

# **U.S. Census Bureau Population Data for Puerto Rico**

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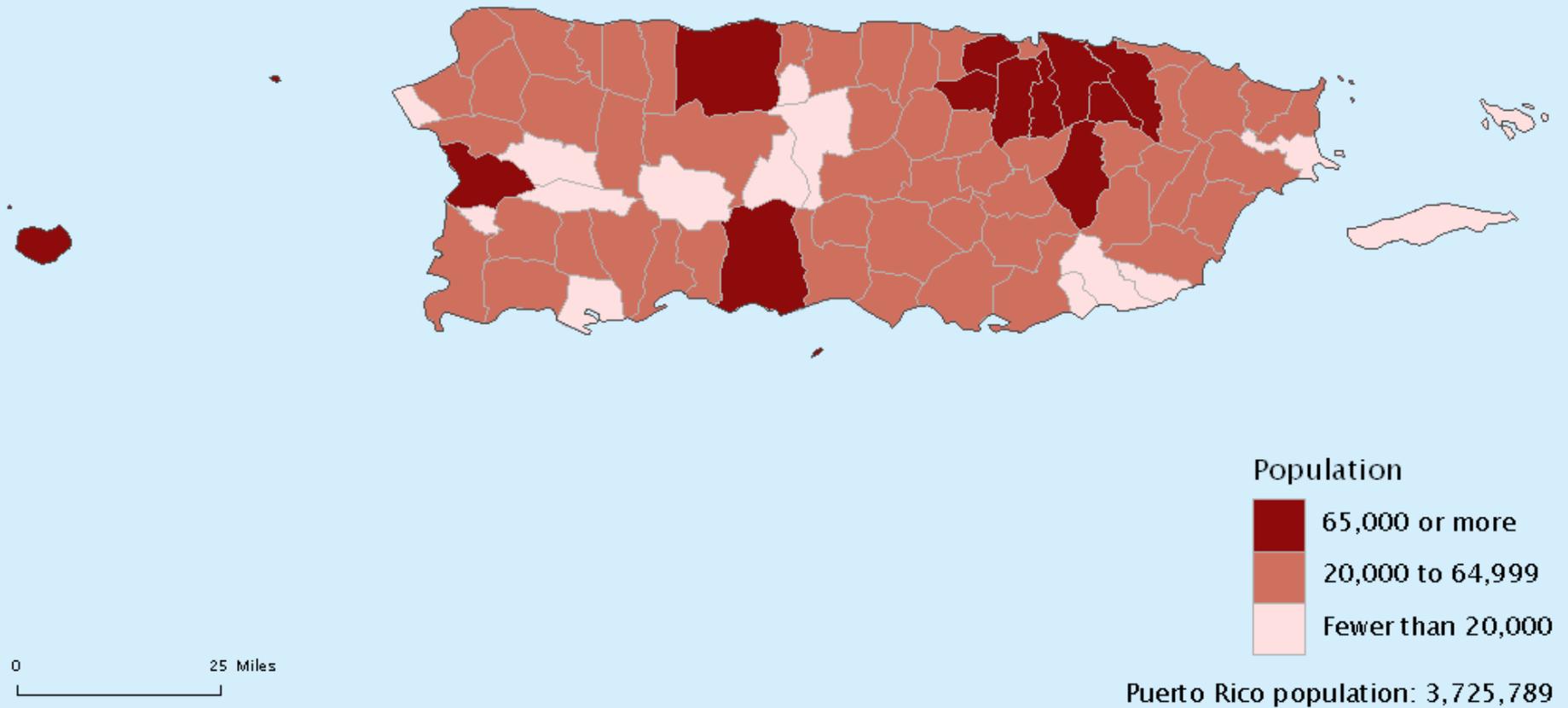
# Three Main Population Data Sets

