Version

1.2

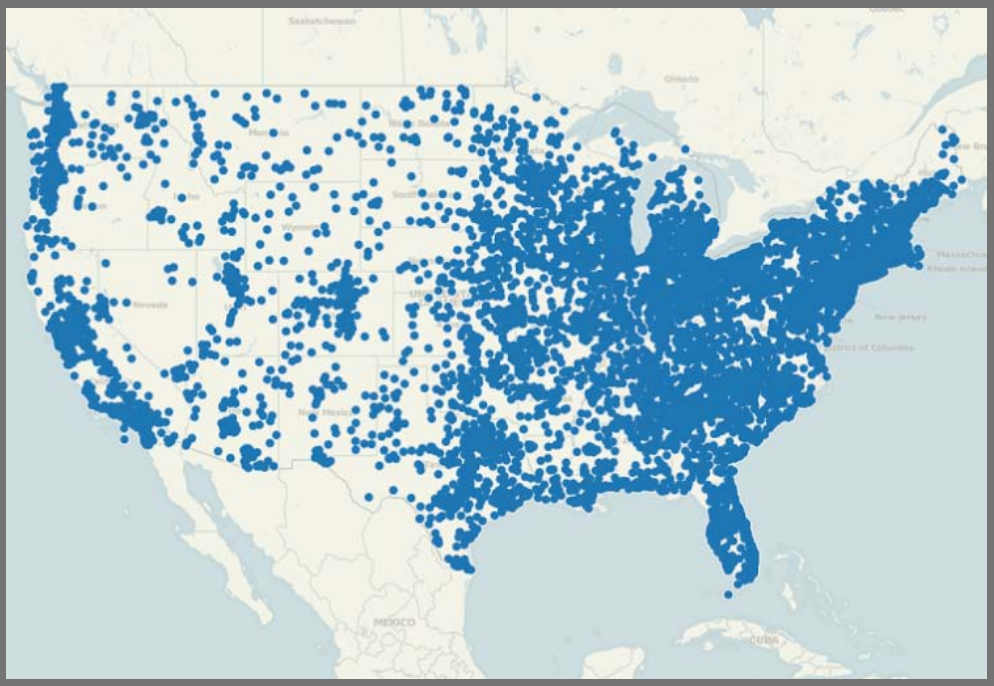
pdGeoSupplement User Guide

Geographic Area Reference Database

An easy-to-use, comprehensive, and up-to-date United States national reference database for U.S. Census Bureau legal and statistical areas covered by Peacock Data GeoCoding, U.S. Census 2010, and American Community Survey (ACS) database products.

It covers the United States nation, all 50 states, the District of Columbia, and all insular areas.

This database is a companion file for *pdGeoTIGER*, *pdCensus2010*, and *ACS2013;* and is provided with the product downloads.



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INTRODUCTION

pdGeoSupplement is a proprietary, easy-to-use, comprehensive, and up-to-date United States national reference database for U.S. Census Bureau legal and statistical areas covered by Peacock Data GeoCoding, U.S. Census 2010, and American Community Survey (ACS) database products. It is a companion file for *pdGeoTIGER*, *pdCensus2010*, and *pdACS2013;* and the supplement is provided with the product downloads.

The database provides information often not included in other databases. These include:

- American National Standards Institute (ANSI) identification codes

And the following special indicators:

- Metropolitan/Micropolitan Statistical Area Principal City Indicator
- New England City and Town Area Principal City Indicator
- American Indian Area/Alaska Native Area/Native Hawaiian Home Land Federal/State Recognition Indicator
- Metropolitan/Micropolitan Statistical Area Status Indicator
- New England City and Town Area Status Indicator
- Urban Area Type Indicator
- Urban Growth Area Type Indicator
- Congressional Session
- State Legislative Year
- Voting District Indicator
- School District Type Indicator
- School District Low Grade Indicator
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QUICK START

pdGeoSupplement is a United States national reference database for U.S. Census Bureau legal and statistical areas covered by Peacock Data GeoCoding, U.S. Census 2010, and American Community Survey (ACS) database products. It is a companion file for *pdGeoTIGER*, *pdCensus2010*, and *pdACS2013;* and the supplement is provided with the product downloads. It covers the United States nation, all 50 states, the District of Columbia (federal district), and all insular areas.

The database is organized with one record for each legal and statistical area. The first field is the PEACOCK_ID primary key, a unique identifier for each record, followed by fields used to select geographic areas, followed by detailed information about each geographic area.

Geographic areas are selected by filtering the database on one or more fields. The most common queries are based on geographic levels; however, other information can be utilized in addition to, or instead of these components, and the same results can often be achieved with different filter constructions.

Either of two identification fields can be used to select records on any of 32 geographic levels. Both fields query the same exact information, and only one needs to be used at a time. The choice of which to employ is entirely dependent on personal preferences. One uses a numeric key, and the other bring into play an easier to memorize alphabetic key.

The highest geographic level presented is United States as a nation (for which the geographic level values are "01" and "US" in the two fields). The smallest level covered is above the Census Tract.

The database provides designations for U.S. Census Bureau legal and statistical areas. A legal area is a geographic entity where the boundaries, name, origin, and area description result from charters, laws, treaties, or other administrative or governmental action. A statistical area is any geographic entity or combination of entities identified and defined solely for the tabulation and presentation of data. Statistical area boundaries are not legally defined and the entities have no governmental standing.

Here is a quick start example of filtering the database:

EXAMPLE

Let's say we want to select all urban areas in the United States with a population equal or greater than 5 million; we can take the following steps:

1. Select the urban area geographic level by including *GEOLEV = "22"* in the filter statement. "GEOLEV" is the name of one of the fields that can be used to select geographic levels, and "22" is the code number in this field for the urban area geographic level. (Note that the GEOLEV2 field could have been employed instead, as it selects the same records; this would change the statement to *GEOLEV2 = "UA"*.)
2. Restrict the selection to just urban areas with a population equal or greater than 5 million by adding *SIZECODE = "23"* to the filter statement. "SIZECODE" is the name of the field used to select population sizes, and "23" is the code number in this field for "5,000,000 or more."

The full filter statement to select all urban areas in the United States with a population equal or greater than 5 million is:

GEOLEV = "22" AND SIZECODE = "23"

This quick start explanation demonstrates the basic use of the software, but much more is also available. Read on for more information.

IMPORTING DATA INTO YOUR SYSTEM

pdGeoSupplement is designed to be compatible with any database system. It comes in multiple file formats, uses only the ANSI character set, and has a well-defined layout.

FILE FORMATS

The database is available in three common file formats. Each format contains the same data.

Available file formats are:

CSV-COMMA SEPARATED VALUES

Files in Comma Separated Values (CSV) format (also known as Comma Delimited) separate fields with commas, and alpha/numeric character fields are usually delimited with double quotes (in case some of the field content includes commas). This format is the most commonly used. It is a native format for Microsoft Excel and is compatible with nearly all database management systems and spreadsheets.

TXT-FIXED LENGTH

Files in Fixed Length (TXT) format (also known as Standard Data Format or SDF) use constant field positions and lengths for all records. In other words, each field starts and ends at the same place in the text file and each record is on a separate line. While not as popular as comma separated values, this format is preferred by many due to its input precision and is widely used to transfer data between different software programs. It is compatible with most database management systems and spreadsheets.

DBF-DATABASE

Files in DBF database format (also known as xBase) are native to Microsoft FoxPro and Visual FoxPro, dataBased Intelligence dBase, Alaska Software XBase++, Apollo Database Engine, Apycom Software DBFView, Astersoft DBF Manager, DS-Datasoft Visual DBU, Elsoft DBF Commander, GrafX Software Clipper and Vulcan.NET, Multisoft FlagShip, Recital Software Recital, Software Perspectives Cule.Net, and xHarbour.com xHarbour. They are also compatible with any database management system that can import the DBF (xBase) format, such as Microsoft Access, Microsoft SQL Server, and numerous others.

CHARACTER SET

The ANSI character set is utilized for all database records. This includes ASCII values 0 to 127 and extended values 128 to 255. These are also known as the extended Latin alphabet. Some users may needs to configure their database system to import the extended values. In many cases the option will be labeled the “Latin-1” character set.

FILE LAYOUT AND DATA DEFINITIONS

Below are the complete layout specifications and data definitions of the *pdGeoSupplement* geographic area reference file.

Each line below contains the following information: FIELD NUMBER: field position number. FIELD NAME: name of field. FIELD TYPE: field data type; "*Chr*" = alpha/numeric characters, "Num" = numbers. FIELD LENGTH: length of field. DECIMAL PLACES: number of decimal places (if any). START POSITION: field starting position. END POSITION: field ending position. DESCRIPTION: data definition of field contents.

LAYOUT OF PDGEOSUPPLEMENT

Field Count: 73

Total Length: 567

Record Count: 314,031

FIELD NUMBER	FIELD NAME	FIELD TYPE	FIELD LENGTH	DECIMAL PLACES	START POSITION	END POSITION	DESCRIPTION
1	PEACOCK_ID	Chr	9		1	9	Primary key; unique identifier for each record; concatenation of the numeric geographic level, plus a hyphen, plus a sequential number for each record at the same geographic level
2	GEOLEV	Chr	2		10	11	Geographic Level Code (numeric format)
3	GEOLEV2	Chr	10		12	21	Geographic Level Code (alpha format)
4	GEOID	Chr	15		22	36	Geographic Identifier; unique identifier for each entity at the same geographic level; concatenation of area identification codes that together hierarchically defines the geographic areas
5	NAME	Chr	100		37	136	Geographic Area Name
6	NAMELSAD	Chr	100		137	236	Geographic area name and translated legal/statistical area description
7	LSAD	Chr	2		237	238	Legal/Statistical Area Description Code
8	USCCODE	Chr	10		239	248	U.S. Census Bureau Code
9	FIPSCODE	Chr	10		249	258	Federal Information Processing Standard (FIPS) Code
10	ANSICODE	Chr	8		259	266	American National Standards Institute (ANSI) Code
11	SIZECODE	Chr	2		267	268	Size Code
12	CLASSFP	Chr	2		269	270	Class FIPS Code
13	MTFCC	Chr	5		271	275	MAF/TIGER Feature Class Code
14	FUNCSTAT	Chr	1		276	276	Functional Status Code

15	LATITUDE	Chr	11		277	287	Internal point latitude coordinate in degrees (7 decimal places)
16	LONGITUDE	Chr	12		288	299	Internal point longitude coordinate in degrees (7 decimal places)
17	LATRAD	Num	18	15	300	317	Internal point latitude coordinate converted to radians for use in trigonometry functions (15 numeric places)
18	LONRAD	Num	18	15	318	335	Internal point longitude coordinate converted to radians for use in trigonometry functions (15 numeric places)
19	LATDMS	Chr	14		336	349	Internal point latitude coordinate in degrees/minutes/seconds
20	LONDMS	Chr	15		350	364	Internal point longitude coordinate in degrees/minutes/seconds
21	AREA	Num	14		365	378	Total area in square meters
22	ALAND	Num	14		379	392	Total land area in square meters
23	AWATER	Num	14		393	406	Total water area in square meters
24	UR	Chr	1		407	407	Urban/Rural Indicator : U = Urban R = Rural M = Mixed
25	US	Chr	1		408	408	United States : 1 = United States 0 = Not part of the United States (assigned to insular areas)
26	REGION	Chr	1		409	409	Region : 1 = Northeast 2 = Midwest 3 = South 4 = West 9 = Not in a region (insular areas)
27	DIVISION	Chr	1		410	410	Division : 1 = New England 2 = Middle Atlantic 3 = East North Central 4 = West North Central 5 = South Atlantic 6 = East South Central 7 = West South Central 8 = Mountain 9 = Pacific 0 = Not in a division (insular areas)
28	STATEFP	Chr	2		411	412	State FIPS Code
29	STATEABBR	Chr	2		413	414	State USPS Postal Abbreviation
30	COUNTYFP	Chr	3		415	417	County FIPS Code
31	COUSUBFP	Chr	5		418	422	County Subdivision FIPS Code
32	SUBMCDFP	Chr	5		423	427	Subminor Civil Division FIPS Code (Commonwealth of Puerto Rico subbarrio)
33	ESTATEFP	Chr	5		428	432	Estate FIPS Code (U.S. Virgin Islands only)
34	PLACEFP	Chr	5		433	437	Place FIPS Code

35	MEMIPCI	Chr	1		438	438	Metropolitan/Micropolitan Statistical Area Principal City Indicator : Y = Yes N = No
36	NECTAPCI	Chr	1		439	439	New England City and Town Area Principal City Indicator : Y = Yes N = No
37	CONCITFP	Chr	5		440	444	Consolidated City FIPS Code
38	ANRCFP	Chr	5		445	449	Alaska Native Regional Corporation FIPS Code
39	AIANNH	Chr	4		450	453	American Indian Area/Alaska Native Area/Native Hawaiian Home Land
40	AIANNHFP	Chr	5		454	458	American Indian Area/Alaska Native Area/Native Hawaiian Home Land Fips Code
41	AIANNHLI	Chr	1		459	459	American Indian Area/Alaska Native Area/Native Hawaiian Home Land Reservation/Statistical Entity or Off-Reservation Trust Land/Native Hawaiian Home Land Indicator : T = Off-Reservation Trust Land R = Reservation or Statistical Entity M = Mixed
42	AIANNHR	Chr	1		460	460	American Indian Area/Alaska Native Area/Native Hawaiian Home Land Federal/State Recognition Indicator : F = Federally recognized S = State recognized
43	AITSUB	Chr	3		461	463	American Indian Tribal Subdivision
44	AITSUBFP	Chr	5		464	468	American Indian Tribal Subdivision FIPS Code
45	TTRACT	Chr	6		469	474	Tribal Census Tract
46	TBLKGRP	Chr	1		475	475	Tribal Block Group
47	CSAFP	Chr	3		476	478	Combined Statistical Area FIPS Code
48	METMICFP	Chr	5		479	483	Metropolitan/Micropolitan Statistical Area (CBSA) FIPS Code
49	MEMI	Chr	1		484	484	Metropolitan/Micropolitan Statistical Area Status Indicator : 1 = Metropolitan 2 = Micropolitan 9 = Neither
50	METDVFP	Chr	5		485	489	Metropolitan Division FIPS Code
51	CNECTAFP	Chr	3		490	492	Combined New England City and Town Area FIPS Code
52	NECTAFP	Chr	5		493	497	New England City and Town Area FIPS Code
53	NMEMI	Chr	1		498	498	New England City and Town Area Status Indicator : 1 = Metropolitan 2 = Micropolitan 9 = Neither
54	NECTDVFP	Chr	5		499	503	New England City and Town Area Division FIPS Code

55	UA	Chr	5		504	508	Urban Area
56	UATYPE	Chr	1		509	509	Urban Area Type Indicator : U = Urbanized Area C = Urban Cluster
57	UGA	Chr	5		510	514	Urban Growth Area (Oregon and Washington)
58	UGATYPE	Chr	1		515	515	Urban Growth Area Type Indicator : C = Consolidated Urban Growth Area P = Primary Urban Growth Area
59	CD	Chr	2		516	517	Congressional District FIPS Code : 01 to 53 = Congressional district codes 00 = At large (single district for state) 98 = Nonvoting delegate; District of Columbia (federal district), the Commonwealth of Puerto Rico, and other insular areas
60	CDSESSN	Chr	3		518	520	Congressional District Session
61	SLDUPR	Chr	3		521	523	State Legislative District (Upper Chamber)
62	SLDLWR	Chr	3		524	526	State Legislative District (Lower Chamber)
63	SLDYR	Chr	4		527	530	State Legislative District Legislative Year
64	VTD	Chr	6		531	536	Voting District
65	VTDI	Chr	1		537	537	Voting District Indicator : A = Represents an actual voting district P = Represents a pseudo-VTD (modified to follow existing Census features)
66	SDELM	Chr	5		538	542	School District (Elementary)
67	SDSEC	Chr	5		543	547	School District (Secondary)
68	SDUNI	Chr	5		548	552	School District (Unified)
69	SDTYPE	Chr	1		553	553	School District Type Indicator : A = Pseudo B = Department of Defense C = Interstate D = Bureau of Indian Affairs E = Same Name
70	SDLO	Chr	2		554	555	School District Low Grade Indicator
71	SDHI	Chr	2		556	557	School District High Grade Indicator
72	PUMA	Chr	5		558	562	Public Use Microdata Area (PUMA 5% File)
73	ZCTA5	Chr	5		563	567	Census 5-digit ZIP Code Tabulation Area (ZCTA)

Note that the layout above is also available in an Excel XLS file provided with the database. Programmers can use this file to create a table shell for the pdGeoSupplement *data.*

DATABASE VERSION NUMBER

Depending on the file format, the version number of each copy of *pdGeoSupplement* is written in the first or second row of the first or second column of the database files in X.X.X format. The first number is the main version number of the release. The number after the first dot is the update for the version indicated. The number after the second dot references a minor revision.

