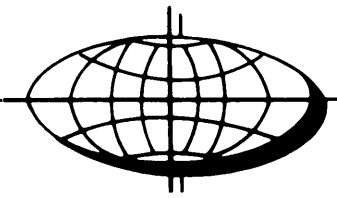
NATIONAL CARTOGRAPHIC INFORMATION CENTER



NEWSLETTER

U.S. DEPARTMENT OF THE INTERIOR/GEOLOGICAL SURVEY

FALL 1975

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, Virginia 22092
703-860-6045

Fall 1975

National Cartographic Information Center Newsletter No. 3

Bill Overstreet, this year's president of the American Congress on Surveying and Mapping, wrote us a brief note of guidance after the first issue of the NCIC Newsletter. In it, he cautioned us, among other things, not to get tied down to a strict publishing schedule. "Publish as information becomes available," he advised. Since we had originally planned to print a Newsletter every March, June, September, and December but have actually gone to press in March, September, and now November, we have decided that he has something there. Accordingly we have shifted to a less confining printing schedule of winter, spring, summer, and fall. A little leeway, so to speak, is being built in.

An encouraging number of Federal and State agencies, private companies, and individuals have started contributing to the Newsletter. We no longer feel like a soliciting voice in the wilderness. Keep sending in news; any and all cartographically related information will be welcomed for possible publication. If your news did not appear in this issue, rest assured it's in the file for future consideration. Incidentally, by-lines will be appearing on contributions.

With this issue we're starting a section that will profile a different cartographic organization each season. The Geography and Map Division of the Library of Congress, its historical background, collections, resources, and services is the first such profile.

INTERAGENCY NEWS

Status of NCIC Contacts With Other Federal Agencies

The success or failure of NCIC to coordinate U.S. cartographic data depends

mainly on the information exchange agreements we can make. During our first year, we concentrated on working with Federal agencies to conclude general management agreements. The following chart details our progress. It indicates the agencies that sent representatives to the 1974 NCIC Coordination Conference, management level visits, interagency agreements drafted and signed, and finally the agencies that participated in the spring 1975 Aerial Photography Workshops (see Newsletter No. 2).

We made considerable progress last year in developing Federal agreements. In 1976 we will be giving more attention to State and private organizations and will report our progress in a later issue.

