	
Each illustration and table is referred to in text; its location in text is indicated by a "cut-in" following principal reference	
Caption sheet follows the principal reference to each figure; multiple captions are listed on same sheet	

Wording on caption sheets agrees with that in list of illustrations except that phrase "map showing" is omitted	
Routing sheet is complete and up to date	
WRSIC abstract is double spaced, contains 200 words or less, and fits on one page	
Press release (if needed) is lively and written in accordance with WRD Pub. Guide	
Letter of permission to publish has been requested from cooperator (needed from Federal cooperators only)	

B. ILLUSTRATIONS

Final illustrations will be done by: ☐ District draftsman Number of figures _____ ☐ Publisher Number of plates _____	
Special presswork (color, oversize, foldout) is within publisher's capability	
Each illustration is essential and is referred to in text	
Illustrations are designed in accordance with WRD Pub. Guide	
Similar illustrations are consistent in format and wording	
Explanations within figures and plates are complete and in accordance with WRD Pub. Guide	
All illustrations (except plates) are page size or smaller and reproducible	
Final lettering will not need to be smaller than 8 point (This is 8point)	
All maps show lat., long., and scale	
General location map is included in first appropriate figure	
Base maps have been discussed with draftsman to determine manner of data presentation. Same base is used wherever possible	
Figures are together at end of report, not within text	
Each figure is clearly numbered; caption is attached on a separate page	

C. TABLES

All tables are essential and are referred to in text	
Table headings are as short and descriptive as possible	
Similar tables are consistent in format and wording	
Data in tables have been cross checked against illustrations and text	
Tables conform to Survey style (STA and recent Survey pubs. contain examples)	
Regular tables follow principal reference in text; lengthy tables and computer printouts are at end of report.	
Principal reference to each table is followed by a "cut-in" notation	

Author's supervisor _____ Date _____

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.6 Water Resources Division report-tracking system

To meet a long-standing need for a method of tracking report manuscripts through the various stages of review, a computerized system was implemented in 1980 to document the progress of each report received at Headquarters for processing and Director's approval. This system is designed for "report tracking" only and is not intended to be a bibliographic reference system. The data-base management system is the SYSTEM 2000.[1]

When a report is first received at Headquarters, the Scientific Publications Section enters information from the routing sheet into the data base, as indicated below. The status of each report in the system is updated every Monday, and the information is available on Tuesday. Thus, it is possible to obtain a wide variety of information on the report's progress; for example:

1. total number of days in each step at District, Region, and Headquarters;

2. average number of days in each step; and

3. statistical data.

Year-end summaries are prepared for each District, and Region, and for Headquarters. These summaries are a measure of an office's productivity and help in identifying problems in report review and approval.

COMPONENTS IN THE REPORT-TRACKING SYSTEM DATA BASE

Components from Manuscript Routing Sheet

Project Number.--Number assigned by the originating office (such as NV-061).

Originating Office.--State or Region where report originated. Region--Region in which report originated. WRD Number--Number assigned to report by the Scientific Publications Section (such as 80-W-0324).

Date Review Began.--Date author submitted the report for review (first entry on routing sheet).

Title of Report.--Also enter number of pages, illustrations, tables (including number of pages in the tables).

Name of Author(s).--Last name, first name, middle initial.

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[1] Use of the trade name in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Level of Report.--Such as progress or final.

Press Release.--Whether or not included with report.

Final Approval Date.--Date of Director's approval.

Publishing Agency.--Geological Survey, State, professional society, or other publisher.

Type of Publication.--For example, Water-Supply Paper, Professional Paper, AWWA journal, Long Island Water-Resources Bulletin.

Report Routing Sequence.--Includes the office, step or title of reviewer, name of reviewer, topics reviewed, date in, date out, hours spent on review, and remarks related to review process.

General Remarks Concerning Report.--Such as administrative release to Bureau of Indian Affairs or open-file pending publication by State.

After Publication

Bibliographic information listed below must be supplied to the Publications Management Unit by the author, unless otherwise noted.

Date Published.--If the report is in a formal Geological Survey series, this date is supplied by the Scientific Publications Section.

Number Assigned to Published Report.--Geological Survey series number and Library of Congress catalog number is supplied by the Scientific Publications Section.

Complete Bibliographic Reference.--For non-Survey reports only, author name(s), date of publication, title, series, volume number, number of pages and illustrations must be entered.

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.7 Processing contractor-prepared reports

This article describes procedures for the preparation, review, and publication of manuscripts based on research or investigations conducted (1) by a contractor under Geological Survey auspices, to be published by the Geological Survey or by the contractor, or (2) by the Geological Survey for a fee at the request of a commercial publisher. The term "contractor" is defined as the recipient of Geological Survey funds through contract, cooperative agreement, or grant.

PROCEDURES FOR CONTRACTOR-PREPARED REPORTS BASED ON RESEARCH OR INVESTIGATIONS CONDUCTED UNDER GEOLOGICAL SURVEY AUSPICES

Reports Published by the Geological Survey

A report prepared by a contractor for publication by the Water Resources Division must receive the same technical and editorial review as any other formal Geological Survey publication, including Director's approval. Examples of technical report-preparation specifications prepared by the Branch of Procurement and Contracts are at the end of this article. These specifications, or versions thereof, modified to meet specific needs, should be included in any contract, cooperative agreement, or grant that requires preparation of a publishable technical report by a contractor.[1] The originating Division office, working through the Contracting Officer's Representative (COR)[2] is responsible for ensuring that the report meets the technical and editorial standards of the Geological Survey (and those standards explicitly stated in the contract, cooperative agreement, or grant), and for requesting Director's approval for publication or release. The contractor should use the GPO Style Manual, Suggestions to Authors, and the Water Resources Division Publications Guide to insure that the prepared report meets Geological Survey standards and is in the proper format. Achievement of the required standards will be facilitated by close interaction between the originating office, the COR, and the contractor.

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[1] Assistance in preparing specification contracts for contractor-prepared reports can be obtained from the Chief, Policy Section, Branch of Procurement and Contracts, U.S. Geological Survey, 205 National Center, Reston, Virginia 22092.

[2] The Contracting Officer's Representative (COR) is selected by the Branch of Procurement and Contracts in liaison with the Regional Program Officer.

If the manuscript is rejected by Headquarters, it will be sent back to the originating office for revision and must be resubmitted for Director's approval. Approved manuscripts to be published through Headquarters will be routed to the Scientific Publications Section after approval.

Manuscripts approved for release to the open file will be returned to the originating office with an an Open-File report number assigned by the Scientific Publications Section, and the necessary transmittal forms for release by the originating office. (The required distribution of copies of Open-File reports is given in article 8.01.1). For all Open-File reports, the contractor is to provide reproducibles that correspond to the Director-approved version.

Reports Published by the Contractor or in Outside Journals

A. The contractor must be informed that, for all Government-sponsored reports to be published in outside journals, the Government may publish, reproduce, and use any part or all of the report in its final, published form in any manner and for any purpose, without limitation, and may authorize others to do the same. Manuscripts submitted to journals for publication, therefore, must be accompanied by the following notation in the letter of transmittal:

> This manuscript is submitted for publication with the understanding that the United States Government may reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.

B. Contractor-prepared reports to be published in outside journals, and reports prepared by contractors for other agencies in support of work funded by the Geological Survey, do not necessarily require Geological Survey review and approval. However, such approval may be specified at the discretion of the COR or Regional Program Officer.

C. One information copy of each contractor-prepared journal article or report prepared for and released by other agencies in support of work funded by the Geological Survey shall be submitted to the COR or Regional Program Officer prior to publication. Fourteen copies of reprints of each report should be provided for internal Geological Survey distribution, as previously noted.

Manuscript Format

A. The introduction or title page of each contractor-prepared technical report must contain the following information:

Contract Number

Name of Contractor

Principal Investigator

Contract Officer's Representative

Short Title of Work

Effective Date of Contract

Contract Expiration Date

Amount of Contract

Date Report is Submitted

B. The cover of each report or publication must include the following citation on the cover:

Sponsored by the

U.S. Geological Survey

No. 14-08-0001-_____(insert contract or grant number)

C. Disclaimer. The cover and title page of each technical report produced under this contract will prominently display a notice of disclaimer, worded essentially as follows:

> The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

D. Reports prepared by a contractor for outside publication (journals, symposiums, and so forth), or for other agencies in support of work funded by the Geological Survey, must also include a statement of Geological Survey support, such as:

Research supported by the U.S. Geological Survey

Department of the Interior

Contract Number _____

Specifications of Contractor-Prepared Reports

The technical report(s) must present a concise and factual discussion of technical findings and accomplishments. These report(s) should be of publishable quality. The standards and format presented in the GPO Style Manual, Suggestions to Authors, and the Water Resources Division Publications Guide should be used to prepare the report(s). The report(s) should be organized as follows:

A. Each subject shall include a detailed narrative or analysis of the work performed, or of the completed phases of the study. Appropriate photographs, schematic diagrams, charts, tables, methods, and so forth may be included. Negative findings are as significant as positive findings. Innovations and advances in technology are of special interest and should be included.

B. The initial report should specify plans regarding the contractor's objectives, goals, personnel requirements, and so forth to accomplish the work set forth in the proposal. The interim reports should reflect the contractor's progress in accordance with the initial plan.

C. Reports should include conclusions and recommendations drawn from the results to date.

D. Reports should include full citations of referenced works. Reference should also be make to reports written or published as a result of research under the same contract. Although such reports will not be accepted in lieu of a final report, copies should accompany the final report.

E. Each report should be accompanied by a separate summary. The summary should not exceed three pages. Report title, author(s), affiliation, and date should appear at the top of the first page of the summary. Report summaries for all contracts and grants may be reproduced and distributed as part of a semi-annual program summary.

Progress Reports

A. The contractor should submit monthly progress reports of all work accomplished during each month of contract performance. Reports should be in narrative form, brief, and informal in content. Monthly reports should include:

1. A quantitative description of overall progress;

2. an indication of any current problems that may impede performance, and proposed corrective action; and

3. a discussion of the work to be performed during the next month.

Monthly progress reports should be submitted as reproducible copy accompanied by the the number of copies specified in the Schedule.

B. The contractor should also submit separate quarterly reports of all work accomplished during the previous 3 months. In addition to factual data, these reports should include a separate analysis section that interprets the results, recommends further action, and relates the results to objectives of the contract work. Sufficient illustrations should be included to convey the intended meaning. Quarterly reports should be submitted as reproducible copy, accompanied by the number of copies specified in the Schedule.

C. The contractor should submit a final report that documents and summarizes the results of the entire contract work, including recommendations and conclusions based on the experience and results obtained. The final report should include tables and illustrations sufficient to explain the results. The final report should be submitted as reproducible copy, accompanied by the number of copies specified in the Schedule.

PROCEDURES FOR REPORTS PREPARED BY THE GEOLOGICAL SURVEY FOR COMMERCIAL PUBLISHERS

Under certain circumstances, the Geological Survey may serve as a contractor for (receive payment from) a commercial publisher. A report (abstract, article, chapter, section) written by the Geological Survey at the request of a publisher for inclusion in a magazine, book, or other commercial publication requires Director's approval. The author's affiliation with the Geological Survey must be indicated either as a footnote on the page bearing the title and authorship of the report or in the table of contents of the publication. Payment for the report should be by check payable to the U.S. Geological Survey.[1]

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[1] Submit check and a memorandum briefly outlining the circumstances to: Chief, Scientific Publication Section, 439 National Center, Reston, VA 22092.

The report must be accompanied by the following notation in the letter of transmittal to the publisher:

> This manuscript is submitted for publication with the understanding that the United States government may reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.

SECTION 3

OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS

page 131 follows

Article 3.01.1

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Documents and Components Required for Each Series

3.01.1 Chart listing documents and components needed

CONTENTS OF MANUSCRIPT PACKAGE		MANUSCRIPT TO BE RELEASED THROUGH:																			
		WRD HEADQUARTERS									ORIGINATING OFFICE						OUTSIDE AGENCY				
		TYPE OF RELEASE	PROFESSIONAL PAPER	WATER-SUPPLY PAPER	TECHNIQUES OF WATER RESOURCES INV.	USGS CIRCULAR	USGS BULLETIN	WRD BULLETIN[1]	HYDROLOGIC INVESTIGATIONS ATLAS	MISC. INVESTIGATIONS MAP	MISC. FIELD STUDIES MAP	WATER-RESOURCES INVESTIGATIONS REPORT	OPEN-FILE REPORT, interpretive	OPEN-FILE REPORT, data only	ADMINISTRATIVE REPORT	ANNUAL DISTRICT DATA REPORT[2]	NEWS RELEASE[3]	LOCAL OR COOPERATOR SERIES	ABSTRACT, journal or symposium	ARTICLE, journal or symposium	SPEECH, handout	SPEECH, oral only	
		Column number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	REMARKS
Type of approval required		District Chief	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	File one copy in originating office pending approval
		Regional Hydrologist	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	4	
		Director	●	●	●	●	●		●	●	●	●	●		●	7	8	●		●	●	4	
Copies needed for approval		One												●		●	●					●	
		Two	●	●	●	●	●	●	●	●	●	●	●		●			●		●	●		
		Eight																	●				
	TEXT	Cover page	●	●	●	●	●					●	●	●	●	●		●					Prepare according to WRD Publications Guide and instructions beginning on p. 37 of Suggestions to Authors, 1978 ed., or instructions of non-Survey publisher or journal
		Title page	●	●	●	●	●		●	●	●	●	●	●	●	●		●		●	●		
		Back of title page	●	●	●	●	●					●	●	●		●		●					
		Table of contents	●	●	●	●	●		●	●	●	●	●	●	●	●		●					
		List of illustrations and tables	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●					
		Table of conversion factors and abbreviations	●	●	●	●	●		●	●	●	●	●	●	●	●		●					
		Abstract in text	●	●	●	●	●					●	●	●	●			●		●			
		Text, including references	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●		
	ILLUSTRATIONS	Copies of illustrations	●	●	●	●	●		●	●	●	●	●	●	●		●	●		●	●		Attach to manuscript package
		Copy of page giving figure no. and caption	●	●	●	●	●		●	●	●												One set for each copy of manuscript
		Copy of list of illustrations	●	●	●	●	●		●	●	●												Attach to package of illustrations
		Illustrations checklist	●	●	●	●	●		●	●	●												Attach to first set of illustrations
		Original illustrations						●															Use scale-stable material.
	SUPPORTING DOCUMENTS	Memo of transmittal from District Chief to Regional Hydrologist	●	●	●	●	●		●	●	●	●	●	●	●			●	●	●	●		Tell series, project, purpose, special considerations, colleague reviewers
		Manuscript routing sheet	●	●	●	●	●		●	●	●	●	●	●	●			●	●	●	●		
		WRSIC abstract sheet	●	●	●	●	●		●	●	●	●	●	●	●			●		●	●		Submit eight copies
		News release	●	●	●	●	●		●	●	●	5	5	6			6	6					Submit original and one copy
		Comments of colleague reviewers, with author's response	●	●	●	●	●		●	●	●	●	●	●	●			●	●	●	●		
		Note for monthly list of Survey publications	●	●	●	●	●		●	●	●												Submit original and three copies
		Letter of concurrence from cooperating agency (OFA's only)[10]	●	●	●	●	●		●	●	●	●	●	●	●								
		Letter of permission to use copyrighted material	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	
		Mockup of report	9	9		9			●	●	●	9	9					9					
		Column number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

See Article no. 3.01.2 for additional instructions.

1 District Chief forwards manuscript to Editor, WRD Bulletin.

2 District Chief forwards camera-ready copy to GPO for duplication.

3 Distributed by originating office.

4 May require approval by Regional Hydrologist or Director. If so, news release, routing sheet, and transmittal memorandum are required.

5 News release notice required if release is prior to OFSS announcement.

6 News release is optional.

7 "Summary of Hydrologic Conditions" statement may require Director's approval.

8 Director's approval required for all but Region-approved data reports.

9 Mockup is required for STOP-format reports.

10 Not required if specified in the agreement of understanding.

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Documents and Components Required for Each Series

3.01.2 Instructions for preparing documents and components

Procedures for completing documents listed on the chart in article 3.01.1 are described below. Not all documents are required for every publication series. All items should be typed to specifications of the intended publisher, except that all documents must be double spaced to allow for editorial and review work. An asterisk indicates that an example is given at the end of this article. The examples show the format required for typescript drafts. Typescript components of Geological Survey reports may be modified by book and map editors to conform to standard publication formats.

*Cover Page.--Format requirements of covers differ among Geological Survey and cooperator-managed publication series; use a recent publication of the type being prepared as a guide.[1] Covers of all Geological Survey reports bear a title, publication series and identification number, and statement of cooperation (if applicable); names of cooperating agencies must be included in lettering the same size as that of the Geological Survey. Covers of Geological Survey informal publications may bear additional information. Cover format of certain reports may be modified to accommodate artwork of an original design. With the exception of map jackets, covers of Geological Survey reports do not list authorship. The only official recognized logo is the seal of the U.S. Department of the Interior.

Mockup of cover.--Is required for all covers containing artwork or an original design. Note that photographs may lose contrast on covers that are printed on uncoated (soft) paper or on colored paper. Line copy of silhouette designs generally reproduce well on all textures of paper.

*Title page.--Resembles the cover but includes the author's name(s) below the title, and may include the city and year of publication near the center of the page bottom depending on publication series. Format requirements of title pages differ among Geological Survey and cooperator-managed series; use a recent publication of the type being prepared as a guide.[1]

*Back of title page.--Lists the main officials of the publishing agency.[1] For Open-File and Water-Resources Investigation reports, also lists addresses of the originating office and the Open-File Services Section. Format requirements of backs of title pages differ among Geological Survey and cooperator-managed publications series; use a recent publication of the type being prepared as a guide.[1]

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[1] See articles 10.04.1, 11.04.1, and 12.04.1 for covers, title pages, and backs of title pages of Water-Resources Investigations, Open-File, and administrative reports, respectively.

*Contents.--Is double spaced, and includes all 1st- through 6th-order headings that appear in the manuscript. Use a 5-space indention for 2d-order headings, a 10-space indention for 3d-order headings, and so forth. Capitalize only the first letter of the first word. Use leaders out to the page number, but add the page number in pencil after manuscript has been typed. Wording of headings must agree with that used in the text.

*Lists of illustrations and tables.--Are double spaced. The list of illustrations (headed "Illustrations") should identify each figure as map, graph, sketch, section, and so forth. All illustrations for formal reports are to be listed as figures, except those that show groups of fossils that are listed under the heading Plates. The Geologic Division's Book Publications Unit will decide which illustrations are to be plates. All numbered tables, including computer printouts, are listed under the heading "Tables[2]." Wording should duplicate that used in text but may be shortened if the table titles are lengthy. The page number given should refer to the actual location of the table, not to the location of the principal reference.

*Table of conversion factors and abbreviations.--This list should contain all units of measure given in the text and illustrations except those given exclusively in tables, which should be explained in the table headnote. The system of measure used in the report should be in the left column; the system to which it is converted should be on the right. The table of conversion factors and abbreviations should not be listed in the table of contents.

*Abstract in text.--This is the first page of text. In Geological Survey series, abstract length is not restricted, but many professional journals specify a limit. Avoid use of abbrevations, tables, illustrations, and references to other publications. Further information on preparing abstracts is given in article 5.05.3 and in "Suggestions to Authors" (6th ed., p. 42). Abstracts must be typed double spaced.

Text with references and caption sheets.--All text must be typed double spaced.

Manuscript.--All paragraphs should end on the page on which they begin, but two or more paragraphs may be on the same page. Page numbering begins with the cover page as arabic 1 (not i; roman numerals are added only in the final copy). Further guidelines on text preparation are given in articles 6.01.1 to 6.01.6.

List of references.--This must be typed double spaced in the bibliographic style specified by the publisher. Examples of references in Geological Survey style are given in "Suggestions to Authors" (6th ed., p. 79-81).

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[2] In certain instances where the computer printout is large, the printout may be placed at the end of the text as an "Attachment" (see article 5.05.6).

Figure captions.--These must be typed double spaced on separate pages to permit editorial changes without altering the illustrations. These pages are inserted in the text after the page containing the principal reference. If several figures are referred to on the same page of text, the captions may be grouped together on a single caption sheet. Each caption sheet is numbered as if it were a page of text. The phrase "Map (Graph, Photograph) showing" is not used in the actual figure caption but is required in the list of illustrations.

List of illustration captions.--A list of all captions is attached to each of the two packets of illustrations when a formal Geological Survey report is submitted for Director's approval. (See chart in article 3.01.1.)

*Copy of page giving figure number and caption.--A copy of the page containing the appropriate figure caption(s) is stapled to each illustration for identification for formal reports only.

*Illustrations check list (form 9-1517).--This is used only in formal Geological Survey series. Attach one copy to each illustration in the original manuscript Instructions for completing this form are given in article 3.02.3.

Original Illustrations.--These are kept by the author and are used only when final drafting is done after Director's approval. The Publications Management Unit will notify the District or Research Project Office where and when to submit original illustrations for formal Geological Survey series.

Transmittal memorandum from District Chief or Regional Research Hydrologist to Regional Hydrologist.--The subject of this memorandum is "PUBLICATIONS," followed by the complete report title, author's name, and project number. The memorandum should tell the intended series, describe the report's purpose and significance, name the colleague reviewers and their affiliations, and give any other pertinent information such as publication deadline or special printing requirements. All attachments should be listed at the lower left side of the memorandum.

*Manuscript routing sheet (form 9-1531).--During the report's review stages, all transactions should be noted on the routing sheet, but, when the manuscript is submitted to headquarters, a new copy should be typed or neatly hand lettered, listing only the authors, the technical reviewers, and District Chief or section chief. All dates and other information must be complete. The detailed internal copy should not be included with the transmittal memorandum. Last names should be given first; for example: Jackson, Leslie P. Authors and reviewers should use the same style consistently. The 3-digit project number should be shown with no spacing, hyphens, dashes, or other punctuation, and the number must be preceded by the two-letter state name. For example: AK119
IN971
VA053

*WRSIC abstract sheet.--This page contains key words (descriptors and identifiers) and other bibliographic information for computer retrieval. This abstract must be double spaced and fit within the area alloted (200-word maximum). The WRSIC abstract generally is identical to the text abstract unless shortened to fit the word limit. Complete instructions for preparing WRSIC abstracts are given in article 3.02.1. Submit eight copies; they are routed to key personnel at Headquarters for information and awareness of what the Division is producing.

News release.--Format and instructions are given in article 3.02.4, and in "Suggestions to Authors" (6th ed., p. 203). Type double spaced; submit two copies.

Comments of colleague reviewers.--At least two technical reviews are required, one of which must be outside the originating District or Research Project Office. The author(s) must respond in writing to all review comments, queries, and suggestions. Negative responses must be explained in writing.

*Note for monthly list of publications.--This note is published in the monthly pamphlet "New Publications of the Geological Survey." The note should describe the report's contribution in 75 words or less and must be doubled spaced. (See article 3.02.2.) The note is required only for the formal Geological Survey series indicated in article 3.01.1.

Letter of concurrence from cooperating agency.--This letter is required only for reports written for another Federal agency. It should state that the agency has reviewed the manuscript and does not object to publication or open filing of the material by the Geological Survey. Such a letter is not required if permission to publish the results of the study by the Geological Survey is explicitly stated in the memorandum of understanding or other joint-funding agreement.

Letter of permission to use copyrighted material.--It is the author's responsibility to secure the permission of the copyright holder of any published material that is to be quoted or reproduced in the report. The letter of permission must accompany the report when it is submitted for Director's approval. (See article 1.03.2 and Water Resources Division Memorandum No. 82.97.)

Mockup of report.--This is a detailed, full-sized layout of the report showing the size, position, wording, and lettering of all components. It is required only for the three formal map series indicated in article 3.01.1, for book reports in the STOP format, and for profusely illustrated special reports.

HYDROGEOLOGY AND RESULTS
OF INJECTION TESTS AT
WASTE-INJECTION SITES IN
PINELLAS COUNTY, FLORIDA

UNITED STATES GEOLOGICAL SURVEY

Water-Supply Paper 2183

Prepared in cooperation with
PINELLAS COUNTY and the
CITY of ST. PETERSBURG, FLORIDA

Typescript cover of Water-Supply Paper

HYDROGEOLOGY AND RESULTS
OF INJECTION TESTS AT
WASTE-INJECTION SITES IN
PINELLAS COUNTY, FLORIDA

by John J. Hickey

UNITED STATES GEOLOGICAL SURVEY

Water-Supply Paper 2183

Prepared in cooperation with
PINELLAS COUNTY and the
CITY of ST. PETERSBURG, FLORIDA

Typescript title page of Water-Supply Paper

SIMULATED EFFECTS OF GROUND-WATER DEVELOPMENT ON
THE POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER,
WEST-CENTRAL FLORIDA

Geological Survey Professional Paper 1217

Prepared in cooperation with the
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Typescript cover of Professional Paper

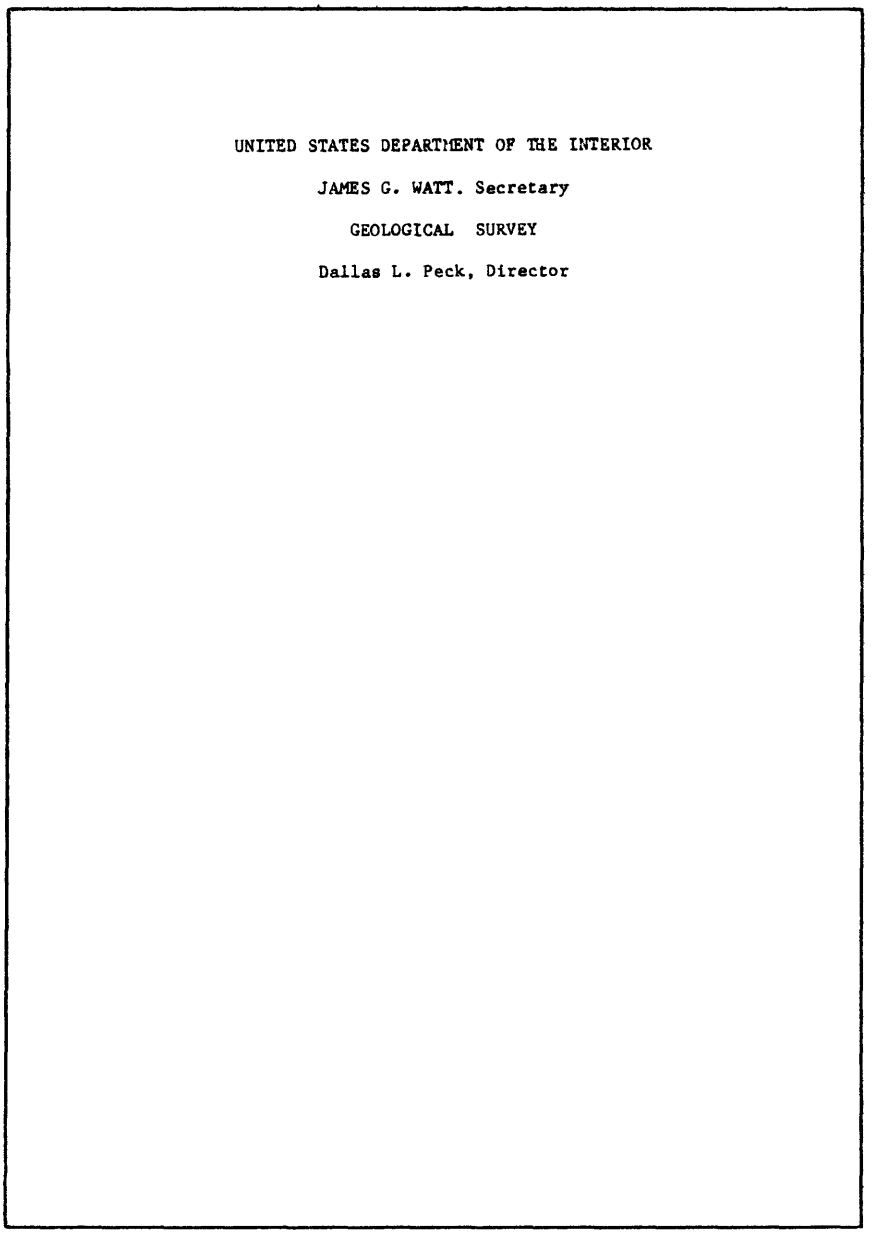
SIMULATED EFFECTS OF GROUND-WATER DEVELOPMENT ON
THE POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER,
WEST-CENTRAL FLORIDA

By William E. Wilson and James M. Gerhart

Geological Survey Professional Paper 1217

Prepared in cooperation with the
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Typescript title page of Professional Paper



Typescript back of title page for all formal Geological Survey book reports

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CONVERSION FACTORS

For use of readers who prefer to use metric units, conversion factors for terms used in this report are listed below:

Multiply	By	To obtain
foot (ft)	0.3048	meter (m)
foot squared per day (ft^2/d)	0.0929	meter squared per day (m^2/d)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
gallon per minute (gal/min)	0.0630	liter per second (L/s)
million gallon per day (Mgal/d)	0.0438	cubic meter per second (m^3/s)
inch (in)	25.40	millimeter (mm)
inch per year (in/yr)	25.40	millimeter per year (mm/yr)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km^2)

Temperature in degrees Fahrenheit (°F) can be converted to degrees Celsius (°C) as follows:

$$°F = 1.8° + 32$$

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, called NGVD of 1929, is referred to as sea level in this report.

HYDROLOGIC ANALYSIS OF THE U.S. BUREAU OF MINES' UNDERGROUND OIL-SHALE RESEARCH-FACILITY SITE, PICEANCE CREEK BASIN, RIO BLANCO COUNTY, COLORADO

By R. H. Dale and John B. Weeks

ABSTRACT

The U.S. Bureau of Mines plans to develop an underground oil-shale research facility near the center of Piceance Creek basin. The rocks underlying the site consist of more than 800 feet of kerogen-rich marlstone (oil shale) that is overlain by 1,400 feet of sedimentary rocks, primarily sandstone and marlstone. The overburden section of 1,400 feet consists of two aquifers separated by a confining layer.

Three test holes have been drilled by the U.S. Bureau of Mines as part of the exploratory work prior to the development of the research facility. The test holes were drilled to obtain samples of the oil shale, and to test the hydraulic properties of the two aquifers. Results of two aquifer tests made during the drilling of the test holes indicate that the upper aquifer has a transmissivity of 2,600 feet squared per day, and the lower aquifer has a transmissivity of 210 feet squared per day.

The water discharged from the upper aquifer and the upper part of the lower aquifer during the drilling of the test holes had about the same chemical quality as the water from Piceance Creek during low flow. The water discharged from a point near the base of the lower aquifer had a higher concentration of dissolved constituents. This condition is caused by the dissolution of soluble minerals in the marlstone.

One of the problems related to constructing a shaft through the aquifers is that a large amount of water may have to be pumped to keep the working area dry. A digital ground-water model of the Piceance basin was used to determine the maximum amount of water that would have to be pumped. Based on the model, it is estimated that it would be necessary to pump as much as 3,080 gallons per minute to keep the shaft dry.

Saline-water production and erosion of wastes by dewatering discharge are the principal hydrologically related problems associated with constructing the shaft. The problems are created not by the construction but by the disposal of waste water and rock from the shaft. The leaching of soluble minerals from shaft waste and the erosion of fine-grained sediments from the waste are the expected problems that would need resolution at any such waste-disposal site.

Table of conversion factors and abbreviations

Abstract

Figure 2.--Location of recharge areas and observation wells, Meadowbrook artificial-recharge site. (From Katz and Mallard, 1980).

Figure 3.--Aerial photo of the Meadowbrook artificial-recharge site showing location of injection wells, recharge basins, and the discontinued Meadowbrook sewage-disposal plant. (Looking northwest).

Figure 4.--Schematic diagram of Meadowbrook artificial-recharge site showing relative position of recharge basins, injection wells, and water-transmission mains. (Modified from Consoer, Townsend, and Associates, 1978).

Page giving figure number and caption

Form 9-1317 (Rev. March 1976)

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

This form must be completed by author and attached to manuscript copy of each illustration and photograph for Geological Survey publications before report is submitted for supervisor approval.

AUTHOR'S CHECK LIST FOR PLATES, FIGURES, AND PHOTOGRAPHS

SERIES: P. P.☐ W. S. P.☑ BULL.☐ CIRC.☐ T. W. I.☐ GQ☐ I☐ GP☐ MF☐ MR☐ OM☐ OC☐ HA☐ JR☐

DIVISION: GEOLOGIC☐ WATER RESOURCES☐ CONSERVATION☐ LAND INFO. ANALYSIS☐ OTHER☐

TITLE OF REPORT: _____

AUTHOR(S): _____

ILLUSTRATION NUMBER: Plate ____ Figure 1 Table ____ Bottom title☑ Side title☐ Column width☐

RECOMMENDED PRINTING COLORS:

BASE: Culture: Screened Black☐ Black☐; Topo: Screened Black☐ Brown☐; Drainage: Screened Black☐ Blue☐; Road fill-land net: Screened black☐ Red☐; Purple revisions: Not needed☐ Screened Black☐; Photomosaic☐ Color _____

RECOMMENDED PUBLICATION SCALE: 1: 4 3/8 x 6 1/2

GEOLOGIC/HYDROLOGIC DATA: Black and white☑ Black and _____ color Multicolor☐

Units to be emphasized and color preferred: _____

Match adjacent map☐ Reference: _____

Original material compiled on: Scribecoat☐ Cronaflex☐ Paper☑ Other☐ _____

Original material is in 2 pieces.

Original material compiled at 1: Base: 6 1/2 x 9 1/2 scale. Ad Dim: 6 1/2 x 9 3/4

Illustrations have☐ have not☐ been previously published. If yes, give complete reference and copyright permission: _____

OF 80-565

Base map material enclosed☐ or available from the Pub. Div.: Eastern Region☐ Central Region☐ Western Region☐ Br. of Printing☐ or the following originating division Same as Plate 1

PHOTOGRAPHS

RECOMMENDATIONS:

Black and white: 150-line screen☐ 300-line screen (fossil plate)☐

Color☐ (must be justified in separate memorandum)

PLACEMENT OF PHOTOGRAPH IN TEXT:

To be compared with figure ____ Same page☐ Facing page☐

Combination with other illustrations:

Line cuts☐ Figures _____ Other photographs☐ Figures _____

SCALE OF PHOTOGRAPH SHOWN AS: Object in photograph☐ On border of print☐ In caption☐

CROPPING:

Crop lines are on edge of print☐ or on transparent overlay☐

Use full image☐

Symbols and contacts to be added as shown on registered overlay☐

SOURCE OF PHOTOGRAPH:

Author☐ By other source with permission, proper credit and copyright☐ Negative unavailable☐

Negative available☐ Location _____

SPECIAL INSTRUCTIONS:

See other side☐

Illustrations check list

FORM 9 1531 (DEC 1980) U.S. DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY
MANUSCRIPT ROUTING SHEET (WRD)

WRD NO. 81-W-0876

AUTHOR(S) (LAST NAME FIRST): Krause, Richard E.

PROJECT NO. GA070

TITLE: Digital model evaluation of the predevelopment flow system of the Tertiary limestone aquifer system, southeast Georgia, northeast Florida, and south South Carolina

NO. PAGES (INCL. TABLES) 47

NO. ILLUSTRATIONS 10

TABLES NO. 3 NO. PAGES 3

(CHECK ONE) ☐ FINAL REPT. ☒ PROGRESS REPT. ☐ ABSTRACT ☐ OTHER

TYPE OF PUBLICATION (WSP, HA, JOURNAL ARTICLE, STATE PUB., OPEN FILE, ETC.): Water Resources Investigations/ Open File Report

SIGNATURE	DATE IN	DATE OUT	TOPICS REVIEWED	NO. HRS. SPENT	AUTHOR	REVIEWER	DIST/PROJ CHIEF	REGIONAL HYDROL	PUB MGT UNIT SPADM	GEOLOGIC NAMES	ADDITIONAL EVALUATION	SCI PUB SECT SPADM	DIRECTOR	ENTER NEXT ROUTING HERE
AUTHOR														Larry Hayes.
Larry R. Hayes	06/01	06/17	All	10		✓								author
R E Krause	6/18	7/1	All	16	✓									Dick Johnston
R.H. Johnston	7-2	8-7	All	12		X								AUTHOR
R E Krause	8/12	9/4	All	30	✓									Harlan Counts
Harlan Counts	9/8	9/9	All	8		✓								Author
R E Krause	9/14	10/8	All	16	✓									Dist. Chief
[illegible]	10/8	10/8	All	4			✓							Ray Hyde, SR
[illegible]	10/19/81	10/21/81	All	5				✓						
[illegible]	10/13/81	10/21/81	scan	2				✓						District chief
[illegible]	10/30/81	10/30/81	Trans				X							Regional Hydrol SR
R H Johnston	11/6	11/17	Part	2		✓								Reports Spec., SR
[illegible]	11/6/81	11/24	all	6				✓						Geol. Names
[illegible]	12/4/81	12/7/81	All	3						✓				Grossman
I. K. Grossman	12/14/81	12/14/81	ABSTR REFS FIGS	1½					✓					SPS
[illegible]	1/4/82	1/14/82	all	½								✓		Director
[illegible]		7 Jan 1982						approved					X	

CONTINUE ON ADDITIONAL FORMS, IF NECESSARY.

Manuscript routing sheet

GEOLOGICAL SURVEY, WATER RESOURCES DIVISION

ABSTRACT-INDEX SHEET

TITLE (ALL CAPS): ASSESSMENT OF WATER QUALITY IN CANALS OF EASTERN BROWARD COUNTY, FLORIDA, 1969-74

DATE SENT: December 1981

NO. PAGES: 105

NO. ILLUSTRATIONS: 23

NO. TABLES: 20

NO. REFERENCES: 27

AUTHORS: Waller, B. G., and Miller, W. L.

AUTHORS' ORIGINATING OFFICE: Miami, Florida

DESCRIPTORS: *Water quality, *Canals, *Land use, Runoff, Sewage, Pesticides, Nutrients

IDENTIFIERS: *Florida, Broward County

TYPE OF PUBLICATION: Water-Resources Investigations Report

ABSTRACT (200 WORDS OR LESS, DOUBLE SPACED): An intensive water-quality monitoring program was started in 1969 to determine the effects of man-induced contaminants on the water quality in the primary canal system of eastern Broward County, Florida. This report covers the first 6 years of the program and provides a data base that can be used to evaluate future changes in water-quality conditions. Most data indicate that beyond the small seasonal fluctuation in constituent level, the greatest adverse effect on the quality of water is caused by discharge of sewage and treated sewage effluent to the canals. The areas affected by sewage have greater concentrations of macronutrients, trace metals, and pesticides than unaffected areas. Major ion concentrations are affected only by season and local lithology. During 6-year study, a gradual decrease in macronutrient concentration and an increase in dissolved oxygen have occurred. This improvement in water quality is attributed to a decrease of sewage discharge into canals and better treatment of sewage effluents.

WRSIC abstract sheet

Note for the monthly list of new publications.

Bull. _____. Submersed aquatic plants of the Tidal Potomac Estuary, by Virginia Carter, P. T. Gammon and Nancy Bartow. 198_. __p.

$____.

There are 15 species of submersed aquatic plants found in the Tidal Potomac River and its tributaries. Color photographs and descriptions of each of these plants are included in the text. The present distribution of plants is more limited than that found historically. These plants play a number of important roles, especially in supporting wildlife populations. Possible factors involved in their decline include nutrient enrichment, pollution, storm events, overgrazing, and increased turbidity.

Note for monthly list of publications

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Instructions for Specific Documents

3.02.1 WRSIC abstract-index sheet

Authors are to supply copies of abstracts for publication by Water Resources Scientific Information Center (WRSIC) in the journal "Selected Water Resources Abstracts," which receive wide distribution to the water-resources community and information-retrieval services. The abstract is typed double spaced on an unnumbered form and submitted as a part of the manuscript package for Director's approval. Some copies of the WRSIC abstract are used for internal review and information by the Division technical staff, and one copy is retained by the Publications Management Unit.[1] When the report is published, the abstract is submitted to WRSIC for publication. WRSIC publishes only the first 200 words of an abstract.

PREPARATION OF WRSIC ABSTRACT-INDEX SHEET

Preparation of the WRSIC abstract-index sheet (see example at end of article) consists of two phases--abstracting the report, then indexing it. Procedures for completing these steps are described below.

Abstracting

An abstract of a document is a condensed version containing or referring to the most essential information in the original. It should provide the reader with sufficient information to determine whether he should obtain the complete document. For this reason, the author must strive to insure that the abstract represents the contents of the original.

WRSIC abstracts need not conform to any particular standard; content and order of presentation will depend on the document being abstracted. Authors may find it convenient to use the text abstract, shortened if necessary to the 200-word limit for WRSIC abstracts. Guidelines for preparing informative abstracts are given in article 5.05.3.

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[1] 435 National Center, Reston, Virginia 22092

A carefully written, concise, and informative abstract generally can be used for both the report and the WRSIC sheet, provided the length does not exceed 200 words. Most long abstracts can be condensed, without major effort, to produce an excellent shorter product. When preparing the WRSIC abstract, the author must remember that the purpose of the abstract is to help the reader decide whether or not to acquire the complete document. The author is, in effect, writing a sales prospectus to arouse the interest of the reader in the report. Thus, a good abstract should contain the purpose, key information, and major results of a study. It cannot, because of space limitation, contain extensive data, figures, tables, or detailed observations. It should avoid abbreviations and reference to other publications, and must fit within the space alloted.

Two types of abstracts are used in the WRSIC system:

A. Informative abstract.--Contains the essential facts reported in the original document, including conclusions. It can often satisfy the needs of a reader without a need to see the original document. This type is preferred for both WRSIC and report abstracts. The abstract that follows is an example of a good informative abstract:

> Chlorinated secondary-treated effluent was used to irrigate a grassed 4-acre site at rates of 2 and 4 inches per week for periods of 11 and 14 weeks, respectively. Part of the site was drained by tile lines 5 feet below land surface. Chemical and bacteriological changes in the acidic ground water in the shallow sand aquifer and in the effluent from the drains were studied. Irrigation of the drained plot resulted in rapid passage of the applied wastewater through the soil, and consequently, poor nitrogen removal. Thus, the effluent from the drains contained as much as 5.2 milligrams per liter nitrate-nitrogen. Irrigation of the undrained plot resulted in more extensive nitrogen removal. Total phosphorus in the shallow ground water at ther site increased from a maximum of 1.4 milligams per liter before irrigation to as much as 5 milligrams per liter in the ground water 5 feet below land surface. Concentrations of nitrogen and phosphorus did not increase in ground water downgradient from the site, although increased chloride concentrations demonstrated downgradient migration of the applied wastewater. Prior to irrigation, total coliform bacteria were not detected in ground water at the site. After irrigation, total and fecal coliforms were detected in the ground water at the site and downgradient. The nitrifying bacteria Nitrosomonas and Nitrobacter at the irrigated site were most abundant at the soil surface; their numbers decreased with depth.

B. Indicative abstract.-- Used for data compilations containing no conclusions. It tells the reader about the general content of the report. This abstract should be explicit enough to permit a reader to evaluate the pertinence of the original document. A sample indicative abstract follows:

> This report presents hydrologic, geologic, and water-quality data collected within the Ochlockonee River basin area, in the panhandle of northwest Florida. The data are presented in graphs and tables. Surface-water data include streamflow measurements and analyses of water collected at 58 sites; ground-water data include descriptions of 360 wells and core holes, analyses of water and hydrographs of selected wells, lithologic logs of 131 wells and test borings, and natural-gamma logs of selected wells ranging in depth from 110 to 1,346 feet. Rainfall and municipal pumpage data are also compiled. Maps of the area show the location of the data-collection sites within the area.

Indexing

Indexing is the selection of words or terms that best describe the content of a report. The index words or terms are used in computerized search programs to locate reports in specific subject fields.

Descriptors and Identifiers

Descriptors are terms that are included in the Water Resources Thesaurus,[2] a word list of scientific and technical terms selected to represent all facets of the water-resources field. Each office library and reports specialist should have a copy.

Identifiers are terms that are not listed in the Thesaurus but are needed for the complete indexing of the document. Identifiers may include geographical names (including States, counties, and cities), trade names, names of persons, names of aquifers, procedures or processes, among others.

Procedures in Indexing

When indexing, first prepare a list of representative terms that describe the report content. The index words should include every concept in the report that might be useful to the user in deciding whether to acquire the document. Then compare terms with those available in the Thesaurus. Descriptors are those that appear in the Thesaurus; identifiers are those that do not. Use the spelling given in the Thesaurus even if it differs from Geological Survey style.

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[2] Water Resources Thesaurus, third ed., 1980; U.S. Department of the Interior, Office of Water Research and Technology, OWRT IT-80/1, 3 chapters.

No fixed number of descriptors is required; the average report may contain as many as 10 descriptors and as many identifiers. Keep in mind that the greater the depth of indexing, the greater will be the probability of retrieving only relevant documents in a computer-aided search.

INSTRUCTIONS FOR COMPLETING WRSIC ABSTRACT-INDEX SHEET

(See example on following sheet.)