USING THE *PDGEOSUPPLEMENT* DATABASE

pdGeoSupplement is a reference database for U.S. Census Bureau legal and statistical areas organized with one record for each legal and statistical area. Users select geographic areas employing a system of 32 geographic level codes. Provided information includes the spelled-out name of geographic areas, often both short and long form, as well as latitude and longitude coordinates, land and water area, size codes, class and status codes, American National Standards Institute (ANSI) codes, and other reference information and special indicators.

The database encompasses the following:

- United States nation
- All 50 states
- District of Columbia (federal district)
- Incorporated unorganized territory of Palmyra Atoll (incorporated as part of the Territory of Hawaii in 1900 but not admitted along with the state in 1959; largely privately owned by the Nature Conservancy; variable population of 4-20 scientists and research scholars)
- Unincorporated organized territories:
    - Guam
    - Commonwealth of the Northern Mariana Islands
    - Commonwealth of Puerto Rico
    - U.S. Virgin Islands
- Unincorporated unorganized territories:
    - *Pacific Ocean*:
        - American Samoa
            - Swains Island (administered by American Samoa)
        - Baker Island (now uninhabited)
        - Howland Island (now uninhabited)
        - Jarvis Island (now uninhabited)
        - Johnston Atoll (now uninhabited)
        - Kingman Reef (largely submerged; now uninhabited)
        - Midway Islands (also known as Midway Atoll; now inhabited only by caretakers)
        - Wake Island (also known as Wake Atoll; now inhabited only by civilian contractors)
    - *Caribbean Sea*:
        - Bajo Nuevo Bank (also known as the Petrel Islands; mostly submerged; uninhabited)
        - Navassa Island (now uninhabited)
        - Serranilla Bank (mostly submerged; uninhabited)
- Extraterritorial jurisdiction of Guantanamo Bay Naval Base

SELECTING GEOGRAPHIC AREAS

Geographic areas are selected by filtering the database on one or more fields. The most common queries are based on geographic levels; however, other information can be utilized in addition to, or instead of these components, and the same results can often be achieved with different filter constructions.

Here is a step-by-step example of filtering the database:

EXAMPLE

Let's say we want to select all rural places in the state of Mississippi; we can take the following steps:

1. Select the place geographic level by including *GEOLEV = "09"* in the filter statement. "GEOLEV" is the name of one of the fields that can be used to select geographic levels, and "09" is the code number in this field for the place geographic level. (Note that the GEOLEV2 field could have been employed instead, as it selects the same records; this would change the statement to *GEOLEV2 = "PLACE"*.)
2. Select the specific state of Mississippi by adding *STATEFP = "28"* to the filter statement. "STATEFP" is the name of one of the fields that can be used to select individual states, in this field by identifying its 2-digit FIPS code, and "28" is the FIPS code number for the state of Mississippi. (Note that the STATEABBR field could have been employed instead, and the state abbreviation used as the value; this would change the statement to *STATEABBR = "MS"*.)
3. Restrict the selection to just rural areas by adding *UR = "R"* to the filter statement. "UR" is the name of the field used to select the urban/rural component, and "R" is the code for the rural area element.

The full filter statement to select all rural places in the state of Mississippi is:

GEOLEV = "09" AND STATEFP = "28" AND UR = "R"

The same results from the example above can also be achieved with the following filter constructions:

- *GEOLEV = "09" AND STATEABBR = "MS" AND UR = "R"*
- *GEOLEV2 = "PLACE" AND STATEFP = "28" AND UR = "R"*
- *GEOLEV2 = "PLACE" AND STATEABBR = "MS" AND UR = "R"*

Examples of other filter statements:

- To select the 5th Congressional District in the state of Colorado:
  GEOLEV = "24" AND STATEFP = "08" AND CD = "05"
- To select all county subdivisions of Chattahoochee County in the state of Georgia:
  GEOLEV = "06" AND STATEFP = "13" AND COUNTYFP = "053"
- To select all principal cities in the state of Massachusetts:
  GEOLEV = "09" AND STATEFP = "25" AND (MEMIPCI = "Y" OR NECTAPCI = "Y")
- To select all urban Federally recognized American Indian reservations:

GEOLEV = "12" AND AIANNHLI = "R" AND AIANNHR = "F" AND UR = "U"

- To select all Department of Defense school districts in the southern region of the United States:
  (GEOLEV = "28" OR GEOLEV = "29" OR GEOLEV = "30") AND REGION = "3" AND SDTYPE = "B"
- To select all urban areas with a population between 10,000 and 24,999 and a land area of at least 10 square miles:
  *GEOLEV = "22" AND (SIZECODE = "14" OR SIZECODE = "15") AND ALAND*0.00000038610215854781 >= 10*
- To select all Native Hawaiian home lands:
  CLASSFP = "B1"
- To select all incorporated places in the state of California with a population between 500 and 999:
  STATEFP = "06" AND MTFCC = "G4110" AND SIZECODE = "08"
- To select all insular areas with an active functional status:
  GEOLEV = "04" AND REGION = "9" AND FUNCSTAT = "A"

DATABASE ORGANIZATION

The database is organized with one record for each legal and statistical area. The first field is the PEACOCK_ID primary key, a unique identifier for each record, followed by fields used to select geographic areas, followed by detailed information about each geographic area.

The database structure is organized as follows:

- Peacock ID—unique identification number (field 1)
- Geographic levels (fields 2–3)
- Geo ID—hierarchically identification number (field 4)
- Common name and LSAD (fields 5–7)
- Census, Fips, and ANSI codes (fields 8–10)
- Size, class, and status codes (fields 11–14)
- Latitude and longitude coordinates (fields 15–20)
- Land and water area (fields 20–23)
- Urban and rural indicator (field 24)
- Legal and statistical areas (fields 25–73)

Review File Layout and Data Definitions for more information.

PEACOCK_ID FIELD

The first field in the database is a unique identification number for each record. It serves as the primary key and no two records have this same exact number. It is a concatenation of the numeric geographic level field, plus a hyphen, plus a sequential number for each record at the same geographic level.

RECORD CODE FIELDS

- **PEACOCK_ID** | Primary Key
  Each record is identified by a nine-character alpha/numeric primary key that is unique for each record (see above for details).

GEOGRAPHIC LEVELS

Either of two identification fields can be used to select records on any of 32 geographic levels. Both fields query the same exact information, and only one needs to be used at a time. The choice of which to employ is entirely dependent on personal preferences. One uses a numeric key, and the other bring into play an easier to memorize alphabetic key.

The highest geographic level presented is United States as a nation (for which the geographic level values are “01” and “US” in the two fields). The smallest level covered is above the Census Tract.

When the database is filtered at a geographic level, all of the entities on that level are included in the query. In the case of the United States, only one record is selected; but, for example, if the code for states is chosen (for which the geographic level values are “04” and “STATE” for the two fields), all 69 states and state equivalents are called up (the state equivalents being the District of Columbia and the 18 insular areas).

Users filter for more specific geographic areas by restricting the query based on other identifying fields.

RECORD CODE FIELDS

- **GEOLEV** | Numeric Geographic Level Identifier
  Each record is identified by a two-character numeric code that indicates the geographic level (see above for details).

- **GEOLEV2** | Alphabetic Geographic Level Identifier
  Each record is identified by an up to ten-character alphabetic code that indicates the geographic level (see above for details).

Geographic level lookup codes and hierarchies for legal or statistical geographic areas are:

GEOLEV	GEOLEV2	DESCRIPTION	GEOID HIERARCHY
01	US	United States	US
02	REGION	Region	REGION
03	DIVISION	Division	DIVISION
04	STATE	State	STATEFP
05	COUNTY	County	STATEFP + COUNTYFP
06	COUSUB	County Subdivision	STATEFP + COUNTYFP + COUSUBFP

07	SUBMCD	Subminor Civil Division (Puerto Rico subbario)	STATEFP + COUNTYFP + COUSUBFP + SUBMCDFP
08	ESTATE	Estate (U.S. Virgin Islands only)	STATEFP + COUNTYFP + ESTATEFP
09	PLACE	Place	STATEFP + PLACEFP
10	CONCIT	Consolidated City	STATEFP + CONCITFP
11	ANRC	Alaska Native Regional Corporation	CSTATEFP + ANRCFP
12	AIANNH	American Indian Area/Alaska Native Area/Native Hawaiian Home Land	AIANNH + AIANNHLI
13	AITSUB	American Indian Tribal Subdivision	AIANNH + AITSUB
14	TTRACT	American Indian Tribal Tract	AIANNH + TTRACT
15	TBLKGRP	American Indian Tribal Block Group	AIANNH + TTRACT + TBLKGRP
16	CSA	Combined Statistical Area	CSAFP
17	METMIC	Metropolitan/Micropolitan Statistical Area	METMICFP
18	METDV	Metropolitan Division	METMICFP + METDVFP
19	CNECTA	Combined New England City and Town Area	CNECTAFP
20	NECTA	New England City and Town Area	NECTAFP
21	NECTDV	New England City and Town Area Division	NECTAFP + NECTDVFP
22	UA	Urban Area	UA
23	UGA	Urban Growth Area (Oregon and Washington)	STATEFP + UGA
24	CD	Congressional District	STATEFP + CD
25	SLDUPR	State Legislative District (Upper Chamber)	STATEFP + SLDUPR
26	SLDLWR	State Legislative District (Lower Chamber)	STATEFP + SLDLWR
27	VTD	Voting District	STATEFP + COUNTYFP + VTD
28	SDELM	School District (Elementary)	STATEFP + SDELM
29	SDSEC	School District (Secondary)	STATEFP + SDSEC
30	SDUNI	School District (Unified)	STATEFP + SDUNI
31	PUMA	Public Use Microdata Area (PUMA 5% File)	STATEFP + PUMA
32	ZCTA5	Census 5-Digit ZIP Code Tabulation Area	ZCTA5

GEOID FIELD

A geographic identification field provides a unique identifier for each entity at the same geographic level. It is a concatenation of area identification codes that together hierarchically defines the geographic areas. For example, a County Subdivision geographic identifier is built by combining the State FIPS Code, plus the County FIPS Code, plus the County Subdivision FIPS Code ("STATEFP + COUNTYFP + COUSUBFP").

IDENTIFICATION FIELDS

- **GEOID** | Geographic Identifier
  Each record is identified by an up to 15-character alpha/numeric code that uniquely hierarchically defines a geographic area (see above for details).

COMMON NAME AND LSAD

A common name and a more formal name are provided for each geographic entity. The formal name is translated from the U.S. Census Bureau legal and statistical area description (LSAD), and the associated 2-character Legal and statistical area description code is also provided. The LSAD is used to identify both legal and statistical entities and differentiates between various types of entities.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each entity is identified by a common name and a translated legal/statistical area description.

CHARACTERISTICS FIELDS

- **LSAD** | Legal and Statistical Area Description Code

  Each entity is identified by a two-character numeric code for the legal/statistical area description of the geographic area.

Legal and statistical area description lookup codes for geographic areas are:

CODE	TRANSLATION	PREFIX/SUFFIX	DESCRIPTION
00	(none)		No legal/statistical area description exists
01	(none)		State or state equivalent
03	City and Borough	Suffix	Legal county equivalent in Alaska (Juneau, Sitka, Wrangell, and Yakutat)
04	Borough	Suffix	Legal county equivalent in Alaska
05	Census Area	Suffix	Statistical county equivalent in Alaska
06	County	Suffix	Legal division in 48 states
07	District	Suffix	Legal tribal subdivision in Arizona, Minnesota, Montana, Nebraska, North Dakota, and South Dakota; state legislative district (upper chamber) in Massachusetts; state legislative district (lower chamber) in Massachusetts; legal county equivalent in American Samoa
08	city	Suffix	Independent city; legal county equivalent in Maryland, Missouri, and Virginia
09	(none)		Independent city; legal county equivalent in Nevada
10	Island	Suffix	Legal county equivalent in the U.S. Virgin Islands
11	(none)		Island; legal county equivalent in American Samoa
12	Municipality	Suffix	Legal county equivalent in Alaska (Anchorage and Skagway) and the Northern Mariana Islands
13	Municipio	Suffix	Legal county equivalent in Puerto Rico
14	(none)		Legal county equivalent in the District of Columbia and Guam
15	Parish	Suffix	Legal county equivalent in Louisiana
19	Reservation	Suffix	Legal county subdivision equivalent in Maine and New York (coextensive with all or part of an American Indian reservation)
20	barrio	Suffix	Minor civil division (MCD) in Puerto Rico
21	borough	Suffix	Minor civil division (MCD) in New York; MCD equivalent (independent place) in New Jersey and Pennsylvania; incorporated place in Connecticut, New Jersey, and Pennsylvania
22	CCD	Suffix	Census county division; statistical county subdivision in 21 states
23	census subarea	Suffix	Statistical county subdivision in Alaska
24	subdistrict	Suffix	Legal county subdivision equivalent in the U.S. Virgin Islands

25	city	Suffix	Legal county equivalent in Maryland, Missouri, and Virginia (independent city); minor civil division (MCD) equivalent in 23 states and the District of Columbia (independent place); incorporated place in 49 states and the District of Columbia; consolidated city in Connecticut (Milford) and Indiana (Indianapolis)
26	county	Suffix	Legal county subdivision in American Samoa
27	district	Suffix	Minor civil division (MCD) in Pennsylvania, Virginia, West Virginia, Guam, and the Northern Mariana Islands; refers to an election, magisterial, municipal, or road district
28	District	Prefix	Minor civil division (MCD) in Louisiana, Maryland, Mississippi, Nebraska, Tennessee, Virginia, West Virginia, and the Northern Mariana Islands; tribal subdivision in Arizona and South Dakota; refers to an assessment, election, magisterial, supervisor's, parish governing authority, or municipal district
29	precinct	Suffix	Minor civil division (MCD) in Illinois and Nebraska; refers to an election precinct
30	Precinct	Prefix	Minor civil division (MCD) in Illinois and Nebraska; refers to an election precinct
31	gore	Suffix	Minor civil division (MCD) in Maine and Vermont
32	grant	Suffix	Minor civil division (MCD) in New Hampshire and Vermont
33	city	Suffix	Independent city; legal county subdivision equivalent in Maryland, Missouri, and Virginia
34	(none)		Independent city; legal county subdivision equivalent in Nevada
35	(none)		Island; legal county subdivision in American Samoa
36	location	Suffix	Minor civil division (MCD) in New Hampshire
37	municipality	Suffix	Minor civil division (MCD) equivalent in Pennsylvania (independent place); incorporated place in Alaska (Anchorage) and Pennsylvania
38	(none)		Legal county subdivision equivalent for Arlington County, Virginia
39	plantation	Suffix	Minor civil division (MCD) in Maine
40	(none)		Legal county subdivision not defined; exists in territorial water areas in 14 states, Puerto Rico, and the U.S. Virgin Islands
41	barrio-pueblo	Suffix	Minor civil division (MCD) in Puerto Rico
42	purchase	Suffix	Minor civil division (MCD) in New Hampshire
43	town	Suffix	Minor civil division (MCD) in eight states; MCD equivalent in New Jersey, North Carolina, Pennsylvania, and South Dakota (independent place); incorporated place in 30 states
44	township	Suffix	Minor civil division (MCD) in 16 states
45	Township	Prefix	Minor civil division (MCD) in Arkansas, Kansas, Minnesota, Nebraska, and North Carolina
46	UT	Suffix	Unorganized territory; Minor civil division (MCD) in nine states
47	village	Suffix	Minor civil division (MCD) equivalent in New Jersey, Ohio, South Dakota, and Wisconsin
49	charter township	Suffix	Minor civil division (MCD) in Michigan
51	subbarrio	Suffix	Legal subminor civil division (sub-MCD) in Puerto Rico