- Decennial Census
- Puerto Rico Community Survey
- Population Estimates

# Decennial Census

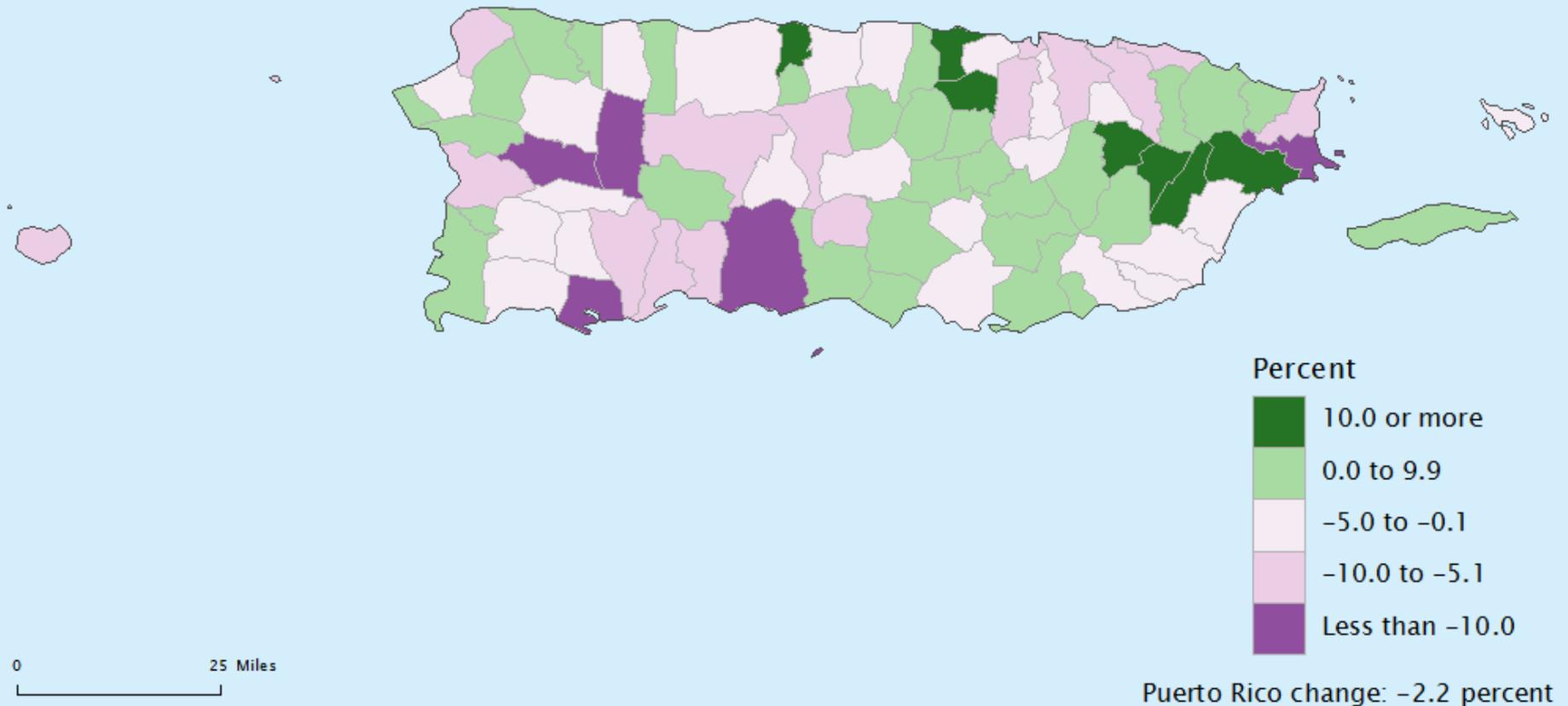
- Full count of the population
- 2010 was a short form only census and included questions on age, sex, race, Hispanic origin, relationship to householder, and housing tenure