Title--give complete title of report in capital letters.

Date sent--the date the manuscript was sent to Region for approval.

No. of pages--total number of all pages, including cover.

No. of Illustrations--enter the total number of illustrations, including plates, as shown in the list of illustrations of the report. If a figure contains several components, such as 3a, 3b, and so forth, consider all components as a single unit.

No. of Tables--enter the total number of tables as shown in the list of tables of the report.

No. of References--give total number of references.

Authors--give in order: last name, first name, initial, and affiliation or organization if outside the Geological Survey.

Author's Originating Office--enter the office name, city and State.

Descriptors--list representative terms included in the Thesaurus. Mark essential descriptors with an asterisk, list them before other descriptors, and separate descriptors by commas. For example: *Floods, *Water balance, *Irrigation, Sediments, Rivers, Aquifers, Water quality. Use the spelling that is given in the Thesaurus. In compound words, capitalized the first letter of the first word and lowercase the rest.

Identifiers--list representative terms not included in the Thesaurus. Mark essential identifiers with an asterisk and list before the other identifiers. Separate identifiers by commas.

Abstract--give a concise abstract of 200 words or less, double spaced. (See article 5.05.3, "Abstracts.")

GEOLOGICAL SURVEY, WATER RESOURCES DIVISION

ABSTRACT-INDEX SHEET

TITLE (ALL CAPS): ASSESSMENT OF WATER QUALITY IN CANALS OF EASTERN BROWARD COUNTY, FLORIDA, 1969-74

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DESCRIPTORS: *Water quality, *Canals, *Land use, Runoff, Sewage, Pesticides, Nutrients

IDENTIFIERS: *Florida, Broward County

TYPE OF PUBLICATION: Water-Resources Investigations Report

ABSTRACT (200 WORDS OR LESS, DOUBLE SPACED): An intensive water-quality monitoring program was started in 1969 to determine the effects of man-induced contaminants o the water quality in the primary canal system of eastern Broward County, Florida. This report covers the first 6 years of the program and provides a data base that can be used to evaluate future changes in water-quality conditions. Most data indicate that beyond the small seasonal fluctuation in constituent level, the greatest adverse effect on the quality of water is caused by discharge of sewage and treated sewage effluent to the canals. The areas affected by sewage have greater concentrations of macronutrients, trace metals, and pesticides than unaffected areas. Major ion concentrations are affected only by season and local lithology. During 6-year study, a gradual decrease in macronutrient concentration and an increase in dissolved oxygen have occurred. This improvement in water quality is attributed to a decrease of sewage discharge into canals and better treatment of sewage effluents.

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Article 3.02.2

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Instructions for Specific Documents

3.02.2 Note for monthly list of publications

All manuscripts submitted for publication in the following Geological Survey series must contain a note for the monthly pamphlet "New Publications of the Geological Survey[1]."

Water-Supply Paper	Techniques of Water-Resources Investigations
Professional Paper	Hydrologic Investigations Atlas
Bulletin	Miscellaneous Investigations Map
Circular	Miscellaneous Field Studies Map

PREPARATION OF NOTE

The note must be typed double spaced on a single sheet and should contain three parts--heading, identifying information, and abstract. (See examples below and in article 3.01.2.)

Heading

Type "Note for Monthly List of New Publications" at the top of the page.

Identifying Information for Books and Maps

A. Books

1. Report series, followed by a line. The report number will be added by the Publications Management Unit.

2. Complete report title. Capitalize only the first letter of the first word, proper nouns, and proper adjectives.

---

[1] Subscription is free on request from U.S. Geological Survey, 704 National Center, Reston, Virginia 22092.

3. Authorship. Give initials, followed by last name in the order shown on the report. If an author uses only first and last names without a middle initial, give the full first name.

4. Year of publication.--Show 198_

5. Number of pages--Show ____p.

6. Price of publication. Show $_____.

Example

WSP _____. Chemical quality of surface water in the Flaming Gorge Reservoir area, Wyoming and Utah, by R. J. Madison and K. M. Waddel. 196_. __p. $___.

B. Maps

1. Abbreviation of map series, complete report title, authorship, and year of publication. Use same style as for book reports.

2. Coverage of the map(s), in degrees, minutes, and seconds of latitude and longitude. If the map consists of two sheets, precede the latitude and longitude numbers with "Two sheets." Abbreviate latitude and longitude with "lat" and "long."

3. Scale. Give scale notation, followed in parentheses by the distance represented by 1 inch.

4. Contour intervals. Show topographic contour intervals on flood maps. On all other maps, show contour intervals for other types of contours.

5. Map sheet size(s). If the map consists of one sheet, show "Sheet____ by _____inches" after the contour-interval note. If the map contains more than one sheet, provide the contour-interval note and sheet size for each sheet.

6. Price of publication. Show $_____.

Example

HA___. Hydrogeologic characteristics of the valley-fill aquifer in the Arkansas River valley, Bent County, Colorado, by R. T. Hurr and J. E. Moore. 196_. Two sheets: lat 38° to 38°10', long 102°45' to 103°22'30". Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, __ by ___inches, bedrock contour interval 20 feet; sheet 2, ____ by ____ inches, water-table contour interval 20 feet. $_____.

Abstract

An abstract must be provided for reports of all types listed previously, except maps having no text in which case the note will consist only of a heading and indentifying information.

The abstract must contain 75 words or less (including words such as "a" and "the") and should be of the "informative" type where possible (see article 3.02.1). It should contain essential facts and data reported in the the original document, including conclusions. Indicative statements should be used sparingly and only where no alternative exists, such as in abstracts for data reports lacking conclusions.

The abstract should begin about 6 lines below the identifying information. Do not type the word "Abstract" above the abstract. (See the sample monthly note in article 3.01.2.)

The abstract should be written in the active voice. Avoid phrases such as "is described" or "are presented" except where the active voice cannot effectively be used, as in data presentations. The one-sentence abstract below illustrates how little a reader can learn about the original document.

> An appraisal of the existence, nature, and magnitude of long-term trends (26 yr) in stream quality and quantity toward either improvement or deterioration is described in this report.

After revision, the preceeding abstract now contains positive statements about the investigation, and gives the reader a better understanding of the report.

> Long-term trend (1945-70) analyses in the upper _____ River basin indicate that stream quality is deteriorating with time. Biochemical oxygen demand and dissolved-solids concentrations are increasing, and dissolved-oxygen concentrations are decreasing at most sampling sites. The ability of the river system to receive, transport, and assimilate wastewater, although not yet exceeded except for short periods, may be exceeded in the future.

page 155 follow

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Instructions for Specific Documents

3.02.3 Illustration check list (form 9-1517)

Each manuscript transmitted to the Division for approval for Geological Survey publication in the following report series must contain one set of illustrations check lists (revised form 9-1517).[1]

Water-Supply Paper	Techniques of Water-Resources Investigation
Professional Paper	Hydrologic Investigations Atlas
Bulletin	Miscellaneous Investigations Map
Circular	Miscellaneous Field Studies Map

A check list, in addition to the caption sheet, must be attached to each illustration. Manuscripts containing illustrations without the check list will not be processed until that form is received from the originating office.

The check list enables the author to give his view as to how the illustration should be published. A reduced copy of the front and back of the form is given on the next page. A sample check list also is given in article 3.01.2. (See Water Resources Division Memorandum No. 82.73, dated April 8, 1982, "Author's check list for illustrations.")

GENERAL GUIDELINES

Illustrations

Originals of illustrations should be held by the originating office until they are requested by the Publications Management Unit, generally after Director's approval. At that time, authors should send the originals promptly to the designated Branch of Cartography office for drafting.

If negatives of base maps were sent to the author along with requested scale-stable base-map material, these negatives also should be returned.

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[1] Available from Geological Survey service centers in Denver, Colorado, and Menlo Park, California, and from Branch of General Services, Office Services Section, 234 National Center, Reston, VA 22092.

page 157 follow

Form 9-1517
(Rev. March 1976)

U S DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

This form must be completed by author and attached to manuscript copy of each illustration and photograph for Geological Survey publications before report is submitted for supervisor approval.

AUTHOR'S CHECK LIST FOR PLATES, FIGURES, AND PHOTOGRAPHS

SERIES: P. P.☐ W. S. P.☐ BULL.☐ CIRC.☐ T. W. I.☐ GQ☐ I☐ GP☐ MF☐ MR☐ OM☐ OC☐ HA☐ JR☐

DIVISION: GEOLOGIC ☐ WATER RESOURCES ☐ CONSERVATION ☐ LAND INFO. ANALYSIS ☐ OTHER ☐

TITLE OF REPORT: _____

_____

AUTHOR(S): _____

ILLUSTRATION NUMBER: Plate _____ Figure _____ Table _____ Bottom title ☐ Side title ☐ Column width ☐

RECOMMENDED PRINTING COLORS:

BASE
- Culture: Screened Black ☐ Black ☐
- Topo: Screened Black ☐ Brown ☐
- Drainage: Screened Black ☐ Blue ☐
- Road fill-land net: Screened Black ☐ Red ☐
- Purple revisions: Not needed ☐ Screened Black ☐
- Photomosaic ☐ Color _____

RECOMMENDED PUBLICATION SCALE: 1: _____

GEOLOGIC/HYDROLOGIC DATA: Black and white ☐ Black and _____ color Multicolor ☐

Units to be emphasized and color preferred: _____

_____

Match adjacent map ☐ Reference: _____

Original material compiled on: Scribecoat ☐ Cronaflex ☐ Paper ☐ Other ☐ _____

Original material is in _____ pieces.

Original material compiled at 1: _____ scale.

Illustrations have ☐ have not ☐ been previously published. If yes, give complete reference and copyright permission: _____

_____

Base map material enclosed ☐ or available from the Pub. Div.: Eastern Region ☐ Central Region ☐ Western Region ☐ Br. of Printing ☐ or the following originating division _____

PHOTOGRAPHS

RECOMMENDATIONS:

Black and white: 150-line screen ☐ 300-line screen (fossil plate) ☐

Color ☐ (must be justified in separate memorandum)

PLACEMENT OF PHOTOGRAPH IN TEXT:

To be compared with figure _____ Same page ☐ Facing page ☐

Combination with other illustrations:

Line cuts ☐ Figures _____ Other photographs ☐ Figures _____

SCALE OF PHOTOGRAPH SHOWN AS: Object in photograph ☐ On border of print ☐ In caption ☐

CROPPING:

Crop lines are on edge of print ☐ or on transparent overlay ☐

Use full image ☐

Symbols and contacts to be added as shown on registered overlay ☐

SOURCE OF PHOTOGRAPH:

Author ☐ By other source with permission, proper credit and copyright ☐ Negative unavailable ☐

Negative available ☐ Location _____

SPECIAL INSTRUCTIONS:

See other side

THE FOLLOWING IS GENERAL INFORMATION MADE AVAILABLE TO AUTHORS TO HELP EXPEDITE REPORTS DURING CARTOGRAPHIC PREPARATION

PUBLICATION FIGURE SIZE IN INCHES AND PICAS FOR BOOK REPORTS

PROFESSIONAL PAPERS

7⅛" × 8½"	43 × 51 (Bottom title)
6⅝" × 9"	40 × 54 (Side title)
3½" × 8½"	21 × 51 (Col. bottom title)
3" × 9"	18 × 54 (Col. side title)

CIRCULARS

6½" × 8"	39 × 48 (Bottom title)
6" × 8⅝"	36 × 52 (Side title)
3 3/16" × 8"	19 × 48 (Col. bottom title)
2 11/16" × 8⅝"	16 × 52 (Col. side title)

BULLETINS/WATER-SUPPLY PAPERS

4⅜" × 6½"	26½ × 39 (Bottom title)
4" × 7¼"	23½ × 44 (Side title)

STANDARD SHEET SIZES FOR PLATES

42" × 58"	24" × 30" (Topo)
42" × 29"	
21" × 29"	
44" × 34" (GQ)	

RECOMMENDED PUBLICATION SCALES FOR PLATES ARE: 1:20,000 (Puerto Rico), 1:24,000, 1:62,500, 1:63,360 (Alaska), 1:125,000, 1:250,000, 1:500,000

OTHERS: 1:25,000, 1:31,680, 1:50,000, 1:100,000

PHOTOGRAPHS

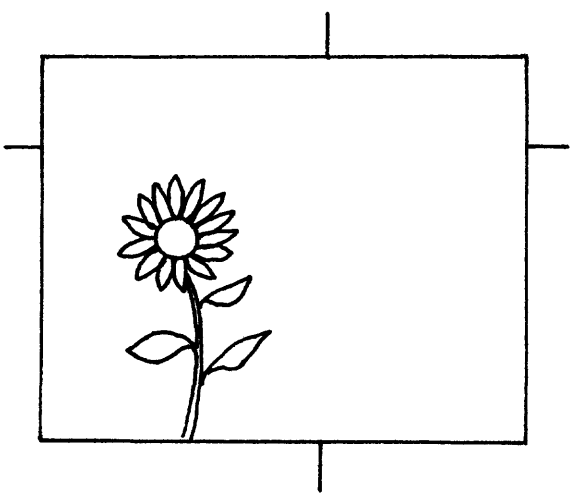
1. Submit glossy print at publication scale or indicate by crop lines to bring to publication scale.
2. 300-line screen to be used for fossil plates and where fine detail is essential.
3. Emulsion of photographic prints and back of photographs should not be written on or paper-clipped. Scale should be drawn outside of image area.
4. Use registered overlay to show line and symbol placement. Never draw on photographic prints.
5. Do not mount with glue, tape, or permanent attaching materials.
6. Do not place any kind of tape over image area.
7. Register all overlays by corner ticks or other marks; indicate top if not obvious.
8. NOTE: Negatives of all photographs published in Geological Survey reports are sent by the Branch of Cartography to the Photo Library, Denver, Colorado.

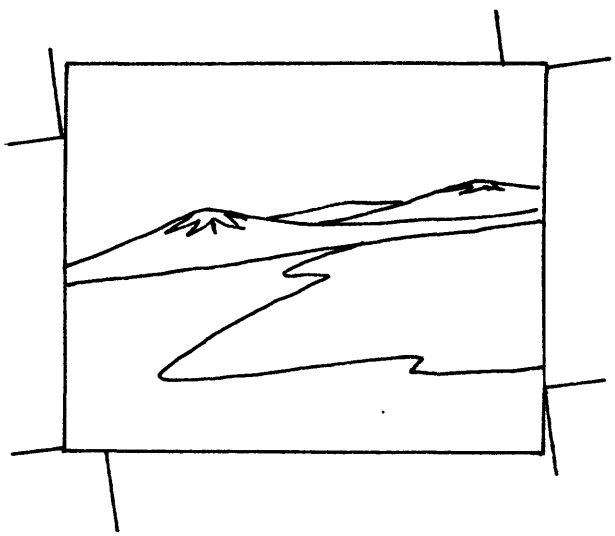
SPECIAL INSTRUCTIONS:

Photographs

If the relative size of items being photographed is not self-evident, it should be indicated by placing a familiar object (for example, a hammer, ruler, or knife) in the photograph or by a scale shown on its border (not on the image).

Croplines are used to eliminate unwanted parts of the photograph and to adjust for inadvertent camera tilt. Croplines should not be drawn across the photograph, but at the edges only. If symbols or lines need to be added, an overlay should be prepared using corner ticks for registration to show placement. Write "top" at the top of the photograph mounting sheet to insure proper orientation.





The source of the photograph must be given only if photographer was not an Interior Department employee or if the photograph has been copyrighted.

Special mounting of photographs is necessary to avoid damage to the emulsion. Photographs should be secured to a sheet of paper by cutting four diagonal slots in the sheet through which the photograph corners can be inserted and taped on the back.

The author's name and the figure number should be typed on a label pasted to the back of the photograph or penciled on the mounting sheet. Do not write on the front or back of photographs, and do not use paperclips.

page 161 follow

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE--Instructions for Specific Documents

3.02.4 News release

Reports are the principal tangible product of the Geological Survey, but to be effective, they must be available and useful to our audience. An important means of alerting readers to the results and availability of new reports is with a news release.

Depending on the publication series, news releases are either issued to local news media by the originating office or issued regionally or nationally by the Public Affairs Office. This both promotes public interest in the report and fulfills the basic Geological Survey mandate to disseminate widely the results of our studies without preferential release to selected groups or individuals.

The two kinds of news releases issued most commonly by the Geological Survey are those announcing the results of reports and studies, and those describing potentially newsworthy events for which the Geological Survey is the logical spokesman; for example, new projects, changes in personnel, or natural events such as floods. This article pertains only to news releases that announce the results and availability of reports.

REQUIRED APPROVAL

News releases for reports in the Geological Survey series indicated in article 3.01.1 are mandatory and require Director's approval before issuance. Exceptions include news releases for flood-prone-area maps, water folders, annual State data reports, and annual District project summaries.

Draft news releases for jointly-funded reports published by the Geological Survey must be supplied to cooperators as part of the manuscript package submitted for cooperator review.

News releases announcing reports to be published by a cooperating agency are encouraged but not mandatory. If the news release for reports of this type is to be distributed by the Geological Survey, Director's approval is required. After approval, the originating office may either send the release to the cooperator for distribution after the report is printed, or may itself issue the release after publication of the report, whichever method is satisfactory to both the Geological Survey and the cooperator.

PROCESSING

Reports to be approved by the Director

The news release is reviewed along with the report both at the Region and Division level for technical accuracy, journalistic style, and conformance to Geological Survey policy. One copy of the reviewed news release is retained in the files of the Publications Management Unit, and one is returned, with comments and suggestions, to the originating office with the approved manuscript for later distribution. The Publications Management Unit is responsible for notifying the Public Affairs Office of reports in the WRI and Open-File series that might warrant a regional or national news release.

Reports to be approved by the Regional Hydrologist (open-file data only)

The news release is reviewed by the Region. The Region sends one copy to the Publications Management Unit along with a copy of the manuscript-routing sheet and the memorandum indicating approval of the report, and returns the other copy, with the approved manuscript, to the originating office for release.

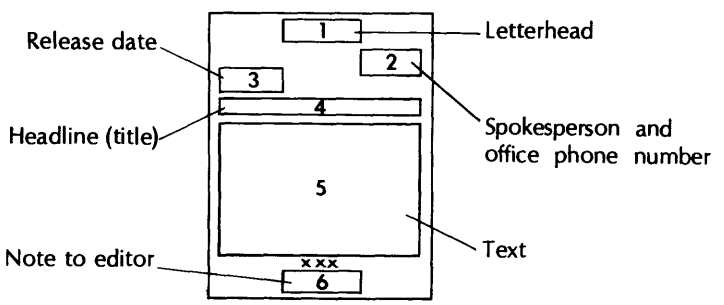
WRITING NEWS RELEASES

News releases issued locally can reach an audience of several thousand people if properly written. Authors should learn the principles of writing good news releases to insure that the information they wish to disseminate is distributed widely. Additional information on how to write a news release is given in the WRD Bulletin, July-December, 1972, p. 32-35, an excerpt from which is reproduced at the end of this article.

The author should keep in mind the intended audience. In most instances, the audience will be the public, which has various levels of interest in the field of water resources. Thus, news releases must be brief, easily understood, and accurate.

Where appropriate, include illustrations with a news release. Good, clear photographs are especially helpful in attracting the attention of editors, and eventually, readers. Examples of illustrations include hydrologists working in the field, simplified charts or diagrams showing changes in water level, or areas of flooding.

A news release consists of the basic components given on the diagram below. Numbers on the diagram correspond to the numbered discussion of each item that follows:



A. Letterhead.--Standard letterhead showing Department and Bureau designation followed by the address of the office in which the writer(s) of the news release works.

B. Spokesperson of news release and phone number.--name(s) of the local spokesperson who is responsible for responding to news media inquiries regarding the news release (generally the author). Include the telephone number of the spokesperson(s) to permit the news media to make a quick contact for additional information if needed.

C. Release date.--The date when the news media can publish the news release; one of two formats is preferred:

1. For Release (month, day of month, and year)

2. For Release: Immediate (Prepared--add date of mailing)

A set date for release (format 1) is generally better, because it lets the news media know how much time they have to expand on a story before the news breaks. Most editors appreciate a set date of release and will honor that date. If the news release describes events that are of fleeting interest, such as today's flood peak, use format 2; the news media then can at least tell how old the information is. Most reports or data will be of such a nature that the news release can be given a lead time of a few days before issue.

D. Headline.--short, eyecatching (but honest) title summarizing the subject. The headline is probably the most important single item for it is the item that must catch the editor's eye and convince him that the story might be of interest to his readers. The headline must be a correct statement of what is given in the news release; it should be applicable to the contents in every respect. A good headline will not be more than one line long.

E. Text.--here is where the following essential questions are answered in the order of their importance for each particular story:

1. What happened?
2. Who was involved?
3. When was it?
4. Where was it?
5. How was it done?
6. Why was it done?

Common words should be used in short, simple, declarative sentences. Use familiar words. Avoid technical terms as much as possible; when their use is unavoidable, explain them in common language, parenthetically where possible. Stick with the facts. Do not adorn the facts with value judgments such as "very important study" or "new revolutionary results."

The best length for a news release is one page. Paragraphs should be completed on a page and words not split (hyphenated) between two lines of type. This helps to prevent errors in retyping and typesetting by the news media.

Keep the leading paragraph short--preferably no more than two sentences. Give the most important news from the standpoint of what is known now that was not known before, or present some attention-arresting statement that will attract a reader's interest and make him continue reading. Attract the reader's interest with the first 10 words of the first sentence, and then finish the sentence by giving credit to the U.S. Geological Survey, Department of the Interior.

Tell in order of importance the next ranking features of the story in two- or three-sentence paragraphs. Newspaper and magazine editors commonly cut or pad a story to fit available space. Do not use several paragraphs to build up to a climax--the climax may be removed before publication.

Direct quotations should be used for important explanations or conclusions, as if the author were talking directly to the reader. For example, "Water is scarce in the Smithfield area," according to Robert L. James[1], "but careful prospecting may locate enough for ordinary household use." the quotation should give the impression that James (the author) made the statement in an interview. Because of the difference in style between the spoken and written word, the quote from the author's words will seldom be found verbatim in the report, but the quoted material should not differ from the information given in the report.

With the first mention of a person, give the full name as ordinarily used and the professional affiliation. For multiple authors, initials and last names are preferred. In succeeding paragraphs, the Geological Survey uses only the last name without a title (Mr. or Mrs.). The news media then can alter this style, if necessary, to agree with its own.

If the subject report resulted from a cooperative effort, mention the agencies involved, but don't spend an inordinate amount of space describing all facets of the cooperative program. Expounding on the cooperative program should be reserved for the report--not the news release.

Each succeeding paragraph after the first four or five becomes more expendible. The main thrust of the news story must be given within the first few paragraphs. Those that follow, though pertinent, may be considered to be filler or background by many news media editors. Thus, they are often sacrificed to keep a news story within the publication space available.

End the news release text with triple XXX or some other marks to let the editor know that the writer has finished.

F. Note to editor.--This note is used to advise the editor of the availability of a photograph or a special contact for further information. It should be placed in parentheses below the triple XXX.

The examples on the following pages are news releases issued by the Geological Survey Public Affairs Office (for regional or nationwide distribution) and by a District office (for local distribution). Please note, however, that authors are required to provide initial drafts of news releases regardless of whether the release is of local or national importance. The examples incorporate the principal rules of writing for the news media and are samples after which news releases can be patterned. (See article 1.02.2 for additional information regarding the role of the Public Affairs Office in preparing news releases.)

Statement of Availability

The third paragraph of a news release should inform the reader where to obtain copies of the report. Examples of statements of availability in news releases issued by originating offices[2] for WRI reports, Open-File reports, flood-prone-area maps, cooperator-published series, State Water Resources folders, and annual District project summaries are given below.

1. WRI and Open-File reports

   "Copies of the report are available for inspection at (originating office) and may be purchased at cost from Open-File Services Section, U.S. Geological Survey, Western Branch of Distribution, P.O. Box 25425, Federal Center, Denver, Colorado 80225."

2. Flood-prone-area maps

   News release is optional and does not require approval. If a news release is issued, it should include the statement:

   "Copies are available in limited quantity from (originating office)."

3. Water-Resources folders

   District offices receive, with printed copies of the folder, a form news release that is easily adapted for use in each State.

4. Annual District project summaries

   News release is optional and does not require Director's approval unless particularly interesting or sensitive projects are involved. If a news release is issued, it should include the statement:

   "Copies may be obtained in limited quantity from (originating office)."

---

[2] For reports originating at the National Center in Reston, only one inspection copy of the report for the Geological Survey Library in Reston is needed because all offices are within the same building. For reports originating in regional or research offices in California and Colorado, inspection copies at the appropriate Geological Survey library will substitute for originating-office copies.

News release issued by Public Affairs Office

United States
Department of the Interior
Geological Survey, National Center
Reston, Virginia 22092

Public Affairs Office Gail Wendt (703) 860-744

For release: UPON RECEIPT (Mailed April 21, 1982)

FIRST STEP IN MONITORING GROUND WATER NEAR FRANKLIN COUNTY LANDFILLS

Water-quality analyses of samples from wells near five landfills in southern Franklin County, Ohio, showed higher levels of sodium, chloride and other dissolved minerals than those normally expected in the area's ground water. Because of the limited number of wells sampled, the higher levels of dissolved minerals cannot be directly attributed to the landfills, but the study provides a basis for monitoring future water-quality changes, according to a report recently released by the U.S. Geological Survey, Department of the Interior.

USGS hydrologists said that the study showed no large areas of serious water-quality deterioration from the landfills, but they stressed that only a limited number of wells were available for sampling. Additional observation wells are being drilled and will be sampled in a follow-up study of parts of the landfill area where data was not previously available. The study area lies in southern Franklin County between Stimmel Road and White Road and extends about 2.5 miles west of the Scioto River.

The original USGS study was conducted in 1979 in cooperation with the city of Columbus, Division of Water, to determine the chemical quality of ground water near landfills in southern Franklin County and to pinpoint any potential problems that might affect future water supplies for Columbus.

Only existing wells were used as sampling sites, which limited the data available for the study. "Because there were few wells directly downgradient from the landfills, it was difficult to define exactly the water quality and movement. Nevertheless, the data will be useful as a reference in monitoring changes in water quality and the water table," said Jeffrey T. de Roche, USGS hydrologist, Columbus, Ohio, and senior author of the report.

Copies of the report, "Ground-Water Quality in the Vicinity of Landfill Sites, Southern Franklin County, Ohio, by Jeffrey T. de Roche and Allan C. Razem, released as U.S. Geological Survey Open-File Report 81-919 (Water-Resources Investigations), are available for inspection at the USGS water resources division office at 975 W. Third Avenue, Columbus, Ohio.

# # # #

(Note to Editors: For technical questions concerning the report, contact: Jeffrey T. de Roche or Allan C. Razem, 975 W. Third Ave., Columbus, Ohio, phone: (614) 469-5553. A limited number of inspection copies of the report are available to news media upon request from the Ohio District Office.)

News release issued by originating office

Article 3.02.4

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Post Office Box 1350
Albany, New York 12201

For release: Immediate
Mailed: September 14, 1981

For information call:
John Turk
(303) 234-3487

Chemical Content of Hudson River Variable

High concentrations of iron, manganese, lead, and phosphorus should be expected during any period of high discharge in the Hudson River, according to a recent report by the U.S. Geological Survey, Department of the Interior.

Most of the heavy metals and phosphorus in river water originate from soils of the contributing drainage basins. During floods that originate in areas containing large amounts of shale, the suspended-sediment content is greater than during floods originating from storms above Glens Falls, where the rocks are crystalline and more resistant.

John T. Turk and David E. Troutman, authors of the report, state: "Concentrations of heavy metals and phosphorus during floods are generally difficult to predict because the contribution of these chemicals from man-made sources is highly variable. Our study shows that concentrations of these chemicals in Hudson River floods can be predicted when suspended-sediment concentration is high because these materials are usually provided in much greater quantities from soils than from human sources. Some difficulty still remains in predicting chemicals such as polychlorinated biphenyls (PCB's), whose concentration throughout the basin varies greatly from place to place. Instead of being brought into the river in soil, PCB's are probably scoured from material deposited on the bottom of the river so that their concentration in the river depends largely on where the scour is taking place."

The report, titled "Relationship of water quality of Hudson River, New York, during peak discharges to geologic characteristics of contributing subbasins," released as Water-Resources Investigations 80-108, was prepared in cooperation with the Town of Waterford Board of Water Commissioners and the New York State Department of Environmental Conservation.

The report contains a map of the upper Hudson River basin showing the distribution of carbonate, shale, and crystalline rock, and 6 tables of data on the hydrologic and chemical characteristics of two 1977 spring floods measured at Cohoes, Waterford, and Glens Falls. Copies are available for inspection at the U.S. Geological Survey, 343 U.S. Post Office & Courthouse, Albany, New York 12201, and can be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

* * *

5. Reports published by cooperating agency

"Copies are available at no cost from (originating office and (or) cooperating agency)." If there is a charge, add an appropriate statement.

Examples of statements of availability in news releases issued by the Public Affairs Office, National Center, for Professional Papers, Water-Supply Papers, Bulletins, Circulars, Hydrologic Investigations Atlases, Techniques of Water-Resources Investigations, Geologic Quadrangle Maps, and Miscellaneous Field Studies Maps are given below.

For books:

"Copies may be inspected at major libraries nationwide and may be purchased for $_____ per copy from the Superintendent of Documents, U.S. Government Office, Washington, D.C. 20402, or from the Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Virginia 22304." Orders must include check or money order payable to the receiving agency (Superintendent of Documents or U.S. Geological Survey) and must specify report identification number.

For maps:

Maps of areas east of the Mississippi River (including Minnesota, Puerto Rico, and the Virgin Islands), write:

Eastern Distribution Branch
U.S. Geological Survey,
1200 S. Eads Street
Arlington, Virginia 22202

For maps of areas west of the Mississippi River (including Alaska, Hawaii, Louisiana, Guam, and Samoa), write:

Western Distribution Branch
U.S. Geological Survey
Box 25286, Federal Center
Denver, Colorado 80225

United States Department of the Interior

GEOLOGICAL SURVEY
(YOUR ADDRESS HERE)

(YOUR NAME HERE)
PHONE: (YOUR PHONE NUMBER HERE)

FOR RELEASE: (PUT HERE A DATE AT LEAST 3-5 DAYS AFTER MAILING)

OR

FOR RELEASE: IMMEDIATE (PREPARED -- PUT HERE DATE OF MAILING)

BANG! BANG! BANG!
(Short, catchy, but honest title summarizing the hard news)

Again bangbangbang . . . catch the editor with the first ten words: catch him by telling him why this news release is of interest to his readers; why the news will affect his readers; why the release is newsworthy; why the information is timely and should be used now. You have to do this with facts, not with bald adjectives and balder value judgements such as "very important study" or "new revolutionary results." The editor has been around too long to be bamboozled by wowwow words and he is too busy to read paragraph after paragraph waiting for you to get to the meat of the release. Catch and hold the editor with the first ten words of the first sentence, and then finish the sentence by giving credit to the U. S. Geological Survey, Department of the Interior.

Now that you have hooked the editor with the first paragraph, try to land him with the second. Expand on the newsworthy nibble presented in the first paragraph; start filling in the particular who, why, what, when, where, or how that will convince the editor that his readers will want and need to read the hard news contained in the news release.

The second or third paragraph is also a good place to mend fragile political fences and to give your cooperators equal billing. But remember that the editor is an impatient fellow who will go on to the next news release before he will begin to swallow a lot of hogwash and backscratching.

According to most news release writers: "By the time the editor reaches the fourth paragraph, he's looking for some single authority he can quote. Someone who can present the facts in a short pithy way as if he were talking directly to the reader. Someone who can add human interest to the release. Someone who can give the editor quotable-and believable-quotes."

"One of the things the editor is trying to do," according to these writers, "is to convince the readers that the reporter has gone out and dug up this news by interviewing an authority on the subject being discussed."

Of course, you have been writing all this hard news at a level that your wife, your teenage son, and the accountant next door can understand. Read the release aloud to yourself, to your wife, to your secretary. Can they understand your words? Just as the editor won't be bamboozled with editorial superlatives and the like, he won't be impressed with a string of technical gobbledygook he can't understand. Write in short paragraphs. Write in short sentences. Use familiar words. Write to be read.

By now you have given the editor the heart of the story. In the remaining paragraphs you can continue to expand on the hard news, but don't save any vital facts to last. From here on the paragraphs are more and more expendable and may be sacrificed to fit the space available.

(MORE)

The release date on the front of the release is an important part of news media format and operations. Most editors appreciate a set date of release and will honor that date. The set date also lets the papers know how much time they have to expand on your story before the news will break. If the story is too hot to allow lead time--such as when you report today's flood peak--then give the papers the date of preparation. They at least can tell how old the story is.

Notice how paragraphs are completed on a page and words are not split at the end of a sentence. Do likewise. This prevents errors in retyping and type setting. Also note how the first two paragraphs were double spaced; this gives the editor room to make editorial changes and additions. And he will make them.

If you have a great pile of little sidebar facts you would like to cram into the release, run the facts as separate filler items at the end of the release:

* The best length for a release is one page. Anything more than two pages tends to scare off editors; all in all, let the story itself be the guide. Brevity, however, is a key favor.

* Whenever possible, include illustrations with a release--good, sharp photographs showing hydrologists in action, simplified charts or diagrams plotting the changes in water levels, and pictures of visiting dignitaries are only a few of the possibilities.

* If a page is to be followed by another page, put "(MORE)" at the bottom of each preceding page.

* Remember that one news release may carry the results of our work into a million homes.

* Writing news releases is good for you. The exercise is one of the best means available for learning to communicate with a reading audience.

* News releases are good for the Geological Survey. In the course of natural events, the USGS is bound to get some bad press. Remember the Santa Barbara oil spills? A small but constant flow of good press can dilute an occasional dose of bad press.

* News releases are good for all of us. We depend on our bosses, the public, to pay our way. The public, the Congressmen, and the cooperators are much more willing to pay if they know and understand the good things we are doing. What better way to tell them than through news releases?

* News releases are not a frill, but an integral part and means of fulfilling our mandate "to publish and disseminate information on the water resources of the nation."

And finally, end the release with the triple smile that lets the editor know that you are done.:

XXX

(Note to Editor: Sometimes in this space, between parentheses, there is a "Note to Editors" that might advise them of the availability of a photo, or a special contact for further information. With this note, I draw your attention to some concluding remarks made by Dr. Vincent McKelvey in April 1972 at the American Association of Petroleum Geologists meeting in Denver. These are not idle words. The Director is extremely aware of the need for communication of ideas as you can see).

Reference: Kelly, D. B., 1972, About half of what you always wanted to know about news releases but were afraid to ask: U.S. Geological Survey Water Resources Division Bulletin, July-Dec., p. 32-35.

SECTION 4

USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS

4

page 173 follows

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Use of Metric (SI) and Inch-Pound Units

4.01.1 Guidelines for selecting system

As outlined in a Director's memorandum of March 9, 1973, the Geological Survey began a policy to encourage use of the metric system (International System of Units, abbreviated SI) in technical reports and maps. In addition, many technical journals require use of metric units or dual units (whereby the metric value is given first, the inch-pound unit in parentheses, or vice versa). With the exception of Professional Papers, in which the use of metric units generally is required, the use of metric units is optional in all other Geological Survey publications.

The choice as to which system to use in a given report is based mainly on the orientation of the target audience. Reports intended primarily for a general or lay-reader audience are normally presented in inch-pound units, particularly those reports describing a study that was designed in rounded inch-pound units (such as a 50 X 100-mi^2 area) or that used equipment calibrated in inch-pound units. Reports containing post-1977 data acquired in metric units should not be converted to the inch-pound system. Authors should also bear in mind that converting values from one system to the other runs the risk of imparting the semblance of greater accuracy (false precision). (See article 4.02.1.) Reports intended for international or specialized scientific audiences generally require the metric system or, when specified, dual units.

Authors should evaluate the audience and the manuscript requirements of the selected publisher before writing the report; this will avoid the tedious task of converting all values to the alternate system later on.

Regardless of which system is used in a given report, water temperature must be reported in degrees Celsius (^{o}C), and chemical concentrations must be reported in milligrams (or micrograms) per liter, not parts per million (or billion). SI units for which there are no inch-pound equivalents are not converted.

Whichever system of units is used for the text must also be used in the tables and illustrations.

If a report prepared in SI units incorporates a base map designed in inch-pound units, the scale must be altered to indicate SI equivalents.

Manuscripts published in the Geological Survey series must contain in the preliminary pages a table of conversion factors[1] for the units of measure given in the report, illustrations, and tables. This table generally follows the table of contents, but is not listed in the table of contents.

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[1] A sample conversion table is given in article 3.01.2; a list of conversion factors commonly used in Water Resources Division reports is given in article 4.01.2.

References:

Water Resources Division Memorandum No. 73.203, dated June 29, 1973
Water Resources Division Memorandum No. 77.14, dated November 15, 1976
Water Resources Division Memorandum No. 82.20, dated November 18, 1981

page 175 follows

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Use of Metric (SI) and Inch-Pound Units

4.01.2 Conversion factors and abbreviations

INCH-POUND TO METRIC

Multiply inch-pound units	by	To obtain SI units
	Length	
inch (in.)	25.40	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
acre	4,047	square meter (m^2)
acre	0.4047	hectare
square inch ($in.^2$)	6.452	square centimeter (cm^2)
square foot (ft^2)	929.0	square centimeter (cm^2)
square foot (ft^2)	0.09294	square meter (m^2)
square mile (mi^2)	2.590	square kilometer (km^2)
	Volume	
ounce, fluid (fl. oz)	0.02957	liter (L)
pint (pt)	0.4732	liter (L)
quart (qt)	0.9464	liter (L)
gallon (gal)	3.785	liter (L)
gallon (gal)	.003785	cubic meter (m^3)
million gallons (Mgal)	3,785	cubic meter (m^3)
cubic foot (ft^3)	0.02832	cubic meter (m^3)
cubic mile (mi^3)	4.168	cubic kilometer (km^3)
acre-foot (acre-ft)	1,233	cubic meter (m^3)
acre-foot (acre-ft)	0.001233	cubic hectometer (hm^3)
	Flow	
foot per second (ft/s)	0.3048	meter per second (m/s)
foot per day (ft/d)	0.3048	meter per day (m/d)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
cubic foot per second per square mile [$(ft^3/s)/mi^2$]	0.01093	cubic meter per second per square kilometer [$(m^3/s)/km^2$]
mile per hour (mi/h)	1.609	kilometer per hour (km/h)
gallon per minute (gal/min)	0.06308	liter per second (L/s)
gallon per day (gal/d)	0.003785	cubic meter per day (m^3/d)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m^3/s)

INCH-POUND TO METRIC (continued)

Multiply Inch-pound units	by	To obtain SI units
Flow		
million gallons per day per square mile [(Mgal/d)/mi^2]	1,460	cubic meter per day per square kilometer [(m^3/d)/km^2]
Mass		
ounce, avoirdupois (oz)	28.35	gram (g)
pound, avoirdupois (lb)	453.6	gram (g)
ton, short	0.9072	megagram (Mg)
Temperature		
degree Fahrenheit (^{o}F)	^{o}C = 5/9 (^{o}F-32)	degree Celsius (^{o}C)
Specific capacity		
gallon per minute per foot [(gal/min)/ft]	0.2070	liter per second per meter [(L/s)/m]
Specific conductance		
micromho per centimeter at 25^o Celsius (umhos/cm at 25^{o}C)	1.000	microsiemen per centimeter at 25^o Celsius (uS/cm at 25^{o}C)
Hydraulic conductivity		
foot per day (ft/d)	0.3048	meter per day (m/d)
Transmissivity		
square foot per day (ft^2/d)	0.09290	square meter per day (m^2/d)
Pressure		
pound per square inch (lb/in.^{2})	6.895	kiloposcal (kPa)

METRIC TO INCH-POUND

Multiply SI units	by	To obtain inch-pound units
	Length	
millimeter (mm)	0.03937	inch (in.)
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
	Area	
hectare	2.471	acre
square centimeter (cm^2)	0.155	square inch ($in.^2$)
square centimeter (cm^2)	0.001076	square foot (ft^2)
square meter (m^2)	0.0002471	acre
square meter (m^2)	10.76	square foot (ft^2)
square kilometer (km^2)	0.3861	square mile (mi^2)
	Volume	
liter (L)	33.82	ounce, fluid (oz)
liter (L)	2.113	pint (pt)
liter (L)	1.057	quart (qt)
liter (L)	0.2642	gallon (gal)
cubic meter (m^3)	35.31	cubic foot (ft^3)
cubic meter (m^3)	264.2	gallon (gal)
cubic meter (m^3)	0.0008107	acre-foot (acre-ft)
cubic hectometer (hm^3)	810.7	acre-foot (acre-ft)
cubic kilometer (km^3)	0.2399	cubic foot (ft^3)
	Flow	
meter per second (m/s)	3.281	foot per second (ft/s)
meter per day (m/d)	3.281	foot per day (ft/d)
cubic meter per second (m^3/s)	35.31	cubic foot per second (ft^3/s)
cubic meter per second per square kilometer [$(m^3/s)/km^2$]	91.49	cubic foot per second per square mile [$(ft^3/s)/mi^2$]
kilometer per hour (km/h)	0.6214	mile per hour (mi/h)
liter per second (L/s)	15.85	gallon per minute (gal/min)
cubic meter per day (m^3/d)	264.2	gallon per day (gal/d)
cubic meter per second (m^3/s)	22.83	million gallons per day (Mgal/d)
cubic meter per day per square kilometer [$(m^3/d)/km^2$]	0.0006849	million gallons per day per square mile [$(Mgal/d)/mi^2$]

METRIC TO INCH-POUND (Continued)

Multiply SI units	by	To obtain inch-pound units
	Mass	
gram (g)	0.03527	ounce, avoirdupois (oz)
gram (g)	0.002205	pound, avoirdupois (lb)
megagram (Mg)	1.102	ton, short
	Temperature	
degree Celsius (^{o}C)	$F = 9/5^{o}C + 32$	degree Fahrenheit (^{o}F)
	Specific capacity	
liter per second per meter [(L/s)/m]	4.831	gallon per minute per foot [(gal/min)/ft]
	Specific conductance	
microsiemen per centimeter at 25° Celsius (uS/cm at 25°C)	1.000	micromho per centimeter at 25° Celsius (umho/cm at 25°C)
	Hydraulic conductivity	
meter per day (m/d)	3.281	foot per day (ft/d)
	Transmissivity	
square meter per day (m^2/d)	10.76	square foot per day (ft^2/d)
	Pressure	
kilopascal (kPa)	0.1450	pound per square inch ($lb/in.^2$)

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Use of Metric (SI) and Inch-Pound Units

4.01.3 Sources of additional information on use of metric system

The following books and pamphlets describe in detail the procedures, units, conversion factors, and abbreviations used in converting values from one system of measurement to the other.

American National Metric Council, 1978, Metric editorial guide (3d ed.): Washington, D.C., 17 p.

American Society for Testing and Materials, 1974, Metric practice guide--a guide to the use of SI, the international system of units: American Society for Testing and Materials, 34 p.

-----1976, Standard for metric practice: American Society for Testing and Materials, 36 p.

Johnson, A. I., 1964, Conversion factors and miscellaneous tables: U.S. Geological Survey Open-File Report, 19 p.

National Bureau of Standards, 1977, The international system of units (SI): National Bureau of Standards Report E380-76, 41 p.

Pedde, L. D., and others, 1978, Metric manual: U.S. Bureau of Reclamation, 278 p.

U.S. Geological Survey, 1977, Conversion factors--SI metric and U.S. Customary Units: U.S. Geological Survey, 12 p. (folder).

U.S. Geological Survey, 1978, Suggestions to Authors of the reports of the United States Geological Survey (6th ed.): Washington, D.C., p. 192-196.

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Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Significant Figures

4.02.1 Conversion and rounding[1]

A. For everyday rounding of metric values obtained by converting inch-pound values, the following simplified rules are suggested. More detailed rounding rules are given in American National Standard Metric Practice, Publication Z210.1-1976, section 4; in Metric Manual, 1978, Bureau of Reclamation, p. 175-183; and in Suggestions to Authors (6th ed., p. 197-202).

1. If the inch-pound value is expressed by a combination of units, such as feet and inches or pounds and ounces, first express it in terms of the smaller unit of measurement.

   Example: 14 ft 5 in. = 173 in.

2. If the digits to be discarded begin with a 5 or more, increase by one the last digit retained.

   Example: 8.3745, if rounded to three digits, would be 8.37; if rounded to four digits, 8.375.

3. Multiply the inch-pound value by the conversion factor. If the first significant[2] digit of the metric value is equal to or larger than the first significant digit of the inch-pound value, round the metric value to the same number of significant digits as there are in the inch-pound value.

   Examples: 11 mi x 1.609 = 17.699 km
   which rounds to 18 km

   61 mi x 1.609 = 98.149 km
   which rounds to 98 km

   If the first significant digit of the metric value is smaller than the first significant digit of the inch-pound value, round to one or more significant digits, as appropriate.

   Example: 8 ft x 0.3048 = 2.4384 m
   which rounds to 2.4 m

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[1] Modified from American National Metric Council, 1978, Metric editorial guide: Washington, D.C., p. 12-13.