52	Estate	Prefix	Legal subdivision of the three major islands (Saint Croix, Saint John, and Saint Thomas) in the U.S. Virgin Islands (USVI); the boundaries of the estates are primarily those of the former agricultural plantations that existed at the time Denmark transferred the islands to the United States in 1917
53	city and borough	Suffix	Incorporated place in Alaska (Juneau, Sitka, and Wrangell)
54	municipality	Suffix	Incorporated place in Alaska
55	comunidad	Suffix	Statistical place (census designated place) in Puerto Rico
56	borough	Suffix	Incorporated place in Connecticut, New Jersey, and Pennsylvania
57	CDP	Suffix	Census designated place; statistical place in all 50 states, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands
58	city	Suffix	Incorporated place in 49 states (not Hawaii) and the District of Columbia
59	(none)		Incorporated place having no legal description in Kentucky, Montana, Nevada, and Tennessee; quasi-legal place equivalent in Connecticut, Georgia, Indiana, Montana, and Tennessee
60	town	Suffix	Incorporated place in 30 states and the U.S. Virgin Islands
61	village	Suffix	Incorporated place in 20 states and traditional place in American Samoa
62	zona urbana	Suffix	Statistical place (census designated place) in Puerto Rico
65	city	Suffix	Consolidated city in Connecticut, Georgia, and Indiana
66	(none)		Consolidated city (with a unique description or no description) in Georgia, Montana, and Tennessee
68	Region	Suffix	Census region; statistical division of the United States
69	Division	Suffix	Census division; statistical division of the United States
70	UGA	Suffix	Urban growth area (UGA); legal area in Oregon and Washington
71	CMSA	Suffix	Consolidated metropolitan statistical area
72	MSA	Suffix	Metropolitan statistical area
73	PMSA	Suffix	Primary metropolitan statistical area
74	NECMA	Suffix	New England county metropolitan area
75	Urbanized Area	Suffix	Urbanized area (UA); statistical urban area in all 50 states, the District of Columbia, and Puerto Rico
76	Urban Cluster	Suffix	Urban cluster (UC); statistical urban area in all 50 states and Puerto Rico
77	Alaska Native Regional Corporation	Suffix	Legal Alaska Native area in Alaska (ANRC)
78	Hawaiian Home Land	Suffix	Legal Native Hawaiian area in Hawaii
79	ANVSA	Suffix	Alaska Native village statistical area; statistical Alaska Native area in Alaska
80	TDSA	Suffix	Tribal designated statistical area (TDSA); statistical American Indian reservation equivalent in Alaska, California, Indiana, Louisiana, Maine, Michigan, New York, and Washington for federally recognized tribes without a legal land base outside of Oklahoma
81	Colony	Suffix	American Indian reservation in Nevada
82	Community	Suffix	American Indian reservation in California, Minnesota, Nevada, Oregon, and Wisconsin; American Indian tribal subdivision in North Carolina and Oklahoma

83	joint-use area	Suffix	American Indian reservation equivalent in Kansas, New Mexico, and Wisconsin
84	Pueblo	Suffix	American Indian reservation in New Mexico and Texas
85	Rancheria	Suffix	American Indian reservation in California
86	Reservation	Suffix	American Indian reservation in 34 states; minor civil division (MCD) equivalent in Maine and New York; translated phrase is occasionally added after a modified name of the entity
87	Reserve	Suffix	American Indian reservation in Alaska
88	OTSA	Suffix	Oklahoma tribal statistical area (OTSA); statistical American Indian reservation equivalent in Oklahoma
89	Trust Land	Suffix	Legal American Indian reservation equivalent in nine states
90	joint-use OTSA	Suffix	Joint-use area of an Oklahoma tribal statistical area (OTSA); statistical American Indian reservation equivalent in Oklahoma; "joint-use area OTSA" occasionally appears as the translated suffix
91	Ranch	Suffix	American Indian reservation in California and Nevada
92	SDTSA	Suffix	State designated tribal statistical area (SDTSA); State designated American Indian statistical area (SDAISA); statistical American Indian reservation equivalent in Alabama, Delaware, Louisiana, New Jersey, North Carolina, South Carolina, and Virginia; "SDAISA" occasionally appears as the translated suffix
93	Indian Village	Suffix	American Indian reservation in California and Oregon
94	Village	Suffix	American Indian reservation in California and Oregon
95	Indian Community	Suffix	American Indian reservation in Michigan and Minnesota
96	Indian Reservation	Suffix	American Indian reservation in Arizona, California, Montana, Nevada, Oregon, South Dakota, and Washington
97	Indian Rancheria	Suffix	American Indian reservation in California
98	Indian Colony	Suffix	American Indian reservation in Nevada and Oregon
99	Pueblo de	Prefix	American Indian reservation in New Mexico
9C	Pueblo of	Prefix	American Indian reservation in New Mexico
9D	Settlement	Suffix	American Indian reservation in Iowa
BG	Block Group	Prefix	Statistical area in the United States and Puerto Rico
BK	Block	Prefix	Statistical area in the United States and Puerto Rico
C1	Congressional District (at Large)		Congressional district in a single-district state (Alaska, Delaware, Montana, North Dakota, South Dakota, Vermont, and Wyoming); translated phrase appears as the name of the entity
C2	Congressional District	Prefix	Congressional district in a state with more than one district (43 states)
C3	Resident Commissioner District (at Large)		Congressional district equivalent in Puerto Rico; translated phrase appears as the name of the entity
C4	Delegate District (at Large)		Congressional district equivalent in the District of Columbia, American Samoa, Guam, and the U.S. Virgin Islands; translated phrase appears as the name of the entity
CG	consolidated government	Suffix	Consolidated city in Georgia (Augusta-Richmond County)
CN	corporation	Suffix	Incorporated place in West Virginia (Ranson)
CT	Census Tract	Prefix	Statistical area in the United States and Puerto Rico; translated phrase is added before a modified name of the entity
IB	Tribal Block Group	Prefix	Statistical area within specified legal American Indian areas

IT	Tribal Census Tract	Prefix	Statistical area within specified legal American Indian areas; translated phrase is added before a modified name of the entity
L1	Ward	Prefix	State legislative district (upper chamber) equivalent in the District of Columbia
L2	Senatorial District	Suffix	State legislative district (upper chamber) in Nevada
L3	Assembly District	Prefix	State legislative district (lower chamber) in California
L4	General Assembly District	Prefix	State legislative district (lower chamber) in New Jersey
L5	State Legislative District	Prefix	State legislative district (lower chamber) in Maryland
L6	State Legislative Subdistrict	Prefix	State legislative district (lower chamber) in Maryland
L8	State Senate District	Suffix	State legislative district (upper chamber) in Vermont
L9	State House District	Suffix	State legislative district (lower chamber) in Vermont
LL	State House District	Prefix	State legislative district (lower chamber) in 41 states and Puerto Rico
LU	State Senate District	Prefix	State legislative district (upper chamber) in 46 states and Puerto Rico; Nebraska unicameral legislative district
M0	CSA	Suffix	Combined statistical area; statistical area in 45 states, the District of Columbia, and Puerto Rico
M1	Metro Area	Suffix	Metropolitan statistical area; statistical area in all 50 states, the District of Columbia, and Puerto Rico; "Metropolitan Statistical Area" and "Metropolitan Area" occasionally appear as the translated suffix
M2	Micro Area	Suffix	Micropolitan statistical area; statistical area in 47 states and Puerto Rico; "Micropolitan Statistical Area" and "Micropolitan Area" occasionally appear as the translated suffix
M3	Metro Division	Suffix	Metropolitan division; statistical area in 17 states and the District of Columbia; "Metropolitan Division" occasionally appears as the translated suffix
M4	Combined NECTA	Suffix	Combined New England city and town area; statistical area in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
M5	Metropolitan NECTA	Suffix	Metropolitan New England city and town area; statistical area in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
M6	Micropolitan NECTA	Suffix	Micropolitan New England city and town area; statistical area in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
M7	NECTA Division	Suffix	New England city and town area division; statistical area in Massachusetts and New Hampshire
MG	metropolitan government	Suffix	Incorporated place in Tennessee (Lynchburg, Moore County); consolidated city in Tennessee (Nashville-Davidson)
MT	metro government	Suffix	Consolidated city in Kentucky (Louisville/Jefferson County)
OT	Off-Reservation Trust Land	Suffix	Trust land component of an American Indian reservation with associated trust land in 23 states
P1	PUMA	Suffix	1% public-use microdata file area (super-PUMA); statistical area in all 50 states, the District of Columbia, and Puerto Rico
P5	PUMA	Suffix	5% public-use microdata file area; statistical area in all 50 states, the District of Columbia, and Puerto Rico
S1	(none)		Elementary school district; legal school area in 24 states
S2	(none)		Secondary school district; legal school area in 20 states

S3	(none)		Unified school district; legal school area in all 50 states, the District of Columbia, American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands
S4	(none)		Administrative school area in Hawaii and New York city
S5	(none)		Bureau of Indian Affairs (BIA) school area
S6	(none)		Department of Defense (DOD) school area
T1	Area	Suffix	American Indian tribal subdivision in Arizona, Michigan, Utah, and Wisconsin
T2	Chapter	Suffix	American Indian tribal subdivision in Arizona, New Mexico, and Utah
T3	Segment	Suffix	American Indian tribal subdivision in Minnesota, North Dakota, and South Dakota; "Community" occasionally appears as the translated suffix
T4	District	Suffix	American Indian tribal subdivision in Arizona, Minnesota, Montana, Nebraska, North Dakota, and South Dakota
T5	(none)		District; American Indian tribal subdivision in Arizona, Oklahoma, and South Dakota
T6	Segment	Suffix	American Indian tribal subdivision in Minnesota and North Dakota
TA	Administrative Area	Suffix	American Indian tribal subdivision in Arizona
TB	Addition	Suffix	American Indian tribal subdivision in Wisconsin
TC	County District	Prefix	Statistical American Indian tribal subdivision in Oklahoma
TZ	(none)		Traffic analysis zone
UC	urban county	Suffix	Incorporated place in Kentucky (Lexington-Fayette)
UG	unified government	Suffix	Incorporated place in Georgia (Cusseta-Chattahoochee County, Georgetown-Quitman County, and Webster County); consolidated city in Georgia (Athens-Clarke County)
V0	(none)		Voting district (VTD); "Voting District" (or a similar phrase) appears as the name of the entity
V1	Voting District	Prefix	Voting district (VTD); legal voting district in 32 states and Puerto Rico, "VTD" occasionally appears as the translated prefix
V2	Voting District	Suffix	Voting district (VTD); legal voting district in 32 states; "VTD" occasionally appears as the translated suffix
Z3	ZCTA3	Prefix	Census 3-Digit ZIP Code tabulation area (ZCTA); statistical area in all 50 states, the District of Columbia, American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands; "3-Digit ZCTA" occasionally appears as the translated prefix
Z5	ZCTA5	Prefix	Census 5-Digit ZIP Code tabulation area (ZCTA); statistical area in all 50 states, the District of Columbia, American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands; "5-Digit ZCTA" occasionally appears as the translated prefix

CENSUS, FIPS, AND ANSI CODES

Standard identification codes are provided for geographic areas. These can include a U.S. Census Bureau code, a Federal Information Processing Series (FIPS) code, and/or an American National Standards Institute (ANSI) code. Note that for user convenience some coding fields can be in two locations, in a field specific for the geographic area and in one of the general identification fields described below.

IDENTIFICATION FIELDS

- **USCCODE** | U.S. Census Bureau Code
  Entities can be identified by a code established by or accepted by the U.S. Census Bureau.

- **FIPSCODE** | Translated LSAD
  Entities can be identified by a Federal Information Processing Series (FIPS) code.

- **ANSICODE** | Legal and Statistical Area Description Code
  Entities can be identified by an eight-character numeric National Standard (ANSI) code.

SIZE, CLASS, AND STATUS CODES

Special general characteristic indicators are provided for geographic areas. These can include size, class, and status codes.

SIZE

Census size characteristic codes describe the classification of geographic areas related to population level.

CHARACTERISTICS FIELDS

- **SIZECODE** | Size Census Code
  Record can have a two-character numeric code indicating the population level of geographic area.

Size lookup codes for legal or statistical areas are:

CODE	DESCRIPTION
00	Not in universe
01	0
02	1-24
03	25-99
04	100-199
05	200-249
06	250-299
07	300-499
08	500-999
09	1,000-1,499
10	1,500-1,999
11	2,000-2,499
12	2,500-4,999
13	5,000-9,999
14	10,000-19,999
15	20,000-24,999
16	25,000-49,999
17	50,000-99,999
18	100,000-249,999
19	250,000-499,999
20	500,000-999,999

21	1,000,000-2,499,999
22	2,500,000-4,999,999
23	5,000,000 or more

LEGAL OR STATISTICAL STATUS

Class Federal Information Processing Series (FIPS) codes describe the general characteristics of geographic areas related to legal or statistical status, governmental status, and in some cases relationship to other geographic entities. For example, an incorporated place may serve as the statistical equivalent of a county.

CHARACTERISTICS FIELDS

- **CLASSFP** | Class FIPS Code
  Entities can be identified by a Federal Information Processing Series (FIPS) code.

Class FIPS lookup codes for legal or statistical areas are:

CODE	DESCRIPTION
Class B - Post Offices/Postal Zones Not Corresponding To Other Locational Entities	
B0	Postal zone not corresponding to other locational entities.
B3	3-Digit ZIP Code Tabulation Area (approximated representation of the area covered by a 3-Digit ZIP Code).
B5	5-Digit ZIP Code Tabulation Area (approximated representation of the area covered by a 5-Digit ZIP Code).
Class C - Incorporated Places	
C1	An incorporated place that is governmentally active, is not related to an Alaska Native village statistical area (ANVSA), and does not serve as a minor civil division (MCD) equivalent.
C2	Incorporated place that also serves as a minor civil division (MCD) equivalent because, although the place is coextensive with an MCD, the U.S. Census Bureau, in agreement with state officials, does not recognize that MCD for presenting statistical data because the MCD cannot provide governmental services (Iowa and Ohio only).
C3	Incorporated place that is a consolidated city.
C5	Incorporated place that also serves as a minor civil division (MCD) equivalent because it is not part of any MCD or a county subdivision classified as Z5.
C6	Incorporated place that coincides with, or approximates, an Alaska Native village statistical area (ANVSA).
C7	An incorporated place that is an independent city; that is, it also serves as a county equivalent because it is not part of any county and a minor civil division (MCD) equivalent because it is not part of any MCD.
C8	The portion (balance) of a consolidated city that excludes the separately incorporated place(s) within that jurisdiction.
C9	An incorporated place whose government is operationally inactive and is not included in any other C subclass.
Class D - American Indian Reservations (AIRs)	
D0	Statistical or legal area administered and/or claimed by two or more American Indian tribes.
D1	Federally recognized American Indian reservation (AIR) that has associated off-reservation trust land.
D2	Federally recognized American Indian reservation (AIR) that does not have associated off-reservation trust lands.
D3	Federally recognized American Indian off-reservation trust land area without any associated American Indian reservation (AIR).

D4	State-recognized American Indian reservation (AIR).
D5	The off-reservation trust land portion of an American Indian entity with both a reservation and trust land.
D6	A statistical entity for a federally recognized American Indian tribe that does not have a reservation or identified off-reservation trust land; specifically a Census 2000 tribal designated statistical area (TDSA), Census 2000 Oklahoma Tribal statistical area (OTSA), or a 1990 tribal jurisdiction statistical area (TJSA) but excluding Alaska Native village statistical areas.
D7	Tribal Subdivision.
D8	The reservation portion of an American Indian entity with both a reservation and trust land.
D9	A statistical entity for a state recognized American Indian tribe not having a reservation; specifically a state designated American Indian statistical area (SDAISA).
Class E - Alaska Native Areas (ANAs)	
E1	Alaska Native Village Statistical Area (ANVSA) that does not coincide with, or approximate, an incorporated place or census designated place (CDP).
E2	Alaska Native Village Statistical Area (ANVSA) that coincides with, or approximates, a census designated place (CDP).
E6	Alaska Native Village Statistical Area (ANVSA) that coincides with, or approximates, an incorporated place.
E7	An Alaskan Native Regional Corporation (ANRC).
Class F - Hawaiian Home Land	
F1	A Hawaiian home land, an area established by the Hawaiian Homes Commission Act of 1921 providing for lands held in trust by the State of Hawaii for the benefit of Native Hawaiians.
Class H - Counties and County Equivalents	
H1	An active county or statistically equivalent entity that does not qualify under subclass C7 or H6.
H4	A legally defined inactive or nonfunctioning county or statistically equivalent entity that does not qualify under subclass H6.
H5	Census areas in Alaska, a statistical county equivalent entity.
H6	A county or statistically equivalent entity that is coextensive or governmentally consolidated with an incorporated place, part of an incorporated place, or a consolidated city.
H9	A portion (balance) of a county-level economic census entity in Alaska.
Class I - Special Economic Census Entities	
I1	The Hawaiian Island of Lanai economic census place.
I2	The Hawaiian Island of Molokai (balance) economic census place.
Class M - Federal Facilities	
M2	An installation, or part of an installation, of the U.S. Department of Defense or any branch thereof, or of the U.S. Coast Guard, that serves as a census designated place (Hawaii only).
Class T - Active Minor Civil Divisions (MCDs)	
T1	Governmentally active minor civil division (MCD) that is not coextensive with an incorporated place.
T5	Governmentally active minor civil division (MCD) that is coextensive with an incorporated place.
T8	A portion (balance) of a minor civil division (MCD) entity; that is, part of the MCD qualifies as a separate economic census place.
T9	A minor civil division (MCD) whose government is inactive.

