UNITED STATES
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

GEOGRAPHIC NAMES INFORMATION SYSTEM
USERS GUIDE

By Roger L. Payne

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ABSTRACT

The Geographic Names Information System (GNIS) is a multipurpose system developed by the U.S. Geological Survey to meet major national needs. The system currently contains five data bases that provide information on approximately two million geographic names in the United States and its territories as well as associated and supportive data. Information from the data bases can be retrieved, manipulated, analyzed, and organized to meet the general and specialized needs or problems of a wide variety of users involved in research or application.

The system furnishes information to two types of users: (1) those who use the information for reference purposes, and (2) those who format output for individual or specialized use. GNIS may be used to retrieve and incorporate information into other systems for multidisciplinary use, or the information may be used for research and application. Integration of GNIS information into other spatial data bases provides users with a powerful tool for local, regional, and national analysis. The Users Guide provides a description of the system, data bases, data files, data elements, and data items, as well as instructions for retrieving information.

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;

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(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 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 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, the 15-minute maps were used; when there was no coverage by either series of maps, the 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; however, because names may be duplicated, each record is given a unique eight-digit number. The first two digits of this number identify the State or file and the remaining six digits identify the specific record within the file.

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 element in each of the five data bases and their meaning, followed by a detailed explanation of each data element. 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 58 files representing each State, territory, the District of Columbia, and a special file containing all populated places. Each State file contains, as a minimum, the names compiled from the USGS topographic map series, and 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. A special national file containing all populated places and locales in the United States (PPLAGAZ) is available for searching. 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 which corresponds 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 may be followed by a slash (/) and a specific reference to a map or page in the source. The complete annotated 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.

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 years mean that the BGN had to reverse a former ruling because the name changed or the application of the name to the feature changed.

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

LABEL (ABBREVIATION)	DATA ELEMENT
BIBLIO	BIBLIOGRAPHIC CODE
BGN	BGN DECISION
CENCODE	CENSUS PLACE CODE
COUNTY	COUNTY NAME
DATE	YEAR OF NAME ORIGIN
DESCR	DESCRIPTION
DESIG	TYPE OF FEATURE
DRAIN	RIVER BASIN CODE
ELEV	ELEVATION (FT)
FIPS 55	FIPS 55 PLACE CODE
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
STR	SECTION, TOWNSHIP, AND RANGE
TAG	SORT ACCORDING TO BGN RULES
VAR	VARIANT NAME(S)
ZIP	POSTAL ZIP CODE

CENCODE - A four-digit numeric field that represents the place code as assigned by the U.S. Bureau of the Census. This code is available only in the PPLAGAZ file.

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 active in any file at this time.

DESCR - Upper- and lower-case text that defines 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. This data element may also contain the phrase "incomplete record," which means that all available information is not currently in the system.

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 gives the altitude above or depth below sea level, in feet, of the highest or lowest point, respectively, of the feature. 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.

FIPS 55 - A five-digit numeric field that contains the place code of populated places as assigned by the National Bureau of Standards. The codes are available only in the PPLAGAZ file.

GENRE - Refers to the generic portion of a name that usually identifies the kind of feature and usually follows the substantive or specific part of the name. In some cases, the generic may be in the first position, followed by the specific 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 was applied 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, MASSGAZ and state files that have completed Phase II compilation.

LATLONG - An entry that contains 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 discernible channel or trough-like characteristic. 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 generally 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 usually begins in the northwest corner of each State or territory and continues from west to east while progressing latitudinally southward. Exceptions exist when the northwest corner is not the closest corner to 0° latitude or 0° longitude. 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 - A 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, 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), etc. 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 in the individual State files, but will be activated with the addition of the 1980 census data. Population information for populated places and locales may be retrieved by using the PPLAGAZ file. 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. Also, information identifying administrative responsibility may be indicated by the terms Federal, State, or Municipal. Information regarding whether or not populated places are incorporated may be found in this data element. 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 section, township, and range 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 active only in States that have completed Phase II compilation.

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 - An element that contains 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 in 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.

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.

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

LABEL (ABBREVIATION)	DATA ELEMENT
APPNAM	ASSIGNED OR APPROVED NAME
COORD	LAT/LONG (SE CORNER) - QUAD SIZE (MINUTES)
FIPS	STATE NUMERIC 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	QUADRANT 250000 SERIES

APPNAM - A variable length field that represents the assigned or approved name of a 7.5- x 7.5-minute area that has not yet been mapped in the 7.5-minute topographic map series.

COORD - An element that 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 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 numerical element that contains the five-digit FIPS code for States and territories. This element is active only in the QUADNAM file at this time.

HIST - The data represented in this element 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. Exceptions exist if the northwest corner is not closest to 0° latitude or 0° longitude. 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 the 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 appropriate 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 some cases 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'." 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. 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 entry 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 been named and most of the information in this element will be moved to the HIST element.

QUAD - An entry that 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 column-row 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 entry that represents 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 that are 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 that was 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 its use (if discernible), 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 only.

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.

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 Atlas 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 that are designed 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 approximate 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 columns and rows 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 given 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.

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

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 - A reference to the page number in the National Atlas on which the feature is named.

PCODE - The U.S. Postal Service five digit zip code is indicated in this element. This element is inactive.

POP - The current decennial census figures are given for all populated places in the data base except foreign entries. These entries are updated to reflect the most accurate population figures available from the 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, these 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.

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)

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 items separated by a semicolon.

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 of the feature, respectively. 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 as well as 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 was applied 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 letter 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 only 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 than one State, the code is that of the State where the center or mouth is located. Multiple State searches may be accomplished using the data element LOC.

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.

DATA MANAGEMENT SYSTEM

The Geographic Names Information System uses, as its data retrieval system, the GIPSY* Processing System, developed at the University of Oklahoma. GIPSY is a highly sophisticated search and retrieval system that was selected because it does not establish preconceived relationships between data collected and stored, and allows users with no programming experience to access the data bases. GIPSY also is highly efficient in processing large quantities of numerical, codified, and natural language information in variable length format. Information is easily added or removed from the system, and data elements can be added quickly and efficiently, thereby increasing the expansion and adaptability of GNIS.

GIPSY is highly adaptable to geographic, cartographic, historic, and linguistic data because there is very little format restriction imposed when loading data into the system. GIPSY uses the dictionary or directory methodology to access information. The dictionary consists of entries called labels or shortened names that identify data elements. The

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*GIPSY® is a registered trademark. GNIS currently uses version 1.0.

dictionary controls the data elements by an internal reference number and is the interface or cross-reference between the software or programs and the records in each file.

The information is stored randomly on disk packs and grouped by files or States. The GIPSY programs access the records file by using the coded data in the dictionary. Pointers to retrieve information are then saved in a temporary storage area and referred to as a subset. The use of the temporary storage area allows more efficiency for initiating further searches or to output the selected information. Retrieved information may be output in a variety of formats or directed to additional GNIS software for further processing or reformatting.

The system is user oriented, and a small repertoire of commands may be used to manipulate vast quantities of data. An additional advantage in using GIPSY as the data management system is that it allows further processing of retrieved information by appending one's own software onto the GIPSY routines. See Appendix E for a list of commands and the following section on Accessing the System for further explanation. Useful information and detailed explanations are also available interactively in the "gnishelp" procedures.

ACCESSING THE SYSTEM

The following sections describe various rules and methods for searching and retrieving information. These commands and options are discussed narratively in the following sections. Refer to the appendixes for numerous examples illustrating the use of all available commands and most data elements.

Retrieving Information from GNIS

GNIS is a system of data bases, data retrieval software, other software, and procedures specifically designed, arranged, and programmed to function as a geographic names depository and a tool for toponymic research. The ancillary software and procedures were designed and formulated by GNIS staff to meet specific needs, while the data retrieval was designed and marketed by the University of Oklahoma as the GIPSY Processing System. The data retrieval programs are well suited to GNIS because of the inherent highly variable length textual entries. Generally, there are three methods of information manipulation. The user may retrieve, sort, and display the information using a variety of commands and options.

Data Base Identification

One retrieves information from GNIS by identifying the file and data base. This procedure is described on pages 34 and 35. Once the specific data base and file is entered one must identify the data base to the GIPSY Processing System. This is accomplished through the use of the FORM command which provides the necessary search and print information. The response to the FORM command is GEONAMES for all data bases and files except the National Atlas Data Base, which uses the FORM response USAATLAS.

Search Rules and Techniques

The following rules and examples are provided to structure a search of a GNIS file for retrieval of information from the data bases. Records are retrieved through the use of the SELECT command. The SELECT command is used to initiate a search on the entire file or data base. The command may be used at any time but will search the entire file or data base and will erase all previously established subsets of data. A series of condition tests are then formulated for use in establishing the desired subset. The general structure of a GNIS file search is:

```
SELECT
condition test 1
condition test 2
   .
   .
condition test 26.
```

Condition tests refer to the variables entered to retrieve the desired information. These variables are designated by letters of the alphabet followed by a period. The letter and period are followed by the name of the data element or label, and the data element may be further refined by additional information in angle brackets, termed the condition description. One may use up to 26 variables in one search, and the information within the angle brackets may be up to 29 characters. The information is retrieved according to defined variables logically arranged according to the connectors "and," "or," or "not."

Range searches may be accomplished by using the connector "thru." Searches for information equal to, less than, and greater than some criterion are possible, as well as multiple searches and searches that locate information within a specified number of words. An iterative process may be used to further refine subsets of data, thereby allowing highly efficient and economical search and retrieval. The format used to describe a specific condition to be tested is explained below.

Format of Condition Test

Condition Variable	GNIS Data Element	Relational Operator (optional)	Condition Description
[A - Z].	[Label abbreviations]	[eq lt gt]	[Criteria]

Condition Variable

The condition variable is an alphabetical character and is used to identify a particular condition test. Up to 26 variables (A-Z) may be used in a single select. Each variable within a select must be unique.

Example: A. desig < summit > ("A." is the condition variable)

This condition test example identifies all records with the feature class designated as "summit."

GNIS Data Element

The specific GNIS data element within a record to be tested is identified in the condition test by its corresponding label abbreviation. The label abbreviation defines the data element. For label abbreviations, see the label/data element table for the desired data base. Entering the label alone (that is, not in conjunction with a condition description) tests for the mere existence of a specific data element.

Example: B. BGN ("BGN" is the label abbreviation for the data element Board on Geographic Names decision date. See table 1.)

This condition test example identifies all records with any entry in the GNIS data element Board on Geographic Names decision date ("BGN").

Relational Operator

A relational operator is used only with numeric data element fields to define the values required for selection. The operators are: eq (equal to), lt (less than), and gt (greater than).

Example: C. elev gt 2000 ("gt" is the relational operator)

This condition test example identifies all records with an entry greater than 2,000 in the GNIS data element Elevation (ft) which is abbreviated elev.

Condition Description

The condition description in conjuction with the data element further defines the criteria used to determine if a record should be selected. The description is a "character string" of alphabetical or numeric characters representing a data item or a portion of a data item within the data element. Criteria may be established for the testing of both word data and numeric data.

Word Data.--The character string to be tested is enclosed in angle brackets--< >.

(1) prefix--a leading blank is inserted in the condition description.
Example: A. name < greene>

This example would test for the character string " GREENE", and identifies this character string embedded at the beginning of words.

Records that would be selected:
Greenehill Farms
Greene Mountain
Mount Greene

Records that would not be selected:
   Green Hill
   Evergreene Country Club
   Evergreenes

(2) suffix--a trailing blank is inserted in the condition description.
Example: A. name <greene >

This example would test for the character string "GREENE ", and identifies the character string embedded at the end of words.

Records that would be selected:
   Greene Mountain
   Evergreene Country Club
   Mount Greene

Records that would not be selected:
   Greenehill Farms
   Green Hill
   Evergreenes

(3) existence--no leading or trailing blanks are inserted in the condition description.
   Example: A. name <greene>

This example would test for any string of characters ...GREENE, and identifies the character string embedded anywhere within words.

Records that would be selected:
   Greene Mountain
   Evergreene Country Club
   Mount Greene
   Greenehill Farms
   Evergreenes

Records that would not be selected:
   Green Hill

(4) word--both a leading and trailing blank are inserted in the character string.
   Example: A. name < greene >

This example would test for any word that is " GREENE ". It isolates character strings as units or meaningful words.

Records that would be selected:
   Greene Mountain
   Mount Greene

Records that would not be selected:
Greenehill Farms
Evergreene Country Club
Green Hill
Evergreenes

Numeric Data.--Numeric data is specified with the use of a relational operator (eq, lt, or gt), and is not enclosed in angle brackets.

(1) equal to--the first numeric entry in the specified data element must be equal to the criteria defined in the condition description for selection of the record.

Example: A. elev eq 2000

This example would select all records with elevations of 2,000.

(2) less than--the first numeric entry in the specified data element must be less than the criteria defined in the condition description for selection of the record.

Example: A. elev lt 2000

This example would select all records with elevations less than 2,000.

(3) greater than--the first numeric entry in the specified data element must be greater than the criteria defined in the condition description for selection of the record.

Example: A. elev gt 2000

This example would select all records with elevations greater than 2,000.

Optional Search Techniques

A character or numeric range may be selected by specifying the two extremes of the range to be selected. Data other than strictly numeric must be as character data for range searches.

1. Example (character data): A. name < MA> thru < MZ>

This example would select every record with a name that contains a word beginning with the letter "M." That is all features with names starting with the letter "M" would be selected as well as features with names such as Big Mountain, etc.

2. Example A. LATLONG < 321500N> THRU < 323000N>
B. LATLONG <N0891500W> THRU <N0893000W>
LOGIC A AND B

The example would select all valid data in a square as determined by the geographic coordinates. Variable "A" would establish a latitudinal band across the entire width of the State, and variable "B" would establish a longitudinal band across the entire length of the State. The use of the connector "and" establishes the square area where the latitudinal and longitudinal bands intersect, and this data is the selected subset.

3. Example (numeric data): A. elev 2000 thru 3000

This example would select all features with elevations between 2,000 and 3,000 inclusive.

Note: In the case of word data, if the second condition description is longer than the first, it will be truncated to the length of the first; if it is shorter, it will be padded with blanks to the length of the first.

Example:

A. name < aaron > thru < bird >

would become

A. name < aaron > thru < bird >

A within range search may be used to select character strings within a given number of words in the data element. A word is one or more alphanumeric characters bounded by blanks or a comma. The search will only be performed on a phrase or sentence, therefore, the existence of any punctuation other than a comma will terminate the search. Any number up to 99 may be used. This technique may be used, for example, to locate names with specific relationships.

Example: A. NAME < Point > WI3 < Reach >

This search would select all entries where the word "point" is within three words of the word "reach" such as in the name Point No Point Reach or Point Reach.

A multiple-occurrence search may be accomplished when the number of times a character string occurs within a data element is desired. This technique may be used, for example, to discover duplicate generics in the name field.

Example: A. NAME < BAY > 2

The word "Bay" must occur two times in the name field such as in the name Bay Point Bay.

Logic of Search Criteria

After the selection criteria for the desired subset has been established, a logical relationship between the various conditional tests, called a logic statement, must be formulated. The conditional tests are

arranged with the Boolean connectors "and," "or," or "not," to determine what is selected from the data base. In the logic statement each conditional test is identified by its associated condition variable.

1. Example: Select all mountains with an elevation greater than 2,000 feet and an associated Board on Geographic Names decision date. The condition tests to these criteria are:
   A. desig < summit >
   B. bgn
   C. elev gt 2000
   D. name < 12345 >

The logic statement to retrieve the desired subset is: logic (A and B and C) and not D. The use of parentheses is for clarification and is used in a manner similar to that of an algebraic expression.

Condition tests A, B, and C must occur simultaneously in a particular record if it is to be selected, but the record must not meet the criteria defined in condition test D. (See page 8 for an explanation of the use of the 12345 code in the name field.)

2. Example: Select all cities, towns, churches, or schools with a known elevation. The condition tests to define these criteria are:
   A. desig < ppl >
   B. $ < locale >
   C. $ < church >
   D. $ < school >
   E. elev
   F. name <12345>

The logic statement to retrieve the desired subset is: logic ((A or B or C or D) and E) and not F.

A record will be selected if either condition test A, B, C, or D is true and at the same time condition test E is true. The record must not, however, contain the criterion defined in condition F. Note the use of the dollar sign ($) in the condition description to denote repetition of data elements in the same manner as ditto marks (") are commonly used. Shorthand codes may also be used in long logic statements such as "+" for "or," "*" for "and," and usually "¬" or "~" for "not" (the symbol varies depending upon the terminal). Also note the use of parentheses to avoid ambiguity.

Iterative Process

Once a subset has been established, that subset may be further refined to produce a second, even more specialized subset. This is accomplished through the use of the ITERATE command. For example, suppose one wants a list of all streams that contain the word River, Creek, Brook, Branch, Prong, and Distributary in the name. One could structure the search in the following manner: .

```
SELECT
     A.  desig < stream >
     B.  name < river >
     C.  $ < creek >
     D.  $ < brook >
     E.  $ < branch >
     F.  $ < prong >
     G.  $ < distributary >
     logic A and (B or C or D or E or F or G)
```

In this example each condition test (A through G) would be tested against every record in the accessed file. It may be more desirable to first establish a subset of features consisting of streams only, and then to test that subset for the presence of the desired generics. This would be more efficient in terms of search time and cost. The structure of such a search would be:

```
SELECT
     A.  desig < stream >
     logic A
ITERATE
     A.  name < river >
     B.  $ < creek >
     C.  $ < brook >
     D.  $ < branch >
     E.  $ < prong >
     F.  $ < distributary >
     logic A or B or C or D or E or F
```

The iterative process is also designed to proceed from general to specific, and therefore may be used to arrive at a conclusion when only sketchy information is known at the outset of the search. The ITERATE command may be used at any time and after any operation once a subset (records initially selected) has been established from a search of the data base. An iteration on a subset erases all intervening subsets. If one has established four subsets by issuing the SELECT command, then has issued three successive iterations on subsequently established subsets, and then ITERATES on subset 1, subsets 2 and 3 will be erased and the new subset derived from subset 1 will be established as the new subset 2. The ITERATE command may be issued at any time, but will only allow further data retrieval from the subset to which it returns. If any other processing is desired the BACK command must be issued.

Return to a Subset for Further Processing

Another means of returning to a previous subset is by issuing the BACK command. This command is similar to the ITERATE command in that the user is returned to a previously established subset for further processing. The difference between the commands is that BACK allows any processing of the subset to occur, while ITERATE assumes a further selection of data and therefore will only process a retrieval. BACK will allow any command to

be issued for the subset, including another ITERATE if desired. The BACK command is very useful if one wishes to return to a subset to initiate a different sort or output format.

```
Example:
SELECT
     A.    DESIG      < ppl >
     LOGIC A
     SEARCH BEGINNING
     SEARCH ENDED
     SEARCHED 10000
     SELECTED 2000          SUBSET 1
     VARIABLES SATISFIED
     A      2000
ITERATE
SPECIFY SUBSET
1
     A.  COUNTY    < ATLANTIC >
     LOGIC A
     SEARCH BEGINNING
     SEARCH ENDED
     SEARCH 2000
     SELECTED 54          SUBSET 2
     VARIABLE SATISFIED
     A      54
     BACK
     1
     SORT
```

The user has decided that after the establishment of the more specialized subset 2 (ppls in Atlantic County), there is a need to return to the more general subset 1 (all ppls) for further processing, or in this case to sort them. The BACK command is the only means of returning to subset 1 to immediately sort the data in subset 1. The ITERATE command would require a further selection of data.

Sorting

Once data is retrieved and refined, it may be sorted in a desired order. This is accomplished by issuing the SORT command. The sorting algorithm is the standard IBM sort which differs from the guidelines established by the Board on Geographic Names for sorting. However, one may circumvent the standard name sort by using the GNIS data element TAG. There are many differences among the rules of these two distinct methods of sorting, but one major difference is that the standard sort arranges all blanks before other characters, while the BGN sort arranges the data as if no blanks exist. Please note that the TAG override is available only for States that have completed Phase II compilation.

The parameters issued in response to the SORT command are the abbreviated data element names or labels followed by a blank and the number of characters on which the sort is to be performed. The SORT command will allow the information to be arranged in ascending or descending order. In

the interactive version, one simply responds with an "a" or "d" and follows with the label abbreviations on which the SORT is to be performed and ends the input with a slash (/). In the batch version, ascending is the default order, and one must use the command SORTD to arrange the information in descending order. The first label listed will perform a primary sort, the second will perform a secondary sort, the third will perform a tertiary sort, and the process will continue up to 25 labels or to a total or 100 characters in all labels. Numeric data may be sorted, but if the data in the field are left-justified (as is the case with entries in the ELEV field) and a numeric sequential sort is desired, it is necessary to specify the number of digits to be sorted on, followed by a decimal number to indicate the position of an implied decimal. For example, when sorting on the data element ELEV, issue the following:

```
SORT
 ELEV 5.0
/
```

ELEV 5.0 indicates that the first five digits of the data in the ELEV field are to be included for sorting purposes, with an implied decimal point after the fifth digit.

Example:

```
SORT
 MAP 4.0
 NAME   25
 COUNTY 15
```

This example would arrange the retrieved information first by GNIS map number, then alphabetically by name on the map, and if any names are encountered that are identical, they would be arranged alphabetically by county.

Frequency of Occurrence

An additional command to arrange retrieved data is the COUNT command. If one desires to find the frequency of occurrence of any character string in a field, then the COUNT command should be invoked. Up to 25 fields may be entered with a maximum of 70 characters in the character string. This command, for example, is very useful if a frequency of occurrence of feature type is desired.

Example:

```
COUNT
 DESIG 9
```

This example would list each feature class and print the number of occurrences of each within the particular State.

Features on More Than One Topographic Map

One may extract features having associated secondary coordinates from a State file in the following manner:

A. latlong <W> WI1 <W>

The LATLONG field of each record is searched to determine the existence of a "W" within one word (block of data bounded by blanks) of another "W." Only those features having multiple coordinates in the LATLONG field are selected. This technique is used to identify features not wholly contained on one 7.5-minute topographic map. It does not, however, identify features with the mouth on one map and the source on an adjacent map, with no intervening secondary coordinates, because the source coordinate is a separate data element.

Output

GNIS in the interactive version allows one to display retrieved information at the screen or to route it to any desired printer. In the GNIS batch version, output may be routed to any desired printer and the job priority may be specified with the appropriate job control language (JCL). The output may be displayed in one of three general formats using the PRINT, LIST, or COPY output commands.

Print

The PRINT command is used to display all information contained in each data element of the retrieved records. The user has no control concerning the output. When displaying at the terminal (response of "t" to the message "terminal or printer?"), the output will stop after 20 lines to allow the user to review the information. A carriage return continues display of the information, and typing a slash (/) instead of a carriage return will prematurely abort the output and return one to command level. If one wishes to send information directly from the interactive version to a printer, one responds with "p" instead of "t" to the question "terminal or printer?" One must also remember to follow the PRINT command with a blank and NOPAGE, that is, PRINT NOPAGE. The interactive version requires that the user issue a title for output directed to the printer.

List

An alternative mode of output may be used by issuing the LIST command. This command functions in a similar manner to the PRINT command. The information will be displayed in the same format as the PRINT command, but the user may select which data elements are to be displayed. As with the PRINT command, the output will stop after 20 lines for review, and a slash (/) may be used to prematurely abort the output. Also, a "p" must be typed

to route the output to a printer, and NOPAGE must be used when using the printer option. The user selects which data elements are to be displayed by typing the label abbreviations desired.

Example:

```
list nopage
TERMINAL OR PRINTER?
t
ENTER LABELS
name
desig
latlong
mapname
/
```

In this example only the information in the four data elements specified would be displayed. All other information associated with each record would not be displayed.

Copy

The third display alternative is designed to allow structuring of the data for use as input to processing programs or formatted display. The COPY command is used to specifically define output in a fixed-field, fixed-length columnar format. Output may be displayed at a terminal (reply "t" to the question "terminal or workfile?") or routed to a printer. To route information to a printer during an interactive session, reply "w" to the question "terminal or workfile?" The COPY command may be used for some report generation because the user may enclose characters within literals or single quotes (') for display. The COPY command will also allow the user to test for existence of information. The parameters used with the COPY command are labels or abbreviations for the desired data elements. When using the COPY command, always begin output with a single blank enclosed in literals, ' '. This is necessary for use as a carriage control when displaying the information. A maximum of 120 characters per line is allowable in the interactive version, while up to 132 characters may be used in the batch version. The format is to type the abbreviated name of the data element, followed by a blank and the specific number of characters to be displayed from that data element. Only the specified number of characters will be displayed and any remaining information in that data element will be truncated.

Example:

```
COPY
' '
NAME 25
```

Numerics with decimals may be displayed if necessary, by the number of digits to be displayed followed by a period and the number of decimal places to be displayed.

Example:

```
ELEV 5.0
```

One may also test for the existence of information in a particular field.

Example:

```
BGN   'Yes' 'No'
```

This example would display "yes" if information existed or "no" if there was no information present. Any two character strings less than 11 characters in length may be used in testing for the existence of data such as "exist," "vacant." Output of the first character string indicates presence, while output of the second character string indicates absence of data. One may also cause text to be displayed with the retrieved information by enclosing within literals any combination of characters up to 60. Text within literals may be printed in any columns on the fixed format line.

Example:

```
' '        a blank is necessary for carriage control or the first
           character will not be printed.
NAME 25    the first 25 characters of the data element NAME will be
           displayed.
' '        a blank is displayed for readability.
DESIG 9    displays the GNIS feature class category.
' '        a blank is displayed for readability
COUNTY 15  displays the county name in which the primary coordinate is
           located up to 15 characters.
' '        a blank is displayed for readability
ELEV 5.1   displays the elevation up to five significant digits and
           one decimal place.
' '        a blank is displayed for readability.
MAPNAME 25 displays the USGS topographic map on which the primary
            coordinate is located.
' '        a blank is displayed for readability.
'BGN  '    the characters BGN are displayed followed by two blanks.
 BGN 'Y' 'N' a Y is displayed if data for BGN exists or an N is
               displayed if no BGN data exists.
```

Computation

Rudimentary mathematical computations for numeric data may be performed by using the TOTAL command. The use of this command will provide the number of occurrences of the data to be totaled, the arithmetic mean, and the sum as well as the maximum value and the minimum value. Totals for each of these will then be provided. Up to 20 data elements may be computed simultaneously, and the parameters provided are the abbreviated data element names.

Example:

```
TOTAL
ELEV
```

Ending a Search (Interactively)

When one is using the interactive version, the END command is issued to complete all retrieval and processing of information for an individual State or data base. All information routed to the printers will be printed after issuing the END command. After typing "end" the system will respond with DO YOU WISH TO SEARCH ANOTHER FILE? (YES/NO). If one wishes to search another file type "yes," otherwise type "no" to exit all GNIS procedures.

