HIGH-RESOLUTION POPULATION DATA

Accurate population estimates are critical in many fields of study, including emergency management, healthcare, crime, planning and environmental monitoring. The Census is a common data source yet it presents population as evenly distributed across areas, even in lakes and streams. Dasymetric population techniques present a more realistic view of population distribution by combining census data with additional information such as night-time lights, land cover, address points, electricity hookups, and property tax information. Dasymetric methods date from the 1980s and have undergone rigorous testing and are unquestionably considered more accurate than non-dasymetric estimation methods.

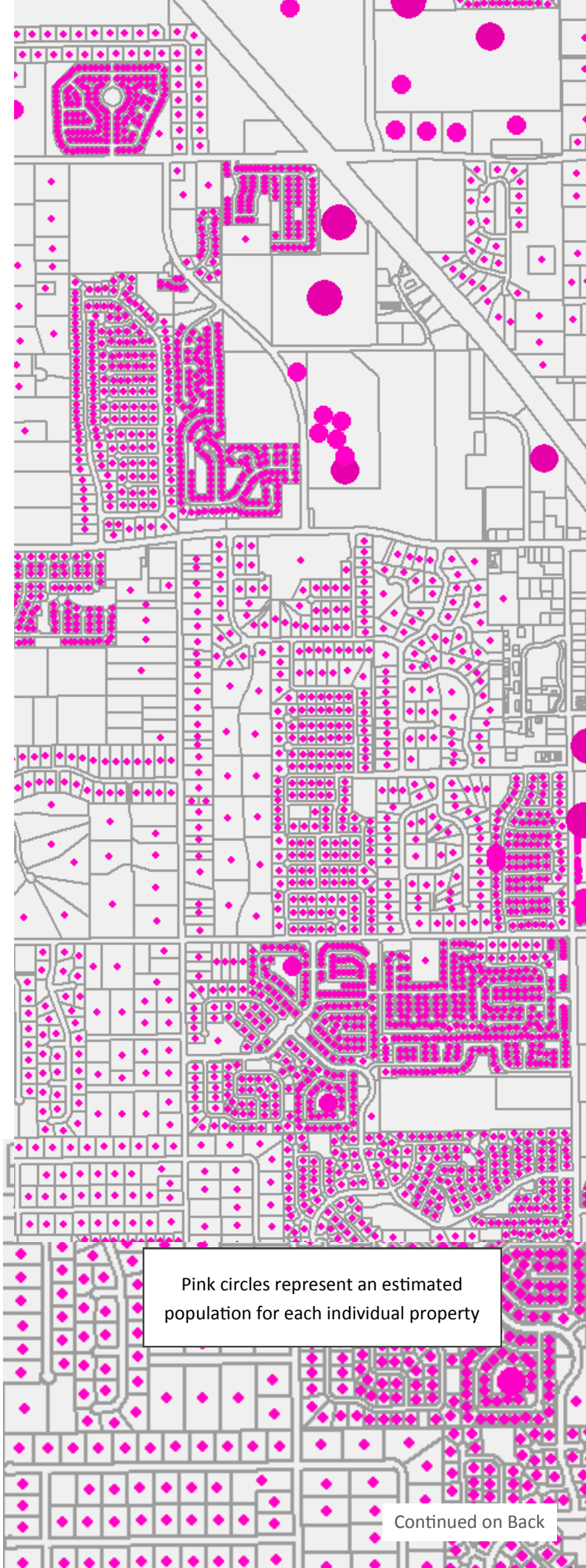
CADASTRAL-BASED DASYMETRIC TECHNIQUES

The high resolution and level of detail in cadastral (taxlot) data make it well-suited for dasymetric estimations. Each individual property record contains information collected by the county property appraiser that can help predict the degree of habitation on the property.

OUR METHOD

We adapt Maantay's (2007) urban formula to accommodate challenges in Florida's landscape such as large land tracts, group living, and rurality. Our method performs over one billion calculations resulting in an estimated population count for each of Florida's 9 million property parcels. This GIS data is ready for visualization and analysis.