[2] One or more zeros at the beginning of a number are not called "significant." Zeros at the end of a number are not considered significant unless their use results in a number that is closer to the true value than would be the case if the number were increased or decreased by 1.

4. Exceptions: It is sometimes better to round to one less digit than specified above. For example, according to rule (3), 26 pounds per square inch air pressure in an automobile tire would be converted as follows:

$$26 \text{ lb/in.}^2 \times 6.895 = 179.27 \text{ kPa}$$
which rounds to 179 kPa,

but 180 kPa, where the zero is not a significant digit, would usually be better because tire pressures are not expected to be very precise. The rules do not apply to conversion of ^{o}Fahrenheit to ^{o}Celsius.

5. The simplified rules given above do not eliminate the necessity for judgment. If you believe that a dimension given as 8 ft is valid to the nearest 1/10 inch, you should consider it to mean 96.0 inches (rule 1) and treat it as having 3 significant digits. The rounded dimension would then be 2.438 m, instead of 2.4 m.

B. Where a customary value represents a maximum or minimum limit that must be respected, the rounding must be in the direction that does not violate the original limit.

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.1 Numbers, hyphens, fractions and decimals, combined units.

A. Numbers

1. Use figures for isolated numbers 10 and larger; spell out numbers smaller than 10, except as indicated in item 2 below. Where a series of numbers is given in a sentence, some 10 and larger and some less than 10, use figures for all:

   3 pipes and 12 beakers the 6th and 12th page

2. Use figures with all units of measurement:

   a 3-mL sample a 5-year study
   samples of 0.2 and 5 g dried for 8 days

   Note: Leave a space between the value and the unit: 35 mm; not 35mm

3. Use commas in four-digit integer numbers: 2,400 analyses

   Exception: In table columns listing data in inch-pound units, use commas only in numbers of five digits or more except where necessary for alinement with larger values:

3400	23,000
1250	17,500
1400	2,100

   Note: Spaces, not commas, are used in reporting values in SI units in text, tables, and figures.

4. When two kinds of units follow in succession, spell out the first value.

   three 100-mL beakers ten 3-kg samples

5. Numbers at the beginning of a sentence should be spelled out. (Preferably, the sentence should be rephrased to avoid beginning with a number.)

   Twenty-six slides were prepared.

6. Centimeters as a linear unit are no longer used in the SI system and should not be used in Geological Survey reports--use millimeters or meters. Square centimeters (cm^2) is an acceptable unit in Geological Survey reports.

B. Hyphens

1. Avoid use of a hyphen in text to represent the word "to": Write "Concentration ranged from 10 to 15 mg/L," not "...from 10-15 mg/L." Write "Use a 5- to 6-inch width," not "a 5-6 inch width."

   Exceptions: A single (1-en) dash may be used to indicate a range given in parentheses:

   Flow rates are relatively small (5-10 mL/s).

   When a list of ranges is given in a table, hyphens may be used:

Range of median values
0.3 - 0.6
1.2 - 1.8

2. When a number is used as an adjective, place a hyphen between the number and the word or symbol. If the value is not used as an adjective, do not hyphenate.

a 5-lb bass	the bass weighed 5 lb
a 20-mi reach	the reach was 20 mi long

   When two or more numbers are used as adjectives to modify the same term, use a hyphen after each:

   25-, 50-, and 100-m distances

C. Fractions and decimals

1. Decimal notation is preferred to fractions, but simple fractions are acceptable (except in engineering drawings):

   3.5 mm (preferred) $3\frac{1}{2}$ mm or 3 1/2 mm (acceptable)

2. Place a zero before the decimal point in text to prevent the possibility that a faint decimal point will be overlooked.

   0.54, not .54

   The use of a zero before the decimal point is especially important in powers of a number, as in

   $x = 24\ y^{0.2}$

   Exceptions: In table columns, use a zero in a data column for the first entry under a cross rule or total line if the first entry is less than 1. Also, a zero should precede the decimal point in all multiplication factors less than 1 in conversion tables.

D. Combined (compound) units

Compound units are those formed by combining units by means of mathematical symbols, for example m/s, Mgal/d.

1. Compound units, when written out, should use the word "per" in place of the slash:

   m/s = meters per second, not meters/second

   Although compound units are sometimes written with negative exponents ($km \cdot h^{-1}$), this style is not commonly used in Water Resources Division publications. Use km/h, if possible.

2. When more than one slash is used in a compound unit, add parentheses to avoid ambiguity:

   gallon per day per foot = (gal/d)/ft, not gal/d/ft

   When the entire value is used parenthetically, enclose it in brackets to avoid duplicate parentheses:

   [(gal/d)/ft]

3. A ratio of two values of the same unit may be expressed as a fraction (either common or decimal) or as a percentage, to avoid needless diversity of unit multiples:

   a slope of 10 mm/m = 1/100 or 0.01 or 1 percent

   a ratio of 1:10 = 1/10 or 0.1 or 10 percent

4. Inch-pound units should not be used in combination with metric units, with the exceptions of Mgal and μmho, which are hybrids of SI and inch-pound units:

   kg/m^3, not kg/ft^3

   kg/m, not lb/m

Reference: Suggestions to Authors (5th ed.), p. 194-197. GPO Style Manual, p. 170-185.

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Article 4.03.2

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.2 Typewriter symbols

The following symbols should be available on typewriters to produce manuscript copy:

Superscript ^{2} and ^{3} (for squared and cubed).

Greek lowercase mu (μ) for micro.

° for degree.

· for a product dot for symbols derived as a product.

Ω for ohm.

When the above symbols are not available, the following substitutions can be used:

Superscripts or subscripts can be simulated by rolling the platen up or down slightly and using the arabic numeral (mi^2,C_1);

Degree sign (°) can be simulated by rolling the platen and using a lowercase "o" (30°C);

Product dot (·) can be simulated by rolling the platen and using the period (x·y);

Lowercase Greek letter mu (μ) can be approximated by using a lowercase u and adding the tail by hand (μ).

Italic letters and words should be indicated by underscoring. (In camera-ready copy, the underscore is deleted and the designated words are typed in italics.)

Reference:

Society for Technical Communication, 1976, Typing guide for mathematical expressions: Society for Technical Communication, Washington, D.C., 37 p.

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Article 4.03.3

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.3 Units of pressure[1]

Kilopascal (kPa) is the unit recommended for fluid pressure, for almost all applications such as barometric pressure, gas pressure, and water pressure. A notable exception is in air conditioning, where pressure differentials are given in pascals (Pa); another is the measurement of high vacuum in terms of absolute pressure, for which Pa, mPa, and so forth are more convenient.

Do not use bar (10^5 Pa) or millibar (10^2 Pa) because they are not SI units. They are also objectionable because their use introduces too many different units, requiring frequent conversions to the preferred SI unit kPa (10^3 Pa), with consequent chance for decimal-point errors.

Absolute pressure is specified either by the identification "absolute pressure" or by adding the word "absolute" after the unit symbol. Do not add the unit symbol "g" for gage or "a" for absolute.

Examples: at a gage pressure of 13 kPa;

13 kPa, absolute

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1 Modified from American National Metric Council, 1978, Metric editorial guide: Washington, D.C., 17 p.

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EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS

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Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--Geologic Names

5.01.1 Capitalization and formal use of nomenclature

A. Capitalize the following (examples are in parentheses):

1. Geologic-time and time-stratigraphic units:

   a. Phanerozoic Eon, Phanerozoic Eonothem

   b. Mesozoic Era, Mesozoic Erathem

   c. Cretaceous Period, Cretaceous System

   d. Late Cretaceous Epoch, Upper Cretaceous Series or Gulfian Series (provincial series)

   e. Cenomanian Age, Cenomanian Stage

2. Rock-stratigraphic units:

   a. Supergroup (Belt Supergroup)

   b. Group (Glen Canyon Group)

   c. Formation (Chinle Formation)

   d. Member (Rock Point Member)

   e. Bed (formal use) (Sonsela Sandstone Bed)

   f. Glacial terms (formal use) (Wisconsin Drift, Salmon Springs Drift, and Stuck Till in Pacific Northwest; Roxana Silt and Peoria Loess in Illinois)

3. Geologic-climatic units (Wisconsin Glaciation, Tazewell Stade, Two Creeks Interstade, Sangamon Interglaciation.)

Geologic names of the types listed above should be capitalized in material that is indirectly quoted or modified from another source, such as in correlation tables, columnar sections, and maps. However, quoted material should be left in its original form.

B. Do not capitalize the following terms (examples are in parentheses):

1. Economic terms:

   a. cyclothems (St. David cyclothem)

   b. coal beds (Big Horn seam or bed)

   c. oil sands (McClosky sand)

   d. quarry beds (Tennessee marble)

   e. aquifers (Biscayne aquifer)

2. Informal, morphologic, or genetic terms:

   a. sequence (Sauk sequence)

   b. facies (Catskill facies)

   c. moraine (Harbor Hill moraine)

   d. pluton, stock, and batholith (Loon Lake pluton, Idaho batholith)

3. Informal use of the terms:

   a. age (fossils of early Tertiary age)

   b. stage (Lake Bonneville stage)

   c. time or stratigraphic position terms (early Paleozoic time or lower Paleozoic rocks)

C. For computer printouts in which lowercase is unavailable: The Chairman of the Geologic Names Committee has established the following guidelines for reports that have computer printouts containing stratigraphic units or map symbols.

- Stratigraphic units or map symbols on the computer printouts should be all capital letters, for example, QUATERNARY ALLUVIUM, QAL.

- Stratigraphic units or map symbols in parts of the report other than computer printouts should be shown in capital and lowercase letters for example, Quaternary alluvium, Qal.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Geologic Names

5.01.2 Major geologic-time and time-stratigraphic units

Subdivisions in use by the U S Geological Survey (and their map symbols)					Age estimates[1] of boundaries in million years (m y)	
Phanerozoic Eon or Eonothem	Cenozoic Era or Erathem (Cz)	Quaternary Period or System (Q)		Holocene Epoch or Series	0.010	
				Pleistocene Epoch or Series	2	(1.7-2.2)
		Tertiary Period or System (T)	Neogene Subperiod or Subsystem (N)	Pliocene Epoch or Series	5	(4.9-5.3)
				Miocene Epoch or Series	24	(23-26)
			Paleogene Subperiod or Subsystem (Pε)	Oligocene Epoch or Series	38	(34-38)
				Eocene Epoch or Series	55	(54-56)
				Paleocene Epoch or Series	63	(63-66)
	Mesozoic Era or Erathem (Mz)	Cretaceous Period or System (K)		Late Cretaceous Epoch or Upper Cretaceous Series	96	(95-97)
				Early Cretaceous Epoch or Lower Cretaceous Series	138	(135-141)
		Jurassic Period or System (J)			205	(200-215)
		Triassic Period or System (Tr)			~240	
	Paleozoic Era or Erathem (Pz)	Permian Period or System (P)			290	(290-305)
		Carboniferous Periods or Systems (C)	Pennsylvanian Period or System (IP)		~330	
			Mississippian Period or System (M)		360	(360-365)
		Devonian Period or System (D)			410	(405-415)
		Silurian Period or System (S)			435	(435-440)
		Ordovician Period or System (O)			500	(495-510)
		Cambrian Period or System (Є)			~570[2]	
Proterozoic Eon or Eonothem (Pz)	Proterozoic Z (Z)[3]				800	
	Proterozoic Y (Y)[3]				1,600	
	Proterozoic X (X)[3]				2,500	
Archean Eon or Eonothem (A)	Oldest known rocks in U S.				3,600	

[1] Ranges reflect uncertainties of isotopic and biostratigraphic age assignments. Age of boundaries not closely bracketed by existing data shown by ~. Decay constants and isotope ratios employed are cited in Steiger and Jager (1977)

[2] Rocks older than 570 m y also called Precambrian (pЄ), a time term without specific rank

[3] Time terms without specific rank

This chart was prepared by G.A. Izett, M.A. Lanphere, M.E. MacLachlan, C.W. Naeser, J.D. Obradovich, Z.E. Peterman, M. Rubin, T.W. Stern, and R.E. Zartman at the request of the Geologic Names Committee. The chart is intended for use by members of the U.S. Geological Survey and does not constitute a formal proposal for a geologic time scale. Estimates of ages of boundaries were made after reviewing published time scales and other data. Future modification of this chart will undoubtedly be required. The general references apply where references are not given for specific boundaries.

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Article 5.01.3

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Geologic Names

5.01.3 Provincial series accepted for use in Water Resources Division reports

Series	Age	Region
Gulfian	Late Cretaceous	Texas, Louisiana, Oklahoma, Arkansas, Mississippi, and Alabama.
Comanchean	Early and Late Cretaceous	Do.
Coahuilan	Early Cretaceous	Texas, Louisiana, Arkansas, Mississippi, and Alabama.
Ochoan	Late Permian	Texas and New Mexico.
Guadalupian	Early and Late Permian	Do.
Leonardian	Early Permian	Do.
Wolcampian	Early Permian	Do.
Virgilian	Late Pennsylvanian	Arkansas, Oklahoma, Kansas, Missouri, Nebraska, and Iowa.
Missourian	---do---	
Des Moinesian	Middle Pennsylvanian	
Atokan	---do---	Do.
Morrowan	Early and Middle Pennsylvanian	Do.
Chesterian	Late Mississippian	Indiana, Kentucky, Tennessee, Illinois, Iowa, Missouri, and Arkansas.
Meramecian	---do---	
Osagean	Early Mississippian	
Kinderhookian	---do---	
Cayugan	Late Silurian	New York, Michigan, and Wisconsin.
Niagaran	Middle Silurian	Do.
Alexandrian	Early Silurian	Missouri, Illinois, Michigan, and Wisconsin.
Cincinnatian	Late Ordovician	Ohio, Indiana, Kentucky, Tennessee, Michigan, Wisconsin, and Iowa.
Canadian	Early Ordovician	United States.
St. Croixan	Late Cambrian	Iowa, Minnesota, Wisconsin, and Michigan.

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Geologic Names

5.01.4 Stratigraphic names not accepted by the Geological Survey

Before preparing a manuscript, authors should check with the Geologic Names Committee to find out what stratigraphic names have been adopted for use in the study area. If an author wishes to introduce a new name, he/she should write or call the Geologic Names Committee (Mail Stop 902, National Center, FTS 928-6511) requesting approval and reservation of the name for his/her use. If the name has not been preempted, it will be reserved for use by the author. The use of names other than those specified by the Geologic Names Committee should be cited as coming from another author's work, such as the Branchtown Clay of Lewis (1881), and the citation should be included in the References section of the report. Names that have not been cited previously or do not have the Geologic Names Committee's approval may not be used. (Use of disclaimer is described in article 5.01.5.)

References:

U.S. Geological Survey, 1966, Lexicon of geologic names of the United States for 1936-60: U.S. Geological Survey Bulletin 1200, 3 volumes.

----- 1970, Lexicon of geologic names of the United States for 1961-67: U.S. Geological Survey Bulletin 1350, 848 p.

----- 1981, Lexicon of geologic names of the United States for 1968-75: U.S. Geological Survey Bulletin 1520, 342 p.

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Geologic Names

5.01.5 Geologic name disclaimers

A geologic name disclaimer qualifies a geologic classification or nomenclature that is used in a report to be published outside the Geological Survey. The purpose of the disclaimer is to prevent misunderstanding regarding the use of names that are not accepted by the U.S. Geological Survey. The disclaimer states that the Geological Survey does not recognize some or all of the geologic names used in the report. The disclaimer should be placed on the title page if the report has not been edited, or in the introduction or the geologic section, or on both if the stratigraphic nomenclature does not follow Geological Survey usage. One of the following forms should be used:

> "The stratigraphic nomenclature used in this report does not conform to the usage of the U.S. Geological Survey."
>
> "The stratigraphic nomenclature used in this report was determined from several sources and may not necessarily follow usage of the U.S. Geological Survey."
>
> "The stratigraphic nomenclature used in this report is that of the _____ and does not necessarily follow usage of the U.S. Geological Survey."

In special instances, where stratigraphic nomenclature of the publications cited is obsolete, the author may indicate the current nomenclature in brackets.

Geologic disclaimers are occasionally used in Geological Survey publications such as bibliographic compilations.

Data reports may carry the disclaimer:

> "Not reviewed or edited for conformity with U.S. Geological Survey stratigraphic nomenclature."

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Geologic Names

5.01.6 Use of "Carboniferous"

When the Geological Survey adopted Mississippian and Pennsylvanian systems, it was necessary to retain the name Carboniferous. To identify the two systems with the Carboniferous, for correlation purposes, the term "Carboniferous System," and consequently just "Carboniferous," appeared on all map explanations, correlation charts, and tables embracing Mississippian and Pennsylvanian.

Since it has become well established that Mississippian and Pennsylvanian systems are found in the United States, it is no longer necessary to use the terms "Carboniferous System" or "Carboniferous" on map explanations, correlation charts, and tables. The terms may, however, be used in the text of reports as needed.

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Geologic Names

5.01.7 Adoption of "Holocene" and "Wisconsinan Stage"

A. Holocene.--Because many American geologists have found the formal term "Recent" can be confused with the word "recent," the Geological Survey adopted the term "Holocene" to replace "Recent" as a series subdivision of the Quaternary. Holocene is equal in rank to the Pleistocene.

B. Wisconsinan Stage.--"Wisconsinan Stage" of the Pleistocene has been adopted as a provincial stage in Illinois and Wisconsin. The designation "of Wisconsinan Age" is not restricted to Illinois and Wisconsin; it may be used wherever the stage names apply. Similarly, use of the geologic climate terms such as Wisconsin Glaciation and Illinoian Glaciation is not restricted to these States. The adoption of Wisconsinan Stage represents the Geological Survey's first use of stage as a time-stratigraphic term in the Pleistocene.

References:

Cohee, G. V., 1970, Stratigraphic nomenclature in reports of the U.S. Geological Survey: American Association of Petroleum Geologists Bulletin, v. 52, p. 852.

Frye, J. C., Willman, H. B., Rubin, Meyer, and Black, R. F., 1968, Definition of Wisconsinan Stage: U.S. Geological Survey Bulletin 1274-E, 22 p.

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WATER RESOURCES DIVISION PUBLICATION GUIDE

Article 5.01.8

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Geologic Names

5.01.8 Use of "Paleogene" and Neogene"

The terms "Paleogene" (including the Paleocene, Eocene, and Oligocene) and "Neogene" (including the Miocene and Pliocene) have never been officially adopted by the Geological Survey but have been allowed for informal use in texts if adequately defined. These terms are accepted usage by most European geologists, the Deep Sea Drilling Project, and the International Committee on Neogene stratigraphy. To bring Survey usage into conformance with most of the profession, the Water Resources Division will recognize and use the terms "Paleogene" and "Neogene" as subsystems of the Tertiary System. The boundary between the Paleogene and the Neogene subsystems equates with the Oligocene-Miocene boundary.

Reference: Memorandum from Chief Geologist, June 20, 1978.

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Geologic Names

5.01.9 Classification of the "Precambrian" and formal recognition of "Phanerozoic"

In 1978, the Chief Geologist issued a memorandum formally accepting the terms Archean and Proterozoic Eons as subdivisions of the Precambrian and Phanerozoic Eon as the coordinate eon for post-Precambrian time. The Chief Geologist granted approval for:

1. Recognition by the Survey of the Archean and Proterozoic Eons as the two major time units constituting Precambrian time, with the boundary between Archean and Proterozoic placed at 2,500 million years. This is the boundary of Precambrian W and X of the Survey's present scale.

2. Pending international agreement on subdivision of the Archean, rocks of Archean age are classified simply as Archean instead of Precambrian W.

3. Pending international agreement on subdivision of the Proterozoic, the subdivisions X, Y, and Z of the Survey's present Precambrian scale continue unchanged as subdivisions of the Proterozoic.

4. Recognition by the Survey of the Phanerozoic Eon as the major unit constituting post-Precambrian time. The term is to be used only in title and text but not as a map symbol.

5. The map symbols are as follows:

Proterozoic	- P	(X, Y, Z will continue to represent lower, middle, upper Proterozoic)
Archean	- A	

Reference: Memorandum from Chief Geologist, June 20, 1978.

page 210 follows

Article 5.01.10

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Geologic Names

5.01.10 Geologic names versus aquifer names

All reports should clearly distinguish between formal rock-stratigraphic units and water-bearing stratigraphic units that are called aquifers.

Rock-stratigraphic names vs. aquifer names

If the geographic part of a formal rock-stratigraphic name is used with the term "aquifer," the report must describe the rock-stratigraphic unit in the area (including age) that is the aquifer. Where possible, a table should show the relationship between the formal stratigraphic unit and the aquifer as follows: System and series; stratigraphic (geologic) unit; thickness; lithology; hydrologic unit (aquifer and confining bed); and hydrologic characteristics.

General guidelines to aquifer names

A. Aquifer names for regional interstate ground-water investigations should be coordinated through the Ground Water Branch and the Geologic Names Committee.

B. Do not use the name of a rock-stratigraphic unit for an aquifer name unless the unit is part of the aquifer. If an aquifer includes an abandoned or a geographically restricted rock-stratigraphic unit, the newly assigned stratigraphic name is used as an aquifer name.

C. If an aquifer crosses State boundaries, the name includes the local rock-stratigraphic units in each area. For example, the lower Hell Creek-Fox Hills aquifer of Montana becomes the lower Lance-Fox Hills aquifer of Wyoming.

D. The term "aquifer system" is used for two or more aquifers and their confining beds.

E. Do not mix descriptions of aquifers with descriptions of rock-statigraphic units. For example,

1. Hydrologic information on potentiometric surface, hydraulic conductivity, porosity, and so forth describes the aquifer, not the rock-stratigraphic unit.

2. Geologic information on dip, strike, plunge, and deposition of sediments, etc. describes the rock-stratigraphic unit, not the aquifer.

F. Do not use the binomial name of a rock-stratigraphic unit with the term "aquifer;" use the geographic part only.

Madison aquifer--not Madison Group aquifer

Edwards aquifer--not Edwards Limestone aquifer

G. Usage:

Water from the Madison aquifer--not Madison water
Wells completed in Madison Limestone (or aquifer)--not Madison wells
Outcrop of Madison Limestone (or aquifer)--not Madison outcrop

Of course, usage will vary depending on context and structure of the sentence.

H. Use of formal aquifer names (for example, Floridan, Chicot, Pocomoke) for unnamed and named rock-stratigraphic units should be consistent in a report. If possible, the formal aquifer names should be included in table under "hydrologic unit" to show the relationship with the unnamed and named rock-stratigraphic units.

Multiple-named aquifers

Examples of how to define multiple-named aquifers are given below.

A. If an aquifer includes all or part of two superimposed rock-stratigraphic units, the aquifer name is hyphenated with the younger unit first; for example, the lower Hell Creek-Fox Hills aquifer is in the lower part of the Upper Cretaceous Hell Creek Formation and Fox Hills Sandstone.

B. If an aquifer includes three or more superimposed rock-stratigraphic units, the aquifer name is hyphenated and includes all units with the youngest unit first, or the aquifer name is hyphenated and includes the youngest and oldest units. For example, the Galena-Platteville aquifer is in Ordovician Galena Dolomite (youngest), Decorah Shale (Formation), and Platteville Formation.

Exception--If the middle rock-stratigraphic unit is the primary aquifer, that name may be used provided that the overlying and underlying stratigraphic units are identified. For example, the Edwards aquifer is in the Cretaceous Georgetown Limestone (youngest), Edwards Limestone, and Comanche Peak Limestone. Aquifer units may vary in different areas.

C. An aquifer that includes many rock-stratigraphic units that are hydraulically interconnected vertically and laterally should be assigned a proper name with the approval of the District, Region, Ground Water Branch, and Geologic Names Committee.

Exception--If a geographic name of one of the rock-stratigraphic units in the aquifer is entrenched in the area or is a legal term in interstate regulations, that name may be used under the following condition:

> The aquifer must be formally defined in a report under an appropriate heading, such as "Definition of the Aquifer." For example, "The Madison aquifer is named for, but distinguished from, the Mississippian Madison Limestone (Group), and in this area is herein defined to include _____." List or describe rock-stratigraphic units and age from youngest to oldest.

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Article 5.02.1

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Terminology

5.02.1 Designation of time

Authors should determine at the beginning of their report what time-designation system to use, and then should be consistent throughout the text and illustrations.

1. Most observations are made and published on a local standard-time basis. In reports containing references to time, the time basis should be clearly stated, preferably in the introduction.

2. In Geological Survey reports in which occasional or casual reference to clock time (for example, 2:10 p.m.) is made, the "a.m." and "p.m." designation should be used. Note that these terms are lowercased and "closed up."

3. In tables of data or in graphs, 24-hour time is useful and easily interpreted (for example, 1410 hours). In reports that of necessity use 24-hour time in some particular section, for example in tables, references to time in the accompanying text should also use 24-hour time for consistency. If a report is expected to reach a large audience unfamiliar with 24-hour time, clock time (a.m. and p.m.) may be added parenthetically in the text.

4. In work in which precise synoptic measurements are needed, a special kind of 24-hour time may be used. These measurements may be referred to universal time (u.t.), Greenwich mean time (G.m.t.), or Greenwich civil time (G.c.t.), and are written 14:10:01.1 (2:10 p.m. plus 1.1 seconds).

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Terminology

5.02.2 Use of "percent" and "percentage"

A. Percent (one word) is used in the following ways:

1. After the word "in" -- in percent

2. In parentheses -- (percent)

3. After a number -- 10 percent

4. When alone at the head of a column -- Percent

5. In the established terms "percent sodium" and "weight percent"

B. Percentage is used in the following ways:

1. Where not preceded by a number -- a small percentage.

2. Where common usage dictates, for example:

- percentage of particles finer than indicated size

- percentage of time flow was equaled or exceeded

- 5 percentage points.

The symbol "%" should not be substituted for "percent" except in tables where space is insufficient for the complete word.

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Article 5.02.3

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--Terminology

5.02.3 Use of "altitude" and "elevation"

The word "altitude" refers to distance above or below the National Geodetic Vertical Datum of 1929. (See article 5.02.7.) Its use is not affected by whether the distance is above or below land surface.

The word "elevation" can convey two meanings--distance and uplift. Authors of hydrologic reports describing surface-water relationships commonly use elevation to refer to distance above or below some datum that is arbitrarily assigned or is sea level. Authors of geologic reports often use elevation to indicate uplift.

To eliminate as much ambiguity as possible in usage of the two words, the following is recommended:

Altitude

1. Use in geologic and geohydrologic reports in the main text, in the explanation of contours on maps, in axis labels on graphs, and in axis labels of illustrations showing vertical sections such as geologic sections.

2. Use in hydrologic reports describing principally ground-water relationships in the text and illustrations.

3. Use in other types of reports where custom does not dictate use of elevation.

Elevation

1. Use in hydrologic reports describing principally surface-water relationships in the text and illustration.

2. Use in geologic and geohydrologic reports to indicate uplift.

3. Do not use in geologic or geohydrologic reports to indicate distance above or below sea level.

The words "altitude" and "elevation" should not be used interchangeably in the same report.

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Article 5.02.4

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISON MANUSCRIPTS--Terminology

5.02.4 Use of "concentration" and "content," and "load," "discharge," and "yield"

A. Use of "concentration" and "content"

1. "Concentration" expresses the mass or number per unit volume or area of a water-quality constituent or characteristic. Units of measurement most frequently used are milligrams or micrograms per liter for dissolved constituents and suspended sediment, tons per acre-foot (or metric equivalent) for dissolved solids and suspended sediment, and number of colonies per 100 milliliters for bacteria.

2. "Content" expresses quantity; for example, the value obtained by multiplying concentration by volume. Content is often expressed in volume, mass, or weight, such as reservoir content, in acre-feet, or as suspended-sediment content of a reserovir, in tons.

3. The words "concentration" and "content" should not be used interchangably in reports.

4. Although the term "total dissolved solids" appears in some literature, the Geological Survey prefers the term "dissolved solids." The word "total" should be used only when a direct quotation is made from a reference.

The following examples show conventional usage of "concentration" and "content."

a. Dissolved-solids concentration of 250 mg/L.
Concentration of dissolved solids was 250 mg/L.

b. Chloride concentration has increased.
Concentration of chloride has increased.

c. The sodium concentration of ground water has increased.
The concentration of sodium in ground water has increased.

d. Concentration of 250 µg/L iron.

e. A suspended-sediment concentration of 15 mg/L was noted.

f. Suspended-sediment concentration in the stream was 10 mg/L.

g. The content of the reservoir was 315,000 acre-feet.

h. The suspended-sediment content of the reservoir was 3,450 tons.

B. Use of "load," "discharge," and "yield"

1. "Load" is a general term that refers to the material or constituent in solution, suspension, and (or) in transport. It is not synomymous with discharge, yield, or concentration, and is usually expressed in terms of mass or volume--for example, grams, tons, cubic feet.

2. "Discharge" is the mass or volume of material or a constituent passing a stream transect in a unit of time. It is a rate and usually is expressed in terms of mass or volume per unit time--for example, tons per day, grams per second, cubic feet per second.

3. "Yield" is a measurement of load or discharge per unit area--for example, tons per square mile, grams per square centimeter per day, tons per square mile per year.

4. The use of these terms should be consistent with the units by which they are reported. Most often these terms should be qualified such as: suspended-sediment load, bedload, bed-material discharge, suspended-iron discharge, total sediment yield, total iron yield, chloride yield.

   The following are examples of proper usage of "load," "discharge," and "yield:"

   a. Load

      (1) the bed-material load for 1981 water year was 150,000 Mg.

      (2) the iron load during September 30 to October 15, 1980 was 25,000 Mg.

      (3) Bedload is the material in the water moving by rolling, sliding, and saltation on or near the stream bed.

   b. Discharge

      (1) the suspended-sediment discharge was 250 Mg/d.

      (2) the annual chloride yield for 1979 was 13 Mg/mi^2

      (3) the suspended-sediment yield was 1200 $(Mg/mi^2)/yr$

      (4) the sulfate yield from atmospheric deposition was 12 $(g/cm^2)/yr$.

Article 5.02.5

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Terminology

5.02.5 Revised ground-water terms

The ground-water terminology and corresponding units in Water-Supply Paper 1988[1] are standard for reports of the Geological Survey. As indicated by the Chief Hydrologist in his foreword to that report, "it is permissible to use different terms, if local circumstances or conditions so require, once the standard usage has been made clear."

The standardized terminology as presented in Water-Supply Paper 1988 and the terms they supersede are given below. Superseded terms should not be used except when in direct quotation or as required to meet local circumstances or conditions.

Superseded term	Standard term
Aquiclude, aquifuge, aquitard	Confining bed
Effluent stream	Gaining stream
Coefficient of permeability	Hydraulic conductivity
----	Intrinsic permeability
Influent stream	Losing stream
Piezometric contour	Potentiometric contour
Piezometric surface	Potentiometric surface
Phreatic zone	Saturated zone
Coefficient of transmissibility	Transmissivity
Vadose zone, zone of aeration	Unsaturated zone

[1] Lohman, S. W., and others, 1972, Definitions of selected ground-water terms--Revisions and conceptual refinements: U.S. Geological Survey Water-Supply Paper 1988, 21 p.

Remarks

With the adoption of the revised terminology, the unit for transmissivity becomes "cubic foot per day per foot of aquifer thickness" or "cubic meter per day per meter of aquifer thickness." In reduced form this becomes "foot squared per day" or "meter squared per day," but not "square foot per day" or "square meter per day" because this latter terminology would confuse the nontechnical reader.

Similarly, reducing the form for hydraulic conductivity to the lowest order gives foot per second, foot per day, meter per second, or meter per day. The image conveyed, for example, by "cubic foot per square foot per day" becomes in reduced form "foot per day," which conveys the image of a velocity. Accordingly, it is advisable to show both the expanded and reduced forms of a term where it first appears in the report, with a short statement in the text or in a footnote that explains the derivation of the reduced form. Thereafter, the reduced form may be used.

Article 5.02.6

Subject: EDITORIAL CONSIDERATIONS IN WATER RESOURCES DIVISION MANUSCRIPTS--
Terminology

5.02.6 Use of "Celsius" versus "Centigrade"

To promote uniformity in temperature nomenclature, the Water Resources Divison has adopted the policy of using the name "Celsius" in place of the term "Centigrade" in referring to metric temperature determination.

This editorial policy, which is observed also by the National Bureau of Standards, is in accord with the recommendation of the 11th General Conference (1960) on Weights and Measures, represented by 33 nations that subscribed to the Treaty of the Meter. The principal reasons for preference of Celsius are twofold: (1) with reference to the Kelvin thermodynamics scale, the term "centigrade" is not truly accurate, and (2), in French technical literature, "centigrade" is a term applied to the division of a quadrant of a circle.

References:

GPO Style Manual, 1973, p. 163.

Stimson, H. F., 1962, Celsius versus centigrade--the nomenclature of the temperature scale of science: Science, v. 136, no. 3512, April 20, p. 254-255.

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Article 5.02.7
Effective

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Terminology

5.02.7 National Geodetic Vertical Datum of 1929 (Water Resources Division Memorandum No. 81.16.)

November 26, 1980

WATER RESOURCES DIVISION MEMORANDUM NO. 81.16

Subject: PUBLICATIONS--Use of "National Geodetic Vertical Datum of 1929"

The reference surface to which relief features and altitude data of the conterminous United States and Alaska are related is the National Geodetic Vertical Datum of 1929, or in short, the NGVD of 1929. This datum has not been extended to Hawaii, nor to the Pacific Islands, Puerto Rico, or the Virgin Islands where local datums based on specific control data established at selected tide stations are used. The Geological Survey replaced "Sea Level Datum of 1929," and "mean sea level" following the issuing of the Acting Director's memorandum, dated February 18, 1978, and WRD Memorandum 78.84, dated March 21, 1978. This replacement is mandatory.

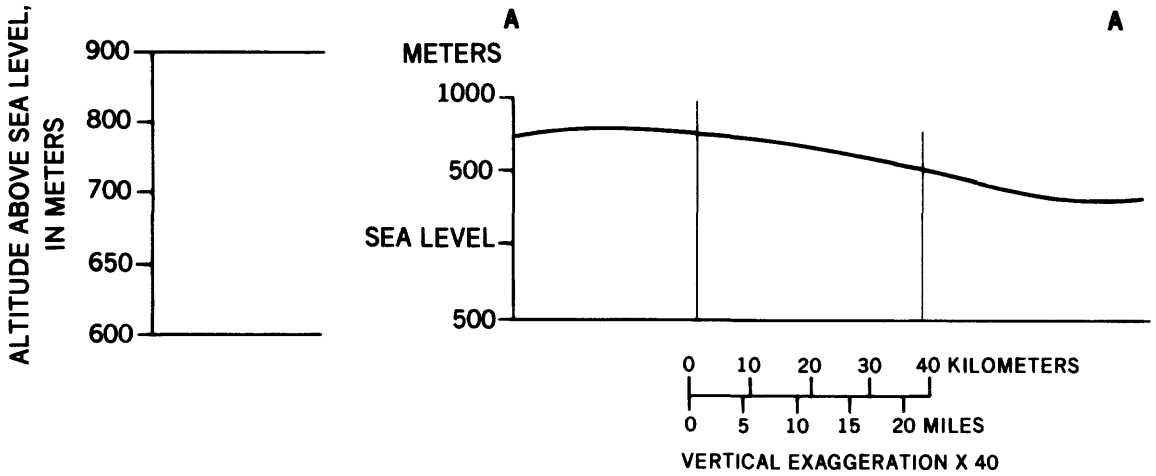
Until National Geodetic Vertical Datum of 1929 becomes a familiar term, it should be defined in our reports. The definition can be placed in a glossary, immediately after the conversion tables, or the introductory section of a report:

> *National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Level."*

The replacement has presented no problem with maps. In dealing with texts of reports, graphs, and geologic cross sections, there has been some difficulty in adjusting to or accommodating the new usage.

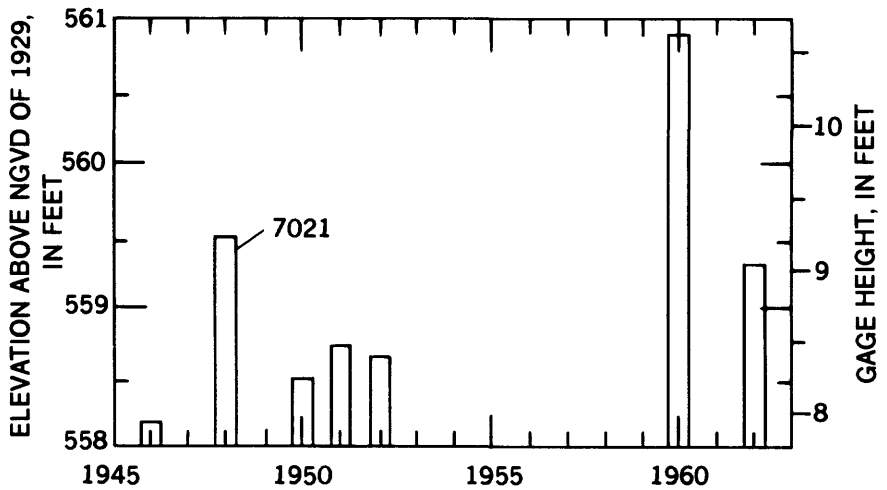
In order to avoid awkward phrasing in descriptive passages of book reports, add "NGVD of 1929 is referred to as sea level in this report" to the explanation of NGVD of 1929 that is given in the front of the report. In the text, on tables and figures, use "sea level" in place of "mean sea level." Examples of acceptable usage of graphs, profiles, and geologic cross sections are given on the attached sheet.

Robert J. Dingman
Assistant Chief Hydrologist
for Scientific Publications
and Data Management

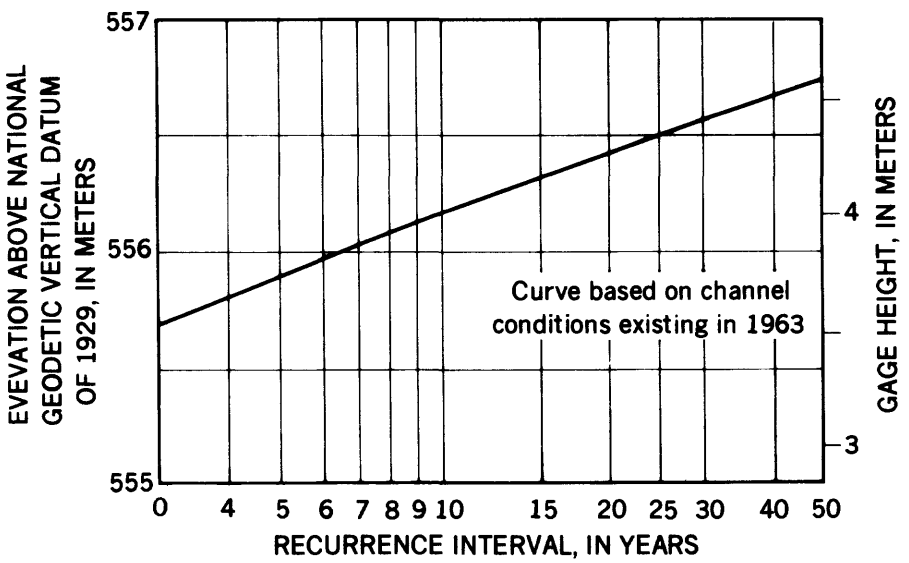


On Hydrologic Atlases, and Miscellaneous Investigations Maps where several kinds of geologic and hydrologic information are related to NGVD, use NGVD in descriptive texts, and in tables and on graphs and charts. Two examples of acceptable useage are:

Where space is limited, use the shortened datum



Where space permits, use the spelled out datum (preferred)



On geologic cross sections printed on HA- and I-map sheets, label zero altitude "NGVD of 1929."

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Terminology

5.02.8 Use of word "parameters"

Since the advent of computers, the word "parameters" has been used loosely to refer to almost any listed or grouped items having numerical values--such as water-quality constituents, aquifer properties, or basin features. Use of this term in Survey writings is discouraged because the meaning is imprecise and, for the most part, incorrect.

Authors will be clear as well as correct if they restrict their use of the word "parameter" to its mathematical meaning--the numerical value of a constant used as a referent for determining another variable, or as the values used in an equation or matrix. For example, in the equation set

$$2x - y = 0$$

$$6x - 3y = 0$$

the parameters are $\begin{matrix} 2 & -1 \\ 6 & -3 \end{matrix}$ (not x and y)

In tables containing lists of items and their values, the items should be grouped under an appropriate heading such as "properties," "constituents," "characteristics," "elements," or other descriptive term other than "parameter." The word "parameter" should be avoided except in reference to numerical values or the "parameter codes" in computer work.

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Article 5.03.1

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Editorial Style

5.03.1 Word division

Word division, or splitting a word at the end of a line by hyphenating, generally should be minimized because it introduces a potential for typesetting errors and gives an unesthetic appearance if done too frequently. When a word must be divided, one should consult a dictionary or the booklet "Word Division"[1] to determine where to place the hyphen because few people are able to remember all the rules and exceptions. Some of the rules are given below.

1. Wordbreaks generally may be made:

   a. After a short prefix (non-essential, pre-selected).

   b. Before the suffixes -able, -ible, -ing, -tion.

   c. Between letters of a double consonant (except call-ing).

   d. Between vowels if each vowel is pronounced separately (cre-ation).

   e. Between terms of a compound word (bar-keeper, ant-eater).

2. Wordbreaks should be avoided:

   a. In headings and titles.

   b. In the last word of a paragraph.

   c. In a one-letter or two-letter syllable (usu-ally, not u-sually or usual-ly).

   d. In one-syllable words.

   e. In short words (five letters or less).

   f. Within two-syllable prefixes (anti, micro, semi, multi, bromo, hydro, poly).

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[1] U.S. Government Printing Office, 1976, Word Division--Supplement to Government Printing Office Style manual, seventh edition: Washington, D.C., U.S. Government Printing Office, 190 p.

g. In the combined letters ai, ck, dg, gh, gn, oa, ph, sh, tch, and th.

h. Between "page" or "p." and the page number (and similar examples).

i. In words already hyphenated (tax-supported, not tax-supported).

j. In chemical formulas.

k. In proper names.

l. In numerical values (250,000, not 250,-000).

m. After two consecutive lines ending in hyphens.

n. At the end of a page.

Article 5.03.2

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Editorial Style

5.03.2 Compounding and hyphenation

A compound word is a fusion of two or more words to convey an idea more clearly than if they were separated. In some compound words, the terms are joined by a hyphen (forget-me-not), other words are "closed up" (bookkeeper), and several may be either hyphenated or written separately, depending on whether or not they are used as adjectives.

The question of whether to hyphenate, close up, or leave as two separate words is usually not a matter of being correct or incorrect, but of following convention to provide clarity. The preferred way to write most compound words is given in the GPO Style Manual, p. 73-130.

If the desired example or suitable analogy is not given there, one should consult a dictionary.

GENERAL SUMMARY

A. Write as separate words.--Any two words appearing in regular order where no ambiguity is present (walk in, book value, no one, living costs, flood plain, base flow, ground water).

B. Close up--(a) Common words containing two short nouns or a short verb or adverb, when only one syllable is accented (saltwater, freshwater, footnote, breakdown, setup); and (b) words with the short prefixes co, de, pre, non, sub, re (cooperation, deemphasize, preexisting, nontechnical, subdivision, reiterate), except to avoid doubling a vowel (anti-inflationary) or tripling a consonant (brass-smith, shell-like).

C. Hyphenate

1. After figures used as an adjective:

2- by 4-inch boards

8-, 10-, and 12-meter boards

2. Between two words that are combined to form an adjective:

   well-written book

   water-yielding deposit

Exception: Do not hyphenate when the first word is a comparative or superlative, or ends in -ly:

better drained soil	best selling novel
poorly sorted gravel	gradually rising levels

References:

U.S. Government Printing Office, 1976, Word Division--Supplement to Governmer Printing Office Style Manual, seventh edition: Washington, D.C., U.S. Government Printing Office, p. 73-130.

U.S. Geological Survey, Suggestions to Authors, 6th edition, p. 231-234.

