National Mapping Program

USGS Digital Cartographic Data Standards

Geographic Names Information System

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Geological Survey
Circular 895-F

US GeoData

USGS DIGITAL CARTOGRAPHIC DATA STANDARDS

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B: Digital Elevation Models
C: Digital Line Graphs from 1:24,000-Scale Maps
D: Digital Line Graphs from 1:2,000,000-Scale Maps
E: Land Use and Land Cover Digital Data
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GEOGRAPHIC NAMES INFORMATION SYSTEM

By Roger L. Payne

USGS Digital Cartographic Data Standards

Edited by Robert B. McEwen, Richard E. Witmer, and Benjamin S. Ramey

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Geological Survey Circular 895-F

1983

United States Department of the Interior
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Library of Congress Cataloging in Publication Data

Payne, Roger L., 1946-
USGS digital cartographic data standards. The Geographic Names Information System.

(U.S. Geological Survey circular ; 895-F)
Bibliography: p.
Supt. of Docs. no.: I 19.4/2:895-F,
1. Names, Geographical--United States--Data processing. 2. Digital mapping--Standards. I. Title. II. Title: U.S.G.S. digital cartographic data standards. The Geographic Names Information System. III. Series.
E155.P39 1983 025'.0691 83-600187

Free on application to Distribution Branch, Text Products Section, U. S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304

FOREWORD

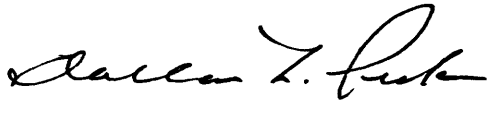
In recent years, the disciplines of cartography and geography have undergone a rapid and striking reorientation as the techniques for digital collection and manipulation of data have evolved from fledgling laboratory procedures into dominant and driving forces that now pervade the disciplines. Digital techniques have provided a variety of new and powerful capabilities to collect, manipulate, analyze, and display spatial data. However, this evolution also has introduced a number of new and complex problems. One of the most pressing problems, and one which is receiving particular attention at present, is the issue of digital cartographic data standards.

The U.S. Geological Survey (USGS) has been actively developing digital cartographic and geographic techniques for over a decade and has taken significant steps to develop and define in-house standards governing the various types of digital cartographic data that are being collected and archived in a national digital cartographic data base. The in-house standards are expressed in the form of specifications documents that were prepared to govern collection of the data and in the form of user guides that were prepared for distribution with the data.

In an effort to fulfill lead agency requirements for promulgation of Federal standards in the earth sciences, the documents have been assembled with explanatory text into this USGS Circular consisting of separately bound chapters. This Circular describes some of the pertinent issues relating to digital cartographic data standards, documents the digital cartographic data standards currently in use within the USGS National Mapping Division, and details USGS efforts to define national digital cartographic data standards.

Chapter A is an overview in which the major issues involved in developing digital cartographic data standards are discussed and the activities of the USGS related to digital cartographic data production and standards development are described in detail. Succeeding chapters comprise the pertinent documents that establish USGS in-house standards for the various types of digital cartographic data currently produced by the National Mapping Division--that is, digital elevation data, digital planimetric data, digital land use and land cover data, and digital geographic names data.

This compendium of relevant material is prepared to serve as a benchmark and to assist ongoing efforts to establish acceptable standards and conventions for both Federal agencies and the public.



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PREFACE

This Circular is the result of the efforts of numerous individuals who have contributed to the research, development, and preparation of various digital cartographic and geographic standards for the National Mapping Division of the U.S. Geological Survey. The individuals named as chapter authors represent both the originators of the various concepts as well as the writers who expanded and clarified these ideas. Their contributions, either to the concepts or the writing, are of such magnitude as to warrant crediting as authors.

Atef A. Elassal was largely responsible for the original data structures and computer file formats that are used for the digital line graphs and digital elevation models. The attribute coding scheme was first developed by members of the Digital Applications Team under the direction of Robert B. McEwen. The Geographic Names Information System was conceived and developed by Sam Stulberg and Roger L. Payne. The Geographic Information Retrieval and Analysis System was developed by Robin G. Fegeas, K. Eric Anderson, Stephen C. Guptill, Cheryl A. Hallam, and William B. Mitchell. The small-scale digital line graph data structure and attribute coding scheme was developed by Warren E. Schmidt and Michael A. Domaratz.

The Circular was compiled in part from various user guides and technical instructions of the National Mapping Division. These documents were originally prepared by several individuals; credit is acknowledged to G. Michael Callahan, A. Joan Szeide, William R. Allder, Vincent M. Caruso, Hugh W. Calkins, Donna Cedar-Southworth, and Cheryl A. Hallam. The compilation of the various guides, instructions, and other material into the Circular format was performed with major assistance by Clark H. Cramer, Eloise R. Byrd, and Cynthia L. Cunningham.

We acknowledge these substantial contributions that have led to this publication.

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USGS Digital Cartographic Data Standards

GEOGRAPHIC NAMES INFORMATION SYSTEM

By Roger L. Payne

Abstract

The discipline of cartography is undergoing a number of profound changes that center on the emerging influence of digital manipulation and analysis of data for the preparation of cartographic materials and for use in geographic information systems. Operational requirements have led to the development by the USGS National Mapping Division of several documents that establish in-house digital cartographic standards.

In an effort to fulfill lead agency requirements for promulgation of Federal standards in the earth sciences, the documents have been edited and assembled with explanatory text into a USGS Circular. This Circular describes some of the pertinent issues relative to digital cartographic data standards, documents the digital cartographic data standards currently in use within the USGS, and details the efforts of the USGS related to the definition of national digital cartographic data standards. It consists of several chapters; the first is a general overview, and each succeeding chapter is made up from documents that establish in-house standards for one of the various types of digital cartographic data currently produced. This chapter 895-F, describes the Geographic Names Information System used to manage names and related information that have been digitized from maps and records of the USGS and from other sources.

INTRODUCTION

The Geographic Names Information System (GNIS) was developed by the U.S. Geological Survey (USGS) to meet major national needs regarding geographic names and their standardization and dissemination. Information in the system can be retrieved, manipulated, arranged, and analyzed to meet the needs of a wide variety of users for either research or application. Primarily, GNIS was designed to:

1. Assist in establishing uniform geographic name usage throughout the Federal Government in cooperation with the U.S. Board on Geographic Names;
2. Provide an index of names found on Federal, State, and other maps;
3. Eliminate duplication in time and money spent by Government agencies, industry, and institutions to organize similar data files for specific needs;
4. Provide an interface for integrating data from other systems for multidisciplinary use;
5. Provide for standardization of data elements and their coded representation for use within the information processing community; and
6. Meet Federal public information requirements prescribed by law.

SYSTEM DEVELOPMENT

The GNIS is currently composed of five data bases:

1. National Geographic Names Data Base,
2. USGS Topographic Map Names Data Base,
3. Generic Data Base,
4. National Atlas Data Base, and
5. Board on Geographic Names Data Base.

Research and initial compilation of data for the GNIS was begun in 1968, and test data were collected and completed for Massachusetts. In 1976, geographic names data for Kansas and Colorado were collected as a pilot project to determine the feasibility of compilation on a national scale. After analysis and favorable evaluation of this pilot project, geographic names data for the remaining States and territories were compiled from 1978 through 1981. The initial compilation, or Phase I, is now complete, and the system includes most named features on all of the maps in the USGS topographic map series except roads and highways, communication towers, and triangulation stations. As maps with the largest scale available were used during the initial compilation, the majority of the names were compiled from 1:24,000-scale, 7.5-minute topographic maps. When there were no published 7.5-minute maps or advance copies with names available, 15-minute maps were used; when there was no coverage by either series of maps, 1:250,000-scale maps were used.

