Geography

Understanding Geographic Identifiers (GEOIDs)

What are GEOIDs?

The Census Bureau and other state and federal agencies are responsible for assigning geographic identifiers, or GEOIDs, to geographic entities to facilitate the organization, presentation, and exchange of geographic and statistical data. GEOIDs are numeric codes that uniquely identify all administrative/legal and statistical geographic areas for which the Census Bureau tabulates data. From Alaska, the largest state, to the smallest census block in New York City, every geographic area has a unique GEOID. Some of the most common administrative/legal and statistical geographic entities with unique GEOIDs include states, counties, congressional districts, core based statistical areas (metropolitan and micropolitan areas), census tracts, block groups and census blocks.

Why Are GEOIDs Important?

GEOIDs are very important for understanding and interpreting geographic and demographic data and their relationship to one another. Data users rely on GEOIDs to join the appropriate demographic data from censuses and surveys, such as the American Community Survey (ACS), to various levels of geography for data analysis, interpretation and mapping. Without a common identifier among geographic and demographic datasets, data users would have a difficult time pairing the appropriate demographic data with the appropriate geographic data, thus considerably increasing data processing times and the likelihood of data inaccuracy.

Types of GEOID Codes

The American National Standards Institute (ANSI), US Census Bureau, US Department of Education, US Geological Survey (USGS) and individual states all maintain GEOIDs contained in census products. The ANSI, in particular, is responsible for maintaining Federal Information Processing Series (FIPS) codes and Geographic Names Information System (GNIS) codes. A wide audience uses FIPS codes and GNIS codes across many private and public datasets to uniquely identify geographic features.

FIPS Codes

GNIS Codes

Census Bureau Codes

U.S. Department of Education and State-Defined Codes

GEOID Structure for Geographic Areas

The Standard Hierarchy of Census Geographic Entities diagram illustrates the hierarchal relationship of different geographic areas to one another. This diagram is a great tool for understanding how GEOIDs are concatenated for geographic areas that nest within other geographic areas. The table below shows the GEOID structure in TIGER/Line Shapefiles for some of the most common legal and statistical geographies, as well as example GEOIDs for different geographic areas.

Area Type	GEOID Structure	Number of Digits	Example Geographic Area	Example GEOID
State	STATE	2	Texas	48
County	STATE+COUNTY	2+3=5	Harrison County, TX	48201
County Subdivision	STATE+COUNTY+COUSUB	2+3+5=10	Pasadena CCD, Harrison County, TX	4820192975
Places	STATE+PLACE	2+5=7	Houston, TX	4835000
Census Tract	STATE+COUNTY+TRACT	2+3+6=11	Census Tract 2231 in Harrison County, TX	48201223100
Block Group	STATE+COUNTY+TRACT+BLOCK GROUP	2+3+6+1=12	Block Group 1 in Census Tract 2231 in Harrison County, TX	482012231001
Block*	STATE+COUNTY+TRACT+BLOCK	2+3+6+4=15 (Note – some blocks also contain a one character suffix (A, B, C, ect.)	Block 1050 in Census Tract 2231 in Harrison County, TX	482012231001050
Congressional District (113th Congress)	STATE+CD	2+2=4	Connecticut District 2	0902
State Legislative District (Upper Chamber)	STATE+SLDU	2+3=5	Connecticut State Senate District 33	09033
State Legislative District (Lower Chamber)	STATE+SLDL	2+3=5	Connecticut State House District 147	09147
ZCTA **	ZCTA	5	Suitland, MD ZCTA	20746
* The block group code is not included in the census block GEOID code because the first digit of a census block code represents the block group code.				
** ZIP Code Tabulation Areas (ZCTAs) are generalized areal representations of United States Postal Service (USPS) ZIP Code service areas.				

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