AGENCY	AUGUST 1974 CONFERENCE	NCIC INITIAL VISIT	DRAFT MANAGEMENT AGREEMENT	MANAGEMENT AGREEMENT SIGNED	ATTENDED AERIAL PHOTOGRAPHY WORKSHOP
DEPT. OF AGRICULTURE					
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE (ASCS)	X	X	X	X	X
FOREST SERVICE (FS)	X	X	X		X
SOIL CONSERVATION SERVICE (SCS)	X	X	X	X	X
DEPT. OF COMMERCE (DOC)					
BUREAU OF THE CENSUS (CENSUS)	X				
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)					
NATIONAL OCEAN SURVEY (NOS)	X	X	2 of 3	2 of 3	X
ENVIRONMENTAL DATA SERVICE (EDS)					
NATIONAL TECHNICAL INFORMATION SERVICE (NTIS)					
DEPT. OF DEFENSE (DOD)					
CORPS OF ENGINEERS (CE)	X				
DEFENSE INTELLIGENCE AGENCY (DIA)		X	X		X
DEFENSE MAPPING AGENCY (DMA)	X	X	X		X
DEPT. OF HOUSING AND URBAN DEVELOPMENT (HUD)	X				
DEPT. OF THE INTERIOR (USDI)					
BONNEVILLE POWER ADMINISTRATION (BPA)	X	X	X		
BUREAU OF INDIAN AFFAIRS (BIA)	X	X			
BUREAU OF LAND MANAGEMENT (BLM)	X	X	X		X
BUREAU OF MINES (BM)	X				
BUREAU OF OUTDOOR RECREATION (BOR)	X				
BUREAU OF RECLAMATION (BR)	X				
FISH AND WILDLIFE SERVICE (FWS)	X	X	X		X
GEOLOGICAL SURVEY (GS)					
CONSERVATION DIVISION (CD)					
LAND INFORMATION AND ANALYSIS (LIA)	X	X			
EROS DATA CENTER (EDC)	X	X	X		X
GEOGRAPHY PROGRAM (GP)		X			
GEOLOGIC DIVISION (GD)					
PUBLICATIONS DIVISION (PD)		X			
TOPOGRAPHIC DIVISION (TD)	X	X			X
WATER RESOURCES DIVISION (WRD)	X	X			X
NATIONAL PARK SERVICE (NPS)	X	X			
DEPT. OF TRANSPORTATION (DOT)					
FEDERAL AVIATION ADMINISTRATION (FAA)	X				
FEDERAL HIGHWAY ADMINISTRATION (FHWA)	X				
COAST GUARD (CG)	X				
INDEPENDENT AGENCIES					
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION (ERDA)	X				
ENVIRONMENTAL PROTECTION AGENCY (EPA)	X	X	X		X
FEDERAL COMMUNICATION COMMISSION (FCC)	X				
GENERAL SERVICES ADMINISTRATION (GSA)					
FEDERAL PREPAREDNESS AGENCY (FPA)		X			
NATIONAL ARCHIVES AND RECORD SERVICE (NARS)	X	X	X		
GOVERNMENT PRINTING OFFICE (GPO)		X			
MISSISSIPPI RIVER COMMISSION (MRC)					
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)	X	X			X
NATIONAL SCIENCE FOUNDATION (NSF)	X				
TENNESSEE VALLEY AUTHORITY (TVA)	X	X	X		X
CONGRESSIONAL AGENCIES					
LIBRARY OF CONGRESS	X	X			

Forest Service Geometronics Center

Over the years the Forest Service has developed an extensive geometronics (land surveying and mapping) program to compile the special maps needed to meet their Federal land management responsibilities. Until recently these maps were prepared by nine small Forest Service units in cooperation with other Federal agencies, and through contracts with private co-panies.

In 1971, the Forest Service began several studies to analyze its mapping requirements and to evaluate alternatives for more economical map production. These studies, in conjunction with the "Report of the Federal Mapping Task Force on Mapping, Charting, Geodesy and Surveying" of July 1973 and a U.S. Department of Agriculture Study on "Aerial Photography and Cartography Activities of the Department," led to the establishment of a single, central Forest Service Geometronics Service Center (GSC) in Utah. In a stroke of cooperative planning, GSC will share quarters with the new ASCS Aerial Photography Field Office (see next item). The actual location in the Salt Lake City/Ogden area hasn't been picked yet, but the top GSC staff arrived in July 1975. Director Sky Charmard and his assistants Jim Dixon and Ross Snedeker are working on the final plans for the Center.

GSC will concentrate on updating maps in the USGS Family of Maps primary (1:24,000 scale) and secondary (1:126,000 scale) series. Another goal is to establish closer coordination with other mapping agencies to reduce duplication of effort. GSC will also provide leadership in automated cartography through automated drafting of the Family of Maps and production of special large-scale maps for engineering applications by automated drafting, conventional photogrammetric methods and digital terrain models.

Although GSC will have a wide range of equipment it will not be staffed to carry out all USGS mapping work and therefore will rely heavily on contracts with private firms. Contracting by a single office instead of the original nine is expected to cut costs and promote efficiency.

R.R. Sky Chamard
Director, Geometronics
Service Center

ASCS Photography Lab Consolidation

The Agricultural Stabilization and Conservation Service (ASCS) of the U.S. Department of Agriculture recently consolidated its aerial photography operations in one location. Previously, ASCS operated an Eastern Labo-

ratory that served 27 States, and a Western Laboratory that handled the other 23. The two labs have been combined into a new Aerial Photography Field Office in Salt Lake City. The office will provide aerial photographs, and various types of photoimagery (including all Landsat and Skylab imagery as NASA collects it) for ASCS offices, as well as other Federal agencies and private individuals.