After the initial compilation, the geographic names in each State were edited by comparing the computer file with the accumulated records of the U.S. Board on Geographic Names (BGN). This edit was a comparison of names on a one-to-one basis, which is a precise method of finding and correcting errors. When the initial edit of the geographic names in a State was completed, the corrections were made, and other information such as variant names and BGN data were added.

Optimum use and effectiveness of the automated names system requires that the names of features not recorded on topographic maps be added, together with specific types of features excluded from compilation during Phase I (see Appendix A) and other names of importance to researchers and users, such as historical and variant names. The systematic collection of names from other sources, including maps, charts, and texts, as well as historical sources, is termed Phase II.

PRODUCTS

A standard format product is available with each name listed as a 132-character line of information designed to provide at least some information from most of the locative data elements. This format is also an alphabetized listing of all of the names in a particular State or territory and is available in the form of spiral-bound alphabetical listings, microfiche, and magnetic tapes. Specialized searches may be tailored to the individual needs of the user. Results of specialized searches are usually provided as computer printouts or magnetic tapes but may also be obtained as spiral-bound books or microfiche. An interactive or online version to retrieve, arrange, manipulate, and analyze information is available for use at the Geological Survey headquarters and its regional mapping centers. A special, more formal publication is The National Gazetteer of the United States of America, published as U.S. Geological Survey Professional Paper 1200. The geographic names in each State and territory will be published as separate volumes in the gazetteer series when Phase II compilation and edit have been completed.

MAINTENANCE

The GNIS is maintained by the USGS National Mapping Division. Each regional mapping center compiles and formats new name data and minor corrections, which are electronically transmitted to the GNIS staff for a final check before the data are entered. The U.S. Board on Geographic Names transmits information directly to the system concerning the resolution of geographic names found to be in conflict on Federal sources. A series of checks and balances assures integrity and security so that all users can retrieve and use data with confidence.

The maintenance schedule is on a continual basis, and flexibility is built into the system for any needed

maintenance adjustment. All users have retrieval capability, but only the GNIS staff has the capability to alter, add, or remove information. GNIS is maintained at the USGS National Center by the Branch of Geographic Names, and the system resides and operates on an Amdahl V7 computer.

DESCRIPTION OF THE DATA BASES

A record consists of a name and its associated data, but, because names may be duplicated, each record is given a unique eight-digit number. The first two digits of this number identify the data base, and the remaining six digits identify the specific record within the data base.

RECORD CONTENT

One of the most important concepts in GNIS is the nature of the data or what kind of data are present. The following tables list an abbreviated form (label) of the data elements in each of the five data bases and their meaning, followed by a detailed explanation of each data element. Sample records from one of the data bases, the National Geographic Names Data Base, are given in Appendix D. To properly search and retrieve information, the user must be thoroughly familiar with the contents of the system, as well as the commands.

DATA ELEMENTS

National Geographic Names Data Base

The National Geographic Names Data Base is the primary and largest data base in GNIS and contains 57 files representing each State, territory, and the District of Columbia. Each State file contains, as a minimum, the names compiled from the USGS topographic map series, but many State files contain information from other source materials. Eventually, all State and territory files will contain information from other sources. Each file name consists of seven letters using the first four letters of the State or territory name followed by the letters GAZ. States or territories having two or more words use the first letter of the first word, followed by the first three letters of the last word. For example, the file name for New York is NYORGAZ. One exception is the file name for Missouri, which is MOSSGAZ, to avoid conflict with the file name for Mississippi (MISSGAZ). There are presently two files for the State of Alaska--ALASDIC and ALASGAZ. ALASDIC is the automated version of the Dictionary of Alaska Place Names, published as U.S. Geological Survey Professional Paper 567 in 1967, and includes descriptions and historical notes. ALASGAZ is the newer version digitized from the latest maps. Eventually, these two versions will be combined into one Alaska file.

The following data element descriptions are designed to provide the necessary information for understanding and retrieving data. Table 1 lists each data element and the appropriate abbreviation used when retrieving data.

BIBLIO - A variable length alphanumeric coded entry that references the exact source for each name in the State or territory that was not compiled from the USGS topographic map series in the initial compilation. The first two characters of the code are the alphabetical State Federal Information Processing Standards (FIPS) code, followed by a hyphen and an M or a T corresponding to Map or Text respectively. The M or T is followed by one or more digits that are a specific reference to a fully documented and annotated bibliographic entry describing the source material and relative worth of the source from which that name was obtained. If the source used is an atlas or text, the code will be followed by a slash (/) and a specific reference to a map or page in the source. The complete bibliographic entry is located in the Generic Data Base. The absence of a code indicates that the name was compiled during Phase I (1978-1981) from the most current largest scale USGS topographic map. Information in this element will be added as each volume of the gazetteer series (Professional Paper 1200) is published.

Table 1.--Labels and data elements from the National Geographic Names Data Base

Label (Abbreviation)	Data Element
BIBLIO	BIBLIOGRAPHIC CODE
BGN	BGN DECISION
COUNTY	COUNTY NAME
DATE	YEAR OF NAME ORIGIN
DESCR	DESCRIPTION
DESIG	TYPE OF FEATURE
DRAIN	RIVER BASIN CODE
ELEV	ELEVATION (FT)
GENRE	GENERIC
HEADS	SOURCE OF FEATURE (LATLONG)
HIST	HISTORICAL NOTE
LATLONG	GEOGRAPHIC COORDINATES
LOC	STATE/COUNTY FIPS CODE
MAP	GNIS MAP NUMBER
MAPNAME	MAP OR CHART NAME
NAME	FEATURE NAME
NUMBER	ID NUMBER
POP	POPULATION (1980)
PRIMARY	CENTER OF AREAL FEATURES/ MOUTH OF LINEAR FEATURES
QUAD	USGS QUADRANGLE CODE
SIZE	SIZE
SPDESIG	SPECIAL DESIGNATOR (DETAILED)
SPEC	SPECIAL CODES
STATE	NAME OF STATE (FIPS)
STATUS	FEDERAL STATUS
TAG	SORT ACCORDING TO BGN RULES
TR	TOWNSHIP, RANGE, AND SECTION
VAR	VARIANT NAME(S)
ZIP	POSTAL ZIP CODE

BGN - A variable length alphanumeric field that represents, if present, the year a decision was rendered by the U.S. Board on Geographic Names (BGN) because the name was found to have conflicting usage on Federal sources and required special research. A special entry is the word "Statutory" followed by a space and the year, which represents a name approved by an act of Congress. There may be multiple dates for the same name, with each entry separated by a blank. Multiple dates mean that the BGN had to revise a former ruling because the name changed or the application of the name to the feature changed.

COUNTY - The variable length upper- and lower-case name that represents the primary civil division (county level) in which the primary coordinate of the feature is located. Unlike the data element LOC, which indicates all counties in which a feature is located, this element contains only the county in which the primary coordinate (center or mouth) is located.

DATE - The year or approximate year (if known) that the feature name came into being. This data element may contain some text describing the circumstances of the naming. The element is not actively used in any file at this time.

DESCR - Upper- and lower-case text that defines the situation, or relative position, to nearby features and to at least one close, well-known feature, usually a major town or city. Distances are provided, as well as the name of all major and minor civil divisions associated with the feature. The data element is active only in ALASDIC and MASSGAZ at this time.

DESIG - A variable length totally lower-case alphabetical element that is designed to group similar features into broadly designated categories to facilitate search and retrieval. Appendix B contains a list of categories and their definitions. These categories can be altered only by approval from the GNIS data base manager. The Generic Data Base contains a cross-reference for every generic thus far encountered in the compilation of the National Geographic Names Data Base.