Class U - Unincorporated Places Except Those Associated With Facilities	
U1	Census designated place (CDP) with a name that is commonly recognized for the populated area, and designated as a populated place by the U.S. Geological Survey.
U2	Census designated place (CDP) with a name that is not commonly recognized for the populated area, such as a combination of the names of two or three commonly recognized communities, or a name that identifies the location of the CDP in relation to an adjacent incorporated place.
U9	A census designated place (CDP) that coincides with, or approximates, an Alaska Native Village Statistical Area (ANVSA).
Class Z - Inactive or Nonfunctioning County Divisions	
Z1	A minor civil division (MCD) that cannot provide general-purpose governmental services (Guam only).
Z2	An American Indian reservation and/or off-reservation trust land area that also serves as a primary division of a county or statistical equivalent entity.
Z3	Unorganized territory identified by the U.S. Census Bureau as a minor civil division (MCD) equivalent for presenting statistical data (Rose Island and Swains Island in American Samoa only).
Z5	Census county division (CCD), census subarea (Alaska only), or census subdistrict (U.S. Virgin Islands only).
Z6	Subbarrio (sub-MCD) in Puerto Rico.
Z7	An incorporated place that the U.S. Census Bureau treats as a minor civil division (MCD) equivalent because it is not in any MCD or is coextensive with a legally established but nonfunctioning MCD that the U.S. Census Bureau does not recognize for statistical data presentation purposes, and is located in a county whose MCDs cannot provide governmental services (Iowa, Louisiana, Nebraska, and North Carolina only).
Z9	A pseudo-minor civil division (MCD) that consists of water area not assigned to any legal MCD.

MAF/TIGER FEATURE CLASS

Census MAF/TIGER feature class characteristic codes describe the classification of geographic areas as U.S. Census Bureau GIS objects and features defined by the U.S. Census Bureau *TIGER/Line® Shapefiles*. This code replaces the Census Feature Class Code (CFCC) used before 2007 and is expanded to include features that previously did not have codes.

CHARACTERISTICS FIELDS

- **MTFCC** | MAF/TIGER Feature Class Census Code
  Entities can be identified by an eight-character numeric National Standard (ANSI) code.

MAF/TIGER feature class lookup codes for legal or statistical areas are:

CODE	NAME	DESCRIPTION
G2101	American Indian Area (Reservation only)	American Indian Area (Reservation only).
G2102	American Indian Area (Off-Reservation Trust Land only)	American Indian Area (Off-Reservation Trust Land only).
G2120	Hawaiian Home Land	A legal area held in trust for the benefit of Native Hawaiians.
G2130	Alaska Native Village Statistical Area	A statistical geographic entity that represents the residences, permanent and/or seasonal, for Alaska Natives who are members of or receiving governmental services from the defining legal Alaska Native Village corporation.

G2140	Oklahoma Tribal Statistical Area	A statistical entity identified and delineated by the U.S. Census Bureau in consultation with federally recognized American Indian tribes that have no current reservation, but had a former reservation in Oklahoma.
G2150	State Designated Tribal Statistical Area	A statistical geographic entity identified and delineated for the U.S. Census Bureau by a state-appointed liaison for a state-recognized American Indian tribe that does not currently have a reservation and/or lands in trust.
G2160	Tribal Designated Statistical Area	A statistical geographic entity identified and delineated for the U.S. Census Bureau by a federally recognized American Indian tribe that does not currently have a reservation and/or off-reservation trust land.
G2170	American Indian Joint Use Area	An area administered jointly and/or claimed by two or more American Indian tribes.
G2200	Alaska Native Regional Corporation	Corporate entities established to conduct both business and nonprofit affairs of Alaska Natives pursuant to the Alaska Native Claims Settlement Act of 1972 (Public Law 92-203). There are twelve geographically defined ANRCs and they are all within and cover most of the State of Alaska (the Annette Island Reserve-an American Indian reservation-is excluded from any ANRC.) The boundaries of ANRCs have been legally established.
G2300	American Indian Area Tribal Subdivision	Administrative subdivisions of federally recognized American Indian reservations, off-reservation trust lands, or Oklahoma tribal statistical areas (OTSAs). These entities are internal units of self-government or administration that serve social, cultural, and/or economic purposes for the American Indians on the reservations, off-reservation trust lands, or OTSAs.
G2400	American Indian Area Tribal Census Tract	A relatively small and permanent statistical subdivision of a federally recognized American Indian reservation and/or off-reservation trust land, delineated by American Indian tribal participants or the U.S. Census Bureau for the purpose of presenting demographic data.
G2410	American Indian Area Tribal Block Group	A cluster of census blocks within a single tribal census tract delineated by American Indian tribal participants or the U.S. Census Bureau for the purpose of presenting demographic data.
G3100	Combined Statistical Area	A grouping of adjacent metropolitan and/or micropolitan statistical areas that have a degree of economic and social integration, as measured by commuting.
G3110	Metropolitan/Micropolitan Statistical Area	An area containing a substantial population nucleus together with adjacent communities having a high degree of economic and social integration with that core, as measured by commuting. Defined using whole counties and equivalents.
G3120	Metropolitan Division	A county or grouping of counties that is a subdivision of a Metropolitan Statistical Area containing an urbanized area with a population of 2.5 million or more.
G3200	Combined New England City and Town Area	A grouping of adjacent New England city and town areas that have a degree of economic and social integration, as measured by commuting.
G3210	New England City and Town Area	An area containing a substantial population nucleus together with adjacent communities having a high degree of economic and social integration with that core, as measured by commuting. Defined using Minor Civil Divisions (MCDs) in New England.

G3220	New England City and Town Area Division	A grouping of cities and towns in New England that is a subdivision of a New England City and Town Area containing an urbanized area with a population of 2.5 million or more.
G3500	Urban Area	Densely settled territory that contains at least 2,500 people. The subtypes of this feature are Urbanized Area (UA), which consists of 50,000 + people and Urban Cluster, which ranges between 2,500 and 49,999 people.
G4000	State or Equivalent	The primary governmental divisions of the United States. The District of Columbia is treated as a statistical equivalent of a state for census purposes, as is Puerto Rico and other insular areas.
G4020	County or Equivalent	The primary division of a state or state equivalent area. The primary divisions of 48 states are termed County, but other terms are used such as Borough in Alaska, Parish in Louisiana, and Municipio in Puerto Rico. This feature includes independent cities, which are incorporated places that are not part of any county.
G4040	County Subdivision	The primary divisions of counties and equivalent features for the reporting of U.S. Census Bureau data. The subtypes of this feature are Minor Civil Division, Census County Division/Census Subarea, and Unorganized Territory. This feature includes independent places, which are incorporated places that are not part of any county subdivision.
G4050	Estate	Subdivisions of the three major islands (Saint Croix, Saint John, and Saint Thomas) in the U.S. Virgin Islands (USVI). The estates have legally defined boundaries and are much smaller in area than the Census Subdistricts (county subdivisions), but do not necessarily nest within these districts. The boundaries of the estates are primarily those of the former agricultural plantations that existed at the time Denmark transferred the islands to the United States in 1917. The names and boundaries of the estates are in common usage by residents and in government administration.
G4060	Subminor Civil Division	Legally defined divisions (subbarrios) of minor civil divisions (barrios-pueblo and barrios) in Puerto Rico.
G4110	Incorporated Place	A legal entity incorporated under state law to provide general-purpose governmental services to a concentration of population. Incorporated places are generally designated as a city, borough, municipality, town, village, or, in a few instances, have no legal description.
G4120	Consolidated City	An incorporated place that has merged governmentally with a county or minor civil division, but one or more of the incorporated places continues to function within the consolidation. It is a place that contains additional separately incorporated places.
G4210	Census Designated Place	A statistical area defined for a named concentration of population and the statistical counterpart of an incorporated place.
G5020	Census Tract	Relatively permanent statistical subdivisions of a County or equivalent feature delineated by local participants as part of the U.S. Census Bureau's Participant Statistical Areas Program.
G5030	Census Block Group	A cluster of census blocks having the same first digit of their four-digit identifying numbers within a Census Tract. For example, block group 3 (BG 3) within a Census Tract includes all blocks numbered from 3000 to 3999.

G5040	Census Tabulation Block	The lowest-order census defined statistical area. It is an area, such as a city block, bounded primarily by physical features but sometimes by invisible city or property boundaries. A tabulation block boundary does not cross the boundary of any other geographic area for which the U.S. Census Bureau tabulates data. The subtypes of this feature are Count Question Resolution (CQR), current, and census.
G5200	Congressional District	The 435 areas from which people are elected to the U.S. House of Representatives. Additional equivalent features exist for state equivalents with nonvoting delegates or no representative.
G5210	State Legislative District (Upper Chamber)	Areas established by a state or equivalent government from which members are elected to the upper or unicameral chamber of a state governing body. The upper chamber is the senate in a bicameral legislature, and in the unicameral case is a single house legislature (Nebraska, Guam, and U.S. Virgin Islands only).
G5220	State Legislative District (Lower Chamber)	Areas established by a state or equivalent government from which members are elected to the lower chamber of a state governing body. The lower chamber is the House of Representatives in a bicameral legislature.
G5240	Voting District	The generic name for the geographic features, such as precincts, wards, and election districts, established by state, local, and tribal governments for the purpose of conducting elections.
G5400	School District (Elementary)	A geographic area within which officials provide public elementary grade-level educational services for residents.
G5410	School District (Secondary)	A geographic area within which officials provide public secondary grade-level educational services for residents.
G5420	School District (Unified)	A geographic area within which officials provide public educational services for all grade levels for residents.
G6120	Public-Use Microdata Area (5% or 10% File)	A decennial census area with a population of at least 100,000 for which the U.S. Census Bureau provides selected extracts of household-level data from a 5% sample of long-form Census Bureau records that are screened to protect confidentiality. In Guam and the U.S. Virgin Islands, the extracts are from a 10% sample.
G6330	Urban Growth Area	An area defined under state authority to manage urbanization that the U.S. Census Bureau includes in the MAF/TIGER Database in agreement with the state.
G6350	Census 5-Digit ZIP Code Tabulation Area	An approximate statistical-area representation of a U.S. Postal Service (USPS) 5-Digit ZIP Code service area.

FUNCTIONAL STATUS

Census functional status characteristic codes describe the classification of geographic areas related to if it is a functioning governmental unit, has an inactive government, is an administrative area without a functioning government, or is a statistical area identified and defined solely for tabulation and presentation of statistical data and, if active, denotes fiscal independence and whether general or limited special services are provided. Functional status determines a geographic area's eligibility to participate in various U.S. Census Bureau programs.

CHARACTERISTICS FIELDS

- **FUNCSTAT** | Functional Status Census Code
  Entities can be identified by an eight-character numeric National Standard (ANSI) code.

Functional status lookup codes for legal or statistical areas are:

CODE	DESCRIPTION
A	Active government providing primary general-purpose functions
B	Active government that is partially consolidated with another government but with separate officials providing primary general-purpose functions
C	Active government consolidated with another government with a single set of officials
E	Active government providing special-purpose functions
F	Fictitious entity created to fill the U.S. Census Bureau's geographic hierarchy
G	Active government that is subordinate to another unit of government, and thus not considered a functioning government
I	Inactive governmental unit that has the power to provide primary special-purpose functions
N	Nonfunctioning legal entity
S	Statistical entity

LATITUDE AND LONGITUDE COORDINATES

Any location on Earth can be described with two numbers—its latitude and its longitude. If a pilot or a ship's captain wants to specify a position on a map, these are the coordinates they would use. In actuality, these coordinates are angles, measured in degrees, minutes of arc, and seconds of arc.

Internal point latitude and longitude coordinates are a calculated point that is at or near the geographic center of the entity. For some irregularly shaped entities (such as those shaped like a crescent), the calculated geographic center may be located outside the boundaries of the area. In such instances, the internal point is identified as a point inside the entity boundaries nearest or near the calculated geographic center.

The database provides U.S. Census Bureau internal point latitude and longitude coordinates for geographic areas and they are presented in multiple formats. The examples given below are for the same latitude and longitude coordinates in Apache County, Arizona.

CHARACTERISTICS FIELDS

- **LATITUDE** | Latitude coordinate in degrees
- **LONGITUDE** | Longitude coordinate in degrees
  Seven decimal places; examples, +34.0874945, -109.3283640.

- **LATRAD** | Latitude coordinate converted to radians
- **LONRAD** | Longitude coordinate converted to radians
  15 numeric places; useful for trigonometry functions; examples, 0.594939012780458, -1.908139917618838.

- **LATDMS** | Latitude coordinate in degrees/minutes/seconds
- **LONDMS** | Longitude coordinate in degrees/minutes/seconds
  Useful when printing out coordinates in documents and on websites; examples, 34° 5' 15'' N, 109° 19' 42'' W.

Note that while degree coordinates have seven decimal places, the positional accuracy of these coordinates may not be as great as the seven decimal places suggest because spatial accuracy varies with the source materials used. Therefore, the data may not be suitable for high-precision measurement applications such as engineering problems, property transfers, or other uses requiring highly accurate measurements of the earth's surface.

LATITUDE

Latitude gives a location north or south of the equator. On a map it is represented by horizontal lines (or parallels) that circle the globe. Many will tell you that the size of one degree of latitude is the same anywhere on the globe, but in reality it increases slightly from the equator to the poles as a result of the earth's polar flattening.

The important lines of latitude are:

- 0° - The Equator
- 23.5°N and S - The Tropics (called Cancer in the north and Capricorn in the south)
  - between these two, at some time of the year, the sun is directly overhead
  - beyond each of these the sun is never directly overhead
- 66.5°N and S - The Polar Circles
- 90°N and S - The Poles
  - beyond the Poles and the Polar Circles 24 hours of daylight (midnight sun) is possible in summer and 24 hours without any daylight is possible in winter

LONGITUDE

Longitude gives a location east or west of the prime meridian. On a map it is represented by vertical lines that circle the globe and are divided into 360 degrees. The prime meridian (the meridian of Greenwich, England) is at 0 degrees longitude, and the east and west meridians (lines of longitude) converge on the opposite side of the earth to meet at 180 degrees longitude, the anti-prime meridian, which also defines, with some diversions to pass around various territories and island groups, the International Date Line. Longitude coordinates east of the prime meridian are east longitude (and are given positive numbers when used in equations). Longitude coordinates west of the prime meridian are west longitude (and are given negative numbers when used in equations).

DISTANCE FORMULAS

At the equator one degree of latitude is 68.7 miles, at the polls it is 69.4 miles, and at 45 degrees it is 69.1 miles. As you can see, the distance varies, but only a small amount. Conversely, the size of one degree of longitude varies greatly. At the equator one degree of longitude is 69.2 miles, about the same size as a degree of latitude; however, the size gradually decreases to zero as the meridians converge at the poles. At 45 degrees one degree of longitude is 49 miles.

This large variation in the size of a degree of longitude, dependent on where it is located, is the main stumbling block in distance formulas. Some calculations are approximations that completely or largely ignore these variations and accept a margin of error which can be more than ten percent. Other more precise calculations take the variations into account, but they are considerably more complex.

FORMULA 1

This approximation formula, based on the Pythagorean theorem ($a^2 + b^2 = c^2$), named after Greek mathematician Pythagoras (ca. 570 BC–ca. 495 BC), is the simplest, but it has a considerable margin of error. Both versions of the equation are the same but use different notation. The radical ("√") in the first equation indicates the square root should be calculated from the value within it. The square root of a number n is a number r such that $r^2 = n$, or, in other words, a number r whose square (the result of multiplying the number by itself) is n.

$$d = \sqrt{x^2 + y^2} \quad ; \quad distance = \text{sqrt}(x * x + y * y)$$

Where: $x = 69.1 \times (lat_2 - lat_1)$
$y = 53.0 \times (long_2 - long_1)$

Excel: `=SQRT((69.1*(lat2–lat1))^2+(53*(long2–long1))^2)`

FORMULA 2

This approximation formula variation of Formula 1 adds a cosine math function to improve accuracy. The cosine of a right-angled triangle is the length of the side adjacent to the right angle divided by the length of the hypotenuse (the longest side of a right-angled triangle, at the side opposite the right angle); or, stated as an equation: $\cos = \frac{a}{h}$.

$$d = \sqrt{x^2 + y^2} \quad ; \quad distance = \text{sqrt}(x * x + y * y)$$

Where: $x = 69.1 \times (lat_2 - lat_1)$
$y = 69.1 \times (long_2 - long_1) \times \cos\left(\frac{lat_1}{57.3}\right)$

Excel: `=SQRT((69.1*(lat2–lat1))^2+(69.1*(long2–long1)*COS(lat1/57.3))^2)`

FORMULA 3

This formula, which falls under the class of Great Circle Distance Calculations and derives from the Spherical Law of Cosines, is significantly more accurate than the approximation formulas above; however, it can have large rounding errors if the distance is small. It requires first converting the latitude and longitude coordinates to radians by dividing them by $\left(\frac{180}{\pi}\right)^{\circ}$ (approximately 57.2957795130824 degrees). This is because angles need to be in radians to pass them to trigonometry functions. Fortunately, with Peacock Data database products, the degrees-to-radians conversions are already included in separate fields. Note that $acos$ is sometimes used to mean the same as $arccos$. Also note that carrying degrees-to-radians calculations out to more decimal places provides greater precision (15 numeric places is ideal).

$$d = R \times \arccos[\sin(\varphi_1) \times \sin(\varphi_2) + \cos(\varphi_1) \times \cos(\varphi_2) \times \cos(\lambda_2 - \lambda_1)]$$

Where: $\varphi_1, \varphi_2 =$ latitude of the points in radians
$\lambda_1, \lambda_2 =$ longitude of the points in radians
$R =$ radius of the earth:
- Statute miles: $R = 3959$
- Kilometers: $R = 6371$
- Nautical miles: $R = 3440$

Excel: `=R*ACOS(SIN(lat1)*SIN(lat2)+COS(lat1)*COS(lat2)*COS(long2-long1))`

The radiuses of the earth are mean values. The equatorial radius is 6,378.1 kilometers. The polar radius is 6,356.8 kilometers. Also note that a nautical mile is the average length of one minute of one degree along the Great Circle of the Earth (about one minute of arc of latitude measured along any meridian; or about one minute of arc of longitude at the equator). In 1929 it was internationally agreed that a nautical mile would be exactly 1,852 meters (6,076 feet $1\frac{25}{64}$ inches). Prior to this time, different countries had different definitions of a nautical mile.