As mentioned in the previous article, the new office will eventually share quarters with the Forest Service Geometronics Center. The address cited here will change after the final location is selected. Until further notice, information for ordering either aerial photographs or satellite imagery can be obtained from the Aerial Photography Field Office, 2505 Parleys Way, Salt Lake City 84109.

Floy Payton, Chief
Administrative Staff
ASCS Administrative Services Div.

FAA Altitude Warning System

The Federal Aviation Administration (FAA) plans to use USGS digital terrain tapes (see Newsletter No. 2) in developing a Minimum Safe Altitude Warning system (MSAW). The tapes, acquired for civilian distribution by NCIC from the Defense Mapping Agency's Topographic Center, are a grid-like record of elevations digitized from the 1:250,000-scale topographic maps of the conterminous States.

The FAA project will provide a computer system to warn controllers and pilots at major airports when a plane is flying too close to manmade or natural obstructions during landing or takeoff.

The digital terrain tapes will be used to describe a matrix of grid cells centered on each airport's radar station. The highest elevation point within each cell will be noted and an additional 500 feet added to form a buffer zone above which airplanes shouldn't encounter anything too impenetrable.

The DMA tapes were digitized from one of the few completed United States map series, the 1:250,000s. Most of these maps were compiled before 1955 from sources of inconsistent accuracy. Personnel at both the Survey and the FAA feel, however, that for the purposes of the new warning system, the tape elevations, given that 500 foot buffer zone, are accurate enough. As an additional check, the tapes will be verified by printout comparisons with larger scale 7.5-minute maps, with some refinement of the accuracy of computer grid cell elevations expected.

A few minor problems remain to be worked out before development of the

MSAW system begins. First, the original DMA tapes were recorded on a UNIVAC computer using 7-track magnetic tape. At the Geological Survey, the data have been reformatted and transferred to 9-track tape for use on an IBM 370/155 computer. Unfortunately, the FAA and airport computer systems across the country operate with, you guessed it, 7-track tape. In short, the USGS compacted 9-track tapes are not compatible with FAA computers. As a result, the tapes for the 64 airports initially included in the system will have to be decompacted and reformatted back to 7-track tapes.

NCIC SYSTEMS

Routing and Control Unit

NCIC's mail routing was once handled by a single lady who managed all operations flawlessly with the aid of a phenomenal memory, handwritten records and a large desk.

To accommodate the increase in inquiries and orders, due to more advertising and a broader range of services, more help has been recruited, and new control procedures, a microfilm system, and additional desks have been installed.

R&C's major responsibility is to sort the incoming mail, route each request or inquiry to the appropriate unit, and keep track of each piece of correspondence from receipt to response. Other responsibilities include accounting for money received, ordering photo lab work, billing customers, sending out refunds, and collecting statistics for management reports.

The greatest change in R&C procedures has resulted from installation of their new microfilm system. All incoming correspondence (except standard index and brochure requests), outgoing responses, and miscellaneous files are microfilmed at 24X reduction with a Reliant 16mm camera system. Each inquiry needing research or special attention, all orders, and remittances are sequentially numbered for microfilming and retrieval, then logged in a project file. Customer names, project numbers, and microfilm and customer accession numbers are cross-indexed. Between the microfilm system and the customer and project card files, R&C hopes to insure rapid processing of all orders and inquiries. An acknowledgement card system and standardized forms are used to inform customers that their orders have reached NCIC and are somewhere, somehow, being worked on.

George Madill, Chief
Routing and Control Unit
NCIC.