GPO Style Manual, p. 73-130.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Editorial Style

5.03.3 Capitalization

It would be impossible to give rules that will cover every question concerning capitalization, but the GPO Style Manual (p. 23-71) and Suggestions to Authors (6th ed., p. 234-236) provide guidelines and a list that should promote uniformity. A summary of the main guidelines is given below:

A. Proper names and their derivatives are capitalized:

Washington	Italy	European	Keynesian

Exception: Derivatives of proper names with an independent meaning are lowercased:

roman type	plaster of paris	venetian blinds
brussels sprouts	canada balsam	macadam

B. A common noun used in reference to a proper noun is lowercased:

Panama Canal; the canal	Great Lakes; the lakes
Hudson River; the river	Hoover Dam; the dam
Sopchoppie County; the county	Washington; the city

C. The word "the" in association with a proper noun is lowercased, unless it is capitalized as part of the formal name:

The New York Times	the Netherlands
the Earth	the A&P

D. Names of organizations are capitalized:

U.S. Congress
Department of Agriculture; the Department
Publications Division; the Division
Census Bureau; the Bureau
Armed Forces

E. Names of domains and administrative divisions are capitalized only if used as part of proper names:

Commonwealth of Massachusetts, the Commonwealth
Province of Ontario, the Province
State of Maine, the State

F. Names of regions, localities, and geographic features are capitalized:

the Gulf States

the West, Midwest, Far West, Northeast

the Continental Divide

the Occident

the Western Hemisphere

the North Pole

the Temperate Zone

Exception: A term used to indicate mere direction or position is not a proper name and therefore not capitalized:

north

northward

central Europe

central area

eastern seaboard

G. Names of months are capitalized; names of seasons are lowercased.

H. Names of historic events, holidays, and religious days are capitalized:

Battle of Bunker Hill
Fourth of July
Renaissance
World War II
Veterans Day

I. In scientific names, the phylum, class, order, family, or genus is capitalized; the species is not: *Canis familiaris*

J. Capitalize Sun, Moon, Earth, and names of the planets.

K. Write rhodamine B, rhodamine WT.

L. Write Landsat, not LANDSAT.

M. Write Fortran, nor FORTRAN

N. Write WATSTORE, NAWDEX

Reference:

GPO Style Manual rules 9.8, 9.48, and 9.49 for "Standard Word Abbreviations" and "Coined Words and Symbols."

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5.03.4 Use of abbreviations

Abbreviations are used to save space and to avoid distracting the reader by needless spelling out of repetitious words or phrases. A comprehensive list of standard abbreviations is given in the GPO Style Manual, p. 149-168, and in Suggestions to Authors (6th ed.) p. 95-108. Abbreviations for units of measure are given in article 4.01.2, "Conversion factors and abbreviations." Some guidelines for the use of abbreviations in technical reports are given below.

1. General use.--(a) Abbreviations should be consistent throughout the report; that is, a term should be either abbreviated in the report or spelled out, but should not occur both ways. (b) The abbreviation should be spelled out in parentheses where it first appears. (c) The abbreviations used for units of measure in a report should be included in the table of conversion factors. Abbreviations not listed in the table of conversion factors should be spelled out in parentheses after their initial use. (d) The words figure, plate, number, page, volume, series, and so forth are abbreviated when given parenthetically, and should be abbreviated in reference lists.

2. In abstracts--Abbreviations should be avoided in abstracts. However, if a term is long and used frequently, it may be spelled out in parentheses and abbreviated thereafter--for example:

   "Average discharge was 3.1 ft^3/s (cubic foot per second)."

3. Illustrations and tables.--Use of abbreviations should be avoided in illustrations and should be used in tables only where lack of space is inadequate. Some computer printouts use abbreviations extensively; if a printout to be used in final copy contains too many abbreviations to list conveniently in a footnote, a page listing all abbreviations and their meaning should be inserted to precede the printout.

4. Units of measure.--In technical writing, units of measure should not be abbreviated except in reference to numbers. For example, "30 ft in diameter" is correct, but "diameter was measured in ft" is not. A list of standard abbreviations for units of measure is given in article 4.01.2, "Conversion factors and abbreviations."

5. Abbreviations containing periods.--These should be "closed up":

U.S.	U.S.S.R.	N.Y.
a.m.	A.D.	B.P.

except those containing a person's initials: A. B. Smith

6. Initials for organizations.--These generally are written without spaces or periods:

AIPG	TVA	NYU	AGU
ASTM	USA	NYSERDA	GSA

7. Names of foreign countries.--These are not abbreviated (except U.S.S.R., because it is long).

8. State abbreviations.--State names (except Alaska, Hawaii, Idaho, Iowa, Maine, Ohio, and Utah) are abbreviated only when they immediately follow a capitalized geographic name (as in Richmond, Va.); they are always spelled out in titles and headings. The preferred abbreviations, and also the Postal Service abbreviations, are given in the GPO Style Manual (p. 151), and Suggestions to Authors (6th ed., p. 95-96). The Postal Service abbreviations should not be used except when given as part of an address that includes the zip code.

9. Bibliographic reference lists.--In reports for Geological Survey publication, publishers' names and the names of publication series are spelled out; the only abbreviations to be used are the following:

ser.	sec.	fig.	mimeo.
chap.	ed.	pl.	abs.
p.	v.	no.	U.S.

10. Calendar divisions.--Names of months, if followed by the day or year, may be abbreviated in footnotes, tables, parentheses, and bibliographies. Names of the week are preferrably not abbreviated.

11. Miscellaneous abbreviations.--Use of other abbreviations, including latitude, longitude, degree mark, ditto mark, and metric units, is explained in Suggestions to Authors (6th ed., p. 98).

Article 5.03.5
Effective

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Editorial Style

5.03.5 Preferred spelling

To avoid the confusion and uncertainty of various authorities on spelling, the Government Printing Office adopted Webster's Third International Dictionary as its single guide for spelling and preferred forms. The GPO Style Manual presents a list of preferred spelling on p. 61-71.

Diacritical marks (accents).--These are not used with completely anglicized words:

cliche	menage	naivete	paper mache
piece de resistance	regime	soiree	

Indefinite article before letter h.--The indefinite article "a" is used before an aspirated h; the word "an" is used before a silent h.

a historical building	an hour
a hotel	an herb
a hydrologist	

Note: The phrase "an historical" is British usage to conform with local pronunciation; its use in America has no justification.

Reference:

Word Division, a Supplement to Government Printing Office Style Manual: Washington, D.C., 190 p.

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Article 5.03.6

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Editorial Style

5.03.6 How to refer to Department of the Interior, the Geological Survey, and Divisions of the Geological Survey

The complete name of the Geological Survey's parent organization is "United States Department of the Interior" and is used in letterhead titles. In bodies of reports and in news releases, the name "Department of the Interior" is used. Note the article "the," which must always be given in the formal name. After the first (formal) mention of the Department in a manuscript, the names "Interior Department" or "the Department" can be used. Both the full and the shortened names are capitalized.

The first use of the Geological Survey's name in the introduction or following pages in a manuscript should be "U.S. Geological Survey." Thereafter, the name "Geological Survey" or "the Survey" can be used, provided that only one Survey is identified in the report. If more than one Survey is mentioned, such as a State Geological Survey, then the full name "U.S. Geological Survey" must be given each time the organization is mentioned. Both the full and the shortened names are capitalized. The abbreviated form "USGS" should be used only in tables where space does not permit the full name.

The policy of the Director's Office is to place emphasis on the Geological Survey, not its subdivisions; thus, the designation "Water Resources Division" should not be used in reports unless necessary for identification purposes. The use of district names also should be avoided. In instances where use of the district name is unavoidable, the following arrangement is recommended:

Georgia District of the U.S. Geological Survey

The use of the District name generally is restricted to a note on the back of the title page where the address of the District is provided, as in the following note:

For additional information,
write to:

District Chief
U.S. Geological Survey
Water Resources Division
123 Main Street
City, State zip code

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5.03.7 How to cite publications, documents, and unpublished material

A. Published material

Examples of reference style for most types of published material are given in Suggestions to Authors (6th ed., p. 74-81). Authors of reports to be published outside the Geological Survey should follow the publisher's style, which may differ from the Survey's.

When citing hydrologic data that are published in a series of annual reports, combining the citations saves considerable space compared to listing them individually. Among such series are the Geological Survey's State water-data reports and the National Climatic Center's climatological data summaries. As an example, water-quality data from the southern Great Basin in California during water years 1966-81 would require only three citations, rather than 16 separate entries. For water years 1966-70:

> U.S. Geological Survey, 1967-71, Water resources data for California, 1966-70--part 2. Water-quality records: Menlo Park, Calif., U.S. Geological Survey water-data reports (published annually).

Beginning with the 1975 water year, State water-data reports were published by the Geological Survey in a new series titled "U.S. Geological Survey Water-Data Report." Water-data reports published during 1971-74 were retroactively numbered and published in this report series. (See Water Resources Division Memorandum No. 81.65.) For example, surface-water records for California occupied volumes 1 and 2 of part 1 of the 1971 water year data report; water-quality records (part 2) occupied a third volume, which would be cited as CA-71-3. Thus, the water-quality records would be cited as follows:

> ----- 1972-75, Water resources data for California, 1971-74--part 2. Water-quality records: U.S. Geological Survey Water-Data Reports CA-71-3 to CA-74-3 (published annually).

Beginning with water year 1975, surface-water and water-quality records were merged rather than separated as before; thus, only the volume is designated, as follows:

> ----- 1976-82, Water resources data for California, water years 1975-81--volume 1; U.S. Geological Survey Water-Data Reports CA-75-1 to CA-81-1 (published annually).

These citations reflect the fact that data for a specific water year generally are published in the following calendar year.

B. Unpublished material

Material of this sort may include mimeographed documents, letters, field notes, well logs and administrative reports. In general, unpublished material is difficult for the reader to obtain and should therefore be cited only as written communication, as follows:

(Jones, R. B., Monroe County Board of Commissioners, written commun., 1975).

Written communications should not be included in the list of references.

C. Oral communications

If data or information were conveyed to the author only through conversation, the author may cite it in the following style:

(Jones, R. B., Monroe County Board of Commissioners, oral commun., 1975).

Oral communications should not be included in the list of references.

D. Unpublished dissertations or quoted data

a. Unpublished dissertations may be included in the list of references:
Adams, P. S., 1972, Ground-water pollutants: Albany, N.Y., Davison College, unpublished Ph.D thesis, 50 p.

b. Unpublished reports that are quoted or drawn from extensively may be included in the list of references:

Harris, Leo, 1964, Maintenance foreman's report on earthquake damage: Unpublished data on file in Valdez office of Alaska Department of Highways.

E. Reports in preparation or in press

A report that is not yet published, but that is in preparation, may not be cited or referred to in a list of references. Materials from a report in preparation may be referred to in the text only as a written communication. A report that is at a publisher awaiting printing may be referred to as "in press" in parentheses at the end of the citation. If the year in which the report will be published (printed) is known with certainty, include it in the citation following the author's name(s); if the year of publication is not known with certainty, include the year the report was sent to the publisher. After the report is published, the correct year of publication should be used in subsequent citations. Unless the number of pages in the published report is known with certainty, do not include the number of pages in an "in press" citation.

Article 5.03.8

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Editorial Style

5.03.8 Use of foreign and Latin phrases

To help provide clear, unambiguous writing, the Geological Survey discourages the use of Latin and uncommon foreign phrases in technical reports. Of course, many terms, such as "per diem," "per capita," "pseudo," and "attache," have become so familiar that their use is not considered questionable, and others, such as "Poltergeist," have no English equivalent and may therefore be used, although with restraint.

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Writing For Special Purposes

5.04.1 General-interest (lay-reader) reports

Writing for the nontechnical reader need not be significantly different from technical writing, but to be successful, it requires certain techniques and a correct judgment of the audience's technical level.

Many of the inquiries received by the Water Resources Division are from business people and others who are concerned with water management, supply, and distribution, but who may know little of geology or hydrology.

STYLE OF WRITING

Explain basic principles.--Because many readers may be unfamiliar with the principles and vocabulary of hydrology, basic principles must be explained to make the subject meaningful. An author should not assume that the readers have read (or will read) explanations in earlier publications.

Avoid jargon.--Reports for the general public should not avoid technical content; rather, they should avoid technical vocabulary. If they are too dilute in technical content, they are superficial and of little use. Most people can understand complex processes if they are clearly explained. Where a technical word such as "aquifer" or "permeability" is essential, it should be explained clearly the first time it is used. The explanation may be repeated in a glossary so the reader can check it quickly and easily if he forgets the meaning.

Use analogies from everyday life.--In discussing a complex technical or scientific process, use analogies from everyday life wherever possible. Keep sentences short and simple, with few subordinate clauses. Note that the average length of sentences in magazines with tremendous popular appeal such as Time and Reader's Digest is about 17 words.

Plan layout from beginning.--Design of the report starts with the author working in conjunction with the artists and designers. Text and illustrations should be integrated into a unit. Keep in mind that the material will fall on facing pages in the printed copy, and that use of a second color can greatly enhance the comprehensible maps and technical illustrations without greatly increasing the cost. Additional guidelines are given in Section 2.02, "Report Format."

Relate the topic to the individual.--Intellectual curiosity is fairly strong in most people and is even greater when stimulated by self concern. Begin by showing the reader what is at stake. Relate water to jobs, health, recreation, and the local or general economy. Talk later about data collection and the need for research.

Refrain from using humor.--In government publications, humor is appropriate only where it grows naturally out of the subject matter. Where humor is stilted, strained, or applied artificially, it is in poor taste and amounts to an apology for the material being written. If a report content is important, it does not need forced humor to keep the reader's attention.

Test the product.--Testing the manuscript on neighbors, friends, students, or your spouse is a good way to discover unexpected communication problems. Ask them to mark words or passages they do not understand or find difficult to follow and to suggest any additional material that might be helpful.

Imitation will not hurt--it may help.--Studying samples of good writing for the lay reader may help in developing skill at this kind of writing. Do not overlook the many fine children's books on the earth sciences, for they are simple in style and vivid in graphic presentation. Books intended for children age 12 and up would be the more suitable examples.

REACHING THE PUBLIC THROUGH MAGAZINES

Scientists occasionally inquire about placing articles in popular magazines such as Reader's Digest. Actually, it is almost impossible to place an article in the mass magazines, or even in the "slicks" (Harper's, Atlantic, Fortune), unless the author is a successful free-lance writer or employs a literary agent. Most of the big magazines plan their schedules for months in advance, and, with rare exceptions, their material is prepared by their own staff writers. However, there is a market for scholarly but not too technical articles in those scientific magazines that fills the gap between the professional journals and the popular press. Magazines such as Scientific American, The Science Teacher, The Conservationist, Natural History, and others are interested in putting water facts before the public.

If an article is accepted for a magazine of this kind, contact the Chief, Scientific Publications Section to arrange for an appropriate news release or other publicity.

CHECK LIST FOR AUTHORS OF GENERAL-INTEREST REPORTS

1. Are all geologic or hydrologic principles explained?

2. Is the jargon pruned away as much as possible?

3. Are the sentences too long--contain more than an average of 17 words?

4. Is the active voice used where possible? (Occasional use of the passive voice is permissible for euphony, but the active voice is much stronger. Check the verbs.)

5. Is the tone too formal, stiff, or unimaginative?

6. Can the text be shortened without spoiling the original concept?

7. Are there enough illustrations, including photographs?

8. Has the manuscript been reviewed by one or more readers?

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Writing For Special Purposes

5.04.2 Leaflets and booklets (general-interest publications)

Leaflets and booklets prepared by the Water Resources Division deal with a specific part of the hydrologic cycle (such as the leaflet "Rain: A Water Resource") or a Congressional-mandated program (such as the leaflet "NAWDEX"). The subject must be approved, as discussed below. The length of the manuscript determines whether it will be printed as a leaflet or as a booklet. Generally, publications that would require more than 24 leaflet pages are produced in booklet format.

Most leaflets and booklets are printed in one color. Multicolor printing is allowed according to content and justification, but the Visual Information Services Office (VISO) makes every effort to use tints, patterns, and screens rather than additional colors.

1. Leaflets

   a. Format.--4 x 9 inches high (folded size and "page" size); 8 to 24 pages (minimum number of words is about 2,500); bound or folded along 9-inch margin; about 350 words per page that contains no illustrations; 10-point type.

   b. Edition size.--Initial printing generally is 15,000 copies. First reprint generally is 25,000 copies.

2. Booklets

   a. Format.--5 7/8 inches wide by 9 1/8 inches high; 16 to 60 pages; bound, separate cover; about 600 words per page on 2-column page, about 630 words on 1-column page that contains no illustrations; 10-point type.

   b. Distribution.--Initial printing generally is 15,000 copies. First reprint generally is 25,000 copies.

PLANNING

1. Concept (from any source) is considered by Office of Assistant Chief Hydrologist for Scientific Publications and Data Management, Water Resources Division.

2. Concept and Division's recommendations are forwarded to Director's approving officer for popular publications.

3. Public Affairs Office evaluates concept and makes recommendations to approving officer.

4. Concept is approved or disapproved by approving officer.

MANUSCRIPT AND ILLUSTRATION PREPARATION

After the concept for a popular publication has been approved, author prepares manuscript and illustrations. Text should be typed double spaced and on one side of sheet. The author should define all technical terms and acronyms as a part of the text. In most leaflets and booklets, illustrations occupy 25 to 50 percent of the space. Authors may submit rough draft of line drawings; VISO will accept sketches and photos, but otherwise is responsible for final preparation of all artwork. VISO prefers photographs that are 8 X 10 inches having predominantly medium-gray tones because reproduced photographs are darker than originals.

ROUTING OF COMPLETED MANUSCRIPT

After manuscript and illustrations have been prepared by author, they are:

5. Reviewed by Water Resources Division peers and by the Public Affairs Office.

6. Submitted for Division approval.

7. Submitted to Director's approving officer for popular publications. The manuscript may also be submitted to the Director's approving officer for technical reports if the approving officer for popular publications thinks it is appropriate.

8. Sent to VISO.

Routing after manuscript has been sent to VISO[1]:

9. VISO edits manuscript and prepares comprehensive mock-up, which it sends to author. Manuscripts are not retyped except for extremely messy pages.

10. Author reviews the editing and the mock-up, making corrections and changes as needed, then returns material to VISO.

11. VISO sends edited manuscript and comprehensive mock-up to the Public Affairs Office for recommendations, and then to the Director's approving officer for popular publications for approval. After this step, no changes may be made except to correct typesetting errors or in response to changes in Geological Survey policy.

---

[1] If Water Resources Division elects to prepare its own camera-ready copy, steps 10, 11, 13, and 14 still must be followed. If the Division prefers to oversee the printing of one of its popular publications, arrangements must be made with the Director's approving officer.

12. VISO prepares camera-ready copy, which it sends to Division.

13. Division and author approve camera-ready copy, and return it to VISO.

14. VISO sends the camera-ready copy to the Director's approving officer for popular publications for approval. The camera-ready copy is returned to VISO.

15. VISO corrects camera-ready copy as necessary and sends job to printer.

16. VISO reviews press proofs. Proofs may be sent to Division for approval, but only if VISO has questions concerning the publication.

17. Both the Division and Director's Office review and approve printed publications, and provide notification of approval before public distribution may begin.

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Writing For Special Purposes

5.04.3 Bibliographies

A bibliography is a list of books, documents, films, or recordings that is arranged in categories and indexed to help the user select and locate the desired material. Bibliographies may be arranged in a variety of formats, depending on purpose and scope.

GENERAL PROCEDURES FOR COMPILING A BIBLIOGRAPHY

Authors planning to compile a bibliography should first carefully outline the type of material to be included and should review the scope of available literature. This is best done through a computerized bibliographic search, as described in article 2.03.2. After determining the amount of material available, the authors should establish criteria for evaluating and selecting references. If the bibliography is to include more than a simple reference to each item cited, the authors must decide whether to use annotations or abstracts and must determine a logical arrangement for them.

Once the material has been selected, a detailed outline is prepared showing the proposed subject categories, introductory statements, preliminary material, and indexes to the information. This outline will help determine the most logical arrangement of information.

STEPS IN PLANNING A BIBLIOGRAPHY

Define the Subject and Purpose

A. The subject should be significant and clearly defined. It may be broad or narrow but should be clearly stated in the title.

B. There should be some demand or need for a bibliography on the chosen subject, and this need should be stated in the introduction.

C. The bibliography should not duplicate a compilation already available, either in content or form. If similar works have been published, the proposed bibliography should make a specific contribution of enough significance to justify the repetition. Some justifications might be (1) to update or supplement previously published bibliography, (2) provide an exhaustive list when only a small compilation is available, or (3) enhance access to a specific aspect of a subject by reducing a larger, broader compilation.

Limit the Scope

The range of material selected for the bibliography should be complete and encompass all pertinent aspects of the subject within the stated limits. Such limits may be based on:

1. Compiler's judgment as to value or technical level of material cited.

2. Time period and (or) geographic area represented.

3. Languages to be included.

4. Forms of material to be excluded such as theses, unpublished manuscripts, and so forth.

Describe the Methods Used

The introduction should contain a section that explains the approach and the limits suggested above. It should also describe the principal sources of information, such as names of data bases that were searched, as well as the search strategies and analytical approaches to subject arrangement. If computerized bibliographic data bases are searched, they should be named and their printed equivalents given. Ideally, the authors should review every document; any that are cited but not reviewed by the compilers should be so designated.

Plan the Arrangement of Citations

Bibliographic references should be arranged so that they can be readily found without an index. Authors might consider dividing the general topic into narrower, more specific categories in which references could be arranged, generally in alphabetical order by author. Type of publications cited may also be a criterion for arrangement.

Once a group of subjects has been decided upon, their arrangement should closely parallel the keywords used in the retrieval. If topics are very broad, authors may need to consult a standard technical thesaurus, such as the "Water Resources Thesaurus" (1980)[1], to develop a list of narrower categories.

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[1] Published by WRSIC (U.S. Water Resources Scientific Information Center). See article 3.02.1 for additional information on the Water Resources Thesaurus.

Establish a Citation Format

All references should be complete and should include the elements given in the categories listed below:

1. Books and nonserial reports

   a. Author
   b. Date
   c. Title
   d. Edition
   e. Publisher and place of publication
   f. Pagination (number of pages in original document or specific page(s) in which document is included)

2. Periodicals and serial reports

   a. Author
   b. Date
   c. Title
   d. Name of journal or series
   e. Volume or other numbering system
   f. Pagination

Additional information, such as distribution of report or ordering procedures, may be included also. However, do not include price information because it is subject to frequent change.

In preparing a bibliography, authors should become familiar with Geological Survey rules for citing publications; these are described in "Suggestions to Authors" (6th ed., p. 76-81). If the bibliography is to be published in a non-Survey series, authors should follow the publisher's bibliographic style.

Decide Between Abstracts and Annotations

Authors should decide during the outlining stage whether to include abstracts or annotations.

An abstract is a shortened version, or a summary, of a document. Most abstracts contain 200 words or less. Abstracts may be taken directly or paraphrased from the cited publication, or they may be written by the compiler from the original document. Abstracts should give enough information to enable the user to decide whether he needs to read the original document. Abstracts prepared by the compiler should tell what the report contributed as well as what it contains. (See article 5.05.3 for requirements of a good abstract.)

Abstracts taken partly or entirely from copyrighted publications may be used only with written permission of the publisher; a statement must be included in the text to indicate that permission to use the material has been granted. This statement may be given in the introduction, in the Acknowledgment section, or in a footnote. (See article 1.03.2.)

An annotation is an informative or descriptive note giving pertinent information about a document. It may be critical or evaluative. Generally it is shorter than an abstract.

Develop Index Format

The purpose of an index is to provide multiple access points to a document by concept or topic. The type of index to be included in a bibliography depends on the arrangement of material. If the material is arranged by author without subject categories, a subject key-word index is recommended unless the topic is very narrow. If arrangement is by subject categories, an index of authors and coauthors is recommended. A location index may also be useful in certain kinds of bibliographies.

A "controlled vocabulary" must be developed to compile a subject index. The "Water Resources Thesaurus" (1980) provides the key words (descriptors) and cross references that lead from broad terms to narrow terms, and vice versa.

If the index refers to bibliographic citations by number or letter code rather than page number, indexing can be done as soon as the arrangement of references is final, usually during the last revision after colleague review. If the index refers to page numbers, it cannot be completed until the page layout has been established. Of course, all details of the index must be carefully proofread for accuracy before publication.

Publication Format

The authors should plan for a specific publication series as soon as the initial outline has been developed, and should begin by determining the size and format of the series under consideration. Inspection of a recent publication in the intended series will suggest page dimensions, typographic style, nature of preliminary material, and so forth. Another factor to consider when selecting a series is the time required for printing. The sooner the bibliography can be printed and distributed, the greater will be its usefulness.

References:

American Library Association, Bibliography Committee, 1972, Criteria for evaluating a bibliography: Reference Quarterly, v. 11, p. 359-360.

Colaianne, A. J., 1980, The aims and methods of annotated bibliography: Toronto, Canada Scholarly Publishing, July 1980, p. 321-331.

U.S. Water Resources Scientific Information Center, 1974, Abstracting and indexing guide: Washington, D.C., U.S. Department of the Interior, 71p.

----- 1980, Water Resources Thesaurus (3d ed.): Washington, D.C., U.S. Department of the Interior, Report OWRT IT-80/1, 375 p.

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Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--Components of Reports

5.05.1 Acknowledgments

Most reports will include a concise statement of appreciation for assistance and cooperation received during the course of an investigation. Assistance and cooperation can take many forms, including transmittal of information, assistance of cooperating agency or of cooperating agency personnel, use of equipment in conducting tests, recording of data by residents, permission for installation of instruments, and furnishing of computations, analyses, or identifications. In short, the acknowledgment expresses gratitude for help rendered by others that made the investigation easier, more complete, or perhaps even possible. In most Geological Survey publications, the acknowledgments are placed at the end of the Introduction, under the subheading "Acknowledgments"; in non-Survey reports it should be located in accordance with publisher's rules.

The most important contributions should be acknowledged first, followed in order by those of decreasing importance. Within this general guideline, assistance from the cooperating agency and people outside the Geological Survey should be acknowledged before that from Geological Survey employees.

Acknowledgment of assistance by Geological Survey employees should be restricted to noteworthy contributions to the investigation or report. Specific pieces of work such as analyses, identification of minerals or fossils, or computations must be credited to the persons who made them; these credits are preferably placed in the tables, lists, or statements in which work is reported. Credit for this assistance fixes the responsibility for the information presented.

Acknowledgment of report review and assistance of a general, supervisory, clerical, or administrative nature by Geological Survey employees should not be made, for assistance of this kind is considered to be part of the job, not a noteworthy contribution to the investigation or report. The Geological Survey considers that every report from a District is prepared under the supervision of the District Chief, and that statements similar to "prepared under the general supervision of _____, District Chief," and "under the immediate supervision of _____, Subdistrict Chief" are unnecessary and should not, under normal circumstances, be used in Geological Survey- or cooperator-published reports.[1]

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[1] An exception is the statement included in annual State data reports acknowledging individuals and agencies involved in preparing the report.

Reference: Suggestions to Authors, (6th ed., p. 21-22)

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Components of Reports

5.05.2 Purpose and scope

The most important part of the introduction in a technical report, whether a book or a journal article, is the section explaining the purpose (or objectives) and scope of the study, for this tells the reader what to expect and places it in context. This information generally is given after the opening paragraphs of the introduction under a single heading such as "Purpose and Scope."

The purpose of the study should be clearly differentiated from the scope. For example, a purpose might be to describe long-term trends in concentration of chloride within a stated area. In contrast, the scope might identify the actual time period analyzed, specify the data base used, and the analytical techniques employed.

If the report has a complicated layout or contains numerous illustrations or tables, the purpose and scope section also may contain a note explaining the organization and format to aid the reader.

Ideally, the purpose and scope section of the report should be based on statements from the project description, with modifications only to fill in details or to improve clarity. The report should be developed around the purpose and scope. The purpose should be fulfilled by the report and reflected in the concluding section, generally in the same order. For example, if the first stated purpose is to define the chloride trend, the first conclusion should explain that trend in terms indicated by the study.

The authors should study the purpose and scope section and its relation to the introduction, table of contents, and summary or conclusions in several recent Geological Survey publications to develop a feeling for the wording, content, and relationship of these components.

The purpose and scope of a report may or may not be the purpose and scope of the study that generated the report. However, the purpose and scope of a report should in some way be related to the study. A sample purpose and scope section is given on the following page.

PURPOSE AND SCOPE

This report describes the results of a study to refine and extend knowledge of the source, extent, and movement of the brackish water previously found between 500 and 1,000 feet beneath part of the Brunswick peninsula, and to suggest means of alleviating the contamination caused by this water.

The study was performed in several stages, as follows:

1. Geologic data were used to define the framework of the aquifer system beneath Brunswick and to determine probable sources of the brackish water.

2. The chloride concentration of water in selected wells was monitored to establish the extent of the brackish water.

3. The data from monitoring wells was used to ascertain the rate of movement of brackish water in the aquifer.

4. Methods were suggested for alleviating the effects of brackish-water intrusion.

The scope of the work included test drilling, examination of drill cuttings, and geophysical logging of wells to refine the geologic knowledge of the area; water-level measurements to determine the effect of industrial pumpage; and water sampling of selected wells for chemical analyses to determine the presence of rate of change of chloride concentration in the water. Previously completed fieldwork and reports served as a background for this report. This investigation continues cooperation with the city of Brunswick, Glynn County, and the Georgia Department of Natural Resources, Earth and Water Division, and this report discusses findings made from July 1965 to June 1967.

Sample Purpose and Scope section

Article 5.05.3

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Components of Reports

5.05.3 Abstracts

The abstract is a digest of the report and should be a concise, but accurate description of the report. Much of a report's impact and usefulness depends on the adequacy of the abstract. Almost all Geological Survey publications require an abstract. (See article 3.01.1.) Each author is required to abstract his own work and to supply copies of the abstract with his report when it is submitted for approval.

A well-prepared abstract enables readers to identify the basic content of a report quickly and accurately, and thus to decide whether they need to read the document in its entirety. For the author, the abstract is an opportunity state, in condensed form, what he considers to be his real contribution to knowledge. There are two principal types of abstracts--indicative and informative. Indicative abstracts are used for data compilations containing no conclusions. They tell the reader about the general content of the report. Informative abstracts contain the essential facts and conclusions in the original document. Authors must bear in mind that many people will read no more than the titles and abstracts of their reports. Indeed, abstracts are sometimes the only means by which scientists are informed of the work of their colleagues.

Although abstracts need not conform to any standard format or content, the following general guidelines should be used when preparing an abstract:

1. The abstract is a digest of the significant contents of a report and should be written after completion of the report.

2. The abstract should not include information not contained in the body of the report.

3. The abstract should contain the same basic information and tone (balance, emphasis) as that of the report.

4. Authors should describe findings as concisely and informatively as possible, but should avoid being cryptic or obscure.

5. When findings are too numerous for all to be included, give priority to significant discoveries, findings that contradict previous theories or results, findings relevant to a practical problem, or findings that the author knows are important to a cooperator or other funding agency.

6. With the exception of data reports (see item 7 below), do not state what the report contains, but rather what it contributes. Be informative and include the significant factors of the the original document. the following examples do not meet the requirements of a suitable abstract:

   "Problems caused by pumping for public-water supply are discussed."

   "Effects of commercial pesticides on ground-water quality are described."

   "Methods of ground-water recharge are compared."

   "Results are given for water-quality analyses."

7. The abstracts of data collections generally are indicative because conclusions are lacking and because of the large amount of tabulated information. A suitable abstract for these reports should include a statement of purpose, a short list of the types of data in the report, and as much information as possible about the source and quantity of data. For example, "Discharge measurements were collected from 1978-81 at 55 gaging stations in 13 Adirondack Lake watersheds."

8. The abstract also should include the following:

   a. Information that accurately reflects both the title and content of the report;

   b. an initial topic sentence that is a central statement of the report's major thesis (subjects covered), but avoid repeating the words of the report title;

   c. the geographic location (for reports describing or referring to a particular locality);

   d. the problems, primary objectives and scope of study, or the reasons why the report was written (unless these are already clear from the title or can be derived from the remainder of the abstract);

   e. the type of report, when this is not evident from the title or publication outlet of the abstract--for example, water-quality study, case history, hydrologic reconnaissance, progress report, report of original research, areal investigation, and so forth;

   f. the experimental plan or methodology used, especially new techniques, or special procedures, tests, and equipment;

   g. the type and accuracy of data collected and used;

h. whether numerical values are new or derived, and whether they are the result of a single observation or of repeated measurements;

i. the principal findings, including newly observed facts, conclusions of an experiment, theoretical results obtained, relationships and correlations noted, new compounds or minerals, new geologic or hydrologic units, and so forth;

j. conclusions, including whether the results meet the objectives of the study, how the results can be applied, suggestions for further study, and so forth.

9. Avoid comparing the present work with the work of others or with what has been known previously about the topic. Rarely, an abstract may require reference to a published work if it is a development from other work and it is necessary to show the basis from which the development was made. Then, the complete citation should be given in parentheses, not just the usual text reference to author and year of publication. Citations in abstracts for scientific journals should conform to standards of the journal for which the paper is written.

10. Use standard nomenclature and avoid unfamiliar terms, acronyms, or symbols. Units of measurement should not be abbreviated unless they are long or complex, in which case they may be spelled out in parentheses after they are abbreviated where they first appear.

11. The abstract should be a complete unit, independent of the text, and for this reason, references must not be made to tables, illustrations, or other material in the body of the report.

12. Most abstracts can be limited to two or three paragraphs, except those for long reports.

13. Use complete, connected sentences. Use the active voice wherever possible.

14. The abstract may be written in either the present or the past tense, depending on the type or report. Abstracts for reports describing the results of research or experiments should be written in the past tense, whereas some parts that are independent of time, such as conclusions, may be written in the present tense.

15. The Geological Survey sets no specific limit on abstract length in its publications, either by total number of words or by percentage of length of text, although WRSIC abstracts are limited to 200 words, and journals or other non-Survey publication outlets may set their own limits. (See article 3.02.1 on WRSIC abstracts.) Authors should remember, however, that the shorter the abstract, the more likely it is to be read and to be included in abstract journals.

16. The abstract should be suitable for publication in abstract journals and for indexing without requiring significant modification.

In conclusion, effective and informative abstracts are vital to communication, and scientific and technical writers need to develop skill in writing them. An abstract that conveys a maximum of information with a minimum of words requires more writing and rewriting than does the preparation of other parts of the report. The preparation of a good abstract is a skill that can only be acquired by diligent practice. Examination of other abstracts--for example, those prepared for "Selected Water Resources Abstracts" and "Geological Survey Research," probably is the best approach for preparing well written abstracts.

Article 5.05.4

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Components of Reports

5.05.4 Summary and conclusions

Upon completion of a manuscript, many authors inquire about the relationship of the abstract to the conclusions or summary, how conclusions and summary differ from one another, and how to determine whether a concluding section is needed at all. This article describes the purpose of these components and compares their characteristics.

The two most widely read parts of a report are the abstract and the summary and (or) conclusions, for these state the most important ideas and facts and tell their significance. The abstract and concluding material must be in full agreement and together present the essential information from the report. They should not be mere repetitions of each other, although the same statements and data may be included in both. The main difference between the abstract and conclusions or summary is that the abstract is generally restricted in length and concentrates on orientation and results, whereas the conclusions or summary may include greater detail and may also elaborate on the significance and potential applications of the results. Guidelines to follow when writing the abstract are given in article 5.05.3; guidelines for preparing the summary or conclusions are given below.

SUMMARY

A summary is a restatement of the main ideas presented in the report. It differs from the abstract in that it may encompass greater detail and broader scope. For example, it may discuss the manner by which interpretations were derived and may also discuss potential applications. The purpose of a summary is to recapitulate the most important facts so that the reader will correctly recall the results and their significance. The summary should describe or list these items in the order in which they are presented in the text; to do this, the author should review the table of contents and the main discussions when writing the summary. A summary is generally appropriate for descriptive rather than interpretive reports.

CONCLUSIONS

The conclusions section states the final results and interpretations of a study. All conclusions must be either stated in the report or be easily derivable from the material presented therein. In preparing the conclusions, the author should refer to the "purpose and scope" section to verify that the two section support each other--that is, the stated purpose of the study has been fulfilled, the scope adhered to, and both are reflected in the report and the conclusions. In general, the conclusions should be listed in the same order as the corresponding objectives in the "purpose and scope" section, and the main conclusions should be incorporated into the abstract.

The conclusions section differs from the abstract in that it is unrestricted in length and may include additional detail, discuss potential applications, or provide suggestions for further research. Conclusions are generally itemized and numbered in order of decreasing importance.

SUMMARY AND CONCLUSIONS

In some reports it is appropriate to combine the summary and conclusions under one heading. Here, again, the author should develop this final section with close adherence to the purpose and scope sections and the table of contents, as well as the sections containing results and interpretations. The summary and conclusions section serves to restate the essential information and to emphasize the major results and their significance. Only statements or data that were discussed in the text should be included.

The decision whether to present the concluding material of a report as a summary, conclusion, or both, will depend largely on the report's content and technical level. If the report is short and written for a nontechnical audience, a summary will probably be adequate, whereas a report presenting technical discussions or describing tests and experiments may require a list of conclusions with a discussion of their significance and applications.

WHEN TO USE A CONCLUDING SECTION

Reports containing only data, maps, work plans, and similar materials that do not include interpretations or descriptive text generally will not require any concluding section; however, omitting a final statement may leave the reader puzzled or with an erroneous impression. Therefore, a recapitulation of the essential facts and their significance should be provided in all interpretive or descriptive reports.

Note: Under no circumstances may "recommendations" be given in the abstract, concluding sections, or anywhere else in the report with the exception of administrative reports prepared for other Federal agencies. (See article 1.02.3.) If the data or results clearly indicate a particular danger or course of action, the subject may be addressed in terms of probable results of alternative courses of action.

Article 5.05.5

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Components of Reports

5.05.5 Indexes and glossaries

INDEXES

Indexes are needed in certain types of reports to guide the user to specific points of interest. Comprehensive reports having much technical content and those containing numerous items of information not shown in the table of contents should be indexed.

Responsibility for preparing the index for formal Geological Survey book publications (Water-Supply Papers, Professional Papers, Bulletins, and so forth) rests with the Book Editor, Geologic Division. (See article 2.01.1 for list of formal Geological Survey publications.) However, the author should assist the editor either by underlining, on the page proof, important words to be indexed, or by submitting a list of terms to be indexed with the manuscript. Technical reports in the WRI series and in cooperator-published series also may have an index; these are prepared by the author.

Guidelines for preparing indexes are given in Suggestions to Authors (6th ed., p. 46-47).

The following types of report do not need an index:

1. Short reports having detailed tables of contents or reports easily read in a short time.

2. Reports having alphabetical or numerical organization, numerous tables, general discussion, or highly mathematical content that require only brief analytical examination to locate points of interest.

3. Reports of a popular nature that do not contain original or specific detailed technical information.

4. Reports that are preliminary or of short-term interest.

5. Reports that must be published in haste.

GLOSSARIES

A glossary (from Latin glossa, meaning a foreign or strange word needing explanation) is used to define selected words or terms used in the report. It is used mostly in reports for the nontechnical audience to assure that the key words will be correctly understood.

Glossaries generally list the terms in alphabetical order. The glossary should be placed at the back of Geological Survey publications. (See article 7.02.4.) The glossary should be listed in the table of contents.

Article 5.05.6
Effective

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Components of Reports

5.05.6 Appendixes and attachments

APPENDIXES

Appendixes are used to present material that could, for the most part, be left out of the report without detracting from its interpretation. They should be used in Geological Survey publications only if absolutely necessary because they add bulk and increase the cost of printing. Any reports containing appendixes must be accompanied by a letter of justification when submitted for Headquarters approval.

Data that must be included to support conclusions may be placed after the list of references in the form of tables. Short tables should be placed within the text; long ones placed at the end. Where long tables are first referred to in the text, the author may use a phrase such as the following:

".....these data are given in tables 6 through 9 (at the end of report)."

ATTACHMENTS

Attachments appear only in computer-related reports. They include all illustrations and materials that may become obsolete, such as job-control language, flow charts, and program listings. Each attachment will bear a letter, starting with A, and a title or caption. The attachments are not included in the main body of the report, but rather are placed at the end of the report. Attachments may be referred to in the report and should be listed in the table of contents. Any reports containing attachments must be accompanied by a letter of justification when submitted for Headquarters approval.

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Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--Components of Reports

5.05.7 Foreword and preface

FOREWORD

The foreword (note spelling, fore-word, not forward) is an introductory statement, by someone other than the author that describes the circumstances and significance of the report. (A preface is written by the author himself.) Most Geological Survey publications require neither a preface nor a foreword; however, under certain circumstances such material may be warranted. For example, a foreword may be useful in (a) a publication that is unusually important, (b) a publication consisting of a collection of papers, each having its own author and title but pertaining to a central theme reflected in the title of the volume, or (c) a report of a cooperative investigation by the Geological Survey and another governmental agency, wherein a foreword is describing the importance and circumstances of the investigation.

PREFACE

A preface can provide a prominent place for essential background information, such as the relation of the report to earlier editions and to other reports on the same subject, and may also give prominence to certain kinds of credits and acknowledgments that are not included on the title page. In organization-type reports--for example, those on surface-water supply of the United States--the preface can give credit to those who supplied data and who, in other types of reports, would be recognized as authors. A preface may be unsigned or may carry the name or initials of the author.

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Article 5.05.8

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--
Components of Reports

5.05.8 Frontispiece

A frontispiece is an illustration preceding and generally facing the title page of a book report. Such reports require a false title page (fig. a) and the frontispiece itself (fig. b). In this configuration, the false title page and the frontispiece page are not numbered (but are, in reality, pages i and ii, respectively). These instructions differ from those given in the GPO Style Manual (p. 14), in which the listed order of the false title and frontispiece is incorrectly reversed. In addition, there may be books in which the fontispiece does not precede the title page; for example, the frontispiece in Professional Paper 301 faces a foreword. The placement of the frontispiece generally is decided by the book editor.

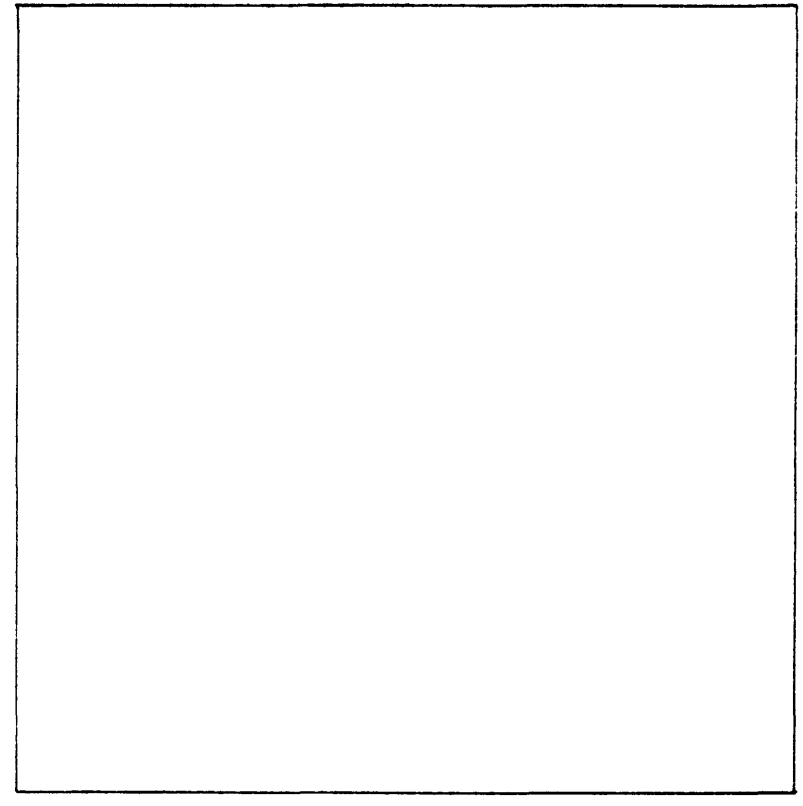
(False title page preceding frontispiece)

HYDROGEOLOGY OF

THE SCIOTA RIVER VALLEY

NEAR PIKETON, SOUTH-CENTRAL OHIO

(Frontispiece)



Aerial view of Piketon and aquifer test-site area.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

SECTION 6

PREPARING MANUSCRIPTS FOR DIVISION REVIEW

6

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WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 6.01.1

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.1 Differences between review draft and camera-ready copy

Typists often are puzzled at being required to type the same manuscript to one set of specifications the first time and another set later, and authors are sometimes confused by editorial notes that seem to contradict those made in earlier drafts. To avoid confusion of this kind, this article summarizes the differences between review copy and camera-ready copy.[1] A full description of how camera-ready copy is made is given in Section 7.02.

REVIEW DRAFT
(Manuscript submitted to Region for Director's approval)

A. Is entirely double spaced to allow for alterations.

B. Has illustrations and large tables separated out and placed at end.

C. May contain hand-lettered tables and illustrations and computer printouts.

D. Has all pages numbered consecutively, starting with front cover as page 1 (not i).

E. Allows for insertion of extra pages (designated a, b, c, and so forth.

F. Contains "cut-ins," or notes stating that a given figure, footnote, or table will be inserted near that point in the printed copy.

G. Contains separate pages bearing the captions that will accompany the illustrations when final copy is made.

H. May be typed in any roman typeface.

I. Generally contains no commerical lettering or other final drafting.

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[1] Review drafts are required for all publications. Camera-ready copy is not required for reports in formal Geological Survey series or those to be typeset by an outside publisher.

CAMERA-READY COPY

(Printer's copy)

A. Is single spaced except between paragraphs and beneath headings.

B. Has roman numerals on the preliminary pages and arabic figures from the abstract onward.

C. Does not contain "cut-ins"; instead, the actual figures, tables, and footnotes are fitted into the text.

D. Contains paragraphs and sentences that carry over from one page to the next.

E. Is designed on a facing-page basis to provide visual balance.

F. Is generally typed from a "dummy"--a cut-and-pasted mockup in which the exact position of text, figures, and tables is indicated.