FORMULA 4

This variation of Formula 3 includes the degrees-to-radians conversions in the equation itself.

$$d = R \times \arccos\left[\sin\left(\frac{\varphi_1}{rad}\right) \times \sin\left(\frac{\varphi_2}{rad}\right) + \cos\left(\frac{\varphi_1}{rad}\right) \times \cos\left(\frac{\varphi_2}{rad}\right) \times \cos\left(\frac{\lambda_2 - \lambda_1}{rad}\right)\right]$$

Where: $\varphi_1, \varphi_2 =$ latitude of the points in degrees
$\lambda_1, \lambda_2 =$ longitude of the points in degrees
$rad = \left(\frac{180}{\pi}\right)^{\circ} \approx 57.2957795130824°$
$R =$ radius of the earth:
- Statute miles: $R = 3959$
- Kilometers: $R = 6371$
- Nautical miles: $R = 3440$

Excel:
```
=R*ACOS(SIN(lat1/57.2957795130824)*SIN(lat2/57.2957795130824)
      +COS(lat1/57.2957795130824)*COS(lat2/57.2957795130824)*
            COS(long2/57.2957795130824-long1/57.2957795130824))
```

FORMULA 5

This is known as the Haversine formula which also falls under the class of Great Circle Distance Calculations. It is a special case of a more general formula in spherical trigonometry, the Law of Haversines. It is numerically better-conditioned for small distances than the Great Circle formulas previously discussed; however, it also suffers from rounding errors for the special (and somewhat unusual) case of antipodal points (on opposite ends of the sphere). The use of this formula became simplified with the availability of tables for the haversine function (the first equation in the formula). Remember that angles need to be in radians to pass them to trigonometry functions (see Formula 3). You can also apply the degrees-to-radians conversions in the equation itself (similar to the example in Formula 4).

The Haversine formula (as referenced by R. W. Sinnott, "Virtues of the Haversine", *Sky and Telescope*, Volume 68, Number 2, 1984, page 159) is:

Haversine: $a = \sin^2\left(\frac{\varphi_2-\varphi_1}{2}\right) + \cos(\varphi_1) \times \cos(\varphi_2) \times \sin^2\left(\frac{\lambda_2-\lambda_1}{2}\right)$

Formula: $c = 2 \times \text{atan2}\left(\sqrt{a}, \sqrt{(1-a)}\right)$

$d = R \times c$

Where: $\varphi_1, \varphi_2 =$ latitude of the points in radians
$\lambda_1, \lambda_2 =$ longitude of the points in radians
$R =$ radius of the earth:
- Statute miles: $R = 3959$
- Kilometers: $R = 6371$
- Nautical miles: $R = 3440$

Excel:
```
=R*2*ATAN2(SQRT(1-(SIN((lat2-lat1)/2)^2+COS(lat1)*COS(lat2)*
      SIN((long2-long1)/2)^2)),SQRT(SIN((lat2-lat1)/2)^2
            +COS(lat1)*COS(lat2)*SIN((long2-long1)/2)^2))
```

FORMULA 6

While the most precise formulas presented so far have a margin of error that can be less than a meter, even more exacting equations are available. Among the most precise are found in Vincenty's formulae, two related iterative methods developed by Thaddeus Vincenty (1920–2002; born Tadeusz Szpila), a Polish American geodesist who received the U.S. Department of Commerce Medal for Meritorious Service for his work. The formulae, published in 1975, use an accurate ellipsoidal model of the earth (as opposed to the spherical model utilized in the equations above). They are widely employed in Geodesy (a scientific discipline that deals with the measurement and representation of the Earth) because the system can have a precision within 0.5 mm (0.000015 inches).

Vincenty's formulae are:

NOTATION

Define the following notation:

$a =$ length of semi-major axis of the ellipsoid (radius at equator; 6 378 137.0 meters in WGS 1984)

$f =$ flattening of the ellipsoid (1/298.257 223 563 in WGS 1984)

$b = (1-f)a =$ length of semi-minor axis of the ellipsoid (radius at the poles)

$\varphi_1, \varphi_2 =$ latitude of the points

$U_1 = \arctan[(1-f)\tan\varphi_1] =$ reduced first latitude (first latitude on the auxiliary sphere)

$U_2 = \arctan[(1-f)\tan\varphi_2] =$ reduced second latitude (second latitude on the auxiliary sphere)

$L = L_2 - L_1 =$ difference in longitude points

λ_1, λ_2 = longitude of the points on the auxiliary sphere

α_1, α_2 = forward azimuths at the points

α = azimuth at the equator

s = ellipsoidal distance between the two points

σ = arc length between points on the auxiliary sphere

INVERSE PROBLEM

Given the coordinates of the two points (φ_1, L_1) and (φ_2, L_2), the inverse problem finds the azimuths α_1, α_2 and the ellipsoidal distance s.

Calculate U_1, U_2, and L, and set initial value of $\lambda = L$. Then iteratively evaluate the following equations until λ converges:

$$\sin\sigma = \sqrt{(\cos U_2 \sin\lambda)^2 + (\cos U_1 \sin U_2 - \sin U_1 \cos U_2 \cos\lambda)^2}$$

$$\cos\sigma = \sin U_1 \sin U_2 + \cos U_1 \cos U_2 \cos\lambda$$

$$\sigma = \arctan\frac{\sin\sigma}{\cos\sigma}$$

$$\sin\alpha = \frac{\cos U_1 \cos U_2 \sin\lambda}{\sin\sigma}$$

$$\cos^2\alpha = 1 - \sin^2\alpha$$

$$\cos(2\sigma_m) = \cos\sigma - \frac{2\sin U_1 \sin U_2}{\cos^2\alpha}$$

$$C = \frac{f}{16}\cos^2\alpha\,[4 + f(4 - 3\cos^2\alpha)]$$

$$\lambda = L + (1 - C)f\sin\alpha\,\{\sigma + C\sin\sigma\,[\cos(2\sigma_m) + C\cos\sigma\,(-1 + 2\cos^2(2\sigma_m))]\}$$

When the change in λ is negligible (e.g.,$10^{-12} \approx 0.06\ mm$), evaluate the following:

$$u^2 = \cos^2\alpha\frac{a^2 - b^2}{b^2}$$

$$A = 1 + \frac{u^2}{16384}\{4096 + u^2[-768 + u^2(320 - 175u^2)]\}$$

$$B = \frac{u^2}{1024}\{256 + u^2[-128 + u^2(74 - 47u^2)]\}$$

$$\Delta\sigma = B\sin\sigma\left\{\cos(2\sigma_m) + \frac{1}{4}B\left[\cos\sigma(-1 + 2\cos^2(2\sigma_m)) - \frac{1}{6}B\cos(2\sigma_m)(-3 + 4\sin^2\sigma)(-3 + 4\cos^2(2\sigma_m))\right]\right\}$$

$$s = bA(\sigma - \Delta\sigma)$$

$$\alpha_1 = \arctan\left(\frac{\cos U_2 \sin\lambda}{\cos U_1 \sin U_2 - \sin U_1 \cos U_2 \cos\lambda}\right)$$

$$\alpha_2 = \arctan\left(\frac{\cos U_1 \sin\lambda}{-\sin U_1 \cos U_2 - \cos U_1 \sin U_2 \cos\lambda}\right)$$

Between two nearly antipodal points, the iterative formula may fail to converge; this will occur when the first approximation at λ as computed by the equation above is greater than π in absolute value.

DIRECT PROBLEM

Given an initial point (φ_1, L_1) and initial azimuth, α_1, and a distance, s, along the geodesic the problem is to find the end point (φ_2, L_2) and azimuth, α_2.

Start by calculating the following:

$$\tan U_1 = (1-f)\tan\varphi_1$$

$$\sigma_1 = \arctan\left(\frac{\tan U_1}{\cos\alpha_1}\right)$$

$$\sin\alpha = \cos U_1 \sin\alpha_1;\ \cos^2\alpha = (1-\sin\alpha)(1+\sin\alpha)$$

$$u^2 = \cos^2\alpha\,\frac{a^2-b^2}{b^2}$$

$$A = 1 + \frac{u^2}{16384}\{4096 + u^2[-768 + u^2(320 - 175u^2)]\}$$

$$B = \frac{u^2}{1024}\{256 + u^2[-128 + u^2(74 - 47u^2)]\}$$

Then, using an initial value $\sigma = \frac{s}{bA}$ iterate the following equations until there is no significant change in σ:

$$2\sigma_m = 2\sigma_1 + \sigma$$

$$\begin{aligned}\Delta\sigma = B\sin\sigma\Big\{&\cos(2\sigma_m) \\ &+ \tfrac{1}{4}B\Big[\cos\sigma(-1+2\cos^2(2\sigma_m)) \\ &- \tfrac{1}{6}B\cos(2\sigma_m)(-3+4\sin^2\sigma)(-3+4\cos^2(2\sigma_m))\Big]\Big\}\end{aligned}$$

$$\sigma = \frac{s}{bA} + \Delta\sigma$$

Once σ is obtained to sufficient accuracy, evaluate:

$$\varphi_2 = \arctan\left(\frac{\sin U_1\cos\sigma + \cos U_1 \sin\sigma\cos\alpha_1}{(1-f)\sqrt{\sin^2\alpha + (\sin U_1\sin\sigma - \cos U_1\cos\sigma\cos\alpha_1)^2}}\right)$$

$$\lambda = \arctan\left(\frac{\sin\sigma\sin\alpha_1}{\cos U_1\cos\sigma - \sin U_1\sin\sigma\cos\alpha_1}\right)$$

$$C = \frac{f}{16}\cos^2\alpha\,[4 + f(4 - 3\cos^2\alpha)]$$

$$L = \lambda - (1 - C)f\sin\alpha\,\{\sigma + C\sin\sigma\,[\cos(2\sigma_m) + C\cos\sigma\,(-1 + 2\cos^2(2\sigma_m))]\}$$

$$\alpha_2 = \arctan\left(\frac{\sin\alpha}{-\sin U_1\sin\sigma + \cos U_1\sin\sigma\cos\alpha_1}\right)$$

If the initial point is at the North or South pole then the first equation is indeterminate. If the initial azimuth is due East or West then the second equation is indeterminate. If a double valued $atan2$ type function is used then these values are usually handled correctly.

VINCENTY'S MODIFICATION

In a letter to the Survey Review in 1976, Vincenty suggested replacing his series expressions for A and B with simpler formulas using German geodesist Friedrich Robert Helmert's (1843–1917; best known for his writing on "propagation of uncertainty") expansion parameter k_1:

$$A = \frac{1 + \frac{1}{4}(k_1)^2}{1 - k_1}$$

$$B = k_1\left(1 - \frac{3}{8}(k_1)^2\right)$$

Where: $k_1 = \frac{\sqrt{(1+u^2)}-1}{\sqrt{(1+u^2)}+1}$

NEARLY ANTIPODAL POINTS

As noted above, the iterative solution to the inverse problem fails to converge or converges slowly for nearly antipodal points. An example of slow convergence is $(\varphi_1, L_1) = (0^\circ, 0^\circ)$ and $(\varphi_2, L_2) = (0.5^\circ, 179.5^\circ)$ for the WGS 1984 ellipsoid. This requires about 130 iterations to give a result accurate to 1 mm. Depending on how the inverse method is implemented, the algorithm might return the correct result (19 936 288.579 meters), an incorrect result, or an error indicator.

An example of a failure of the inverse method to converge is $(\varphi_1, L_1) = (0^\circ, 0^\circ)$ and $(\varphi_2, L_2) = (0.5^\circ, 179.7^\circ)$ for the WGS 1984 ellipsoid. In an unpublished report, Vincenty gave an alternative iterative scheme to handle such cases. This converges to the correct result of 19 944 127.421 meters after about 60 iterations; however, in other cases many thousands of iterations are required.

LAND AND WATER AREA

The database provides the total area size, total land area, and total water area characteristics for geographic areas.

CHARACTERISTICS FIELDS

- **AREA** | Total area for the geographic area in whole square meters
- **ALAND** | Total land area for the geographic area in whole square meters
- **AWATER** | Total water area for the geographic area in whole square meters

Total, land, and water area sizes for entities are 14-character numeric values given in whole square meters. Note the following conversion formulas:

- To convert square meters to square miles:
  $$mi^2 = m^2 \times 0.00000038610215854781$$
- To convert square meters to square yards:
  $$yd^2 = m^2 \times 1.1959900463011$$
- To convert square meters to square feet:
  $$ft^2 = m^2 \times 10.76391041671$$
- To convert square meters to square inches:
  $$in^2 = m^2 \times 1550.0031000062$$
- To convert square meters to acres:
  $$ac = m^2 \times 0.00024710538146717$$
- To convert square meters to square kilometers:
  $$km^2 = m^2 \times 0.000001$$
- To convert square meters to square centimeters:
  $$cm^2 = m^2 \times 10000$$
- To convert square meters to square millimeters:
  $$mm^2 = m^2 \times 1000000$$
- To convert square meters to hectares:
  $$ha = m^2 \times 0.0001$$

URBAN AND RURAL INDICATOR

Urban and rural characteristics are provided for geographic areas. For the 2010 Census, the U.S. Census Bureau classified as urban all territory, population, and housing units located within urbanized areas (UA) and urban clusters (UC), both defined using the same criteria. The U.S. Census Bureau delineates UA and UC boundaries that represent densely developed territory, encompassing residential, commercial, and other nonresidential urban land uses. In general, this territory consists of areas of high population density and urban land use resulting in a representation of the “urban footprint.” Rural areas consist of all territory, population, and housing units located outside UAs and UCs.

For the 2010 Census, the urban and rural classification was applied to the 50 states; the District of Columbia (federal district); and the Commonwealth of Puerto Rico, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands insular areas.

CHARACTERISTICS FIELDS

- **UR** | Urban/Rural Indicator
  Each record has a one-character alphabetic code indicating if the geographic area is urban or rural:
  U = Urban
  R = Rural
  M = Mixed urban/rural

LEGAL AND STATISTICAL AREAS

The database provides designations for U.S. Census Bureau legal and statistical areas. A legal area is a geographic entity where the boundaries, name, origin, and area description result from charters, laws, treaties, or other administrative or governmental action. A statistical area is any geographic entity or combination of entities identified and defined solely for the tabulation and presentation of data. Statistical area boundaries are not legally defined and the entities have no governmental standing.

