**CHAPTER 2**

**LITERATURE REVIEW**

Taking a census revolves around geography. They don’t just count people; they count people in their places of residence because it serves as the foundation for conducting censuses and tabulating their results (1). The Census Bureau also keeps track of certain geographic regions that are used by various regional, state and federal organizations. Understanding geographical links are essential for effectively utilizing Census Bureau data (2). The connections between the census Bureau’s maintained legal, administrative, and statistical borders are shown in the standard Hierarchy of Census Geographic Entities.

Diagram

Description automatically generated

**Blocks** are statistical regions that have physical boundaries like roads, rivers, and train tracks. All tabulated data from a decennial census is based on these. The United States is all covered by blocks. Blocks can potentially cover hundreds of square kilometers in rural regions. Blocks are given four-digit census block numbers ranging from 0000 to 9999 to identify them specifically inside census tracts located within states and counties. The block group is identified by the first digit of the census block number. All blocks with water area are designed to have block numbers starting with a zero.

**Block Groups (BGs)**- used to show data and regulate block numbering- are statistical divisions of census tracts typically considered to comprise between 600 and 3000 individuals. A block group is a collection of blocks with the same first digit of their four-digit census block number located in the same census tract. Block groups often cover a continuous region. At least one BG is present in every census tract and each BG has a specific number inside the tract. In conventional census geographic hierarchy, BGs may cross any other geographic entity’s boundaries but never those of a state, county, or census tract. The normal county-based census tracts and block groups established for the same region may not be at all similar to the tribal census tracts and block groups.

**Census Region**-For the purpose of presenting census statistics, the United States is divided into Census Regions, which are collections of states and the District of Columbia. The four census regions are the Northeast, the Midwest, the South, and the West. There are two or more census divisions in each of the four census regions. A single-digit census code serves as the identifier for each census area. Puerto Rico and the U.S. Territories do not fall under any census divisions or regions. There are nine census divisions, and a single-digit census code is used to identify each one.

**Census Tracts**-Small, comparatively permanent statistical subdivisions of a county or statistically comparable units are known as census tracts. For the purpose of presenting statistical data, census tracts serve as a reliable collection of geographic units. Populations in census tracts typically range from 1,200 to 8,000, with 4,000 being the ideal number. A census tract typically covers a single, continuous region, however, the size of a census tract can vary greatly depending on the density of the nearby population. In the typical census geographic hierarchy, state and county borders are always considered to be census tract borders. Tribal census tracts are a special geographic unit that are designated on federally recognized American Indian reservations and off-reservation trust lands. The normal county-based census tracts established for the same region may not be at all similar to the tribal census tracts.

* Geographical entities are given codes by the Census Bureau and other federal agencies to make the organization, display, and sharing of statistical data and other information easier. Individual entities may be clearly identified according to geographic entity codes. Federal Information Processing Series (FIPS), National Standard (NS), and Census Bureau codes are among the several categories of geographic entity codes included in Census Bureau data products.
* These codes were originally known as Federal Information Processing Standards (FIPS), or Federal Information Processing. For geographic entities governed by FIPS, the Census Bureau still maintains and issues codes. States, counties, congressional districts, core-based statistical areas, places, county subdivisions, sub-minor civil divisions, consolidated cities, estates, and all varieties of American Indian, Alaska Native, and Native Hawaiian regions are among the geographical entities included by FIPS.
* A two-character FIPS code with a unique number for each state is used to identify congressional districts. An incorporated city and its county or minor civil division (MCD) powers are combined to form a consolidated city, which is a kind of local government.

**Core Based Statistical Areas** (CBSAs) are made up of the county or counties, or comparable entities, that are connected to at least one core (defined as an urban area by the Census Bureau) with at least 10 000 people, as well as any neighboring counties that are highly integrated socially and economically with the core as evidenced by commuting ties to the core-related counties. Metropolitan statistical areas and micropolitan statistical regions are referred to jointly as "core-based statistical areas."