DRAIN - An entry that represents the drainage basins of fluvial systems as coded by the USGS Water Resources Division. These codes are available only in MASSGAZ and are outdated. They have been superseded by a new coding system which will be added to all files at a later date.

ELEV - A variable length field containing up to five characters that give the height above or depth below sea level, in feet, of the highest point or lowest point respectively. The entry is present only if a published elevation was directly associated with the feature. Generally no interpolation was made, and metric conversion will be accomplished at a later date. The ALASDIC file contains some ranges of elevations separated by a hyphen, in addition to the single elevation entry. States and territories that have been completed through Phase II

contain interpolated elevations for populated places, locales, and summits; some other features compiled during Phase II may have interpolated elevations. Data in this field are left justified and therefore must be treated as decimal data when sorting.

GENRE - Refers to the generic portion of a name that usually identifies the kind of feature and usually follows the substantive part of the name. In some cases, the generic may be in the first position, followed by the specific or substantive part of the name. Some names contain false generics, as in the case of Big River, which is a populated place and not a river. The generic may indicate very subtle differences in feature types, but care should be taken because the naming process includes a great deal of subjectivity, including whimsical and direct misnaming. Currently, this data element is active only in MASSGAZ and the Board on Geographic Names Data Base; however, most generic searches may be accomplished by using the NAME data element.

HEADS - A fixed alphanumeric field provided to indicate the source of linear features. The format is identical to that of the geographic coordinates in LATLONG; however, there can be only one source coordinate. The source coordinate corresponds to the last entry in the data element MAP unless the source coordinate is not within the State, in which case no corresponding map number is provided. The source of a linear feature is not always indicated by the name placement on the map; therefore, the guideline applied was that the source of linear features not properly identified by name placement, textual description, or any other indicative variable should be taken to the source of the longest, straightest drain. This guideline is in accordance with the policies of the U.S. Board on Geographic Names.

HIST - A variable length upper- and lower-case text that provides as much information as is available from all known reputable sources about the physical and cultural history of a named feature. Additionally, special attention is given to name origin, if known, and detail is provided for background research. At present, the element is active only in ALASDIC and MASSGAZ.

LATLONG - An entry that contains the official geographic coordinates in a variable length alphanumeric field with each coordinate compressed and fixed at 15 characters. Latitude and longitude are to degrees, minutes, and seconds, and each is followed by a one-character letter directional. If the degrees of longitude are less than 100, a leading zero is required. The first coordinate in this element is termed the primary coordinate. In the case of areal features, this coordinate represents the approximate center of the feature, while the primary coordinate of linear features represents the mouth. The mouth is where the feature joins another feature, ends in a delta or is an alluvial fan, or no longer has a discernable channel or trough-like characteristics. All subsequent coordinates in this element are termed secondary coordinates and are designed to associate the feature with each 7.5-minute topographic map on which it is located. The required location of the secondary coordinate is simply anywhere on the feature and on the topographic map with which it is associated. Strict guidelines were established as to the point where each kind of feature is digitized (see the Generic Data Base), and the geographic coordinates are accurate to within $\pm$ 5 seconds of latitude or longitude. An exception occurs with large populated places or cities. The guideline for digitizing areal features requires the coordinate to be taken in the center, but the location of the center of a large city is somewhat subjective. Additional guidelines were suggested for determining the center of large populated places, such as the location of the city hall or town hall, main post office, main library, central business district, or main intersection. The primary coordinate corresponds to the first number in the data element MAP and the entry for the data elements QUAD and MAPNAME. All subsequent coordinates correspond on a one-to-one basis with the entries in the data element MAP. An exception occurs if the primary coordinate is outside the State, in which case no corresponding map number is provided. Also, multiple coordinates for linear features are in order from mouth to source while multiple coordinates for

areal features are generally from the center outward.

LOC - A variable length alphanumeric field that contains one or more five-digit FIPS codes referring to the State and county. The first two digits refer to the State or territory and the last three refer to the county, parish, municipio, or other civil division. Codes for all counties in which a feature is located are present with multiple entries separated by a blank. Multiple county codes are ordered from mouth to source for linear features and generally from the center outward for areal features. All codes are numeric except where the State or territory borders a foreign country, where the appropriate two-character alphabetical FIPS code is used; for example, CA for Canada, MX for Mexico, UR for the Soviet Union, UK for the United Kingdom, and WS for Western Samoa.

MAP - A variable length four-character alphanumeric entry with leading zeros, if appropriate, that refers to each USGS topographic map (published or planned). This data element includes all topographic maps associated with the feature and multiple entries are separated by a blank. If Phase II has been completed, it is possible that the feature may be shown but not named on the topographic map. Entries found outside the bounds of topographic map coverage are properly coded with the map series from which they were taken; for example, entries from National Ocean Service charts outside the border of any topographic map are coded NOS CHART 12345 (using the appropriate five-digit number). The GNIS four-digit numbering system begins in the northwest corner of each State or territory and continues from west to east while progressing latitudinally southward. Note that no map number is provided for the primary coordinate, secondary coordinate, or the source coordinate, if they are not within the State. The final entry in this element is the map on which the source coordinate is located. The first entry corresponds to the first entry in LATLONG and the entries in MAPNAME and QUAD, with subsequent entries corresponding on a one-to-one basis to the subsequent coordinates in LATLONG.

MAPNAME - The variable length upper- and lower-case entry that represents the map name exactly as it appears on the USGS topographic map. The element contains only one map name or the map name on which the primary coordinate is located and differs from the data element MAP, which contains all topographic map numbers on which the feature is located. As in the data element MAP, if the feature falls completely outside the bounds of USGS topographic map coverage, a reference to the source map is present. The entry in this data element corresponds to the coded entry in QUAD and to the first entry in LATLONG and MAP. If the primary coordinate is located outside the State or territory, the name of the map followed by a blank and the two-character alphabetical State FIPS code are recorded.

NAME - A variable length upper- and lower-case alphanumeric entry that indicates the official geographic name and, in many cases, the generic or type of feature. Some entries are followed by a space and an asterisk which indicate that there is a diacritical mark somewhere in the name. This arrangement is temporary and will soon be replaced by the appropriate diacritical mark and the removal of the asterisk. In some cases the generic may be in the first position, and followed by the specific name. In this case, if the feature is a physical feature the generic is reversed; for example; Mount Saint Helens becomes Saint Helens, Mount. Names with a false generic are not reversed; for example, Mount Olive, which is a populated place and not a mountain, remains Mount Olive. Some names are followed by a parenthetical entry which provides additional information about the name; for example, Gold Town (historical site), Seven Springs (flowing), Big Flat (mud). Appendix C contains a complete listing of parenthetical entries encountered thus far. Unedited geographic names may have a number symbol (#) or some other special character preceding the name, which indicates a problem with the name that will be resolved during the first edit. Also, the ALASGAZ file contains some names with a blank preceding the name. This indicates that the longitude is East even though a W is present. The

proper directional will be applied during the first edit. A special entry for a name is "12345" representing an entry used only by the GNIS staff; it should not be selected when searching the data base or when formulating the logic statement.

NUMBER - A fixed eight-digit number that is the unique identifier of each feature and its associated information. The first two digits correspond to the State numeric FIPS code. This is the only data element that must exist for each record and is for GNIS internal use.

POP - The population of all named features in the feature class category of populated place and, if applicable, locale. The data element is inactive at this time but will be activated with the addition of the 1980 census data. The data element will also be expanded to include ranking of populated places.