G. May require use of superscripts, italics, and other characters or changes of typeface; may have commercial lettering for major headings.

The review draft of a manuscript does not require use of italics or superscripts, nor change of typefaces (except for equations and symbols). Complex equations may be written by hand in the review draft.

If authors or typists are in doubt as to how to prepare a specific component for typing, they should consult the editor or reports specialist.

The following table summarizes the differences between review draft and camera-ready copy.

Item	Review draft	Camera-ready copy
Typeface	Any; use same throughout manuscript to save time.	An elite serif style is preferred for legibility; italics may be used for captions and minor headings. Commercial lettering may be used for major headings.
Line Spacing	Double	Single except between paragraphs and before new sections.
Pagination	Arabic; consecutive from cover 1.	Roman for preliminary pages, arabic starting with abstract. Odd-numbered pages are always on right, even on left.
Paragraphs	Should be complete on a page.	Run onto next page if needed.
Cut-ins	Used in place of figures, tables, footnotes (not plates).	Deleted, captions are placed beneath illustrations, footnotes at bottom of page.
Illustrations	Grouped together as separate package at end of report; done in rough draft with hand lettering.	Inserted in text in proper order; professionally drafted.
Tables	Typed on separate page, inserted after main reference in text or, if bulky, at end of report. Generally double spaced. May be photoreduced.	If small, may be combined on page with text. If bulky, may be placed after references. Generally single spaced. Reduced to specified dimensions.

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.2 Size of paper, text, tables, figures, and plates

TEXT

On January 1, 1980, all Federal agencies were informed that 8 X 10 1/2-inch typing paper was to be replaced by 8 1/2 X 11-inch paper. Manuscript typing should be on paper that is opaque, smooth, and takes pencil marks easily. Paper that is erasible, tinted, glossy, textured, odd-sized, or onion skin is unsuitable for manuscripts. Margins of manuscript material should be 1 inch on all sides; page numbers should be typed or handwritten half an inch from the bottom center. Typing generally begins on line 7 and is double spaced. Both 12-pitch elite and 10-pitch pica are acceptable sizes; however, elite is preferred because it gives greater economy.

TABLES

Tables may be typed on oversized sheets for review but should be condensed to the extent possible without crowding so that extreme reduction for camera-ready copy will not be necessary.

If a table in its final form requires excessive reduction to attain a 1-page format, it should be redesigned to occupy two or more successive pages. If it covers two facing pages and is turned sideways (broad measure), the heading should be on the left-hand page but may be omitted from the right-hand page. (The column headings should be repeated on the right-hand page, however. The footnotes also are placed on the right-hand page. See GPO Style Manual, p. 187-230.) The maximum dimensions for tables in 8 1/2 X 11 inch reports are 6 1/2 X 8 3/4 inches to allow sufficient margins and room for the page number. For reports to be microfilmed (WRI and Open File), reduction to as small as 80 percent of original size is permitted for elite type (67 percent for pica); thus, the maximum image area before reduction to camera-ready copy is about 8 1/4 X 11 inches for elite type and 10 X 13 1/4 inches for pica. Computer printouts may be reduced to 65 percent of original size.

Tables for formal Geological Survey book reports to be set in type commercially may be oversized but must be double spaced and conform to Geological Survey format. (Article 7.02.2 describes typographic style for tables in Geological Survey reports.)

FIGURES
(Page-size illustrations)

Figures should fit, or should be designed to be reduced to fit, within a 6 1/2 X 8 3/4 inch image area or less in camera-ready copy of 8 1/2 X 11-inch reports. (For publications of other sizes, figures should be designed to meet publisher's specifications.) In WRI and Open-File reports, the minimum lettering size after reduction is 8 point[1] to insure readability in reproduced copy. Illustrations should be drafted with the final published size in mind and at a convenient size for review and duplication. They must be drawn in such a way that duplicated copies will be legible.

PLATES
(Oversize illustrations)

Plates should be prepared at as small a size as possible for user's convenience. Before preparation of a plate is begun, the author should consider whether the material could be presented on two facing pages instead. If oversize format is unavoidable, the publisher's restrictions and requirements should be determined in advance so that reformatting will not be necessary later on. (See article 2.01.2.)

To facilitate review, oversize illustrations and plates should be reduced to publication size if possible. One inexpensive procedure is to use a reducing electrostatic machine and reproduce the reduced image on good-quality tracing paper. The tracing paper then can be used as a master for additional diazo review-copy prints. This procedure eliminates the need for costly photoreductions and prints. Because many reducing electrostatic machines distort the reduced image, and affect scalar relationships, review copy obtained with the above procedures should not be used as originals for printing.

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1 This footnote is typed in 8-point lettering.

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.3 Typographic specifications for manuscripts

This article outlines the major typographic specifications for manuscripts submitted for Director's approval in Geological Survey publication series. Format of support documents and preliminary pages is shown in the examples in article 3.01.2; most other questions can be resolved by comparison with recent publications in the same series.

PRELIMINARY PAGES
(all matter preceding the abstract)

Preliminary pages are double spaced and numbered consecutively in arabic (not roman) numerals, with front cover as 1. Examples of all preliminary pages, including contents, list of illustrations and tables, table of conversion factors, and so forth are given in article 3.01.2.

TITLE AND ABSTRACT

The main part of the manuscript begins with the abstract. The first item on the abstract page is the report title, centered on line 7, in capital letters, with the longest line on top if possible.[1] The title is double spaced. Three spaces below the title is a centered line containing the word "By," followed by the author's first name, initial, and last name, with the first letters capitalized.[2] Three spaces below the author's name(s), the word ABSTRACT is centered. For example:

SURFICIAL GEOLOGY OF PULASKI QUADRANGLE

OSWEGO COUNTY, NEW YORK

By Todd S. Miller

ABSTRACT

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[1] See Water Resources Division Memorandum No. 81.127, dated September 8, 1981, for the requirements of a good title.

[2] See "Suggestions to Authors," 5th ed., p. 18, for recommended format of author's name.

The abstract itself is double spaced, with each paragraph indented five spaces. Other publications should not be mentioned in an abstract, and abbreviations may be used only for long terms that are repeated frequently; in such cases the term should be spelled out in parentheses after its first use. For example, mg/L (milligrams per liter). (See article 5.03.4.)

In Geological Survey reports, the text abstract may be of any length but will need to be shortened to 200 words for the WRSIC abstract sheet.[3] Other journals may also have a limit on length. (Check with publisher.) Abstracts for Geological Survey reports should contain complete paragraphs on a page.

TEXT

In nearly all reports, the first section after the abstract is the introduction, followed a series of main sections (each containing any number of subsections), then the summary and (or) conclusions, and finally the references.

Introduction

This heading begins on a new page. The word "Introduction" should be capitalized and centered on line 7, and each paragraph thereafter should begin with a five-space indentation. The introduction may contain subsections such as Purpose and Scope, Methods, and Acknowledgments. These are generally second-order headings and should be centered and underscored, with the first letter of the main words capitalized. These sections need not begin on a new page, but paragraphs should be complete on a page.

Body of Report

The rest of the report will consist of main sections, each beginning with a first-order heading (B or A below,[4] depending on the number of heading ranks), and perhaps containing subsections bearing second-, third-, and fourth-order headings. The following guidelines will help you choose the format of text headings and subheadings, on the basis of the total number of heading ranks in the report. Formats for the six ranks are as follows:

A. ALL CAPS, CENTERED, UNDERLINED[4]

B. ALL CAPS, CENTERED

C. Caps and Lowercase, Centered, Underlined

D. Caps and Lowercase, Centered

E. Lowercase, flush with left margin on line by itself, underlined

F. Lowercase, paragraph indention on same line with first sentence of paragraph, underlined, with period and two hyphens.--

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[3] See example in article 3.02.1.

[4] Rank A is used only rarely in Geological Survey reports.

The selection of ranks depends on the total number of ranks in the manuscript, as follows:

Number of Ranks	Use these formats
1	B
2	B, C (or F; see text)
3	B, C, D (or F)
4	B, C, D, E (or F)
5	B, C, D, E, F
6	A, B, C, D, E, F

For example, if your manuscript has a major heading and two ranks of subheadings (total, 3), the major heading should be "all caps, centered" (B), the higher-rank subheading "caps and lowercase, centered, underlined" (C), and the lower-rank subheading "caps and lowercase, centered (no underline)" (D), as follows:

SETTING

Ground-Water Reservoirs

Extent and Boundaries

Note that format "F" should be used for the lowest rank if the section under it is short and of minor importance, regardless of the total number of ranks. Also, it need not be listed in the table of contents unless it has special significance. Rank "F" is particularly appropriate for minor headings that are used repeatedly in a manuscript.

FIGURES, FOOTNOTES, AND TABLES

Where the author refers to a figure, table, or footnote, an appropriate insert (cut-in) such as shown in the examples below should be placed either in the margin or before the next line of text. If placed in the text, the insert should be preceded and followed by a solid line. Because plates generally are inserted inside the back cover, they do not require cut-ins.

Examples:

Figure 1.--(caption on next page) belongs near here.

Figures 1-4.--(captions on next page) belong near here.

Table 2.--(on next page) belongs near here.

Footnote (on next page) belongs near here.

The caption, table, or footnote is then typed on a separate page, which is inserted directly after the page on which it is mentioned. (See article 3.01.2 for example.) Short, unnumbered tables may be inserted directly in the body of the text. If the table is bulky, such as a computer printout, a reduced, page-size copy of its first page (or two) will serve as a sample, and the rest need not be included until camera-ready copy is prepared. The reduced sample should indicate how many such sheets the complete table will contain when printed. Captions, footnotes, and tables are typed on separate pages because they may be prepared separately from the text, possibly on a different machine in a different typeface or type size.

Where a figure is referred to in parentheses, the word "figure" is lowercased and abbreviated "fig."[5] Where it is not in parentheses, it is lowercased and spelled out. For example:

"Location of sites is shown in figure 2."

"All wells (fig. 2) were monitored weekly."

REFERENCE TO OTHER PUBLICATIONS

Most reports contain references to statements or works by other authors. The correct forms are as follows:

A. If an author's name is part of a sentence, only the date and the page number are given in parentheses.

B. If the author's name is not part of the sentence, the name, date, and page number are given in parentheses.

Examples: Depths tabulated by Greylag (1973, p. 335) indicate...

Tabulated depths (Greylag, 1973, p. 335) indicate...

Additional information on bibliographic style is given in article 6.01.4 and "Suggestions to Authors," (6th ed., p. 79-81).

QUOTATIONS

When a long quotation (four lines or more) is given, it may be single spaced and indented three to five spaces on both sides, as shown below:

> When a quotation is presented this way, quotation marks are not used. When the quotation contains fewer than four lines, however, it may be run into the text and enclosed in quotation marks.

---

[5] In review drafts of manuscripts, all illustrations are to be designated figures. If an illustration is oversize, consult an editor or drafts-person to determine whether it can be made smaller to avoid need for a plate or foldout, or can be prepared in black and white with overlays, halftones, screens, symbols, and so forth to avoid use of color.

The comma or period following a quotation is typed inside the last quotation mark, but other punctuation not actually part of the quotation, such as a colon or semicolon, should be typed outside. (This is an American printing convention that may seem illogical but is nevertheless standard within the United States. For example, write:

"It is so." not "It is so".

(See GPO Style Manual, rules 8.49 and 8.146.)

EQUATIONS

Even simple equations may require a change of typeface and use of superscripts or subscripts. To save time in preparing review manuscripts, it is acceptable to have the equation neatly hand lettered rather than typed. An important equation that is referred to later in the text or that is citable by other authors should be centered on a line by itself, and the equation number given in parentheses at the right margin. The equation is followed by a definition of terms and units of measure. For example:

$$Q = 0.00838TIW \qquad (2)$$

where Q is quantity of flow, in acre-feet per year;

T is transmissivity, in cubic feet per foot of aquifer thickness per day;

I is hydraulic gradient, in feet per mile;

W is width of the flow section, in miles; and

0.00838 is the factor that converts cubic feet per day to acre-feet per year.

Where an equation is referred to parenthetically, the word "equation" may be abbreviated (eq. 2) or (eqs. 2, 3, and 7). In typeset reports, it is customary to italicize all variables of the equation, but, because of the difficulty in changing typefaces on most typewriters, this practice is not required in office-prepared copy.

Note: A simple unnumbered equation generally is included in the text, rather than on a separate line, and is followed by an explanation of symbols. For example:

.....of the equation, Y = mX + b, where Y is the .....

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.4 Typographic style for bibliographic references

In Geological Survey reports, all publications referred to in text, tables, and illustrations are listed at the end of the report in a separate section titled "References," "Selected References," "References Cited," or "Selected Bibliography."[1] (See "Suggestions to Authors, 6th ed., p. 76.) References in Geological Survey-published reports are listed alphabetically by principal author, but, in reports to be published outside the Geological Survey, references should follow the style of the publisher. In review manuscripts, this section must be double spaced.

Beginning in 1979, the Geological Survey discontinued the practice of abbreviating names of publishing agencies and series in bibliographic listings, but retains use of the following abbreviations:

ser.	sec.	fig.	mimeo.
chap.	ed.	pl.	abs.
p.	v.	no.	U.S.

All other terms must be spelled out. Representative samples of bibliographic references are given in "Suggestions to Authors" (6th ed., p. 79-81) and may also be found in recent publications of the appropriate series.

RULES FOR LIST OF REFERENCES AT END OF REPORT

Where more than one reference by the same author is given, the name is not repeated in subsequent entries but is represented by a five-dash line, followed by the date with a space between.

For example: ----- 1979, Chloride in New Jersey lakes: U.S. Geological Survey Open-File Report 79-18, 19 p.

---

[1] If only the works mentioned in the report are listed, the heading should be "References" or "References Cited." If additional works are listed, the heading should be "Selected References" or "Selected Bibliography." These should be typed as first-order headings in capital letters and centered.

If the same author has more than one publication in a given year, the first entry is designated as 1979a, the next as 1979b, and so forth. If some of the works by a given author are coauthored, they should follow the last of those having single authorship and should be listed alphabetically by the first coauthor.

REFERENCES IN TEXT, TABLES, AND ILLUSTRATIONS

In Text

When a publication is referred to in the text, it is generally given in the form:

. . . . (Smith, 1970, p. 29-32)[1]

If three or more authors are in the same reference, cite the first author and add "and others." For example:

(Jones, Smith, and Block, 1960) should be written (Jones and others, 1960)

However, if the senior author published more than one cited report in the same year and had different coauthors in each report, all the names should be given in the references to avoid confusion.

If the author of the cited work is named in the sentence, the following form may be used to avoid repetition:

. . . . as proved by Smith (1970, p. 29-32).

Inclusion of the page numbers is not always required but should be done, if feasible, to save the reader time if clarification or verification is needed. When unpublished material is referred to, it should be given in the following manner:

(R. L. Smith, Hinkley Water Department, written commun., 1970)
or (R. L. Smith, Hinkley Water Department, oral commun., 1970)

Neither oral nor written communications should be included in the list of references at the end of the report because the reader probably will be unable to obtain them.

---

[1] Initials may be included only to avoid confusion with other authors having the same last name.

In Tables

References in tables generally will be given either in headnotes within brackets beneath the title or in footnotes below the bottom line. References should include only the author's last name, the date of publication, and the page numbers. The complete publication reference must be given in the list of references.

In Illustrations

In general, references in illustrations will be given in the caption, not the figure itself. For example:

Figure 2.--Geologic section A-A', Loudoun County, Va.
[From Smith, 1970, p. 40.]

Unless the figure or data are taken directly, without alteration, from another source, the words "Modified from" must be included. If material is from a copyrighted source, the source must be cited and written permission obtained from the publisher. (See article 1.03.2.) Notations such as "reproduced by permission of" are not given unless requested by the publisher, however. Even if material is from a source that is not copyrighted, such as a Federal publication, the source must be cited.[2]

---

[2] See Water Resources Division Memorandum No. 82.97, dated June 15, 1982.

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.5 Typographic style for tables

The objective of a table is to present information or data in a manner that allows easy comparison. The possibilities for arrangement of data are limitless; one approach to developing a layout is to study tables of similar material in published reports and follow their style.

Tables for manuscripts in review stages or that will later be set in type should be double spaced to facilitate editing, but preparation of a single-spaced copy at the same time may help to determine the final size and layout. Tables requiring use of oversized paper should be typed as compactly as possible, without crowding, to minimize the amount of reduction required to achieve page-size copy.

TITLE

Lowercase all except the first letter of the first word and proper nouns; underscore and center the full title. Do not end the title with a period. (Titles may be changed to italics in the camera-ready copy if desired.) If a note of explanation is given in headnote form beneath the title, it should be in roman type and enclosed in brackets. Do not end the headnote with a period.

Example: Table 1.--Chemical analysis of water from well 3A

[All concentrations are in milligrams per liter]

COLUMN HEADINGS

Capitalize the first letter only. If units of measurement are included, they should be in parentheses and centered beneath the word(s) above them and should be spelled out, but may be abbreviated, if necessary. If two or more columns give data on the same feature, a line should span all such columns, and a general description should be centered above this line.

Example:

	Concentration (milligrams per liter)							
	Nitrate				Chloride			
	1960	1965	1970	1975	1960	1965	1970	1975

LEFT-HAND COLUMN

Capitalize first letter of all entries. If more than one line is needed for an entry, indent succeeding lines two spaces.

DATA COLUMNS

Use a comma to separate thousands, millions, and higher numbers of four or more digits. Thus: 4,320; 50,491; 1,250,000. (See STA, 6th ed., p. 91.)[1] If the table contains metric values, use spaces instead of commas. (See article 4.03.1.) Aline decimal points. Where data are lacking, use a double dash (explained in footnote or headnote) in place of the value. Do not leave a blank space nor use "NA," which could be interpreted either as not available or not applicable.

Use of the "ND" (not detected) notation means that an analysis was made, that the detection limit of the analytical technique was unknown, and that the constituent was not detected.

Use of the "<" (less than) notation means that the analysis was made, that the detection limit was known, and that any readout from the analytical device was within two standard deviation units of background noise, meaning that there was not sufficient confidence in the readout to assign a real, numerical value to the concentration.[2]

"DITTO"

The abbreviation "do" is used only in columns of dates or words. Abbreviate as "do." Capitalize "Do." only in the first and last columns. If successive numbers, symbols, or abbreviations in a column are the same, repeat them--do not use "do." (See GPO Style Manual, p. 197-198.)

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[1] This rule does not apply to graph scales where commas are not used in numbers less than 10,000.

[2] See Quality of Water Branch Technical Memorandum No. 81.22.

FOOTNOTES

Raised numbers or raised lowercased letters are preferred to asterisks and other symbols. They may be written with a shelf and slash (for example, $^{2/}$) to avoid changing to a superscript typeface in a manuscript, but superscripts without shelf and slash should be used in the camera-ready copy for improved appearance. Where footnotes are attached to numerical values, they are typed to the left of the value to avoid appearing as an exponent.

Examples: $^{2/}13,000$ not $13,000^{2/}$

or $^{b}13,000$ not $13,000^{b}$

Footnotes are placed to the right in columns of words, symbols, and date. (See GPO Style Manual, p. 202.)

HORIZONTAL AND VERTICAL RULES

The table is spanned by a full-width rule above the column headings. A full-width rule also spans the bottom; footnotes are beneath this rule. On tables covering two or more pages, the bottom rule is given only on the last page. Downrules are avoided in most Geological Survey tables; an exception is a table of geologic correlations.

VERTICAL OR BROAD MEASURE LAYOUT

Tables may be arranged either upright on the page or sideways (broad measure), depending on space requirements. Excessive reduction can be avoided if tables are designed to fit on two facing pages or on a sequence of facing pages. Where a broad measure page is used, the table should be on oriented so that the reader will turn the table clockwise to read it.

REDUCTION

For reports to be microfilmed (WRI and Open-File series), final letter size must be no smaller than 8-point.[3] Thus, tables typed in elite may be reduced to no smaller than 80 percent of their original size, and tables typed in pica may be reduced to no smaller than 67 percent. Computer tables may be reduced to 65 percent. For 8 1/2 X 11-inch pages, maximum image area for elite type that is to be reduced to 80 percent is 8 1/4 X 11 inches before reduction and that for pica, 10 X 13 1/4 inches before reduction. Tables in reports for other Geological Survey series may be reduced by as much as 50 percent, if necessary; however, legibility will be greatly diminished. (See article 6.01.2.)

To minimize the time spent in typing tables, the author should study published examples and consult with an editor and typist before specifying the layout.

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[3] This footnote is typed in 8-point lettering.

Reference:
GPO Style Manual, p. 216-217 ("Definition and Parts of a Table")

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.6 Pagination of manuscripts and related components

In the review stages, pagination is for identification only and has little bearing on how pages will be numbered in the printed copy. In manuscripts intended for Division review, the following guidelines should be followed:

A. Page number is at bottom center, about 5/8 inch from bottom of page.

B. Page numbering begins with outside cover as 1 (not i). Roman numerals are used only in the camera-ready copy.

C. Caption sheets and tables are numbered as a regular part of the text.

D. Pages should be renumbered after the manuscript has been proofread and corrected to avoiding use of numbers such as 7a, 7b, and so forth. Handlettering of page numbers is acceptable.

E. If pages must be added after the manuscript has been numbered, and renumbering is not practical, they are designated as a, b, and so forth. Where page 7a, for example, is inserted, the note "7a fols" must be written beside the page number on page 7, and the note "8 fols" must be added on page 7a. When a page is deleted, a similar note must be placed next to the preceding page number.

F. The table of contents may be numbered by hand as long as it is done neatly.

G. When adding the page numbers to the list of illustrations, give the page containing the principal reference, not the caption sheet. (In camera-ready copy, the number should indicate the page displaying the figure.)

H. On the list of plates, do not type page numbers or leaders unless the plate is a fold-out and bound into the book, because the plates will be inserted in a pocket inside the back cover.

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Verification and Proofreading

6.02.1 Procedure for making revisions on manuscripts

The following guidelines are intended to help facilitate typing, correction, and final assembly of completed manuscripts for transmittal to Headquarters.

A. The author and editor can simplify the typist's work by using standard proofreader's marks (see Suggestions to Authors, 6th ed., p. 114) and by writing out neatly or, preferably, printing on separate pages, rather than between lines, all lengthy additions or badly marked-up sections. Placing a check mark in the margin beside each line containing an alteration will prevent the alteration from being overlooked by the typist.

B. Use a colored pencil when making corrections because it is more visible than lead pencil. (When correcting camera-ready copy, use only nonreproducing blue.)

C. To make a deletion, draw a single line through the material to be removed and place a "delete" mark (ꝺ) in the margin beside it. The practice of bracketing material to be deleted is confusing to editors and typists because to them it signifies the addition of brackets.

D. It is the author's responsibility to note factual and numerical errors. All data in the text should be checked against the illustrations and tables and should be given in the same units of measurement and with the same number of significant figures.

E. Before transmitting the manuscript to the next person, the author should verify that all queries have been resolved, and then checked off and initialed.

F. After the typist has made all corrections, the author should proofread the retyped pages and compare them against the marked-up copy to assure that no marks have been overlooked and no new errors introduced. The manuscript submitted to Headquarters should be virtually error free, although minor corrections may be lettered in by hand if they are neat and do not give the page a cluttered appearance.

G. Illustrations, likewise, should be error free. The only marks that should appear on illustrations are those indicating specifications such as percent reduction, shading pattern, lettering style, and so forth.

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Verification and Proofreading

6.02.2 Standard proofreaders' marks

A list of commonly used proofreader's marks is reproduced from the GPO Style Manual (p. 4).

PROOFREADER'S MARKS

⊙	Insert period	caps.	Caps—used in margin
^,	Insert comma	≡	Caps—used in text
:	Insert colon	c+sc	Caps & small caps—used in margin
;	Insert semicolon	≡	Caps & small caps—used in text
?	Insert question mark	l.c.	Lowercase—used in margin
!	Insert exclamation mark	/	Used in text to show deletion or substitution
=/	Insert hyphen	w.f.	Wrong font
^'	Insert apostrophe	⌒	Close up
^"^"	Insert quotation marks	ℓ	Delete
1/N	Insert 1-en dash	⁀	Close up and delete
1/M	Insert 1-em dash	⌒	Correct the position
#	Insert space	⊐	Move right
ld>	Insert lead	⊏	Move left
shill	Insert virgule	⊓	Move up
V	Superior	⊔	Move down
Λ	Inferior	‖	Aline vertically
(/)	Parentheses	=	Aline horizontally
[/]	Brackets	⊐⊏	Center horizontally
□	Indent 1 em	⊔⊓	Center vertically
□□	Indent 2 ems	⌣	Push down space
¶	Paragraph	⁀	Use ligature
no ¶	No paragraph	eq.#	Equalize space—used in margin
tr	Transpose [1]—used in margin	vvv	Equalize space—used in text
⌒	Transpose [2]—used in text	stet.	Let it stand—used in margin
sp	Spell out	.....	Let it stand—used in text
ital	Italic—used in margin	⊗	Dirty or broken letter
___	Italic—used in text	run over	Carry over to next line
b.f.	Boldface—used in margin	run back	Carry back to preceding line
~~	Boldface—used in text	out, see copy	Something omitted—see copy
s.c.	Small caps—used in margin	?/?	Question to author to delete [3]
═══	Small caps—used in text	Λ	Caret—General indicator used to mark exact position of error in text.
rom.	Roman type		

[1] In lieu of the traditional mark "tr" used to indicate letter or number transpositions, the striking out of the incorrect letters or numbers and the placement of the correct matter in the margin of the proof is the preferred method of indicating transposition corrections. (See rule 2.75.)

[2] Corrections involving more than two characters should be marked by striking out the entire word or number and placing the correct form in the margin. This mark should be reserved to show transposition of words.

[3] The form of any query carried should be such that an answer may be given simply by crossing out the complete query if a negative decision is made or the right-hand (question mark) portion to indicate an affirmative answer. (See example, p. 5.) (See rule 2.71.)

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Assembly for Transmittal for Division Review

6.03.1 Inspection, duplication, assembly, and transmittal of manuscript

After the manuscript has been typed, proofread, corrected, and all support documents completed and dated (instructions are given in articles 3.01.1 and 3.01.2), the material may be assembled, as follows, for transmittal to Headquarters:

1. The transmittal memorandum should be written as explained in article 3.01.2, and dated, then signed by the District Chief or other designated official.

2. The appropriate number of copies of each support document should be made as indicated in article 3.01.1, including additional sets for files.

3. When all copies have been made, the support documents should be placed in the order in which they are listed at the bottom of the transmittal memorandum.

4. The package containing review comments should be identified and the names of reviewers listed. The reviewer's name should also be written plainly at the top of each set of comments. The author's written response to each review must be included.

5. The two manuscript copies that are sent to Headquarters (with a set of figures attached to each) should be labeled "original" and "duplicate," at the upper right corner.

6. When all required documents have been assembled as stated in the transmittal memorandum, the package should be sent by registered or certified mail.

7. A record of all manuscript transmittals should be filed for reference.

If a report is returned from Headquarters for revision or resolution of comments, a new transmittal memorandum must be written when the report is resubmitted, and copies of all previous correspondence as well as the marked-up pages must be resubmitted with it.

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SECTION 7

PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL

7

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Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Processing Approved Manuscripts

7.01.1 Procedures for handling approved manuscripts

Once a manuscript has been approved by the Director for publication and returned to the originating office, it may be regarded as belonging in one of two categories:

A. Reports for which camera-ready copy is prepared outside the originating office:

1. Geological Survey formal series, including Water-Supply Papers, Professional Papers, Circulars, Bulletins, Techniques of Water-Resources Investigations, Hydrologic Investigations Atlases, Miscellaneous Investigations Maps, and Miscellaneous Field Studies Maps).

2. Non-Survey series[1] (some conference abstracts and articles, journal articles, reports in series published by State or other government agencies.

B. Reports for which camera-ready copy is prepared by the originating office:

1. Geological Survey Open-File, Water-Resources Investigations, and administrative reports.

2. Non-Survey series (some conference abstracts and articles, reports in series published by State or other Government agencies).

The procedure for processing the approved manuscript and distributing final copies will depend upon the type of report. The manuscript returned to the originating office by Headquarters will contain a memorandum giving general instructions. Some additional guidelines are as follows.

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[1] Most journals and conference proceedings require camera-ready illustrations from the originating office. The manuscript and illustrations should be prepared to publisher's specifications before the manuscript is submitted for Director's approval because this eliminates the need for reformatting later on. The author is responsible for obtaining and following publisher's specifications. Do not submit single-spaced copy for Director's approval.

REPORTS FOR WHICH CAMERA-READY COPY IS PREPARED OUTSIDE THE ORIGINATING OFFICE

Survey Series

1. The approved manuscript is routed to the author, through his supervisor, with a Division memorandum giving (a) instructions for responding to remaining questions and retyping badly marked-up pages, and (b) a date by which the copy should be returned to the Publications Management Unit. Shortly after transmittal of the manuscript to the Geologic Division by the Publications Management Unit, the Publications Management Unit will request the originating office to send original illustration materials for books to a Geologic Division book-preparation unit.

   For map reports, the originating office should send original illustration materials to the Publications Management Unit when the manuscript is submitted for preparation for printing.

2. Book manuscripts are edited at Headquarters, Denver, or Menlo Park for typographic style and are returned to the author for verification. Again, the author will be informed as to the deadline for return of the manuscript, this time directly to the appropriate Geologic Division book-preparation unit.

3. After typesetting and drafting have been completed, the author will receive proofs of the text and illustrations (not necessarily together) from the publisher. Proofreading should be done promptly. Proofreading is best done by two people working together, one reading from the original manuscript and the other from the proof. Use only standard proofreader's marks; these are given in Suggestions to Authors (6th Ed., p.114), and in article 6.02.2. Because typographic changes are costly, only alterations concerning errors of fact, spelling, or punctuation will normally be accepted. After making corrections, the authors must return all components to the indicated address.

4. When the book has been printed, copies will be sent to the author for inspection. If serious problems are noted, an errata sheet can be prepared or other corrective action taken. Printed copies are distributed by the Branch of Distribution according to lists prepared by Headquarters. The author(s) will receive copies as indicated in article 8.02.4.

Non-Survey Series

When the approved manuscript is received at the originating office, it is sent to the author through his supervisor with the Division memorandum giving (a) instructions for resolving questions and submitting retyped copies of the badly marked-up pages to the Publications Management Unit, and (b) the required distribution for printed copies once they become available. Steps in handling manuscripts to be typeset outside the Geological Survey are as follows:

1. Resolve in writing, to the satisfaction of the District or Research Project Chief, all questions raised during Division review.

2. Retype the manuscript according to the publisher's typographic specifications, even if they differ from Geological Survey rules, then proofread. Also correct the illustrations. If camera-ready illustrations are required, it may be wise to submit only review-quality sketches and to postpone final drafting until the publisher has accepted the article. This will avoid the need to redraft or reformat the material should the publisher reject the article or call for revisions.

3. Send the retyped manuscript and corrected illustrations to the publisher with a cover letter, and retain a file copy of all documents.

4. If the publisher rejects the report, the author may submit the report to a different journal but must notify the Division when and by whom the report is accepted. Alternatively, the report may be published in a Geological Survey series, but must be resubmitted for approval. If approval for the WRI or Open-File series is requested, only the routing sheet, approval notice, news release, and transmittal memorandum explaining the situation need be included. If publication in a formal Geological Survey series is requested, two copies of the manuscript, a news release, note for the monthly list of new publications, and illustration check lists are required. (See Section 3.) In either case, the manuscript and illustrations must be formatted to Geological Survey style.

5. Upon receipt of galley and illustration proofs from the publisher, authors should proofread them promptly. Proofreading is best done by two people working together, one reading from the original manuscript the other from the proof. Use only standard proofreaders' marks; these are given in Suggestions to Authors (6th ed., p. 114), and in article 6.02.2. Because typographic changes are costly, only alterations concerning errors of fact, spelling, or punctuation will normally be accepted.

6. Return the corrected proof and the marked-up manuscript to the publisher with a cover letter, and expect to wait several weeks or months before printed copies are available.

REPORTS FOR WHICH CAMERA-READY COPY IS PREPARED BY THE ORIGINATING OFFICE

Instructions for preparing camera-ready copy are given in Section 7.02. The general procedure is briefly summarized below:

1. Upon receipt of the approved manuscript, authors resolve all questions in text and illustrations to satisfaction of the District or Research Project Chief, then deliver all components, including original illustration materials, to the inhouse reports section. Originating offices should retain comments of colleague reviewers for at least one year after the report has been published.

2. A mockup of the report is made with single-spaced text, leaving appropriate space for tables and illustrations. Authors should verify and proofread the mockup before the camera-ready copy is prepared.

3. Illustrations are drafted and tables formatted to fit the space allotted in the mockup.

4. Typist makes author's corrections to text; illustrations are then placed in the corrected camera-ready copy. Author inspects a proof of all camera-ready copy, again indicating all corrections and revisions.

5. Each page, including cover, is given final inspection by an editor to verify that copy is neat, page numbers are in proper order and listed correctly in the table of contents, and printer's instructions for all components are explicit. The material may then be delivered to the printer.

   For reports to be published in non-Survey series, the author has no further responsibility, other than to provide printed copies to Headquarters when they become available, as specified in the manuscript-approval notice.

Additional Steps for WRI and Open-File Reports

6. Camera-ready copy is sent to the Government Printing Office with form SF-1, or is machine duplicated inhouse. (See article 7.03.3 for instructions for preparing form SF-1.)

7. Upon receipt of printed copies, the shipment is inspected to verify that printing and binding are not faulty. Sometimes the shipment will need to be sent back for reprinting or rebinding.

8. If serious typographic or factual errors are discovered, an errata sheet is attached inside each copy before distribution.

9. The appropriate number of copies is mailed to Headquarters and depositories, as indicated in the manuscript-approval notice.

10. A news release is issued to the news media. If report has not yet been announced in "New Publications of the Geological Survey," the copies must not be distributed (except to depositories--step 9 above) until the news release has been issued.

11. After public announcement of the report, copies may then be distributed according to established mailing lists. (Guidelines for distributing WRI and Open-File reports are given in Sections 10 and 11, respectively.)

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Article 7.02.1

Subject: PROCESSING MANUSCRIPT AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

7.02.1 Description of design and layout process

This article, and all other articles in Section 7.02 pertain to Geological Survey reports for which camera-ready copy is prepared inhouse, such as WRI and Open-File reports.

Camera-ready copy is the material supplied to a printing firm (or used in a copying machine) to produce multiple copies. Although the camera-ready copy can be reduced or enlarged and negatives can be screened to decrease image density, the printed copy will contain the same image as the camera-ready copy, including typographical errors and pencil marks. Thus, the camera-ready copy must be complete, clear, and error-free. The general procedure for preparing camera-ready copy is explained below; detailed instructions and suggestions are given further on in this section.

The services needed to prepare camera-ready copy are those of designer or editor, typist, and draftsman or cartographer. In some offices, the team may consist only of author and typist; yet, by following the procedures described herein, one can prepare camera-ready copy of professional quality with minimal effort.

The minimum equipment needed, in addition to drafting material and typewriter or word processor, are listed below; most can be obtained at low cost through local graphics firms.

colored and lead pencils, including nonreproducing blue
scissors (mat knife and paper trimmer are optional)
rubber cement, glue sticks, clear tape, or waxing machine
rubber-cement thinner and dispenser
crepe "pickup" to remove dried rubber cement
pica rule and clear straight edge
ream of blank paper (8 1/2 X 11 inches)
reduction-enlargement wheel (circular slide rule)
dictionary and booklet "Word Division" (GPO, 1976)
light table
lettering machine (optional)

A method that will minimize the number of drafts, reduce the time spent in making revisions, and produce the most professional appearance employs a mockup for the typist to follow in final typing. This procedure may be used for publications of any length and format and is the procedure used in virtually all books, magazines, and advertisements. The following steps summarize the preparation of camera-ready copy. Detailed descriptions of major steps are given in articles 7.02.2 through 7.02.6.

1. Author resolves all Division queries in the manuscript in neat penmanship so that the typist can follow them.

2. Typist produces a complete single-spaced draft that includes the preliminary pages, references, tables, and figure captions. After typing, the typist scans all components to verify that no lines or paragraphs have been repeated or omitted and that the margins and spacing between sections are even and balanced.

3. When the text, tables, and captions have been typed, the designer (usually editor or author) cuts and lays them out on sheets of blank paper at publication size[1]. If both sides of each page are to be printed, this step must be done with facing pages side by side, with even numbers on the left. This procedure establishes what material will be on each page of the report and how the book will look when printed; this phase also determines the pagination. Wherever the principal reference to a figure or table occurs, the designer should evaluate that component to determine how much space it will require. Several alternatives may be available; for example, a map or graph may extend across two pages, may fit sideways on one page, or may require only half a page, and some tables may require several pages while others could be reduced to fit on two facing pages or even on one page. The author's review copies should suggest the approximate size (full page, half page, and so forth), but the exact dimensions will be determined by the amount and placement of the surrounding text. Some backtracking will probably be necessary during the layout phase to solve problems of balance, but the total process should not take more than a few hours, even for long, complicated reports.

4. Author proofreads the mockup and suggests changes in layout as needed. The author's supervisor also should inspect and approve the mockup.

5. Once the changes have been agreed upon, the typist runs off camera-ready text exactly as indicated in the mockup, leaving space for the illustrations and tables. The tables and figure captions should be typed separately to allow positioning in the final copy. Concurrently, the draftsman completes illustrations to the dimensions indicated in the mockup.

6. Author and editor inspect every retyped page and component, on a facing-page basis, to verify that no new errors have been introduced and that all pages, including headings, captions, and so forth, are balanced. Any pages needing further correction are retyped, proofread, and inserted into the camera-ready copy.

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[1] If copy is to be reduced, oversized sheets may be used.

7. Completed illustrations, captions, tables, and display heads (if used) are pasted onto the camera-ready copy, and a duplicate copy of the entire report is made. The duplicate is inspected, again with facing pages side by side, to verify alignment, correct pagination, and so forth. When all corrections have been transferred to the camera-ready copy, it is ready for printing.

The advantages of preparing a mockup before final typing are that it enables the designer and author to consider a variety of layout alternatives, relieves the typist of guesswork, reduces the number of drafts and the amount of proofreading, and provides a balanced, professional appearance that would not be possible otherwise.

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Article 7.02.2

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL-- Preparing Camera-Ready Copy

7.02.2 Typographic considerations

Whether the originating office uses a typewriter or a composing machine, selection of an appropriate typeface for preparing camera-ready copy of technical reports is a major consideration because it affects both the esthetic appearance and the legibility of the report. Typefaces are available in many sizes, weights, and styles. Some criteria and suggestions for type selection are given below.

TEXT TYPE

Although most new typewriters or word processors accept a variety of typefaces, the most appropriate for text is generally an elite serif roman[1] style such as Prestige Elite or Courier. Numerous studies indicate that the serif typefaces are more legible than either the sans serif[2] (so-called Gothic) or the italic typefaces. Sans serif may be used for illustrations. Either serif or sans serif may be used for tables. Italics should be used only for isolated words or phrases and short, isolated paragraphs. Italics are not underscored.

Examples

This line is typed with Prestige Elite lettering.

This line is typed with Courier lettering.

This line is typed with Letter Gothic lettering.

This line is typed with Courier Italic lettering.

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1 Roman--upright letter style, not italic.
Serif--line crossing the end points of letters in typefaces such as Prestige Elite.

2 Sans serif--a typeface lacking serifs (French sans, without).

The recommended type size for technical reports and news releases is elite (12-pitch) rather than pica (10-pitch) because more words can be typed on a page and because elite provides more space between lines, making it easier to read.

Tables.--Tables may be done in any roman typeface. If symbols are used in the text, an identical type style for those symbols must be used in tables and illustrations.

Major headings.--Unless special (commercial or rub-on) lettering is used in place of typescript, headings in camera-ready copy should be typed the same as in the review copy.[3] (See article 6.01.3.)

If special lettering is used, the system of heading orders need not be followed, but the lettering and weight size should reflect the heading rank.

Illustrations and table titles.--These may be typed in either roman or italic, depending on author's and editor's preference, but must be consistent throughout the report. Titles should be centered in relation to the material they refer to but should be slightly narrower. If the title contains more than one line, each line should be nearly the same length, with the top line the longer.

SPECIAL LETTERING FOR COVER AND HEADINGS

Although special lettering is not required in Geological Survey reports, it can greatly enhance the appearance of cover and text. To use special lettering effectively, keep the following principles in mind:

Keyboard vs. display.--Most graphics firms provide a wide choice of both keyboard and display lettering; a copy of their specimens book will give examples of size and weights available. Keyboard lettering (6 point to about 18 point) is faster to produce and far less expensive than display type, wherein every letter must be retrieved and printed individually. Display type is used almost exclusively for sizes 18 point and larger. Keyboard faces, though generally conservative, are suitable for virtually all technical reports.

Size and thickness.--Any lettering intended to enhance a page of text should harmonize with the typescript. Lettering that is ornate, severely condensed or expanded, too thin, or too bold will blend poorly or cause imbalance. In general, headings ranging in size from 10 to 14 point in bold or medium-bold sans serif will best enhance typescript. Using 8- or 9-point headings with 10-point typescript will weaken the effect, and using heading sizes larger than 14 point may cause an unbalanced appearance.

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[3] In copy prepared for non-Survey publication, follow publisher's specifications for heading style.

Capital and lowercase letters.--If the title on the cover contains more than a few words, capitals with lowercase will be more legible than all capitals and are generally more attractive. Capital letters without lowercase retard reading speed because they are of equal height and lack the variety of the lowercase. Use all capitals for major text headings only; lowercase roman italic is effective in subheadings. Insure that the several ranks of headings and subheadings are different enough in appearance to be distinguishable from one another.

Arrangement of words.--When designing headings, attempt to keep the top line the longest to form an "inverted pyramid." If this results in hyphenation or an inappropriate separation of words, an alternative arrangement may be necessary.

Examples

This is an inverted pyramid;
try to avoid hyphen-
ation

This is an inverted pyramid;
try to avoid hyphenation

This
style is not
often recommended

This arrangement may
be necessary
under certain conditions

Flush left is widely used, but
hyphenation should
be avoided

Flush right is
used only
rarely

Studying examples.--Type styles and arrangements can be readily studied in magazines, newspapers, and journals. By analyzing the different styles and their effects, one can quickly learn to use them effectively in technical reports.

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Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL.--Preparing Camera-Ready Copy

7.02.3 Instructions for typing single-spaced copy

Preparation of camera-ready copy by the originating office may begin as soon as the approved manuscript has been received and the author has resolved all comments and questions raised during Division review.

The first step in preparing camera-ready copy is to select the typeface, then type a single-spaced draft from the approved manuscript, including figure captions and tables. Cut-ins indicating figure or table locations are deleted at this phase. From this draft the editor or author will develop the individual page layouts, preferably by a cut-and-paste procedure, leaving room for figures and tables, and working on a facing-page basis.

In typing the first single-spaced draft, the typist need not be concerned about the number of lines per page because at least one more complete draft will be typed later. The typist must, however, verify that:

A. All revisions indicated in the review copy are incorporated into the new draft.

B. Type style is appropriate. (See article 7.02.2.)

C. All paragraphs are separated from one another by one vertical space.

D. There should be at least two vertical spaces between a major heading and the preceding material.

E. All lines are approximately the same length--6 to 6 1/2 inches on 8 1/2 X 11-inch paper if using a single-column format (without excessive hyphenation).

F. Hyphenation is correct (no "bad breaks"[1]). (See article 4.03.1.)

G. Last line of each paragraph contains at least 10 characters.

H. Form of indention is consistent throughout the report.

Some additional considerations are:

Justification.--Right-margin justification is optional. On most typing equipment it produces awkward wordspacing that becomes more evident with decreasing line length. An unjustified ("ragged") right margin allows equal word spacing and improves readability. Unless proportional spacing is possible, right-margin justification is rarely worthwhile.

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[1] U.S. Government Printing Office, 1976, Word Division, a Supplement to Government Printing Office Style Manual: Washington, D.C., 190 p.

Tables.--Most tables can be single spaced and, if possible, compressed to 6-inch width or less to fit upright on the page. Double spacing or grouping of lines may be used if it significantly improves legibility, however. If a table will not easily fit the 6-inch width, it may be rotated sideways on the page, spread across two facing pages, or typed larger by as much as 25 percent (elite) or 50 percent (pica) for subsequent reduction. (See article 6.01.5.)

Figure captions.--Captions should be separated from the manuscript and listed together, single spaced, on a separate page, at least four lines apart so that they can be cut out with scissors. Phrases such as "map showing" or "graph showing" should be deleted except in the table of contents. The line length of some captions probably will be altered later to balance the illustration, but at this stage the exact figure dimensions may be unknown, and the final length can only be estimated.

Plate captions.--These need not be retyped because they will be done in larger lettering on the final copy.

Equations.--Equations present a unique typing problem. If they contain numerous symbols requiring a repeated change of type style, the typist and author should work together to develop on separate paper a single, error-free copy of each equation that can be spliced into the camera-ready copy. Individual characters may need to be spliced or hand lettered. Once a perfect copy is obtained, it should be machine copied and the original put away for later use. In the first proof and all subsequent versions, the typist should simply leave an appropriate amount of blank space for equations; this will eliminate the need to retype them. The originals are pasted into the camera-ready copy before printing.