The following is a listing of available geographic areas categorized by legal and statistical areas:

LEGAL AREAS

- Alaska Native Regional Corporation
- American Indian Off-Reservation Trust Land
- American Indian Reservation (both federally and state-recognized)
- American Indian Tribal Subdivision (within legal American Indian Areas)
- Congressional District
- Consolidated City
- County (and equivalent entities; except Census Areas in Alaska)
- Estate (in U.S. Virgin Islands only)
- Native Hawaiian Home Land
- Incorporated Place
- Minor Civil Division (MCD, such as towns and townships in the Northeast and Midwest)
- School District (Elementary, Secondary, and Unified)
- State (and equivalent entities)
- State Legislative District (upper and lower chamber)
- Subminor Civil Division (sub-MCD, Sub-Barrio; in Puerto Rico only)
- Urban Growth Area (in Oregon and Washington)
- United States
- Voting District

STATISTICAL AREAS

- American Indian/Alaska Native Statistical Area
  - Alaska Native Village Statistical Areas
  - Tribal Designated Statistical Area
  - Oklahoma Tribal Statistical Area
  - State Designated Tribal Statistical Area
  - American Indian Tribal Subdivision (within Oklahoma Tribal Statistical Areas)
- Census 5-Digit Zip Code Tabulation Area (ZCTA)
- Census Area (statistical county equivalents in Alaska)
- Census County Division (CCD), Census Subarea (in Alaska), and unorganized territory (Statistical County Subdivision)
- Census Block*
- Census Block Group*
- Census Block Suffix*
- Census Designated Place (CDP)
- Census Tract*
- Combined New England City and Town Area
- Combined Statistical Area
- Division
- Metropolitan/ Micropolitan Statistical Area (and related statistical areas)
- Metropolitan Division
- New England City and Town Area
- New England City and Town Area Division
- Public Use Microdata Area (PUMA 5% File)
- Region
- Urban Area

** These statistical areas are not in* pdGeoSupplement*, but they are covered in companion products.*

UNITED STATES

The United States of America consists of all 50 states and the District of Columbia (federal district). The U.S. Census Bureau does not recognize insular areas as part of the United States. United States designations are blank for American Indian Area/Alaska Native Area/Native Hawaiian Home Land (AIANNH), American Indian Tribal Subdivision, Tribal Census Tract, and Tribal Block Group records.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  The United States is identified by a common name and a translated legal/statistical area description.

- **US** | United States Census Code
- **USCCODE** | United States Census Code

  The United States is identified by a single-character numeric Census code:

  1 = United States

  0 = Not part of the United States (assigned to insular areas)

REGION

These are groupings of states and the District of Columbia (federal district) that subdivide the United States. There are four regions: Northeast, Midwest, South, and West. Each region is divided into two or more divisions. The Commonwealth of Puerto Rico and other insular areas are not part of any region.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each region is identified by a common name and a translated legal/statistical area description.

- **REGION** | Region Census Code
- **USCCODE** | Region Census Code

  Each region is identified by a single-character numeric Census code:

  1 = Northeast

  2 = Midwest

  3 = South

  4 = West

  9 = Not in a region (insular areas)

DIVISION

These are groupings of states and the District of Columbia (federal district) that subdivide the four regions. There are nine divisions. The Commonwealth of Puerto Rico and other insular areas are not part of any division.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each division is identified by a common name and a translated legal/statistical area description.

- **DIVISION** | Division Census Code
- **USCCODE** | Division Census Code

  Each division is identified by a single-character numeric Census code:

  1 = New England
  2 = Middle Atlantic
  3 = East North Central
  4 = West North Central
  5 = South Atlantic
  6 = East South Central
  7 = West South Central
  8 = Mountain
  9 = Pacific
  0 = Not in a division (insular areas)

STATE (OR EQUIVALENT ENTITY)

These are the primary governmental divisions of the United States. In addition to the 50 states, the U.S. Census Bureau treats the District of Columbia (federal district), the Commonwealth of Puerto Rico, American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, the U.S. Virgin Islands, and the other insular areas as the statistical equivalents of states. (Note that Puerto Rico is the only insular area covered in *pdGeoTIGER*.)

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each state or statistically equivalent entity is identified by a common name and a translated legal/statistical area description.

- **STATEFP** | State FIPS Code
- **FIPSCODE** | State FIPS Code

  Each state or statistically equivalent entity is identified by a two-character numeric Federal Information Processing Series (FIPS) code.

- **ANSICODE** | State ANSI Code

  Each state or statistically equivalent entity is identified by an eight-character numeric National Standard (ANSI) code.

- **STATEABBR** | State USPS Postal Abbreviation

  Each state or statistically equivalent entity is identified by a two-character alphabetic U.S. Postal Service (USPS) postal abbreviation.

COUNTY (OR EQUIVALENT ENTITY)

These are the primary legal divisions of most states. In Louisiana, these divisions are known as parishes. In Alaska, which has no counties, the equivalent entities are the organized boroughs, city and boroughs, municipalities, and Census areas; the latter of which are delineated cooperatively for statistical purposes by the state of Alaska and

the U.S. Census Bureau. In four states (Maryland, Missouri, Nevada, and Virginia), there are one or more incorporated places that are independent of any county organization and constitute primary divisions of the states. These incorporated places are known as independent cities and are treated as equivalent entities for purposes of data presentation. The District of Columbia (federal district) and Guam (insular area) have no primary divisions, and each area is considered an equivalent entity for purposes of data presentation.

All counties in Connecticut and Rhode Island and nine counties in Massachusetts were dissolved as functioning governmental entities; however, the U.S. Census Bureau continues to present data for these historical entities in order to provide comparable geographic units at the county level of the geographic hierarchy for these states and represents them as nonfunctioning legal entities.

The U.S. Census Bureau treats the following insular area entities as equivalents of counties for purposes of data presentation:

- Municipios in the Commonwealth of Puerto Rico
- Districts and islands in American Samoa
- Municipalities in the Commonwealth of the Northern Mariana Islands
- Islands in the U.S. Virgin Islands

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each county or statistically equivalent entity is identified by a common name and a translated legal/statistical area description.

- **COUNTYFP** | County FIPS Code
- **FIPSCODE** | County FIPS Code
  Each county or statistically equivalent entity is identified by a three-character numeric Federal Information Processing Series (FIPS) code based on alphabetical sequence that is unique within states.

- **ANSICODE** | County ANSI Code
  Each county or statistically equivalent entity is identified by an eight-character numeric National Standard (ANSI) code.

CENSUS TRACT

Census Tracts are not covered in pdGeoSupplement*, but they are covered in companion Peacock Data GeoCoding, U.S. Census 2010, and American Community Survey (ACS) database products, such as* pdGeoTIGER*,* pdCensus2010*, and* pdACS2013*.*

These are small, relatively permanent statistical subdivisions of a county or equivalent entity that are updated by local participants prior to each decennial Census as part of the U.S. Census Bureau *Participant Statistical Areas Program*. The bureau delineates Census Tracts in situations where no local participant exists or where state, local, or tribal governments decline to participate. The primary purpose of Census Tracts is to provide a stable set of geographic units for the presentation of statistical data.

Census Tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. A Census Tract usually covers a contiguous area; however, the spatial size of Census Tracts varies widely depending on the density of settlement. Census Tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from Census to Census. Census Tracts occasionally are split due to population growth or merged as a result of substantial population decline.

Census Tract boundaries generally follow visible and identifiable features. They may follow nonvisible legal boundaries, such as minor civil division (MCD) or incorporated place boundaries in some states and situations, to allow for Census-Tract-to-governmental-unit relationships where the governmental boundaries tend to remain unchanged between censuses. State and county boundaries always are Census Tract boundaries in the standard Census geographic hierarchy.

Census Tracts are identified by an up to four-digit integer number and may have an optional two-digit suffix; for example 1457.02 or 23. The Census Tract codes consist of six digits with an implied decimal between the fourth and fifth digit corresponding to the basic Census Tract number but with leading zeroes and trailing zeroes for Census Tracts without a suffix. The tract number examples above would have codes of 145702 and 002300, respectively.

Some ranges of Census Tract numbers in the 2010 Census are used to identify distinctive types of Census Tracts. The code range in the 9400s is used for those Census Tracts with a majority of population, housing, or land area associated with an American Indian area and matches the numbering used in the 2000 Census. The code range in the 9800s is new for 2010 and is used to specifically identify special land-use Census Tracts; that is, Census Tracts defined to encompass a large area with little or no residential population with special characteristics, such as large parks or employment areas. The range of Census Tracts in the 9900s represents Census Tracts delineated specifically to cover large bodies of water. This is different from the 2000 Census when water-only Census Tracts were assigned codes of all zeroes (“000000”); “000000” is no longer used as a Census Tract code for the 2010 Census.

The U.S. Census Bureau uses suffixes to help identify Census Tract changes for comparison purposes. Census Tract suffixes may range from .01 to .98. As part of local review of existing Census Tracts before each Census, some Census Tracts may have grown enough in population size to qualify as more than one Census Tract. When a Census Tract is split, the split parts usually retain the basic number but receive different suffixes. For example, if Census Tract 14 is split, the new Census Tract numbers would be 14.01 and 14.02. In a few counties, local participants request major changes to, and renumbering of, the Census Tracts; however, this is generally discouraged. Changes to individual Census Tract boundaries usually do not result in Census Tract numbering changes.

CENSUS BLOCK GROUP

Census Block Groups are not covered in pdGeoSupplement*, but they are covered in companion Peacock Data GeoCoding, U.S. Census 2010, and American Community Survey (ACS) database products, such as* pdGeoTIGER*,* pdCensus2010*, and* pdACS2013*.*

These are statistical divisions of Census Tracts generally defined to contain between 600 and 3,000 people and used to control Census Block numbering. A Census Block Group consists of clusters of Census Blocks within the same Census Tract that have the same first digit of their four-digit Census Block number. For example, Census Blocks 3001, 3002, 3003, through 3999 in Census Tract 1210.02 belong to Census Block Group 3 in that Census

Tract. Most Census Block Groups were delineated by local participants in the U.S. Census Bureau *Participant Statistical Areas Program*. The U.S. Census Bureau delineated Census Block Groups only where a local or tribal government declined to participate, and a regional organization or State Data Center was not available to participate.

A Census Block Group usually covers a contiguous area. Each Census Tract contains at least one Census Block Group, and Census Block Groups are uniquely numbered within the Census Tract. Within the standard Census geographic hierarchy, Census Block Groups never cross state, county, or Census Tract boundaries but may cross the boundaries of any other geographic entity.

Census Block Groups have a valid code range of 0 through 9. Census Block Groups beginning with a zero only contain water area and are generally in coastal and Great Lakes water and territorial seas, but also in larger inland water bodies. For the 2010 Census, a Census Block Group 0 for the water portion can be delineated in any Census Tract and not just those Census Tracts also defined to only include water area. This is a change from the 2000 Census, when Census Block Groups coded 0 only existed in Census Tracts with a code of 0. To differentiate between county-based Census Block Groups and Tribal Block Groups, the codes for Tribal Block Groups use an alphabetic character.

CENSUS BLOCK

Census Blocks are not covered in pdGeoSupplement*, but they are covered in companion Peacock Data GeoCoding and U.S. Census 2010 database products, such as* pdGeoTIGER*, and the* Pro *edition of* pdCensus2010*.*

These are statistical areas bounded by visible features, such as streets, roads, streams, and railroad tracks, and by nonvisible boundaries, such as selected property lines and city, township, school district, and county limits and short line-of-sight extensions of streets and roads. Generally, Census Blocks are small in area; for example, a block in a city bounded on all sides by streets. Census Blocks in suburban and rural areas may be large, irregular, and bounded by a variety of features, such as roads, streams, and transmission lines. In remote areas, Census Blocks may encompass hundreds of square miles. Census Blocks cover the entire territory of the United States, the District of Columbia (federal district), the Commonwealth of Puerto Rico, and other insular areas. Census Blocks nest within all other Census geographic entities and are the basis for all tabulated data.

Census Blocks are numbered uniquely with a four-digit Census Block number from 0000 to 9999 within Census Tracts, which nest within the state and county. The first digit of the Census Block number identifies the Census Block Group. Census Block numbers beginning with a zero (in Census Block Group 0) are only associated with water-only areas.

CENSUS BLOCK SUFFIX

Census Block Suffixes are temporary and not covered in pdGeoSupplement*, but they are covered in companion Peacock Data GeoCoding database products such as* pdGeoTIGER*.*

These generally represent Census Blocks that split in order to identify separate geographic entities that divide the original Census Block. For example, when a city limit runs through Census Block 1001, the data for the portion inside the city is tabulated in Census Block 1001A and the portion outside, in Census Block 1001B. A Census Block

Suffix "Z" represents a "crews-of-vessels" entity for which the U.S. Census Bureau tabulates data, but it does not represent a true geographic area; such a block is shown on Census maps associated with an anchor symbol and a Census Tract or Census Block numbering area with a .99 suffix. Census Block Suffixes are not permanent and change with each annual cycle of Census Block suffixing. Most Census Blocks do not have a Census Block Suffix. A Census Block Suffix is a single-character alphabetic code, normally “A” or “B”.

COUNTY SUBDIVISION

These are the primary divisions of counties and equivalent entities. They include Census county divisions, Census subareas, minor civil divisions, and unorganized territories, and can be classified as either legal or statistical.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each county subdivision is identified by a common name and a translated legal/statistical area description.

- **COUSUBFP** | County Subdivision FIPS Code
- **FIPSCODE** | County Subdivision FIPS Code
  Each county subdivision is identified by a five-character numeric Federal Information Processing Series (FIPS) code based on alphabetical sequence that is unique within states.

- **ANSICODE** | County Subdivision ANSI Code
  Each county subdivision is identified by an eight-character numeric National Standard (ANSI) code.

SUBMINOR CIVIL DIVISION (SUB-MCD)

These are legally defined subdivisions of county subdivisions in the Commonwealth of Puerto Rico (insular area) and locally are known as subbarrios. They are the equivalent of estates in the U.S. Virgin Islands (insular area). The U.S. Census Bureau recognizes barrios and barrios-pueblo as the primary legal divisions of municipios. These entities are similar to the minor civil divisions (MCD) used for reporting data in 29 states of the United States. Subbarrios in 23 municipios are the primary legal subdivisions of the barrios-pueblo and some barrios. The U.S. Census Bureau presents the same types of statistical data for these subminor civil divisions (sub-MCD) as it does for the barrios and barrios-pueblo. There is no geographic entity in the United States equivalent to the subbarrio.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each subminor civil division is identified by a common name and a translated legal/statistical area description.

- **SUBMCDFP** | Subminor Civil Division FIPS Code
- **FIPSCODE** | Subminor Civil Division FIPS Code
  Each subminor civil division is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

- **ANSICODE** | Subminor Civil Division ANSI Code
  Each subminor civil division is identified by an eight-character numeric National Standard (ANSI) code.

ESTATE

These are legally defined subdivisions of the three major islands (county equivalent entities) in the U.S. Virgin Islands (insular area) and locally are known as estates. They are the equivalent of sub-MCDs in the Commonwealth of Puerto Rico (insular area) and are similar to the minor civil divisions (MCD) used for reporting data in 29 states of the United States. Estates have legally defined boundaries and are much smaller in area than the Census Subdistricts (county subdivisions), but do not necessarily nest within these districts. The boundaries of the estates are primarily those of the former agricultural plantations that existed at the time Denmark transferred the islands to the United States in 1917. The names and boundaries of the estates are in common usage by residents and in government administration. The boundaries of the estates are as of January 1, 2010 and were provided to the U.S. Census Bureau by the U.S. Virgin Islands Office of the Lieutenant Governor. There is no geographic entity in the United States equivalent to the estate. Note that the Estate Federal Information Processing Series (FIPS) code field (ESTATEFP) is included in *pdGeoTIGER* for future use, but the U.S. Virgin Islands is currently not covered in the database so the field is not filled. Estates are covered in *pdGeoSupplement*.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each estate is identified by a common name and a translated legal/statistical area description.

- **ESTATEFP** | Estate FIPS Code
- **FIPSCODE** | Estate FIPS Code
  Each estate is identified by a five-character numeric Federal Information Processing Series (FIPS) code (see above for details).

- **ANSICODE** | Estate ANSI Code
  Each estate is identified by an eight-character numeric National Standard (ANSI) code.

PLACE

These are made up of incorporated places and Census Designated Places (CDP). Incorporated Places are those reported to the U.S. Census Bureau as legally in existence as of January 1, 2010, as reported in the latest *Boundary and Annexation Survey (BAS),* under the laws of their respective states. An incorporated place is established to provide governmental functions for a concentration of people as opposed to a minor civil division, which generally is created to provide services or administer an area without regard, necessarily, to population. Places always are within a single state or equivalent entity, but may extend across county and county subdivision boundaries. An incorporated place usually is a city, town, village, or borough, but can have other legal descriptions. For U.S. Census Bureau data tabulation and presentation purposes, incorporated places exclude:

- Boroughs in Alaska (treated as statistical equivalents of counties)
- Towns in the New England states, New York, and Wisconsin (treated as MCDs)
- Boroughs in New York (treated as MCDs)

Census Designated Places (CDP) are the statistical counterparts of incorporated places, and are delineated to provide data for settled concentrations of population that are identifiable by name but are not legally incorporated under the laws of the state in which they are located. The boundaries usually are defined in cooperation with local or tribal officials and are generally updated prior to each decennial Census. These boundaries, which usually coincide with visible features or the boundary of an adjacent incorporated place or another legal entity boundary, have no legal status, nor do these places have officials elected to serve traditional municipal functions. CDP boundaries may change from one decennial Census to the next with changes in the settlement pattern; a CDP with the same name as in an earlier Census does not necessarily have the same boundary. CDPs must be contained within a single state and may not extend into an incorporated place. There are no population size requirements for CDPs.