PRIMARY - A fixed alphanumeric field of 15 characters which represents only the primary coordinate or the first coordinate in the LATLONG data element. It indicates the center of areal features and the mouth of linear features. This element, while somewhat redundant, allows more efficient coordinate searches and selective printing when only the primary coordinate is desired. Caution should be used with this element because complete coordinate searches require the use of the data element LATLONG.

QUAD - A fixed alphanumeric field that contains eight characters of the USGS topographic map coding system. The first five digits represent the degrees of latitude and longitude of the particular 1° latitude x 1° longitude square in which the map is located, followed by a hyphen and a specific alphanumeric code identifying one of the 64 7.5-minute cells in the 1° x 1° square. The rows of the square are coded A through H, and the columns are coded 1 through 8, each beginning in the southeast corner of the 1° x 1° area. The only entry is the code for the 7.5-minute topographic map on which the primary coordinate of a feature is located. If the primary coordinate is located outside the State or territory, the coded entry will be for the first map in the State or territory on which the feature is located.

SIZE - A short variable length phrase that gives the length of linear features and the width of areal features in English units. This element is active in ALASDIC and MASSGAZ, and the element is being utilized in the compilation of Phase II data.

SPDESIG - A variable length data element that is a further refinement of the broad categories in DESIG. Special information is provided allowing more sophisticated search and retrieval of information based upon categories and subcategories of information relating to types of features. For example, all places where airplanes and helicopters land are coded "airport." Privately owned airports have special information to allow search and retrieval on a subcategory. Another example is the differentiation of public and private recreation facilities. This element is active in States and territories that have completed Phase II compilation.

SPEC - A special numeric reference code that relates to specific characteristics of the named feature such as source material; language of origin; unusual characteristics; number of words in the name; whether descriptive, associative, or comparative; or any other known characteristic of the name. This data element is currently available in MASSGAZ only.

STATE - A fixed alphabetical element that contains the two-character FIPS code for States and territories. The element is not active at this time, but will be activated when a merged master file is created.

STATUS - An entry that provides the Federal standing of each name in the data base. Entries indicate whether the name is official according to the policies of the U.S. Board on Geographic Names (BGN); has had special research and consideration by the Board (BGN YEAR); is official by an act of Congress (US YEAR); is administrative according to Federal, State, or local organizations (ADMIN); or is unofficial (UNOFF) and not within the purview of the BGN or any other administrative body.

STR - A data element that identifies the appropriate township, range, and section in which the feature occurs. The

township and range system was established in the late 18th century to systematically divide Federal lands. The original 13 States and Vermont, Tennessee, Kentucky, West Virginia, Maine, Texas, Hawaii, part of Ohio, and all territories are not included in the township and range system. The element is not active at this time but has a high priority for early consideration.

TAG - A special fixed numeric code that consists of the first two digits of the FIPS code for the State or territory followed by consecutive numbers in increments of one hundred to facilitate sorting. These special codes enable the sorting rules of the BGN to be applied. Data from this element should be used only with the SORT command. The element is active only in States or territories that have been completed through Phase II.

VAR - A variable length upper- and lower-case field containing any other current name, former name, or former spellings of the current official name. If more than one variant is present, they are arranged alphabetically and separated by a comma and a blank. Additionally, if BGN rendered a formal decision for what is now a variant, the year of that decision is given in parentheses following the variant name with which it is associated. A variant obtained from a source other than the BGN is followed by a code in parentheses that is a reference to a complete annotated bibliography of the source. The code may also be followed by a map or page number, if the variant was obtained from an atlas or a text. All complete annotated bibliographies reside in the Generic Data Base.

ZIP - Contain the five-digit postal zip code associated with names within populated places and, if applicable, locales. The data element may be expanded to include the zip codes of all feature names. This element is inactive at this time.

USGS Topographic Map Names Data Base

The USGS Topographic Map Names Data Base contains 57 separate files; the 1:24,000-scale topographic map names for each State and territory represent 56 of the files and a separate file contains information about 1:100,000- and 1:250,000-scale quadrangle maps.

The file naming convention for this data base is similar to that of the National Geographic Names Data Base. Each State and territory is a separate file, and each file name consists of seven letters, using the first four letters of the State or territory name followed by the letters QUA. States or territories having two or more words use the first letter of the first word and the first three letters of the last word to form the file name. One exception is the file name for Missouri, which is MOSSQUA, to avoid conflict with the Missisippi file name, MISSQUA. Additionally, the file named QUADNAM contains the 1:100,000- and 1:250,000-scale quadrangle maps.

There are two separate versions of this data base. One version is online and therefore accessible through interactive retrieval. The other version is offline and is accessible only by batch processing. The online version contains assigned names for each published or planned 7.5-minute, 1:24,000-scale map. The offline version contains the actual map name only if the map is published. If the 7.5-minute area is not a published map, then the name field contains the word "SEE" followed by the name of the appropriate 15-minute, 1:62,500-scale map, or the 1:250,000- scale map name if no 15-minute coverage is available. Information in all other data elements is the same for each version; only the name field will differ depending upon whether or not the map is published.

The following data element descriptions are designed to provide the necessary information for understanding and retrieving data. Table 2 lists each data element and the appropriate abbreviation used when retrieving data.

COORD - Contains a fixed 11-character code that represents the latitude and longitude of the southeast corner of the cell, or the northeast corner of the cell in American Samoa and the southwest corner of the cell in Guam. The coordinates are to degrees and minutes followed by the appropriate directional, with quadrangles ending in 30 seconds rounded down to the next minute as shown

Table 2.--Labels and data elements from the USGS Topographic Map Names Data Base

Label (Abbreviation)	Data Element
COORD	LAT/LONG (SE CORNER) - QUAD SIZE (MINUTES)
FIPS	STATE ALPHA FIPS CODE
HIST	FORMER QUADRANGLE NAME(S)
MAP	GNIS MAP NO
NAME	QUADRANGLE NAME
NUMBER	ID NUMBER
OTHER	OTHER PROPOSED NAME(S)
QUAD	USGS QUADRANGLE CODE
SCALE	QUADRANGLE SCALE
STATE	QUADRANGLE STATE(S)
XNAME	7.5 x 15 MINUTE MAP NAME
250	QUADRANTS 250000 SERIES

on each topographic map. Also, longitude of less than 100° is preceded by a leading zero. The QUADNAM file differs somewhat in that the directional precedes the coordinate, and the coordinate is followed by a slash and the dimension of the mapped area in minutes; for example, "/60x120" follows the coordinate. The coordinate that identifies the map is the corner coordinate closest to 0° latitude and 0° longitude. Note that while the format of the State and territory coordinates is fixed, the QUADNAM format is variable because the dimension in minutes of latitude and longitude may vary.

FIPS - A fixed alphabetical element that contains the two-character FIPS code for States and territories. This element is active only in the QUADNAM file.

HIST - The data presented are variable length and include any information of historical significance regarding the map, especially former names.

MAP - A fixed four-digit number assigned to each 7.5-minute cell in each State and territory. Overedge maps are divided into two complete 7.5-minute maps with valid numbers, and 7.5-minute cells totally in water are also assigned valid numbers. The numbering system begins with the number 1 in the northwest corner of each State and territory and increases consecutively by moving from west to east while progressing latitudinally southward. This numbering system was designed specifically to code geographic names to individual topographic maps. Since the geographic names were compiled on a State-by-State basis, each State's numbering system begins with number 1, thereby creating controlled redundancy in the numbering system. Some 15-minute maps and 1:250,000-scale maps have numbers depending upon whether a State was completely covered by 7.5-minute published topographic maps at the time of Phase I compilation of the National Geographic Names Data Base. The beginning number for 15-minute maps and 1:250,000-scale maps varies from State to State. Maps in the 15-minute and 1:250,000-scale topographic map series are present only if they were needed for geographic name compilation. Complete coverage of the 1:250,000-scale maps may be found only in the QUADNAM file; however, complete 1:62,500-scale coverage does not exist in any GNIS file.