Table of contents.--The table of contents (and all preliminary pages) will generally be typed single spaced, but page numbers at the end of the leaders are omitted at this stage because they have not yet been determined. The entry for each illustration must indicate whether the figure is a map, graph, diagram, or photograph. (See article 3.01.2.)

Pagination.--All pages of the single-spaced draft should be numbered in nonreproducing blue pencil at the bottom center, beginning with the cover as arabic 1 (not i) so that copy can be reassembled should it become shuffled. These numbers are for convenience only and have no relation to final pagination.

Major headings.--These should be typed just as in the review copy, generally three lines below the preceding paragraph.

Cut-ins.--Cut-ins, or indicators that a table or figure is to follow, are deleted from the single-spaced draft, but the typist should indicate in nonreproducing blue pencil where tables or figures will appear (a checkmark will do), as a reminder to the designer or editor.

Italics.--Words or lines to be typed in italics in final copy need not be italicized until the final draft because changing type style at this point would only waste time. However, the typist should underscore in pencil or by machine any words to be italicized, as a reminder to the author and editor.

Quotations.--Quotations of four or more lines should be set apart from the text and indented three to five spaces on both sides, as shown below.

> Where a quotation is presented this way, quotation marks are not used When the quotation contains fewer than four lines, however, it may be run into the text and enclosed in quotation marks.

Paragraph breaks.--There is no need to have only complete paragraphs on a page of camera-ready copy; rather, the more copy that is typed on a page, the less paper is wasted. Sentences, too, may be broken and continued on the next page, and new sections may begin near the bottom of a page. (See article 6.01.1.)

Final inspection.--Before delivering the single-spaced draft with tables, captions, and equations to the editor or author, the typist should verify that no lines are repeated or omitted, that all items discussed above have been done as prescribed, and that the arrangement of type in each paragraph appears neat and well balanced. The single-spaced draft, together with the original version, may then be turned over to others for preparing the mockup.

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Article 7.02.4

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL.--Preparing Camera-Ready Copy

7.02.4 Preparing the mockup

- Cover
- Preliminary pages
- Abstract
- Text
- Placement of illustrations and tables
- Figure captions and table headings
- Completion of mockup

The purpose of a mockup is twofold--it enables the designer to develop an effective presentation of the material, and it serves as a typist's guide to minimize the amount of retyping and proofreading.

This article explains the mechanics of book design, with specific instructions for cover, preliminary pages, abstract, text, and placement of figures and tables. Although this article assumes printing on both sides of a page and an 8 1/2 X 11-inch format, such as for WRI and Open-File reports, the principles are applicable to books of other dimensions and to printing on one side of a page as well.

Additional instructions for preparing WRI and Open-File reports are given in Sections 10 and 11, respectively; procedures for designing books in the STOP format (Sequential Thematic Organization of Publications) are given in article 2.02.4.

Layout of WRI and Open-File reports, as well as those in many non-Survey series, is generally done by an editor, but could be done by authors or clerical staff. With practice and by following the principles described in this article, one can avoid the common errors and create a professional-quality layout within a few hours for any type of published material.

COVER

Although the cover of each approved manuscript has presumably been checked to verify conformance to publisher's requirements, it is advisable to reinspect all details when preparing camera-ready copy, especially the wording and spelling of the title, because the cover is the most conspicuous part of the report. All art covers must be included in the report package submitted to Headquarters for Director's approval, and must be approved by the Director.

The cover contains four main components--cover 1 (outside front), cover 2 (inside front), cover 3 (inside back), and cover 4 (outside back). The printer generally will print them on a single sheet. If the report is to be more than a quarter of an inch thick, the cover will also include a spine backstrip). A page containing the copy for each of these components, including the spine, must be supplied to the printer with the camera-ready copy.

Texture and color.--Most Federal reports are required to be printed on uncoated (dull finish) paper because it is less expensive than coated (glossy) paper. Covers may be any desired pastel shade, including white, but in Geological Survey reports only one ink color is permitted. If colored paper is used, the ink must be dark enough to show clearly. If white lettering on a colored background is desired, prepare the copy in the usual manner but instruct the printer to "reverse" the print. A bold type should be used in "reverse" copy to prevent letters from "filling in" with surrounding ink.

Photographs printed on uncoated covers may give disappointing results because the ink will be absorbed, diminishing contrast. Line drawings, silhouettes, lettering, and uniformly screened areas, however, will be satisfactory on paper of any finish. If a cover photograph is required, consult GPO to be sure that suitable cover stock can be provided.

The ink color used on cover 1 will be used on cover 4, and may be used on covers 2 and 3 as well unless specified otherwise, because the four components are printed as one sheet.

Binding.--If the report contains less than 96 pages, it will be saddle stitched (stapled down the inside center) or side stitched (stapled on the outside at the left margin). If the report contains more than 96 pages (fewer pages if heavy text paper is used), it will be side stitched or perfect bound (squared off with glue binding). Wire, ring, or plastic bindings will be used only if specified; these are more expensive than a staple or glue binding.

Cover 1 (outside front)

In simplest form, Geological Survey report covers consist of the title, department and bureau identification, report series and number, and statement of cooperation. Covers do not bear the authors' names nor the date and city of publication; these are given on the title page.

If special lettering is used, its size and weight must be balanced and compatible. (See article 7.02.3.) Specifications for standard typescript covers are given below; examples are given in articles 3.01.2, 10.04.1, 11.04.1, and 12.04.1. If other than a standard designed cover is desired, an example must be included for inspection when the report is submitted for Director's approval.

Department Identification.--For typescript covers to be reproduced by offset printing, the Department seal is placed near the lower right corner. For art covers, the Department seal may be centered on cover 4, if necessary. For covers of reports to be copied on office equipment, the edge of the seal may produce a "halo" or splice line, in which case it may be omitted. If the seal is omitted, the following imprint must be typed beginning four lines below the top of the page and centered:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Report Title.[1]--Use capital letters, aline flush left one inch from the left margin. If the above imprint is used, begin title 4 lines below it; if the department seal is used, begin at least 7 lines below the top of the page. If possible, make the top line the longest, but avoid hyphenation or illogical separation of words. If the title contains 2 lines or more, they should be double spaced. A centered 6-inch horizontal line is typed across the page 3 or 4 lines below the report title.

Bureau Identification.--On reports bearing the Department seal (rather than the above imprint), the words U.S. GEOLOGICAL SURVEY are typed on the third line below the horizontal line, in capital letters, flush left.

Report Series and Number.--Two lines below the words "U.S. GEOLOGICAL SURVEY," or 6 lines below the horizontal line, the report series and number, as indicated on the approval notice, is typed in capital and lowercase, for example:

- Water-Resources Investigations Report 82-XXXX

- Open-File Report 82-XXXX

Statement of Cooperation.--The statement of cooperation is alined flush left with the title and double spaced about 4 inches above the bottom of the page; for example:

Prepared in cooperation with the
NEW YORK STATE DEPARTMENT OF HEALTH

The name of the cooperator should be lettered the same size as that of the Geological Survey.

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[1] Water Resources Division Memorandum No. 81.127, dated September 8, 1981, describes the requirements for a good report title.

Cover 2 (inside front)

In WRI and Open-file reports, cover 2 is blank. This should be indicated by stating in nonreproducing blue on the bottom of cover 1, and on a separate page:

"cover 2 is blank."

Article 7.03.2 gives instructions for indicating the presence (or absence) of printing on covers 1 through 4 on the GPO Printing and Binding Requisition form SF-1.

Reports to be printed in non-Survey series may require special copy for cover 2, such as a list of county officials. Whenever this is the case, be sure that the following information is included:

UNITED STATES DEPARTMENT OF THE INTERIOR

_____ , Secretary

GEOLOGICAL SURVEY

_____ , Director

The Secretary's name is all-capitals; Director's name is capital and lowercase.

If the list of officials is on the back of the title page, cover 2 will be blank. (See example in article 3.01.2.)

Cover 3 (inside back)

Cover 3 of a report may contain printing or may be blank; some reports contain a map pocket. In any case, the printer must be informed what to do. Prepare a sheet (in nonreproducing blue) stating "cover 3 blank" or "cover 3 map envelope." Specific instructions regarding the size and configuration of the envelope must be included in Printing and Binding Requisition form SF-1. (See article 7.03.3.) If cover 3 is to contain printing, write "cover 3" (in nonreproducing blue) at the top of the copy and also specify the desired enlargement or reduction, if any, and how the copy is to be positioned.

Cover 4 (outside back)

If copy is prepared for cover 4, give precise instructions, or, if cover 4 is to be blank, indicate so on a separate sheet. Remember that if the report is to be perfect bound or saddle stitched, the cover will be printed as one sheet, with covers 1 and 4 on one side and covers 2 and 3 on the reverse side.

Spine (backstrip).--If the camera-ready copy is to be perfect bound, lettering will be required for the spine. The lettering should be in a size that will fit on the spine (no longer than the book's left margin and no higher than the estimated thickness of the book). The simplest procedure is to type or letter the material lengthwise on 8 1/2 X 11-inch paper, positioning the words exactly as they are to appear on the printed cover; for example:

[Top]		[Bottom]
Smith	GROUND WATER IN MERCER COUNTY, N.J.	USGS/WRI 82-XXXX

On this sheet, write "spine" in nonreproducing blue and enclose it with the other cover copy. Some titles may need to be shortened or the author's name or series number omitted. Indicate top of book to insure that the spine reads downward. The spine copy can be printed on cover 4 of saddle-stitched books, if desired.

When the camera-ready copy of the cover has been completed, insert a copy of each component in proper order in the mockup. Thus, the first two sheets of the mockup will be covers 1 and 2, and the last will be covers 3 and 4 with spine copy.

PRELIMINARY PAGES

Pagination.--In camera-ready copy, the preliminary pages (contents, list of conversion factors, glossary, and so forth) are numbered with lowercase roman numerals, and the text, beginning with the abstract as page 1, is numbered in arabic. Odd-numbered pages must be on the right, even numbers on the left. In standard-format Geological Survey reports, the page number is centered about 5/8 of an inch above the page bottom; other publishers may place page numbers elsewhere, such as in the outside corners.

Title page.-In WRI and Open-File reports, the title page closely resembles the cover, except that it includes the author's names (first name, middle initial, and last name, in capitals and lowercase, just below the title, and gives the city, State, and date of publication approximately one inch above the page bottom. (Typographic instructions for the title page are also given in article 6.01.3; examples are given in articles 3.01.2, 10.04.1, 11.04.1, and 12.04.1.) If a frontispiece is used, see article 5.05.8.

Back of title page.--The material for this page depends on the publisher. In WRI and Open-File reports, this page lists the Department Secretary, the Director of the Geological Survey, the originating office address (see examples in articles 10.04.1 and 11.04.1), and ordering information; in non-Survey reports it may list non-Federal government officials or be left blank. If such officials are listed, the Department Secretary and Director of the Geological Survey also must be included.

Contents (not "Table of Contents").--This will normally begin on page iii, which, in final copy, will face the back of the title page. The wording of headings should be exactly as in the review copy, and the material is single spaced. Leaders (rows of dots or dashes) should extend to the right, leaving room for page numbers once they have been determined.

Other preliminary pages.--At this point, the person making the mockup will assemble all remaining preliminary matter on a facing-page basis, cutting and positioning until visual balance is achieved. In some reports, the contents, list of illustrations, and list of tables may fit on a single page; in others, they may run onto several pages. The list of illustrations (plates and figures) normally precedes the list of tables. The list of tables is followed by the list of conversion factors, which, if short, may be on the same page as the list of tables. The list of conversion factors should not be listed in the table of contents. A "Glossary" or " Definition of Terms" section, if used, may be placed at the back of the report and listed in the table of contents.

As a rule of thumb, typescript should begin and end at the same depth on each pair of facing pages. A transparent ruler at least 12 inches long and marked in both inches and picas will be useful in measuring the vertical spacing. To help achieve balance across facing pages, space may be added between major sections.

When the preliminary matter has been arranged and pasted down with rubber cement, tape, or wax, the roman numerals may be penciled in at the bottom of each page. Also, the number of lines skipped between components and the line on which typing begins should be indicated to help the typist avoid guesswork.

If the preliminary material ends on an odd-numbered (right-hand) page, the next sheet should be marked "page blank" in nonreproducing blue. This both informs the printer that there is no copy for that page and enables the abstract to begin on the right, in accordance with tradition.

ABSTRACT

In nearly all reports, the first page of text (page 1) is the abstract. This page begins with the title, usually centered in capital letters, double spaced, and arranged in "inverted pyramid" fashion--that is, the top line is the longest. If this forms an awkward wordbreak or requires hyphenation, an alternative arrangement should be developed.

Two or three lines below the title is the word "By" and the author's name(s) on the same line (usually first name followed by middle initial and last name). Three or four lines below the author's name(s), the word "ABSTRACT" is centered in capital letters. (See example in article 3.01.2.)

If the abstract is short and appears isolated on the page, three remedies are possible:

1. Double space the abstract, perhaps in italics, but leaving the title and author's name(s) in roman type.

2. Drop the title from line 7 to line 13 and begin the abstract farther down.

3. Indent the abstract on both sides to form a 5- or 5 1/2-inch line; this will make it narrower and a line or two longer.

4. Develop a combination of the above.

5. Begin the introduction a few spaces below the abstract rather than on the next page. If this is done, typing the abstract in italics and (or) indenting it slightly on both sides will give the necessary contrast and improve the appearance of the page. Italic type should not be used for lengthy abstracts, however, because it is difficult to read.

TEXT

The introduction is the first part of the text following the abstract. The introduction may begin either on page 1 below the abstract, on page 2, or on page 3 (right-hand page), leaving page 2 blank. (If the last option is chosen, leave page 2 blank and insert a sheet containing the note "page 2 blank" in nonreproducing blue.)

The designer will find it helpful to establish the image area for the report. For 8 1/2 X 11-inch paper, this is generally 6 1/2 inches wide and 8 3/4 inches (53 lines) deep, beginning on line 7. This gives a slightly larger bottom margin and provides space for the page number. Top and side margins should be 1 inch wide.

Paragraphs.--Paragraphs may be broken and continued on the following page (in camera-ready copy only). The image areas on facing pages should be balanced; that is, the number of lines should be equal. If a paragraph runs just one line over the limit, the designer must decide whether to carry two lines over to the next page, or to create the necessary space by rearranging the preceding material. The latter can be done by (1) slightly widening line lengths so that the last line of a paragraph is absorbed; (2) deleting space between headings, or (3) backtracking a few pages to gain space elsewhere.

Headings.--When a new heading is reached, there is no need to begin a new page unless the heading is so close to the bottom of the page that little or no text can follow it. When this occurs, lengthen the typed area either by adding a line or two from the previous page, by expanding the space above preceding headings, or by slightly narrowing the lines in certain paragraphs so that those paragraphs will each become one line longer. If the page is still too short, achieve balance by shortening the material on the facing page by an approximately equivalent amount. This discrepancy will almost never be noticed, regardless of the length of other pages in the book. It is important, however, to leave sufficient space above the new heading so that it will stand out.

List of references.--The list of references preferably should begin on a new page. However, the list may begin on the last page of text, depending on the number of bibliographic entries, the amount of space left on the preceding page, and the number of entries that will run over onto a new page.

PLACEMENT OF ILLUSTRATIONS AND TABLES

Placement of illustrations (figures and plates) and tables requires attention not only to their size, but also to the wording of the text. For example, a table and a map may be intended to face each other, two photographs may belong side by side for comparison, or six or eight similar graphs could be reduced and grouped together on a page or on facing pages.

When laying out the single-spaced text on facing pages, note the principal (not necessarily the first) reference to all tables and figures and inspect those components for size and relation to other components. From the author's illustrations, obtain an idea as to whether the material will require a full page, two or more facing pages, or less than a page, and how they should be grouped. A table or figure should be positioned just after its principal reference and, if possible, within the chapter or subsection in which it is discussed--that is, before the next heading. An illustration or table should be placed within the next chapter only when the advantages would outweigh the disadvantages.

When working through the mockup, indicate to the typist the exact amount of vertical space needed for each table or illustration and heading.

When placing illustrations and tables, avoid broad-measure layout where possible because it inconveniences the reader, who must turn the book sideways to read it, and because it is out of step with the general layout of the book. However, broad measure often is necessary, particularly with computer printouts. Where broad measure cannot be avoided, the imbalance can be minimized if two such pages are placed facing each other so that both can be viewed as a unit.

A series of similar illustrations may be reduced and grouped with two or more on a page or series of pages. If this is done, the captions probably will need to be rephrased to reflect the new arrangement. For example, a revised caption for a series of graphs numbered 6 through 12 would refer to figures 6A through 6G.

A copy of illustrations and tables reduced or enlarged to publication size can greatly facilitate layout work; these can usually be obtained through a local graphics firm. Alternatively, this work may be left to the printer. Simply draw a rectangle in nonreproducing blue on the camera-ready copy showing the exact area to be occupied by the material, and indicate on each component the desired dimensions and the page on which it is to be inserted. When the critical desired dimension has been determined, the other dimension can be calculated from a circular proportional scale, obtainable at graphics firms. If the other dimension is too short or too long, cropping or reformatting will be necessary.

Illustrations and tables provide an advantage in layout because they not only add variety to the typescript but can generally be reformatted as appropriate. For example, a table may be expanded by double spacing, may be separated into halves to occupy two facing pages, or may be compressed or photoreduced to fit a small area. Similarly, an illustration can be expanded or reduced by altering the borders, cropping nonessential areas, or regrouping the components. In all cases, legibility is the prime concern.

FIGURE AND TABLE TITLES

When preparing the mockup, figure and table titles should be designed to an appropriate width--slightly narrower than the component they describe, with the top line equal to or slightly longer than the rest. Each line of the title should be approximately the same length.

To prevent a title from blending into the surrounding text, place figures at the bottom of the page and tables at the top, or provide extra space between the title and the text. Alternatively, type all titles in italics. (Note that italics should not be underscored.)

COMPLETION OF MOCKUP

When all components have been assembled and all pages rechecked to verify that no copy has been omitted or placed out of sequence, and that all facing pages are balanced, the page numbers are assigned and transferred to the table of contents. Verify that all section headings given in the table of contents contain the same wording and rank as those in the text. Also, verify that the amount of space to be left for figures, tables, and section headings is indicated to avoid errors and retyping.

As a final inspection, start again with the front cover and view all pages, two at a time with even numbers on the left, to insure that every component is accounted for and correctly numbered (including blank pages).

Reports to be reproduced by offset printing will contain a total number of pages that is a multiple of 4. For example, if the text ends on page 31 and contains 6 preliminary pages (i-vi), the total is 37. However, to reach 40 (the next multiple of 4), 3 extra sheets must be added, on each of which is written, in nonreproducing blue, "pages __, __, __ blank." This informs the printer that there is no copy for the last three pages. If the report is to be machine-copied (two-sided), this rule does not apply.

The completed mockup should be a full-size replica of the printed report, minus the illustrations, tables and titles, except that all pages are one-sided. Final drafting may now be completed because the exact dimensions are known. After all rubber cement, dirt, and extraneous pencil marks have been removed, the mockup is given to the author for inspection, then to the typist for preparing the camera-ready copy.

Subject: PROCESSING MANUSCRIPT AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

7.02.5 Final typing from mockup

After the mockup has been inspected and corrected by the author(s), the typist will produce camera-ready typescript. In this step, the typist should follow the mockup exactly, keeping the indicated margins, alinement, paragraph length, space between section headings, position of equations, and amount of space for each illustration and table. Whether the copy is done on word-processing equipment or typewriter, the principles listed below should be followed:

1. Use only clean, white paper (generally 8 1/2 X 11 inches). Do not use tinted, textured, onionskin, or erasible paper. Type on one side only, and use a new carbon (rather than cloth) ribbon.

2. Select a typeface that gives good legibility, such as 12-pitch Prestige Elite or equivalent. (See article 7.02.2 for typographic considerations.) Clean typing elements or printwheels frequently to insure crisp, clean copy.

3. Keep uniform side margins (generally 1 inch from each side of the paper). Unless otherwise indicated, begin on line 7 and end on line 58 or 59. Place the page number at uniform depth (about 5/8 inch from the bottom) on all pages.

4. Keep all text lines approximately equal in length, but avoid excessive hyphenation at the right margin. Be sure all hyphenations are correct by referring to the booklet "Word Division" or to a standard dictionary.

5. Correct all broken letters, crooked lines, faulty spacing, or any other imperfections that would detract from the appearance of the printed copy.

6. Type all illustration titles and complex equations on a separate sheet of paper, single spaced and in the typeface indicated on the mockup so that they can be cut out and positioned manually; this will avoid the need for retyping an entire page. Tables should be typed separately so that they can be positioned by hand in the space allotted and photoreduced if necessary.

If the final copy is to be reproduced by offset printing, minor corrections may be made with correction fluid and (or) by cutting, splicing, and pasting; Comments or questions written in nonreproducing blue may be left on camera-ready copy because these will not show in the printed version. If the final copy is to be duplicated on office equipment, however, it must be clean and free of splice lines to prevent reproduction of these blemishes.

After the entire report has been typed to match the mockup, the typist should reinspect each page to verify that the text alinement and lettering are uniform and neat, that all facing pages are balanced, and that no text has been omitted or repeated. Illustration titles, equations, and tables may then be assembled, and both the old mockup and the new material are returned to the designer for preparation of camera-ready copy.

Subject: PROCESSING MANUSCRIPT AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

7.02.6 Final page makeup

Final page makeup for printing or duplication may begin as soon as the illustrations, text, tables, and all other components have been completed, inspected, and corrected. This task consists of five steps, as explained below:

1. Add components such as tables and illustrations, display lettering, Department seal, running heads, equations, and so forth to the pages.

2. Splice or opaque to make minor corrections.

3. Inspect and clean up camera-ready copy.

4. Mark printing instructions on camera-ready copy.

5. Perform final verification.

ASSEMBLY OF COMPONENTS

Add components made separately from the main typescript. This is best done at a light table with a ruled sheet or grid placed beneath the copy to insure exact alinement. Insert only line copy that is at publication size; in offset printing, halftones[1] and all copy to be reduced or enlarged must be separated out for they are treated individually by the printer. If the report is to be duplicated inhouse, all components must be at publication size.

When positioning illustrations, tables, and titles in the camera-ready copy, view the facing pages side by side to insure balance. Also be sure that all components are firmly attached and lie flat.

SPLICING OR OPAQUING

Splice or opaque minor corrections rather than retype an entire page. Use a light table to obtain correct alinement, and use a sharp blade to avoid damaging the copy. In some cases, it may be easier to have a full paragraph retyped and pasted over the incorrect part than to splice individual words or lines.

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[1] Material submitted for printing is either "line copy" or "halftone." Line copy is artwork or text consisting solely of lines or patterns; it may be photographed directly because it contains no intermediate gray. Halftones are photographs that must be "screened," or converted to a dot pattern to produce the desired gray. Map bases that are screened are also treated separately.

INSPECTION AND CLEAN UP

Inspect and clean up camera-ready copy. This should be done after all splicing and pasting are complete. Starting with the cover 1, carefully view each pair of facing pages side by side to verify balance, even margins, and general harmony between headings and typescript. If rubber cement has been used, dirt and streaks will probably be visible; these can be removed with a crepe "pickup" (available at graphics firms) or with a piece of dried rubber cement. When erasing pencil marks, be careful not to crease the paper or smear the typescript. If a smudge or spot cannot be removed, cover it with white correcting fluid. All penciled notes must be erased except those written in nonreproducing blue; these may simply be crossed out (in the same blue) so that the printer will not mistake them for instructions.

MARKING PRINTING INSTRUCTIONS

Mark printing instructions on each cover component and on all pages that are to be blank, that contain copy to be reduced, enlarged, screened, printed as a foldout, or that contain a map jacket. All printing instructions on the camera-ready copy must be written in nonreproducing blue.

COVER

Each of the four cover pages (and spine copy, if used) should be identified as cover 1, cover 2, and so forth; those to be left blank should also be clearly marked "blank" in nonreproducing blue. If covers 1 and 4 form a continuous design, this must be explained to the printer, and, if there is to be a backstrip, be sure the design of the covers 1 and 4 will accommodate it. Again, note that, unless specified otherwise, the printer will print covers 1 and 4 in the same color.

SPECIAL PROCEDURES

Special procedures for any page, such as screening a particular area, reversing the color (white lettering on colored background) or using a "flopped" image (negative turned dull side up to print the image backwards), must be spelled out, and the exact location and area to be occupied by that component must be indicated on the camera copy. Also, each component must be labeled to indicate the desired dimensions (or percentage reduction) as well as the page on which it is to be inserted. For halftones, the line screen should be specified (most will be 133 or 150 lines per inch). For shaded areas or screened base maps, the density (30 percent, 50 percent, and so forth) must also be indicated. Further information on art preparation may be obtained from District and Region, from the Publications Planning Unit at Headquarters, or from local graphics firms.

PRINTOUTS

If oversized copy such as a computer printout is to be reduced to occupy a full page, it should be separated out and a blank page inserted bearing the page number and any other necessary lettering. (If the page number and any other lettering are typed on the printout, they will be reduced and be inconsistent with the rest of the report.) The area to be occupied by the reduced copy should be indicated in nonreproducing blue on the page bearing the page number, and the printout itself must be marked to indicate final dimensions (or percentage reduction) and on which page it is to appear. If several pages are to be reduced, indicate those page numbers in nonreproducing blue on a blank page, then provide the typed page numbers on a separate sheet, about one inch apart. The printer will add these numbers after the printout has been reduced.

CROPPING

When specifying reductions or enlargements, remember that the proportions do not change; that is, the height will change by the same percentage as the width. To alter the proportions, either crop or redesign the material. If a photograph or other original material is to be cropped, do not write on it; instead, indicate the croplines on a transparent overlay or mount the component on a larger piece of paper and indicate crop lines outside the photograph. Also be sure to indicate the desired final size and the page on which the photograph is to appear. (See article 3.02.3.)

PROOFS

If the report requires special reductions or insertion of screen copy, a proof should be ordered from the printer to verify that all components are properly done and positioned correctly.

FINAL VERIFICATION

Final verification should be done by the author and each coauthor, preferably on a duplicate of the camera-ready copy. This is the author's last opportunity to detect errors and make alterations. Authors should inspect, then carefully read, each pair of facing pages, beginning with the cover and including all separate components, to verify that:

1. All statements, data, and references to tables, figures, and publications are accurate.

2. All previous corrections have been made and no new errors introduced.

3. The table of contents and the lists of plates, figures, and tables give correct page numbers and are worded consistently with the headings in the text.

4. The table of conversion factors is correct in all details.

5. All alinement is even and the visual effect pleasing.

After the camera copy has been corrected to incorporate the author's final changes, each corrected page should be inspected to verify that no errors have been introduced. The only task then remaining is to write the printer's instructions and, if the report is to be printed through GPO, to complete the Printing and Binding Requisition form SF-1. (See article 7.03.3.) The camera-ready copy, together with photographs and other special components, may then be delivered to the printer or publisher.

SUBJECT: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.1 Description of printing and duplicating techniques

To successfully prepare copy for printing or duplication, it is necessary to have some understanding of what happens to the material when it reaches the printer. This article describes and briefly summarizes the major characteristics of offset printing and outlines considerations for making copies on office copying equipment. In general, printing may be obtained only through GPO for reports published by the Geological Survey or through a cooperating agency for reports published by the cooperating agency; machine copying may be done only on equipment owned, operated, or rented by the originating office or cooperator.[1] Contact the nearest GPO Regional Printing Procurement Office for information on the least expensive method of printing. (See article 9.03.1.)

OFFSET PRINTING

Most printing today is done by offset process, whereby the image from the original copy is photochemically etched onto a flexible metal sheet called a plate, which is, in turn, placed on the printing press. The plate retains ink only where it has been exposed to light. As the press runs, ink is transferred from the plate to a rubber cylinder and from that directly to the paper.

To prepare the plate, the printer first photographs the camera-ready copy on high-contrast film, obtaining the specified degree of enlargement or reduction. Photographs are treated separately at this stage because they must be "screened," to filter the image into tiny dots, such as those seen in newspaper photos, to create the impression of a full range of gray. Photographs, which must be screened, are referred to as "halftones," and material consisting only of lines or solid areas, such as typescript and graphs, is referred to as "line copy."

The resulting negatives (both line copy and halftones) are taped onto opaque, flexible sheets called "flats," whose size corresponds to that of the plates to be used on the press. At this time, all scratches and unwanted lines on the negatives are opaqued to produce a clean image. Within each flat, the negatives are arranged so that, when the large printed sheets are folded into book size and trimmed, the images will fall in correct order, right-side up, and properly alined.

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[1] See article 7.03.2, "Procurement of Printing."

The flats are then placed in a "platemaker," which directs light through the negatives to expose the light-sensitive plates, which, in turn, will be placed on the press.

The plates are put on the press, and the specified number of pages is printed on paper sheets called "signatures." The signatures are then dried, collated, and folded, and the covers (usually printed separately) are added. The books are then bound by one of several processes, trimmed, and packaged.

When two or more colors are required on the same page, a separate negative and plate must be made for each color, and the signatures must be printed as many times as there are colors. This accounts for the higher cost of color printing.

If the originating office wishes to verify before the book is printed that the position of all images is correct, the proper screens have been used, and the general quality is adequate, proofs may be obtained from the printer at low cost (generally from $0.50 to $1 per page). The proof is made from the negatives before the plates are prepared. It should be used only as a verification of printer's work, not a check for author's errors. If any alterations to the copy are desired at this time, a new negative must be made for each corrected page--a process that will delay the printing and increase the cost.

INHOUSE COPYING

Inhouse copying refers to reproduction of text and illustrations by photocopy, mimeograph, diazo, or other similar processes using equipment owned, operated, or rented by the originating office.

Inhouse copying generally is used for short runs of fewer than 50 copies. Because copying machines require no intermediate negative, all splice lines, marks, creases, and dirt on the original copy are likely to be visible in the final copy. Thus, copy to be duplicated by this process should contain no paste-ons, smudges, tape, dirt flecks, or the like.

If the duplicated report is to include oversized plates, diazo copies of these may be purchased locally, provided they are made by the direct processes listed above. If they must be reproduced by methods or devices that use an intermediate negative, this must be done through GPO.

When inhouse-produced copy is to be reproduced on both sides of a page, care must be taken that the even-numbered pages fall on the left when the pages are stapled together. If the quality of photographs in duplicated reports is poor, glossy prints should be glued or taped directly over them in all copies.

COMPARISON OF TECHNIQUES

The advantages of offset printing over machine copying are (1) superior reproduction and binding quality, and (2) freedom to cut, rearrange, splice, opaque and add pasted-on corrections to the camera-ready copy without retyping. The disadvantage is the higher per-copy cost of short runs. Offset printing of extremely short runs is not cost effective because most of the expense is incurred in preparing the negatives and plates.

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Article 7.03.2

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.2 Procurement of printing

February 19, 1975

WATER RESOURCES DIVISION MEMORANDUM NO. 75.107

Subject: PUBLICATIONS--Procurement of Printing Requirements

Shown below, in its entirety, is a memorandum from the Director of Management Operations, United States Department of the Interior, on the subject of procuring printing. All WRD offices are to comply with these requirements.

"It has been brought to my attention that there has been an alarming increase in improper procurement of printing and related requirements by a number of the Bureaus and Offices of this Department.

Title 44, U.S. Code, clearly states that all printing and binding work for the Federal Government shall be done at the Government Printing Office (GPO). The GPO is the only recognized source for such work, both in Washington and in the field. Although there are certain specific and limited exceptions to this rule, exceptions may only be granted by the GPO and the Joint Congressional Committee on Printing, in cooperation with the Office of Management Operations, Office of the Secretary. Bureaus and Offices do not have the authority to procure printing directly from commercial sources under any circumstances except those approved by the Director of Management Operations and GPO prior to procurement.

There are no acceptable justifications for actions in contradiction to the above regulations, including the frequently voiced excuses of time and incognizance of or unfamiliarity with applicable regulations. Procurement actions of the type necessitating this correspondence will be settled between the commercial source involved and the individual(s) originating and/or authorizing the improper obligation of Federal funds for such a procurement action.

Your cooperation and assistance in giving the information contained herein the widest possible dissemination within your respective Bureaus and Offices is considered imperative."

G. W. Whetstone
Assistant Chief Hydrologist
for Scientific Publications
and Data Management

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Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.3 Preparing Printing and Binding Requisition, Standard Form 1 (form SF-1)

This article describes the procedure for preparing the GPO Printing and Binding Requistion form SF-1 (see example), which must accompany in duplicate all GPO printing orders. The form contains many parts; some cover the information needed to print books and maps from camera-ready copy, the others refer to other printing orders not commonly used by Geological Survey offices. The following information refers only to those items needed to print WRI and Open-File books and maps. Information on other parts of the form is given in "Agency Procedural Handbook" (1971), obtainable on request from GPO.[1] When filling out form SF-1, use the "Additional Information" section (item 35) if any requested information will not fit in the space provided.

1. Requisition No.--Obtain a requisition number by phone from the Publications Management Unit in Reston (FTS-8-928-6888). Every printing order requires an individual requisition number.

2. Department or Government Establishment--Enter "Department of the Interior."

3. Bureau or Office.--Enter "Geological Survey."

4. Date.--Enter the date on which the requisition is prepared.

5. Appropriation chargeable.--Enter bureau control number. For example, 2-4436-90090. The first digit indicates fiscal year; the second number indicates District or office; the third number is the project fund.

6. Billing address code.--Enter 4310-31, the Geological Survey's code.

7. Authorized by.--Enter initials of District Chief or equivalent official.

8. Title.--Enter complete report title as it appears on camera copy; include report series and number.

9. Quality level.--The highest and lowest quality levels of printing through GPO are 1 and 5, respectively. Most Geological Survey publications are printed with quality level 3. Enter the number 3 in this space. (State data reports generally are printed with level 4 quality, whereas certain special publications may be printed with level 2 quality.)

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[1] The GPO agency procedural handbook for commercial procurement of printing services: GPO Publication 305.1, Revised September 1981.

SF 1 PRINTING AND BINDING REQUISITION
To the PUBLIC PRINTER Please furnish the following:

JACKET NO. (Assigned at GPO) ☐ Red ☐ Black | REQUISITION NO. (1)

FROM (Department or Government Establishment) (2) | (Bureau or Office) (3) | DATE (4)

APPROPRIATION CHARGEABLE/APPLICABLE LAW (5) | BILLING ADDRESS CODE (BAC) (6) | AUTHORIZED BY (7)

TITLE (8) | QUALITY LEVEL (9) | FORM NO.

QUANTITY (Units of finished products) (10) | FINISHED PRODUCT (Check One) ☐ Books or Pamphlets ☐ Blank Forms (Sheets) ☐ Sets ☐ Pads or Tablets ☐ Other (Specify) (11) | CLASSIFICATION

THIS ORDER RIDES (Department) | (Requisition No.) | (Jacket No.) | STRAP WITH REQUISITION NO.

PAPER STOCK AND INK

	FIRST CHOICE (Grade, color, and basis weight)	SECOND CHOICE (If any)	COLOR(S) OF INK
Text	(12)		(13)
Cover	(14)		(15)
OTHER (Specify) (16)	(17)		(18)

COMPOSITION

FURNISHED (Magnetic tape) ☐ Direct Drive ☐ Other (19) | (Negatives) | (Camera Copy) | (Manuscript) | (Shoot printed copy) | PREVIOUS JACKET/REQ. (If reprint)

TEXT TYPE (Point, Face, Leaded/Solid) | DISPLAY TYPE (Face) | MARGINS (After trim) Picas/inches Back/Left Top Other | FOL. LIT. | FORMS MUST REGISTER | TYPEWRITER SPACING

TYPE PAGE WIDTH (Picas) No. of Cols. Col. Width | TYPE PAGE DEPTH (Include running head but not bottom folio) | ILLUSTRATIONS (Total) | PICK UP FROM: Jacket No. Req. No. | RESTORE TO ORIGINAL JACKET | HOLD REPRODUCIBLES (Specify) (Negs., type, mag. tape We

PRESS AND BINDERY

PRINT ONE SIDE ONLY HEAD TO HEAD (20) HEAD TO FOOT OTHER | COVER PRINTS 1 2 3 4 | EMBOSS | RULING (Print or Bindery) | PERFORATE SCORE Position | NUMBER (Inclusive) TO Color of ink

SIZE FLAT (Inches) FORMS, SETS, PADS (21) x | FOLD TO (Inches) (22) x | SIZE TRIMMED PAGE (Inches) BOOKS/PAMPHLETS (23) x | PAGES (24) | FOLDINS/INSERTS (25) | PAPER COVERS (Self) (Separate) (26)

WIRE STITCH (Side) (Saddle) (27) (No.) | PASTE ON FOLD | LOOSELEAF (28) | ADHESIVE BOUND (29) | SEW | CASE BOUND | (Material and Color) | STAMP TITLE (Bindery) Cover Spine Gold Im. Gold Ink (color)

PAD/SETS (Gum) (Stitch) (Pos.) (Sheets in Pad) | (Sets in Pad) | (Sheets in Set) | PUNCH/DRILL | (Shape) | (No. of holes) (Diam.) | (Inches Center to Center) | (Pos.) | ROUND CORNERS (No.) (Position)

GATHER (Explain) | CARBON INTERLEAVE | INDEX (Cut) (Tab) (Bleed) | LIP DIVIDERS (Height of Lip) | (Width of cut ⅛ etc.) (Pos.)

PROOFS AND DELIVERY

REQUESTED PROOF DATE (30) | PROOF SETS (Galley) (Page) | DEPT. HOLD (Workdays) (Galley) (Pages) | PROOFS TO

REQUESTED DELIVERY DATE (31) | KRAFT WRAP | SHRINK FILM | BAND IN SETS | SUITABLE (32) | OTHER PACKAGING (Specify) | QUANTITY IN PACKAGE | PACK IN CARTONS (33) | B/L FURNISHED

DELIVER TO (34)

ADDITIONAL INFORMATION (35)

FOR ADDITIONAL INFORMATION CONTACT (Name and Telephone Number) (36)

BILLING ADDRESS (If BAC has not been assigned) (37)

I certify that this work is authorized by law and necessary to the conduct of the business of the above-mentioned government establishment.

(Authorizing Signature) (Title)

STANDARD FORM 1 (Rev. July 1979)
Prescribed by GPO
Title 44 of the U.S. Code 1-111

NSN 7540-00-543-7077 PREVIOUS EDITION NOT USABL

10. Quantity.--Enter the number of printed copies desired (generally 300 or less).

11. Finished product.--Check "books or pamphlets" if the copy is a book; check "other" if it is a map or map jacket.

PAPER STOCK AND INK

12. Text, first choice[2].--Specify paper color, grade, and weight. For example, "white, offset book, Sub 120."

13. Text, color of ink.--Specify black, unless a special effect is needed.

14. Cover, first choice[3].--Specify paper color, grade, and weight. For example, "Blue, vellum, Sub 130." Enclose a sample, if possible.

15. Cover, color of ink.--Specify Pantone[4] color number. For example, "Pantone 279 blue."

16. Other.--Enter "map," "envelope," or any other report component as appropriate.

17. Other, first choice.--Specify map or envelope paper by color, grade, and weight. For example, "white, offset map, Sub 130."[5]

18. Other, color of ink.--Specify Pantone ink color and include a sample if color code is unknown.

COMPOSITION

19. Furnished.--Check "Direct Drive," or "Other" (if a different type of magnetic tape is furnished). If magnetic tapes are not furnished, check "Negatives" or "Camera Copy" as appropriate.

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[2] Text of most reports will be white book offset. Specify Sub 100, or, if extra opacity is required, specify Sub 120.

[3] Covers of most reports will be a pastel shade or white. Specify Sub 130, vellum finish. (Coated finish and or Sub 170 are permitted only with written justification.

[4] Order "Pantone matching system formula guide" (color sample booklet) from Pantone, Inc., 55 Knickerbocker Road, Moonachie, NJ 07074, Phone (201) 935-5500; 1982 cost is $20.00.

[5] Most maps will require white map offset. Specify Sub 120.

PRESS AND BINDERY

20. Head to head.--Check this box, which indicates that printing will be oriented in the same direction on each page.

21. Size flat.--Maps only; specify approximate sheet dimensions, in inches.

22. Fold to.--Maps only; specify desired folded dimensions, in inches. Also provide sample of folded map so that an identifying feature appears when folded.

23. Size trimmed page.--Books only; specify trimmed size (generally 8 1/2 X 11; if designed in broad measure, state 11 X 8 1/2).

24. Pages.--Give total number of pages (minus covers) including preliminary and blank pages.

25. Folding/inserts.--If these are used, provide a sample.

26. Paper covers.--Map jackets only; check "separate."

27. Wire stitch.--Books having less than 96 pages only: check "Saddle." Books having 96 pages or more: check "Side" and request two or three stitches (staples), or leave blank and specify adhesive bound[6] under item 29.

28. Looseleaf.--Punched reports only.

29. Adhesive bound.[6]--Only for reports exceeding 96 pages; an alternative to side stitch. Certain large reports can be both side stitched and perfect bound.

PROOFS AND DELIVERY

30. Requested proof date.--Proofs are optional; there may be a substantial charge. The date for delivery of a proof depends on specifications of the contract between GPO and the printing contractor. Contact your GPO Regional Printing Procurement Officer for information. (See article 9.03.1.)

31. Requested delivery date.--The delivery date depends on specifications of the contract between GPO and the printing contractor. Contact your GPO Regional Printing Procurement Officer for information. (See article 9.03.1.)

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[6] Called perfect or glue bound elsewhere in the Publications Guide.

32. Suitable.--An "X" in this space allows the printer to determine the most economical packing.[7]

33. Pack in cartons.--An "X" in this space allows the printer to select the most economical method of shipment. However, the method of shipment may be specified to expedite delivery.[7]

34. Deliver to.--Give name, office address, and room number to which cartons are to be delivered.

ADDITIONAL INFORMATION

35. Additional Information.--State type of printing (offset, direct, diazo, duplication); request cost estimate; state any other unusual characteristics or requirements not covered in requisition; refer to list of printer's instructions that will be attached to the cover memorandum.

    Also include the following statement:

    > U.S. Geological Survey Water-Resources Investigations or Open-File reports are not recommended as GPO sales items because they are sold to the public from the National Technical Information Service or Geological Survey's Open-File Services Section.[8]

36. For additional information.--Give name and phone number (FTS and commercial) of person responsible for camera-ready copy.

37. Billing address.--Leave blank; code 4310-31 under item 6 is adequate.

38. Authorizing signature.--District Chief or equivalent official

A major responsibility of the GPO Regional Printing Procurement Offices is to be available to agency personnel for consultation and technical advice about requisitioning and printing problems. Because not all procedures can be covered or anticipated in this article, Geological Survey personnel are encouraged to request advice and help from the appropriate GPO Regional Printing Procurement Office. (See article 9.03.1.)

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[7] Alternative methods of packing and/or shipping must be specified in the contract between GPO and the printing contractor.

[8] See Water Resources Division Memorandum No. 82.104, dated June 21, 1982.

DISTRIBUTION OF FORM SF-1

The Printing and Binding Requistion form SF-1 should be filled out with several carbon copies for the following distribution:

GPO Regional Printing Procurement Office--Original plus one copy

Geological Survey Branch of Financial Management[9]--One copy

Publications Management Unit[9]--One copy

District or project files--As needed

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[9] When the report is sent to GPO, request that the originating office be furnished with the bid cost for the job as soon as it is known. Enter the bid cost in space (5) of a copy of the SF-1, and submit one copy with this information to the Branch of Financial Management, U.S. Geological Survey, 270 National Center, Reston, VA 22092, and one copy to the Publications Management Unit, 435 National Center, Reston, VA 22092. (See Water Resources Division Memorandum No. 82.121.)

Additional Information: The U.S. Government Printing Office Paper and Materials Control Section (FTS: 275-2124) can supply copies of paper, ink, and service catalogs.

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.4 Writing printer's instructions

Whether a report is to be printed through the Government Printing Office or another publisher, a set of instructions will help the printer anticipate needs and avoid guesswork and may also enable a saving on printing costs. While no checklist can be exhaustive, the following list of items to consider when preparing instructions for printing Geological Survey reports is given below. This information should be included in a transmittal memorandum or letter to the printer to clarify the information in form SF-1. The printer's instructions should be attached to the camera-ready copy. Insure that information in the printer's instructions and in form SF-1 are consistent.

GENERAL INFORMATION

Report title.--Give full title for identification purposes.

Number of pages.--Specify total number minus covers. In offset printing, this must be a multiple of 4; for example, write "64 pages minus cover (i-vi; 1-58)."

Page size.--Specify in inches, giving width first. For example, 8 1/2 x 11

Number of copies.--Round off to convenient value, for example 50, 100, 300.

Name of contact.--Provide name and phone number (commercial and FTS) of the person who can answer printer's questions.

TEXT

Ink color.--Specify black in most cases. If another color is needed, give Pantone code[1] or provide a sample.

Paper weight.--Specify uncoated, medium weight (Sub 100 or Sub 120). Glossy paper generally is permitted only for color photographs.