Interactive Log-on Procedure

Note: If one accesses GNIS through the Earth Sciences Information network (ESIN), then the mainframe log-on procedure will be accomplished automatically and the welcome message will automatically appear.

```
User     :    Dial telephone number
User     :    Depress carriage control
Computer:     ENTER CLASS
User     :    1
Computer:     CONNECTING TO THE RESTON AMDAHL
Computer:     CLASS 001 START
User     :    Depress carriage return twice
Computer:     ENTER 'TLOGON' FOR TSO, 'W' FOR WILBUR, 'M' FOR M204, 'A'
              FOR CAS
User     :    TLOGON and carriage return
Computer:     ENTER USERID
User     :    Type your TSO user identifier and carriage return
Computer:     ENTER CURRENT PASSWORD FOR "YOUR TSO IDENTIFIER"
User     :    Type your password and carriage return
Computer:     ENTER PROCEDURE NAME
User     :    GIPSY and carriage return
Computer:     LOGON IN PROGRESS
Computer:     READY
```

Note: When the ready message appears you have successfully logged on.

```
User     :    GNISINT
Computer:     WELCOME TO THE GEOGRAPHIC NAMES INFORMATION SYSTEM
                          U.S. GEOLOGICAL SURVEY
                    INTERACTIVE SEARCH AND RETRIEVAL
Computer:     FOR ASSISTANCE IN RESPONDING TO THE PROMPTS
              EXIT PROCEDURE AND TYPE GNISHELP
Computer:     TO EXIT THE PROCEDURE DEPRESS BREAK ONCE OR TWICE
              AND WAIT FOR THE READY MESSAGE
Computer:     PLEASE ENTER "list" or "l" TO DISPLAY GNIS STATUS OR
              PLEASE ENTER "end" TO PROCEED >
User     :    list or end
```

Note: Status will print if "list" or "l" is entered.

```
Computer:     PLEASE ENTER "list" or "1" TO DISPLAY GNIS MESSAGES OR
Computer:     PLEASE ENTER "end" TO PROCEED DIRECTLY INTO GNIS>
User    :     list or end

              Note:  Messages will print if "list" or "1" is entered.

Computer:     ************************************************************
Computer:     SEE PAGES 34 AND 35 IN THE GNIS USERS GUIDE FOR STATE FILE
              NAMING CONVENTION AND FILE NAMES IN OTHER DATA BASES
Computer:     ************************************************************
Computer:     PLEASE ENTER THE FILE NAME>
User    :     enter State file or data base name
Computer:     GIPSY UNIVERSITY OF OKLAHOMA
Computer:     ? (signifies command level in the system)
User    :     search and retrieval of information in the file
User    :     end
Computer:     GIPSY - UNIVERSITY OF OKLAHOMA
Computer:     WOULD YOU LIKE TO ACCESS ANOTHER FILE? (YES/NO)
User    :     yes
Computer:     ************************************************************
Computer:     SEE PAGES 34 AND 35 IN THE GNIS USER GUIDE FOR STATE FILE
              NAMING CONVENTION AND FILE NAMES IN OTHER DATA BASES
Computer:     ************************************************************
Computer:     PLEASE ENTER THE FILE NAME>
User    :     enter State file name or data base name

              Note:  IF ONE RESPONDS "no" -

User    :     no
Computer:     READY
User    :     logoff
```

Responses to Interactive Prompts

The first prompt allows the user to display the status of GNIS files and data bases, while the second prompt allows the user to become current with regard to transient problems, system enhancements, new procedures, and so on. The user may choose to view both, either, or proceed directly into the system.

The GNIS file naming convention for each State name is the first four letters of the State name followed by GAZ. An exception is Missouri which is MOSSGAZ to distinguish it from Mississippi (MISSGAZ). States with more than one word for the name use the first letter of the first word and the first three letters of the last word.

Example:
VIRGGAZ = Virginia
NYORGAZ = New York
DCOLGAZ = District of Columbia

The same file naming convention is used for the USGS Topographic Map Names Data Base except GAZ is replaced by QUA. Other GNIS data bases may be accessed by typing the name of the data base instead of a State name.

Example: DESIGNA = Generic Data Base
USATLAS = National Atlas Data Base
BGNAMES = Board on Geographic Names Data Base

After the file or data base name is provided, informational material will appear followed by a "?" which indicates that the system is ready to accept commands. First type "form" and respond with the appropriate form name which is geonames in all cases except the National Atlas data base, which is usaatlas. The system will then respond with a "?" signifying that one may begin a search utilizing the rules and procedures described in the Search Rules and Techniques section on pages 21-33. When the READY message appears, follow the procedures on pages 33-34. Also, examples of the use of each command and most data elements are given in Appendixes E and F.

Batch Commands and Responses

```
Computer:    READY
User    :    gnisbch
Computer:    WELCOME TO THE GEOGRAPHIC NAMES INFORMATION SYSTEM
                        U.S. GEOLOGICAL SURVEY
                           BATCH REQUEST
Computer:    FOR ASSISTANCE IN RESPONDING TO PROMPTS EXIT THE PROCEDURE
             AND TYPE GNISHELP TO EXIT THE PROCEDURE DEPRESS BREAK ONCE
             OR TWICE AND WAIT FOR THE READY MESSAGE
Computer:    PLEASE ENTER "list" or "l" TO DISPLAY GNIS STATUS OR
             PLEASE ENTER "end" TO PROCEED
User    :    list or end

             Note:  Status will print if "list" or "l" is entered.

Computer:    PLEASE ENTER "list" or "l" TO DISPLAY GNIS MESSAGES
Computer:    PLEASE ENTER "end" TO PROCEED DIRECTLY INTO GNIS
User    :    list or end

             Note:  Messages will print if "list" or "l" is entered.

Computer:    PLEASE ENTER YOUR NAME>
User    :    judy
Computer:    PLEASE ENTER YOUR ACCOUNT NUMBER>
User    :    xxxxxxxxx

             Note:  Enter your nine-digit billing account number.

Computer:    PLEASE ENTER THE JOB CLASS>

             Note:  The system will inform you if an incorrect class is
             entered.
User    :    b
Computer:    PLEASE ENTER THE SITE AT WHICH YOU WANT YOUR JOB TO BE
             PRINTED>
User    :    RMO
```

```
Computer:    PLEASE ENTER THE NUMBER OF COPIES REQUIRED
User    :    Any number
Computer:    ************************************************************
Computer:    SEE PAGES 34 AND 35 IN THE GNIS USERS GUIDE FOR STATE FILE
             NAMING CONVENTION AND FILE NAMES IN OTHER DATA BASES
Computer:    ************************************************************
Computer:    PLEASE ENTER THE FILE NAME>

             Note:  See pages 34 and 35.

User    :    cologaz
Computer:    PLEASE ENTER COMMANDS, CONDITIONAL TESTS, AND LOGIC
             STATEMENT HERE
             TO SUMBIT JOB - PLEASE RETURN CARRIAGE AFTER ALL INPUT.
Computer:    PLEASE REMEMBER THE COMPUTER WILL NOT PROMPT YOU.
             TO DISPLAY THE JOB IN THE SYSTEM TYPE STATUS AFTER THE READY
             MESSAGE INPUT.

             Explanation:  Enter GIPSY commands and associated
             parameters.  Commands must begin in column 1 and parameters
             must begin in column 2.  See the section titled Search Rules
             and Techniques, pages 21-33.

User    :    form
User    :     geonames
User    :    select
User    :     a. desig < summit >
User    :     b. bgn
User    :     c. elev gt 2000
User    :     d. name <12345>
User    :     LOGIC (a and b and c) and not d

             Explanation:  This search will retrieve all valid records in
             the State of Colorado that are classified as summits and are
             at the same time a BGN decision with an elevation greater
             than 2,000 feet.  Invalid records are coded 12345 in the
             name field.  The conditional test labeled D insures that
             these records are not selected.

User    :    sort
User    :     name 30

             Explanation:  The selected records are sorted by name to 30
             characters in ascending order.  To specify descending order
             the user would type the command SORTD instead of SORT.
             Please note that SORTD is used only in the batch version.

User    :    print nopage

             Explanation:  The PRINT command prints all information in
             all data elements associated with each selected record.
             NOPAGE signifies that more than one record is to be printed
             per page.  Other output commands available are LIST and
             COPY.  The LIST command followed by desired label
```

abbreviations will print all information in only the data elements specified. The COPY command allows selected data elements to be formatted in a fixed field entry (see pages 21-33).

```
User     :     (depress carriage return)
Computer:      JOB VG5061AZ (JOB XXXXX) SUBMITTED
Computer:      READY
User     :     Status
```

Note: The system will respond with the job status; for example, VG5061AZ EXECUTING.

Responses to Batch Prompts

A welcome message and instructions for assistance will appear followed by prompts that will allow one to display GNIS status and messages or proceed directly into a batch retrieval. The person's name entered will be the name that appears on the job when it is printed. One must enter an appropriate nine-digit account number for billing purposes. The job class allows flexibility in job turnaround time, but the cost is approximately doubled with each increase in job class. Only class A, B, D, and F jobs are permitted. Class A is the most expensive, but job turnaround time is very rapid. Class B is for a job needed the same day, class D is for overnight, and class F is for weekend only. Please note that the prompt will remind you that class F jobs are for weekend runs only, and the job will be automatically canceled if submitted during the week. If any other job class is typed, a message will indicate an input error and instruct that the job class should be re-entered.

GNIS will allow one to select the site at which the job is to be printed. To print at the USGS National Center Computer Center, type "RM0." To print at any other location including one's own printer, type "RM" followed immediately by the number of the remote printer at which the job is to be printed. A response must be made to this prompt.

```
Example:   RM0  = job will print at USGS Computer Center
                  National Center
           RM14 = job will print wherever remote
                  printer 14 is located.
```

Commands refer to the words in the GIPSY repertoire that execute the programs. Commands must begin in column 1. Conditional tests refer to the variables entered to retrieve the desired information. These variables are designated by letters of the alphabet followed by a period. The letter and period are followed by the name of the data element or label, and the data element may be further refined by additional information in angle brackets around the condition description. One may use up to 26 variables in one search, and the information within the angle brackets may be up to 29 characters.

Range searches may be accomplished by using the connector "thru." Searches for information less than and greater than some criterion are possible, as well as searches that locate information within a specified

range. Also, multiple occurrences may be retrieved. Conditional tests must begin in column 2. The logic statement must begin in column 2 or beyond, and the statement is the arrangement of the variable letters to specifically retrieve the desired information. The structure of the logic statement is based on Boolean logic and uses the connectors "and," "or," or "not," and sometimes parentheses for additional clarity. Please refer to the Search Rules and Techniques section on pages 21-33 for further information and examples. The computer will not prompt while input is being typed for a batch job.

To submit a batch job, depress an additional carriage return after all input information has been made. The computer will respond with job submitted. To determine whether the job is printing, executing, or waiting, type "status" after the READY message. If the job is not found, then it has already executed and printed.

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
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 a 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 (cascade, cataract, 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 (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 or civil divisions).

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 grassy, possibly covered with open water (bog, cienega, marais, marsh, pocosin).

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

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

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
Historic Site
Historical
Historical Monument
Historical Ruins
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 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
SPECIALIZATION CODES

The following specialization codes represent a coded method of retrieving named features according to specific characteristics such as source material; language of origin; unusual characteristics; number of words in the name, and whether descriptive, associative, or comparative; or any other known characteristic of the name.

03	GENERIC SUFFIX
04	GENERIC PREFIX
010	ABRIDGED GAZETTEER OF THE U.S.
011	GEOLOGIC NAME
015	LEWIS and CLARK NAME
016	CAPT. JAMES COOK NAME
052	INDIAN
080	ESKIMO
081	ALEUT
082	POLYNESIAN
083	MICRONESIAN
090	SPANISH
091	FRENCH
092	RUSSIAN
093	DUTCH
094	SWEDISH
095	OTHER EUROPEAN LANGUAGE
096	OTHER ASIAN LANGUAGE
100	"DEFINITE STATE" - CAPITAL "THE"
101	"NONCE" GENERIC - FALSE GENERIC
102	"UNUSUAL" GENERIC
103	ERROR NAME
107	PHYSICAL FEATURE - 1 OR MORE WORDS - NO GENERIC
108	PLURAL GENERIC
111	"GENERIC FIRST"
112	PPL. 2 WORDS
113	3 WORDS TO NAME
114	4 WORDS TO NAME
115	5 WORDS TO NAME
116	6 WORDS TO NAME
125	MANUFACTURED NAME
126	POSSIBLE MANUFACTURED NAME
127	DESCRIPTIVE NAME
128	DESCRIPTIVE OF SHAPE
129	DESCRIPTIVE OF COLOR
130	DESCRIPTIVE OF PHYSICAL CHARACTERISTIC
132	DESCRIPTIVE OF LOCATION
134	DESCRIPTIVE OF MOTION
137	COMPARATIVE DESCRIPTIVE OF MANMADE OBJECT
138	COMPARATIVE DESCRIPTIVE OF ANIMAL
140	COMPARATIVE DESCRIPTIVE OF PLANT
146	ASSOCIATIVE - PERSONAL (LOCAL)
147	ASSOCIATIVE - PERSONAL; WOMEN
148	ASSOCIATIVE - PERSONAL; WOMAN'S LAST NAME

149 ASSOCIATIVE - PERSONAL; WOMAN'S FIRST NAME
150 ASSOCIATIVE - PERSONAL; WOMAN'S FULL NAME
151 ASSOCIATIVE - PERSONAL; WOMAN'S NICKNAME
152 ASSOCIATIVE - PERSONAL; FEMALE RELATIVE
153 ASSOCIATIVE - PERSONAL; RELATIVE and FIRST NAME
155 ASSOCIATIVE - PERSONAL; MEN
156 ASSOCIATIVE - PERSONAL; MAN'S LAST NAME
157 ASSOCIATIVE - PERSONAL; MAN'S MIDDLE NAME
158 ASSOCIATIVE - PERSONAL; MAN'S FIRST NAME
159 ASSOCIATIVE - PERSONAL; MAN'S FULL NAME
160 ASSOCIATIVE - PERSONAL; MAN'S NICKNAME
161 ASSOCIATIVE - PERSONAL; MALE RELATIVE
164 ASSOCIATIVE - PERSONAL; NAME + SUFFIX
165 ASSOCIATIVE - PERSONAL; NAME + TITLE
166 ASSOCIATIVE - PERSONAL; PART OF A PERSONAL NAME
167 ASSOCIATIVE - PERSONAL; INITIALS OF A PERSONAL NAME
168 ASSOCIATIVE - PERSONAL; TRANSLATED PERSONAL NAME
169 ASSOCIATIVE - PERSONAL; COMBINED PERSONAL NAME
170 ASSOCIATIVE - PERSONAL; PERSON'S TITLE
171 ASSOCIATIVE - PERSONAL; MARITAL STATUS + NAME
172 ASSOCIATIVE - PERSONAL; PROFESSIONAL
175 ASSOCIATIVE - TOPICAL; DOMESTIC FAUNA
176 ASSOCIATIVE - TOPICAL; WILD FAUNA
177 ASSOCIATIVE - TOPICAL; FISH OR SEA LIFE
178 ASSOCIATIVE - TOPICAL; BIRDS
179 ASSOCIATIVE - TOPICAL; INSECTS
180 ASSOCIATIVE - TOPICAL; FAUNA NOISE OR SOUND
181 ASSOCIATIVE - TOPICAL; FAUNA ASSOC. PLACE
185 ASSOCIATIVE - TOPICAL; DOMESTIC FLORA
186 ASSOCIATIVE - TOPICAL; WILD FLORA
187 ASSOCIATIVE - TOPICAL; TREE, WOODS, GROVE, ETC.
188 ASSOCIATIVE - TOPICAL; PART OF FLORA/ECOLOGY
189 ASSOCIATIVE - TOPICAL; FLORA RELATED
193 MINOR POLITICAL UNIT
194 LAND SURVEY, AREA, SECTION, SIZE
195 DISTANCE OR NUMBER
196 LANDSCAPE FEATURE
197 RELATIVE LOCATION, ORDER, OR DIRECTION
198 MINERAL OR EARTH
201 EXTRATERRESTRIAL BODIES
203 ETHNIC GROUP
204 NATIONALITY
205 RELIGION
206 TRADE GROUP
207 GROUP NAME
209 INSTITUTION
211 INDUSTRY
212 BUILDING (OR PART)
213 CONSTRUCTION
214 TRANSPORTATION
215 TRADE NAME
216 HOUSEHOLD ITEM
217 GAME, TOY, OR MUSICAL INSTRUMENT

219	MONEY
220	CLOTHING OR ADORNMENT
221	FARM OR RANCH STRUCTURE
222	FARM OR RANCH ACTIVITY
223	FARM OR RANCH ITEM
224	DRINK - KIND, MANUFACTURE, ELEMENT
225	FOOD
226	FOLK EXPRESSION
227	DEVIL OR UNDERWORLD
229	PATRIOTISM
230	HOLIDAY
231	MONTH
232	DAY
233	POLITICS OR POLITICAL PARTY
234	LITERATURE
251	UNKNOWN
252	ASSOCIATIVE - COMMEMORATIVE; NON-LOCAL PERSON
253	ASSOCIATIVE - COMMEMORATIVE; FAMOUS AMERICAN PRE-1800
254	ASSOCIATIVE - COMMEMORATIVE; FAMOUS AMERICAN 1800-1849
255	ASSOCIATIVE - COMMEMORATIVE; FAMOUS AMERICAN 1850-1899
256	ASSOCIATIVE - COMMEMORATIVE; FAMOUS AMERICAN 1900-1945
256	ASSOCIATIVE - COMMEMORATIVE; FAMOUS AMERICAN POST-1945
258	ASSOCIATIVE - COMMEMORATIVE; AMERICAN PRESIDENT
259	ASSOCIATIVE - COMMEMORATIVE; REVOLUTIONARY WAR
260	ASSOCIATIVE - COMMEMORATIVE; CIVIL WAR HERO-NORTH
261	ASSOCIATIVE - COMMEMORATIVE; CIVIL WAR HERO-SOUTH
262	ASSOCIATIVE - COMMEMORATIVE; EXPLORER
263	ASSOCIATIVE - COMMEMORATIVE; SAINT
264	ASSOCIATIVE - COMMEMORATIVE; FAMOUS FOREIGN PERSON
267	ASSOCIATIVE - INCIDENT; BATTLE
268	ASSOCIATIVE - INCIDENT; HUMAN ORDEAL
269	ASSOCIATIVE - INCIDENT; HUMAN ACTION, DUTY
270	ASSOCIATIVE - INCIDENT; HISTORICALLY RELEVANT
271	ASSOCIATIVE - INCIDENT; HUMAN EMOTION
272	ASSOCIATIVE - INCIDENT; STATE OF BEING
300	BORROWED NAME; STATE NAME
301	BORROWED NAME; CITY OR PLACE IN ANOTHER STATE
302	BORROWED NAME; ANOTHER MINING AREA
303	BORROWED NAME; PLACE IN SAME STATE
305	BORROWED NAME; CANADA
306	BORROWED NAME; MEXICO
307	BORROWED NAME; CENTRAL AMERICAN
308	BORROWED NAME; CARIBBEAN ISLAND
309	BORROWED NAME; SOUTH AMERICA
310	BORROWED NAME; SCOTLAND
311	BORROWED NAME; ENGLAND
312	BORROWED NAME; WALES
313	BORROWED NAME; GREAT BRITAIN (GENERAL)

314 BORROWED NAME; IRELAND
315 BORROWED NAME; EUROPE (GENERAL)
316 BORROWED NAME; SPAIN
317 BORROWED NAME; FRANCE
318 BORROWED NAME; GERMANY
319 BORROWED NAME; ITALY
320 BORROWED NAME; THE NETHERLANDS
321 BORROWED NAME; BELGIUM
322 BORROWED NAME; SCANDINAVIA; NORDEN (NORWAY AND DENMARK)
323 BORROWED NAME; RUSSIA
324 BORROWED NAME; EASTERN EUROPE
325 BORROWED NAME; SWITZERLAND
326 BORROWED NAME; OTHER EUROPEAN COUNTRIES
327 BORROWED NAME; AFRICA
332 BORROWED NAME; ASIA
333 BORROWED NAME; MIDDLE EAST
337 BORROWED NAME; AUSTRALIA AND PACIFIC ISLANDS
338 BORROWED NAME; EAST INDIES
340 BORROWED NAME; BIBLE CITY, TOWN, OR PLACE
341 BORROWED NAME; BIBLE LAND OR NATION
342 BORROWED NAME; BIBLICAL PERSON
345 BORROWED NAME; CLASSICAL CITY, TOWN, OR PLACE
346 BORROWED NAME; CLASSICAL LAND OR NATION
347 BORROWED NAME; CLASSICAL PERSON
348 BORROWED NAME; CLASSICAL MYTHOLOGY
351 BORROWED NAME; OTHER MYTHOLOGY
374 FANCIFUL NAME
375 FACETIOUS OR WHIMSICAL NAME
376 UNDETERMINED
377 LETTER (ALPHABET) NAME
378 NUMBER NAME
395 COMMUNITY - SCATTERED RURAL
396 SETTLEMENT
397 VILLAGE

APPENDIX E
AVAILABLE COMMANDS

BACK - Selects a previously selected subset to be the current, most active subset for any processing.

COPY - Copies data from a selected subset to a fixed field or to columns where the user defines the length of the information to be copied, and the output may be formatted at the terminal, or routed to a printer, or passed to additional software for further processing.

COUNT - Provides a count or number of occurrences for data strings (information) within data elements.

END - Terminates job execution. The last command to be used in each session. Used only in the interactive mode.

FORM - Identifies specific search and print options. The form command must be issued at the beginning of each run.

ITERATE - Initiates a search on a selected subset of a State or data base.

LIST - Lists the information of data elements within a record selected on the terminal or on a printer.

PRINT - Prints all information contained in the record from a selected subset at the terminal or on a printer.

SELECT - Initiates a search on the total State or file and selects a subset of information.

SORT - Sorts the selected records of a subset as defined by data elements or labels.

TOTAL - Provides an occurrence count, average, maximum, minimum, and total for numeric items of a selected subset.

Please refer to pages 21-33 for instructions in the use of these commands, and pages 49-108 for examples illustrating their use in interactive retrieval of information.

APPENDIX F
INTERACTIVE SEARCH AND RETRIEVAL EXAMPLES

Example 1: Populated places; File = DELAGAZ

```
Computer:   READY
User    :   gnisint
```

Explanation: The computer TSO (time sharing option) command READY indicates that the GNIS procedures may be executed by the user, and that the log-on procedure has been properly completed.

```
Computer:   WELCOME TO THE GEOGRAPHIC NAMES INFORMATION SYSTEM
                        U.S. GEOLOGICAL SURVEY
                    INTERACTIVE SEARCH AND RETRIEVAL
Computer:   FOR ASSISTANCE IN RESPONDING TO THE PROMPTS
            EXIT PROCEDURE AND TYPE GNISHELP.  TO EXIT THE
            PROCEDURE DEPRESS BREAK ONCE OR TWICE AND WAIT FOR
            THE READY MESSAGE
Computer:   PLEASE ENTER "list" or "1" TO DISPLAY GNIS STATUS OR
            PLEASE ENTER "end" TO PROCEED>
User    :   list or end
```

Note: Status will print if "list" or "1" is entered.

```
Computer:   PLEASE ENTER "list" or "1" TO DISPLAY GNIS MESSAGES
Computer:   PLEASE ENTER "end" TO PROCEED DIRECTLY INTO GNIS>
User    :   list or end
```

Note: Messages will print if "list" or "1" is entered.

```
Computer:   ************************************************************
Computer:   SEE PAGES 34 AND 35 IN THE GNIS USERS GUIDE FOR STATE FILE
            NAMING CONVENTION AND FILE NAMES IN OTHER DATA BASES
Computer:   ************************************************************
Computer:   PLEASE ENTER THE FILE NAME>
User    :   delagaz
```

Explanation: GNIS displays a welcome message and instructs the user to exit and type gnishelp if necessary. Type the State name using the GNIS naming convention and the desired State is entered. The name is actually typed after ">" on the line above.

```
Computer:   G I P S Y - UNIVERSITY OF OKLAHOMA
Computer:   ?
```

Explanation: The GIPSY message appears followed by a ? mark which means "enter a command."

```
User    :   form
```

Computer: - - - - - - -

Explanation: Always enter the command FORM and the computer will respond with seven dashes.

User : geonames
Computer: ?

Explanation: Enter the word "geonames" and the computer will respond with a "?" signifying command level. Enter usaatlas if using the National Atlas Data Base.

User : select
Computer: - - - - - - -
FULL OR TERM SEARCH?

Explanation: Enter select to search the file and the computer will respond with seven dashes and ask if the search is to be full or term.

User : f
Computer: A.

Explanation: Always respond "full" or simply "f" and the computer will print "A." The term search is not available and if "t" is entered the computer will exit GNIS and return to READY. The letters that the computer prints out are ways of identifying variables or the categories of data which the user wants to search.

User : desig < ppl >
Computer: TYPE OF FEATURE

Explanation: Signifies that the user wishes to search one of the 62 broad categories of information (see Appendix B) designed to group like features into similar categories. For example, "ppl" (populated place) includes cities, towns, villages, and subdivisions.

Computer: B.
User : name < 12345 >

Explanation: Always enter the data element "feature name" qualified as "12345" in angle brackets as the last desired variable. This will insure that no erroneous names will be selected by the desired search. The computer prints a C. for the next variable.

Computer: NAME
Computer: C.
User : (depress carriage return)

Explanation: A carriage return with no information following the variable letter ends input for the search criteria.

```
Computer:    LOGIC
User    :    a and not b
Computer:    SEARCH
```

Explanation: The word LOGIC indicates that variable letters should be arranged in a manner to retrieve the desired information. This arrangement will retrieve all entries classified as populated places, but not if they contain erroneous information.

```
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day) SEARCH BEGINNING
Computer:    (time of day) SEARCH COMPLETED
Computer:    SEARCHED 3099
Computer:    SELECTED  571      SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A          572
Computer:    B            4
Computer:    ITERATE?
```

Explanation: The computer searched 3,099 names in Delaware and determined that 572 were populated places (A) and that 4 contained erroneous information (B). There are 571 features classified as populated places that are not coded as containing erroneous data.

```
User    :    n
Computer:    ?
User    :    sort
Computer:    - - - - - - - -
Computer:    ASCENDING OR DESCENDING ORDER?
```

Explanation: It is desirable to arrange or sort the 571 selected records, which is initiated by the command SORT. The computer responds with the question ASCENDING OR DESCENDING ORDER? This allows the arrangement to be from low to high or vice versa.

```
User    :    a
User    :    name 35
User    :    /
Computer:    SORT MESSAGES
Computer:    END OF SORT
```

Explanation: This a a message indicating that the sort is proceeding. The end of sort message signifies the completion of the sort, and is followed by a ? returning the user to command level.

```
Computer:    ?
User    :    print
Computer:    - - - - - - - -
Computer     TERMINAL OR PRINTER?
User    :    t

             Note:  Sample record

Computer:    ID NUMBER - 10002081
             NAME - Addick Estates
             TYPE OF FEATURE - ppl
             STATE/COUNTY FIPS CODE - 10003
             GNIS MAP NO - 0004
             GEOGRAPHIC COORDINATES - 394810N0752700W
             ELEVATION (FT) - 40
             USGS QUADRANGLE CODE - 39075-G4
             COUNTY NAME - New Castle
             FEDERAL STATUS - BGN
             MAP OR CHART NAME - Marcus Hook
             CENTER OF AREAL FEATURES/MOUTH OF LINEAR FEATURES - 394810N0752700W
             BIBLIOGRAPHIC CODE - DE-T1

Computer:    *** (after 20 lines)
User    :    (depress carriage return)
               or
User    :    /

             Explanation:  The command PRINT is typed and the computer
             asks whether to print at the terminal or printer.  The user
             may signify "t" for terminal or "p" for printer.  The
             selected information is then printed.  Note that "***" will
             occur after 20 lines causing the display to stop for review
             of information on the terminal screen.  To continue
             printing, simply depress carriage return.  To prematurely
             abort the print, enter a "/" which will return the user to
             command level.

Computer:    ?
User    :    end (exits file)
Computer:    GIPSY MESSAGE
Computer:    WOULD YOU LIKE TO ACCESS ANOTHER FILE (YES/NO)?

             Explanation:  The END command exits the file and allows the
             user to either access another file or exit GNIS.
```

Example 2: Baltimore, using the iterative process; File = MARYGAZ

The purpose of this search is to determine the topographic map or maps on which the city of Baltimore, Maryland, is located. After entering simply "Baltimore," the user realizes that many names contain the word Baltimore and through a series of iterations on previously selected data begins to arrive at the desired unknown information. Using the iterative process is highly efficient and more rapid since it searches only a small subset of data each time. This example illustrates the use of the ITERATE command to continually retrieve smaller sets of data to arrive at a solution or answer. This command is especially effective if all factors concerning a search are not known. Please refer to Example 1 for the preliminary dialogue explaining how to enter a State or data base, as well as how to display the welcome message, enter the help procedure, display GNIS status, and display GNIS messages. Also, explanations for repetitive commands are given in Example 1.