NAME - A variable length upper-case entry that represents the full name of the 7.5-minute cell exactly as it appears on the published topographic map. Some 7.5-minute cell names are followed by a space and an asterisk which indicates that the name has a diacritical mark somewhere in the name. The appropirate diacritic will be added at a later date. Some entries will contain the word "SEE" followed by a 7.5-minute cell name. This is necessary because each State or territory is divided into equal 7.5-minute cells (except Alaska), and many 7.5-minute maps are published as overedge maps which means that small portions of land outside the normal 7.5-minute bounds of the map are included. Overedge areas are treated as a separate 7.5-minute cell, with no approved name, and must be referenced to the main 7.5-minute map which portrays the overedge area. Additionally, some special 1:24,000-scale maps are designed to show oddly shaped areas, such as Isle Royal in Michigan. These areas have also been divided into as many 7.5-minute cells as necessary with each cell name a reference to the main map, except the southeast corner 7.5-minute cell which bears the actual name of the main map. Also, some entries contain the reference "(ALL WATER)" which indicates that the particular 7.5-minute cell is completely water. In the offline version, map names may not have been

approved for 7.5-minute areas in which case the word "SEE" is present followed by the name of the appropriate 15-minute published quadrangle and the indicator "15'"are present. In the absence of a published 15-minute quadrangle, the reference will read SEE followed by the name of the appropriate 1:250,000-scale quadrangle and the indicator 250K.

Note that in the individual State and territory files, all available 15-minute or 1:250,000-scale quadrangles are not present. Those that are present are there only because there was no larger scale coverage at the time Phase I of the National Geographic Names Data Base was compiled. A complete listing of the names of 1:100,000-scale and 1:250,000-scale quadrangles may be retrieved from the QUADNAM file, but there is no complete coverage of the 15-minute series in any GNIS file.

NUMBER - A fixed eight-digit number that is the unique identifier of each entry (quadrangle name) and its associated information. The first two digits correspond to the State numeric FIPS code. This is the only data element that must exist for each record in each file. The first two digits of the eight-digit entries for the QUADNAM file are 00. This element is for use by GNIS staff.

OTHER - A variable length element limited to only the 1:100,000-scale entries in the QUADNAM file. It contains secondary and tertiary choices for a 1:100,000-scale map name if the proposed name was not acceptable. All 1:100,000-scale maps have now been named and most of the information in this element will be moved to the HIST element.

QUAD - Contains the first eight characters of the USGS code for each 7.5-minute quadrangle in the United States. The entire United States (except Alaska and outlying areas) is divided into areas of 1° latitude x 1° longitude each containing 64 7.5-minute quadrangles. The rows within each area are coded A through H, and the columns are coded 1 through 8 each beginning in the southeast corner of the 1° x 1° area. The first five characters are the same for each of the 64 quadrangles within the area and are determined by the geographic coordinates (degrees) representing the southeast corner of the 1° x 1° area. These five digits are followed by a hyphen and the appropriate row-column designation. This is not the complete quadrangle code but it is sufficient to identify the 7.5-minute topographic map. These entries are not present in the QUADNAM file.

SCALE - The scale indicates the ratio of units on the map to units on the Earth, and identifies the particular series to which the map belongs. In the State and territory files the entry is fixed at two numbers. Seven entries are possible: 20, 24, 25, 62, 63, 88, and 99. The 20 represents metric topographic maps in Puerto Rico. The 24 represents 7.5-minute 1:24,000-scale maps in English units, and the 25 represents either 7.5-minute or 7.5- x 15-minute maps in metric units at a scale of 1:25,000. The 62 represents 15-minute maps at a scale of 1:62,500, and 63 is used (mostly) for 1:63,360-scale maps in Alaska. The 88 identifies maps in the 1:250,000-scale series in the State and territory files and was used because the field was limited to two characters. The 99 indicates records for GNIS staff use. The scales in the QUADNAM file are six digits, either 100000 or 250000.

STATE - The entries in this element are of two types. One type is used in the State and territory files and is the two-character alphabetical FIPS code. The other type, used in the QUADNAM file, is the State abbreviation from the Government Printing Office Style Manual as shown on topographic maps. The style manual abbreviations contain periods, and multiple State entries are separated by a hyphen.

XNAME - A variable length element for the names of maps in the USGS 7.5- x 15-minute map series. Since the 7.5- x 15-minute map generally spans the same area as two 7.5- x 7.5-minute maps, the east half containing the southeast corner coordinate contains the name of the 7.5- x 15-minute map, while the west half contains the word "SEE", followed by the name of the 7.5- x 15-minute map.

250 - The entries are variable length and are limited to the 1:100,000-scale maps in the QUADNAM file. The information contained in this element associates the 1:100,000-scale map name to the appropriate quadrant of the 1:250,000-scale map. The entry consists of the

1:250,000-scale map name followed by the appropriate directional; NE, SE, NW, or SW.

Generic Data Base

The Generic Data Base is designed for use as a research and reference tool as well as a depository of reference information for GNIS. It contains the 62 broad feature categories of the National Geographic Names Data Base, definitions of those categories, and their cross-references to all generics or types of features found on topographic maps and other sources. The data base also contains detailed information concerning unusual generics, such as specifically where they are found, how they are used, and if possible, why they were applied in such an unusual manner. Other information includes a reference to abbreviations used on topographic maps and definitions of cartographic, geographic, and linguistic terms. Also included is the complete bibliography of all source material (in addition to USGS topographic maps) used in the compilation of the National Geographic Names Data Base.

The following data element descriptions are designed to provide the necessary information for understanding and retrieving data. Table 3 lists each data element and the appropriate abbreviation used when retrieving data.

Table 3.--Labels and data elements from the Generic Data Base

Label (Abbreviation)	Data Element
ABBREV	STANDARD ABBREVIATION
BIBLIO	ANNOTATED BIBLIOGRAPHY OF SOURCE MATERIALS
DEF	FEATURE CLASS DEFINITION
DESIG	GNIS FEATURE CLASS
HIST	GENERIC SOURCE, TYPE, AND USE
NUMBER	ID NUMBER
PRIME	PRIMARY COORDINATE LOCATION
SOURCE	SOURCE COORDINATE NECESSARY
WORD	GENERIC SHOWN ON MAP

ABBREV - Contains the standard abbreviations used on USGS topographic maps, and includes all valid geographic, cartographic, and linguistic terms and definitions necessary in researching geographic names.

BIBLIO - Contains the complete annotated bibliographic entry for all source material other than USGS topographic maps used in geographic names compilation. Also, contains the code for the bibliographic entry which is used in the data element BIBLIO in the National Geographic Names Data Base.

DEF - Provides the GNIS definition of each of the broad feature class categories contained in the data element DESIG. It provides the basis for classifying broad categories of features.

DESIG - A variable length, lower-case element that is designed to group similar features into broadly designated categories to facilitate search and retrieval of feature types. The entries in this data element correspond to the same entries throughout the system.

HIST - Contains unusual generics or words. Each entry lists the map on which the generic is used, how it is used, to what it refers specifically, the general category in which it is located, reason for use (if discernable), and other pertinent information that would aid in research or application. The same generic may refer to different types of features throughout the country. All unusual references to the same generics are listed together no matter how diverse the feature types.