# Total Population by Municipio: 2010



Source: U.S. Census Bureau, 2010 Census

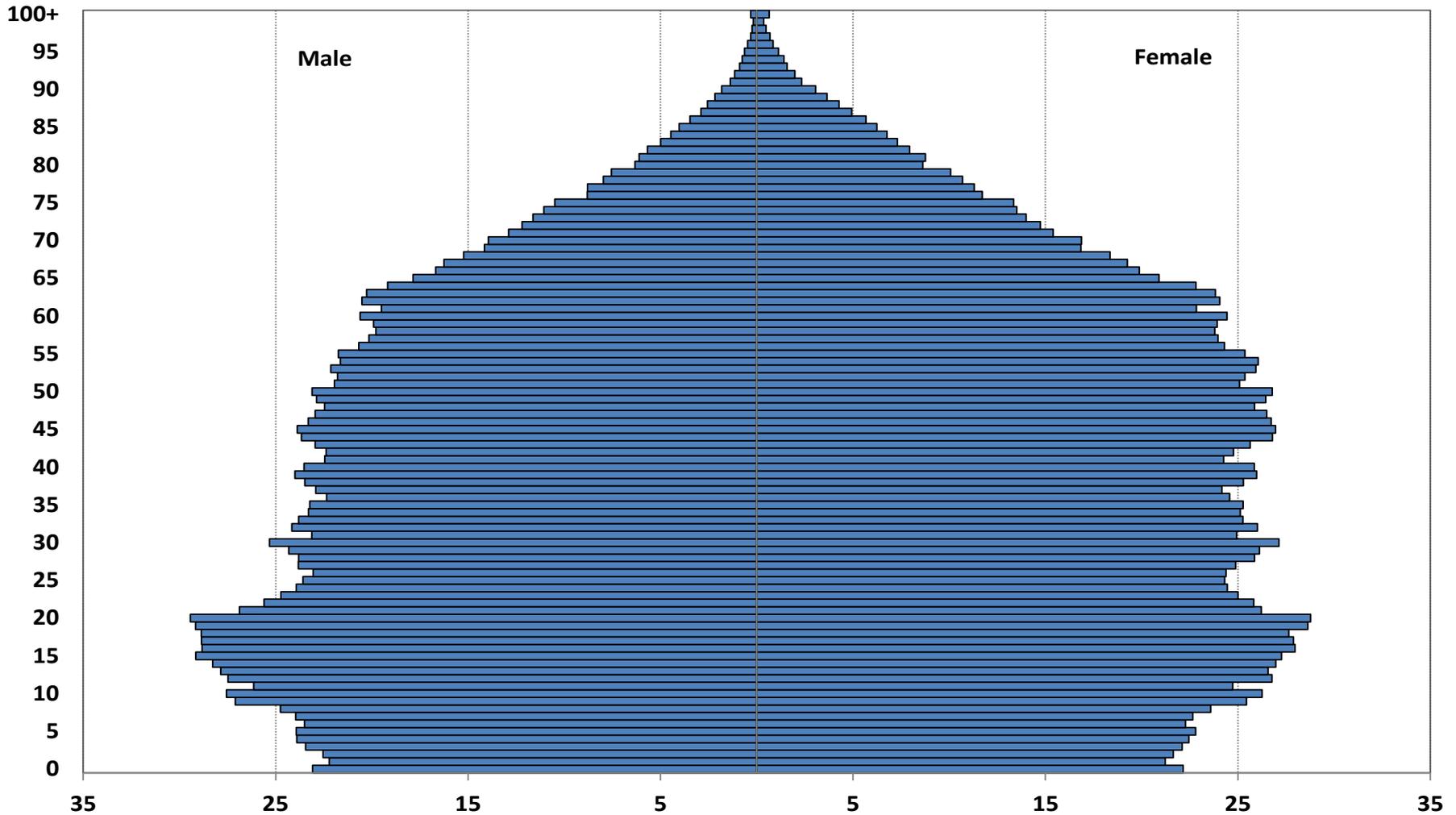
# Percentage Change in Population by Municipio: 2000 to 2010



Source: U.S. Census Bureau, 2010 Census and Census 2000

# Population by Age and Sex for Puerto Rico: April 1, 2010

(Numbers in thousands)



Source: U.S. Census Bureau, 2010 Census.

# Puerto Rico Community Survey (PRCS)

- First year of data collection was 2005
- Group quarters added in 2006
- Sample size is around 36,000 addresses annually
- Data collection is mail, CATI, and CAPI and is continuous throughout the year
- High response rates (98 percent)
- Release 1-, 3-, and 5-year data