Computer: ?
User : form
Computer: - - - - - - - -
User : geonames
Computer: ?
User : select
Computer: - - - - - - - -
FULL OR TERM SEARCH?

Explanation: Enter select and the computer will respond with seven dashes and ask if the search is to be full or term.

User : f
Computer: A.

Explanation: Always respond "full" or simply "f" and the computer will print "A." The letters that the computer prints are ways of identifying variables or the categories of data which the user wants to search.

User : name <baltimore>
Computer: FEATURE NAME

Explanation: The user enters an existence search for the character string Baltimore.

Computer: B.
User : (depress carriage return)
Computer LOGIC

Explanation: The word LOGIC signifies that the system is ready to accept the variable letters to retrieve the desired information. Since only one variable was entered, only two possibilities exist, either the positive or the negative (signified by the word "not").

```
User     :    a
Computer:     SEARCH
Computer:     LOGIC
User     :    (depress carriage return)
Computer:     (time of day) SEARCH BEGINNING
Computer:     (time of day) SEARCH COMPLETED
Computer:     SEARCHED 9959
Computer:     SELECTED   17  SUBSET 1
Computer:     VARIABLES SATISFIED
Computer:     A    17
```

Explanation: The computer provides statistical information indicating that a total of 9,959 names in Maryland were searched and 17 names contained the character string "Baltimore" somewhere in the feature name.

```
Computer:     ITERATE?
User     :    y
```

Explanation: The response "y" means yes and a request to iterate returns directly to the immediately preceding subset indicating that the current additional requests for information will now search only the 17 names containing Baltimore.

```
Computer:     A.
User     :    desig < ppl >
Computer:     TYPE OF FEATURE
Computer:     B.
```

Explanation: The 17 selected names containing Baltimore will be searched for only those that are populated places.

```
User     :    (depress carriage return)
Computer:     LOGIC
User     :    a
Computer:     SEARCH
Computer:     LOGIC
User     :    (depress carriage return)
Computer:     (time of day) SEARCH BEGINNING
Computer:     (time of day) SEARCH COMPLETED
Computer:     SEARCHED  17
Computer:     SELECTED   3   SUBSET  2
Computer:     VARIABLES SATISFIED
              A         3
```

```
Computer:    ITERATE?
User     :   y
```

Explanation: A further iteration is necessary since three names that are populated places contain the name Baltimore.

```
Computer:    A.
User     :   loc < 24510 >
Computer:    STATE/COUNTY FIPS CODE
Computer:    B.
```

Explanation: The search will now be performed on only the three names containing Baltimore that are populated places, and the selected data will be further refined by isolating only populated places in Baltimore City by use of the FIPS code for the city. Note that blanks are used with this condition description, and is necessary because the label LOC contains multiple data items separated by blanks. The leading blank insures that the description will be found no matter what position it has in case of multiple data items. The same rule is true for LATLONG and MAP, which also have multiple data items.

```
User     :   (depress carriage return)
Computer:    LOGIC
User     :   a
Computer:    SEARCH
Computer:    LOGIC
User     :   (depress carriage return)
Computer:    (time of day) SEARCH BEGINNING
Computer:    (time of day) SEARCH COMPLETED
Computer:    SEARCHED  3
Computer:    SELECTED  2   SUBSET  3
Computer:    VARIABLES SATISFIED
Computer:    A          2
Computer:    ITERATE?
User     :   n
```

Explanation: No further iteration of information is possible unless the user wishes to try randomly to determine why there are two populated places with Baltimore in the name in Baltimore City. (The reason is that one place is named South Baltimore, which the user discovers by simply printing the two selected records.) Before ending this session, a user may return from subset 3 to either subset 1 or 2 for further definition of data. If one returns to subset 1, one loses subsets 2 and 3.

```
Computer:    ?
User     :   print
```

```
Computer:    - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    t

             Note:  After 20 lines the computer will stop to allow
             viewing of the data.

Computer:    ID NUMBER - 24008511
             NAME - South Baltimore
             TYPE OF FEATURE - ppl
             STATE/COUNTY FIPS CODE - 24510
             GNIS MAP NO - 0095
             GEOGRAPHIC COORDINATES - 391622N0763621W

             ID NUMBER - 24000365
             NAME - Baltimore
             BGN DECISION - 1931
             TYPE OF FEATURE - ppl
             STATE/COUNTY FIPS CODE - 24510
             GNIS MAP NO - 0095 0111 0110 0094
             GEOGRAPHIC COORDINATES - 391725N0762645W 391407N0763603W
                          391455N0763743W 391739N0763757W
Computer:    *** after 20 lines
User    :    (depress carriage return)
        or
User    :    /

             Explanation:  The command PRINT is typed and the computer
             asks whether to print at the terminal or printer.  The user
             may signify "t" for terminal or "p" for printer.  The
             selected information is then printed.  Note that "***" will
             occur after 20 lines.  To continue printing, simply depress
             carriage return.  To prematurely abort the print, enter a
             "/" which will return the user to command level.  Any
             command in the repertoire may then be issued.

Computer:    ?
User    :    end (exits file)
```

This example displays a procedure to determine a specific record when only general information is known. It is highly efficient and economical. The same search could be accomplished in one logic statement if all variables are known at the outset.

Example 3: A USGS mapping project area in south-central Virginia; File = VIRGGAZ

The purpose of this search is to retrieve names that were known to be controversial but the conflict was resolved by the U.S. Board on Geographic Names. These resolved conflicts are located in an irregular specified mapping project. Refer to Example 1 for the preliminary dialogue explaining how to enter a State or data base, as well as how to display the welcome message, enter the help procedure, display GNIS status, and display GNIS messages.

Computer: ?
User : form
Computer: - - - - - - -
User : geonames
Computer: ?
User : select
Computer: - - - - - - -
FULL OR TERM SEARCH?

Explanation: Enter select and the computer will respond with seven dashes and ask if the search is to be full or term.

User : f
Computer: A.

Explanation: Always respond "full" or simply "f" and the computer will print "A." The term search is not available and if a "t" is entered the computer exits GNIS and returns to READY. The letters that the computer prints out are ways of identifying variables or the categories of data which the user wants to search.

User : latlong < 365230n> thru < 371500n>
Computer: GEOGRAPHIC COORDINATES
Computer: B.

Explanation: LATLONG is the name of the data element containing geographic coordinates. Since the southern and northern latitudinal band is desired, a range search is necessary and this is signaled by the word "thru." Angle brackets are used to define specific information desired within a specified data element. If only latlong were typed, every feature with a coordinate would be selected. Note that a space is required between the angle brackets and the first number of the coordinate because multiple data items may be present separated by blanks. There is no space after the "n" because the latitude is only the first

part of each data item in the data element. The computer then prints a "B." signifying that another variable may be entered.

User : latlong <n0772230w> thru <n0780000w>
Computer: GEOGRAPHIC COORDINATES
Computer: C.

Explanation: Another range of coordinates is entered to identify the eastern and western boundaries of the desired area. Note that the coordinates begin with an "n" because it is only a portion of the entire coordinate and the latitude precedes the longitude in the computer. Also, note that a leading zero is necessary for the degrees of longitude because they are less than 100 degress. The computer then prints a C. for entry of the next variable.

User : map < 0441 > thru < 0442 >
Computer: GNIS MAP NO
Computer: D.

Explanation: The two maps lying outside the square area are selected in this variable statement. Because these two maps are adjacent, one may use the thru range. If they were not adjacent, a separate variable letter entry would be necessary for each individual map desired. Please note that these are GNIS map code numbers and are always four digits requiring leading zeros if necessary. The computer prints a D. for the next variable entry. If GNIS map numbers are unknown, one may use the map name or determine the map numbers by searching the USGS Topographic Map Names Data Base. If one uses the map name, then a range search is not possible. Caution should be exercised if the map name is used for a search because map names exist only where the Primary Coordinate occurs. If the existence of any portion of a feature other than the Primary Coordinate is desired, then one must search the data element MAP containing GNIS map numbers.

User : bgn
Computer: BGN DECISION
Computer: E.

Explanation: The data element BGN is entered because only BGN decisions are desired within the selected area. Note that no qualifying specific information is necessary in angle brackets because all BGN decisions in the area are desired. The computer then prints an "E." for the next variable.

```
User     :    name < 12345 >
Computer:     NAME
Computer:     F.
```

Explanation: Always enter the data element name qualified as "12345" in angle brackets as the last desired variable. This will insure that no erroneous names will be selected by the desired search. The computer prints an "F." for the next variable.

```
User     :    (depress carriage return)
Computer:     LOGIC
```

Explanation: Since no more variables are desired a carriage return ends the variable selection procedure.

```
User     :    (((a and b) or c) and d) and not e
Computer:     SEARCH

Computer:     LOGIC
```

Explanation: The word LOGIC is printed by the computer signifying that the system is now ready to receive the selected variables so that only the desired information will be selected. The logic consists of the letters of the defined variables arranged by the three connector words "and," "or," or "not." Since variables "a" and "b" are defining a squared area, the connector "and" is used. Remember that if "and" is used, then the occurrence must be true in each selected record of both variables connected by the "and." The two maps in variable "c" are added to the selected area by the connector "or." Now that the desired area is defined, the fact that only BGN decisions are required in the defined area is indicated by the connector "and." Now that the desired information in the the desired area is defined, all erroneous records or names are excluded by the connectors "and" and "not." Another LOGIC word appears and a carriage return is made initiating the search.

```
User     :    (depress carriage return)
Computer:     (time of day) SEARCH BEGINNING
Computer:     (time of day) SEARCH COMPLETED
Computer:     SEARCHED 30785
Computer:     SELECTED    10      SUBSET 1
Computer:     VARIABLES SATISFIED
Computer:     A         7140
Computer:     B         3303
Computer:     C           55
Computer:     D         1174
Computer:     E          262
```

Explanation: The computer provides statistical information upon completion of the search. Note that all 30,785 records were searched in Virginia and according to the arrangement of variables in the LOGIC statement, 10 records were selected. This means that there are 10 geographic names within the defined area that are BGN decisions, and that none of these 10 records contain erroneous or bad data. Further examination of the variable statistics determines that 7,140 (A) names are within the latitudinal band established across Virginia and 3,303 (B) names are within the longitudinal band; there are 55 (C) names on the two isolated maps outside the square; there are 1,174 (D) BGN decisions in Virginia; and there are 262 (E) bad records in the State.

```
Computer:   ITERATE?
User    :   n
Computer:   ?
```

Explanation: The computer then asks the question ITERATE or does one require any further refinement or data selection from the 10 records selected. The answer is no, and the computer responds with a "?" indicating command level.

```
User    :   sort
Computer:   - - - - - - - -
Computer:   ASCENDING OR DESCENDING ORDER?
```

Explanation: It is desirable to arrange or sort the 10 selected records, which is initiated by the command SORT. The computer responds with the question ASCENDING OR DESCENDING ORDER? This allows the arrangement to be from low to high or vice versa.

```
User    :   a
User    :   map 4.0
User    :   name 25
User    :   /
```

Explanation: The reply "a" signifies ascending and specifies low to high. In this case the records will be arranged by GNIS map number from low to high and secondarily all records on the same map will be arranged alphabetically.

```
Computer:   SORT MESSAGES
Computer:   END OF SORT
```

Explanation: The end of sort message signifies the completion of the sort, and is followed by a ? returning one to command level.

```
Computer:    ?
User     :   print
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User     :   t

             Note:  Sample record

Computer:    ID NUMBER - 51015220
             NAME - Lieutenant Run
             BGN DECISION - 1940
             TYPE OF FEATURE - stream
             STATE/COUNTY FIPS CODE - 51730 51053
             GNIS MAP NO - 0499
             GEOGRAPHIC COORDINATES - 371404N0772350W
             VARIANT NAME(S) - Lieutenant Creek
             SOURCE OF FEATURE (LATLONG) - 371202N0772524W
Computer:    *** (after 20 lines)
User     :   (depress carriage return)
                   or
User     :   /
Computer:    ?

             Explanation:  The command PRINT is typed and the computer
             asks whether to print at the terminal or printer.  The user
             signifies a "t" for terminal or a "p" to direct the output
             to a printer.  The selected information is then printed.
             Note that "***" will occur after 20 lines in the interactive
             version.  To continue printing, simply depress carriage
             return.  To prematurely abort the print, enter a "/" which
             will return the user to command level.

User     :   end (exits file)
```

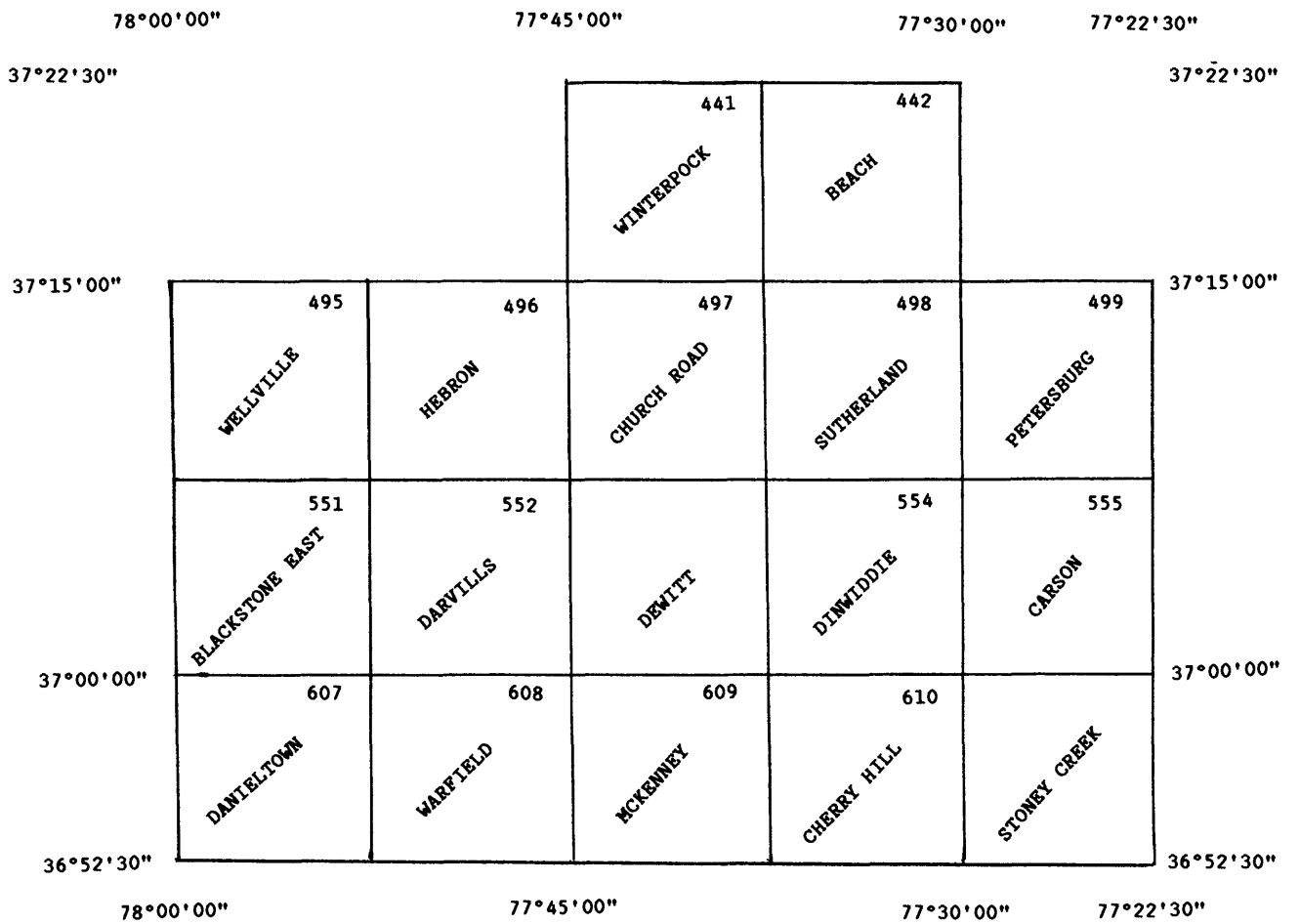

Figure F1.--A project area in south-central Virginia.

Example 4: Further use of the SELECT and ITERATE commands; File = NJERGAZ

Refer to Example 1 for the preliminary dialogue explaining how to enter a State or data base, as well as how to display the welcome message, enter the help procedure, display GNIS status, and display GNIS messages.

```
User     :    form
Computer:     - - - - - - - -
User     :    geonames
Computer:     ?
User     :    select
Computer:     - - - - - - - -
Computer:     FULL OR TERM SEARCH
User     :    f
Computer:     A.
User     :    desig < stream >
Computer:     TYPE OF FEATURE
Computer:     B.
User     :    county < Atlantic >
Computer:     COUNTY NAME
Computer:     C.
User     :    (depress carriage return)
Computer:     LOGIC
User     :    a and b
```

Explanation: All linear overland flowing bodies of water in Atlantic County will be retrieved. The use of the connector "and" indicates that both conditions must be present in a record before it can be retrieved.

```
Computer:     SEARCH
Computer:     LOGIC
User     :    (depress carriage return)
Computer:     (time of day) SEARCH BEGINNING
Computer:     (time of day) SEARCH COMPLETED
Computer:     SEARCHED 10596
              SELECTED   114     SUBSET 1
Computer:     VARIABLES SATISFIED
Computer:     A     1354
Computer:     B      510
```

Explanation: The search statistics indicate that 10596 geographic names were searched and 114 met the criteria established in the logic statement above, that is, there are 114 named features that are streams in Atlantic County. Further statistics indicate that there are a total of 1,354 streams in New Jersey (A) and a total of 510 names (B) in Atlantic County.

```
Computer:     ITERATE?
```

```
User     :    y
```

Explanation: Interactively the system indicates one may perform additional searches on the previously establsihed subset. One must respond with "y" or "n" indicating yes or no. A "y" was typed indicating additional searches are to be performed on the streams in Atlantic County.

```
Computer:    A.
User     :    mapname < Atlantic City >
Computer:    MAP OR CHART NAME
Computer:    B.
User     :    $ < pleasantville >
```

Explanation: The use of the symbol "$" is a shorthand method of repeating information already typed and is used in a manner similar to ditto marks. In this case it means to repeat the data element (label) MAPNAME.

```
Computer:    C.
User     :    (depress carriage return)
Computer:    LOGIC
User     :    a or b
```

Explanation: The system will now search only the streams in Atlantic County to determine if any are located on the USGS topographic maps Atlantic City or Pleasantville.

```
Computer:    SEARCH
Computer:    LOGIC
User     :    (depress carriage return)
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 114
Computer:    SELECTED 6   SUBSET 2
Computer:    VARIABLES SATISFIED
Computer:    A      0
Computer:    B      6
```

Explanation: The previous subset or subset 1, which is just streams in Atlantic County, was searched for any names occurring on the Atlantic City or Pleasantville topographic maps, and 6 records or names were selected. Further examination reveals that there are 0 streams on the Atlantic City map (A) and that there are 6 streams on the Pleasantville map (B).

```
Computer:    ITERATE?
User     :    yl
```

Explanation: The system indicates that further searches may be performed on <u>any</u> subset thus far established. If one wanted to further search the 6 streams on the Pleasantville

map one would simply reply "y." In this case the reply is "y1" indicating that a further search is to be performed on subset 1 which is all the streams in Atlantic County. It should be noted that a return to subset 1 completely erases subset 2 and the next search performed will become the new subset 2.

```
Computer:    A.
User    :    var
Computer:    VARIANT NAME(S)
Computer:    B.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a
```

Explanation: The search will be performed on subset 1 which contains streams in Atlantic County. This search will determine if any of the streams in Atlantic County have any variant names associated with the feature. A variant name is any other known name of the feature or any other spelling of the current name.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
Computer:    SEARCHED 114
Computer:    SELECTED 12   SUBSET 2
Computer:    VARIABLES SATISFIED
Computer:    A         12
```

Explanation: The search of subset 1, or all streams in Atlantic County, reveals that 12 of these features have a known variant associated with it. Please note that this new search is subset 2 and the old subset 2 has been erased. The original subset 1 and the new subset 2 are available for any operation.

```
Computer:    ITERATE?
```

Explanation: The system will allow searches on any existing subset.

```
User    :    n
Computer:    ?
```

Explanation: No further searches or refinements of the data are desired and the system indicates any command may be issued by displaying a "?." The user may issue any of the sort or output commands for subset 2 or may return to subset 1 for sorting or outputting. The user may decide to

retrieve additional data from subsets 1 or 2 or even to search the entire State file in an entirely new search by issuing the SELECT command.

User : end (exits file)

Example 5: Displaying Phase II information and further use of the ITERATE Command; File = NJERGAZ

```
Computer:   ?
User    :   form
Computer:   - - - - - - -
User    :   geonames
Computer:   ?
User    :   select
Computer:   - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   biblio
Computer:   BIBLIOGRAPHIC CODE
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
Computer:   SEARCH
Computer:   LOGIC
User    :   (depress carriage return)
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 10596
Computer:   SELECTED  1798   SUBSET 1
Computer:   VARIABLES SATISFIED
Computer:   A     1798
```

Explanation: The 1,798 retrieved records represent all named features subsequently added after the initial compilation from USGS topographic maps.

```
Computer:   ITERATE?
User    :   y
```

Explanation: Additional searches of the names added during Phase II compilation are desired.

```
Computer:   A.
User    :   county < atlantic >
Computer:   COUNTY NAME
Computer:   B.
User    :   $ < morris >
```

Explanation: The symbol "$" is used in a manner similar to ditto marks to repeat the data element abbreviation. Note that the data element name is not "echoed" when the "$" is used.

```
Computer:   C.
```

```
User     :    (depress carriage return)
Computer:     LOGIC
User     :    a or b
```

Explanation: This search is designed to retrieve names of features compiled during Phase II that are in Atlantic or Morris Counties. Note the use of the connector "or" which signifies that a named feature in either county should be retrieved. If the connector "and" were used, a named feature would have to be in both counties at the same time in order to be retrieved.

```
Computer:     SEARCH
Computer:     LOGIC
User     :    (depress carriage return)
Computer:     (time of day)      SEARCH BEGINNING
Computer:     (time of day)      SEARCH COMPLETED
Computer:     SEARCHED 1798
Computer:     SELECTED  179      SUBSET 2
Computer:     VARIABLES SATISFIED
Computer:     A   59
Computer:     B  120
```

Explanation: This search indicates that 179 name records were added during Phase II compilation in Atlantic and Morris Counties and further indicates that 59 are in Atlantic County (A) and 120 are in Morris County (B).

```
Computer:     ITERATE?
User     :    y1
```

Explanation: A search will be performed on subset 1 which is all names compiled during Phase II, and subset 2 above will be replaced by new information.

```
Computer:     A.
User     :    desig < stream >
Computer:     TYPE OF FEATURE
Computer:     B.
User     :    (depress carriage return)
Computer:     LOGIC
User     :    a
```

Explanation: The search will determine how many streams were added during Phase II compilation.

```
Computer:     SEARCH
Computer:     LOGIC
User     :    (depress carriage return)
Computer:     (time of day)      SEARCH BEGINNING
Computer:     (time of day)      SEARCH COMPLETED
Computer:     SEARCHED 1798
Computer:     SELECTED  112    SUBSET 2
```

```
Computer:    VARIABLES SATISFIED
Computer:    A   112
```

Explanation: There were 112 streams compiled during Phase II. Note that the previous subset 2 has been replaced by a new subset 2 because the iteration was on subset 1.

```
Computer:    ITERATE?
User    :    y
```

Explanation: A search further refining streams added during Phase II is desired. The "y" response without a number following signifies a return to the immediately preceding subset.

```
Computer:    A.
User    :    name < brook >
Computer:    NAME
Computer:    B.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a
```

Explanation: The logic statement indicates that all streams (selected in subset 2) that were added during Phase II (determined in subset 1) that are generically brooks are to be retrieved.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
Computer:    SEARCHED 112
Computer:    SELECTED  54   SUBSET 3
Computer:    VARIABLES SATISFIED
Computer:    A   54
```

Explanation: There were 54 brooks added during Phase II, and now 3 subsets of data are available for searching, sorting, or displaying.

```
Computer:    ITERATE?
User    :    y
```

Explanation: Further information about the brooks added during Phase II is needed.

```
Computer:    A.
User    :    var
Computer:    VARIANT NAME(S)
Computer:    B.
User    :    (depress carriage return)
```

```
Computer:    LOGIC
User     :   a
```

Explanation: A search of subset 3 is desired to determine if any brooks added during Phase II have any known variants or are known by any other name or spelling variations.

```
Computer:    SEARCH
Computer:    LOGIC
User     :   (depress carriage return)
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 54
Computer:    SELECTED  3   SUBSET 4
Computer:    VARIABLES SATISFIED
Computer:    A   3
```

Explanation: There are 3 brooks added during Phase II that have other known names or spelling variation. Now there are 4 subsets that may be searched, sorted, or displayed.

```
Computer:    ITERATE?
User     :   y2
```

Explanation: Other information about streams added during Phase II (subset 2) is required, therefore one returns to subset 2, erasing subsets 3 and 4.

```
Computer:    A.
User     :   name < creek >
Computer:    B.
User     :   (depress carriage return)
Computer:    LOGIC
User     :   not a
```

Explanation: This search is to determine all generic types of streams <u>except</u> creeks added during Phase II.

```
Computer:    SEARCH
User     :   LOGIC
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 112
Computer:    SELECTED  74   SUBSET 3
Computer:    VARIABLES SATISFIED
Computer:    A   38
```

Explanation: The search determined that 74 streams added during Phase II are not creeks and also indicates that 38 are creeks (A). Note that the information retrieved from this search is the <u>new</u> subset 3 and subset 4 has been erased.

```
Computer:    ITERATE?
```

```
User     :    n
```

Explanation: No further searches are required at this time. Each of the subsets will still be available later if needed.

```
Computer:     ?
```

Explanation: Are any other operations to be performed?

```
User     :    sort
Computer:     ASCENDING OR DECENDING ORDER?
User     :    a
User     :    name 25
```

Explanation: The retrieved information in subset 3 above is to be arranged in alphabetical order from a to z using the first 25 characters of each feature name. A "/" terminates input for the sort.

```
Computer:     SORT MESSAGES
Computer:     END OF SORT
Computer:     ?
```

Explanation: Are there other operations to be performed?

```
User     :    print
Computer:     - - - - - - -
Computer:     TERMINAL OR PRINTER
User     :    t
```

Note: Sample records

Note: The computer will stop after 20 lines to allow viewing of the data.

```
Computer:     ID NUMBER - 34008273
              NAME - Anderson Brook
              TYPE OF FEATURE - stream
              STATE/COUNTY FIPS CODE - 34003
              GNIS MAP NO - 0032
              GEOGRAPHIC COORDINATES - 405857N0735713W
              SOURCE OF FEATURE (LATLONG) - 405740N0735547W
              USGS QUADRANGLE CODE - 40073-H8
              COUNTY NAME - Bergen
              FEDERAL STATUS - BGN
              MAP OR CHART NAME - Yonkers
              CENTER OF AREAL FEATURES/MOUTH OF LINEAR FEATURES - 405857N0735713W
              BIBLIOGRAPHIC CODE - NJ-T13
```

Note: Any operation may be performed at any time throughout the session, and the subsets established are always available at any time unless erased by subsequent iterations or selects.

