



National Neighborhood Data Archive



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Understanding Geographies in NaNDA: Tract10, Tract20, ZCTA10, and ZCTA20

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When working with neighborhood-level data in the National Neighborhood Data Archive (NaNDA), selecting the appropriate geographic unit is crucial for meaningful analysis. The two most common geographies found in NaNDA datasets are census tracts and ZIP Code Tabulation Areas (ZCTAs), each with versions from different census years. This post explains the differences between various geographies used in NaNDA datasets and offers guidance on choosing one.



Census Tracts:

Census tracts are small, relatively permanent statistical subdivisions of a county, designed to be stable over time for statistical comparisons. However, boundaries do change after the decennial censuses due to population shifts and urban development.

- **Tract / Tract 2010** refer to census tract boundaries as defined in the 2010 Census.
- **Tract 2020** refers to census tract boundaries as defined in the 2020 Census.

Census tracts are part of a hierarchical geographic structure used by the Census Bureau, where multiple tracts aggregate up to form counties. This structure is illustrated in the [Census Bureau's Geographic Hierarchy](#).

ZIP Code Tabulation Areas (ZCTAs):

[ZIP Code Tabulation Areas](#), or ZCTAs, are generalized representations of U.S. Postal Service ZIP codes, created by the Census Bureau to approximate ZIP code areas for statistical analysis. While the US postal service may update ZIP Codes at any time, ZCTAs only change after each decennial census. When linking NaNDA data to other datasets that use ZIP codes, it **is necessary** to convert ZIP codes to ZCTAs using a crosswalk. **NaNDA provides a [ZIP-to-ZCTA crosswalk](#)** to support this process.

- **ZCTA / ZCTA 2010** represents ZIP Code Tabulation Areas as delineated in the 2010 Census.
- **ZCTA 2020** represents ZIP Code Tabulation Areas as updated in the 2020 Census.

When to Use 2010 versus 2020?

Selecting the appropriate geography and year depends on the research question being asked, as well as the timeframe and geography used for the collection of any data planned for linkage with the NaNDA dataset.

- **Use 2010-based geographies** (Tract, ZCTA) when working with data collected between 2010 and 2019, as these correspond to the 2010 Census boundaries.
- **Use 2020-based geographies** (Tract20, ZCTA20) when working with data from 2020 onward, as these align with the most recent census definitions.
- When linking NaNDA data to an existing dataset, use the NaNDA geography that corresponds to the geography of the other dataset.
 - *Example: When linking NaNDA to survey response data collected using 2010 United States Census Tracts, use NaNDA's Census Tract 2010 data.*

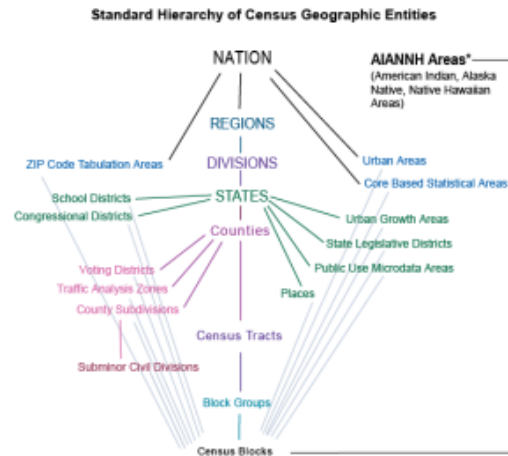
- *Example: When linking NaNDA to cohort studies from 2021 that include ZIP codes, use a [ZIP-to-ZCTA crosswalk](#) then select ZCTA 2020.*

Additional factors to consider:

1. **Timeframe of Data:** Match the geography to the time period of the dataset (2010, 2020).
2. **Level of Analysis:** Use census tracts when available, and ZCTAs when working with ZIP code-based data. If working with ZIP codes, use a ZIP-to-ZCTA crosswalk to convert ZIP codes to ZCTAs.
3. **Crosswalk Needs:** If the study spans multiple census years, be prepared to reconcile geographic changes using crosswalk files.
4. **Data Availability:** Some datasets may only be available at specific geographic levels, which can influence the choice of geography.
5. **Other Geographies:** Some NaNDA datasets use other geographies, such as county or school district. Users may encounter other geographic boundaries (e.g., AIANINH Areas, which are used to report data for American Indian, Alaska Native, and Native Hawaiian populations) they'd like to link to NaNDA datasets. Researchers may need to explore crosswalks or other solutions when linking data at different geographic levels..

NaNDA uses FIPS codes from the [U.S. Census Bureau's Geographic Identifiers](#) to define tracts, counties, and ZCTAs.

By selecting the appropriate geography, users can ensure that your research results are accurate and comparable. If you have questions about working with geographic units in NaNDA, feel free to [Contact Us](#) for guidance!



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