Windfall for Wisconsin Map Users

The Cartographic Laboratory of the University of Wisconsin at Madison has published a Union List of Topographic Maps of Wisconsin, a single inventory of the map collections of the Wisconsin State Historical Society and the University of Wisconsin at Eau Claire and Madison (hence "Union" in the title). Most of the maps in the Union List are USGS 7.5-minute and 15-minute topographic quadrangle maps plus the venerable 15-minute, 1:48,000-scale planimetric series. Also included are several maps compiled by the Army Map Service in the 1940s. Name, scale, latitude and longitude (SE corner), contour interval, dates (of survey, edition, reprinting, and revision) descriptive notes, and general location are given for each map. The list is reduced from computer printout size to a standard 8.5 x 11 inches. It is current to May 1975 with a supplement updating it to September 1975.

The Union List is a windfall for Wisconsin map users because the Geological Survey does not publish descriptive indexes to out of print maps. NCIC can provide, without charge, research service for those who want out of print USGS maps of a particular area but aren't sure of what map or maps to order. The average time for an inquiry to NCIC is 2 weeks. The Union List will make it possible for an individual to do his own Wisconsin-related map research and then send specific orders to NCIC, or, for limited xerox copies, to the Wisconsin State Historical Society.

Index maps showing which USGS quadrangles are in print as of January 1975 are folded into the Union List. Names and addresses of Wisconsin libraries receiving depository shipments of USGS topographic maps and of commercial dealers stocking them are also included.

The Union List sells for $3.50, payable in advance. To order, write the the Cartographic Laboratory, Science Hall, University of Wisconsin, Madison Wisconsin 53706, Attn: Mary Galneder.

NOS Catalog of Early Nautical Charts

On July 7th, the National Ocean Survey began offering limited-edition engraved prints and lithographed reproductions of a miscellaneous collection of 18th to 20th century American nautical charts, maps, and prints. The engraved editions, printed from the original copper plates, have already sold out, but black and white lithos are still in stock at quite reasonable prices ($1 to $3.50). Included in the collection are prints of the original 1792 L'Enfant plan of Washington, D.C., an 1859 chart of San Diego Bay, and an 1899 view of the Philadelphia waterfront. A

free catalog of the collection is available from the National Ocean Survey, Distribution Division (C-44), 6501 Lafayette Avenue, Riverdale, Maryland 20840. Remember, the engraved prints lovingly detailed in the catalog are no longer available, but the lithographed prints are well executed and far more historically accurate, not to mention more dignified, than many Bicentennial offerings.

U.S. Geological Survey Orthophotoquad Index and Products

The Geological Survey is announcing publication of the latest edition of the Orthophotoquad Index, an quarterly updated compilation of the status of orthophotoquad mapping at 1:24,000 scale and source aerial photographs.

Orthophotoquads are produced from aerial photographs scaled and rectified to eliminate flight and terain distortions then overlaid with a Universal Transverse Mercator (UTM) grid. Because of their photographic nature, orthophotoquads are quick and inexpensive to produce, and are used as complements to published topographic maps or as substitutes for conventional maps.

Orthophotoquads are generally available in advance print (photographic reproduction) form. Only about 10 percent of the orthophotoquads produced will ever be lithographed.

Advance prints are available in several formats. A price list as well as a list of the orthophotoquad advance prints for each State can be ordered from the User Services Section of NCIC.

Lithographed orthophotoquads can be ordered either from the general Orthophotoquad Index or the State Topographic Map Index. Indexes for States east of the Mississippi can be ordered from the Branch of Distribution, 1200 South Eads Street, Arlington, Virginia 22202. Indexes for States west of the Mississippi can be ordered from the Branch of Distribution, U.S. Geological Survey, P.O. Box 25286, Federal Center, Denver, Colorado 80225. Lithographed orthophotoquads cost .75, Indexes are free of charge.

The aerial photographs used to produce orthophotoquads can be ordered from NCIC. Remember that they are high-altitude, unrectified, quadrangle-centered photographs. Write User Services for a full price list.