Most states refer to their main geographical divisions as counties. An eight-digit National Standard (NS) code and a three-character alphabetically based Federal Information Processing Series (FIPS) code are given to each county or statistically comparable organization. The main divisions of counties and comparable entities are called county subdivisions. They can be categorized as either legal or statistical and include census county divisions, census subareas, minor civil divisions, and unorganized territories. A five-character Federal Information Processing Series (FIPS) number and an eight-digit National Standard (NS) code are given to each county subdivision based on the state's alphabetical order.

**County**-In most states, counties are used to describe the fundamental legal divisions. These divisions are referred to as parishes in Louisiana. In Alaska, a state without counties. One or more incorporated places that are apart from any county organization make up the principal divisions of four states (Maryland, Missouri, Nevada and Virginia). In order to improve the presentation of the statistics, these incorporated locations know as independent cities which are recognized as equal entities.

To offer comparable geographic units at the county level of the geographic hierarchy for these states, the counties in Massachusetts were all dissolved as operational governmental bodies. But the Census Bureau continues to publish data for these historical entities and portrays them as inoperative legal entities in data products. An eight-digit National Standard (NS) code and a three-character alphabetically based Federal Information Processing Series (FIPS) code are given to each county or statistically comparable organization. The main divisions of counties and comparable entities are called county subdivisions. They can be categorized as either legal or statistical and include census county divisions, census subareas, minor civil divisions, and unorganized territories. A five-character Federal information processing series (FIPS) number and an eight-digit National Standard (NS) code are given to each county subdivision based on the state’s alphabetical order.

The Census Bureau, in collaboration with state, tribal and local agencies, draws the boundaries of census county divisions for statistical reasons. Census County Divisions are not governmental entities and have no legal purpose. Census tract borders and CCD boundaries often follow observable features. Each CCD’s name is derived from a locality, county, or well-known local name that designates its location.

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| --- | --- | --- | --- | --- |
| Area Type | GEOID Structure | Number Of Digits | Example Of Geographic Area | Example GEOID |
| State | STATE | 2 | Texas | 48 |
| County | STATE+COUNTY | 2+3=5 | Harris County,  TX | 4820  1 |
| Census  Tract | STATE+COUNTY+TRACT | 2+3+6=11 | Census Tract  2231 in Harris  County, TX | 4820  1223  100 |
| Block  Group | STATE+COUNTY+TRACT+ BLOCK GROUP | 2+3+6+1 = 12 | Block Group 1  in Census  Tract 2231 in  Harris County,  TX | 4820  1223  1001 |
| 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 Harris  County, TX | 4820  1223  1001  050 |

Since the block group code is represented by the first digit of a census block code, the block group code is not included in the census block GEOID code.

**American Community Study (ACS)**: The American Community Study (ACS) is an annual survey that gathers data on social, economic, housing, and demographic aspects of our country and its citizens. Communities may utilize this information as a valuable tool to track their changes. By using the ACS form, people are assisting in making sure that the best data is used when making choices regarding the future of their community. Decision-makers need a complete picture of their population in order to distribute limited resources in an efficient and effective manner. Over 3.5 million homes are contacted nationwide by the Census Bureau each year to take part in the ACS. Due to their quick release in the year after they are gathered, ACS data are always very accurate.

The ACS produces periodic estimations, which are snapshots of the population and housing characteristics over a given time of data collection. These are the estimates for one year and five years.

**1-Year Estimates**

• Data for regions with populations of 65,000 or more

• 12 months of data collection

• 2005 ACS 1-Year Estimates initially issued in 2006

**1-Year Additional Estimates**

• Data for regions with populations of 20,000 or more

• Simplified versions of popular ACS tables

• 2014 ACS 1-year supplementary estimates were issued for the first time in 2016.

**5-Year Projections**

• 60 months of data collection; data for all areas; initial publication of the ACS 5-year estimates for the years 2005–2009 in 2010.