Pagination.--Specify two-sided printing, with even numbers on left.

---

[1] Order "Pantone Matching System Formula Guide" (color sample booklet) from Pantone, Inc., 55 Knickerbocker Road, Moonachie, NJ 07074. Phone (201) 935-5500; 1982 cost is $20.00.

Reduction.--List pages or components to be reduced or enlarged and give the percentage and desired dimensions of each. For example,

"Fig 3 (p. 22) - reduce to 80 percent (6 inches wide)."

Be sure all components are clearly labeled. If an entire page is to be reduced, the page number will not match the rest in size. To avoid a discrepancy, provide a page containing typed page numbers (at least half an inch apart on all sides) so that the printer can splice them into the reduced copy.

Screen.--List all items to be screened. Specify number of lines per inch (generally 133 or 150) and density (5 percent through 90 percent, with 5 percent the lightest).

Color.--Specify all pages containing additional color(s), and give the Pantone color code. If color is to be screened, give the density (percentage and number of lines per inch). Provide a color proof as an example if possible.

PLATES
(Provide example if possible)

Size.--Specify sheet size, in inches, giving width first. For example, 32 X 40.

Ink color.--Specify black plus appropriate Pantone color codes. If map contains areas to be screened, specify the density (percentage) and number of lines per inch.

Overlays.--Be sure each overlay is labeled and the type of screen and color indicated. State how many overlays are given for each plate and how each is to be screened.

Folding.--Indicate whether plate(s) are to be folded and inserted or shipped separately (flat or rolled up). If folded, indicate approximate folded size, state which part should show on the outside, and state whether a pocket should be glued to the inside back cover. Provide a sample of the folded map that displays the plate number and title, if possible.

COVER
(Provide sample if possible)

Color.-- Specify paper color (white or pastel shade)[2] and ink color. (Specify Pantone ink color code or send a sample.)

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[2] GPO Paper Catalog lists available cover paper colors.

Weight.--Specify light or medium weight (Sub 130) in most cases.

Finish.--Specify vellum (uncoated) in most cases. Glossy (coated) generally is permitted only for color photos. Note that uncoated cover stock is unsuitable for most photographs because it absorbs the ink, diminishing contrast.

Spine.--Indicate orientation of spine copy. Reports not thick enough to have a spine, may have a spine strip printed on cover 4.

Covers 2 and 3.--Indicate whether copy is provided for cover 2 and (or) cover 3, and, if so, whether same ink as used on cover 1 is acceptable. Indicate whether map pocket is needed on cover 3. If needed, indicate its size and orientation.

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SECTION 8

DISPOSITION OF FINAL COPIES

8

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Subject: DISPOSITION OF FINAL COPIES--Required Distribution

8.01.1 Required distribution from originating office

TYPE OF RELEASE	NUMBER OF COPIES TO BE DISTRIBUTED									
	Departmental Natural Resources Library	Open-File Services Section	Publications Management Unit	Geological Survey Libraries	Library of Congress	Geologic Division, mail stop 919 (for Sup. Docs.)[a]	Principal cooperating agencies[b]	Publications Planning Unit	Public Inquiries Office	Author(s) copies[c]
Administrative report			1				d			
Annual data report	3					1	d	22		
Bulletin							d			e
Circular							d			10
Cooperative (State) report	3		4	6[n]	2					
Hydrologic Investigations Atlas							d			10
Journal article or abstract			4[g]				d			
Miscellaneous Field Studies Map							d			10
Miscellaneous Investigations Map							d			10
Open file pending publication		1[f]	1[j]	3[i,n]			d		1[k]	
Open file (all others)	3	1[f]	4	6[i,n]		1[j]	d		1[k]	
OWDC report (not administrative)	3		4			1	d			
Proceedings of meetings or symposiums			4[g]				d			
Professional Paper							d			e
Speech (oral only)			4[l]				d			
Speech (handout or publication)			4							
Techniques of Water-Resources Investigations							d			10
Water-Supply Paper							d			e
WRI	3	1[f]	4	6[i,n]		1	d		2[m] 1[k]	5--10

Footnotes

[a] Sup. Docs., Superintendent of Documents.

[b] Memorandum to Geologic Division, MS 919, should indicate where copies are available.

[c] Copies are sent to the originating office for distribution to the author(s).

[d] Number determined by originating office, if release to agencies is appropriate.

[e] Number varies depending on size of report and number of authors (see article 3.01.1).

[f] Copy must be suitable for microfilming.

[g] Copies or reprints are preferred. Complete bibliographic citation may be substituted if copies or reprints are not available.

[h] Includes only new versions of pages retyped after approval.

[i] Timing of distribution depends on public-release mechanism (see Section II).

[j] Required only if duplicated or reproduced in quantity exceeding 100. Books only.

[k] Placement of Open-File and WRI reports in Public Inquiries Offices is optional, but recommended.

[l] Required only if speech was approved by the Director.

[m] Two microfiche copies to each PIO serving the geographic area of report. Provided by Open-File Services Section.

[n] Two copies each for Reston, Menlo Park, and Lakewood libraries, except one each for Open-File reports pending publication.

D. Geological Survey Libraries

Cooperative (State) reports, Water-Resources Investigations (WRI) reports, and Open-File reports should be sent to the Geological Survey library at Reston, Virginia, and to the Regional Geological Survey libraries at Menlo Park and Lakewood. Addresses of which are given below.

Library
U.S. Geological Survey
950 National Center
Reston, Virginia 22092

Library
U.S. Geological Survey
Building 5
345 Middlefield Road
Menlo Park, California 94025

Library
U.S. Geological Survey
P.O. Box 25046
Mail Stop 914
Denver Federal Center
Denver, Colorado 80225

E. Library of Congress

Library of Congress
Washington, D.C. 20540

F. Geologic Division (for book reports only)

Program Controller
Scientific Publications Section
Geologic Division
U.S. Geological Survey
919 National Center
Reston, Virginia 22092

G. Publications Planning Unit (for annual State water-data reports only)

Publications Planning Unit
Water Resources Division
418 National Center
Reston, Virginia 22092

H. Public Inquiries Office

Federal reports published by the Geological Survey are automatically supplied to Public Inquiries Offices by the National Mapping Division. Water-Resources Investigations and Open-File reports are supplied by the originating office. Please refer to the most recent edition of Circular 777 for current addresses of the PIO's.

Open-file reports have no set distribution to PIO's. Distribution is determined by the originating office.

Two microfiche copies of each WRI report covering a State or part of a State should be sent to all Public Inquiries Offices serving the geographic area of the report.

If the subject of a WRI report is topical and not limited by geographical area, or if a report is national in scope, two microfiche copies should be sent to all ten Public Inquiries Offices. The originating office should notify the Open-File Services Section of this requirement when new WRI reports are submitted.

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Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.1 General description of official-use copies

A part of the edition of all Geological Survey publications is reserved for official use by Survey personnel. The types of publications for which official-use copies are available through the Publications Management Unit are:

1. Water-Supply Papers
2. Professional Papers
3. Bulletins
4. Circulars
5. Techniques of Water-Resources Investigations (published versions only)
6. Special book reports such as:
   a. Suggestions to Authors of the Reports of the United States Geological Survey
   b. Primers
   c. Publications of the Geological Survey 1879-1961 and 1962-70, and annual supplements, post-1970.
7. All Geological Survey map series except topographic maps.
8. All Geological Survey leaflet series.
9. Water-Resources Investigations in (State) (folder).
10. State list (formal Geological Survey reports, by State)

The types of publications for which official-use copies are not available through the Publications Management Unit are:

1. Topographic maps--copies may be obtained from the three distribution centers of the Geological Survey in Arlington, Virginia; Lakewood, Colorado; and Fairbanks, Alaska.
2. Open-File reports--copies must be obtained from the originating office or purchased from the Open-File Services Section.

3. Water-Resources Investigations reports--copies must be obtained from the originating office or purchased from the Open-File Services Section.

4. GPO Style Manual--copies must be purchased from GPO.

5. Reports published by other Federal agencies--copies must be obtained from the originating agency.

6. Cooperator-published reports--copies must be obtained from the originating office or cooperating agency.

7. Annual State water-data reports--copies must be obtained from the originating office.

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.2 Ordering information for official-use copies

To order official-use copies, requestors should use the forms listed below. As of 1982, an account number must be entered on these forms except when ordering reports prepared by the Water Resources Division, for which no charge will be levied. Requests for reports prepared by Divisions other than the Water Resources Division should be made on separate forms to avoid charges for Water Resources Division publications. Telephone requests should be restricted to emergency needs only. Do not request copies by memorandum.

1. Books

   a. Form 9-1015--to be used by all requestors outside the Washington, D.C., metropolitan area; copies mailed.

   b. Form 9-1189 (Interoffice)--to be used by all requestors within the Washington, D.C., metropolitan area; copies delivered by Geological Survey messenger service.

2. Maps--Form 9-1017 (or form 9-1017-C)--to be used by all requestors.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
RESTON, VA. 22092
RETURN IF NOT DELIVERED IN 10 DAYS

OFFICIAL BUSINESS

INTEROFFICE

SENT AT REQUEST OF

STOP_____

9-1189

GPO : 1980 0 - 309-388

Form 9-1189 (black)

9-1015

United States
Department of the Interior
GEOLOGICAL SURVEY
RESTON, VA. 22092
Return if not delivered in TEN days

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTE
INT 413

Sent at request of

U. S. GOVERNMENT PRINTING OFFICE : 1980 0 - 307-538

Form 9-1015 (black)
(Book label)

9-1017

United States
Department of the Interior
GEOLOGICAL SURVEY
RESTON, VA. 22092
Return if not delivered in TEN days

OFFICIAL BUSINESS

PONTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413

Sent at request of

U.S. GOVERNMENT PRINTING OFFICE 16—63338-1

Form 9-1017 (green)
(Map label)

Instructions for completing the forms are:

1. Use carbon paper so that information typed on front sheet of form also appears on top part of back sheet of form.

2. Type complete mailing address (or mail stop number) of office where copies are to be sent on front sheet of form.

3. Type name of Geological Survey personnel requesting the copies on front sheet of form.

4. Type number of publication and number of copies desired on bottom part of back sheet of form. For example:

   WSP 1865 (1 copy)

   PP 708 (6 copies)

5. Do not request books and maps on the same form. Use the appropriate forms listed above.

6. Do not request published and preliminary copies of Techniques of Water-Resources Investigations on the same form.

The completed forms should be sent as follows:

1. Books (for a request of one copy only):

   Eastern Distribution Branch
   Text Products Section
   U.S. Geological Survey
   604 South Pickett Street
   Alexandria, Virginia 22304

2. Maps (other than topographic maps, for request of one copy only):

   a. For maps of geographic areas east of the Mississippi River including Minnesota, Puerto Rico, and the Virgin Islands:

      Eastern Distribution Branch
      U.S. Geological Survey
      1200 South Eads Street
      Arlington, Virginia 22202

   b. For maps of geographic areas west of the Mississippi River including Alaska, Hawaii, Louisiana, Guam, and American Samoa:

      Western Distribution Branch
      U.S. Geological Survey
      Box 25286, Denver Federal Center
      Denver, Colorado 80225

3. Book and maps (for a request of two or more copies):

Publications Management Unit
Water Resources Division
U.S. Geological Survey, WRD
435 National Center
12201 Sunrise Valley Drive
Reston, Virginia 22092

Requests for two or more copies that are sent directly to the Branch of Distribution are forwarded to the Publications Management Unit for authorization and then returned to the appropriate Distribution Section. This routing usually results in a delay in the requestor receiving his copies.

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.3 Cooperator's copies

Official-use copies of Geological Survey reports for cooperators are authorized by the Scientific Publications Section as follows:

A. Water-Supply Papers, Professional Papers, Bulletins, and Techniques of Water-Resources Investigations:

Copies must be requested by the cooperator in writing. Requests should be addressed to:

Chief, Scientific Publications Section
Water Resources Division
U.S. Geological Survey
439 National Center
Reston, Virginia 22092

At the time of publication, no more than 100 copies of a report resulting from cooperation, and no more than 20 copies of other reports, may be sent upon request to the cooperating agency for official use, or to other governmental agencies within that State. Copies are sent to a cooperating agency with the understanding that the agency will not distribute copies to the public in competition with sales by the Superintendent of Documents, Government Printing Office.

B. Circulars:

Up to 200 copies resulting from a cooperative project can be placed with the cooperating agency for distribution by that agency to the public in response to requests. Cooperating agencies should address requests to the Chief, Scientific Publications Section, at the above address.

C. Hydrologic Investigations Atlases and Miscellaneous Investigations Maps:

Cooperator's copies are automatically authorized by the Scientific Publications Section; cooperating agencies need not request copies in writing. At the time of publication, 200 copies are sent to the originating office for transmittal to the cooperating agency.

D. Miscellaneous Field Studies Maps:

A limited number of copies resulting from a cooperative project can be placed with the cooperating agency. Cooperating agencies should address requests to the Chief, Scientific Publications Section, at the above address.

E. Water-Resources Investigations and Open-File reports:

To provide adequate distribution, the number of copies for cooperating agencies and for depositories should be determined before the printing order is submitted. (See article 8.01.1.) Once the initial supply is exhausted, copies can be obtained only by purchase through the Open-File Services Section. The number of copies duplicated normally depends on the subject and public interest, and ranges from 100 to 400.

F. Reports in non-Survey journals:

Cooperator's copies must be either provided by the author or purchased directly from the publisher. Project funds may be used to secure reprints for official use. (See article 2.01.7.)

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.4 Author's copies

Author's copies of Geological Survey reports are authorized by the Scientific Publications Section for automatic distribution as follows:

A. Water-Supply Papers, Professional Papers, and Bulletins:

1. Paper cover

Length of report	No. of authors	No. copies for each author	Total
60 or fewer printed pages and no color plates	1	50	50
	2	30	60
	3	20	60
	4	15	60
61 to 249 printed pages or 1 or 2 color plates	1	30	30
	2	15	30
	3	10	30
	4	10	40
250 or more printed pages or more than 2 color plates	1	15	15
	2	10	20
	3	10	30
	4	10	40

2. Cloth bound[1]

	1	5	5
	2	4	8
	3	3	9
	4	2	8

[1] Each author of a chaptered series gets one clothbound copy after the series is closed out and clothbound copies are printed.

B. Other Series:	Number of Copies for Authors
Techniques of Water-Resources Investigations, Circulars	10 copies each
Hydrologic Investigations Atlases, Miscellaneous Field Studies Maps, Miscellaneous Investigations Maps	10 copies each
Water Resources Investigations reports, Open-File reports	Number is determined by originating office
Reports in cooperator series, non-Survey publications	Number is determined by publisher

Subject: DISPOSITION OF FINAL COPIES--Free Copies

8.02.5 Phrase "compliments of" forbidden

The regulation forbidding notification that a report is being sent "with compliments of" is given in the United States Code; Title 44, Public Printing and Documents, Chapter 11, Section 1106, as follows:

44 USC 1106. Inserting "compliments" forbidden

A report, document, or publication distributed by or from an executive department or independent agency or establishment of the Government may not contain a notice that it is sent with "the compliments" of an officer of the Government, or with a special notice that it is so sent, except that notice that it has been sent, with a request for an acknowledgement of its receipt, may be given.

Reference: Publication L. 90-620, Oct. 22, 1968, 82 Statute 1261.

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Subject: DISPOSITION OF FINAL COPIES--Disposal of Surplus Copies

8.03.1 Return of surplus copies

Field offices occasionally need to dispose of surplus copies of formal Geological Survey book and map publications. Because destruction of the publications is unlawful, they should be returned to one of the Geological Survey distribution offices.

Geological Survey book publications may be returned only to:

Eastern Distribution Branch
U.S. Geological Survey
604 South Pickett Street
Alexandria, Virginia 22304

Geological Survey map publications describing areas west of the Mississippi River may be returned to either:

Western Distribution Branch
U.S. Geological Survey
Box 25286, Denver Federal Center
Denver, Colorado 80225

Eastern Distribution Branch
U.S. Geological Survey
1200 South Eads Street
Arlington, Virginia 22202

Geological Survey map publications describing areas east of the Mississippi River can be returned only to:

Eastern Distribution Branch
U.S. Geological Survey
1200 South Eads Street
Arlington, Virginia 22202

Corrugated cardboard cartons especially designed for packing and shipping publications may be requested from the Chief, Branch of Distribution, at the Arlington, Virginia, address. The request for cartons should specify the number and type of publications to be returned.

Each packed carton should contain a list of contents titled "Surplus Copies." The list should be inside and at the top of each carton. A separate memorandum listing the quantity and series numbers of publications being sent should be mailed to the address shown on the cartons. Shipping charges must be prepaid by the shipping office.

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SECTION 9

GENERAL INFORMATION ON WRSIC, OFSS, AND GPO

9

page 385 follows

Article 9.01.1

Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO--Water Resources Scientific Information Center (WRSIC)

9.01.1 Purpose, publications, and services

The U.S. Water Resources Scientific Information Center (WRSIC) was established by the Secretary of the Interior in 1966 after the Water Resources Act was enacted. The Federal Council for Science and Technology, in 1966, designated WRSIC as the national center for scientific and technical information on water resources.

The main objective of WRSIC is to keep scientists, engineers, and managers of the national water-resources community aware of current research. WRSIC fulfills this objective by publishing information on current research and from published literature.

As of September, 1982, dissemination of scientific and technical information to the public takes the following published forms:

A. Selected Water Resources Abstracts.--an abstracting journal published twice a month. Each issue has an abstract section (500 abstracts average), subject index, author index, organization index, and accession-number index. Official-use subscriptions are available to Water Resources Division offices on application to the Hydrologic Information Unit, 420 National Center, Reston, Virginia 22092.

B. Selected Water Resources Abstracts, Annual Cumulated Indexes.--published each January. Part 1 contains author index, organization index, and accession-number index; part 2 contains the cumulative subject index from the semimonthly issues. Cumulated indexes are supplied automatically as part of the subscription to Selected Water Resources Abstracts.

C. Water Resources Research Catalog.--compiled annually. Catalog lists active research projects on file at the Science Information Exchange of the Smithsonian Institution. The report can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20204. Price varies from year to year.

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Article 9.02.1

Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO --Open-File Services Section (OFSS)

9.02.1 Purpose and operation

The Open-File Services Section (OFSS) of the Geological Survey's Distribution Branch (Central Region) was established in 1977 and is managed by the National Mapping Division. The purpose of OFSS is to provide a centrally located sales unit to make Geological Survey WRI and Open-File reports available to the public at cost on a per-copy basis.

Participation by the Water Resources Division in the Open-File Services system became mandatory in June 1979.[1]

OFSS is designed to be self-sustaining on a reimbursement to appropriations basis; therefore, the cost of each copy must be recovered. No free copies will be provided for "official use"; Geological Survey offices requesting copies will furnish the account number to be billed. Copies authorized for members of Congress, other Federal Agencies, cooperators, and so forth will be billed to the Division giving the authorization. Public Inquiries Offices, Libraries, and other depositories will refer orders and payments to OFSS.

Copies of WRI and Open-File reports are sold as paper copy or microfiche. The originating office provides original materials from which sale items are duplicated.

When a report is superseded by formal publication or when it is evident that the demand has ceased, the original materials will be returned to the originating office. Only a microfiche copy will be permanently stored by OFSS, and all future requests will be filled with microfiche or paper copy made from the microfiche.

OFSS maintains a computer inventory of WRI and Open-File reports to assist in determining sales, reorder levels, and location of inspection copies. A printout of total holdings may be obtained on request.

Inquiries concerning the program should be directed to:

Open-File Services Section
U.S. Geological Survey
Western Distribution Branch
Box 25425, Federal Center
Denver, Colorado 80225
(FTS: 8-234-5888)

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[1] See Water Resources Division Memorandum No. 79.117, dated June 14, 1979.

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Subject: GENERAL INFORMATION OF WRSIC, OFSS, AND GPO--Open-File Services Section (OFSS)

9.02.2 Submitting WRI and Open-File Reports to OFSS

A final reproducible copy of every approved WRI and Open-File report must be submitted promptly to OFSS for sale to the public. (The originating office should nevertheless produce adequate supplies for distribution to cooperators and depositories.) Page-size color illustrations in WRI reports will be reproduced in color by OFSS; color illustrations larger than page size will be reproduced in black and white only. When preparing color illustrations larger than page size, authors should use colors that can be distinguished when reproduced in black and white, or symbols, letters, line shadings, or other drafting techniques to insure legibility when reproduced in black and white.[1] A note of public availability from OFSS and ordering information should appear on the back of the title page of the report.

Procedures for Submittal to OFSS

When a new WRI or Open-File book or map report has been approved by the Director for release, the following steps should be taken:

A. Publications Management Unit (PMU):

1. contacts the Office of Scientific Publications of the Geologic Division to obtain a Open-File number (WRI numbers are maintained and assigned by the PMU);

2. establishes the release date;

3. prepares a transmittal-form memorandum giving name, address, and FTS number of the originating office, the title, author(s), content of the report, list of depositories where inspection copies are available, date of Director's approval, and estimated date on which the report will be available for public inspection;

4. returns the Director-approved copy of the report to the originating office; for Open-File reports, a copy of the transmittal-form memorandum also is sent to the originating office.

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[1] See Water Resources Division Memorandum No. 82.115, dated July 22, 1982, for additional information regarding Geological Survey Policy or use of color.

B. Originating office:

1. prepares two accession cards (form 9-1982)[3], reproducibles, and depository copies of the report;

2. for Open-File reports only, sends to OFSS the two accession cards, a copy of the report suitable for reproduction, and a transmittal-form memorandum prepared by PMU.[4]

3. sends an inspection copy of the Open-File or WRI report with a copy of the transmittal-form memorandum to each depository.

C. OFSS

1. accesses the report to the system, then:

2. establishes a sale price to recover the cost of providing copies to the customers;

3. transmits reproducibles to contractors for microfilming;

4. mails the pre-addressed accession cards (with price of paper and microfiche copies, and OFSS receipt date) to originating office and Technical Reports Unit (Geologic Division) for use in preparing the monthly "New Publications of the Geological Survey."

5. sells paper and microfiche copies on request.

D. Originating Office issues a news release, if warranted. (See article 3.02.4 "News Releases.") It is essential that the report actually be available at OFSS and all depositories before the news release is issued.

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[3] One card must be preaddressed for return to the orginating office from OFSS (with prices of paper and microfiche copies); the other card must be pre-addressed to the Chief, Technical Reports Unit, Geologic Division, U.S. Geological Survey, Box 25046, Mail Stop 302, Denver Federal Center, Denver, Colorado 80225. Accession cards (form 9-1982) are available from the Administrative Division forms supply source in Reston, Denver, and Menlo Park.

[4] The transmittal-form memorandum should include a list of depositories for the report. For WRI reports, send the two preaddressed accession cards, a copy of the report suitable for reproduction, and a copy of the manuscript-approval memorandum to the Publications Management Unit. Do not send material for WRI reports directly to OFSS.

E. Reproducibles will be returned to the originating office when an Open-File report is superseded or when demand for the reproducibles decreases. When it is apparent that the demand has ceased, OFSS will consult the originating office for instructions on how to dispose of reproducibles. Once the reproducibles have been returned, only microfiche will be permanently stored, and future requests will be filled only with microfiche or paper copies made from the microfiche. The originating office sends four copies of any published reports that supersede open-file interim copies to PMU. PMU then notifies OFSS to withdraw the interim open-file report from circulation. If requests are received for copies of a superseded Open-File report, the requestor should be informed that the report is available as a formal publication and be given the full reference of the formal published report.

Inquiries concerning the OFSS should be directed to:

U.S. Geological Survey
Branch of Distribution
Open-File Services Section
Box 25484, Federal Center
Denver, Colorado 80222
FTS 8-234-5888

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Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO--U.S. Government Printing Office (GPO)

9.03.1 Purpose and services

Title 44, U.S. Code, states that all printing and binding work for the Federal Government shall be done through the Government Printing Office (GPO) as stated in article 7.03.2. This means that all printing (specifically reports and maps in the WRI and Open-File series, and other orders of repetitive nature exceeding $500 in reproduction cost) must be obtained through GPO.

To implement the Federal Printing Program's rules concerning decentralization and regionalization of printing services, GPO maintains 14 Regional Printing Procurement Offices in 10 regions throughout the United States. Duties and responsibilities of the Regional Offices are related mainly to procuring services from commercial printers on a competitive bid basis and to make themselves readily accessible to Federal agencies for consultation and technical advice about printing.

GPO encourages inquiries from agencies and, when necessary, will visit with the agencies to provide assistance. Examples of questions in which GPO could provide advice would be those concerning:

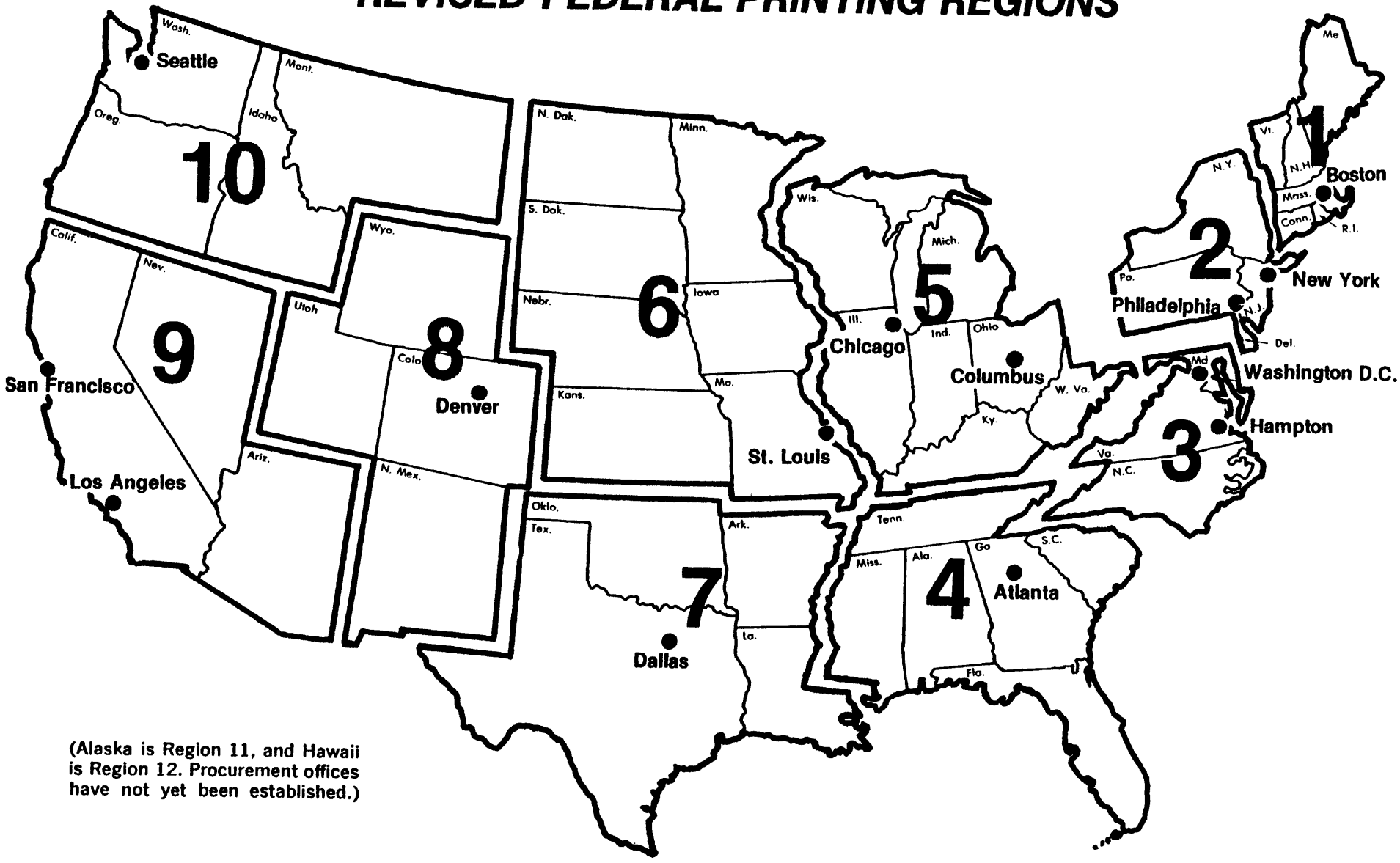
- -most economical sheet size for maps
- -cost increase for use of additional color or oversized plates
- -cost increase for rush orders
- -how to specify reductions, screens, and so forth for illustrations

Upon request, GPO offices will send information pamphlets, samples of materials, and instruction booklets. A list of Regional Printing Procurement Offices is given below.

References: U.S. Government Printing Office, 1971, Agency Procedural Handbook for commercial procurement of printing services: Regional Printing Offices, 27 p.

Joint Committee on Printing, 1977, Government Printing & Binding Regulations: U.S. Congress, no. 24, 51 p.

REVISED FEDERAL PRINTING REGIONS



(Alaska is Region 11, and Hawaii is Region 12. Procurement offices have not yet been established.)

GOVERNMENT PRINTING OFFICE REGIONAL PRINTING PROCURMENT OFFICES

REGION 1
U.S. Government Printing Office
Regional Printing Procurement Office
John W. McCormick Post Office & Court House
Room 1400, Post Office Square
Boston, Massachusetts 02109
Telephone: 617-223-7566

REGION 2 (I)
U.S. Government Printing Office
Regional Printing Procurement Office
8001 Roosevelt Blvd.
Suite 306, Third Floor
Philadelphia, Pennsylvania 19152
Telephone: 215-951-5441 FTS: 486-5441

REGION 2 (II)
U.S. Government Printing Office
Regional Printing Procurement Office
201 Varick Street, Room 752
New York, New York 10014
Telephone: 212-620-3321 FTS: 660-3321

REGION 3 (I)
U.S. Government Printing Office
Regional Printing Procurement Office
1st and N Streets, S.E.
Washington, D.C. 20403
Telephone: 202-775-9845

REGION 3 (II)
U.S. Government Printing Office
Regional Printing Procurement Office
Building 720-B
Langley A.F.B., Virginia 23665
Telephone: 804-827-2553 FTS: 928-2553

REGION 4
U.S. Government Printing Office
Regional Printing Procurement Office
R. B. Russell FOB, Room 788
75 Spring St., SW
Atlanta, Georgia 30303
Telephone: 404-221-5198 FTS: 242-5198

REGION 5 (I)
U.S. Government Printing Office
Regional Printing Procurement Office
610 South Canal St., Room 1051
Chicago, Illinois 60607
Telephone: 312-353-3916

REGION 5 (II)
U.S. Government Printing Office
Regional Printing Procurement Office
200 North High Street
Federal Building, Room 34
Columbus, Ohio 43215
Telephone: 614-469-6884 FTS: 943-6884

REGION 6
U.S. Government Printing Office
Regional Printing Procurement Office
210 N. Tucker Blvd., Room 1466
St. Louis, Missouri 63101
Telephone: 314-425-4371 FTS: 279-4371

REGION 7
U.S. Government Printing Office
Regional Printing Procurement Office
U.S. Courthouse & Federal Office Building
Room 3B7, 1100 Commerce Street
Dallas, Texas 75242
Telephone: 214-767-0451 FTS: 729-0451

REGION 8
U.S. Government Printing Office
Regional Printing Procurement Office
Denver Federal Center
Building 53, Room H-1004
Denver, Colorado 80225
Telephone: 303-234-2139

REGION 9 (I)
U.S. Government Printing Office
Regional Printing Procurement Office
Room 2E26, Federal Office Building
15000 Aviation Boulevard
Lawndale, California 90261
Telephone: 213-536-6650 FTS: 966-6650

REGION 9 (II)
U.S. Government Printing Office
Regional Printing Procurement Office
608 Folsom Street
San Francisco, California 94107
Telephone: 415-556-5356

REGION 10
U.S. Government Printing Office
Regional Printing Procurement Office
4735 East Marginal Way, South
Seattle, Washington 98134
Telephone: 206-764-3726 FTS: 399-3726

FIELD PRINTING OFFICES

CHICAGO FIELD PRINTING OFFICE
433 West Van Buren St., Room 300A
Chicago, Illinois 60607
Telephone: 312-353-2940 FTS: 353-2940

DENVER FIELD PRINTING OFFICE
Denver Federal Center
Building 53, Rm. D1010, P.O. Box 25347
Denver, Colorado 80225
Telephone: 303-234-2811 FTS: 234-2811

NEW YORK FIELD PRINTING OFFICE
201 Varick Street, Rm. 752, 7th Floor
New York, New York 10014
Telephone: 212-620-3327 FTS: 660-3327

SAN FRANCISCO FIELD PRINTING OFFICE
608 Folsom Street
San Francisco, California 94107
Telephone: 415-556-5356 FTS: 556-5356

SEATTLE FIELD PRINTING OFFICE
4735 East Marginal Way, South
Seattle, Washington 98134
Telephone: 206-764-3726 FTS: 339-3726

WASHINGTON, D.C. DEPARTMENTAL SERVICE OFFICE
Navy Yard
Washington, D.C. 20403
Telephone: 202-755-9871

GPO 19 0 14 PO 170

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SECTION 10

WATER-RESOURCES INVESTIGATIONS REPORTS

10

page 399 follows

Article 10.01.1

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Definition and Categories

10.01.1 Definition

The Water-Resources Investigations (WRI) series was established in 1973 for rapid release of interpretive reports and maps, mainly of local interest, that require wider distribution than the open file provides but do not warrant the national distribution or high-quality printing offered by the formal Geological Survey series. The need for the WRI series resulted from (1) a sharp increase in local studies by the Districts since the 1960's, (2) a shortage of technical journals or cooperator-published series suitable for such reports, and (3) an increased demand for an inexpensive format that can accommodate color if necessary and that can be published rapidly, within a few weeks after Director's approval.

In May 1982, approval was granted to restructure the WRI series; WRI/NTIS and WRI/open-file reports were combined into a new series known simply as Water-Resources Investigations reports. Major features of the restructuring are:

1. WRI reports will be assigned a separate numbering system; previously, WRI/open-file reports were numbered in the same sequence as Open-File reports. All WRI reports will be numbered in the 4000 series to distinquish them from Open-File reports.

2. WRI reports will now be available through the Open-File Services Section[1] of the Geological Survey rather than through NTIS.

3. WRI reports will be made available to the Government Printing Office for distribution to the official depository libraries used for Water-Supply Papers.

WRI Reports may be designed in book format, with or without oversized components, or in map format. Color is permitted. Final copies are printed by photo-offset, direct-image, or electrostatic process through the U.S. Government Printing Office (GPO). Book size is 8 1/2 X 11 inches. Map reports may have a paper jacket if desired. Details of format are given in article 10.04.1.

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[1] U.S. Geological Survey, Open-File Services Section, Western Distribution Branch, Box 25424, Federal Center, Denver, Colorado 80225; FTS 8-234-5888.

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Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Definition and Categories

10.01.2 Categories

Reports appropriate for the WRI series include:

A. Those of mainly local interest.

B. Those based on studies for which no formal Geological Survey series, cooperator-published series, or technical journal is available or appropriate.

Some examples of reports not appropriate for the WRI series include:

A. Those of wide geographic interest, long-term value, or significant scientific value that warrant wide distribution or high-quality printing. (These should be in a formal series or scientific journal.)

B. Those scheduled for publication elsewhere but requiring immediate release for interim use. (These should be released to the open file pending publication.)

C. Those that describe preliminary findings and that have little or no expected distribution other than to cooperators. (These should be released to the open file.)

D. Those containing only noninterpretive data. (These should be released to the open file.)

E. Those that were previously approved administrative reports, specially prepared reports for the Justice Department, or graduate-school theses. (See article 11.01.2.)

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Article 10.02

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Preparation and Review

See Publication Guide Section 6 for information on manuscript preparation, and articles 2.03.3 and 2.03.4 regarding review of Water-Resources Investigations reports.

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Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Approval

10.03.1 Obtaining Director's approval

All WRI reports must be approved by the Director's approving offices in Reston. See Publications Guide Section 3, "Obtaining approval to publish or release reports," for additional information.

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Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Approval

10.03.2 Assigning identification number

After a report has been approved by the Director for release in the WRI series, it is assigned a WRI identification number by the Publications Management Unit. This number consists of two parts: the first gives the last two digits of the calendar year in which the number is assigned; the second is a sequential WRI-series number for the calendar year (for example, 82-4060). The report is then returned to the originating office with a memorandum giving the WRI identification number and instructions for further processing. The identification number must appear on all subsequent copies of the report and should be used in all citations of the report thereafter.

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Article 10.04.1

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Preparing Copy for Duplication

10.04.1 Book reports

WRI reports may be designed in book or map format, with color if needed.[1] The following paragraphs give guidelines for the layout of WRI book reports being prepared for printing. Additional suggestions for typefaces, cover design, and layout of text, tables, and illustrations are given in article 7.02, "Preparing camera-ready copy."

PAPER AND TYPE STYLE

Camera-ready copy of WRI book reports should be typed on 8 1/2 X 11-inch white bond paper. Do not use erasible, onionskin, tinted, or textured paper. For economy, use elite type, single-spaced, in one-column (6-inch line) format. Type on only one side of each sheet. (Printed copies will be two sided, however.)

IMAGE AREA AND MARGINS

Ideal image area, excluding page number, is 6 1/2 X 8 3/4 inches. Margins should be 1 inch on the sides and top, 1 1/4 inches on the bottom. Page numbers are centered 5/8 inch from the bottom.

PAGINATION

The title (page i), contents (page iii), and abstract (page 1) each begin on a new right-hand page. If the last preliminary page is odd-numbered, insert a blank sheet bearing the next even roman numeral in nonreproducing blue so that the abstract (page 1) will begin on the right-hand side. The introduction may begin below the abstract on page 1 if space permits; otherwise it should begin on page 3. The introduction should begin on page 2 only if it would reduce the total number of pages to a multiple of four (which would avoid having three blank sheets at the end of the report).

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[1] With permission of the Scientific Publications Section, FTS 8-928-6881. See Water Resources Division Memorandum No. 82.116, dated July 15, 1982, "Use of color in Geological Survey publications.

REPORT COMPONENTS

Covers

Paper Stock

Light-colored or white cover stock can be used, but only one color of ink is permitted. Cover stock and ink color should harmonize and provide adequate contrast. The originating office should provide OFSS with black-and-white cover copy for reproduction from typescript. Authors' names must not appear on the cover; these are given on the title page and above the abstract on the first page of text. Lettering on the backstrip (if used) should be oriented to read from top to bottom of cover. (See examples at end of this article.)

The items of identification required for the cover are listed below; only these items should be shown. Recommended placement of each item is shown in the examples at the end of this article; the arrangement and type style may be changed, if desired, by the originating office. For example, if the cover contains an illustration, an alternative arrangement of items will be needed.

Cover 1 (Outside Front Cover)

Cover 1 should display:

1. Report title (aline flush left, longest line on top if possible, double space, all caps, double space). Subtitle (if any) should be subordinate to the main title in size and boldness.

2. U. S. Geological Survey (all caps).

3. Water-Resources Investigations Report XX-XXXX (series and number).

4. Cooperative credit statement (if appropriate).

5. Department seal.

If cover 1 is to be done by typewriter or equivalent, follow the example at the end of this article; if commercial or display lettering is used, the arrangement may be altered, but note the following guidelines:

1. Title should contain the largest, boldest lettering (generally 14- to 18-point size), either in capitals or capitals with lowercase.

2. U.S. Geological Survey should be lettered somewhat smaller than the title.

3. Water-Resources Investigations Report XX-XXXX should be subordinate in boldness or size to the words "U.S. Geological Survey."

4. Cooperator name(s) cooperating agency's name should be in the same lettering as that of the Geological Survey.

5. Department seal (1-inch diameter) may be ordered as wax-backed filmstrip from the Publications Management Unit or may be clipped from printed material if the image is sharp and was printed in black on a white background.

Cover 2 (Inside Front Cover)

Cover 2 of WRI reports will be blank, unless an explanation of cover art is required, in which case the caption should be positioned near the lower left corner.

Cover 3 (Inside Back Cover)

Cover 3 of WRI reports will be blank. However, if plates are included, specify to the printer that a pocket for folded plates should be attached to cover 3.

Cover 4 (Outside Back Cover)

Cover 4 may be blank or may be a continuation of the cover design.

Spine (Backstrip)

If the report exceeds 96 pages (or somewhat less if printed on heavy paper), spine copy should be provided to the printer. The spine should give the author(s) last name(s), an abbreviated report title, and the WRI series number--for example, USGS/WRI 82-4020. Copy should be oriented to read from top to bottom of the report. Lettering should be smaller than the thickness of the printed book. On saddle-stitched books, backstrip copy, if desired, may be printed along the right-hand margin of cover 4.

Preliminary Pages and Text

Title Page

The title page may be done either by typewriter or word processor as shown in the example at the end of this article, or in display lettering. The components should reflect the same respective rank shown on the cover. The main difference between the title page and the cover is that the title page (1) does not contain a design or illustration, and (2) does contain the authors' names and the city, State, and date of publication. The title page must contain the following:

1. Report title (all caps, double spaced).

2. Names of authors (generally, first name followed by middle initial and last name). Include affiliations only if the report was coauthored by one or more members of another organization. Use capital and lowercase letters.

3. U.S. Geological Survey (all caps).

4. Water-Resources Investigations Report XX-XXXX (upper and lowercase).

5. Cooperative credit statement if appropriate, in the same format used for cover.

6. Department seal.

7. City and State of originating office (spell out State name). Use capitals and lowercase, generally centered near bottom of page.

8. Year in which report is duplicated. Center just below city and State.

9. Page number (i). Do not type "i", but write it in nonreproducing blue at bottom center. This informs the printer that this is to be a right-hand page.

Back of Title Page

Back of title page, generally done by typewriter or equivalent, must give:

1. United States Department of the Interior (capital letters)

2. Name of Department Secretary (capital letters) and title "Secretary" (capital and lowercase).

3. Geological Survey (capital letters).

4. Name of Geological Survey Director (name and title "Director" in capital and lowercase).

5. Source of additional information (include address of originating office in capital and lowercase letters), and information on purchasing additional paper or microfiche copies (include address and commercial telephone number of the Open-File Services Section). For example:

For additional information write to:	Copies of this report can be purchased from:
Title of Chief of originating office U.S. Geological Survey (Show complete address)	Open-File Services Section Western Distribution Branch U.S. Geological Survey Box 25425, Federal Center Denver, Colorado 80225 (Telephone: (303) 234-5888)

An example of the placement of these items is given at the end of this article.

Contents, List of Conversion Factors, Abstract, and Text

These components and the remainder of the report should be arranged and typed single-spaced, as explained in Section 7.02, "Preparing camera-ready copy."

The text is typed in one-column format (6- to 6 1/2-inch line length), generally beginning on line 7 and continuing to line 52 or 53, giving a total depth of 8 3/4 inches excluding page number. Paragraphs and sentences may be broken and run onto the next page if at least two lines are carried over. New sections should begin three or four lines below the previous one (space permitting) and need not begin on a new page.

Tables and Illustrations

Tables and illustrations are preferably positioned upright on the page so that they can be viewed without turning the book sideways. If they must be positioned sideways (broad measure), orient them so that they can be turned clockwise for viewing. If two illustrations, two tables, or a table and an illustration are to face each other, they should be similarly oriented, if possible.

Tables

Tables may be designed to fit within the image area of a single page or less, across two facing pages, or in a series of pages. They may be typed double spaced if necessary to improve legibility and may also be photoreduced if necessary. Because the smallest lettering size permitted for WRI reports is 8 point (to insure legibility of paper copies made from microfilm), the maximum reduction for elite type is 80 percent of original size, and that for pica type and computer printouts is 67 and 65 percent, respectively. Therefore, the maximum image area for elite type before reduction is about 8 X 11 inches, and that for pica type and computer printouts is about 10 X 13 inches.

Page-Size Illustrations

Page-size illustrations, together with title and page number, will occupy no more than the standard image area. If an illustration is oriented sideways, use a side title typed in broad measure (maximum length, 8 1/2 inches). If an illustration will not be legible at page size, it should be redesigned to fit across two facing pages, with a dividing point through the middle to allow for the margins and binding. (This technique is more economical than printing foldouts or separate plates.) Single illustrations designed for two facing pages will start on an even-numbered page, and the title should be centered across both pages, again allowing for the inside margin. All lettering should be at least 8-point[1] size to insure legibility of copy produced from microfilm. Because solid black or dense dot and line patterns cannot be photocopied clearly, solid black areas should be avoided, and the density of dot patterns and lines should not exceed 40 rows per linear inch.

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[1] This footnote is typed in 8-point lettering.

Oversize Illustrations

Except for size limitations, procedures for printing oversize illustrations through GPO are the same as for page-size illustrations.[2] However, authors should bear in mind that OFSS will reproduce oversize illustrations in black and white only. When preparing oversize color illustrations, authors should use colors that can be distinguished when reproduced in black and white, or should prepare a black and white version with symbols, letters, line shadings, or screens to insure legibility when reproduced in black and white. (See article 9.02.2.)

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[2] Standard paper sizes for oversize illustrations are 26 X 36 inches, 36 X 44 inches, and 44 X 58 inches. Maximum image size of Geological Survey presses is 42 X 56 inches. Maximum image size of commerical presses is 48 X 75 inches.