Orthophotomapping (in the Florida Keys)

While we're on the subject of orthophoto products, Max Voight, head of User

Services at NCIC would like a word put in for the just-completed Florida orthophotomapping project. Orthophotomaps have had cartographic enhancements, contours, and colors applied to their photoimagery to make certain ground features more recognizable. For example, when a variety of tints of green, blue, and brown are overprinted on orthophotoquads, areas of salt water encroachment, fault lines, marshland limits, and the physical character of prominent geological features are brought out visually. On orthophotomaps in general, and to a spectacular degree on the Florida Keys maps, the clear, shallow water of the subtropics affects the color of the maps, with shallower water in light shades of blue outlining channels, bays, and the larger water currents. Where appropriate, symbols marking water depths, roads, place names, and other features are added to increase utility.

The Florida Keys were chosen as an orthophotomapping project because the almost flat topography can be more clearly displayed by aerial imagery than by conventional line-and-symbol maps. The Survey will produce orthophotomaps instead of symbol maps for other areas similarly suited to photographic presentation, such as low-relief swamps, deserts, and possibly wetlands. To find out what orthophotomaps are available, consult the individual State Indexes for the National Topographic Map Series listing.

FALL PROFILE

The Geography and Map Division of the Library of Congress

Established as the Hall of Maps and Charts when the main building of the Library of Congress was opened in 1897, the Geography and Map Division is one of 15 divisions within the Library's Reference Department.

Its scope has been described by a former employee as universal and its appetite for maps, charts, and atlases omnivorous. Its cartographic collection, the largest and most comprehensive in the world, contains 3.5 million maps, more than 38,000 atlases, and some 8,000 reference books. On the shelves is a large collection of U.S. County and State atlases compiled in the last half of the 19th century and a collection of atlases published during the last 50 years covering national, regional, State, and provincial resources.

Many manuscript and printed maps of colonial America, the Revolutionary War, the War of 1812, the Civil War, and the wars of the 20th century are included in the Division's collections. Supplementing them are photoreproductions of manuscript maps from various American and European archives.

The Division's collection of single maps embraces more than a million and

a half general and special-subject maps of the world and its various political divisions, with the United States particularly well represented. For instance, among the numerous American county maps, and city and town plans are a collection of some 750,000 large-scale fire-insurance maps, in bound and loose-sheet series, depicting over 12,000 cities and towns. Between 1852 and 1961, as many as 7 different editions and revisions of these maps were issued for the various municipalities by the Sanborn Map Company and other publishers. They constitute a unique cartographic record of America's urban settlement and growth.

There is no single comprehensive catalog of the Division's total holdings, but card and book catalogs provide access to specialized parts of the collection. The Library of Congress automated cataloging system, MARC II, is being used by the Division to catalog accessions received since 1968. All map-related books and atlases have been completely indexed, but only 2 percent of the Division's vast map holdings are cataloged. New map series and individual maps are being indexed as they arrive, with pre-1968 maps put into the system as time permits.

Another reference tool is the Bibliography of Cartography, an analytical card catalog of the literature of maps, mapmaking, and the history of cartography maintained since the Division was established. The Division also has published a number of bibliographies and checklists that describe various cartographic groups. A list of current publications is available on request. Included in the list is an excellent, and free, introductory brochure describing the Geography and Map Division (which they sent us in lieu of an article and from which we have lifted information gratefully and wholesale).

Reference assistance can be found in the Division's reading room at 845 South Pickett Street in Alexandria, Virginia, and by telephone or through correspondence (address requests to the Geography and Map Division, Library of Congress, Washington, D.C. 20540.) The reading room contains geographic and cartographic reference books, bibliographies, and gazetteers, as well as current geographic and cartographic reference journals. The collections are for reference use only. However, reprodutions of maps and plates from atlases can be ordered from the Photoduplication Service. For order forms and price schedules, write to the Photoduplication Service, Library of Congress, Washington, D.C. 20540, or call 202-426-5650.

PUBLICATIONS

Publications for Virginia Map Users

The Virginia State Topographic Coordinator's Office, Division of Mineral Resources recently sent us information on several State publications.