Example 6: Demonstrating the BACK, LIST, and PRINT commands; File = NJERGAZ

```
Computer:    ?
User    :    form
Computer:    - - - - - - -
User    :    geonames
Computer:    ?
User    :    select
Computer:    FULL OR TERM SEARCH
User    :    f
Computer:    A.
User    :    desig < ppl >
Computer:    TYPE OF FEATURE
Computer:    B.
User    :    county < atlantic >
Computer:    C.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a and b
```

Explanation: Retrieve all records that are simultaneously populated places and located in Atlantic County.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
Computer:    SEARCHED 10596
Computer:    SELECTED    65  SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   1823
Computer:    B    510
```

Explanation: A complete search of 10,596 names in New Jersey indicates that 65 are populated places in Atlantic County. Also 1,823 names in the State are populated places (A) and there are 510 names of all categories in Atlantic County (B).

```
Computer:    ITERATE
User    :    y
Computer:    A.
User    :    biblio
Computer:    BIBLIOGRAPHIC CODE
Computer:    B.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    not a
```

Explanation: This search will retrieve information from the subset containing populated places in Atlantic County. The retrieval will establish those names compiled during Phase II and, by the use of the connector "not," eliminate them from this search thereby retrieving only populated places found during Phase I compilation.

```
Computer:   SEARCH
Computer:   LOGIC
User    :   (depress carriage return)
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 65
Computer:   SELECTED 61   SUBSET 2
Computer:   VARIABLES SATISFIED
Computer:   A   4
```

Explanation: Subset 2 now contains populated places compiled during Phase I, and the number compiled during Phase II is indicated (A).

```
Computer:   ITERATE?
User    :   y
Computer:   A.
User    :   mapname < atlantic city >
Computer:   MAP OR CHART NAME
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
```

Explanation: This search of subset 2 will determine how many populated places compiled during Phase I are located on the Atlantic City topographic map.

```
Computer:   SEARCH
Computer:   LOGIC
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 61
Computer:   SELECTED  3   SUBSET 3
Computer:   VARIABLES SATISFIED
Computer:   A   3
```

Explanation: There are 3 populated places compiled during Phase I on the Atlantic City map.

```
Computer:   ITERATE
User    :   n
Computer:   ?
Computer:   BACK
Computer:   - - - - - - -
Computer:   ENTER SUBSET
```

```
User     :    2
Computer:     ?
User     :    sort
Computer:     ASCENDING OR DESCENDING ORDER?
User     :    a
User     :    mapname 25
User     :    name 25
User     :    /
```

Explanation: The information in subset 2, which is populated places in Atlantic County compiled during Phase I, is sorted in order by the name of the topographic map on which the populated places are located, and then secondarily sorted alphabetically by name on the map. In each case the information will be sorted through the first 25 characters. A "/" ends input for the sort. Please remember the computer will not prompt while entering sort parameters.

```
Computer:     SORT MESSAGE
Computer:     END OF SORT
Computer:     ?
User     :    list
Computer:     TERMINAL OR PRINTER?
User     :    t
Computer:     ENTER LABEL(S)
User     :    name
User     :    mapname
User     :    latlong
User     :    elev
```

Explanation: Only the name, map name, geographic coordinates, and elevation or altitude will be displayed. The "/" ends input for the LIST command. Please remember the computer will not prompt while entering the "LIST" parameters.

Note: Sample record

```
Computer:     NAME - Atlantic City
              MAP OR CHART NAME - Atlantic City
              GEOGRAPHIC COORDINATES - 392151N0742524W 392239N0742551W
              ELEVATION (FT) - 8
Computer:     ?
User     :    back
Computer:     - - - - - - -
Computer:     SPECIFY SUBSET NO.
User     :    2
```

Explanation: Further operations are desired on subset 2 after listing selected data elements.

```
Computer:     ?
User     :    sort
```

```
Computer:    ASCENDING OR DESCENDING ORDER?
User     :   a
User     :   name 25
User     :   /
```

Explanation: The information in subset 2 is to be re-sorted alphabetically by feature name from a to z up to 25 characters in each name. Please remember the computer will not prompt while entering sort parameters.

```
Computer:    SORT MESSAGES
Computer:    END OF SORT
Computer:    ?
User     :   print nopage
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User     :   p
Computer:    ENTER A HEADING
User     :   alphabetical listing of ppl compiled during phase I in nj
```

Explanation: After viewing selected information with the LIST command, it was decided to arrange the information in subset 2 alphabetically by name and route all the information to a printer. The use of "nopage" insures that more than one record per page will be printed.

```
Computer:    ?
User     :   end (exits file)
```

Example 7: Use of the COPY command; File = NJERGAZ

```
Computer:    ?
User    :    form
Computer:    - - - - - - - -
User    :    geonames
Computer:    ?
User    :    select
Computer:    - - - - - - - -
Computer:    FULL OR TERM SEARCH?
User    :    f
Computer:    A.
User    :    desig < stream >
Computer:    TYPE OF FEATURE
Computer:    B.
User    :    county < atlantic >
Computer:    COUNTY NAME
Computer:    C.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a and b
```

Explanation: The search will retrieve all features classified as a stream in Atlantic County.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 10596
Computer:    SELECTED   114   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   1354
Computer:    B    510
```

Explanation: The search indicates that 10,596 names in New Jersey were searched and 114 are streams in Atlantic County. In addition, there are 1,354 streams in the State and 510 feature names in Atlantic County.

```
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    sort
Computer:    - - - - - - - -
Computer:    ASCENDING OR DESCENDING ORDER?
User    :    a
User    :    mapname 25
User    :    name 25
User    :    /
```

Explanation: The retrieved information will be arranged alphabetically first by map name then by feature name, thus providing an alphabetical listing by USGS topographic map. The "/" ends input for the SORT command. Please remember the computer will not prompt while entering parameters for sorting.

```
Computer:    SORT MESSAGES
Computer:    END OF SORT
Computer:    ?
User    :    copy
Computer:    - - - - - - -
Computer:    TERMINAL OR WORKFILE?
User    :    t
User    :    ' '
User    :    name   25
User    :    ' '
User    :    latlong   15
User    :    ' '
User    :    mapname   17
User    :    ' '
User    :    'bgn activity'
User    :    ' '
User    :    bgn 'yes'   'no'
User    :    /
```

Explanation: The retrieved information is structured in a fixed format for display. Selected data elements are indicated, followed by a blank and the number of characters to be printed. If more characters exist in the data element, they will be truncated for this display. Information enclosed within literals (up to 10 units per line) will be displayed exactly as entered. The first blank in literals must be present because it is used as a carriage control. The remaining blanks enclosed within literals are for readability in structuring the columnar entries. Note that the characters BGN ACTIVITY are written each time and, according to the last instruction, testing for the existence of data in the BGN field will be accomplished and the words "yes" or "no" will be written after BGN ACTIVITY, depending upon whether any activity has even taken place. The "/" ends input for the COPY command. Please remember the computer will not prompt while entering parameters for the COPY command.

Note: The computer will stop after 20 lines to allow viewing of the data.

```
Computer:  Albertson Brook       394056N0744318W Atsion          BGN ACTIVITY NO
           Brockaways Branch     393801N0744008W Atsion          BGN ACTIVITY NO
           Cedar Brook           394057N0744500W Atsion          BGN ACTIVITY NO
           Clark Branch          394242N0744430W Atsion          BGN ACTIVITY NO
           Drivers Branch        394052N0744423W Atsion          BGN ACTIVITY NO
```

```
Great Swamp Branch     394056N0744318W Atsion           BGN ACTIVITY NO
Gun Branch             394129M0744152W Atsion           BGN ACTIVITY NO
Nescochague Creek      393834N0743930W Atsion           BGN ACTIVITY YES
Nortons Branch         393738N0744127W Atsion           BGN ACTIVITY NO
Petties Branch         393740N0744141W Atsion           BGN ACTIVITY NO
Sleeper Branch         393846N0743933W Atsion           BGN ACTIVITY YES
White Oak Branch       393615N0745331W Buena            BGN ACTIVITY NO
James Branch           392410N0744623W Dorothy          BGN ACTIVITY NO
Mare Run               392909N0744517W Dorothy          BGN ACTIVITY NO
First Branch           393642N0743824W Egg Harbor City  BGN ACTIVITY NO
Lucas Branch           393709M0743740W Egg Harbor City  BGN ACTIVITY NO
Makepeace Stream       393222N0744417W Egg Harbor City  BGN ACTIVITY NO
Second Branch          393632N0743855W Egg Harbor City  BGN ACTIVITY NO
Clarks Mill Stream     393058N0743013W Green Bank       BGN ACTIVITY NO
***
Elliots Creek          393311N0743645W Green Bank       BGN ACTIVITY NO
Fence Creek            393340N0743015W Green Bank       BGN ACTIVITY NO
Indian Cabin Creek     393326N0743611W Green Bank       BGN ACTIVITY NO
Jerry Creek            39334)N0743015W Green Bank       BGN ACTIVITY NO
Landing Creek          393455N0743240W Green Bank       BGN ACTIVITY NO
Morses Mill Stream     393048N0743006W Green Bank       BGN ACTIVITY NO
Negro Creek            393623N0743515W Green Bank       BGN ACTIVITY NO
Pine Creek             393551N0743440W Green Bank       BGN ACTIVITY YES
Rubins Run             393504N0743349W Green Bank       BGN ACTIVITY NO
Tarkiln Branch         393404N0743043W Green Bank       BGN ACTIVITY NO
Teal Creek             393440N0743238W Green Bank       BGN ACTIVITY NO
Union Creek            393252N0743730W Green Bank       BGN ACTIVITY NO
Abrams Creek           391838N0744409W Marmora          BGN ACTIVITY NO
Babcock Creek          391837N0744113W Marmora          BGN ACTIVITY NO
Big Greaves Creek      391829N0744342W Marmora          BGN ACTIVITY NO
Cedar Hammocks Creek   391912N0744032W Marmora          BGN ACTIVITY NO
Charley Creek          391842N0744409W Marmora          BGN ACTIVITY NO


Commando Creek         391829N0744005W Marmora          BGN ACTIVITY NO
English Creek          391949N0744042W Marmora          BGN ACTIVITY NO
Flat Creek             391840N0744116W Marmora          BGN ACTIVITY NO
```

User : /

Explanation: After 20 lines of display the output will pause to allow a review of the information. To continue, simply depress a carriage return. To prematurely abort a display, the user enters a "/" and the system returns to command entry level or "?."

```
Computer:  ?
Computer:  BACK
Computer:  SPECIFY SUBSET NO.
User    :  1
Computer:  ?
User    :  copy
Computer:  - - - - - - -
```

```
Computer:    TERMINAL OR WORKFILE?
User     :   w
Computer:    ENTER A HEADING
User     :   streams in atlantic county
User     :   ' '
User     :   name 25
User     :   ' '
User     :   desig 9
User     :   ' '
User     :   status 10
User     :   ' '
User     :   latlong 15
User     :   ' '
User     :   source 15
User     :   ' '
User     :   mapname 25
User     :   /
```

Explanation: After reviewing a sample fixed field output, it is decided to return to subset 1 for additional processing. A more formal output is indicated and directed to a printer for later use. The "/" terminates input to the COPY command. Please remember the computer will not prompt while entering parameters to the COPY command.

```
Computer:    END (exits file)
```

Example 8: Use of the COUNT command; File = NJERGAZ

```
Computer:    ?
User    :    form
Computer:    - - - - - - - -
User    :    geonames
Computer:    ?
User    :    select
Computer:    FULL OR TERM SEARCH?
User    :    f
Computer:    A.
User    :    desig
Computer:    TYPE OF FEATURE
Computer:    B.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 10596
Computer:    SELECTED 10596   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   10596
```

Explanation: The entire State is searched for all records that contain a feature class. The search results indicate that all names or records in the State are classified into one of the 62 GNIS feature classes.

```
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    count
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    t
Computer:    ENTER LABELS
User    :    desig  9
User    :    /
```

Explanation: The COUNT command is issued because the number of occurrences for each of the 62 GNIS feature classes is desired. Each occurrence (62 categories) is arranged alphabetically and the frequency or number of features in each category is listed. The "/" terminates input to the COUNT command. Please remember the computer will not prompt while in the COUNT command.

```
Computer:  SORT MESSAGES
Computer:    VALUE              FREQUENCY
             AIRPORT                  280
             BAR                       36
             BASIN                      6
             BAY                      150
             BEACH                     32
             BEND                       1
             BRIDGE                    47
             BUILDING                  23
             CANAL                     43
             CAPE                     210
             CEMETERY                 431
             CHANNEL                  256
             CHURCH                   402
             CIVIL                    253
             CLIFF                      5
             DAM                      503
             FALLS                      5
             FLAT                      12

             FOREST                    14
             GAP                        5
             GUT                      103
             HARBOR                    21
             HOSPITAL                  58
             ISLAND                   196
             LAKE                     363
             LOCALE                  1081
             MINE                       4
             OTHER                    120
             PARK                     396
             PILLAR                     3
             PPL                     1823
             RANGE                      7
             RESERVOIR                701
             RIDGE                      5
             ROCK                       1
             SCHOOL                  1383
             SEA                        1

             SPRING                     1
             STREAM                  1354
             SUMMIT                   151
             SWAMP                     65
             TANK                       1
             TRAIL                      3
             TUNNEL                     2
             VALLEY                    21
             WOODS                      4
Computer:    ?
User     :   end (exits file)
```

Example 9: Use of the TOTAL command; File = NJERGAZ

```
Computer:   ?
User    :   form
Computer:   - - - - - - - -
User    :   geonames
Computer:   ?
User    :   select
Computer:   - - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   elev
Computer:   ELEVATION (FT)
```

Explanation: All features containing any elevation will be retrieved.

```
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
Computer:   SEARCH
Computer:   LOGIC
User    :   (depress carriage return)
Computer:   (time of day)      SEARCH BEGINNING
Computer:   (time of day)      SEARCH COMPLETED
Computer:   SEARCHED 10596
Computer:   SELECTED  3356   SUBSET 1
Computer:   VARIABLES SATISFIED
Computer:   A   3356
```

Explanation: There are 3,356 named features selected from a search of the State that have an elevation associated with the feature.

```
Computer:   ITERATE?
User    :   n
Computer:   ?
User    :   total
Computer:   - - - - - - - -
User    :   elev
User    :   /
```

Explanation: All the features in New Jersey that have a recorded elevation in GNIS will be added, averaged, and totaled. The display includes numbers of features with elevations, the sum, the average, the maximum, the minimum, and the totals. A "/" terminates input for the TOTAL command. Please remember that the computer will not prompt while in the TOTAL command.

Computer:

LABEL	(N)	SUM	AVE	MAX	MIN
ELEV	3356	663,800	197.79499	2,000	2
TOTAL	3356	663,800	197.79499	2,000	2

Example 10: Optional searches: Use of relational operations, within range, and multiple occurrences; Files = NJERGAZ, CALIGAZ

```
Computer:   ?
User    :   form
Computer:   - - - - - - - -
User    :   geonames
Computer:   ?
User    :   select
Computer:   - - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   elev  eq  1000
Computer:   ELEVATION (FT)
Computer:   B.
User    :   $ gt 1000
Computer:   C.
User    :   $ lt 1000
Computer:   D.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a or b or c
Computer:   SEARCH
Computer:   LOGIC
User    :   (depress carriage return)
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 10596
Computer:   SELECTED  3356 SUBSET  1
Computer:   VARIABLES SATISFIED
Computer:   A    6
Computer:   B   61
Computer:   C 3289
```

Explanation: The search accomplished two objectives. The number of features in New Jersey with elevations was determined (subset 1), which could have also been determined by a search for the existence of elevation. This search, however, also indicates that 6 features are equal to 1,000 (A), 61 are greater than 1,000 (B), and 3,289 are less than 1,000 (C).

```
Computer:   ITERATE?
User    :   y
Computer:   A.
User    :   desig  < ppl >
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
Computer:   SEARCH
```

```
Computer:    LOGIC
User     :   (depress carriage return)
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 3356
Computer:    SELECTED 1804
Computer:    VARIABLES SATISFIED
Computer:    A   1804
```

Explanation: The iteration determined that 1,804 populated places have elevations. Any number and variations requiring elevations may now be accomplished by searching subset 1.

```
Computer:    ITERATE?
User     :   n
Computer:    ?
User     :   select
Computer:    - - - - - - - -
Computer:    FULL OR TERM SEARCH?
User     :   f
Computer:    A.
User     :   name < point > wi 2 < point >
Computer:    NAME
Computer:    B.
User     :   (depress carriage return)
Computer:    LOGIC
User     :   a
Computer:    SEARCH
Computer:    LOGIC
User     :   (depress carriage return)
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 10596
Computer:    SELECTED     1 SUBSET     1
Computer:    VARIABLES SATISFIED
Computer:    A   1
```

Explanation: The search is intended to locate any entries in the name field where the word "point" is within two or less words of another word "point." The purpose is to find names with a double generic within two words of each other.

```
Computer:    ITERATE?
User     :   n
Computer:    ?
User     :   print
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User     :   t
Computer:    ID NUMBER - 34008575
             NAME - Point No Point Reach
             TYPE OF FEATURE - channel
             STATE/COUNTY FIPS CODE - 34013 34017
```

```
                GNIS MAP NO - 0053
                GEOGRAPHIC COORDINATES - 404350N0740707W
                USGS QUADRANGLE CODE - 40074-F1
                COUNTY NAME - Essex
                FEDERAL STATUS - BGN
                CHART OR MAP NAME - Jersey City
                CENTER OF AREAL FEATURES/MOUTH OR LINEAR FEATURES - 404350N0740707W
                BIBLIOGRAPHIC CODE - NJ-M1
User     :      end (exits file)
Computer:       GIPSY MESSAGE
Computer:       WOULD YOU LIKE TO ACCESS ANOTHER FILE (YES/NO)?
User     :      yes
Computer:       PLEASE ENTER THE FILE NAME>
User     :      caligaz

                Note:  The user has selected another State file (CALIGAZ)
                for search and retrieval.

Computer:       ?
User     :      select
Computer:       - - - - - - - -
Computer:       FULL OR TERM SEARCH?
User     :      f
Computer:       A.
User     :      name < fork > 4
Computer:       name
Computer:       B.
User     :      $ < fork > 3
Computer:       C.
User     :      $ < fork > 2
Computer:       D.
User     :      (depress carriage return)
Computer:       LOGIC
User     :      a or b or c

                Explanation:  This search is designed to find entries with
                multiple occurrences of character strings.  In this case the
                search will determine if there are entries with the generic
                fork repeated four, three, or two times within the name of
                the feature.

Computer:       SEARCH
Computer:       LOGIC
User     :      (depress carriage return)
Computer:       (time of day)      SEARCH BEGINNING
Computer:       (time of day)      SEARCH COMPLETED
Computer:       SEARCHED 62365
Computer:       SELECTED    30  SUBSET 1
Computer:       VARIABLES SATISFIED
Computer:       A   0
Computer:       B   1
Computer:       C  30
```

```
                Explanation:  The search indicates that there is 1 feature
                with the word fork in the name three times (B) and 30
                features with fork in the name two times (C), but no entries
                have the word fork in the name four times (A).

User     :      PRINT
Computer:       - - - - - - - -
Computer:       TERMINAL OR PRINTER?
User     :      t

                Note:  Sample record

Computer:       ID NUMBER - 06010013
                NAME - East Branch of East Fork of North Fork Trinity River
                TYPE OF FEATURE - stream
                STATE/COUNTY FIPS CODE - 06105
                GNIS MAP NO - 0305 0306
                GEOGRAPHIC COORDINATES - 405334N1230733W
                SOURCE OF FEATURE (LATLONG) - 405509N1230315W
User     :      end (exits file)
Computer:       GIPSY MESSAGE
Computer:       WOULD YOU LIKE TO ACCESS ANOTHER FILE (YES/NO)?
User     :      yes
Computer:       PLEASE ENTER THE FILE NAME>
User     :      njergaz

                Note:  The user has selected another State file (NJERGAZ)
                for search and retrieval.

Computer:       ?
User     :      form
Computer:       - - - - - - - -
User     :      geonames
Computer:       ?
User     :      select
Computer:       - - - - - - - -
Computer:       FULL OR TERM SEARCH?
User     :      f
Computer:       A.
User     :      name < point > wi 3 < reach >
Computer:       name
Computer:       B.
User     :      (depress carriage return)
Computer:       LOGIC
User     :      a

                Explanation:  The purpose of this search is to determine how
                many reaches or straight sections of streams are directly
                associated through the naming process with points of land.

Computer:       SEARCH
Computer:       LOGIC
User     :      (depress carriage return)
Computer:       (time of day)     SEARCH BEGINNING
```

```
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 10596
Computer:    SELECTED     7  SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   7
```

Explanation: There are seven features where river reaches are directly associated with points of land by the naming process.

```
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    list
Computer:    - - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    t
Computer:    ENTER LABEL(S)
User    :    name
User    :    /
```

Note: The computer will stop after 20 lines to allow viewing of the data

```
Computer:    NAME - Bergen Point East Reach
             NAME - Bergen Point West Reach
             NAME - Droyers Point Reach
             NAME - Kearny Point Reach
             NAME - Tremley Point Reach
             NAME - Barley Point Reach
             NAME - Point No Point Reach
```

Example 11: Special searches using the data element History and specialization codes (Appendix D); File = MASSGAZ

```
Computer:    ?
User    :    form
Computer:    - - - - - - -
User    :    geonames
Computer:    ?
User    :    select
Computer:    - - - - - - -
Computer:    FULL OR TERM SEARCH?
User    :    f
Computer:    A.
User    :    hist
Computer:    HISTORICAL NOTE
Computer:    B.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a
```

Explanation: This search will retrieve all records for which historical background is known.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
Computer:    SEARCHED 11464
Computer:    SELECTED  1314   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   1314
Computer:    ITERATE?
User    :    y
Computer:    A.
User    :    desig < ppl >
Computer:    TYPE OF FEATURE
Computer:    B.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a
```

Explanation: The search will check only entries with historical information and select those coded as populated places.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
```

```
Computer:    SEARCHED 1314
Computer:    SELECTED  181   SUBSET 2
Computer:    VARIABLES SATISFIED
Computer:    A   181
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    list
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    t
Computer:    ENTER LABEL(S)
User    :    name
User    :    hist
User    :    /
```

Note: Sample records

```
Computer:    NAME - Farnams
             HISTORICAL NOTE - Reported to be named for Farnams Lime
                               Works at Farnams Hill.
             NAME - Van Deusenville
             HISTORICAL NOTE - Reported to be "named for Isaac L. Van
                               Deusen, an early inhabitant" (MGB, 1930).
Computer:    ?
User    :    select
```

Note: When the SELECT command is reissued, the search is performed on the entire file or data base and all established subsets are erased.

```
Computer:    - - - - - - - -
Computer:    FULL OR TERM SEARCH?
User    :    f
Computer:    A.
User    :    spec < 091>
Computer:    SPECIAL CODES
Computer:    B.
User    :    $ <;091>
Computer:    C.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    a or b
```

Explanation: The search will retrieve all names determined to be of French origin (091) in Massachusetts (see Appendix D). Note that two variables must be tested because multiple codes may be present and, if so, they are separated by a semicolon. The connector "or" in the logic statement tests for either case.

```
Computer:    SEARCH
Computer:    LOGIC
```

```
User     :    (depress carriage return)
Computer:     (time of day)      SEARCH BEGINNING
Computer:     (time of day)      SEARCH COMPLETED
Computer:     SEARCHED 11464
Computer:     SELECTED      2  SUBSET 1
Computer:     VARIABLES SATISFIED
Computer:     A    2
Computer:     B    0
```

Explanation: This indicates that two names were determined by researchers to be of French origin. Not all names have been checked, nor can the origin of all names be determined.

```
Computer:     ?
User     :    select
Computer:     - - - - - - - -
Computer:     FULL OR TERM SEARCH?
Computer:     A.
User     :    spec < 113>
Computer:     SPECIAL CODES
Computer:     B.
User     :    $ <;113>
Computer:     C.
User     :    $ < 114>
Computer:     D.
User     :    $ <;114>
Computer:     E.
User     :    $ < 115>
Computer:     F.
User     :    $ <;115>
Computer:     G.
User     :    $ < 116>
Computer:     H.
User     :    $ <;116>
Computer:     I.
User     :    (depress carriage return)
Computer:     LOGIC
User     :    a+b+c+d+e+f+g+h
```

Explanation: The search will test for feature names having three (A,B), four (C,D), five (E,F), or six (G,H) words in the name respectively. Note that in long logic formulations, a coded symbol may be desirable instead of the connector word. The codes are: "+" for "or," "*" for "and," and usually "¬" or "~" for "not" (depending upon the terminal).

```
Computer:     SEARCH
Computer:     LOGIC
User     :    (depress carriage return)
Computer:     (time of day)      SEARCH BEGINNING
Computer:     (time of day)      SEARCH COMPLETED
Computer:     SEARCHED 11464
```

```
Computer:    SELECTED  1163   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   574
Computer:    B   503
Computer:    C    23
Computer:    D    53
Computer:    E     4
Computer:    F     6
Computer:    G     0
Computer:    H     0
```

Explanation: The established subset of retrieved data represents all names in Massachusetts with three, four, and five words. There are 1,077 names with three words (A,B), 76 with four words (C,D), 10 with five words (E,F), and none with six words (G,H).

```
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    select
Computer:    - - - - - - - -
Computer:    FULL OR TERM SEARCH?
User    :    f
Computer:    A.
User    :    spec < 253>
Computer:    SPECIAL CODES
Computer:    B.
User    :    $  <;253>
Computer:    C.
User    :    hist
Computer:    HISTORICAL NOTE
Computer:    D.
User    :    (depress carriage return)
Computer:    LOGIC
User    :    (a or b) and c
```

Explanation: The search will retrieve names that commemorate people who lived prior to 1800 (see Appendix D), but only if there is a historical note associated with the name. Note the use of the parentheses for clarity.

```
Computer:    SEARCH
Computer:    LOGIC
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
Computer:    SEARCHED 11464
Computer:    SELECTED     7   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A     1
Computer:    B    13
Computer:    C  1314
```

Explanation: There are seven records that were named for people who lived before 1800 with an associated historical note. The variables indicate that there are 14 features named for people who lived before 1800, thereby indicating that 7 of these records do not have historical notes associated with them. It is also indicated that there is a total of 1,314 entries with historical notes.

```
Computer:   ITERATE?
User    :   n
Computer:   ?
User    :   list
Computer:   - - - - - - -
Computer:   TERMINAL OR PRINTER?
User    :   t
Computer:   ENTER LABEL(S)
User    :   name
User    :   hist
User    :   /
```

Note: Sample record

```
Computer:   NAME - Turner Falls
            HISTORICAL NOTE - Named for Captain William Turner of Boston
                              who led the massacre of the Indians and
                              fell here on May 19, 1676 (MGB, 1932).
Computer:   ?
User    :   select
Computer:   - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   spec < 253>
Computer:   SPECIAL CODES
Computer:   B. $ <;253>
Computer:   C.
User    :   hist
Computer:   HISTORICAL NOTE
Computer:   D.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   (a or b) and not c
```

Explanation: The purpose of this search is to retrieve and display the names of features named for people who lived before 1800 that have no associated historical note.

```
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 11464
Computer:   SELECTED     7   SUBSET 1
Computer:   VARIABLES SATISFIED
Computer:   A     1
```

```
Computer:    B    13
Computer:    C   134

             Explanation:  The use of the connector "not" instead of
             "and" retrieves the seven records not selected in the above
             search for similar information.

Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    list
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    t
Computer:    ENTER LABEL(S)
User    :    name
User    :    /
Computer:    NAME - Standish Shore
             NAME - Turners Falls
             NAME - Jefferson, Mount
             NAME - King Phillips Lookout
             NAME - Standish
             NAME - Pilgrim Ledge
             NAME - Fort Standish
Computer:    ?
User    :    end (exits file)
```

Example 12: Use of the data element Tag for special sorting; File = NJERGAZ

```
Computer:    ?
User    :    form
Computer:    - - - - - - - -
User    :    geonames
Computer:    ?
User    :    select
Computer:    - - - - - - - -
Computer:    FULL OR TERM SEARCH?
User    :    f
Computer:    A.
User    :    desig < ppl >
Computer:    TYPE OF FEATURE
Computer:    B.
User    :    (depress carriage return)
Computer:    (time of day)     SEARCH BEGINNING
Computer:    (time of day)     SEARCH COMPLETED
Computer:    SEARCHED 10596
Computer:    SELECTED  3523   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   3523
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    sort
Computer:    ASCENDING OR DESCENDING ORDER?
User    :    a
User    :    tag 5.0
User    :    /
```

Explanation: The purpose of this sort is to arrange feature names in alphabetical order according to BGN sort rules instead of the computer sorting algorithm. TAG contains codes and should be used only for sorting purposes. The TAG sort may be used only for arranging feature names.