# PRCS Topics

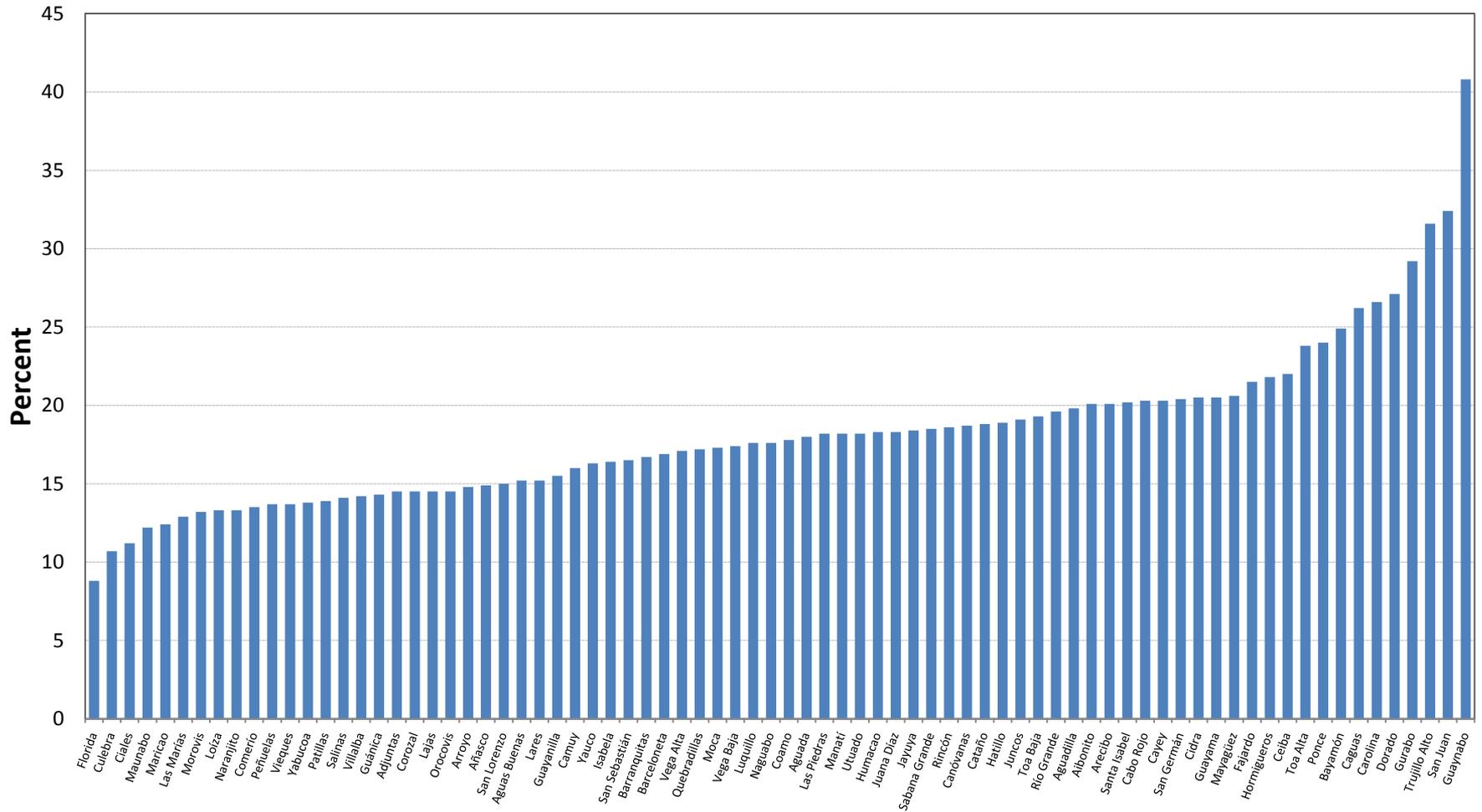
- Demographic characteristics
  - age, sex, race, Hispanic origin, relationship to householder
- Economic characteristics
  - income, labor force status, place of work, journey to work, health insurance coverage, etc.
- Social characteristics
  - marital status and marital history, grandparents as caregivers, place of birth, educational attainment, etc.
- Housing characteristics
  - year built, units in structure, rooms, kitchen and plumbing facilities, heating fuel, etc.

## Households by Type in Puerto Rico: 2006, 2009, and 2012



Source: U.S. Census Bureau, Puerto Rico Community Survey, 2006, 2009, and 2012.