Hawaii is the only state that has no incorporated places recognized by the U.S. Census Bureau. All places shown in decennial U.S. Census data for Hawaii are CDPs. By agreement with the state of Hawaii, the U.S. Census Bureau does not show data separately for the city of Honolulu, which is coextensive with Honolulu County. In the Commonwealth of Puerto Rico (insular area), which also does not have incorporated places, the U.S. Census Bureau recognizes only CDPs and refers to them as comunidades or zonas urbanas. Guam (insular area) also has only CDPs.

A five-digit Federal Information Processing Series (FIPS) place code is assigned based on alphabetical sequence within a state. If place names are duplicated within a state and they represent distinctly different areas, a separate code is assigned to each place name alphabetically by the primary county in which each place is located, or if both places are in the same county, they are assigned alphabetically by their legal descriptions, such as “city” before “village”.

Note that Dependent and Independent Places refers to the relationship of places to the county subdivisions. Depending on the state, incorporated places are either dependent within, or independent of, county subdivisions, or there is a mixture of dependent and independent places in the state and in a county. Dependent places are part of the county subdivision; the county subdivision code of the place is the same as that of the underlying county subdivision(s) but is different from the place code. Independent places are not part of any minor civil division (MCD) and serve as primary county subdivisions. The independent place FIPS code usually is the same as that used for the MCD for the place. The only exception is if the place is independent of the MCDs in a state (Iowa, Louisiana, Maryland, Nebraska, North Carolina, and Virginia) in which the FIPS MCD codes are in the 90000 range. Then the FIPS MCD and FIPS place codes will differ. CDPs always are dependent within county subdivisions and all places are dependent within statistical county subdivisions.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each place is identified by a common name and a translated legal/statistical area description.

- **PLACEFP** | Place FIPS Code
- **FIPSCODE** | Place FIPS Code
  Each place is identified by a five-character numeric Federal Information Processing Series (FIPS) code usually based on alphabetical sequence within states (see above for details).

- **ANSICODE** | Place ANSI Code
  Each place is identified by an eight-character numeric National Standard (ANSI) code.

SPECIAL INDICATOR FIELDS

- **MEMIPCI** | *Metropolitan/Micropolitan Statistical Area Principal City Indicator:*
  Y = Yes; is a principal city
  N = No; is not a principal city

- **NECTAPCI** | *New England City and Town Area Principal City Indicator:*
  Y = Yes; is a principal city
  N = No; is not a principal city

CONSOLIDATED CITY

These are units of local government for which the functions of an incorporated place and its county or minor civil division (MCD) have merged. This results in both the primary incorporated place and the county or MCD continuing to exist as legal entities, even though the county or MCD performs few or no governmental functions and has few or no elected officials. Where this occurs—and where one or more other incorporated places in the county or MCD continue to function as separate governments, even though they have been included in the consolidated government—the primary incorporated place is referred to as a consolidated city. The U.S. Census Bureau classifies the separately incorporated places within the consolidated city as place entities and creates a separate place (balance) record for the portion of the consolidated city not within any other place.

Consolidated City (Balance) Portions refer to the areas of a consolidated city not included in another separately incorporated place. For example, Butte-Silver Bow, MT, is a consolidated city (former Butte city and Silver Bow County) that includes the separately incorporated municipality of Walkerville city. The area of the consolidated city that is not in Walkerville city is assigned to Butte-Silver Bow (balance). The place name always includes the "(balance)" identifier.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each consolidated city is identified by a common name and a translated legal/statistical area description.

- **CONCITFP** | Consolidated City FIPS Code
- **FIPSCODE** | Consolidated City FIPS Code
  Each consolidated city is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

- **ANSICODE** | Consolidated City ANSI Code
  Each consolidated city is identified by an eight-character numeric National Standard (ANSI) code.

ALASKA NATIVE REGIONAL CORPORATION (ANRC)

These were created pursuant to the *Alaska Native Claims Settlement Act (ANCSA) (Pub. L. 92–203, 85 Stat. 688 [1971]; 43 U.S.C. 1602 et seq. [2000]),* enacted in 1971 as a "Regional Corporation" and organized under the laws of the state of Alaska to conduct both the for-profit and non-profit affairs of Alaska Natives within a defined region of Alaska. For the U.S. Census Bureau, ANRCs are considered legal geographic entities. Twelve ANRCs cover the entire state of Alaska except for the area within the Annette Island Reserve (a federally recognized American Indian reservation under the governmental authority of the Metlakatla Indian Community). A thirteenth ANRC represents Alaska Natives who do not live in Alaska and do not identify with any of the twelve corporations. The U.S. Census Bureau does not provide data for this thirteenth ANRC because it has no defined geographic extent and does not appear in the Census *TIGER/Line® Shapefiles*. The U.S. Census Bureau offers representatives of the 12 nonprofit ANRCs in Alaska the opportunity to review and update the ANRC boundaries before each decennial Census.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each ANRC is identified by a common name and a translated legal/statistical area description.

- **ANRCFP** | ANRC FIPS Code
- **FIPSCODE** | ANRC FIPS Code
  Each ANRC is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

- **ANSICODE** | ANRC ANSI Code
  Each ANRC is identified by an eight-character numeric National Standard (ANSI) code.

AMERICAN INDIAN AREA/ALASKA NATIVE AREA/NATIVE HAWAIIAN HOME LAND (AIANNH)

There include both legal and statistical American Indian Area, Alaska Native Area, and Native Hawaiian Home Land (AIANNH) entities. The boundaries of AIANNH areas may cross state and county lines. The legal entities consist of federally recognized American Indian reservations and off-reservation trust land areas, the tribal subdivisions that can divide these entities, state-recognized American Indian reservations, Alaska Native Regional Corporations, and Native Hawaiian home lands. The statistical entities are Alaska Native village statistical areas, Oklahoma tribal statistical areas, tribal designated statistical areas, and state designated tribal statistical areas. Statistical tribal subdivisions can exist within Oklahoma tribal statistical areas. In all cases, these areas are mutually exclusive in that no AIANNH area can overlap another tribal entity, except for tribal subdivisions, which by definition subdivide some American Indian entities, and Alaska Native village statistical areas, which exist within Alaska Native Regional Corporations. In cases where more than one tribe claims jurisdiction over an area, the U.S. Census Bureau creates a joint-use area as a separate entity to define this area of dual claims.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each ANNANH area is identified by a common name and a translated legal/statistical area description.

- **AIANNH** | AIANNH Census Code
- **USCCODE** | AIANNH Census Code
  Each ANNANH area is identified by a four-character numeric Census code based, if federal, on alphabetical sequence that is unique within the nation.

- **AIANNHFP** | AIANNH FIPS Code
- **FIPSCODE** | AIANNH FIPS Code
  Each ANNANH area is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

- **ANSICODE** | AIANNH ANSI Code
  Each ANNANH area is identified by an eight-character numeric National Standard (ANSI) code.

SPECIAL INDICATOR FIELDS

- **AIANNHLI** | *American Indian Area/Alaska Native Area/Native Hawaiian Home Land Reservation/Statistical Entity or Off-Reservation Trust Land/Native Hawaiian Home Land Indicator:*
  T = Off-Reservation Trust Land or Native Hawaiian Home Land
  R = Reservation or Statistical Entity
  M = Mixed

- **AIANNHR** | *American Indian Area/Alaska Native Area/Native Hawaiian Home Land Federal/State Recognition Indicator:*
  F = Federally recognized
  S = State recognized

AMERICAN INDIAN TRIBAL SUBDIVISION

These are additions, administrative areas, areas, chapters, county districts, communities, districts, and segments, which are legal administrative subdivisions of federally recognized American Indian reservations and off-reservation trust lands or are statistical subdivisions of Oklahoma tribal statistical areas (OTSA). These entities are internal units of self-government or administration that serve social, cultural, and economic purposes for the American Indians on the reservations, off-reservation trust lands, or OTSAs. The U.S. Census Bureau obtains the boundary and name information for tribal subdivisions from tribal governments and only has records for the 24 American Indian areas and two OTSAs that have actual tribal subdivisions. The boundaries of tribal subdivisions may cross state and county lines.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each American Indian tribal subdivision is identified by a common name and a translated legal/statistical area description.

- **AITSUB** | American Indian Tribal Subdivision Census Code
- **USCCODE** | American Indian Tribal Subdivision Census Code

  Each American Indian tribal subdivision is identified by a three-character numeric Census code based on alphabetical sequence that is unique within American Indian areas.

- **AITSUBFP** | American Indian Tribal Subdivision FIPS Code
- **FIPSCODE** | American Indian Tribal Subdivision FIPS Code

  Each American Indian tribal subdivision is identified by a five-digit Federal Information Processing Series (FIPS) code based on alphabetical sequence that is unique within states (the FIPS code will be different in each state for tribal subdivisions that include territory in more than one state).

- **ANSICODE** | American Indian Tribal Subdivision ANSI Code

  Each American Indian tribal subdivision is identified by an eight-character numeric National Standard (ANSI) code.

TRIBAL CENSUS TRACT

These are small, relatively permanent statistical subdivision of a federally recognized American Indian reservation or off-reservation trust land, delineated by American Indian tribal participants or the U.S. Census Bureau for the purpose of presenting data. Designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions, Tribal Census Tracts average about 2,500 people. A Tribal Census Tract must consist of territory located on a reservation or trust land. The boundaries of Tribal Census Tracts may cross state and county lines, and normally follow visible features, but may follow governmental unit boundaries and other nonvisible features in some instances. Tribal Census Tracts may be completely different from the Census Tracts and Census Blocks defined by state and county.

The 2010 Tribal Census Tract concept and criteria are completely different from those used in 2000. Tribal Census Tracts (also known as tribal tracts) in 2000 were the standard state-county-Census Tract areas retabulated under an American Indian area hierarchy; that is, American Indian area-Tribal Census Tract. Federally recognized tribes with a reservation or off-reservation trust land delineated Tribal Census Tracts working with local Census Tract participants to produce a single Census Tract plan. Tribal Census Tracts were designed to be permanent statistical divisions of American Indian areas for the presentation of comparable data between censuses, particularly for those American Indian areas that crossed state or county boundaries where these boundaries were not meaningful for statistical purposes.

For 2010, Tribal Census Tracts are defined independently of the standard county-based Census Tract delineation. For federally recognized American Indian tribes with reservations or off-reservation trust land and a population less than 2,400, a single Tribal Census Tract is defined. Qualifying areas with a population greater than 2,400 could define additional Tribal Census Tracts within their area.

In 2000, the tract number range of 9400 through 9499 was reserved for Tribal Census Tracts and was required for those Tribal Census Tracts that crossed state or county boundaries. Not all Tribal Census Tracts in 2000, however, used this range. For 2010, Tribal Census Tract codes are six characters long with a leading "T" alphabetic character followed by five digits having an implied decimal between the fourth and fifth character; for example, T01000, which translates as Tribal Census Tract 10. Tribal Block Groups nest within Tribal Census Tracts. Since individual Census Blocks are defined within the standard state-county-Census Tract hierarchy, a Tribal Census Tract can contain seemingly duplicate block numbers, therefore, Tribal Census Tracts cannot be used to uniquely identify Census Blocks.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each Tribal Census Tract is identified by a common name and a translated legal/statistical area description.

- **TTRACT** | Tribal Tract Census Code
- **USCCODE** | Tribal Tract Census Code
  Each Tribal Census Tract is identified by a six-character alpha/numeric Census code with a leading "T" to differentiate from standard Census Tracts (see above for details).

TRIBAL BLOCK GROUP

These are subdivisions of Tribal Census Tracts and the smallest geographic area for which the U.S. Census Bureau tabulates data. Tribal Block Groups are delineated by American Indian tribal participants or the U.S. Census Bureau, and average about 1,000 people.

The 2010 Tribal Block Group concept and criteria are completely different from those used in 2000. For the 2000 Census, Tribal Block Groups were the standard state-county-Census Tract-Census Block Group areas retabulated under an American Indian area hierarchy; that is, American Indian area-Tribal Census Tract-Tribal Block Group. Tribal Block Groups only were applicable to legal federally recognized American Indian reservation and off-reservation trust land areas. Tribal Block Groups were defined to provide statistically significant sample data for small areas within American Indian areas, particularly those American Indian areas that crossed state or county boundaries where these boundaries were not meaningful for statistical purposes. The 2000 Tribal Block Groups used the Census Block Group numbers and comprised all blocks beginning with the same number.

The 2010 Tribal Block Groups are defined independently of the standard county-based Census Block Group delineation. For federally recognized American Indian tribes with reservations or off-reservation trust land and a population less than 1,200, a single Tribal Block Group is defined. Tribal participants in qualifying areas with a population greater than 1,200 could define additional Tribal Block Groups within their reservation or off-reservation trust land without regard to the standard Census Block Group configuration.

Tribal Block Groups contain blocks beginning with the same number as the standard county-based Census Block Groups and could contain seemingly duplicate block numbers. To better identify and differentiate Tribal Block Groups from county-based Census Block Groups, Tribal Block Groups use the letter range A through K (except "I",

which could be confused with the number “1”) to identify and code the Tribal Block Groups. Tribal Block Groups nest within Tribal Census Tracts. The boundaries of Tribal Block Groups may cross state and county lines.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each Tribal Block Group is identified by a common name and a translated legal/statistical area description.

- **TBLKGRP** | Tribal Block Group Census Code
- **USCCODE** | Tribal Block Group Census Code
  Each Tribal Block Group is identified by a one-character alphabetic Census code; “A” through “K”, except “I”, to differentiate from standard Census Block Groups (see above for details).

COMBINED STATISTICAL AREA (CSA)

These consist of two or more adjacent Metropolitan/Micropolitan Statistical Areas (CBSA) that have substantial employment interchange. The CBSAs that combine to create a CSA retain separate identities within the larger CSA. Because CSAs represent groupings of metropolitan and/or micropolitan statistical areas, they should not be ranked or compared with individual metropolitan and micropolitan statistical areas.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each CSA is identified by a common name and a translated legal/statistical area description.

- **CSAFP** | CSA FIPS Code
- **FIPSCODE** | CSA FIPS Code
  Each CSA is identified by a three-character numeric Federal Information Processing Series (FIPS) code.

METROPOLITAN/MICROPOLITAN STATISTICAL AREA (CBSA)

These metro and micro areas are geographic entities delineated by the Office of Management and Budget (OMB) for use by Federal statistical agencies in collecting, tabulating, and publishing Federal statistics. The term "Core Based Statistical Area" (CBSA) is a collective term for both metro and micro areas. A metro area contains a core urban area of 50,000 or more population, and a micro area contains an urban core of at least 10,000, but less than 50,000 population. Each metro or micro area consists of the central county or counties or equivalent entities containing the core of the urban area, as well as any adjacent counties that have a high degree of social and economic integration with the urban core as measured through commuting to work.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each CBSA is identified by a common name and a translated legal/statistical area description.

- **METMICFP** | CBSA FIPS Code
- **FIPSCODE** | CBSA FIPS Code
  Each CBSA is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

SPECIAL INDICATOR FIELDS

- **MEMI** | *Metropolitan/Micropolitan Statistical Area Status Indicator:*
  1 = Metropolitan
  2 = Micropolitan
  9 = Neither

METROPOLITAN DIVISION

These are smaller groupings of counties or equivalent entities defined within a metropolitan statistical area containing a single core with a population of at least 2.5 million. Not all metropolitan statistical areas with urbanized areas of this size will contain metropolitan divisions. A metropolitan division consists of one or more main or secondary counties that represent an employment center or centers, plus adjacent counties associated with the main or secondary county or counties through commuting ties. Because metropolitan divisions represent subdivisions of larger metropolitan statistical areas, it is not appropriate to rank or compare metropolitan divisions with metropolitan and micropolitan statistical areas. It would be appropriate to rank and compare metropolitan divisions. The concept of metropolitan divisions was introduced in 2003.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each metropolitan division is identified by a common name and a translated legal/statistical area description.

- **METDVFP** | Metropolitan Division FIPS Code
- **FIPSCODE** | Metropolitan Division FIPS Code
  Each metropolitan division is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

COMBINED NEW ENGLAND CITY AND TOWN AREA

These consist of two or more adjacent New England city and town areas (NECTA) that have substantial employment interchange. The NECTAs that combine to create a combined NECTA retain separate identities within the larger combined NECTA. Because combined NECTAs represent groupings of NECTAs, they should not be ranked or compared with individual NECTAs.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each combined NECTA is identified by a common name and a translated legal/statistical area description.

- **CNECTAFP** | Combined NECTA FIPS Code
- **FIPSCODE** | Combined NECTA FIPS Code
  Each combined NECTA is identified by a three-character numeric Federal Information Processing Series (FIPS) code.