Example:	(computer sort)	(TAG sort)
	Big Creek	Bigalcove
	Big Mountain	Big Creek
	Bigalcove	Big Mountain
	Mill Creeks	Millcreek
	Millcreek	Mill Creeks

Example 13: USGS Topographic Map Names Data Base; File = VIRGQUA

```
Computer:   WOULD YOU LIKE TO ACCESS ANOTHER FILE (YES/NO)?
User    :   yes
Computer:   PLEASE ENTER THE FILE NAME>
User    :   virgqua
```

Note: The user has elected to enter another file name and by following the naming convention with "qua" has entered the USGS Topographic Map Names Data Base.

```
Computer:   GIPSY MESSAGE
Computer:   ?
User    :   form
Computer:   - - - - - - - -
User    :   geonames
Computer:   ?
User    :   select
Computer:   - - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   map < 441 > thru < 442 >
Computer:   GNIS MAP NO.
Computer:   B.
User    :   $ < 495 > thru < 499 >
Computer:   C.
User    :   $ < 551 > thru < 555 >
Computer:   D.
User    :   $ < 607 > thru < 611 >
Computer:   E.
```

Explanation: The topographic maps indicated by GNIS map numbers will be retrieved. Please note that in the USGS Topographic Map Names Data Base map numbers do not have leading zeros.

```
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a+b+c+d
```

Explanation: This example will enable one to determine the names of topographic maps if only the GNIS map number is known. This search will retrieve the names of the topographic maps in Example 3, a project in south-central Virginia. The range search may be used for consecutive map numbers. Note the use of "+," the code for "or," in the logic.

```
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
```

```
Computer:    SEARCHED 807
Computer:    SELECTED  17   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   2
Computer:    B   5
Computer:    C   5
Computer:    D   5
Computer:    ITERATE?
User    :    n
Computer:    ?
User    :    sort
Computer:    - - - - - - - -
Computer:    ASCENDING OR DESCENDING ORDER?
User    :    a
User    :    map 4.0
User    :    /
Computer:    SORT MESSAGES
Computer:    END OF SORT
Computer:    ?
User    :    list
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    t
Computer:    ENTER LABEL(S)
User    :    name
User    :    map
User    :    coord
User    :    /
```

This example may be used in conjunction with Example 3, a project in south-central Virginia.

Explanation: The map name, GNIS map number, and the southeast corner coordinate will be displayed.

Note: Sample records

```
Computer:    QUADRANGLE NAME - FAIRFAX
             GNIS MAP NO -  61
             LAT/LONG(SE CORNER)-QUAD SIZE(MINUTES) - 3845N07715W

             QUADRANGLE NAME - WINTERPOCK
             GNIS MAP NO - 441
             LAT/LONG(SE CORNER)-QUAD SIZE(MINUTES) - 3715N07737W

             QUADRANGLE NAME - BEACH
             GNIS MAP NO - 442
             LAT/LONG(SE CORNER)-QUAD SIZE(MINUTES) - 3715N07730W

             QUADRANGLE NAME - WELLVILLE
             GNIS MAP NO - 495
             LAT/LONG(SE CORNER)-QUAD SIZE(MINUTES) - 3707N07752W
Computer:    ?
User    :    end (exits file)
```

Example 14: Generic Data Base; File = DESIGNA

```
Computer:    ?
User     :   form
Computer:    - - - - - - - -
User     :   geonames
Computer:    ?
User     :   select
Computer:    - - - - - - - -
Computer:    FULL OR TERM SEARCH?
User     :   f
Computer:    A.
User     :   desig < swamp >
Computer:    TYPE OF FEATURE
Computer:    B.
User     :   (depress carriage return)
Computer:    LOGIC
User     :   a
Computer:    (time of day)      SEARCH BEGINNING
Computer:    (time of day)      SEARCH COMPLETED
Computer:    SEARCHED 1348
Computer:    SELECTED   42   SUBSET 1
Computer:    VARIABLES SATISFIED
Computer:    A   42
```

Explanation: The search indicates that there are currently 42 known types of features that are characteristically swamp-like and are therefore classified as swamp in GNIS.

```
Computer:    ITERATE?
User     :   n
Computer:    ?
User     :   sort
Computer:    - - - - - - - -
Computer:    ASCENDING OR DESCENDING ORDER?
User     :   a
User     :   word 25
User     :   /
Computer:    SORT MESSAGES
Computer:    END OF SORT
Computer:    ?
User     :   list
Computer:    - - - - - - - -
Computer:    TERMINAL OR PRINTER?
User     :   t
Computer:    ENTER LABEL(S)
User     :   word
User     :   /
```

Explanation: The generic or type of swamp-like feature will be displayed in alphabetical order.

Note: The computer will stop after 20 lines to allow viewing of the data

Computer:

```
GENERIC SHOWN ON MAP - Baygall
GENERIC SHOWN ON MAP - Baygul
GENERIC SHOWN ON MAP - Bog
GENERIC SHOWN ON MAP - Bogan
GENERIC SHOWN ON MAP - Brake
GENERIC SHOWN ON MAP - Cienaga
GENERIC SHOWN ON MAP - Deadening
GENERIC SHOWN ON MAP - Dismal
GENERIC SHOWN ON MAP - Everglade
GENERIC SHOWN ON MAP - Fen

GENERIC SHOWN ON MAP - Flatwoods
GENERIC SHOWN ON MAP - Floodplain
GENERIC SHOWN ON MAP - Fly
GENERIC SHOWN ON MAP - Heath
GENERIC SHOWN ON MAP - Interfluve
GENERIC SHOWN ON MAP - Intervale
GENERIC SHOWN ON MAP - Lagoon (vegetation)
GENERIC SHOWN ON MAP - Logan
GENERIC SHOWN ON MAP - Lowmoor
GENERIC SHOWN ON MAP - Mangrove

GENERIC SHOWN ON MAP - Marais
GENERIC SHOWN ON MAP - Mareman
GENERIC SHOWN ON MAP - Marsh
GENERIC SHOWN ON MAP - Mire
GENERIC SHOWN ON MAP - Morais
GENERIC SHOWN ON MAP - Morass
GENERIC SHOWN ON MAP - Moremma
GENERIC SHOWN ON MAP - Muskeg
GENERIC SHOWN ON MAP - Pocosin
GENERIC SHOWN ON MAP - Quagmire

GENERIC SHOWN ON MAP - Quaking Bay
GENERIC SHOWN ON MAP - Sedge
GENERIC SHOWN ON MAP - Slash
GENERIC SHOWN ON MAP - Slue (not open channel)
GENERIC SHOWN ON MAP - Strand
GENERIC SHOWN ON MAP - Suck
GENERIC SHOWN ON MAP - Swamp
GENERIC SHOWN ON MAP - Tarai
GENERIC SHOWN ON MAP - Tidal Marsh
GENERIC SHOWN ON MAP - Tule

GENERIC SHOWN ON MAP - Tulelands
GENERIC SHOWN ON MAP - Vly
```

```
Computer:   ?
User    :   iterate
Computer:   - - - - - - - -
Computer:   SPECIFY SUBSET NO.
User    :   1
Computer:   A.
User    :   hist
Computer:   GENERIC SOURCE, TYPE, AND USE
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
```

Explanation: The subset of swamp-like generics is queried again for any further information regarding unusual usage or reason for use.

```
Computer:   SEARCH
Computer:   LOGIC
User    :   (depress carriage return)
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 42
Computer:   SELECTED  6   SUBSET 2
Computer:   VARIABLES SATISFIED
Computer:   A   6
```

Explanation: There are six generics of swamp-like features that are used in an unusual manner and therefore have a textual explanation.

```
Computer:   ITERATE?
User    :   n
Computer:   ?
User    :   print
Computer:   - - - - - - - -
Computer:   TERMINAL OR PRINTER?
User    :   t
```

Note: The computer will stop after 20 lines to allow review of the information.

```
Computer:   ID NUMBER - 00001279
            GENERIC SHOWN ON MAP - Baygall
            GNIS FEATURE CLASS - swamp
            PRIMARY COORDINATE LOCATION - center
            GENERIC SOURCE, TYPE, AND USE - refers to a swamp found on
              topographic map 2991, the NE quadrant of the Saratoga,
              Texas 15' map;
```

```
ID NUMBER - 00001078
GENERIC SHOWN ON MAP - Heath
GNIS FEATURE CLASS - swamp
PRIMARY COORDINATE LOCATION - center
GENERIC SOURCE, TYPE, AND USE - an example of the generic
  heath when used to denote a swamp can be found on map
  0569, the NW quadrant of the Blue Hill, Maine 15' map;

ID NUMBER - 00001000
GENERIC SHOWN ON MAP - Strand
GNIS FEATURE CLASS - swamp
PRIMARY COORDINATE LOCATION - center
GENERIC SOURCE, TYPE, AND USE - strand refers to a swampy
  area on map 0890, Immokalee SW, Florida;

ID NUMBER - 00000510
GENERIC SHOWN ON MAP - Suck
GNIS FEATURE CLASS - swamp
PRIMARY COORDINATE LOCATION - center
GENERIC SOURCE, TYPE, AND USE - the generic suck, encountered
  on map 0787, Bug Island, Georgia, refers to a relatively
  small swampy interfluve;

ID NUMBER - 00001284
GENERIC SHOWN ON MAP - Tule
GNIS FEATURE CLASS - swamp
PRIMARY COORDINATE LOCATION - center
GENERIC SOURCE, TYPE, AND USE - refers to a marshland or
  swampy area found on the Sacramento Valley, California
  1:250,000 1911 edition map.  The term is used in the
  United States primarily in California and refers to an
  area of rush, cattail, or sedge type vegetation and is
  also called Tulelands;

ID NUMBER - 00001016
GENERIC SHOWN ON MAP - Vly
GNIS FEATURE CLASS - swamp
PRIMARY COORDINATE LOCATION - center
GENERIC SOURCE, TYPE, AND USE - the generic vly, found on map
  0286, the NE quadrant of the Ohio, New York 15' map, refer
  to a swamp; Vly found on map 0336, the SE quadrant of the
  Piseco Lake, New York 15' map, refers to a stream;

Explanation:  The name of the generic, map on which it was
discovered, the specific feature to which is applied, and
why it is used in an unusual feature is given.

Computer:    ?
User    :    end (exits to data base)
```

Example 15: National Atlas Data Base; File = USATLAS

```
Computer:   ?
User    :   form
Computer:   - - - - - - - -
User    :   usaatlas
Computer:   ?
User    :   select
Computer:   - - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   desig < ppl >
Computer:   TYPE OF FEATURE
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
Computer:   (time of day)     SEARCH BEGINNING
Computer:   (time of day)     SEARCH COMPLETED
Computer:   SEARCHED 40565
Computer:   SELECTED 30266   SUBSET 1
Computer:   VARIABLES SATISFIED
Computer:   A   30266
Computer:   ITERATE?
User    :   n
Computer:   ?
User    :   total
Computer:   - - - - - - - -
User    :   pop
User    :   /
```

Explanation: The population of the populated places will be summed and an average given as well as the minimum and maximum values displayed.

Computer:

LABEL	(N)	SUM	AVE	MAX	MIN
POP	27565	141,252,334	512.433644	8,080,000	1
TOTAL	27565	141,252,334	512.433644	8,080,000	1

```
Computer:   ?
User    :   back
Computer:   - - - - - - - -
Computer:   SPECIFY SUBSET NO.
User    :   1
User    :   sort
Computer:   - - - - - - - -
Computer:   ASCENDING OR DESCENDING ORDER?
User    :   d
User    :   pop 5.0
User    :   /
```

Explanation: The populations are sorted in order from the largest to the smallest.

```
Computer:    SORT MESSAGES
Computer:    END OF SORT
Computer:    ?
User    :    print nopage
Computer:    - - - - - - -
Computer:    TERMINAL OR PRINTER?
User    :    p
Computer:    ENTER A HEADING
User    :    populated places sorted from largest to smallest
Computer:    ?
User    :    end (exits data base)
```

Example 16: Board on Geographic Names Data Base; File = BGNAMES

```
Computer:   ?
User    :   form
Computer:   - - - - - - - -
User    :   geonames
Computer:   ?
User    :   select
Computer:   - - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   loc < 37>
Computer:   STATE/COUNTY FIPS CODE
Computer:   B.
User    :   $ <;47>
Computer:   C.
User    :   $ < 47>
Computer:   D.
User    :   $ <;37>
Computer:   E.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   (a and b) or (c and d)
```

Explanation: The search is designed to retrieve all BGN decisions where the feature is located in both North Carolina (37) and Tennessee (47). Each State is searched under two conditions because multiple entries or data items are separated by a semicolon. The logic is arranged so that first North Carolina counties with associated Tennessee counties is checked (A and B), then Tennessee counties with associated North Carolina counties are checked (C and D). The connector "or" allows for the retrieval of either situation. Note the essential use of parentheses for clarity.

```
Computer:   SEARCH
User    :   logic
Computer:   (depress carriage return)
Computer:   (time of day)      SEARCH BEGINNING
Computer:   (time of day)      SEARCH COMPLETED
Computer:   SEARCHED 27255
Computer:   SELECTED    73  SUBSET 1
Computer:   VARIABLES SATISFIED
Computer:   A   720
Computer:   B   132
Computer:   C   490
Computer:   D    68
```

Explanation: There are 73 BGN decisions that are in both North Carolina and Tennessee. The variables indicate that there are 720 codes that begin with 37 (A), 132 coded 47 that are preceded by a semicolon (B), 490 that begin with 47 (C), and 68 coded 37 that are preceded by a semicolon (D). The entire data base contains 27,255 BGN decisions, but is only complete from 1890 through the first quarter of 1959. The data base should be complete by mid-1984.

```
Computer:    lTERATE?
User    :    n
Computer:    ?
User    :    sort
Computer:    - - - - - - - -
Computer:    ASCENDlNG OR DESCENDlNG ORDER?
User    :    a
User    :    name 25
User    :    /
Computer:    SORT MESSAGES
Computer:    END OF SORT
Computer:    ?
User    :    copy
Computer:    - - - - - - - -
Computer:    TERMlNAL OR WORKFlLE?
User    :    t
User    :    ' '
User    :    name 20
User    :    ' '
User    :    desig 12
User    :    ' '
User    :    state 2
User    :    ' '
User    :    bgn 19
User    :    ' '
User    :    size 25
User    :    /
```

Note: The computer will stop after 20 lines to allow review of the data.

```
Computer:  Appalachian Mountain   range of mou   AL   1923
           Bald Mountains         mountain       NC   1932
           Beechnut Gap           gap            NC   1932
           Big Abrams Gap         gap            NC   1932
           Big Chestnut Bald Pe   peak           NC   1932
           Brier Knob             peak           NC   1932
           Brier Lick Gap         gap            NC   1932
           Brier Lick Knob        peak           NC   1932
           Buck Gap               gap            NC   1932
           Buckeye Gap            gap            NC   1932
           Buckley, Mount         peak           NC   1932
           Camel Hump Knob        peak           NC   1932
           Cammerer Ridge         ridge          NC   1943
```

```
Cammerer, Mount          peak        NC   1943
Chapman, Mount           peak        NC   1926
Charlies Bunion Moun     mountain    NC   1932
Clingmans Dome           mountain    NC   1932
Cold Spring Knob         peak        NC   1932
Collins Gap              gap         NC   1932

Conetoe Creek            stream      NC   1931
Copper Gap               gap         NC   1932
Cumberland river         stream      KY   1931
Dalton Gap               gap         NC   1932
Davis, Mount             mountain    NC   1954
Deals Gap                gap         NC   1932
Deer Creek Gap           gap         NC   1932
Devils Tater Patch P     peak        NC   1932
Doe Knob                 peak        NC   1932
Double Spring Gap        gap         NC   1932
Dry Sluice Gap           gap         NC   1932
Eagle Rocks              cliff       NC   1932
Ekaneetlee Gap           gap         NC   1932
False Gap                gap         NC   1932
Forge Knob               peak        NC   1932
Great Smoky Mountain     mountain    NC   1932
Gregory Bald Peak        peak        NC   1932
Guyot, Mount             peak        NC   1932
Hemlock Knob             peak        NC   1932
Hiwassee River           stream      GA   1895;1892
```

Note: Some feature names are truncated because only the indicated number of characters is printed.

```
Computer:   ?
User    :   select
```

Note: All previously establsihed subsets are erased when the select command is reissued.

```
Computer:   - - - - - - -
Computer:   FULL OR TERM SEARCH?
User    :   f
Computer:   A.
User    :   bgn <;>
Computer:   BGN DECISION
Computer:   B.
User    :   (depress carriage return)
Computer:   LOGIC
User    :   a
```

Explanation: This search will retrieve all records in the U.S that have had more than one BGN action. Note multiple data items are separated by a semicolon in this data base.

```
Computer:   SEARCH
Computer:   LOGIC
```

```
User     :    (depress carriage return)
Computer:     (time of day)      SEARCH BEGINNING
Computer:     (time of day)      SEARCH COMPLETED
Computer:     SEARCHED 27255
Computer:     SELECTED  1780  SUBSET 1
Computer:     VARIABLES SATISFIED
Computer:     A   1780
```

Note: There are 1,780 names that have had more than one BGN action. Remember the data base is currently complete only through 1959.

```
Computer:     ITERATE?
User     :    n
Computer:     ?
User     :    sort
Computer:     ASCENDING OR DESCENDING ORDER?
User     :    d
User     :    bgn 50
User     :    /
Computer:     SORT MESSAGES
Computer:     END OF SORT
Computer:     ?
User     :    list
Computer:     - - - - - - -
Computer:     TERMINAL OR PRINTER?
User     :    t
Computer:     ENTER LABEL(S)
User     :    bgn
User     :    name
User     :    state
User     :    /
```

Explanation: The year of BGN activitiy, name, and State will be displayed in order from the latest to the oldest date of BGN activity.

Note: The computer will stop after 20 lines to allow review of the data.

```
Computer:     BGN DECISION - 1973;1902
              NAME - Free Bayou
              NAME OF STATE (FIPS) - AR

              BGN DECISION - 1966;1954;1943
              NAME - Salmon Bank
              NAME OF STATE (FIPS) - HI

              BGN DECISION - 1959;1954
              NAME - Monahan Creek
              NAME OF STATE (FIPS) - WA
```

```
                BGN DECISION - 1959;1954
                NAME - Delameter Creek
                NAME OF STATE (FIPS) - WA

                BGN DECISION - 1959;1952;1940
                NAME - Pearse Canal
                NAME OF STATE (FIPS) - AK

                BGN DECISION - 1959;1952;1940
                NAME - Tongass Passage
                NAME OF STATE (FIPS) - AK

                BGN DECISION - 1959;1940
                NAME - Deerfoot Lake
                NAME OF STATE (FIPS) - WI

                BGN DECISION - 1959;1940
                NAME - Little Bateau Lake
                NAME OF STATE (FIPS) - WI

                BGN DECISION - 1959;1939
                NAME - Boggy Pond
                NAME OF STATE (FIPS) - WI

                BGN DECISION - 1959;1935
                NAME - Arkansas Creek
                NAME OF STATE (FIPS) - WA

                BGN DECISION - 1959;1912
                NAME - Blake Creek
                NAME OF STATE (FIPS) - WI

                BGN DECISION - 1957;1941
                NAME - Nariz, Sierra de la
                NAME OF STATE (FIPS) - AZ

                BGN DECISION - 1957;1932
                NAME - Abrams Creek
                NAME OF STATE (FIPS) - TN

                BGN DECISION - 1957;1925
                NAME - Kukak Volcano
                NAME OF STATE (FIPS) - AK

                BGN DECISION - 1957;1916
                NAME - Postville
                NAME OF STATE (FIPS) - WI
Computer:       ?
User    :       end (exits data base)
```

APPENDIX G
BATCH SEARCH AND RETRIEVAL EXAMPLES

The following is an example of a search executed via a card deck or card deck image. The underlined characters indicate changes that need to be made in order to tailor the deck for individual use. The first block is the search. The lines that begin at the left are actual card images; the lines that are indented are comments. The comments are for explanation and should not be typed. The second block contains the actual GIPSY commands.

The dictionary name is necessary to allow the programs and procedures to access the different data bases. It is only necessary when submitting card decks or card deck images. Enter one of the dictionary names and its corresponding data base as listed below:

GNISD = National Geographic Names Data Base
QUADD = USGS Topographic Map Names Data Base
DESID = Generic Data Base
ATLAD = National Atlas Data Base
GNISD = Board on Geographic Names Data Base

```
//VG5061GA JOB (XXXXXXXXX),ERNESTO,CLASS=D,
```

VG5061 = your user code. GA = job code (job code can be any characters). X's = nine-digit account number. ERNESTO = name. D = job class (see Responses to Batch Prompts, pages 37 and 38, for explanation).

```
/*JOBPARM L=100
//PROCLIB DD DSN=VG5061Y.PROCLIB
//STEP1 EXEC questran,NAME=DELAGAZ,DNAME=GNISD
```

DELA = GNIS naming convention to execute desired State or data base--change DELAGAZ to other State or data base name if desired.GNISD may be changed to any dictionary.

```
//QUESTRAN.SYSREC DD LABEL=(,,,IN)
//QUESTRAN.SYSRDR DD *
```

Follow the job control language by the desired GIPSY commands and parameters. Remember commands must begin in column 1 and response parameters must begin in column 2. The following example of a batch search is the same search presented in Example 1 on pages 49-52. Note that one must type everything necessary for the search, including variable identifiers and the word logic. Also, an ascending sort is default and SORTD is used in the batch version if a descending sort is required. Note the use of "nopage," which causes more than one record to be printed per page.

```
   form
    geonames
   select
    a. desig < ppl >
    b. name < 12345 >
    logic a and not b
   sort
    name 35
   print nopage
/*
//
```

The same card deck may be used for any batch search by simply replacing the GIPSY commands and parameters with desired search, sort, and output options. For example, if one wanted an alphabetical listing of all named features in a State, the following batch search could be used.

```
form
 geonames
select
 A.  number
 B.  name < 12345>
 LOGIC A AND NOT B

 Explanation:  The search parameters and logic shown here would
 retrieve every valid record in the State file.

sort
 name 30
 loc 5

 Explanation:  The selected data are sorted by name, with any
 identical names being sorted (secondarily) by State/county code.

copy

 Explanation:  The COPY command is issued to allow selected data
 elements to be formatted on one line.

 ' '
 name 47
 ' '
 desig 8
 ' '
 county 12
 ' '
 latlong 15
 ' '
 bgn 4
 ' '
 elev 5
  ' '
 heads 15
 ' '
 map 20

 Explanation:  This produces a line length of 133 (132 + a carriage
 control in column 1).  Fields are written out, and the specified
 number of characters and blanks are inserted between fields with
 the use of literals.

User    :   /*
User    :   //
```

APPENDIX H
FEDERAL INFORMATION PROCESSING STANDARDS (FIPS) CODES

Federal Information Processing Standards (FIPS) codes are taken from the National Bureau of Standards' FIPS-Pub 6-2 (1973 edition). The codes are listed by county within each State. The State numeric and alphabetical codes are listed in the heading for each State. The county and county codes follow in alphabetical order.