# Percent with a Bachelor's Degree or Higher by Municipio: 2007-2011 (of the population aged 25 and older)

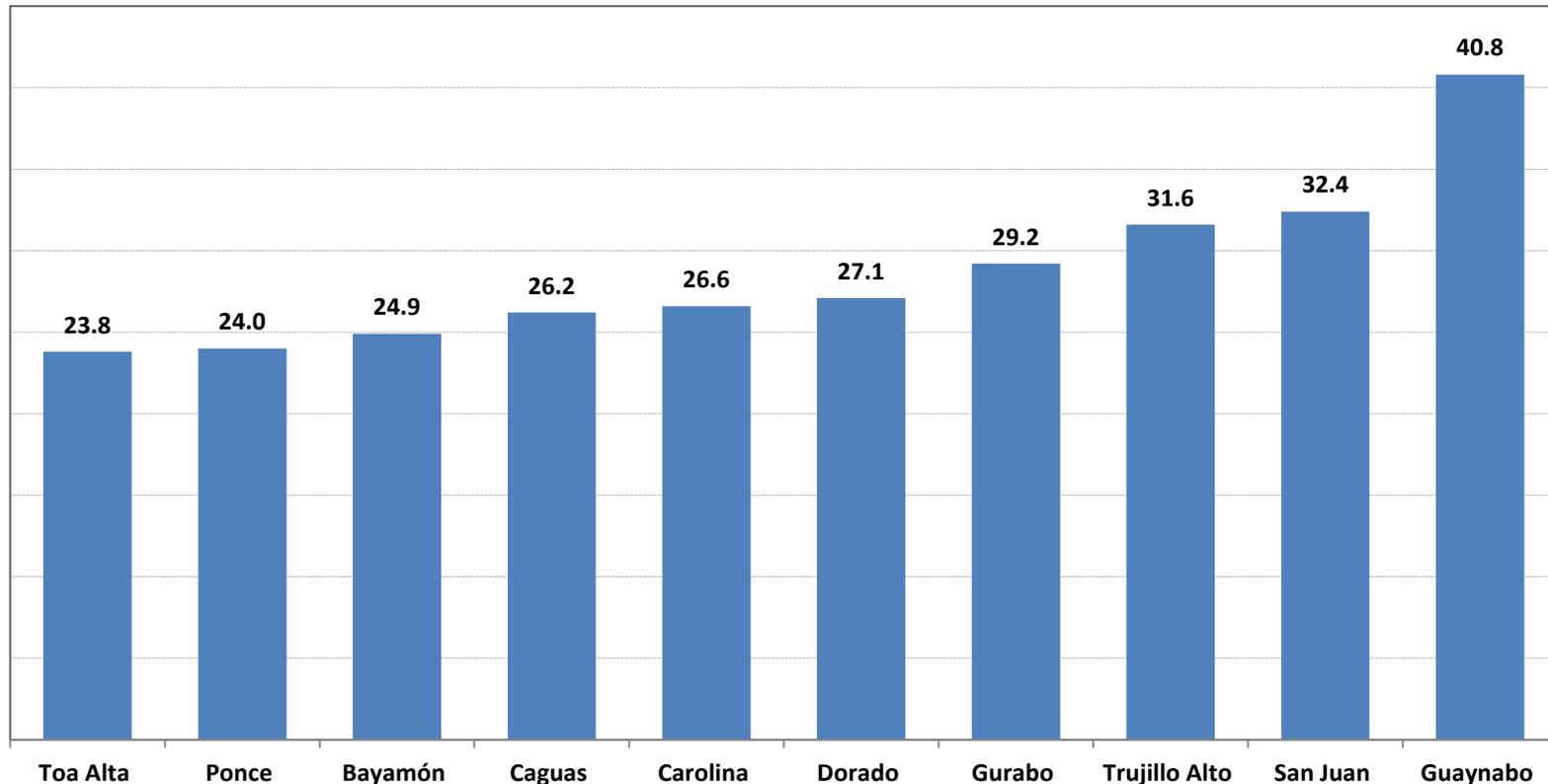


Source: U.S. Census Bureau, Puerto Rico Community Survey, 2007-2011



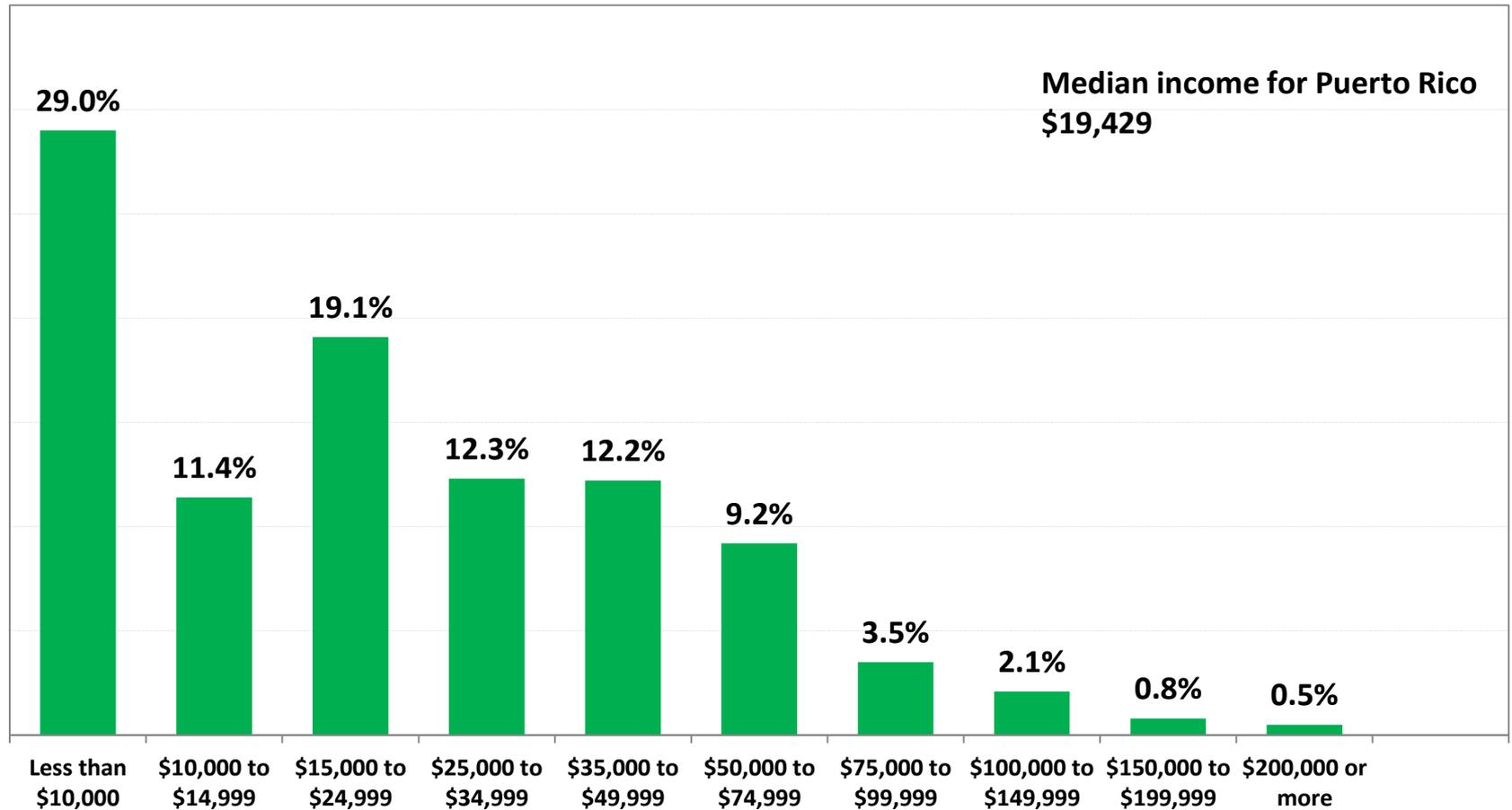