NUMBER - A fixed eight-digit number that is the unique identifier of each feature and its associated information. This data is for internal use and is the only data element that must exist for each record in each file.

PRIME - Contains lower-case entries that specifically state where the primary coordinates of features in the National Geographic Names Data Base are to be digitized.

SOURCE - Contains the lower-case word "yes" if the generic or feature class indicates a linear feature, thereby requiring that a source coordinate be digitized.

WORD - A variable length, upper- and lower-case entry that represents the

generic or type of feature. It identifies a specific type of feature and may precede or follow the substantive or proper part of the name. This data element serves multiple purposes because it provides a relationship and reference from a feature type to the broad category of terms used to classify names in the National Geographic Names Data Base. It is also a record of all generic or unusual words encountered on all source material used in the compilation of other data bases. This data element provides a means of discovering and researching subtle differences in feature types.

Table 4.--Labels and data elements from the National Atlas Data Base

Label (Abbreviation)	Data Element
DESIG	TYPE OF FEATURE
KEY	NATIONAL ATLAS MAP KEY
LATLONG	GEOGRAPHIC COORDINATE
LOC	STATE/COUNTY FIPS CODE
NAME	FEATURE NAME
NUMBER	ID NUMBER
PAGE	NATIONAL ATLAS PAGE NUMBER
PCODE	POSTAL CODE (ALPHA)
POP	POPULATION (1980)
QUAD	MAP NAME
STATE	STATE OR COUNTRY

National Atlas Data Base

The National Atlas Data Base is designed to be the basis of an abridged version of the entire National Geographic Names Data Base. Currently it consists of only those entries found in the index of the USGS National Altas of the United States of America and the data and data elements differ from those found in the National Geographic Names Data Base.

The following data element descriptions are designed to provide the necessary information for understanding and retrieving data. Table 4 lists each data element and the appropriate abbreviations used when retrieving data.

DESIG - Uses the standard GNIS feature classes for grouping like features into broad categories. Currently this element is incomplete and only the feature classes, designated populated place and civil division, are in the data base.

KEY - An alphanumeric code that indicates the appropriate location where the place is named on the maps in the National Atlas; for example, A-3, B-5, or C-4. The code scheme consists of imaginary rows and columns that intersect roughly at the point where the feature is located. This means of locating features is similar to that used on most highway maps.

LATLONG - Contains the geographic coordinates of the feature in degrees, minutes, and seconds. The entry is compressed with all digits together and the latitude, as well as the longitude, are followed by a one-character, letter directional. The coordinates are those published in the National Atlas with tenths of minutes converted to seconds; therefore, all seconds are in increments of six. There are no coordinates for foreign cities.

LOC - A numeric field that contains the five-digit State and county FIPS code. The first two digits refer to the State or territory, and the last three digits refer to the county, parish, municipio, or other civil division. This element is currently inactive.

NAME - An entry that gives the proper name and generic type of a named feature. The element currently contains only names found in the National Atlas index.

NUMBER - A fixed eight-digit number that is the unique identifier of each record and its associated data. This is the only data element that must exist for each record in the data base.

PAGE - Contains a reference to the page number in the National Atlas on which the feature is named.

PCODE - The U.S. Postal Service two-character alphabetical State code is indicated in this element. This element is inactive.

POP - The current decennial census figures for all populated places in the data base except foreign entries. These entries are updated to reflect the most accurate population figures available from U.S. Bureau of the Census.

QUAD - The name of the topographic map on which the geographic name is shown. This element is inactive at this time.

STATE - Contains the State or States in which the feature is located. State names are abbreviated as shown on the USGS topographic map series (GPO Style Manual). Multiple entries are separated by hyphens, and periods appear with the abbreviations. The element also contains some foreign countries published in the National Atlas index.

Board on Geographic Names Data Base

This data base contains information representing the investigations and decisions of the Domestic Names Committee of the U.S Board on Geographic Names. The Board was created in 1890 and established in its present form by Public Law in 1947. The Board is authorized to establish and maintain uniform geographic name usage throughout the Federal government, and the Board also currently maintains a close working relationship with about 30 States. The staff of the Board researches the background of geographic names that are determined to be in conflict on Federal sources or are controversial in nature. The results of the research are promulgated in a quarterly report, and these decisions are binding for Federal usage. Most State and local usage follows the recommendations of the Board.

Each entry in this data base may also be found in the National Geographic Names Data Base; however, the entries contain the reference and associated detailed information researched and promulgated by the U.S. Board on Geographic Names. The data base contains all of the activity of the Board from 1890 through the first quarter of 1959. The remainder of the data base is scheduled for completion by mid-1984.

The following data element descriptions are designed to provide the necessary information for understanding and retrieving data. Table 5 lists each data element and the appropriate abbreviations used when retrieving data.

BGN - A variable length alphanumeric field that represents the year a decision was rendered by the BGN because the name required special research and action. A special entry is the word "Statutory," followed by a space and the year a name was designated by an act of Congress. Another special entry is the word "Vacated", followed by a space and a year. This indicates that the feature or name no longer exists or is no longer in use. There may be multiple dates for the same name with multiple data entries separated by a semicolon.

Table 5.--Labels and data elements from the Board on Geographic Names Data Base

Label (Abbreviation)	Data Element
BGN	BGN DECISION
DESCR	DESCRIPTION
DESIG	TYPE OF FEATURE
ELEV	ELEVATION (FT)
GENRE	GENERIC
HEADS	SOURCE OR FEATURE (LATLONG)
HIST	HISTORICAL NOTE
LATLONG	GEOGRAPHIC COORDINATES
LOC	STATE/COUNTY FIPS CODE
NAME	FEATURE NAME
NUMBER	ID NUMBER
SIZE	SIZE
STATE	NAME OF STATE (FIPS)
VAR	VARIANT NAME(S)

DESCR - Provides upper- and lower-case text that defines the situation or relative position to nearby features and to at least one close well-known feature, usually a major town or city. Distances are provided as well as all major and minor civil division names associated with the feature. Information prior to 1950 is sketchy and in many cases nonexistent.

DESIG - A totally lower-case variable length alphabetical element that is designed to group similar features into broadly designated categories to facilitate search and retrieval. The GENERIC Data Base contains a cross-reference for every generic thus far encountered in the compilation of the data base.

ELEV - A variable length field containing up to five characters that gives the height above or depth below sea level, in feet, of the highest or lowest point respectively of the feature. Negative elevations are preceded by a minus

sign. Metric conversion will be accomplished at a later date. Some elevations indicate a range; for example, 1000-5000 feet.

GENRE - This element refers to the generic portion of a name that usually identifies the kind of feature. However, it may be a false generic that is directly related to subjectivity in the naming process; for example; Big River, which is a populated place and not a river. The generic may indicate very subtle differences in feature types, but care should be taken because the naming process includes a great deal of subjectivity including whimsical and direct misnaming.

HEADS - A fixed alphanumeric field provided to indicate the source of linear features. The format is identical to the geographic coordinates in LATLONG. The source of a linear feature is not always indicated by the name placement on the map; therefore, the guideline applied was that the source of linear features not properly identified by name placement or textual description should be taken to the source of the longest, straightest drain in accordance with BGN policy.

HIST - A variable length upper- and lower-case text that provides as much information as is available from reputable sources about the physical and cultural history of a named feature. Additionally, special attention is given to name origin if known and information is provided for background research. Information prior to 1950 is sketchy and in most cases nonexistent.