STATE NAME: ALABAMA
ABBREVIATION: AL
CODE: 01

Code	County Name
001	AUTAUGA
003	BALDWIN
005	BARBOUR
007	BIBB
009	BLOUNT
011	BULLOCK
013	BUTLER
015	CALHOUN
017	CHAMBERS
019	CHEROKEE
021	CHILTON
023	CHOCTAW
025	CLARKE
027	CLAY
029	CLEBURNE
031	COFFEE
033	COLBERT
035	CONECUH
037	COOSA
039	COVINGTON
041	CRENSHAW
043	CULLMAN
045	DALE
047	DALLAS
049	DE KALB
051	ELMORE
053	ESCAMBIA
055	ETOWAH
057	FAYETTE
059	FRANKLIN
061	GENEVA
063	GREENE
065	HALE
067	HENRY
069	HOUSTON
071	JACKSON
073	JEFFERSON
075	LAMAR
077	LAUDERDALE
079	LAWRENCE
081	LEE
083	LIMESTONE
085	LOWNDES
087	MACON
089	MADISON
091	MARENGO
093	MARION
095	MARSHALL
097	MOBILE
099	MONROE
101	MONTGOMERY
103	MORGAN
105	PERRY
107	PICKENS
109	PIKE
111	RANDOLPH
113	RUSSELL
115	ST. CLAIR
117	SHELBY
119	SUMTER
121	TALLADEGA
123	TALLAPOOSA
125	TUSCALOOSA
127	WALKER
129	WASHINGTON
131	WILCOX
133	WINSTON

STATE NAME: ALASKA
ABBREVIATION: AK
CODE: 02

Code	Division Name
010	ALEUTIAN ISLANDS
020	ANCHORAGE
030	ANGOON
040	BARROW-NORTH SLOPE
050	BETHEL
060	BRISTOL BAY BOROUGH
070	BRISTOL BAY
080	CORDOVA-MCCARTHY
090	FAIRBANKS
100	HAINES
110	JUNEAU
120	KENAI-COOK INLET
130	KETCHIKAN
140	KOBUK
150	KODIAK
160	KUSKOKWIM
170	MATANUSKA-SUSITNA
180	NOME
190	OUTER KETCHIKAN
200	PRINCE OF WALES
210	SEWARD
220	SITKA
230	SKAGWAY-YAKUTAT
240	SOUTHEAST FAIRBANKS
250	UPPER YUKON
260	VALDEZ-CHITINA-WHITTIER
270	WADE HAMPTON
280	WRANGELL-PETERSBURG
290	YUKON-KOYUKUK

Code	Borough Name
809	BRISTOL BAY
818	FAIRBANKS NORTH STAR
827	GREATER ANCHORAGE AREA
836	GREATER JUNEAU
845	GREATER SITKA
854	HAINES
863	KENAI PENINSULA
872	KETCHIKAN GATEWAY
881	KODIAK ISLAND
899	NORTH SLOPE
999	UNORGANIZED

AREA NAME: AMERICAN SAMOA
AREA ABBREVIATION: AS
STATE EQUIVALENT CODE: 60
FIPS 10-3 COUNTRY CODE: AQ

Code	District Name
010	EASTERN
020	MANU'A
030	ROSE ISLAND
040	SWAINS ISLAND
050	WESTERN

STATE NAME: ARIZONA
ABBREVIATION: AZ
CODE: 04

Code	County Name
001	APACHE
003	COCHISE

Code	County Name
005	COCONINO
007	GILA
009	GRAHAM
011	GREENLEE
012	LA PAZ
013	MARICOPA
015	MOHAVE
017	NAVAJO
019	PIMA
021	PINAL
023	SANTA CRUZ
025	YAVAPAI
027	YUMA

STATE NAME: ARKANSAS
ABBREVIATION: AR
CODE: 05

Code	County Name
001	ARKANSAS
003	ASHLEY
005	BAXTER
007	BENTON
009	BOONE
011	BRADLEY
013	CALHOUN
015	CARROLL
017	CHICOT
019	CLARKE
021	CLAY
023	CLEBURNE
025	CLEVELAND
027	COLUMBIA
029	CONWAY
031	CRAIGHEAD
033	CRAWFORD
035	CRITTENDEN
037	CROSS
039	DALLAS
041	DESHA
043	DREW
045	FAULKNER
047	FRANKLIN
049	FULTON
051	GARLAND
053	GRANT
055	GREENE
057	HEMPSTEAD
059	HOT SPRING
061	HOWARD
063	INDEPENDENCE
065	IZARD
067	JACKSON
069	JEFFERSON
071	JOHNSON
073	LAFAYETTE
075	LAWRENCE
077	LEE
079	LINCOLN
081	LITTLE RIVER
083	LOGAN
085	LONOKE
087	MADISON
089	MARION
091	MILLER
093	MISSISSIPPI
095	MONROE
097	MONTGOMERY
099	NEVADA
101	NEWTON
103	OUACHITA
105	PERRY
107	PHILLIPS
109	PIKE
111	POINSETT
113	POLK
115	POPE
117	PRAIRIE
119	PULASKI
121	RANDOLPH
123	ST. FRANCIS
125	SALINE
127	SCOTT
129	SEARCY
131	SEBASTIAN
133	SEVIER
135	SHARP
137	STONE
139	UNION
141	VAN BUREN
143	WASHINGTON
145	WHITE
147	WOODRUFF
149	YELL

STATE NAME: CALIFORNIA
ABBREVIATION: CA
CODE: 06

Code	County Name
001	ALAMEDA
003	ALPINE
005	AMADOR
007	BUTTE
009	CALAVERAS
011	COLUSA
013	CONTRA COSTA
015	DEL NORTE
017	EL DORADO
019	FRESNO
021	GLENN
023	HUMBOLDT
025	IMPERIAL
027	INYO
029	KERN
031	KINGS
033	LAKE
035	LASSEN
037	LOS ANGELES
039	MADERA
041	MARIN
043	MARIPOSA
045	MENDOCINO
047	MERCED
049	MODOC
051	MONO
053	MONTEREY
055	NAPA
057	NEVADA
059	ORANGE
061	PLACER
063	PLUMAS
065	RIVERSIDE
067	SACRAMENTO
069	SAN BENITO
071	SAN BERNARDINO
073	SAN DIEGO
075	SAN FRANCISCO
077	SAN JOAQUIN
079	SAN LUIS OBISPO
081	SAN MATEO
083	SANTA BARBARA
085	SANTA CLARA
087	SANTA CRUZ
089	SHASTA
091	SIERRA
093	SISKIYOU
095	SOLANO
097	SONOMA
099	STANISLAUS
101	SUTTER
103	TEHAMA
105	TRINITY
107	TULARE
109	TUOLUMNE
111	VENTURA
113	YOLO
115	YUBA

STATE NAME: COLORADO
ABBREVIATION: CO
CODE: 08

Code	County Name
001	ADAMS
003	ALAMOSA
005	ARAPAHOE
007	ARCHULETA
009	BACA
011	BENT
013	BOULDER
015	CHAFFEE
017	CHEYENNE
019	CLEAR CREE
021	CONEJOS
023	COSTILLA

Code	County Name
025	CROWLEY
027	CUSTER
029	DELTA
031	DENVER
033	DELORES
035	DOUGLAS
037	EAGLE
039	ELBERT
041	EL PASO
043	FREMONT
045	GARFIELD
047	GILPIN
049	GRAND
051	GUNNISON
053	HINSDALE
055	HUERFANO
057	JACKSON
059	JEFFERSON
061	KIOWA
063	KIT CARSON
065	LAKE
067	LA PLATA
069	LARIMER
071	LAS ANIMAS
073	LINCOLN
075	LOGAN
077	MESA
079	MINERAL
081	MOFFAT
083	MONTEZUMA
085	MONTROSE
087	MORGAN
089	OTERO
091	OURAY
093	PARK
095	PHILLIPS
097	PITKIN
099	PROWERS
101	PUEBLO
103	RIO BLANCO
105	RIO GRANDE
107	ROUTT
109	SAGUACHE
111	SAN JUAN
113	SAN MIGUEL
115	SEDGWICK
117	SUMMIT
119	TELLER
121	WASHINGTON
123	WELD

STATE NAME: CONNECTICUT
ABBREVIATION: CT
CODE: 09

Code	County Name
001	FAIRFIELD
003	HARTFORD
005	LITCHFIELD
007	MIDDLESEX
009	NEW HAVEN
011	NEW LONDON
013	TOLLAND
015	WINDHAM

STATE NAME: DELAWARE
ABBREVIATION: DE
CODE: 10

Code	County Name
001	KENT
003	NEW CASTLE
005	SUSSEX

AREA NAME: DISTRICT OF COLUMBIA
ABBREVIATION: DC
STATE CODE: 11

Code	County Name
001	DISTRICT OF COLUMBIA

STATE NAME: FLORIDA
ABBREVIATION: FL
CODE: 12

Code	County Name
001	ALACHUA
003	BAKER
005	BAY
007	BRADFORD
009	BREVARD
011	BROWARD
013	CALHOUN
015	CHARLOTTE
017	CITRUS
019	CLAY
021	COLLIER
023	COLUMBIA
025	DADE
027	DE SOTO
029	DIXIE
031	DUVAL
033	ESCAMBIA
035	FLAGLER
037	FRANKLIN
039	GADSDEN
041	GILCHRIST
043	GLADES
045	GULF
047	HAMILTON
049	HARDEE
051	HENDRY
053	HERNANDO
055	HIGHLANDS
057	HILLSBOROUGH
059	HOLMES
061	INDIAN RIVER
063	JACKSON
065	JEFFERSON
067	LAFAYETTE
069	LAKE
071	LEE
073	LEON
075	LEVY
077	LIBERTY
079	MADISON
081	MANATEE
083	MARION
085	MARTIN
087	MONROE
089	NASSAU
091	OKALOOSA
093	OKEECHOBEE
095	ORANGE
097	OSCEOLA
099	PALM BEACH
101	PASCO
103	PINELLAS
105	POLK
107	PUTNAM
109	ST. JOHNS
111	ST. LUCIE
113	SANTA ROSA
115	SARASOTA
117	SEMINOLE
119	SUMTER
121	SUWANNEE
123	TAYLOR
125	UNION
127	VOLUSIA
129	WAKULLA
131	WALTON
133	WASHINGTON

STATE NAME: GEORGIA
ABBREVIATION: GA
CODE: 13

Code	County Name
001	APPLING
003	ATKINSON
005	BACON
007	BAKER
009	BALDWIN
011	BANKS
013	BARROW
015	BARTOW
017	BEN HILL
019	BERRIEN
021	BIBB
023	BLECKLEY

Code	County Name
025	BRANTLEY
027	BROOKS
029	BRYAN
031	BULLOCH
033	BURKE
035	BUTTS
037	CALHOUN
039	CAMDEN
043	CANDLER
045	CARROLL
047	CATOOSA
049	CHARLTON
051	CHATHAM
053	CHATTAHOOCHE
055	CHATTOOGA
057	CHEROKEE
059	CLARKE
061	CLAY
063	CLAYTON
065	CLINCH
067	COBB
069	COFFEE
071	COLQUITT
073	COLUMBIA
075	COOK
077	COWETA
079	CRAWFORD
081	CRISP
083	DADE
085	DAWSON
087	DECATUR
089	DE KALB
091	DODGE
093	DOOLY
095	DOUGHERTY
097	DOUGLAS
099	EARLY
101	ECHOLS
103	EFFINGHAM
105	ELBERT
107	EMANUAL
109	EVANS
111	FANNIN
113	FAYETTE
115	FLOYD
117	FORSYTH
119	FRANKLIN
121	FULTON
123	GILMER
125	GLASCOCK
127	GLYNN
129	GORDON
131	GRADY
133	GREENE
135	GWINNETT
137	HABERSHAM
139	HALL
141	HANCOCK
143	HARALSON
145	HARRIS
147	HART
149	HEARD
151	HENRY
153	HOUSTON
155	IRWIN
157	JACKSON
159	JASPER
161	JEFF DAVIS
163	JEFFERSON
165	JENKINS
167	JOHNSON
169	JONES
171	LAMAR
173	LANIER
175	LAURENS
177	LEE
179	LIBERTY
181	LINCOLN
183	LONG
185	LOWNDES
187	LUMPKIN
189	MCDUFFIE
191	MCINTOSH
193	MACON
195	MADISON
197	MARION
199	MERIWETHER
201	MILLER
205	MITCHELL
207	MONROE
209	MONTGOMERY
211	MORGAN
213	MURRAY
215	MUSCOGEE
217	NEWTON
219	OCONEE
221	OGLETHORPE
223	PAULDING
225	PEACH
227	PICKENS
229	PIERCE
231	PIKE
233	POLK
235	PULASKI
237	PUTNAM
239	QUITMAN
241	RABUN
243	RANDOLPH
245	RICHMOND
247	ROCKDALE
249	SCHLEY
251	SCREVEN
253	SEMINOLE
255	SPALDING
257	STEPHENS
259	STEWART
261	SUMTER
263	TALBOT
265	TALIAFERRO
267	TATTNALL
269	TAYLOR
271	TELFAIR
273	TERRELL
275	THOMAS
277	TIFT
279	TOOMBS
281	TOWNS
283	TREUTLEN
285	TROUP
287	TURNER
289	TWIGGS
291	UNION
293	UPSON
295	WALKER
297	WALTON
299	WARE
301	WARREN
303	WASHINGTON
305	WAYNE
307	WEBSTER
309	WHEELER
311	WHITE
313	WHITFIELD
315	WILCOX
317	WILKES
319	WILKINSON
321	WORTH

AREA NAME: GUAM
ABBREVIATION: GU
STATE EQUIVALENT CODE: 66
FIPS 10-3 COUNTRY CODE: GQ

Code	County Name
010	GUAM

STATE NAME: HAWAII
ABBREVIATION: HI
CODE: 15

Code	County Name
001	HAWAII
003	HONOLULU
005	KALAWAO
007	KAUAI
009	MAUI

STATE NAME: IDAHO
ABBREVIATION: ID
CODE: 16

Code	County Name
001	ADA

Code	County Name
003	ADAMS
005	BANNOCK
007	BEAR LAK
009	BENEWAH
011	BINGHAM
013	BLAINE
015	BOISE
017	BONNER
019	BONNEVILLE
021	BOUNDARY
023	BUTTE
025	CAMAS
027	CANYON
029	CARIBOU
031	CASSIA
033	CLARK
035	CLEARWATER
037	CUSTER
039	ELMORE
041	FRANKLIN
042	FREMONT
043	GEM
047	GOODING
059	IDAHO
051	JEFFERSON
053	JEROME
055	KOOTENAI
057	LATAH
059	LEMHI
061	LEWIS
063	LINCOLN
065	MADISON
067	MINIDOKA
069	NEZ PERCE
071	ONEIDA
073	OWYHEE
075	PAYETTE
077	POWER
079	SHOSHONE
081	TETON
083	TWIN FALLS
085	VALLEY
087	WASHINGTON

STATE NAME: ILLINOIS
ABBREVIATION: IL
CODE: 17

Code	County Name
001	ADAMS
003	ALEXANDER
005	BOND
007	BOONE
009	BROWN
011	BUREAU
013	CALHOUN
015	CARROLL
017	CASS
019	CHAMPAIGN
021	CHRISTIAN
023	CLARK
025	CLAY
027	CLINTON
029	COLES
031	COOK
033	CRAWFORD
035	CUMBERLAND
037	DE KALB
039	DE WITT
041	DOUGLAS
043	DU PAGE
045	EDGAR
047	EDWARDS
049	EFFINGHAM
051	FAYETTE
053	FORD
055	FRANKLIN
057	FULTON
059	GALLATIN
061	GREENE
063	GRUNDY
065	HAMILTON
067	HANCOCK
069	HARDIN
071	HENDERSON
073	HENRY
075	IROQUOIS
077	JACKSON
079	JASPER
081	JEFFERSON
083	JERSEY
085	JO DAVIESS
087	JOHNSON
089	KANE
091	KANKAKEE
093	KENDALL
095	KNOX
097	LAKE
099	LA SALLE
101	LAWRENCE
103	LEE
105	LIVINGSTON
107	LOGAN
109	MCDONOUGH
111	MCHENRY
113	MCLEAN
115	MACON
117	MACOUPIN
119	MADISON
121	MARION
123	MARSHALL
125	MASON
127	MASSAC
129	MENARD
131	MERCER
133	MONROE
135	MONTGOMERY
137	MORGAN
139	MOULTRIE
141	OGLE
143	PEORIA
145	PERRY
147	PIATT
149	PIKE
151	POPE
153	PULASKI
155	PUTNAM
157	RANDOLPH
159	RICHLAND
161	ROCK ISLAND
163	ST CLAIR
165	SALINE
167	SANGAMON
169	SCHUYLER
171	SCOTT
173	SHELBY
175	STARK
177	STEPHENSON
179	TAZEWELL
181	UNION
183	VERMILION
185	WABASH
187	WARREN
189	WASHINGTON
191	WAYNE
193	WHITE
195	WHITESIDE
197	WILL
199	WILLIAMSON
201	WINNEBAGO
203	WOODFORD

STATE NAME: INDIANA
ABBREVIATION: IN
CODE: 18

Code	County Name
001	ADAMS
003	ALLEN
005	BARTHOLEMEW
007	BENTON
009	BLACKFORD
011	BOONE
013	BROWN
015	CARROLL
017	CASS
019	CLARK
021	CLAY
023	CLINTON
025	CRAWFORD
027	DAVIESS
029	DEARBORN
031	DECATUR

Code	County Name
033	DE KALB
035	DELAWARE
037	DUBOIS
039	ELKHART
041	FAYETTE
043	FLOYD
045	FOUNTAIN
047	FRANKLIN
049	FULTON
051	GIBSON
053	GRANT
055	GREENE
057	HAMILTON
059	HANCOCK
061	HARRISON
063	HENDRICKS
065	HENRY
067	HOWARD
069	HUNTINGTON
071	JACKSON
073	JASPER
075	JAY
077	JEFFERSON
079	JENNINGS
081	JOHNSON
083	KNOX
085	KOSCIUSKO
087	LAGRANGE
089	LAKE
091	LA PORTE
093	LAWRENCE
095	MADISON
097	MARION
099	MARSHALL
101	MARTIN
103	MIAMI
105	MONROE
107	MONTGOMERY
109	MORGAN
111	NEWTON
113	NOBLE
115	OHIO
117	ORANGE
119	OWEN
121	PARKE
123	PERRY
125	PIKE
127	PORTER
129	POSEY
131	PULASKI
133	PUTNAM
135	RANDOLPH
137	RIPLEY
139	RUSH
141	ST JOSEPH
143	SCOTT
145	SHELBY
147	SPENCER
149	STARKE
151	STEUBEN
153	SULLIVAN
155	SWITZERLAND
157	TIPPECANOE
159	TIPTON
161	UNION
163	VANDERBURGH
165	VERMILLION
167	VIGO
169	WABASH
171	WARREN
173	WARRICK
175	WASHINGTON
177	WAYNE
179	WELLS
181	WHITE
183	WHITLEY

STATE NAME: IOWA
ABBREVIATION: IA
CODE: 19

Code	County Name
001	ADAIR
003	ADAMS
005	ALLAMAKEE
007	APPANOOSE
009	AUDUBON
011	BENTON
013	BLACK HAWK
015	BOONE
017	BREMER
019	BUCHANAN
021	BUENA VISTA
023	BUTLER
025	CALHOUN
027	CARROLL
029	CASS
031	CEDAR
033	CERRO GORDO
035	CHEROKEE
037	CHICKASAW
039	CLARKE
041	CLAY
043	CLAYTON
045	CLINTON
047	CRAWFORD
049	DALLAS
051	DAVIS
053	DECATUR
055	DELAWARE
057	DES MOINES
059	DICKINSON
061	DUBUQUE
063	EMMET
065	FAYETTE
067	FLOYD
069	FRANKLIN
071	FREMONT
073	GREENE
075	GRUNDY
077	GUTHRIE
079	HAMILTON
081	HANCOCK
083	HARDIN
085	HARRISON
087	HENRY
089	HOWARD
091	HUMBOLDT
093	IDA
095	IOWA
097	JACKSON
099	JASPER
101	JEFFERSON
103	JOHNSONN
105	JONES
107	KEOKUK
109	KOSSUTH
111	LEEK
113	LINN
115	LOUISA
117	LUCAS
119	LYON
121	MADISON
123	MAHASKA
125	MARION
127	MARSHALL
129	MILLS
131	MITCHELL
133	MONONA
135	MONROE
137	MONTGOMERY
139	MUSCATINE
141	O BRIEN
143	OSCEOLA
145	PAGE
147	PALO ALTO
149	PLYMOUTH
151	POCAHONTAS
153	POLK
155	POTTAWATTAMIE
157	POWESHIEK
159	RINGGOLD
161	SAC
163	SCOTT
165	SHELBY
167	SIOUX
169	STORY
171	TAMA
173	TAYLOR
175	UNION
177	VAN BUREN
179	WAPELLO
181	WARREN
183	WASHINGTON
185	WAYNE
187	WEBSTER

Code	County Name
189	WINNEBAGO
191	WINNESHIEK
193	WOODBURY
195	WORTH
197	WRIGHT

AREA NAME: JOHNSTON ATOLL
STATE EQUIVALENT CODE: 67
FIPS 10-3 COUNTRY CODE: JQ
NO COUNTY EQUIVALENT

STATE NAME: KANSAS
ABBREVIATION: KS
CODE: 20

Code	County Name
001	ALLEN
003	ANDERSON
005	ATCHISON
007	BARBER
009	BARTON
011	BOURBON
013	BROWN
015	BUTLER
017	CHASE
019	CHAUTAUQUA
021	CHEROKEE
023	CHEYENNE
025	CLARK
027	CLAY
029	CLOUD
031	COFFEY
033	COMANCHE
035	COWLEY
037	CRAWFORDE
039	DECATUR
041	DICKINSONON
043	DONIPHAN
045	DOUGLAS
047	EDWARDS
049	ELKE
051	ELLIS
053	ELLSWORTH
055	FINNEY
057	FORD
059	FRANKLIN
061	GEARY
063	GOVE
065	GRAHAM
067	GRANT
069	GRAY
071	GREELEY
073	GREENWOOD
075	HAMILTON
077	HARPER
079	HARVEY
081	HASKELL
083	HODGEMAN
085	JACKSON
087	JEFFERSON
089	JEWELL
091	JOHNSON
093	KEARNY
095	KINGMAN
097	KIOWA
099	LABETTE
101	LANE
103	LEAVENWORTH
105	LINCOLN
107	LINN
109	LOGAN
111	LYON
113	MCPHERSON
115	MARION
117	MARSHALL
119	MEADE
121	MIAMI
123	MITCHELL
125	MONTGOMERY
127	MORRIS
129	MORTON
131	NEMAHA
133	NEOSHO
135	NESS
137	NORTON
139	OSAGE
141	OSBORNE
143	OTTAWA
145	PAWNEE
147	PHILLIPS
149	POTTAWATOMIE
151	PRATT
153	RAWLINS
155	RENO
157	REPUBLIC
159	RICE
161	RILEY
163	ROOKS
165	RUSH
167	RUSSELL
169	SALINE
171	SCOTT
173	SEDGWICK
175	SEWARD
177	SHAWNEE
179	SHERIDAN
181	SHERMAN
183	SMITH
185	STAFFORD
187	STANTON
189	STEVENS
191	SUMNER
193	THOMAS
195	TREGO
197	WABAUNSEE
199	WALLACE
201	WASHINGTON
203	WICHITA
205	WILSON
207	WOODSON
209	WYANDOTTE

STATE NAME: KENTUCKY
ABBREVIATION: KY
CODE: 21

Code	County Name
001	ADAIR
003	ALLEN
005	ANDERSON
007	BALLARD
009	BARREN
011	BATH
013	BELL
015	BOONE
017	BOURBON
019	BOYD
021	BOYLE
023	BRACKEN
025	BREATHITT
027	BRECKINRIDGE
029	BULLITT
031	BUTLER
033	CALDWELL
035	CALLOWAY
037	CAMPBELL
039	CARLISLE
041	CARROLL
043	CARTER
045	CASEY
047	CHRISTIAN
049	CLARK
051	CLAY
053	CLINTON
055	CRITTENDEN
057	CUMBERLAND
059	DAVIESS
061	EDMONSON
063	ELLIOTT
065	ESTILL
067	FAYETTE
069	FLEMING
071	FLOYD
073	FRANKLIN
075	FULTON
077	GALLATIN
079	GARRARD
081	GRANT
083	GRAVES
085	GRAYSON
087	GREEN

Code	County Name
089	GREENUP
091	HANCOCK
093	HARDIN
095	HARLAN
097	HARRISON
099	HART
101	HENDERSON
103	HENRY
105	HICKMAN
107	HOPKINS
109	JACKSON
111	JEFFERSON
113	JESSAMINE
115	JOHNSON
117	KENTON
119	KNOTT
121	KNOX
123	LARUE
125	LAUREL
127	LAWRENCE
129	LEE
131	LESLIE
133	LETCHER
135	LEWIS
137	LINCOLN
139	LIVINGSTON
141	LOGAN
143	LYON
145	MCCRACKEN
147	MCCREARY
149	MCLEAN
151	MADISON
153	MAGOFFIN
155	MARION
157	MARSHALL
159	MARTIN
161	MASON
163	MEADE
165	MENIFEE
167	MERCER
169	METCALFE
171	MONROE
173	MONTGOMERY
175	MORGAN
177	MUHLENBERG
179	NELSON
181	NICHOLAS
183	OHIO
185	OLDHAM
187	OWEN
189	OWSLEY
191	PENDLETON
193	PERRY
195	PIKE
197	POWELL
199	PULASKI
201	ROBERTSON
203	ROCKCASTLE
205	ROWAN
207	RUSSELL
209	SCOTT
211	SHELBY
213	SIMPSON
215	SPENCER
217	TAYLOR
219	TODD
221	TRIGG
223	TRIMBLE
225	UNION
227	WARREN
229	WASHINGTON
231	WAYNE
233	WEBSTER
235	WHITLEY
237	WOLFE
239	WOODFORD

STATE NAME: LOUISIANA
ABBREVIATION: LA
CODE: 22

Code	Parish Name
001	ACADIA
003	ALLEN
005	ASCENSION
007	ASSUMPTION
009	AVOYELLES
011	BEAUREGARD
013	BIENVILLE
015	BOSSIER
017	CADDO
019	CALCASIEU
021	CALDWELL
023	CAMERON
025	CATAHOULA
027	CLAIBORNE
029	CONCORDIA
031	DE SOTO
033	EAST BATON ROU
035	EAST CARROLL
037	EAST FELICIANA
039	EVANGELINE
041	FRANKLIN
043	GRANT
045	IBERIA
047	IBERVILLE
049	JACKSON
051	JEFFERSON
053	JEFFERSON DAVIS
055	LAFAYETTE
057	LAFOURCHE
059	LA SALLE
061	LINCOLN
063	LIVINGSTON
065	MADISON
067	MOREHOUSE
069	NATCHITOCHES
071	ORLEANS
073	OUACHITA
075	PLAQUEMINES
077	POINTE COUPEE
079	RAPIDES
081	RED RIVER
083	RICHLAND
085	SABINE
087	ST BERNARD
089	ST CHARLES
091	ST HELENA
093	ST JAMES
095	ST JOHN THE BAPTIST
097	ST LANDRY
099	ST MARTIN
101	ST MARY
103	ST TAMMANY
105	TANGIPAHOA
107	TENSAS
109	TERREBONNE
111	UNION
113	VERMILION
115	VERNON
117	WASHINGTON
119	WEBSTER
121	WEST BATON ROUGE
123	WEST CARROLL
125	WEST FELICIANA
127	WINN

STATE NAME: MAINE
ABBREVIATION: ME
CODE: 23

Code	County Name
001	ANDROSCOGGIN
003	AROOSTOOK
005	CUMBERLAND
007	FRANKLIN
009	HANCOCK
011	KENNEBEC
013	KNOX
015	LINCOLN
017	OXFORD
019	PENOBSCOT
021	PISCATAQUIS
023	SAGADAHOC
025	SOMERSET
027	WALDO
029	WASHINGTON
031	YORK

STATE NAME: MARYLAND
ABBREVIATION: MD
CODE: 24

Code	County Name
001	ALLEGANY
003	ANNE ARUNDEL
005	BALTIMORE
009	CALVERT
011	CAROLINE
013	CARROLL
015	CECIL
017	CHARLES
019	DORCHESTER
021	FREDERICK
023	GARRETT
025	HARFORD
027	HOWARD
029	KENT
031	MONTGOMERY
033	PRINCE GEORGE'S
035	QUEEN ANNE'S
037	ST MARY'S
039	SOMERSET
041	TALBOT
043	WASHINGTON
045	WICOMICO
047	WORCESTER

CODE	INDEPENDENT CITY
510	BALTIMORE

STATE NAME: MASSACHUSETTS
ABBREVIATION: MA
CODE: 25

Code	County Name
001	BARNSTABLE
003	BERKSHIRE
005	BRISTOL
007	DUKES
009	ESSEX
011	FRANKLIN
013	HAMPDEN
015	HAMPSHIRE
017	MIDDLESEX
019	NANTUCKET
021	NORFOLK
023	PLYMOUTH
025	SUFFOLK
027	WORCESTER