QUALITY AND MOVEMENT OF GROUND WATER

IN LARIMIER CREEK BASIN,

CORTLAND COUNTY, NEW YORK

U.S. GEOLOGICAL SURVEY

Water Resources Investigations Report 82-4835

Prepared in cooperation with

CORTLAND COUNTY, NEW YORK

Typescript cover of
Water-Resources Investigations report

QUALITY AND MOVEMENT OF GROUND WATER

IN LARIMIER CREEK BASIN,

CORTLAND COUNTY, NEW YORK

By Roger T. Atkins

U.S. GEOLOGICAL SURVEY

Water Resources Investigations Report 82-4835

Prepared in cooperation with

CORTLAND COUNTY, NEW YORK

Albany, New York

1982

Typescript title page of
Water-Resources Investigations report

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

Title of Chief of
originating office
U.S. Geological Survey
(Show complete address)

Copies of this report can
be purchased from:

Open-File Services Section
Western Distribution Branch
U.S. Geological Survey
Box 25425, Federal Center
Denver, Colorado 80225
(Telephone: (303) 234-5888)

Typescript back of title page of Water-Resources Investigations Report

Subject: WATER-RESOURCES INVESTIGATIONS REPORT--Preparing Copy for Duplication

10.04.2 Map reports

ITEMS OF IDENTIFICATION

Water-Resources Investigations map reports have the same characteristics and format as map reports published in the formal Geological Survey series. Required items of identification (listed below) generally are the same; their placement and lettering specifications are outlined in article 2.02.3, "Map reports."

1. Department identification.

2. Cooperative credit statement (if applicable).

3. Series identification (Water-Resources Investigations Report XX-XXXX, and sheet number if more than one sheet.

4. Title.

5. Authors' names (first name, middle initial, last name).

6. Year of publication.

7. Base credit and mapping credit.

In addition, the city and State in which the originating office is located and ordering information will be shown at the lower right corner below the mapping credit note. For example:

For additional information write to:	Black and white copies of this map may be purchased from:
Title of Chief of originating office U.S. Geological Survey (Show complete address)	Open-File Services Section Western Distribution Branch U.S. Geological Survey Box 25425, Federal Center Denver, Colorado 80225 (Telephone: (303) 234-5888)

When OFSS has the capability to reproduce oversize illustrations in color, the words "Black and white" in the above statement can be deleted.

MAP JACKET

WRI maps of one or more sheets may be folded and inserted in a jacket of approximately 9 X 11 1/2 inches. The layout and color of the jacket should differ from that used in the Hydrologic Atlas map series to avoid confusion. An index map may be shown if desired. Camera-ready copy of the jacket will be included when the map is sent to GPO. Folding and inserting may be done through GPO at extra cost.

The following items of identification are required for the jacket. Suggested placement of each item is described below; however, the originating office may rearrange them if necessary. An example of a typed map jacket is shown on the following page. Lettering size and boldness should reflect the rank described for WRI report covers in the preceding article.

A. United States (line 1), Department of the Interior (line 2), Geological Survey (line 3). all caps, centered, single spaced.

B. Title (all caps, centered). Subtitle (if any) should be subordinate to the main title in size and boldness.

C. Authorship (generally first name, middle initial, last name). Include affiliations only if report was coauthored by one or more members of another organization.

D. U.S. Geological Survey (all caps, centered).

E. Report series and number. Show "Water-Resources Investigations Report XX-XXXX" (one line, all caps, centered).

F. City and State of originating office (spell out State name). Use capital and lowercase letters, centered, double spaced

G. Year of publication (centered).

H. Cooperative credit statement (if applicable). Cooperating agency's name should be the same as that of the Geological Survey. The credit statement should use the following format:

Prepared in cooperation with the

NEVADA DIVISION OF WATER RESOURCES

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MAPS SHOWING GROUND-WATER CONDITIONS IN THE WHITE FALLS AREA, ARCONA AND GRAHAM COUNTIES, NEVADA

By Linda B. Simmons and George D. Johnson

U.S. GEOLOGICAL SURVEY

WATER-RESOURCES INVESTIGATIONS REPORT 82-4915

Tucson, Arizona

1982

Prepared in cooperation with the

NEVADA WATER AUTHORITY

Typescript map jacket of Water-Resources Investigations report
(Display lettering and location map may also be used;
Department seal is optional.)

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Article 10.05

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Duplication and Binding

Specific instructions for requesting duplication and binding of WRI reports is given in Section 7.03.

The maximum number of copies of a Water-Resources Investigations report that may be printed through GPO is 300 unless special written permission is granted by the Publications Management Unit beforehand. The primary considerations in determining the number of copies to produce are (1) projected demand within the Geological Survey and by cooperating and other government agencies, (2) total cost of duplication, and (3) storage space needed. The originating office must determine the number of copies needed, including those for recipients listed in article 10.07. A supply of about 20 copies should be kept for loans and future requests. Keep in mind that distribution to the public is through the OFSS.

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Article 10.06

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Preparing Reproducible Copy for Open-File Services Section

When copies of WRI Reports are received from GPO, one complete, reproducible copy will be prepared for transmittal to OFSS through the Publications Management Unit. OFSS will then offer both paper and microfiche copies for sale to the public at cost.

All copy to be reproduced by OFSS must be clearly legible. Any materials for OFSS received by the Publications Management Unit that are not of reproducible quality will be returned to the originating office for acceptable replacements. Some reports contain components that must be replaced with suitable copy before transmittal to OFSS. Among these components are:

A. Cover 1.--If printed copy has an ink color other than black or red, or if cover stock is other than white, insert a standard typescript cover.

B. Pages containing errors.--An errata sheet should not be included. Instead, all errors in text and plates must be neatly corrected.

C. Oversize illustrations.--All oversize illustrations must be submitted on scale-stable film positives.

D. Color in illustrations.--Page-size color illustrations in WRI reports will be reproduced by OFSS in color. Illustrations larger than page-size will be reproduced in black and white only. For illustrations larger than page size, authors must use colors that can be distinguished when reproduced in black and white, or use symbols, letters, line shadings, or other drafting techniques that will be legible when reproduced in black and white.

Send the reproducible report materials, a transmittal memorandum, list of depositories, and two completed OFSS accession cards (form 9-1982), to the Publications Management Unit (PMU). (See article 9.02.2 for specific instructions for submitting WRI reports to OFSS.) The transmittal memorandum to PMU should indicate the number of microfiche copies needed for office use and Public Inquiries Offices. (Generally, a maximum of 15 is permitted; refer to Section 8.03, "Required Distribution" to determine the number needed for Public Inquiries Offices.)

Once the initial demand for the report has subsided, OFSS will consult the originating office as to the disposition of reproducibles. This material will be discarded by OFSS or returned to the originating office; OFSS will retain only the microfilm copy for future requests.

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Article 10.07

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Distribution and Announcement of Availability

After a WRI report has been printed, the originating office provides copies to Geological Survey depositories as indicated in article 8.03.1. A simplified distribution list for WRI reports is given below.

To fulfill the Geological Survey's obligation to make results of its investigations available to all on equal terms, WRI reports should not be distributed (not even to cooperating agencies) until a Director-approved news release announcing the report's content and availability has been issued locally. (See article 3.02.4.) If a local news release is not issued, distribution of the report must await an announcement of availability in the monthly pamphlet "New publications of the Geological Survey," which occurs at least 3 months after receipt of the reproducible report copy by OFSS.

Only after the report has been properly announced may copies to provided to cooperating agencies, to other local, State, and Federal units of government, and to public and college libraries.[1]

The public, which includes consultants and industry, may inspect file copies at depositories, borrow copies from the originating office, or purchase copies from OFSS.

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[1] Many of these libraries are listed by State in: U.S. Government Printing Office, 1976, Government depository libraries; the present law governing designated depository libraries: Washington, D.C., U.S. Government Printing Office report, 43 p.

Recipient	Number of copies
Upon Receipt of Printed Copies	
Open-File Services Section[1]	1 reproducible copy
Publications Management Unit	4
Geological Survey Libraries[2]	2 each
Public Inquiries Offices[3]	1 each
Interior Department Natural Resources Library	3
Geologic Division[4]	1
Authors	as needed
Survey offices and staff	as needed
Loan and archive	20
After Formal Announcement	
Cooperating agencies	as needed
Other Local, State, Federal government units[5]	as needed

[1] Send to Publications Management Unit, Water Resources Division, 435 National Center, Reston, Virginia 22092, rather than directly to OFSS. Include two completed accession cards (form 9-1982) and a copy of the manuscript-approval memorandum. One card should be preaddressed for return to the originating office from OFSS (with prices of paper and microfiche copies); the other card should be preaddressed to the Chief, Technical Reports Unit, Geologic Division, U.S. Geological Survey, Box 25046, Mail Stop 302, Denver Federal Center, Denver, Colorado 80225.

[2] Reston, Virginia, Lakewood, Colorado, and Menlo Park, California

[3] Optional but recommended; one paper copy to each appropriate PIO. OFSS will independently supply two microfiche copies to PIO's.

[4] For GPO. Send to 919 National Center, accompanied by list of all depositories.

[5] Includes public and college libraries.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 10.08

Subject: WATER-RESOURCES INVESTIGATIONS SERIES--Citation as a Reference

After a report has been approved by the Director for release in the WRI series, it is assigned a WRI identification number by the Publications Mangement Unit. This number consists of two parts: the first gives the last two digits of the calendar year in which the number is assigned; the second is a sequential WRI-series number for the calendar year (for example, 82-4060). This number will appear on all subsequent copies of the report and will be used in all citations of the report.

Examples of correct bibliographic citations for WRI book and map reports are as follows:

> Public, J. Q., 1982, Appraisal of water quality in the Hudson River, New York: U.S. Geological Survey Water-Resources Investigations Report 82-XXXX, 72 p.
>
> Public, J. Q., 1982, Inundated areas along the Potomac River during July 1980: U.S. Geological Survey Water-Resources Investigations Report 82-XXXX, map (3 sheets).

When citing WRI reports, note the following:

A. The words "Water-Resources Investigations Report" are always spelled out in the citation.

B. The date preceding the report title is the year of publication, which may differ from the year indicated by the first two digits of the report-identification number.

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SECTION 11

OPEN-FILE REPORTS

11

page 431 follows

Subject: OPEN-FILE REPORTS--Definition and Categories

11.01.1 Definition

The Geological Survey's Open-File reports provide the public with ready access to preliminary results of geologic and hydrologic studies and most geohydrologic data.

Materials released to the open file must be of the same high technical quality as reports in the formal series and are subject to the same technical review and processing. If necessary, however, tables and illustrations may be lettered by hand, provided that they conform to Geological Survey editorial specifications and are reproducible.

Open-file reports may be designed in book format, with or without oversized components, or in map format. Color is not permitted. Final copies may be printed by photo-offset or electrostatic process through the Government Printing Office (GPO) or may be produced inhouse on copying equipment. Book size is 8 1/2 X 11 inches. The image size of the Geological Survey's largest press is 42 X 56 inches and map reports should be designed with this size limitation in mind--the smaller the better. Maps may be folded into a paper jacket if desired. Details of format are given in Section 11.02.

page 433 follows

Subject: OPEN-FILE REPORTS--Definition and Categories

11.01.2 Categories

The open file includes several categories of reports:

A. Those intended for formal publication elsewhere but whose early release is in the public interest (open file pending publication).

B. Those that consist mainly of basic data.

C. Those that will soon be superseded, such as progress reports, preliminary reports, and annual project summaries.

D. Material not originally intended for release by the Geological Survey, such as previously approved administrative reports, reports specially prepared for use in litigation by the U.S. Justice Department, and graduate school theses.

A. REPORTS RELEASED TO OPEN FILE PENDING FORMAL PUBLICATION

This category is intended for reports that require immediate release for interim use pending publication in a formal series. A request for this type of release should be reserved for reports requiring more than a few months for publication. In general, program abstracts and guidebook articles will be published rapidly enough to make interim release to the open file unnecessary. Many journals and organizations have firm policies against publication of articles if copies have previously been distributed.

If the need for open-file release in advance of publication is urgent, the memorandum of transmittal from the originating office to the Region must include a request for both interim release and subsequent publication, along with appropriate justification.

When the formal publication becomes available, the open-file version will be withdrawn from circulation and destroyed.

B. DATA REPORTS

Data reports consist mainly of diagrams, tables, maps, and noninterpretive text that describe events and call attention to certain data without defining the cause-and-effect relations. The term "data" refers to direct measurements, standardized statistical and arithmetic analysis or measurements, and noninterpretive plots such as hydrographs and data-site maps. Any analysis used must conform to established procedures. Maps showing potentiometric surfaces, geologic or geohydrologic sections, distribution of geologic or hydrologic units, or the areal extent of a particular dissolved constituent are interpretive and must receive Director's approval at Headquarters (unless cited or reproduced from a Director-approved report).

The following guidelines are to be used to determine whether a report is interpretive (needing Director's approval at Headquarters) or noninterpretive (needing approval by a Regional Hydrologist for the Director.)

Surface Water

1. Measured and calculated values of hydrologic variables, including water-surface elevations, flow rates, storage volumes, and standard hydrologic characteristics such as drainage areas and channel sections, are noninterpretive data.

2. Values computed by routine statistical procedures are noninterpretive data, with certain exceptions. For example:

   a. Values of discharge and statistical summaries of discharge that are published in annual State data reports are noninterpretive data.

   b. Results from statistical analysis of daily or unit data files by selected computer programs, as follows:

      - Computer program J407--Flood-frequency analysis based on Water Resources Council guidelines in their Bulletin 17A, which uses generally accepted assumptions and is considered noninterpretive.

      - Computer program A969--Daily values statistics, except the log-Pearson analyses. The statistical parameters are noninterpretive, but the low-flow and flood-volume probability tables and curves that require assumptions about type of frequency distribution, independence of events, and adequacy of sample are interpretive. Reports containing probability statistics must be approved by the Director.

- o Computer program W4422--Monthly and annual statistics are noninterpretive.

3. Reports documenting extreme hydrologic events of local interest and limited to presenting basic data only are noninterpretive data and require Regional Hydrologist's approval.

4. Summaries of drainage-basin characteristics, wherein the characteristics are defined by standard techniques, are non-interpretive.

5. Bridge-site reports that contain basic data on the physical setting of stream crossings and present estimates of conveyance capacities and magnitude and frequency of those events using well known and accepted techniques. Reports of this kind, because they are essentially basic data reports, may be approved for release by a Regional Hydrologist. Bridge-site reports that are of high political interest, use uncommon or controversial technical approaches, are of potential national concern, or are to be used in litigation must be approved by the Director.

Quality of Water

1. Measured and calculated values such as chemical concentrations and loads, physical properties, sediment concentrations and loads, chemical characteristics of sediment and bottom material, bacterial populations, and abundance and diversity of aquatic organisms, are noninterpretive.

2. The modeling or simulation of hydrologic processes is highly subjective. Accordingly, reports that involve selection of models and their application to field conditions are considered interpretive and require approval by the Director.

3. Standard statistical parameters produced by computer analyses of data from Watstore files are noninterpretive. However, digital-model analyses or modifications to models are interpretive and require approval by the Director.

Ground Water

1. Measured water levels, calculated changes in water levels, pumpage, flow of springs, and similar data are noninterpretive. However, potentiometric maps, and calculated hydraulic characteristics such as transmissivity, hydraulic conductivity, and storage coefficent, are interpretive and must be approved by the Director, unless cited from a Director-approved report.

2. Records of wells and springs and unannotated geophysical and lithologic logs are noninterpretive.

3. Modeling or simulating hydrologic processes is highly subjective. Accordingly, reports that involve selection of models and their application to field conditions are considered interpretive and require approval by the Director.

4. Standard statistical parameters produced by computer analyses of data from Watstore files are noninterpretive. However, digital-model analyses or modifications to models are to be treated as interpretive data and require approval by the Director.

5. Hydrographs and reports on changes and status of ground-water levels that are descriptive and do not involve interpretation as to cause-and-effect relations are noninterpretive.

Text

Data reports generally include a brief text that supplements the data in tables or illustrations. The accompanying text should include purpose and scope; acknowledgements; description of the data (type, quantity, and format); description of the location system used for the data-collection sites shown in the tables or illustrations; and a list of references, if applicable. Proper credit must be shown for borrowed or adapted material. The text may also have sections describing how the data were collected and analyzed and how they can be used. A summary of the data (extremes, means, and other noninterpretive statistical information) may also be included. Tables generally constitute the largest part of data reports.

Illustrations

Illustrations in a data report may include either hand- or computer-drawn maps, sections, graphs, and diagrams. These should show data-collection sites and indicate the numerical values for the data collected. Maps may show, by line or pattern, the areal variation of geohydrologic data, such as annual or periodic changes in water level. Graphs and diagrams may show continuous records of point numerical values or plots of geohydrologic data. Illustrations may also include photographs, uninterpreted geophysical logs, lithologic and drillers' logs, and properly credited maps compiled from published or Open-File reports.

The above examples should be considered representative, not exhaustive. If a report has illustrations that cannot be identified clearly as non-interpretive, the report must be approved by the Director. If a map series has been established for data presentation, but subsequent maps in the series contain interpretive as well as noninterpetive material, the maps then must be approved by the Director. Reports having unusual illustrations prepared by nonstandard methods also must be approved by the Director.

Inclusion of Published Interpretive Material

Data reports may contain interpretive material from Director-approved reports but must not contain new interpretive material without Director's approval.[1]

C. PROGRESS REPORTS, PRELIMINARY REPORTS, AND ANNUAL PROJECT SUMMARIES

Reports in these categories are suitable candidates for the open file because they contain material that will soon be superseded.

D. MATERIAL NOT ORIGINALLY INTENDED FOR RELEASE BY THE GEOLOGICAL SURVEY

Previously Approved Administrative Reports

Administrative reports are released only to Federal agencies with which the Geological Survey is doing work, for exclusive use within those agencies. These reports are not for public release or consultation in any form. (See Section 12.) Before these reports can be made available to the public, they must be approved by the Director for release to the open file. An administrative report resulting from work financed by another Federal agency must be accompanied by a letter of clearance from that agency before the Director will approve the report for open-file release.

Because the results of most Geological Survey investigations funded by other Federal agencies should be released to the public, there should be a formal agreement with the Federal agency at the inception of the study that the Geological Survey may open file or publish the resulting report products.

Specially Prepared Reports for Use in Litigation by the U.S. Justice Department

The Geological Survey may be requested by the Department of Justice to prepare reports for use in civil action. All reports that will be used in litigation and that become part of the court record and available for public inspection must be approved for open-file release and announced to the public. A letter of clearance from the Justice Department must accompany the request for Director's approval for open file release. As in all cooperative programs, the mode of release of a report must be incorporated in the formal agreement between the Justice Department and the Geological Survey.

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[1] An exception is the summary statement of hydrologic conditions in the annual State data reports. This statement may be approved by the Regional Hydrologist for the Director; however, it may also require Director's approval at Headquarters, depending on content. (See Water Resources Division Memorandum No. 81.111.)

In some instances, the Justice Department may request that a report not be released for public inspection or may request distribution only to opposing counsel or other government agencies. In those instances, the report should be approved by the Director as an administrative report for release only to the Justice Department.

Graduate-School Theses

Theses written as the result of work performed for the Geological Survey, whether for salary or voluntarily, must be submitted for Director's approval for release to the open file (or other series) before they are submitted to a university. In special situations where time is not sufficient for normal review and approval by the Geological Survey, and the District Chief or Research Project Chief believes the report is technically sound, the author may provide the university with copies of the thesis and may defend the thesis with the clear understanding that the university must keep the thesis in a closed-file status until it is approved for release to the public by the Geological Survey. The author should discuss this stipulation with university officials before the thesis is submitted, and this stipulation must be stated in writing by the author when the thesis is submitted to the university. If the university is unwilling to accept this stipulation, the author must arrange for expeditious review and Director's approval through the Chief, Scientific Publications Section, before submitting the thesis to the university.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 11.02

Subject: OPEN-FILE REPORTS--Manuscript Preparation and Review

See Publications Guide Section 6 for information on manuscript preparation, and articles 2.03.3 and 2.03.4 regarding review.

page 441 follows

Subject: OPEN-FILE REPORTS--Approval

11.03.1 Obtaining Director's approval

Authority for releasing basic-data reports to the open file has been delegated to the Regional Hydrologists by the Director. All other reports must be approved by the Director's approving officer at Headquarters. (See Section 3, "Obtaining Approval to Publish or Release Reports," for additional information.)

page 443 follows

Subject: OPEN-FILE REPORTS--Approval

11.03.2 Assigning identification number

After a report has been approved by the Director (interpretive reports) or the Regional Hydrologist (data reports) for release to the open file, it is assigned an open-file identification number by the Publications Management Unit. This number consists of two parts: the first gives the last two digits of the calendar year in which the number is assigned, and the second is a sequential open-file number for that calendar year (for example, 82-703). The report is then returned to the originating office with a memorandum giving the open-file identification number and instructions for further processing. The identification number must appear on all subsequent copies of the report and should be used in all citations of the report thereafter.

page 445 Follows

Subject: OPEN-FILE REPORTS--Preparing Copy for Duplication

11.04.1 Book reports

Reports in the open-file series may have one of two formats: (a) books with or without oversized components and (b) maps. Both may be printed either through Government Printing Office (GPO) or reproduced inhouse, as outlined in article 7.03.1, depending upon desired quality, quantity, and release date. Color is not permitted. All costs associated with preparation and duplication inhouse or through GPO will be borne by the originating offices.

PAPER AND TYPE STYLE

Type final copy of open-file reports on 8 1/2 X 11-inch white bond paper. Do not use erasible, onionskin, tinted, or textured paper. For economy, use elite type, single spaced, in one-column (6-inch line) format. Type on only one side of each sheet, but have final copy imprinted on both sides if possible.

IMAGE AREA AND MARGINS

Ideal image area, excluding page number, is 6 1/2 X 8 3/4 inches. Margins should be about 1 inch on the sides and top, 1 1/4 inches on the bottom. If a book is to be side-stapled, be sure that the inside margins (left side of odd numbered pages, right sided even numbered pages) are at least 1 inch wide. Page numbers are centered about 5/8 inch from the bottom. Copy should be assembled on a facing-page basis (even numbers on left) to obtain a balanced appearance. (See article 7.02.) For economy, illustrations and tables may be sketched and lettered by hand if necessary, but must be neat, legible, and reproducible.

PAGINATION

The title (page i), contents (page iii), and abstract (page 1) each begin on a new right-hand page. If the last preliminary page is odd-numbered, insert a sheet bearing the next (even) roman numeral in nonreproducing blue so that the abstract (page 1) will begin on the right-hand side. The introduction may begin below the abstract on page 1 if space permits; otherwise it should begin on page 2 if the report is to be duplicated inhouse or on page 3 if reproduced through GPO. In reports printed through GPO, the introduction may be placed on page 2 if this will reduce the total number of pages (excluding covers) to a multiple of 4, which will avoid having three blank sheets at the end of the report.

REPORT COMPONENTS

Covers

Paper Stock

Reports printed or reproduced through GPO.--Light-colored or white cover stock may be used, but only one color of ink is permitted. Cover stock and ink color should harmonize and provide adequate contrast.

Reports to be reproduced inhouse.--Colored cover stock may be used. Heavy cover stock is preferred to paper because it is more durable and resistant to tearing.

Cover 1 (Outside Front Cover)

Cover 1 must display:

A. Either (a) the words "United States" (line 1), "Department of the Interior" (line 2), and "Geological Survey" (line 3), single spaced, all caps, and centered near top of page if the report is to be photocopied inhouse (or if the Department seal produces splice lines or a "halo" when photocopied), or (b) the Department seal, near the lower right-hand corner of page, if the report is printed through GPO or copied on a machine that does not reproduce splice lines.

B. Report title (aline flush left, doublespaced, all caps, with longest line on top, if possible. Subtitle (if any) should be subordinate to the main title in size and boldness.

C. U.S. Geological Survey (only if a Department seal is used; all caps).

D. Open-File Report XX-XXXX (upper and lowercase).

E. Cooperative credit statement (if appropriate), as follows:

Prepared in cooperation with the

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

If cover 1 is to be typed, refer to the examples on the following pages. If commercial or display lettering is used, the arrangement may be altered, but note the following guidelines:

A. Title should contain the largest, boldest lettering (generally 14 to 18-point size), either in capitals or capitals with lowercase.

B. U.S. Geological Survey should be in smaller type size than the title.

C. Open-File Report XX-XXXX should be subordinate in boldness or size to the words "U.S. Geological Survey."

D. Cooperating agency's name should be in the same lettering as that of the Geological Survey.

E. Department seal (1-inch diameter) may be ordered as wax-backed filmstrip from the Publications Management Unit or may be clipped from printed material if the image is sharp and was printed in black on a white background.

Cover 2 (Inside Front Cover)

Cover 2 of Open-File reports will be blank unless an explanation of cover art is required, in which case the caption should be positioned near the lower left corner.

Cover 3 (Inside Back Cover)

Cover 3 either will be blank or will contain an envelope for folded plates.

Cover 4 (Outside Back Cover)

Cover 4 may be blank or may be a continuation of the front-cover design.

Spine (Backstrip)

If the report contains more than 96 sheets and is to be perfect (glue) bound by GPO, provide copy for the backstrip as described in article 10.04.1.

Preliminary Pages and Text

Title Page

The title page may be done either by typewriter or word processor, as shown in the example, or in display lettering. The components should reflect the same respective rank shown on the cover. The main difference between the title page and the cover is that the title page includes the authors' names and the city, State, and year of publication but does not include an illustration.

The title page must contain the following items:

A. Either (a) the words "United States" (line 1), "Department of the Interior" (line 2), and "Geological Survey" (line 3), single spaced, all caps, and centered near top of page, or (b) Department seal, depending on style used on the cover.

B. Report title (all caps).

C. Name(s) of author(s) (usually, first name followed by middle initial and last name). Include affiliations only if the report was coauthored by one or more members of another organization. Use capital and lowercase letters.

D. U.S. Geological Survey (all caps, and only if Department seal is used).

E. Open-File Report XX-XXXX (upper and lowercase).

F. Cooperative credit statement (if appropriate, in the same format used for cover).

G. City and State of originating office (spell out State name). Use capitals and lowercase, centered near bottom of page.

H. Year in which report is duplicated. Center just below city and State.

I. Page number (i). Do not type (i), but write it in nonreproducing blue at bottom center. This informs the person duplicating the report that the title page is to be on the right-hand page.

Remainder of Book

The remainder of the text and all illustrations should be prepared to the same specifications as those for Water Resources Investigations (WRI) Reports. (See Section 10.04, "Preparing Copy for Duplication.") Illustrations and tables, however, may be lettered by hand for economy as long as the result is neat, legible, and reproducible. The following pages give examples of the proper format for cover 1 and the title page of Open-File reports produced in-house and through GPO.

STATISTICAL SUMMARIES OF WATER-QUALITY DATA

FOR TWO COAL AREAS OF JACKSON COUNTY, COLORADO

U.S. GEOLOGICAL SURVEY

Open-File Report 82-121

Prepared in cooperation with

JACKSON COUNTY and the

U.S. BUREAU OF LAND MANAGEMENT

449

Typescript cover of Open-File report
to be printed through GPO

STATISTICAL SUMMARIES OF WATER-QUALITY DATA

FOR TWO COAL AREAS OF JACKSON COUNTY, COLORADO

By Gerhard Kuhn

U.S. GEOLOGICAL SURVEY

Open-File Report 82-121

Prepared in cooperation with

JACKSON COUNTY and the

U.S. BUREAU OF LAND MANAGEMENT

Lakewood, Colorado

1982

Typescript title page of Open-File report
to be printed through GPO

Article 11.04.1

450

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUMMARY OF WATER-LEVEL AND DISCHARGE

RECORDS FOR THE EAST EVERGLADES

AREA, DADE COUNTY, FLORIDA

Open-File Report 80-215

Prepared in cooperation with the

METROPOLITAN DADE COUNTY PLANNING DEPARTMENT

Typescript cover of Open-File report to be reproduced inhouse without Department seal

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUMMARY OF WATER-LEVEL AND DISCHARGE

RECORDS FOR THE EAST EVERGLADES

AREA, DADE COUNTY, FLORIDA

By James J. Schneider

Open-File Report 80-215

Prepared in cooperation with the

METROPOLITAN DADE COUNTY PLANNING DEPARTMENT

Tallahassee, Florida

1980

Typescript title page of Open-File report to be reproduced inhouse without Department s

Article 11.04.1

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

Title of Chief of
originating office
U.S. Geological Survey
(Show complete address)

Copies of this report can
be purchased from:

Open-File Services Section
Western Distribution Branch
Box 25425, Federal Center
Denver, Colorado 80225
(Telephone: (303) 234-5888)

Typescript back of title page of Open-File report

page 453 follows

Subject: OPEN-FILE REPORTS--Preparing Copy for Duplication

11.04.2 Map reports

Open-File maps have the same characteristics and format as WRI maps except that color is not permitted and the lettering may be typewritten or hand lettered and the lines hand drawn, provided the work is neat, legible and reproducible.

ITEMS OF IDENTIFICATION

Required items of identification for Open-File map reports (listed below) are generally the same as for Water-Resources Investigations map reports; their placement and lettering specifications are outlined in article 10.04.2.

1. Department identification
2. Cooperative credit statement (if applicable)
3. Series identification (Open-File Report XX-XXXX) and sheet number, if more than one sheet
4. Title
5. Authors' names (generally first name, middle initial, last name)
6. Year of publication
7. Base credit and mapping credit

In addition, the city and State in which the originating office is located and ordering information will be placed at the lower right corner below the mapping credit note. (See article 10.04.2.)

MAP JACKET

Map reports of one or more sheets may be folded and inserted in a jacket of approximately 9 X 11 1/2 inches. The layout and color of the jacket should differ from that used in formal Geological Survey's Hydrologic Atlas map series to avoid confusion. An index map may be shown if desired. If the report is printed through GPO, camera-ready copy of the map jacket must be included. If the report is to be duplicated locally on diazo or similar equipment, the jackets may be labeled inhouse by typewriter or printed separately through GPO. Folding and inserting may be obtained at extra cost.

If a jacket is used, the following items of identification are required. Suggested placement of each item is shown in the following example, although the arrangement may be altered if necessary. Lettering size and boldness should reflect the rank described for covers of Open-File book reports.

A. United States Department of the Interior (line 1), Geological Survey (line 2), all caps, centered, single spaced.

B. Title (all caps, centered). Subtitle (if any) should be subordinate to the main title in size and boldness.

C. Authorship (first name, middle initial, last name). Include affiliations only if report was coauthored by one or more members of another organization. Use capital and lowercase letters.

D. U.S. Geological Survey (all caps, centered).

E. Report series and number. Show "OPEN-FILE REPORT XX-XXXX" (one line, all caps, centered.

F. City and State of originating office (spell out State name). Use capital and lowercase letters, centered.

G. Year of publication (centered)

H. Cooperative credit statement (if applicable). Cooperating agency's name should be the same size as that of the Geological Survey. The credit statement should use the following format:

Prepared in cooperation with the

U.S. BUREAU OF . . .

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER, SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, SEPTEMBER 1980

By Dann K. Yobbi, William M. Woodham, and George R. Schiner

U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 80-1280

Tallahassee, Florida

1980

Prepared in cooperation with the

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Typescript map jacket of Open-File report
(Display lettering and location map may also
be used; Department seal is optional.)

page 457 follows

Article 11.05

Subject: OPEN-FILE REPORTS--Duplication and Binding

Specific instructions for duplicating and binding Open-File reports are given in Section 7.03.

The maximum number of copies of an Open-File report that may be reproduced for distribution is 300 unless special written permission is granted by the Publications Management Unit beforehand. The primary considerations in determining the number to reproduce are (1) projected demand within the Geological Survey and by cooperating agencies, (2) total cost of duplication, and (3) storage space needed. The originating office must determine the number of copies needed, including those for recipients listed in Section 11.07. A supply of about 20 copies should be kept for loans and future requests. Keep in mind that distribution to the public is through the Open-File Services Section. (See Section 10.07.)

page 459 follows

Subject: OPEN-FILE REPORTS--Preparing Reproducible Copy for Open-File Services Section

When copies of Open-File Reports are received rom GPO, one complete, reproducible copy will be prepared for transmittal to OFSS.

All copy reproduced by OFSS must be clearly legible. Any materials received by OFSS that are not of reproducible quality will be returned to the originating office for acceptable replacements.

Some reports contain components that must be replaced with suitable copy before transmittal to OFSS. Among these components are:

A. Cover 1.-- If printed copy has an ink color other than black or red, or if cover stock is other than white, insert a standard typescript cover.

B. Pages containing errors.--An errata sheet should not be included. Instead, all errors in text and plates must be neatly corrected.

C. Oversize illustrations.--All oversize illustrations must be submitted on scale-stable film positives.

Send the reproducible report materials, a transmittal memorandum, two completed OFSS accession cards (form 9-1982), and the transmittal form memorandum, which should include a list of repositories, to the Open-File Services Section. (See article 9.02.2 for specific instructions for submitting Open-File reports to OFSS.) The transmittal memorandum to OFSS should indicate the number of microfiche copies needed for office use and Public Inquiries Offices. (Generally, a maximum of 15 is permitted; refer to article 8.01.1, "Required distribution from originating office to determine the number needed for Public Inquiries Offices.)

Once the initial demand for the report has subsided, OFSS will consult the originating office as to the disposition of reproducibles. This material will be discarded by OFSS or returned to the originating office; OFSS will retain only the microfilm copy for future requests.

page 461 follows

Subject: OPEN-FILE REPORTS--Distribution and Announcement of Availability

After duplication of an Open-File report, the originating office will provide copies to Geological Survey depositories as indicated in article 8.01.1. Among the depositories is OFSS, which receives a reproducible copy for sales to the general public. A simplified distribution list for Open-File reports is given on the following page.

To fulfill the Geological Survey's obligation to make results of its investigations available to all on equal terms, Open-File reports must not be distributed (not even to cooperating agencies) until a Director-approved news release announcing the report's content and availability has been issued locally. (See article 3.02.4.) If a local news release is not issued, distribution of the report must await an announcement of availability in the monthly pamphlet "New publications of the Geological Survey," which occurs at least 3 months after receipt of the reproducible report copy by OFSS.

Only after the report has been properly announced may copies be provided to cooperating agencies and other local, State, and Federal units of government, including public and college libraries.[1]

The public, which includes consultants and industry, may inspect file copies at depositories, borrow copies from the originating office, or purchase copies from OFSS.

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[1] Many of these libraries are listed by State in: U.S. Government Printing Office, 1976, Government depository libraries; the present law governing designated depository libraries: Washington, D.C., U.S. Government Printing Office report, 43 p.

Recipient	Number of copies: Interim open file pending publication	Number of copies: All other types
Upon Receipt of Duplicated Copies		
Open-File Services Section[1]	1 reproducible copy	
Publications Management Unit[2]	(footnote 3)	4
Geological Survey Libraries[4]	1 each	2 each
Public Inquiries Offices[5]	1 each	1 each
Interior Department Natural Resources Library	0	3
Geologic Division[6]	0	(footnote 3)
Authors	as needed	as needed
Survey offices and staff	as needed	as needed
Loan and archive	20	20
After Formal Announcement		
Cooperating agencies	as needed	as needed
Other local, State, Federal government units[7]	as needed	as needed

[1] Include two completed accession cards (form 9-1982) and a copy of the manuscript-approval memorandum. One card should be preaddressed for return to the originating office from OFSS (with prices of paper and microfiche copies); the other card should be preaddressed to the Chief, Technical Reports Unit, Geologic Division, U.S. Geological Survey, Box 25046, Mail Stop 302, Denver Federal Center, Denver, Colorado 80225.

[2] Include copy of approval memorandum (footnote 1).

[3] One copy required for book report only if total number of duplicated copies exceeds 100.

[4] Reston, Virginia, Lakewood, Colorado, and Menlo Park, California.

[5] Optional but recommended; one copy to each appropriate PIO.

[6] For GPO. Send to 919 National Center, accompanied by list of depositories.

[7] Includes public and college libraries.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 11.08

Subject: OPEN-FILE REPORTS--Citation as a Reference

Examples of correct bibliographic citations for Open-File book and map reports are as follows:

Parkenfarker, F. Q., 1982, Water resources of Cold Spring Valley, Washoe County, Nevada: Carson City, Nev., U.S. Geological Survey Open-File Report 81-XXXX, 79 p.

Gatelatch, O. P., 1982, Ground-water quality in Moonlight Ranch Valley, Lyon County, Nevada: Carson City, Nev., U.S. Geological Survey Open-File Report 82-XXXX, map (2 sheets).

Note that the date preceding the report title is the year of publication, which may differ from the year indicated by the first two digits of the report-identification number.

page 465 follows

SECTION 12

ADMINISTRATIVE REPORTS

page 467 follows

Subject: ADMINISTRATIVE REPORTS--Definition and categories

DEFINITION

Administrative reports are reports prepared by the U.S. Geological Survey for exclusive use by and within another Federal agency. These reports are the property of the other Federal agency and not of the Geological Survey.

During initial discussions of studies to be done for other Federal agencies, the designation of report products as administrative reports should be avoided if at all possible because such studies are funded by the public, and the results, therefore, should be available to the public. Every effort should be made to open file or publish the reports or release them to the open file, if not at the completion of the studies, then at a later date if confidentiality no longer needs to be maintained.

CATEGORIES

The general categories of administrative reports are:

A. Preliminary reports needing immediate release to another Federal agency.

B. Reports containing information that another Federal agency believes should be kept confidential.

C. Reports prepared for the U.S. Department of Justice for use in civil suits, whereby the Department of Justice requests either that the reports not be released for public inspection or that distribution be made only to opposing counsel or other government agencies.

D. Reports of flood-insurance studies prepared for the U.S. Department of Housing and Urban Development, Federal Insurance Administration.

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WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 12.02

Subject: ADMINISTRATIVE REPORTS--Manuscript Preparation and Review

PREPARATION

Administrative reports must be of the same technical and editorial quality as reports prepared for any other Geological Survey series. Preparation of illustrations needs to be guided by the fact that duplication of the report will be done either within the originating Water Resources Division office or within the other Federal agency. Therefore, the use of color on illustrations will depend on the duplication facilities available. The use of hand-lettered illustrations, pencil-colored illustrations, and hand-lettered tables may be acceptable with the concurrence of the other Federal agency.

REVIEW

Administrative reports must be reviewed using the same criteria regarding technical accuracy, editorial and verification adequacy, and policy as for any other Geological Survey interpretive report. This includes at least two technical-colleague reviews, with one review outside the originating District or Research Project office. Only the Geological Survey or the Federal agency for which the report was written may review the report.

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Article 12.03

Subject: ADMINISTRATIVE REPORTS--Approval

APPROVAL FOR ADMINISTRATIVE RELEASE ONLY

Except for flood-insurance studies, administrative reports must be approved by the Director or his designated representatives for release only to the Federal agency for which the work was done. For flood-insurance studies prepared for the U.S. Department of Housing and Urban Development, Federal Insurance Administration, approval authority for administrative release has been delegated to the Regional Hydrologists by the Director and Chief Hydrologist.

Materials to be submitted for reports requiring Director's approval (which are processed through the Regional Hydrologist) are:

1. Two copies of complete report--text, tables, and illustrations.
2. All technical colleague reviewers' comments and the author's responses thereto.
3. Eight copies of the report abstract.
4. Transmittal memorandum from the District or Research Project Chief to the Regional Hydrologist.
5. Completed manuscript routing sheet.

Materials to be submitted for reports requiring only Regional Hydrologist's approval are:

1. One copy of complete report--text, tables, and illustrations.
2. All technical-colleague reviewers' comments and the author's responses thereto.
3. Transmittal memorandum from the District or Research Project Chief to the Regional Hydrologist.
4. Completed manuscript routing sheet.

SUBSEQUENT APPROVAL FOR PUBLICATION

OR OPEN-FILE RELEASE

All administrative reports that subsequently are released to the open file or published (with the concurrence of the other Federal agency for which the administrative report was prepared) must be approved by the Director. There are no exceptions.

Materials to be submitted to Region for processing for Director's approval include:

1. Two copies of complete report--text, tables, and illustrations.

2. Copy of manuscript routing sheet showing previous approval by Director or Regional Hydrologist for administrative release only.

3. Copy of memorandum from the other Federal agency granting permission to release or publish the report (original memorandum should be retained by originating District or Research Project office).

4. Eight copies of abstract to be published by the Water Resources Scientific Information Center (WRSIC).

5. Two copies of a draft news release.

6. Four copies of the note for the monthly periodical, "New Publications of the Geological Survey."

7. Transmittal memorandum from the District or Research Project Chief to the Regional Hydrologist.

8. Completed manuscript routing sheet.

Article 12.04

Subject: ADMINISTRATIVE REPORTS--Preparing Copy for Duplication

Camera-ready copy of administrative reports should be similar in design to Open-File reports (see article 11.04.1), and should be typed on 8 1/2 X 11-inch white bond paper.

COVER

The following items of identification, and only these, must be shown on the front cover (see example at end of article):

A. United States/Department of the Interior/Geological Survey (three lines, capital letters, single spaced, centered at top).

B. Report title (use capital letters; double space; aline flush left, with longest line on top if possible).

C. Administrative Report (lowercase with capitals).

D. Cooperative-credit statement (capitalize other Federal or State agency's name).

TITLE PAGE

Type in same style as cover with the following exceptions (see example):

A. Below the report title insert "By (first name, middle initial, last name)" in lowercase with capitals.

B. Near bottom center, insert city and State in which originating Water Resources Division office is located, in lowercase with capitals; spell out the State name. Below that add the year in which final copies are to be produced (do not include month).

BACK OF TITLE PAGE

Include the following items:

1. Near the top of the page:

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

2. In the center of the page: ADMINISTRATIVE REPORT

REMAINDER OF REPORT

Use same format as for Open-File reports. For economy, use elite type, single spaced, in one-column (6 1/2-inch line width) format.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

HYDROLOGY AND GEOLOGY OF THE JAMECO AQUIFER AT JOHN F. KENNEDY

INTERNATIONAL AIRPORT, QUEENS COUNTY, NEW YORK

Administrative Report

Prepared for the

U.S. DEPARTMENT OF ENERGY

Typescript cover of administrative report

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

HYDROLOGY AND GEOLOGY OF THE JAMECO AQUIFER AT JOHN F. KENNEDY

INTERNATIONAL AIRPORT, QUEENS COUNTY, NEW YORK

By Julian Soren

Administrative Report

Prepared for the

U.S. DEPARTMENT OF ENERGY

Syosset, New York

1979

Typescript title page of administrative report

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

ADMINISTRATIVE REPORT

Typescript back of title page
of administrative report

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 12.05

Subject: ADMINISTRATIVE REPORTS--Duplication, Binding, and Reimbursement

DUPLICATION

All administrative reports must be duplicated either within the originating Water Resources Division office or within the cooperating Federal agency to avoid possible public disclosure of material in the reports. The text and page-size tables and illustrations should be duplicated on 8 1/2 X 11-inch paper and may be imprinted on one or both sides of the paper. Final copies of larger-than-page-size tables and illustrations may be made on a diazo copier or equivalent machine.

BINDING

Every effort should be made to have the reports neatly bound. Numerous types of bindings are available for use. As a minimum, the reports should be stapled in the upper left corner.

REIMBURSEMENT

Costs associated with the preparation of administrative reports are not reimbursed by the Water Resources Division. All costs for typing, cartography, duplication, binding, and distribution are the responsibility of the originating office.

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WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 12.06

Subject: ADMINISTRATIVE REPORTS--Distribution and Announcement of Availability

DISTRIBUTION

Distribution of administrative reports should be made only as follows:

A. Provide the number of copies specified in the working agreement to the other Federal agency for which the work was done.

B. Provide one copy to the Publications Mangement Unit, Water Resources Division, 435 National Center, Reston, Virginia 22092.

C. Retain only the number of copies needed for internal use in the originating Water Resources Division office. Do not place copies either in the office library or in the "New Publications" rack.

Do not provide copies to any U.S. Geological Survey library, to the U.S. Department of the Interior library, or to any other Federal, State, or local cooperating agency. Requests for copies made under the Freedom of Information Act should be referred directly to the other Federal agency for which the report was prepared.

ANNOUNCEMENT OF AVAILABILITY

The availability of administrative reports must not be announced to the public, as these reports are not intended for public release, inspection, or consultation in any form. The reports will not be announced in the monthly periodical, "New Publications of the Geological Survey," and the originating Water Resources Division offices must not issue news releases announcing availability of the reports.

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Article 12.07

Subject: ADMINISTRATIVE REPORTS--Citation as a Reference

Administrative reports may be cited as a reference only in another administrative report prepared for the same Federal agency. (A new agency that takes over the functions of an old agency would be considered the same agency.) Information paraphrased or quoted from an administrative report should be cited only as written communication with the author.

Administrative reports may be resubmitted for Director's approval for publication in a regular Geological Survey series or release to the open file, but only with the written approval of the funding agency. After Director's approval, the report may be cited as a reference in the series for which it was approved.

If the funding agency publishes an administrative report in any form, the published report may be cited.

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