NEW ENGLAND CITY AND TOWN AREA (NECTA)

These are an alternative set of geographic entities, similar in concept to the county-based CBSAs defined nationwide, that OMB defines in New England based on county subdivisions—usually cities and towns. NECTAs are defined using the same criteria as county-based CBSAs, and, similar to CBSAs, NECTAs are categorized as metropolitan or micropolitan.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each NECTA is identified by a common name and a translated legal/statistical area description.

- **NECTAFP** | NECTA FIPS Code
- **FIPSCODE** | NECTA FIPS Code
  Each NECTA is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

SPECIAL INDICATOR FIELDS

- **NMEMI** | *New England City and Town Area Status Indicator:*
  1 = Metropolitan
  2 = Micropolitan
  9 = Neither

NEW ENGLAND CITY AND TOWN AREA DIVISION

These are smaller groupings of cities and towns defined within a New England city and town area (NECTA) containing a single core with a population of at least 2.5 million. A NECTA division consists of a main city or town that represents an employment center, plus adjacent cities and towns associated with the main city or town through commuting ties. Each NECTA division must contain a total population of 100,000 or more. Because NECTA divisions represent subdivisions of larger NECTAs, it is not appropriate to rank or compare NECTA divisions with NECTAs. It would be appropriate to rank and compare NECTA divisions.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each NECTA division is identified by a common name and a translated legal/statistical area description.

- **NECTDVFP** | NECTA Division FIPS Code
- **FIPSCODE** | NECTA Division FIPS Code
  Each NECTA division is identified by a five-character numeric Federal Information Processing Series (FIPS) code.

URBAN AREA

These include both urbanized areas (UA) and urban clusters (UC). An urbanized area consists of densely developed territory that contains 50,000 or more people. The U.S. Census Bureau delineates UAs to provide a better separation of urban and rural territory, population, and housing in the vicinity of large places. An urban cluster consists of densely developed territory that has at least 2,500 people but fewer than 50,000 people. The U.S. Census Bureau first introduced the UC concept for the 2000 Census to provide a more consistent and accurate measure of urban population, housing, and territory throughout the United States, the Commonwealth of Puerto Rico, and other insular areas.

The name of each UA and UC may contain up to three incorporated place or Census designated place (CDP) names and will include the two-letter U.S. Postal Service abbreviation for each state or statistically equivalent entity into which the UA or UC extends. However, if the UA or UC does not contain an incorporated place or CDP, the urban area name will include the single name of a minor civil division or populated place recognized by the U.S. Geological Survey *Geographic Names Information System*. A flag is available to differentiate between UAs and UCs. This differentiation is included in the name.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each urban area is identified by a common name and a translated legal/statistical area description.

- **UA** | Urban Area Census Code
- **USCCODE** | Urban Area Census Code
  Each urban area is identified by a five-character numeric Census code based on alphabetical sequence within the nation.

SPECIAL INDICATOR FIELDS

- **UATYPE** | *Urban Area Type Indicator:*
  U = Urbanized Area
  C = Urban Cluster

URBAN GROWTH AREA (UGA)

These are legally defined entities in Oregon and Washington that the U.S. Census Bureau includes in the MAF/TIGER database in agreement with the states. Urban Growth Areas (UGA), which are defined around incorporated places, are used to regulate urban growth. UGA boundaries, which need not follow visible features, are delineated cooperatively by state and local officials and then confirmed in state law. UGAs are a pilot project first defined only in Oregon for the 2000 Census.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each UGA is identified by a common name and a translated legal/statistical area description.

- **UGA** | UGA Census Code
- **USCCODE** | UGA Census Code
  Each UGA is identified by a five-character numeric Census code; usually the same as the five-character numeric Federal Information Processing Series (FIPS) code associated with the incorporated place for which the UGA is named.

SPECIAL INDICATOR FIELDS

- **UGATYPE** | *Urban Growth Area Type Indicator:*
  C = Consolidated Urban Growth Area
  P = Primary Urban Growth Area

CONGRESSIONAL DISTRICT

These are the 435 areas from which people are elected to the U.S. House of Representatives. After the apportionment of congressional seats among the states based on decennial Census population counts, each state with multiple seats is responsible for establishing Congressional Districts for the purpose of electing representatives. Each Congressional District is to be as equal in population to all other Congressional Districts in a state as practicable.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each Congressional District is identified by a common name and a translated legal/statistical area description.

- **CD** | Congressional District FIPS Code
- **FIPSCODE** | Congressional District FIPS Code
  Each Congressional District is identified by a two-character numeric Federal Information Processing Series (FIPS) code:
  01 to 53 = Congressional district codes
  00 = At large (single district for state)
  98 = Nonvoting delegate; District of Columbia (federal district), the Commonwealth of Puerto Rico, and other insular areas

SPECIAL INDICATOR FIELDS

- **CDSESSN** | *Congressional Session*:
  Three-character numeric flag indicating the congressional session (example, "113").

STATE LEGISLATIVE DISTRICT (UPPER CHAMBER AND LOWER CHAMBER) (SLD)

These are the areas from which members are elected to state legislatures. The U.S. Census Bureau first reported data for State Legislative Districts (SLD) as part of the *2000 Public Law (P.L.) 94-171 Redistricting Data File*.

States participating in *Phase 1* of the *2010 Census Redistricting Data Program* voluntarily provided the U.S. Census Bureau with the 2006 election cycle boundaries, codes, and, in some cases, names for their SLDs. All 50 states, plus the District of Columbia (federal district), and the Commonwealth of Puerto Rico (insular area), participated in *Phase 1, State Legislative District Project (SLDP)* of the *2010 Census Redistricting Data Program*. States subsequently provided legal changes to those plans through the Redistricting Data Office and corrections as part of *Phase 2* of the *2010 Census Redistricting Data Program*.

The SLDs embody the upper (Senate) and lower (House) chambers of the state legislature. Nebraska has a unicameral legislature and the District of Columbia (federal district) has a single council, both of which the U.S. Census Bureau treats as upper-chamber legislative areas for the purpose of data presentation. A unique three-character Census code, identified by state participants, is assigned to each SLD within a state. In Connecticut, Hawaii, Illinois, Louisiana, Maine, Massachusetts, New Jersey, Ohio, and the Commonwealth of Puerto Rico (insular area), state officials did not define the SLDs to cover all of the state or state equivalent area (usually bodies of water). In these areas with no SLDs defined, the code "ZZZ" has been assigned, which is treated within a state as a single SLD. Maryland also has areas with no SLDs defined; in Maryland, these areas are coded with an initial "Z" by county or equivalent entity and treated as unique SLDs by county or equivalent entity. In Nebraska and the District of Columbia (federal district), the U.S. Census Bureau assigned the code "999" to represent a single SLD (Lower Chamber) where legally none exist.

The U.S. Census Bureau first reported names for SLDs as part of Phase 1 of the 2010 Census Redistricting Data Program. The SLD names with their translated legal/statistical area description are associated only with the current SLDs. Not all states provided names for their SLDs, therefore the code (or number) also serves as the name.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each SLD is identified by a common name and a translated legal/statistical area description.

- **SLDUPR** | SLD (Upper Chamber) Census Code
- **SLDLWR** | SLD (Lower Chamber) Census Code
- **USCCODE** | SLD Census Code
  Each SLD is identified by a three-character alpha/numeric Census code determined by state participants and unique within states (see above for details).

SPECIAL INDICATOR FIELDS

- **SLDYR** | *State Legislative Year*:
  Four-character numeric flag indicating the SLD session year (example, "2013").

VOTING DISTRICT (VTD)

These are the generic names for geographic entities, such as precincts, wards, and election districts, established by state governments for the purpose of conducting elections. States voluntarily participating in *Phase 2* of the *2010 Census Redistricting Data Program* provided the U.S. Census Bureau with boundaries, codes, and names for their Voting Districts (VTD). Each VTD is identified by a one-to-six-character alpha/numeric Census code that is unique within counties and equivalent entities. The code "ZZZZZZ" identifies a portion of counties (usually bodies of water) for which no VTDs were identified. For the 2010 Census, only Rhode Island did not participate in *Phase 2* (the *Voting District/Block Boundary Suggestion Project*) of the *2010 Census Redistricting Data Program*. Kentucky chose not to provide VTDs as part of their participation in *Phase 2*, and the states of Montana and Oregon provided VTDs for only some counties. Therefore, for the 2010 Census, no VTDs exist in select counties in Montana and Oregon or for the states of Rhode Island and Kentucky in their entirety. Participating states often submitted VTDs conforming to the feature network in the MAF/TIGER database rather than the complete legal boundary of the VTD. If requested by the participating state, the U.S. Census Bureau identified the VTDs that represent an actual voting district with an "A" in the Voting District Indicator field. Where a participating state indicated that the VTD has been modified to follow existing features, the VTD is a pseudo-VTD, and the Voting District Indicator contains "P".

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each VTD is identified by a common name and a translated legal/statistical area description.

- **VTD** | VTD Census Code
- **USCCODE** | VTD Census Code
  Each VTD is identified by a one-to-six-character alpha/numeric Census code determined by state participants and unique within counties and equivalent entities (see above for details).

SPECIAL INDICATOR FIELDS

- **VTDI** | *Voting District Indicator:*
  A = Represents an actual voting district
  P = Represents a pseudo-VTD (modified to follow existing Census features)

SCHOOL DISTRICT (ELEMENTARY, SECONDARY, AND UNIFIED)

These are geographic entities within which state, county, local officials, the Bureau of Indian Affairs, and the U.S. Department of Defense provide public educational services for the area residents. The U.S. Census Bureau obtains the boundaries, names, local education agency codes, and school district levels for school districts from state and local school officials for the primary purpose of providing the U.S. Department of Education with estimates of the number of children "at risk" within each school district, county, and state. This information serves as the basis for the Department of Education to determine the annual allocation of Title I funding to states and school districts.

The U.S. Census Bureau tabulates data for three types of school districts: elementary, secondary, and unified. The elementary school districts provide education to the lower grade and age levels and the secondary school districts provide education to the upper grade and age levels. Unified school districts provide education to children of all school ages in their service areas. In general, where there is a unified school district, no elementary or secondary school district exists; and where there is an elementary school district, the secondary school district may or may not exist.

The U.S. Census Bureau representation of school districts is based both on the grade range that a school district operates and also the grade range for which the school district is financially responsible. For example, a school district is defined as an elementary school district if its operational grade range is less than full kindergarten through 12 or prekindergarten through 12 grade range (for example, K–6 or pre-K–8). These elementary school districts do not provide direct educational services for grades 7–12, 9–12, or similar ranges. Some elementary school districts are financially responsible for the education of all school-aged children within their service areas and rely on other school districts to provide service for those grade ranges that are not operated by these elementary school districts. In these situations, in order to allocate all school-aged children to these school districts, the secondary school district code field is blank. For elementary school districts where the operational grade range and financially responsible grade range are the same, the secondary school district code field will contain a secondary school district code. There are no situations where an elementary school district does not exist and a secondary school district exists in U.S. Census Bureau records.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each school district is identified by a common name and a translated legal/statistical area description.

- **SDELM** | School District (Elementary) Census Code
- **SDSEC** | School District (Secondary) Census Code
- **SDUNI** | School District (Unified) Census Code
- **USCCODE** | SLD Census Code
  Each school district is identified by a five-character numeric Census code unique within states; codes are the local education agency numbers assigned by the Department of Education and not necessarily in alphabetical order by school district name.

SPECIAL INDICATOR FIELDS

- **SDTYPE** | *School District Type Indicator:*
  A = Pseudo
  B = Department of Defense
  C = Interstate
  D = Bureau of Indian Affairs
  E = Same Name

- **SDLO** | *School District Low Grade Indicator:*
  PK–12

- **SDHI** | *School District High Grade Indicator:*
  PK–12

PUBLIC USE MICRODATA AREA (PUMA)

These are geographic areas for which the U.S. Census Bureau provides selected extracts of raw data from a small sample of Census records that are screened to protect confidentiality. These extracts are referred to as public use microdata sample (PUMS) files.

For the 2010 Census, each state, the District of Columbia (federal district), the Commonwealth of Puerto Rico, and some other insular area participants delineated Public Use Microdata Areas (PUMA) for use in presenting PUMS data based on a 5 percent sample of decennial Census or American Community Survey data. These areas are required to contain at least 100,000 people. This is different from the 2000 Census when two types of PUMAs were defined: a 5 percent PUMA as for 2010 and an additional super-PUMA designed to provide a 1 percent sample.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD
  Each PUMA is identified by a common name and a translated legal/statistical area description.

- **PUMA** | PUMA Census Code
- **USCCODE** | PUMA Census Code
  Each PUMA is identified by a five-character numeric Census code unique within states.

CENSUS 5-DIGIT ZIP CODE TABULATION AREA (ZCTA)

These are approximate area representations of U.S. Postal Service (USPS) five-digit ZIP Code service areas that the U.S. Census Bureau creates using whole Census Blocks to present statistical data from censuses and surveys. The U.S. Census Bureau defines ZIP Code Tabulation Areas (ZCTA) by allocating each block that contains addresses to a single ZCTA, usually to the ZCTA that reflects the most frequently occurring ZIP Code for the addresses within that Census Block. Census Blocks that do not contain addresses but are completely surrounded by a single ZCTA (enclaves) are assigned to the surrounding ZCTA; those surrounded by multiple ZCTAs are added to a single ZCTA based on limited buffering performed between multiple ZCTAs. The U.S. Census Bureau identifies five-digit ZCTAs using a five-character numeric code that represents the most frequently occurring USPS 5-digit ZIP Code within that ZCTA, and this code may contain leading zeros.

There are significant changes to the Census 2010 ZCTA delineation from that used in the 2000 Census. Coverage was extended to include the Island Areas for 2010 so that the 50 states, the District of Columbia (federal District), the Commonwealth of Puerto Rico, and other insular area have ZCTAs. Unlike the 2000 Census, when areas that could not be assigned to a ZCTA were given a generic code ending in "XX" (land area) or "HH" (water area), for the 2010 Census there is no universal coverage by ZCTAs, and only legitimate five-digit areas are defined. The 2010 ZCTAs better represent the actual ZIP Code service areas because the U.S. Census Bureau initiated a process before the creation of 2010 Census Blocks to add Census Block boundaries that split polygons with large numbers of addresses using different ZIP Codes.

Users should not employ ZCTAs to identify the official USPS 5-digit ZIP Codes for mail delivery. The USPS makes periodic changes to ZIP Codes to support more efficient mail delivery. The ZCTA process used primarily residential addresses and was biased towards ZIP Codes used for city-style mail delivery, so there can be ZIP Codes that are primarily nonresidential or boxes only that may not have a corresponding ZCTA.

IDENTIFICATION FIELDS

- **NAME** | Common Name
- **NAMELSAD** | Translated LSAD

  Each ZCTA is identified by a common name and a translated legal/statistical area description.

- **ZCTA5** | ZCTA Census Code
- **USCCODE** | ZCTA Census Code

  Each ZCTA is identified by a five-character numeric Census code based on the most frequently occurring USPS 5-digit ZIP Code within Census Blocks (see above for details).

COMPATIBILITY

pdGeoSupplement utilizes U.S. Census Bureau coding conventions. It is fully compatible with all other Peacock Data GeoCoding, U.S. Census 2010, and American Community Survey (ACS) database products, including *pdGeoTIGER*, *pdCensus2010,* and *pdACS2013*.

This database is also fully compatible with raw U.S. Census Bureau data and other databases and applications that make use of their coding conventions.

USING PDGEOSUPPLEMENT WITH *PDGEOTIGER, PDCENSUS2010, AND PDACS2013*

Projects frequently require determining GeoCoding and U.S. Census information in addition to running data files against *pdGeoSupplement*. In these cases, *pdGeoTIGER*, *pdCensus2010*, and *pdACS2013* make excellent partners for the supplement:

- *pdGeoTIGER*: ZIP+4 and Address Range GeoCoding databases
- *pdCensus2010*: U.S. Census 2010 population and housing tabulations
- *pdACS2013*: U.S. Census American Community Survey (ACS) economic estimates

Because these products all utilize the same U.S. Census Bureau coding conventions as *pdGeoSupplement*, which serves as a companion reference file, once the necessary designations are appended to data files, it is a straightforward process to then apply the supplemental information.

Review the pdGeoTIGER, pdCensus2010, and pdACS2013 user documentation for more information on GeoCoding and U.S. Census data.

USER GUIDE UPDATES

User guides are updated based on information gained from user experience. It is suggested that users regularly check the Support section of the Peacock Data website for updates. Look for a date newer than the date below:

The publication date of this guide is: June 1, 2014.

LICENSING

The use of *pdGeoSupplement* is governed by the Site License for the database product it was purchased as part of. The full text of the license is provided in the documentation supplied with the associated product. Users are allowed to install *pdGeoSupplement* on all computers in the same building within a single company or organization. An optional Developer License is also available for separate purchase granting users the right to incorporate the information in for-profit services and products.

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