U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU

## Percent with a Bachelor's Degree or Higher by Municipio: 2007-2011 (of the population aged 25 and older)



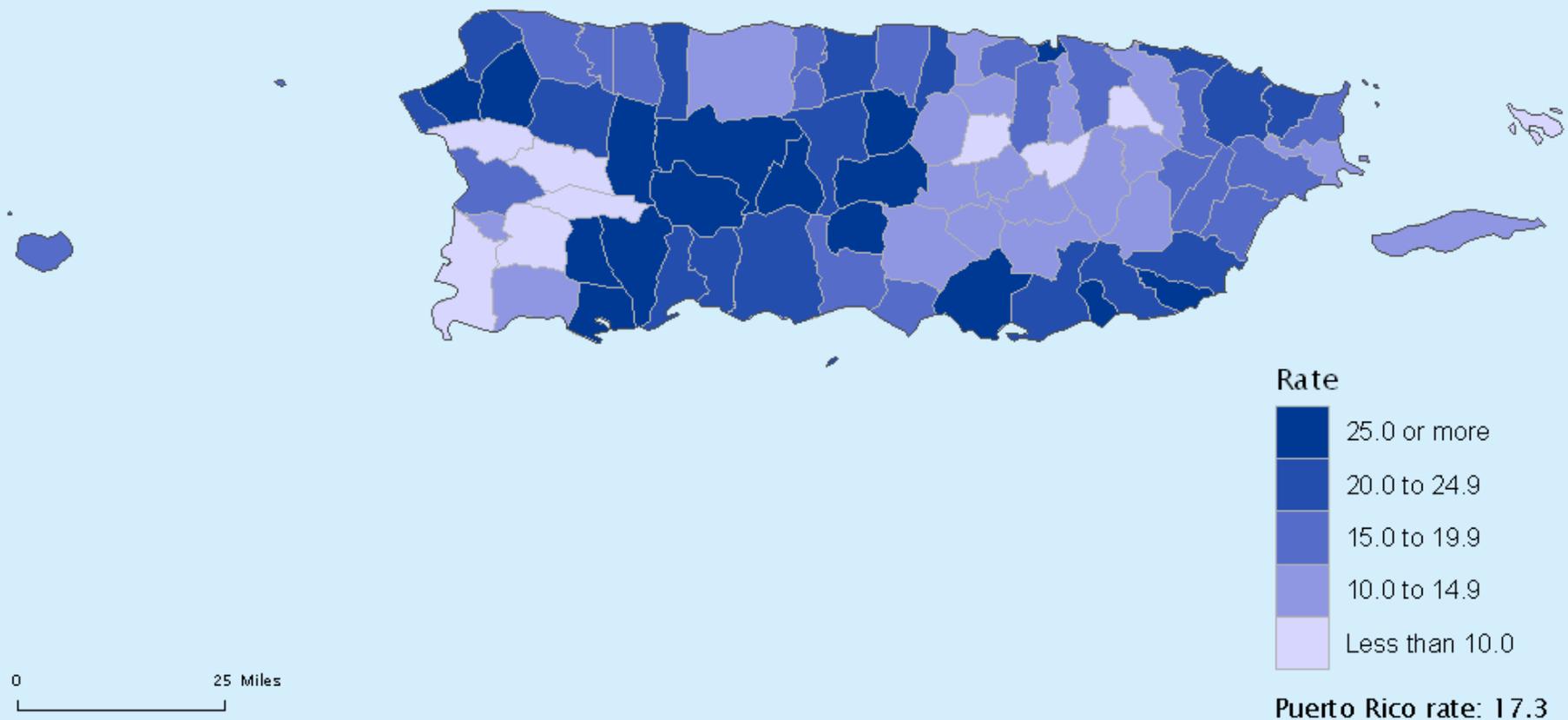
Source: U.S. Census Bureau Puerto Rico Community Survey, 2007-2011