STATE NAME: MICHIGAN
ABBREVIATION: MI
CODE: 26

Code	County Name
001	ALCONA
003	ALGER
005	ALLEGAN
007	ALPENA
009	ANTRIM
011	ARENAC
013	BARAGA
015	BARRY
017	BAY
019	BENZIE
021	BERRIEN
023	BRANCH
025	CALHOUN
027	CASS
029	CHARLEVOIX
031	CHEBOYGAN
033	CHIPPEWA
035	CLARE
037	CLINTON
039	CRAWFORD
041	DELTA
043	DICKINSON
045	EATON
047	EMMET
049	GENESEE
051	GLADWIN
053	GOGEBIC
055	GRAND TRAVE
057	GRATIOT
059	HILLSDALE
061	HOUGHTON
063	HURON
065	INGHAM
067	IONIA
069	IOSCO
071	IRON
073	ISABELLA
075	JACKSON
077	KALAMAZOO
079	KALKASKA
081	KENT
083	KEWEENAW
085	LAKE
087	LAPEER
089	LEELANAU
091	LENAWEE
093	LIVINGSTON
095	LUCE
097	MACKINAC
099	MACOMB
101	MANISTEE
103	MARQUETTE
105	MASON
107	MECOSTA
109	MENOMINEE
111	MIDLAND
113	MISSAUKEE
115	MONROE
117	MONTCALM
119	MONTMORENCY
121	MUSKEGON
123	NEWAYGO
125	OAKLAND
127	OCEANA
129	OGEMAW
131	ONTONAGON
133	OSCEOLA
135	OSCODA
137	OTSEGO
139	OTTAWA
141	PRESQUE ISLE
143	ROSCOMMON
145	SAGINAW
147	ST CLAIR
149	ST JOSEPH
151	SANILAC
153	SCHOOLCRAFT
155	SHIAWASSEE
157	TUSCOLA
159	VAN BUREN
161	WASHTENNAW
163	WAYNE
165	WEXFORD

STATE NAME: MIDWAY ISLANDS
STATE EQUIVALENT CODE: 71
FIPS 10-3 COUNTRY CODE: MQ
NO COUNTY EQUIVALENT

STATE NAME: MINNESOTA
ABBREVIATION: MN
CODE: 27

Code	County Name
001	AITKIN
003	ANOKA
005	BECKER
007	BELTRAMI
009	BENTON
011	BIG STONE
013	BLUE EARTH
015	BROWN
017	CARLTON
019	CARVER
021	CASS
023	CHIPPEWA
025	CHISAGO
027	CLAY
029	CLEARWATER
031	COOK
033	COTTONWOOD
035	CROW WING
037	DAKOTA
039	DODGE
041	DOUGLAS
043	FARIBAULT
045	FILLMORE
047	FREEBORN
049	GOODHUE

Code	County Name
051	GRANT
053	HENNEPIN
055	HOUSTON
057	HUBBARD
059	ISANTI
061	ITASCA
063	JACKSON
065	KANABEC
067	KANDIYOHI
069	KITTSON
071	KOOCHICHING
073	LAC QUI PARL
075	LAKE
077	LAKE OF THE
079	LE SUEUR
081	LINCOLN
083	LYON
085	MCLEOD
087	MAHNOMEN
089	MARSHALL
091	MARTIN
093	MEEKER
095	MILLE LACS
097	MORRISON
099	MOWER
101	MURRAY
103	NICOLLET
105	NOBLES
107	NORMAN
109	OLMSTED
111	OTTER TAIL
113	PENNINGTON
115	PINE
117	PIPESTONE
119	POLK
121	POPP
123	RAMSEY
125	RED LAKE
127	REDWOOD
129	RENVILLE
131	RICE
133	ROCK
135	ROSEAU
137	ST LOUIS
139	SCOTT
141	SHERBURNE
143	SIBLEY
145	STEARNES
147	STEELE
149	STEVENS
151	SWIFT
153	TODD
155	TRAVERSE
157	WABASHA
159	WADENA
161	WASECA
163	WASHINGTON
165	WATONWAN
167	WILKIN
169	WINONA
171	WRIGHT
173	YELLOW MEDICINE

STATE NAME: MISSISSIPPI
ABBREVIATION: MS
CODE: 28

Code	County Name
001	ADAMS
003	ALCORN
005	AMITE
007	ATTALA
009	BENTON
011	BOLIVAR
013	CALHOUN
015	CARROLL
017	CHICKASAW
019	CHOCTAW
021	CLAIBORNE
023	CLARKE
025	CLAY
027	COAHOMA
029	COPIAH
031	COVINGTON
033	DE SOTO
035	FORREST
037	FRANKLIN
039	GEORGE
041	GREENE
043	GRENADA
045	HANCOCK
047	HARRISON
049	HINDS
051	HOLMES
053	HUMPHREYS
055	ISSAQUENA
057	ITAWAMBA
059	JACKSON
061	JASPER
063	JEFFERSON
065	JEFFERSON DAV
067	JONES
069	KEMPER
071	LAFAYETTE
073	LAMAR
075	LAUDERDALE
077	LAWRENCE
079	LEAKE
081	LEE
083	LEFLORE
085	LINCOLN
087	LOWNDES
089	MADISON
091	MARION
093	MARSHALL
095	MONROE
097	MONTGOMERY
099	NESHOBA
101	NEWTON
103	NOXUBEE
105	OKTIBBEHA
107	PANOLA
109	PEARL RIVER
111	PERRY
113	PIKE
115	PONTOTOC
117	PRENTISS
119	QUITMAN
121	RANKIN
123	SCOTT
125	SHARKEY
127	SIMPSON
129	SMITH
131	STONE
133	SUNFLOWER
135	TALLAHATCHIE
137	TATE
139	TIPPAH
141	TISHOMINGO
143	TUNICA
145	UNION
147	WALTHALL
149	WARREN
151	WASHINGTON
153	WAYNE
155	WEBSTER
157	WILKINSON
159	WINSTON
161	YALOBUSHA
163	YAZOO

STATE NAME: MISSOURI
ABBREVIATION: MO
CODE: 29

Code	County Name
001	ADAIR
003	ANDREW
005	ARCHISON
007	AUDRAIN
009	BARRY
011	BARTON
013	BATES
015	BENTON
017	BOLLINGER
019	BOONE
021	BUCHANAN
023	BUTLER
025	CALDWELL
027	CALLAWAY
029	CAMDEN
031	CAPE GIRARDEAUVE
033	CARROLL

Code	County Name
035	CARTER
037	CASS
039	CEDAR
041	CHARITON
043	CHRISTIAN
045	CLARK
047	CLAY
049	CLINTON
051	COLE
053	COOPER
055	CRAWFORD
057	DADE
059	DALLAS
061	DAVIESS
063	DE KALB
065	DENT
067	DOUGLAS
069	DUNKLIN
071	FRANKLIN
073	GASCONADETY
075	GENTRY
077	GREENE
079	GRUNDY
081	HARRISON
083	HENRY
085	HICKORY
087	HOLT
089	HOWARD
091	HOWELL
093	IRON
095	JACKSON
097	JASPER
099	JEFFERSON
101	JOHNSON
103	KNOX
105	LACLEDE
107	LAFAYETTE
109	LAWRENCE
111	LEWIS
113	LINCOLN
115	LINN
117	LIVINGSTON
119	MCDONALD
121	MACON
123	MADISON
125	MARIES
127	MARION
129	MERCER
131	MILLER
133	MISSISSIPPI
135	MONITEAU
137	MONROE
139	MONTGOMERY
141	MORGAN
143	NEW MADRID
145	NEWTON
147	NODAWAY
149	OREGON
151	OSAGE
153	OZARK
155	PEMISCOT
157	PERRY
159	PETTIS
161	PHELPS
163	PIKE
165	PLATTE
167	POLK
169	PULASKI
171	PUTNAM
173	RALLS
175	RANDOLPH
177	RAY
179	REYNOLDS
181	RIPLEY
183	ST CHARLES
185	ST CLAIR
187	ST FRANCOIS
189	ST LOUIS
191	STE GENEVIEVE
193	SALINE
195	SCHUYLER
197	SCOTLAND
201	SCOTT
203	SHANNON
205	SHELBY
207	STODDARD
209	STONE
211	SULLIVAN
213	TANEY
215	TEXAS
217	VERNON
219	WARREN
221	WASHINGTON
223	WAYNE
225	WEBSTER
227	WORTH
229	WRIGHT

Code	Independent City
510	ST LOUIS CITY

STATE NAME: MONTANA
ABBREVIATION: MT
CODE: 30

Code	County Name
001	BEAVERHEAD
003	BIG HORN
005	BLAINE
007	BROADWATER
009	CARBON
011	CARTER
013	CASCADE
015	CHOUTEAU
017	CUSTER
019	DANIELS
021	DAWSON
023	DEER LODGE
025	FALLON
027	FERGUS
029	FLATHEAD
031	GALLATIN
033	GARFIELD
035	GLACIER
037	GOLDEN VALLEY
039	GRANITE
041	HILL
043	JEFFERSON
045	JUDITH BASIN
047	LAKE
049	LEWIS AND CLAR
051	LIBERTY
053	LINCOLN
055	MCCONE
057	MADISON
059	MEAGHER
061	MINERAL
063	MISSOULA
065	MUSSELSHELL
067	PARK
069	PETROLEUM
071	PHILLIPS
073	PONDERA
075	POWDER RIVER
077	POWELL
079	PRAIRIE
081	RAVALLI
083	RICHLAND
085	ROOSEVELT
087	ROSEBUD
089	SANDERS
091	SHERIDAN
093	SILVER BOW
095	STILLWATER
097	SWEET GRASS
099	TETON
101	TOOLE
103	TREASURE
105	VALLEY
107	WHEATLAND
109	WIBAUX
111	YELLOWSTONE
113	YELLOWSTONE NATIONAL PARK PART

STATE NAME: NEBRASKA
ABBREVIATION: NE
CODE: 31

Code	County Name
001	ADAMS

Code	County Name
003	ANTELOPE
005	ARTHUR
007	BANNER
009	BLAINE
011	BOONE
013	BOX BUTTE
015	BOYD
017	BROWNN
019	BUFFALO
021	BURT
023	BUTLER
025	CASS
027	CEDAR
029	CHASE
031	CHERRY
033	CHEYENNE
035	CLAY
037	COLFAX
039	CUMING
041	CUSTER
043	DAKOTA
045	DAWES
047	DAWSON
049	DEUEL
051	DIXON
053	DODGE
055	DOUGLAS
057	DUNDY
059	FILLMORE
061	FRANKLIN
063	FRONTIER
065	FURNAS
067	GAGE
069	GARDEN
071	GARFIELD
073	GOSPER
075	GRANT
077	GREELEY
079	HALL
081	HAMILTON
083	HARLAN
085	HAYES
087	HITCHCOCK
089	HOLT
091	HOOKER
093	HOWARD
095	JEFFERSON
097	JOHNSON
099	KEARNY
101	KEITH
103	KEYA PAHA
105	KIMBALL
107	KNOX
109	LANCASTER
111	LINCOLN
113	LOGAN
115	LOUP
117	MCPHERSON
119	MADISON
121	MERRICK
123	MORRILL
125	NANCE
127	NEMAHA
129	NUCKOLLS
131	OTOE
133	PAWNEE
135	PERKINS
137	PHELPS
139	PIERCE
141	PLATTE
143	POLK
145	RED WILLOW
147	RICHARDSON
149	ROCK
151	SALINE
153	SARPY
155	SAUNDERS
157	SCOTTS BLUFF
159	SEWARD
161	SHERIDAN
163	SHERMAN
165	SIOUX
167	STANTON
169	THAYER
171	THOMAS
173	THURSTON
175	VALLEY
177	WASHINGTO
179	WAYNE
181	WEBSTER
183	WHEELER
185	YORK

STATE NAME: NEVADA
ABBREVIATION: NV
CODE: 32

Code	County Name
001	CHURCHILL
003	CLARK
005	DOUGLAS
007	ELKO
009	ESMERALDA
011	EUREKA
013	HUMBOLDT
015	LANDER
017	LINCOLN
019	LYON
021	MINERAL
023	NYE
027	PERSHING
029	STOREY
031	WASHOE
033	WHITE PINE

Code	Independent City
510	CARSON CITY

STATE NAME: NEW HAMPSHIRE
ABBREVIATION: NH
CODE: 33

Code	County Name
001	BELKNAP
003	CARROLL
005	CHESHIRE
007	COOS
009	GRAFTON
011	HILLSBOROUGH
013	MERRIMACK
015	ROCKINGHAM
017	STRAFFORD
019	SULLIVAN

STATE NAME: NEW JERSEY
ABBREVIATION: NJ
CODE: 34

Code	County Name
001	ATLANTIC
003	BERGEN
005	BURLINGTON
007	CAMDEN
009	CAPE MAY
011	CUMBERLAND
013	ESSEX
015	GLOUCESTER
017	HUDSON
019	HUNTERDON
021	MERCER
023	MIDDLESEX
025	MONMOUTH
027	MORRIS
029	OCEAN
031	PASSAIC
033	SALEM
035	SOMERSET
037	SUSSEX
039	UNION
041	WARREN

STATE NAME: NEW MEXICO
ABBREVIATION: NM
CODE: 35

Code	County Name
001	BERNALILLO
003	CATRON
005	CHAVES
006	CIBOLA
007	COLFAX

Code	County Name
009	CURRY
011	DE BACA
013	DONA ANA
015	EDDY
017	GRANT
019	GUADALUPE
021	HARDING
023	HIDALGO
025	LEA
027	LINCOLN
028	LOS ALAMOS
029	LUNA
031	MCKINLEY
033	MORA
035	OTERO
037	QUAY
039	RIO ARRIBA
041	ROOSEVELT
043	SANDOVAL
045	SAN JUAN
047	SAN MIGUEL
049	SANTA FE
051	SIERRA
053	SOCORRO
055	TAOS
057	TORRANCE
059	UNION
061	VALENCIA

STATE NAME: NEW YORK
ABBREVIATION: NY
CODE: 36

Code	County Name
001	ALBANY
003	ALLEGANY
005	BRONX
007	BROOME
009	CATTARAUGUS
011	CAYUGA
013	CHAUTAUQUA
015	CHEMUNG
017	CHENANGO
019	CLINTON
021	COLUMBIA
023	CORTLAND
025	DELAWARE
027	DUTCHESS
029	ERIE
031	ESSEX
033	FRANKLIN
035	FULTON
037	GENESEE
039	GREENE
041	HAMILTON
043	HERKIMER
045	JEFFERSON
047	KINGS
049	LEWIS
051	LIVINGSTON
053	MADISON
055	MONROE
057	MONTGOMERY
059	NASSAU
061	NEW YORK
063	NIAGARA
065	ONEIDA
067	ONONDAGA
069	ONTARIO
071	ORANGE
073	ORLEANS
075	OSWEGO
077	OTSEGO
079	PUTNAM
081	QUEENS
083	RENSSELAER
085	RICHMOND
087	ROCKLAND
089	ST LAWRENCE
091	SARATOGA
093	SCHENECTADY
095	SCHOHARIE
097	SCHUYLER
099	SENECA
101	STEUBEN
103	SUFFOLK
105	SULLIVAN
107	TIOGA
109	TOMPKINS
111	ULSTER
113	WARREN
115	WASHINGTON
117	WAYNE
119	WESTCHESTER
121	WYOMING
123	YATES

STATE NAME: NORTH CAROLINA
ABBREVIATION: NC
CODE: 37

Code	County Name
001	ALAMANCE
003	ALEXANDER
005	ALLEGHANY
007	ANSON
009	ASHE
011	AVERY
013	BEAUFORT
015	BERTIE
017	BLADEN
019	BRUNSWICK
021	BUNCOMBE
023	BURKE
025	CABARRUS
027	CALDWELL
029	CAMDEN
031	CARTERET
033	CASWELL
035	CATAWBA
037	CHATHAM
039	CHEROKEE
041	CHOWAN
043	CLAY
045	CLEVELAND
047	COLUMBUS
049	CRAVEN
051	CUMBERLAND
053	CURRITUCK
055	DARE
057	DAVIDSON
059	DAVIE
061	DUPLIN
063	DURHAM
065	EDGECOMBE
067	FORSYTH
069	FRANKLIN
071	GASTON
073	GATES
075	GRAHAM
077	GRANVILLE
079	GREENE
081	GUILFORD
083	HALIFAX
085	HARNETT
087	HAYWOOD
089	HENDERSON
091	HERTFORD
093	HOKE
095	HYDE
097	IREDELL
099	JACKSON
101	JOHNSTON
103	JONES
105	LEE
107	LENOIR
109	LINCOLN
111	MCDOWELL
113	MACON
115	MADISON
117	MARTIN
119	MECKLENBURG
121	MITCHELL
123	MONTGOMERY
125	MOORE
127	NASH
129	NEW HANOVER
131	NORTHAMPTON
133	ONSLOW
135	ORANGE
137	PAMLICO
139	PASQUOTANK
141	PENDER
143	PERQUIMANS
145	PERSON

Code	County Name
147	PITT
149	POLK
151	RANDOLPH
153	RICHMOND
155	ROBESON
157	ROCKINGHAM
159	ROWAN
161	RUTHERFORD
163	SAMPSON
165	SCOTLAND
167	STANLY
169	STOKES
171	SURRY
173	SWAIN
175	TRANSYLVANIA
177	TYRRELL
179	UNION
181	VANCE
183	WAKE
185	WARREN
187	WASHINGTON
189	WATAUGA
191	WAYNE
193	WILKES
195	WILSON
197	YADKIN
199	YANCEY

STATE NAME: NORTH DAKOTA
ABBREVIATION: ND
CODE: 38

Code	County Name
001	ADAMS
003	BARNES
005	BENSON
007	BILLINGS
009	BOTTINEAU
011	BOWMAN
013	BURKE
015	BURLEIGH
017	CASS
019	CAVALIER
021	DICKEY
023	DIVIDE
025	DUNN
027	EDDY
029	EMMONS
031	FOSTER
033	GOLDEN VA
035	GRAND FOR
037	GRANT
039	GRIGGS
041	HETTINGER
043	KIDDER
045	LA MOURE
047	LOGAN
049	MCHENRY
051	MCINTOSH
053	MCKENZIE
055	MCLEAN
057	MERCER
059	MORTON
061	MOUNTRAIL
063	NELSON
065	OLIVER
067	PEMBINA
069	PEIRCE
071	RAMSEY
073	RANSOM
075	RENVILLE
077	RICHLAND
079	ROLETTE
081	SARGENT
083	SHERIDAN
085	SIOUX
087	SLOPE
089	STARK
091	STEELE
093	STUTSMAN
095	TOWNER
097	TRAILL
099	WALSH
101	WARD
103	WELLS
105	WILLIAMS

AREA NAME: NORTHERN MARIANA ISLANDS
ABBREVIATION: CM
STATE EQUIVALENT CODE: 69
FIPS 10-3 COUNTRY CODE: CQ

Code	County Name
010	MARIANA ISLANDS

STATE NAME: OHIO
ABBREVIATION: OH
CODE: 39

Code	County Name
001	ADAMS
003	ALLEN
005	ASHLAND
007	ASHTABULA
009	ATHENS
011	AUGLAIZE
013	BELMONT
015	BROWN
017	BUTLER
019	CARROLL
021	CHAMPAIGN
023	CLARK
025	CLERMONT
027	CLINTON
029	COLUMBIANA
031	COSHOCTON
033	CRAWFORD
035	CUYAHOGA
037	DARKE
039	DEFIANCE
041	DELAWARE
043	ERIE
045	FAIRFIELD
047	FAYETTE
049	FRANKLIN
051	FULTON
053	GALLIA
055	GEAUGA
057	GREENE
059	GUERNSEY
061	HAMILTON
063	HANCOCK
065	HARDIN
067	HARRISON
069	HENRY
071	HIGHLAND
073	HOCKING
075	HOLMES
077	HURON
079	JACKSON
081	JEFFERSON
083	KNOX
085	LAKE
087	LAWRENCE
089	LICKING
091	LOGAN
093	LORAIN
095	LUCAS
097	MADISON
099	MAHONING
101	MARION
103	MEDINA
105	MEIGS
107	MERCER
109	MIAMI
111	MONROE
113	MONTGOMERY
115	MORGAN
117	MORROW
119	MUSKINGUM
121	NOBLE
123	OTTAWA
125	PAULDING
127	PERRY
129	PICKAWAY
131	PIKE
133	PORTAGE
135	PREBLE
137	PUTNAM
139	RICHLAND
141	ROSS
143	SANDUSKY

Code	County Name
145	SCIOTO
147	SENECA
149	SHELBY
151	STARK
153	SUMMIT
155	TRUMBULL
157	TUSCARAWAS
159	UNION
161	VAN WERT
163	VINTON
165	WARREN
167	WASHINGTON
169	WAYNE
171	WILLIAMS
173	WOOD
175	WYANDOT

STATE NAME: OKLAHOMA
ABBREVIATION: OK
CODE: 40

Code	County Name
001	ADAIR
003	ALFALFA
005	ATOKA
007	BEAVER
009	BECKHAM
011	BLAINE
013	BRYAN
015	CADDO
017	CANADIAN
019	CARTER
021	CHEROKEE
023	CHOCTAW
025	CIMARRON
027	CLEVELAN
029	COAL
031	COMANCHE
033	COTTON
035	CRAIG
037	CREEK
039	CUSTER
041	DELAWARE
043	DEWEY
045	ELLIS
047	GARFIELD
049	GARVIN
051	GRADY
053	GRANT
055	GREER
057	HARMON
059	HARPER
061	HASKELL
063	HUGHES
065	JACKSON
067	JEFFERSO
069	JOHNSTON
071	KAY
073	KINGFISH
075	KIOWA
077	LATIMER
079	LE FLORE
081	LINCOLN
083	LOGAN
085	LOVE
087	MCCLAIN
089	MCCURTAIN
091	MCINTOSH
093	MAJOR
095	MARSHALL
097	MAYES
099	MURRAY
101	MUSKOGEE
103	NOBLE
105	NOWATA
107	OKFUSKEE
109	OKLAHOMA
111	OKMULGEE
113	OSAGE
115	OTTAWA
117	PAWNEE
119	PAYNE
121	PITTSBURG
123	PONTOTOC
125	POTTAWATOMIE
127	PUSHMATAHA
129	ROGER MILLS
131	ROGERS
133	SEMINOLE
135	SEQUOYAH
137	STEPHENS
139	TEXAS
141	TILLMAN
143	TULSA
145	WAGONER
147	WASHINGTON
149	WASHITA
151	WOODS
153	WOODWARD

STATE NAME: OREGON
ABBREVIATION: OR
CODE: 41

Code	County Name
001	BAKER
003	BENTON
005	CLACKAMAS
007	CLATSOP
009	COLUMBIA
011	COOS
013	CROOK
015	CURRY
017	DESCHUTES
019	DOUGLAS
021	GILLIAM
023	GRANT
025	HARNEY
027	HOOD RIVER
029	JACKSON
031	JEFFERSON
033	JOSEPHINE
035	KLAMATH
037	LAKE
039	LANE
041	LINCOLN
043	LINN
045	MALHEUR
047	MARION
049	MORROW
051	MULTNOMAH
053	POLK
055	SHERMAN
057	TILLAMOOK
059	UMATILLA
061	UNION
063	WALLOWA
065	WASCO
067	WASHINGTON
069	WHEELER
071	YAMHILL

STATE NAME: PENNSYLVANIA
ABBREVIATION: PA
CODE: 42

Code	County Name
001	ADAMS
003	ALLEGHENY
005	ARMSTRONG
007	BEAVER
009	BEDFORD
011	BERKS
013	BLAIR
015	BRADFORD
017	BUCKSAND
019	BUTLER
021	CAMBRIAA
023	CAMERON
025	CARBON
027	CENTRE
029	CHESTER
031	CLARION
033	CLEARFIELD
035	CLINTON
037	COLUMBIA
039	CRAWFORD
041	CUMBERLAND
043	DAUPHIN
045	DELAWARE

Code	County Name
047	ELK
049	ERIED
051	FAYETTE
053	FOREST
055	FRANKLIN
057	FULTON
059	GREENE
061	HUNTINGDON
063	INDIANA
065	JEFFERSON
067	JUNIATA
069	LACKAWANNA
071	LANCASTER
073	LAWRENCE
075	LEBANON
077	LEHIGH
079	LUZERNE
081	LYCOMING
083	MCKEAN
085	MERCER
087	MIFFLIN
089	MONORE
091	MONTGOMERY
093	MONTOUR
095	NORTHAMPTON
097	NORTHUMBERLAND
099	PERRY
101	PHILADELPHIA
103	PIKE
105	POTTER
107	SCHUYKILL
109	SNYDER
111	SOMERSET
113	SULLIVAN
115	SUSQUEHANNA
117	TIOGA
119	UNION
121	VENANGO
123	WARREN
125	WASHINGTON
127	WAYNE
129	WESTMORELAND
131	WYOMING
133	YORK

AREA NAME: PUERTO RICO
ABBREVIATION: PR
STATE CODE: 72
FIPS 10-3 COUNTRY CODE: RQ

Code	Municipio Name
001	ADJUNTAS
003	AGUADA
005	AGUADILLA
007	AGUAS BUENAS
009	AIBONITO
011	ANASCO
013	ARECIBO
015	ARROYO
017	BARCELONETA
019	BARRANQUITAS
021	BAYAMON
023	CABO ROJO
025	CAGUAS
027	CAMUY
029	CANOVANAS
031	CAROLINA
033	CATANO
035	CAYEY
037	CEIBA
039	CIALES
041	CIDRA
043	COAMO
045	COMERIO
047	COROZAL
049	CULEBRA
051	DORADO
053	FAJARDO
054	FLORIDA
055	GUANICA
057	GUAYAMA
059	GUAYANILLA
061	GUAYNABO
063	GURABO
065	HATILLO
067	HORMIGUEROS
069	HUMACAO
071	ISABELA
073	JAYUYA
075	JUANA DIAZ
077	JUNCOS
079	LAJAS
081	LARES
083	LAS MARIAS
085	LAS PIEDRAS
087	LOIZA
089	LUQUILLO
091	MANATI
093	MARICAO
095	MAUNABO
097	MAYAGUEZ
099	MOCA
101	MOROVIS
103	NAGUABO
105	NARANJITO
107	OROCOVIS
109	PATILLAS
111	PENUELAS
113	PONCE
115	QUEBRADILLAS
117	RINCON
119	RIO GRANDE
121	SABANA GRANDE
123	SALINAS
125	SAN GERMAN
127	SAN JUAN
129	SAN LORENZO
131	SAN SEBASTIAN
133	SANTA ISABEL
135	TOA ALTA
137	TOA BAJA
139	TRUJILLO ALTO
141	UTUADO
143	VEGA ALTA
145	VEGA BAJA
147	VIEQUES
149	VILLALBA
151	YABUCOA
153	YAUCO

STATE NAME: RHODE ISLAND
ABBREVIATION: RI
CODE: 44

Code	County Name
001	BRISTOL
003	KENT
005	NEWPORT
007	PROVIDENCE
009	WASHINGTON

STATE NAME: SOUTH CAROLINA
ABBREVIATION: SC
CODE: 45

Code	County Name
001	ABBEVILLE
003	AIKEN
005	ALLENDALE
007	ANDERSON
009	BAMBURG
011	BARNWELL
013	BEAUFORT
015	BERKELEY
017	CALHOUN
019	CHARLESTON
021	CHEROKEE
023	CHESTER
025	CHESTERFIELD
027	CLARENDON
029	COLLETON
031	DARLINGTON
033	DILLON
035	DORCHESTER
037	EDGEFIELD
039	FAIRFIELD
041	FLORENCE
043	GEORGETOWN
045	GREENVILLE
047	GREENWOOD
049	HAMPTON
051	HORRY