We feel the following notes will be interesting to the general run of cartographic information addicts as well as specialized Virginia map users.

First, the Division publishes a quarterly newsletter, Virginia Minerals, containing articles on State geological landforms, topographic mapping programs, mineral resources, and other items of geologic interest. Recent issues carried articles on Virginia meteorites, a guide to several abandoned gold mines in the northeastern part of the State, and 1974 oil and gas developments. New publications of the division, such as investigative reports, bulletins, and new directories, are discussed in a no-nonsense, enlightening manner as are newly published USGS Virginia topographic maps. There is no charge for the newsletter.

Since 1959 the Division has issued more than 20 information circulars, which are short-story to book size discourses on subjects ranging from a report on a new computer program system to a compilation of geographic and cultural names. This last, Circular 20, is a computer printout of the names appearing on the 1:24,000-scale USGS Virginia topographic maps under the headings of water features, landforms, place names, and religious institutions. Beside each name is indicated the city or county it occurs in and the specific topographic map it appears on. Prices of the circulars vary according to size, but at $2.86 (tax included) the 374 page 20 is a bargain.

A list of the various geological publications and topographic maps of Virginia, cross-indexed by counties, is also distributed by the Division. Of particular interest to land-use planners, the publication list is free.

Finally, the State Coordinator's Office would like a little promotion for a new series of free map aids. The aids are guides to USGS topographic maps listing the specific maps needed to depict unique landforms, rivers, public fishing areas (noting underwater topography where drawn), political entities (towns, cities, counties and planning districts), and Federal and State forests, parks, and wildlife areas.

All of the above publications can be ordered from the Virginia Division of Mineral Resources, Box 3667, Charlottesville, Virginia 22903.

MEETINGS AND CONVENTIONS

Herewith is a list of cartographic related meetings and conventions scheduled for the first half of 1976. As usual, we're attaching no guarantees vouching for the list's completeness; however, most of the information was cadged from reliable sources. If we've missed a gathering you would like to have publicized, let us know.

We are having second thoughts about even printing a meetings list and would appreciate some feedback from our readers concerning its value. Do you find it useful, mildly interesting, or merely a space filler? Conversely, would you like a more comprehensive list of meetings, with additional information for each notation?

American Society of Photogrammetry/ American Congress on Surveying and Mapping Joint Annual Convention	Washington, D.C. February 22-27
Royal Society Symposium on Satellite Geodesy	London, England February 26-27
First United Nations Regional Cartographic Conference for the Americas	Panama City, Panama March 8-19
Association of American Geographers Meeting	New York New York April 11-14
XIII International Congress for Photogrammetry	Helsinki, Finland July 11-23
Twenty-third International Geographical Congress and VII International Cartographic Association Conference	Moscow, USSR July 28 - August 10

ADDRESS INDEX (by articles)

ASCS Aerial Photographs

Agricultural Conservation & Stabilization Service
Aerial Photography Field Office
2505 Parleys Way
Salt Lake City, Utah 84109

Union List

Cartographic Laboratory
Science Hall
University of Wisconsin 53706
Attn: Mary Galneder

Historical Maps

National Ocean Survey
Distribution Division (C-44)
6501 Lafayette Avenue
Riverdale, Maryland 20840

Orthophoto Products

U.S. Geological Survey
Branch of Distribution
1200 South Eads Street
Arlington, Virginia
22202

U.S. Geological Survey
Branch of Distribution
P.O. Box 25286
Federal Center
Denver, Colorado 80225

Library of Congress - Geography and Map Division

Photoduplication Service
Library of Congress
Washington, D.C. 20540

Reference Service
Library of Congress
Washington, D.C. 20540

Reading Room
845 South Pickett Street
Alexandria, Virginia

Virginia Cartographic Information - State Level

Virginia Division of Mineral Resources
Box 3667
Charlottesville, Virginia 22903