# Household Income Distribution for Puerto Rico: 2012



Source: U.S. Census Bureau, Puerto Rico Community Survey, 2012

# Unemployment Rate by Municipio: 2007–2011



Source: U.S. Census Bureau, 2007–2011 Puerto Rico Community Survey

# Population Estimates

- What population estimates we produce
- Uses of population estimates
- Basic methodology
- Estimates evaluation
- Research we are doing

# Population Estimates for Puerto Rico

- We produce annual population estimates disaggregated by age and sex for Puerto Rico and the municipios
- We release the Puerto Rico estimates when we release the estimates for the United States
  - December – total population for Puerto Rico
  - March – total population for municipios
  - June – estimates by age and sex for Puerto Rico and the municipios

# Uses of Population Estimates

- Allocation of federal funds each year
- Controls for surveys
  - American Community Survey
  - Puerto Rico Community Survey
  - Puerto Rico's Labor Force Survey
- Denominators for statistical rates
  - Birth and death rates (NCHS)
  - Per capita income (BEA)
- Other Federal uses and program planning
  - Department of Education, National Cancer Institute
  - Location of public and private services

# Methodology

We use the cohort component method to produce population estimates. The starting population ( $P_1$ ) is the latest decennial census.

- **Commonwealth level**

$$P_2 = P_1 + B - D + \text{NIM (International Migration)}$$

- **Municipio level**

$$P_2 = P_1 + B - D + \text{NM (Domestic and International Migration)}$$

(controlled to the Commonwealth estimates)