LATLONG - The official geographic coordinate of the feature compressed and fixed at 15 characters. Latitude and longitude are to degrees, minutes, and seconds with each followed by a one-character alpha directional. If the degrees of longitude are less than 100, a leading zero is required. In the case of areal features, the coordinate is the approximate center of the feature, while linear features are represented at the mouth. The mouth is where the feature joins another feature, ends in a delta or is an alluvial fan, or no longer has a discernible channel or trough-like characteristic. The guideline for areal features requires the coordinate to be taken in the center, but the location of the center of a large city is somewhat subjective. Guidelines for determining the center of large populated places are the location of the city hall or town hall, main post office, main library, central business district, or main intersection.

LOC - A variable length alphanumeric field that contains one or more five-digit FIPS codes referring to the State and county. The first two digits refer to the State or territory and the last three refer to the county, parish, municipio, or other civil division. Codes for all counties in which a feature is located are present with multiple entries separated by a semicolon. All codes are numeric except where the State or territory borders a foreign country in which case the appropriate two-character, alphabetical FIPS code is used; for example, CA for Canada, MX for Mexico, UR for the Soviet Union, UK for the United Kingdom, and WS for Western Samoa.

NAME - A variable length upper- and lower-case alphanumeric entry that indicates the official name and, in most cases, the generic or type of feature. Some entries are followed by a space and an asterisk which indicate that there is a diacritical mark somewhere in the name. This arrangement is temporary and will soon be replaced by the appropriate diacritical mark and the removal of the asterisk. In some cases the generic may be in the first position, followed by the specific name. In this case, the generic is reversed; for example, Mount Saint Helens becomes Saint Helens, Mount. Names with a false generic are not reversed; for example, Mount Olive, which is a populated place and not a mountain, remains Mount Olive.

NUMBER - A fixed eight-digit number that is the unique identifier of each feature and its associated information. This is the only data element that must exist for each record and is for GNIS staff use.

SIZE - A short variable length phrase that gives the length of linear features and the width of areal features in English units.

STATE - A fixed alphabetical element containing the two-character FIPS code for States and territories. Multiple data items are <u>not</u> present. If the BGN decision for the geographic name is

located in more that one State, the code is that of the State where the center or mouth is located.

VAR - A variable length upper- and lower-case field containing any other known names or other spellings of the current official name. If more than one variant is present, they are arranged alphabetically and separated by a comma and a blank. Additionally, if the BGN rendered a formal decision for what is now a variant, the year of that decision is given in parentheses following the variant name with which it is associated.

APPENDIXES

APPENDIX A.--Categories of Named Features not yet included in the Geographic Names Information System

Phase I

Generally, all named features on the most current largest scale USGS topographic maps were included for Phase I compilation. Some categories of named features, however, were omitted from Phase I because more complete lists of these categories were available from other sources. If a State or territory has only been completed through Phase I, the following categories of named features will not be present:

airports,
radio and television station towers,
federally administered areas greater than 30 square miles,
major and minor civil divisions,
some major features that are too large to be named on 7.5-minute, 1:24,000-scale topographic maps,
regional names,
historical names,
most building names,
roads and highways,
triangulation station names.

Phase II

Available information from the categories not compiled during Phase I, as well as geographic names from other sources, are added during Phase II. If a State or territory has been completed through Phase II compilation, information for all known, named features should be present except for:

roads and highways,
triangulation stations.

APPENDIX B.--Geographic Names Information System (GNIS) Feature Class Definitions

The feature class terms and abbreviations currently consist of nine or less letters and were chosen for computer search and retrieval purposes. They do not necessarily represent terminology for the identification of all kinds of cultural and natural features. Although some of the terms may agree with dictionary definitions, they represent more generalized categories. Some commonly used generic names are listed at the end of each entry to assist in understanding the range of cultural and natural entities represented by the term. Refer to the Generic Data Base to retrieve all generics thus far encountered in geographic names compilation. In most instances a plural form is listed as if it were singular; for example, archipelago or islands would be categorized as island. The terms and the definitions are as follows:

airport - manmade facility maintained for the use of aircraft (airfield, airstrip, landing field, landing strip).

arch - natural arch-like opening in a rock mass (bridge, natural bridge, sea arch).

area - any one of several areally extensive natural features not included in other categories (badlands, barren, delta, fan, garden).

arroyo - watercourse or channel through which water may occasionally flow (coulee, draw, gully, wash).

bar - natural accumulation of sand, gravel, or alluvium forming an underwater or exposed embankment (ledge, reef, sandbar, shoal, spit).

basin - natural depression or relatively low area enclosed by higher land (amphitheater, cirque, pit, sink).

bay - indentation of a coastline or shoreline enclosing a part of a body of water; a body of water partly surrounded by land (arm, bight, cove, estuary, gulf, inlet, sound).

beach - the sloping shore along a body of water that is washed by waves or tides and is usually covered by sand or gravel (coast, shore, strand).

bench - area of relatively level land on the flank of an elevation such as a hill, ridge, or mountain where the slope of the land rises on one side and descends on the opposite side (level).

bend - curve in the course of a stream and (or) the land within the curve; a curve in a linear body of water (bottom, loop, meander).

bridge - manmade structure carrying a trail, road, or other transportation system across a body of water or depression (causeway, overpass, trestle).

building - a manmade structure with walls and a roof for protection of people and (or) materials, but not including church, hospital, or school.

canal - manmade waterway used by watercraft or for drainage, irrigation, mining, or water power (ditch, lateral).

cape - projection of land extending into a body of water (lea, neck, peninsula, point).
cave - natural underground passageway or chamber, or a hollowed out cavity in the side of a cliff (cavern, grotto).
cemetery - a place or area for burying the dead (burial, burying ground, grave, memorial garden).
channel - linear deep part of a body of water through which the main volume of water flows and is frequently used as a route for watercraft: (passage, reach, strait, thoroughfare, throughfare).
church - building used for religious worship (chapel, mosque, synagogue, tabernacle, temple).
civil - a political division formed for administrative purposes (borough, county, municipio, parish, town, township).
cliff - very steep or vertical slope (bluff, crag, head, headland, nose, palisades, precipice, promontory, rim, rimrock).
crater - circular-shaped depression at the summit of a volcanic cone or one on the surface of the land caused by the impact of a meteorite; a manmade depression caused by an explosion (caldera, lua).
dam - water barrier or embankment built across the course of a stream or into a body of water to control and (or) impound the flow of water (breakwater, dike, jetty).
falls - perpendicular or very steep fall of water in the course of a stream (cataract, cascade, waterfall).
flat - relative level area within a region of greater relief (clearing, glade, playa).
forest - bounded area of woods, forest, or grassland under the administration of a political agency (see woods) (national forest, national grasslands, State forest).
gap - low point or opening between hills or mountains or in a ridge or mountain range (col, notch, pass, saddle, water gap, wind gap).
geyser - eruptive spring from which hot water and (or) steam and in some cases mud are periodically thrown.
glacier - body or stream of ice moving outward and downslope from an area of accumulation; an area of relatively permanent snow or ice on the top or side of a mountain or mountainous area (icefield, ice patch, snow patch).
gut - relatively small coastal waterway connecting larger bodies of water or other waterways (creek, inlet, slough).
harbor - sheltered area of water where ships or other watercraft can anchor or dock (hono, port, roads, roadstead).
hospital - building where the sick or injured may receive medical or surgical attention (infirmary).
island - area of dry or relatively dry land surrounded by water or low wetland (archipelago, atoll, cay, hammock, hummock, isla, isle, key, moku, rock).
isthmus - narrow section of land in a body of water connecting two larger land areas.

lake - natural body of inland water (backwater, lac, lagoon, laguna, pond, pool, resaca, waterhole).