Code	County Name
053	JASPER
055	KERSHAW
057	LANCASTER
059	LAURENS
061	LEE
063	LEXINGTON
065	MCCORMICK
067	MARION
069	MARLBORO
071	NEWBERRY
073	OCONEE
075	ORANGEBURG
077	PICKENS
079	RICHLAND
081	SALUDA
083	SPARTANBURG
085	SUMTER
087	UNION
089	WILLIAMSBURG
091	YORK

STATE NAME: SOUTH DAKOTA
ABBREVIATION: SD
CODE: 46

Code	County Name
003	AURORA
005	BEADLE
007	BENNETT
009	BON HOMME
011	BROOKINGS
013	BROWN
015	BRULE
017	BUFFALO
019	BUTTE
021	CAMPBELL
023	CHARLES MIX
025	CLARK
027	CLAY
029	CODINGTON
031	CORSON
033	CUSTER
035	DAVISON
037	DAY
039	DEUEL
041	DEWEY
043	DOUGLAS
045	EDMUNDS
047	FALL RIVER
049	FAULK
051	GRANT
053	GREGORY
055	HAAKON
057	HAMLIN
059	HAND
061	HANSON
063	HARDING
065	HUGHES
067	HUTCHINSON
069	HYDE
071	JACKSON
073	JERAULD
075	JONES
077	KINGSBURY
079	LAKE
081	LAWRENCE
083	LINCOLN
085	LYMAN
087	MCCOOK
089	MCCPHERSON
091	MARSHALL
093	MEADE
095	MELLETTE
097	MINER
099	MINNEHAHA
101	MOODY
103	PENNINGTON
105	PERKINS
107	POTTER
109	ROBERTS
111	SANBORN
113	SHANNON
115	SPINK
117	STANLEY
119	SULLY
121	TODD
123	TRIPP
125	TURNER
127	UNION
129	WALWORTH
131	WASHABAUGH
133	YANKTON
135	ZIEBACH

AREA NAME: SWAN ISLANDS
STATE EQUIVALENT: 74
FIPS 10-3 COUNTRY CODE: SQ
NO COUNTY EQIVALENT

STATE NAME: TENNESSEE
ABBREVIATION: TN
CODE: 47

Code	County Name
001	ANDERSON
003	BEDFORD
005	BENTON
007	BLEDSOE
009	BLOUNT
011	BRADLEY
013	CAMPBELL
015	CANNON
017	CARROLL
019	CARTER
021	CHEATHAM
023	CHESTER
025	CLAIBORNE
027	CLAY
029	COCKE
031	COFFEE
033	CROCKET
035	CUMBERLAND
037	DAVIDSON
039	DECATUR
041	DE KALB
043	DICKSON
045	DYER
047	FAYETTE
049	FENTRESS
051	FRANKLIN
053	GIBSON
055	GILES
057	GRAINGER
059	GREENE
061	GRUNDY
063	HAMBLEN
065	HAMILTON
067	HANCOCK
069	HARDEMAN
071	HARDIN
073	HAWKINS
075	HAYWOOD
077	HENDERSON
079	HENRY
081	HICKMAN
083	HOUSTON
085	HUMPHREYS
087	JACKSON
089	JEFFERSON
091	JOHNSON
093	KNOX
095	LAKE
097	LAUDERDALE
099	LAWRENCE
101	LEWIS
103	LINCOLN
105	LOUDON
107	MCMINN
109	MCNAIRY
111	MACON
113	MADISON
115	MARION
117	MARSHALL
119	MAURY
121	MEIGS
123	MONROE
125	MONTGOMERY
127	MOORE
129	MORGAN
131	OBION
133	OVERTON
135	PERRY
137	PICKETT

Code	County Name
139	POLK
141	PUTNAM
143	RHEA
145	ROANE
147	ROBERTSON
149	RUTHERFORD
151	SCOTT
153	SEQUATCHIE
155	SEVIER
157	SHELBY
159	SMITH
161	STEWART
163	SULLIVAN
165	SUMNER
167	TIPTON
169	TROUSDALE
171	UNICOI
173	UNION
175	VAN BUREN
177	WARREN
179	WASHINGTON
181	WAYNE
183	WEAKLEY
185	WHITE
187	WILLIAMSON
189	WILSON

STATE NAME: TEXAS
ABBREVIATION: TX
CODE: 48

Code	County Name
001	ANDERSON
003	ANDREWS
005	ANGELINA
007	ARANSAS
009	ARCHER
011	ARMSTRONG
013	ATACOSA
015	AUSTIN
017	BAILEY
019	BANDERA
021	BASTROP
023	BAYLOR
025	BEE
027	BELL
029	BEXAR
031	BLANCO
033	BORDEN
035	BOSQUE
037	BOWIE
039	BRAZORIA
041	BRAZOS
043	BREWSTER
045	BRISCOE
047	BROOKS
049	BROWN
051	BURLESON
053	BURNET
055	CALDWELL
057	CALHOUN
059	CALLAHAN
061	CAMERON
063	CAMP
065	CARSON
067	CASS
069	CASTRO
071	CHAMBERS
073	CHEROKEE
075	CHILDRESS
077	CLAY
079	COCHRAN
081	COKE
083	COLEMAN
085	COLLIN
087	COLLINGSWORT
089	COLORADO
091	COMAL
093	COMANCHE
095	CONCHO
097	COOKE
099	CORYELL
101	COTTLE
103	CRANE
105	CROCKETT
107	CROSBY
109	CULBERSON
111	DALLAM
113	DALLAS
115	DAWSON
117	DEAF SMITH
119	DELTA
121	DENTON
123	DE WITT
125	DICKENS
127	DIMMIT
129	DONLEY
131	DUVAL
133	EASTLAND
135	ECTOR
137	EDWARDS
139	ELLIS
141	EL PASO
143	ERATH
145	FALLS
147	FANNIN
149	FAYETTE
151	FISHER
153	FLOYD
155	FOARD
157	FORT BEND
159	FRANKLIN
161	FREESTONE
163	FRIO
165	GAINES
167	GALVESTON
169	GARZA
171	GILLESPIE
173	GLASSCOCK
175	GOLIAD
177	GONZALES
179	GRAY
181	GRAYSON
183	GREGG
185	GRIMES
187	GUADALUPE
189	HALE
191	HALL
193	HAMILTON
195	HANSFORD
197	HARDEMAN
199	HARDIN
201	HARRIS
203	HARRISON
205	HARTLEY
207	HASKELL
209	HAYS
211	HEMPHILL
213	HENDERSON
215	HIDALGO
217	HILL
219	HOCKLEY
221	HOOD
223	HOPKINS
225	HOUSTON
227	HOWARD
229	HUDSPETH
231	HUNT
233	HUTCHINSON
235	IRION
237	JACK
239	JACKSON
241	JASPER
243	JEFF DAVIS
245	JEFFERSON
247	JIM HOGG
249	JIM WELLS
251	JOHNSON
253	JONES
255	KARNES
257	KAUFMAN
259	KENDALL
261	KENEDY
263	KENT
265	KERR
267	KIMBLE
269	KING
271	KINNEY
273	KLEBERG
275	KNOX
277	LAMAR
279	LAMB

Code	County Name
281	LAMPASAS
283	LA SALLE
285	LAVACA
287	LEE
289	LEON
291	LIBERTY
293	LIMESTONE
295	LIPSCOMB
297	LIVE OAK
299	LLANO
301	LOVING
303	LUBBOCK
305	LYNN
307	MCCULLOCH
309	MCLENNAN
311	MCMULLEN
313	MADISON
315	MARION
317	MARTIN
319	MASON
321	MATAGORDA
323	MAVERICK
325	MEDINA
327	MENARD
329	MIDLAND
331	MILAM
333	MILLS
335	MITCHELL
337	MONTAGUE
339	MONTGOMERY
341	MOORE
343	MORRIS
345	MOTLEY
347	NACOGDOCHE
349	NAVARRO
351	NEWTON
353	NOLAN
355	NUECES
357	OCHILTREE
359	OLDHAM
361	ORANGE
363	PALO PINTO
365	PANOLA
367	PARKER
369	PARMER
371	PECOS
373	POLK
375	POTTER
377	PRESIDIO
379	RAINS
381	RANDALL
383	REAGAN
385	REAL
387	RED RIVER
389	REEVES
391	REFUGIO
393	ROBERTS
395	ROBERTSON
397	ROCKWALL
399	RUNNELS
401	RUSK
403	SABINE
405	SAN AUGUSTINE
407	SAN JACINTO
409	SAN PATRICIO
411	SAN SABA
413	SCHLEICHER
415	SCURRY
417	SHACKELFORD
419	SHELBY
421	SHERMAN
423	SMITH
425	SOMERVELL
427	STARR
429	STEPHENS
431	STERLING
433	STONEWALL
435	SUTTON
437	SWISHER
439	TARRANT
441	TAYLOR
443	TERRELL
445	TERRY
447	THROCKMORTON
449	TITUS
451	TOM GREEN
453	TRAVIS
455	TRINITY
457	TYLER
459	UPSHUR
461	UPTON
463	UVALDE
465	VAL VERDE
467	VAN ZANDT
469	VICTORIA
471	WALKER
473	WALLER
475	WARD
477	WASHINGTON
479	WEBB
481	WHARTON
483	WHEELER
485	WICHITA
487	WILBARGER
489	WILLACY
491	WILLIAMSON
493	WILSON
495	WINKLER
497	WISE
499	WOOD
501	YOAKUM
503	YOUNG
505	ZAPATA
507	ZAVALA

AREA NAME: TRUST TERRITORY OF THE PACIFIC ISLANDS
ABBREVIATION: TT
STATE EQUIVALENT CODE: 75
FIPS 10-3 COUNTRY CODE: NQ

Code	County Name
005	KOSRAE
020	MARSHALL ISLANDS
030	PALAU
040	PONAPE
050	TRUK
060	YAP

STATE NAME: UTAH
ABBREVIATION: UT
CODE: 49

Code	County Name
001	BEAVER
003	BOX ELDER
005	CACHE
007	CARBON
009	DAGGETT
011	DAVIS
013	DUCHESNE
015	EMERY
017	GARFIELD
019	GRAND
021	IRON
023	JUAB
025	KANE
027	MILLARD
029	MORGAN
031	PIUTE
033	RICH
035	SALT LAKE
037	SAN JUAN
039	SANPETE
041	SEVIER
043	SUMMIT
045	TOOELE
047	UINTAH
049	UTAH
051	WASATCH
053	WASHINGTON
055	WAYNE
057	WEBER

AREA NAME: U.S. MISCELLANEOUS CARRIBEAN ISLANDS
TATE EQUIVALENT CODE: 76
FIPS 10-3 COUNTRY CODE: BQ
NO COUNTY EQUIVALENT

INCLUDES: NAUASSA ISLANDS
QUITO SUENO BANK

CARRIBIAN ISLANDS cont'd.

RONCADOR CAY
SERRANA BANK
SERRANILLA BANK

AREA NAME: U.S. MISCELLANEOUS PACIFIC ISLANDS
STATE EQUIVALENT CODE: 77
FIPS 10-3 COUNTRY CODE: IQ
NO COUNTY EQUIVALENT

INCLUDES: KINGMAN REEF
HOWLAND ISLAND
BAKER ISLAND
JARVIS ISLAND
PALMYRA ATOLL

STATE NAME: VERMONT
ABBREVIATION: VT
CODE: 50

Code	County Name
001	ADDISON
003	BENNINGTON
005	CALEDONIA
007	CHITTENDEN
009	ESSEX
011	FRANKLIN
013	GRAND ISLE
015	LAMOILLE
017	ORANGE
019	ORLEANS
021	RUTLAND
023	WASHINGTON
025	WINDHAM
027	WINDSOR

STATE NAME: VIRGINIA
ABBREVIATION: VA
CODE: 51

Code	County Name
001	ACCOMACK
003	ALBEMARLE
005	ALEGHANY
007	AMELIA
009	AMHERST
011	APPOMATTOX
013	ARLINGTON
015	AUGUSTA
017	BATH
019	BEDFORD
021	BLAND
023	BOTETOURT
025	BRUNSWICK
027	BUCHANAN
029	BUCKINGHAM
031	CAMPBELL
033	CAROLINE
035	CARROLL
036	CHARLES CITY
037	CHARLOTTE
041	CHESTERFIELD
043	CLARKE
045	CRAIG
047	CULPEPER
049	CUMBERLAND
051	DICKENSON
053	DINWIDDIE
057	ESSEX
059	FAIRFAX
061	FAUQUIER
063	FLOYD
065	FLUVANNA
067	FRANKLIN
069	FREDERICK
071	GILES
073	GLOUCESTER
075	GOOCHLAND
077	GRAYSON
079	GREENE
081	GREENSVILLE
083	HALIFAX
085	HANOVER
087	HENRICO
089	HENRY
091	HIGHLAND
093	ISLE OF WIGHT
095	JAMES CITY
097	KING AND QUEEN
099	KING GEORGE
101	KING WILLIAM
103	LANCASTER
105	LEE
107	LOUDOUN
109	LOUISA
111	LUNENBURG
113	MADISON
115	MATHEWS
117	MECKLENBURG
119	MIDDLESEX
121	MONTGOMERY
125	NELSON
127	NEW KENT
131	NORTHAMPTON
133	NORTHUMBERLAND
135	NOTTOWAY
137	ORANGE
139	PAGE
141	PATRICK
143	PITTSYLVANIA
145	POWHATAN
147	PRINCE EDWARD
149	PRINCE GEORGE
153	PRINCE WILLIAM
155	PULASKI
157	RAPPAHANNOCK
159	RICHMOND
161	ROANOKE
163	ROCKBRIDGE
165	ROCKINGHAM
167	RUSSELL
169	SCOTT
171	SHENANDOAH
173	SMYTH
175	SOUTHAMPTON
177	SPOTSYLVANIA
179	STAFFORD
181	SURRY
183	SUSSEX
185	TAZEWELL
187	WARREN
191	WASHINGTON
193	WESTMORELAND
195	WISE
197	WYTHE
199	YORK

Code	Independent Cities
510	ALEXANDRIA
515	BEDFORD
520	BRISTOL
530	BUENA VISTA
540	CHARLOTTESVILLE
550	CHESAPEAKE
560	CLIFTON FORGE
570	COLONIAL HEIGHTS
580	COVINGTON
590	DANVILLE
595	EMPORIA
600	FAIRFAX
610	FALLS CHURCH
620	FRANKLIN
630	FREDRICKSBURG
640	GALAX
650	HAMPTON
660	HARRISONBURG
670	HOPEWELL
678	LEXINGTON
680	LYNCHBURG
683	MANASSAS
685	MANASSAS PARK
690	MARTINSVILLE
695	NANSEMOND
700	NEWPORT NEWS
710	NORFOLK
720	NORTON
730	PETERSBURG
735	POQUOSON
740	PORTSMOUTH
750	RADFORD
760	RICHMOND
770	ROANOKE
775	SALEM
780	SOUTH BOSTON
790	STAUNTON
800	SUFFOLK (INCLUDES 695)

Code	Independent Cities
810	VIRGINIA BEACH
820	WAYNESBORO
830	WILLIAMSBURG
840	WINCHESTER

AREA NAME: VIRGIN ISLANDS
AREA ABBREVIATION: VI
CODE: 78
FIPS 10-3 COUNTRY CODE: VQ

Code	County Nane (Island)
010	ST CROIX
020	ST JOHN
030	ST THOMAS

AREA NAME: WAKE ISLAND
STATE EQUIVALENT CODE: 79
FIPS 10-3 COUNTRY CODE: WQ
NO COUNTY EQUIVALENT

STATE NAME: WASHINGTON
ABBREVIATION: WA
CODE: 53

Code	County Name
001	ADAMS
003	ASOTIN
005	BENTON
007	CHELAN
009	CLALLAM
011	CLARK
013	COLUMBIA
015	COWLITZ
017	DOUGLAS
019	FERRY
021	FRANKLIN
023	GARFIELD
025	GRANT
027	GRAYS HARBOR
029	ISLAND
031	JEFFERSON
033	KING
035	KITSAP
037	KITTITAS
039	KLICKITAT
041	LEWIS
043	LINCOLN
045	MASON
047	OKANOGAN
049	PACIFIC
051	PEND OREILLE
053	PIERCE
055	SAN JUAN
057	SKAGIT
059	SKAMANIA
061	SNOHOMISH
063	SPOKANE
065	STEVENS
067	THURSTON
069	WAHKIAKUM
071	WALLA WALLA
073	WHATCOM
075	WHITMAN
077	YAKIMA

STATE NAME: WEST VIRGINIA
ABBREVIATION: WV
CODE: 54

Code	County Name
001	BARBOUR
003	BERKELEY
005	BOONE
007	BRAXTON
009	BROOKE
011	CABELL
013	CALHOUN
015	CLAY
017	DODDRIDGE
019	FAYETTE
021	GILMER
023	GRANT
025	GREENBRIE
027	HAMPSHIRE
029	HANCOCK
031	HARDY
033	HARRISON
035	JACKSON
037	JEFFERSON
039	KANAWHA
041	LEWIS
043	LINCOLN
045	LOGAN
047	MCDOWELL
049	MARION
051	MARSHALL
053	MASON
055	MERCER
057	MINERAL
059	MINGO
061	MONONGALIA
063	MONROE
065	MORGAN
067	NICHOLAS
069	OHIO
071	PENDLETON
073	PLEASANTS
075	POCAHONTAS
077	PRESTON
079	PUTNAM
081	RALEIGH
083	RANDOLPH
085	RITCHIE
087	ROANE
089	SUMMERS
091	TAYLOR
093	TUCKER
095	TYLER
097	UPSHUR
099	WAYNE
101	WEBSTER
103	WETZEL
105	WIRT
107	WOOD
109	WYOMING

STATE NAME: WISCONSIN
ABBREVIATION: WI
CODE: 55

Code	County Name
001	ADAMS
003	ASHLAND
005	BARRON
007	BAYFIELD
009	BROWN
011	BUFFALO
013	BURNETT
015	CALUMET
017	CHIPPEWA
019	CLARK
021	COLUMBIA
023	CRAWFORD
025	DANE
027	DODGE
029	DOOR
031	DOUGLAS
033	DUNN
035	EAU CLAIRE
037	FLORENCE
039	FOND DU LAC
041	FOREST
043	GRANT
045	GREEN
047	GREEN LAKE
049	IOWA
051	IRON
053	JACKSON
055	JEFFERSON
057	JUNEAU
059	KENOSHA
061	KEWAUNEE
063	LA CROSSE
065	LAFAYETTE
067	LANGLADE
069	LINCOLN
071	MANITOWOC
073	MARATHON
075	MARINETTE
077	MARQUETTE
078	MENOMINEE

Code	County Name
079	MILWAUKEE
081	MONROE
083	OCONTO
085	ONEIDA
087	OUTAGAMIE
089	OZAUKEE
091	PEPIN
093	PIERCE
095	POLK
097	PORTAGE
099	PRICE
101	RACINE
103	RICHLAND
105	ROCK
107	RUSK
109	ST CROIX
111	SAUK
113	SAWYER
115	SHAWANO
117	SHEBOYGAN
119	TAYLOR
121	TREMPEALEAU
123	VERNON
125	VILAS
127	WALWORTH
129	WASHBURN
131	WASHINGTON
133	WAUKESHA
135	WAUPACA
137	WAUSHARA
139	WINNEBAGO
141	WOOD

STATE NAME: WYOMING
ABBREVIATION: WY
CODE: 56

Code	County Name
001	ALBANY
003	BIG HORN
005	CAMPBELL
007	CARBON
009	CONVERSE
011	CROOK
013	FREMONT
015	GOSHEN
017	HOT SPRINGS
019	JOHNSON
021	LARAMIE
023	LINCOLN
025	NATRONA
027	NIOBRARA
029	PARK
031	PLATTE
033	SHERIDAN
035	SUBLETTE
037	SWEETWATER
039	TETON
041	UINTA
043	WASHHAKIE
045	WESTON

angle brackets < > - Used when retrieving information for enclosing character strings that further define and (or) refine the selection procedure.

areal feature - Features that contain area as opposed to those that are classed as linear; the coordinates are "digitized" or recorded at the approximate center of the feature.

batch processing - A method whereby items are coded and collected into groups and then processed sequentially in a computer.

bathymetric - The measurement of the depth of a water body, hence, a map with isobaths or contour lines measuring the relief of the floor of the body of water.

Board on Geographic Names - See U.S. Board on Geographic Names.

Boolean algebra - A series of algebraic systems including set algebra and the operations of set complement, union, and intersection. It also includes concepts of logical operators for comparing values (such as "equal to," "not equal to," "less than," "greater than") and logical connectors for extending comparisons (such as "and," "or," and "not"). Named after George Boole, an English mathematician and logician.

cell - Used specifically in GNIS to refer to equal 7.5- by 7.5-minute map areas. The term is used because GNIS references the map cell whether published or not published, and divides "overedge" maps into two equal 7.5- by 7.5-minute maps.

centroid - The approximate center of an areal feature and the point represented by the primary geographic coordinate.

condition description - Specifies the information enclosed within angle brackets that further defines or refines the selection criterion.

condition test - Structure of the statement that will be used as the search criteria and includes the condition variable, data element, relational operator, and the condition description.

condition variable - A unique alphabetical character that identifies each variable in the search criteria or condition test.

controlled redundancy - Multiple occurrence of data or records on purpose. For example, a name entity passing through or occuring in more than one State is a valid record in each State file in which it is located.

DASD - An acronym for direct access storage device.

data base - A collection of interrelated or independent data items stored together without unnecessary redundancy, to serve one or more applications.

data base management system - A collection of software required for using a data base and allows multiple, independent users access to the data base.

data dictionary - A catalog or definition of the contents of the data base including data element reference labels, formats, internal reference codes, and text entry, as well as their interrelationships.

data directory - See data dictionary.

data element - A basic unit of identifiable and definable information and occupies the space provided by fields in a record, blocks, or a form.

data item - An expression of a fact of a data element. A subdivision of the data element and the smallest definable unit in a record.

data management system - A sophisticated set of software used for retrieving, arranging, manipulating, and analyzing information.

data system - A collection of data bases.

default - An alternative value, attribute, or option that is assumed when none has been specified.

designator - See feature class.

diacritical mark - A mark added to a letter to show pronunciation.

dictionary - See data dictionary.

direct access - The retrieval of data from a storage location by referencing its location rather than relating it to previously retrieved or stored data.

direct access storage device (DASD) - See disk.

directory - See data dictionary.

disk or disk pack - The physical medium of data storage used for GNIS utilizing direct or random access so that sequential access is not necessary.

entity - Something about which data are recorded. In data base management concepts, a person, place, or object about which items or data are collected, recorded, and organized into fields, records, and data files.

feature class - One of 62 broad categories in GNIS that groups similar features into categories to facilitate search and retrieval. For example, creek, river, branch, brook, run, etc., are all linear, overland flowing bodies of water categorized as streams.

feature class definition - The specific definition of 62 broad GNIS categories of features.

Federal Information Processing Standards (FIPS) Code - Any code developed and published by the National Bureau of Standards; specifically, in GNIS, the five-digit numeric State/county codes and certain two-character alphabetical codes for foreign countries.

field - See data element.

file - A collection of related records treated as a unit; specifically, in GNIS, individual State files in the National Geographic Names Data Base and the USGS Topographic Maps Names Data Base.

FIPS Code - An acronym for Federal Information Processing Standards Code.

General Information Processing System (GIPSY)® - The data management or data retrieval system (software) used to retrieve information from GNIS. GIPSY was developed by the University of Oklahoma in Norman, Oklahoma.

generic - That part of a geographic name that refers to kind or type of feature. For example, Big Lake, where lake is the generic part of the name.

geographic coordinates - An artificial system or grid expressed in degrees, minutes, and seconds used for location on the Earth's surface-latitude measures distance north-south and longitude measures distance east-west.

geographic name - A proper name or geographic expression by which a particular geographic entity is or was known; a noun phrase of one or more words used consistently in spoken and (or) written language to refer to a particular and relatively permanent place, feature, or area on the Earth's surface or to a conceptionally related group of such places, features, or area.

Geographic Names Information System (GNIS) - The system composed of data bases, software, programs, and procedures that include geographic names, their standards, and associated information.

GIPSY® - An acronym for General Information Processing System.

GNIS - An acronym for Geographic Names Information System.

hardware - The physical equipment used to store, process, and operate a data retrieval system; includes magnetic disks, magnetic tapes, computers, and various other electronic devices.

interactive - The process of interacting or interfacing directly with the data base for immediately retrieving and displaying information.

interface - A common boundary at which two separate systems or portions of each system join or intersect. An interface can be mechanical, as in adjoining hardware surfaces, or it can be electrical, as in single-level transformation points. Moreover, it can also refer to human and machine interface, and the interaction between man and computers.

iterate - To repeatedly execute a loop or refer back to. It is a GIPSY® command that allows one to further refine selected data.

JCL - An acronym for job control language.

job control language (JCL) - A statement or statements containing information that describes the job or commands to the operating system (OS) or the software that runs the hardware.

label - The established abbreviation for each data element which must be used when establishing the search criteria.

linear feature - A named feature in GNIS that is linear rather than areal in extent. Specifically, features in the feature categories arroyo, valley, and stream that are linear and require both mouth and source geographic coordinates.

logic statement - The arrangement of condition variables using the Boolean connectors "and," "or," and "not" as well as parentheses to form a logical expression. The statement is used to instruct the retrieval system of the exact nature and arrangement of the information to be retrieved.

National Atlas - The data base containing information in The National Atlas of the United States of America, published in 1970.

online - See interactive.

operating system (OS) - Software that controls the operation of the computer and all of its peripheral devices.

OS - An acronym for operating system.

parentheses [( )] - Used in the logic statement of GIPSY® to avoid ambiguity, and in a similar manner as an algebraic expression. For example: confusing - Logic A and B or C and D; not confusing - Logic (A and B) or (C and D). The former confusing statement will improperly retrieve information.

primary coordinate - The geographic coordinate representing the center of areal features and the mouth of linear features.

random access - See direct access.

record - A group of related data elements or fields treated as a unit; specifically, a record refers to a named feature and associated data.

redundancy - See controlled redundancy.

relational operator - The arithmetical terms equal to (eq), less than (lt), and greater than (gt). "Equal to" is the default and is implied, but if one wishes to search for "less than" or "greater than," the terms lt or gt must precede the condition description.

schema - A chart and (or) summary description of the overall logical structure of a computerized data base, including a description of such items as set occurrences, record occurrences and associated data items, and data aggregations.

search criteria - See condition test.

secondary coordinate - A geographic coordinate that associates a feature with each 7.5-minute U.S. Geological Survey topographic map on which it is located.

software - Computer programs, procedures, rules, and documentation associated with the operation of a computer system.

source coordinate - The beginning point of linear features expressed as a geographic coordinate.

spatial - Refers to space or occupying space.

specialization code - A two- or three-digit code that allows retrieval of named entities on the basis of specified characteristics, such as source material; language or origin; unusual characteristics; number of words in the name; whether descriptive, associative, or comparative; or any other known characteristic of the name.

time sharing option (TSO) - A technique or system for supplying computing services to a number of users at geographically scattered terminals, providing rapid responses so that each user appears to be the only one using the system.

topographic map - A map portraying horizontal and vertical positions on a specific part of the Earth's surface determined by geographic coordinates and specifically portraying elevation or altitude by isohypse or contour lines.

TSO - An acronym for time sharing option.

U.S. Board on Geographic Names - A Federal body which is authorized by law to establish and maintain uniform geographic names usage throughout the Federal Government. The Board, composed of representatives of Federal agencies, was created in 1890 and organized in its present form by Public Law in 1947.

variable - See condition variable.

variant - The term used to list and describe any other known names, forms, or spellings of a current official name.