FLORIDA RESOURCES AND ENVIRONMENTAL ANALYSIS CENTER



Pink circles represent an estimated population for each individual property

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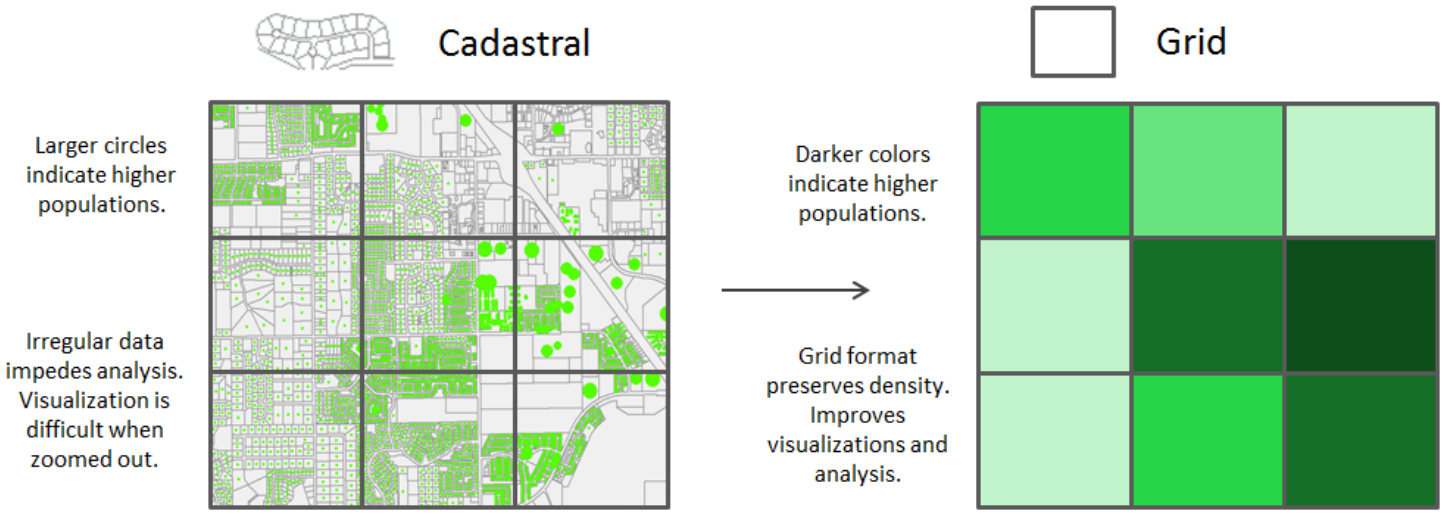
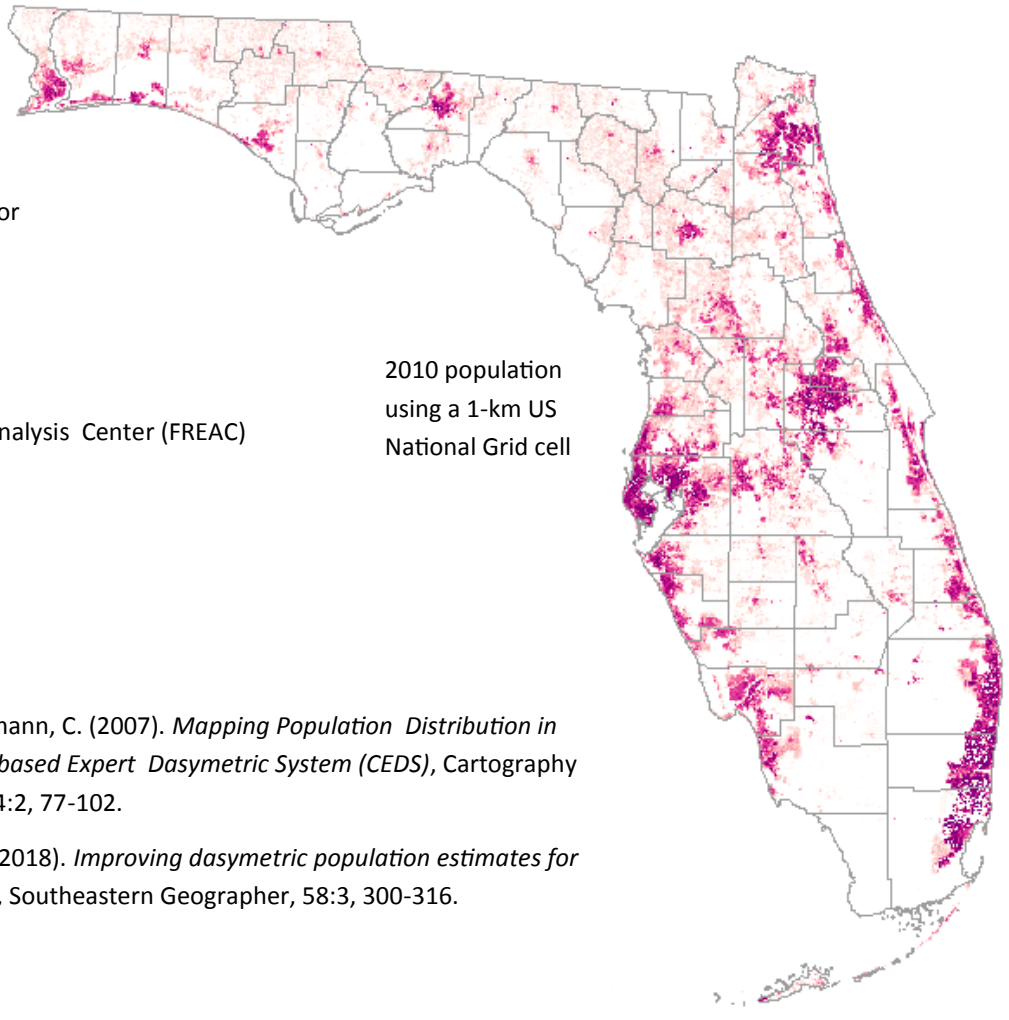
Visualization and Analysis Using a Grid

Benefits of a Grid

Aggregating individual parcel population estimates to a grid system has several advantages. The uniform size and shape facilitates visualization, analysis, and spatial statistics. Density is preserved, making it easier to detect small areas with high values that might otherwise be overlooked. The original cadastral data is bulky and best used for small geographic areas. By contrast, gridded data is lightweight, uniform, and easy to manage even at the state level.





2010 population using a 1-km US National Grid cell

For More Information

Gridded population data are available for download at http://usng-gis.org.

Contacts

Stephen Hodge or Georgianna Strode
Florida Resources and Environmental Analysis Center (FREAC)
Florida State University, Tallahassee, FL
850.644.2007
shodge@fsu.edu, gstrode@fsu.edu
freac.fsu.edu

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