lava - formations resulting from the consolidation of molten rock on the surface of the Earth (kepula, lava flow).

levee - natural or manmade embankment flanking a stream (bank, berm).

locale - place at which there is or was human activity; it does not include populated places, mines, and dams (battlefield, crossroad, camp, farm, ghost town, junction, landing, railroad siding, ranch, ruins, site, station, windmill).

mine - place or area from which commercial minerals are or were removed from the Earth; not including oilfield (pit, quarry, shaft).

oilfield - area where petroleum is or was removed from the Earth.

other - category for miscellaneous named manmade entities that cannot readily be placed in the other feature classes listed here.

park - place or area set aside for recreation or preservation of a cultural or natural resource and under some form of government administration; not including National or State forests or Reserves (national historical landmark, national park, State park, wilderness area).

pillar - vertical, standing, often spire-shaped, natural rock formation (chimney, monument, pinnacle, pohaku, rock tower).

plain - a region of general uniform slope, comparatively level and of considerable extent (grassland, highland, kula, plateau, upland).

ppl (populated place) - place or area with clustered or scattered buildings and a permanent human population (city, settlement, town, village).

range - chain of hills or mountains; a somewhat linear, complex mountainous or hilly area (cordillera, sierra).

rapids - fast-flowing section of a stream, often shallow and with exposed rock or boulders (riffle, ripple).

reserve - a tract of land set aside for a specific use (does not include forests, civil divisions, parks).

reservoir - artificially impounded body of water (lake, tank).

ridge - elevation with a narrow, elongated crest which can be part of a hill or mountain (crest, cuesta, escarpment, hogback, lae, rim, spur).

school - building or group of buildings used as an institution for study, teaching, and learning (academy, college, high school, university).

sea - large body of salt water (gulf, ocean).

slope - a gently inclined part of the Earth's surface (grade, pitch).

spring - place where underground water flows naturally to the surface of the Earth (seep).

stream - linear body of water flowing on the Earth's surface (anabranch, awawa, bayou, branch, brook, creek, distributary, fork, kill, pup, rio, river, run, slough).

summit - prominent elevation rising above the surrounding level of the Earth's surface; does not include pillars, ridges, or ranges (ahu, berg, bald, butte, cerro, colina, cone, cumbre, dome, head, hill, horn, knob, knoll, mauna, mesa, mesita, mound, mount, mountain, peak, puu, rock, sugarloaf, table, volcano).

swamp - poorly drained wetland, fresh or saltwater, wooded or grass, possibly covered with open water (bog, cienega, marais, marsh, pocosin).

trail - route for passage from one point to another; does not include roads or highways (jeep trail, path, ski trail).

tower - a manmade structure, higher than its diameter, generally used for observation, storage, or electronic transmission.

tunnel - linear underground passageway open at both ends.

valley - linear depression in the Earth's surface that generally slopes from one end to the other (barranca, canyon, chasm, cove, draw, glen, gorge, gulch, gulf, hollow, ravine).

well - manmade shaft or hole in the Earth's surface used to obtain fluid or gaseous materials.

woods - small area covered with a dense growth of trees; does not include an area of trees under the administration of a political agency (see forest).

APPENDIX C.--Parenthetical Descriptors used with Names

The following terms have been used on USGS topographic maps and other sources to provide additional information or clarity about the name or the feature to which the name refers.

Abandoned
Active Mine
Alkali
Archaeological Site
BLM - refers to Bureau of Land Management
Campground
Cemetery
Diabase Dike
Dry Spring
Flowing Well
Foot Bridge
Ghost Town
Historic
Historical
Historical Monument
Historical Ruins
Historic Site
Inactive mine
Jeep Trail
Mud Springs
Natural Arch
Oil Field
Old Channel
Old Stage Station
Oxbow
P.O. - refers to Post Office
Pack Trail
Placer - refers to mining activities
Polluted Spring
Post Office
Private
Rock Formation
Ruins
Salt Lake
Secondary name - refers to alternate or a prior name; for example: Lake Mary (Old River Lake)
Siding
Site
Station
Submerged Rock
Sulphur Spring
USDA - refers to U.S. Department of Agriculture
USFS - refers to U.S. Forest Service
USGS - refers to U.S. Geological Survey
1941 - refers to year of occurrence

APPENDIX D.--Sample Records from the National Geographic Names Data Base

Sample 1

ID NUMBER - 34003474
NAME - Jersey City
TYPE OF FEATURE - ppl
FEDERAL STATUS - BGN 1931
COUNTY NAME - Hudson
STATE/COUNTY FIPS CODE - 34017
GEOGRAPHIC COORDINATES - 404341N0740441W 404508N0740225W
MAP OR CHART NAME - Jersey City
GNIS MAP NO - 0053 0042
USGS QUADRANGLE CODE - 40074-F1
ELEVATION (FT) - 83
VARIANT NAME(S) - Hudson, Paulus Hook, Powles Hook
STATE - NJ

Sample 2

ID NUMBER - 34003631
NAME - Kittatinny Mountain
TYPE OF FEATURE - summit
FEDERAL STATUS - BGN 1938
COUNTY NAME - Warren
STATE/COUNTY FIPS CODE - 34041 34037 42089 36071
GEOGRAPHIC COORDINATES - 411915N0743943W 410106N0750159W
410435N0745605W 410741N0745241W
411010N0744758W 411355N0744202W
MAP OR CHART NAME - Portland
GNIS MAP NO - 0023 0012 0016 0005 0006 0007
USGS QUADRANGLE CODE - 40075-H1
ELEVATION (FT) - 1549
VARIANT NAME(S) - Blue Mountains, Kittatinny Mountain Range, Kittatinny Mountains
STATE - NJ

Sample 3

ID NUMBER - 34009173
NAME - Franklin Park
TYPE OF FEATURE - locale
FEDERAL STATUS - BGN
COUNTY NAME - Burlington
STATE/COUNTY FIPS CODE - 34005
GEOGRAPHIC COORDINATES - 400130N074543W
MAP OR CHART NAME - Beverly
GNIS MAP NO - 0090
USGS QUADRANGLE CODE - 40074-A8
ELEVATION (FT) - 40
VARIANT NAME(S) - Strawberry Hill
BIBLIOGRAPHIC CODE - NJ-M2
STATE - NJ

APPENDIX D.--Sample Records from the National Geographic Names Data Base--continued.

Sample 4

ID NUMBER - 34009182
NAME - Pisgah, Mount
TYPE OF FEATURE - summit
FEDERAL STATUS - BGN
COUNTY NAME - Burlington
STATE/COUNTY FIPS CODE - 34005
GEOGRAPHIC COORDINATES - 400038N0744024W
MAP OR CHART NAME - Columbus
GNIS MAP NO - 0092
USGS QUADRANGLE CODE - 40074-A6
ELEVATION (FT) - 186
VARIANT NAME(S) - The Old Weavers Hill
BIBLIOGRAPHIC CODE - NJ-T3/p. 34

Sample 5

ID NUMBER - 34001385
NAME - Cohansey River
TYPE OF FEATURE - stream
FEDERAL STATUS - BGN 1954
COUNTY NAME - Cumberland
STATE/COUNTY FIPS CODE - 34011 34033
GEOGRAPHIC COORDINATES - 392039N0752127W 392230N0752057W 392237N0751500W
SOURCE OF FEATURE (LATLONG) - 393356N0751613W
MAP OR CHART NAME - Ben Davis Point
GNIS MAP NO - 0157, 0147, 0148, 0135
USGS QUADRANGLE CODE - 39075-C3
VARIANT NAME(S) - Cohansey Creek, Cohanzey Creek, Cohanzy Creek
STATE - NJ

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