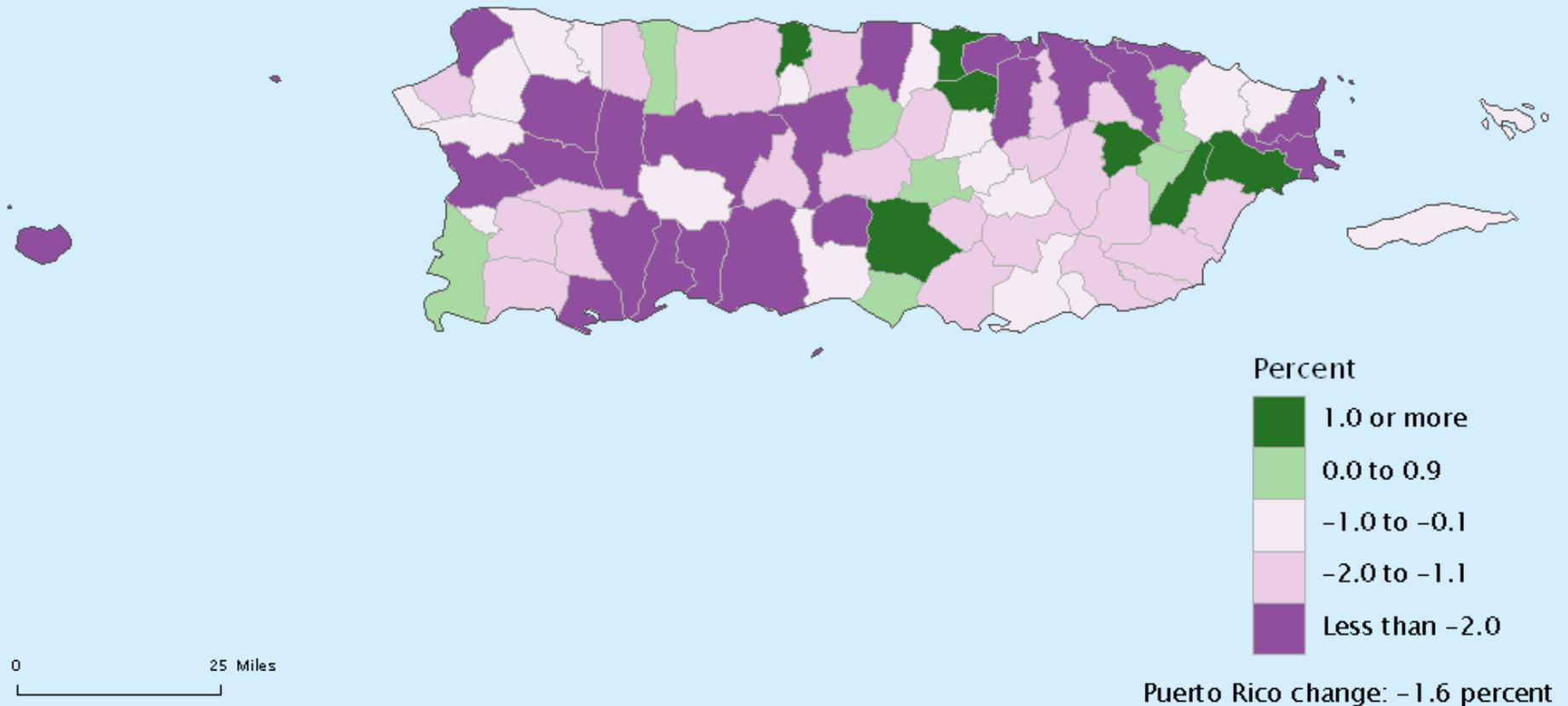
# Vintage 2012 Population Estimates

## Population and Cumulative Estimates of the Components of Population Change for Puerto Rico: April 1, 2010 to July 1, 2012

Population		Total Population Change	Natural Increase	Vital Events		Net Migration
2010	2012			Births	Deaths	
3,725,789	3,667,084	-58,705	25,120	91,878	66,758	-83,825

Source: U.S. Census Bureau, Population Estimates Program, 2012.

# Percentage Change in Population by Municipio: 2010 to 2012



Source: U.S. Census Bureau, 2010 Census and 2012 Population Estimates

# Estimates Evaluation

- Every 10 years we evaluate the population estimates compared to the census
- We evaluate our current methods and alternative methods
- The results of the evaluation guide our research to improve the estimates in the future

# Background

- The Decennial Census indicated a 2.17 percent decline of the population in Puerto Rico between 2000 and 2010.
- The population estimates had estimated a decline of 0.34 percent from 2000 to 2010.
- The loss of population in Puerto Rico can be mostly attributed to emigration.
- Estimates last decade used both a residual method and the American Community Survey (ACS)/Puerto Rico Community Survey (PRCS) to measure international migration for Puerto Rico.

# Historical Differences for Puerto Rico: 1980-2010

**Total Enumerated and Estimated Population for Puerto Rico: 1980-2010**

Year	April 1		Numeric Difference	Percent Difference
	Census	Estimate		
2010 (V2010)	3,725,789	3,795,569	69,780	1.87
2000	3,808,610	3,919,422	110,812	2.91
1990	3,522,037	3,309,475	-212,562	-6.04
1980	3,196,520	3,450,600	254,080	7.95

# Evaluation Results

- The estimates for Puerto Rico have improved each decade, particularly for 2010.
- Results from an evaluation of the Puerto Rico estimates support that the ACS/PRCS based estimates improved the accuracy of the estimates for Puerto Rico.
- The evaluation also indicated a need to be able to accurately measure migration between municipios.

# Research to Improve the Estimates

- Need to improve estimates of net international migration and internal migration.
- Plan to examine the tax data from Puerto Rico to evaluate their use for estimating internal migration, similar to the use of Federal tax data in the U.S. estimates for internal migration.

# Useful Links

- American FactFinder
  - <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>
- Puerto Rico Community Survey
  - [http://www.census.gov/acs/www/about\\_the\\_survey/puerto\\_rico\\_community\\_survey](http://www.census.gov/acs/www/about_the_survey/puerto_rico_community_survey)
- Population Estimates
  - <http://www.census.gov/popest/>

# Thank you

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