

# Comparing the Degree of Urbanization to the US Census Bureau's Urbanized Areas, Urban Clusters, and Rural Areas

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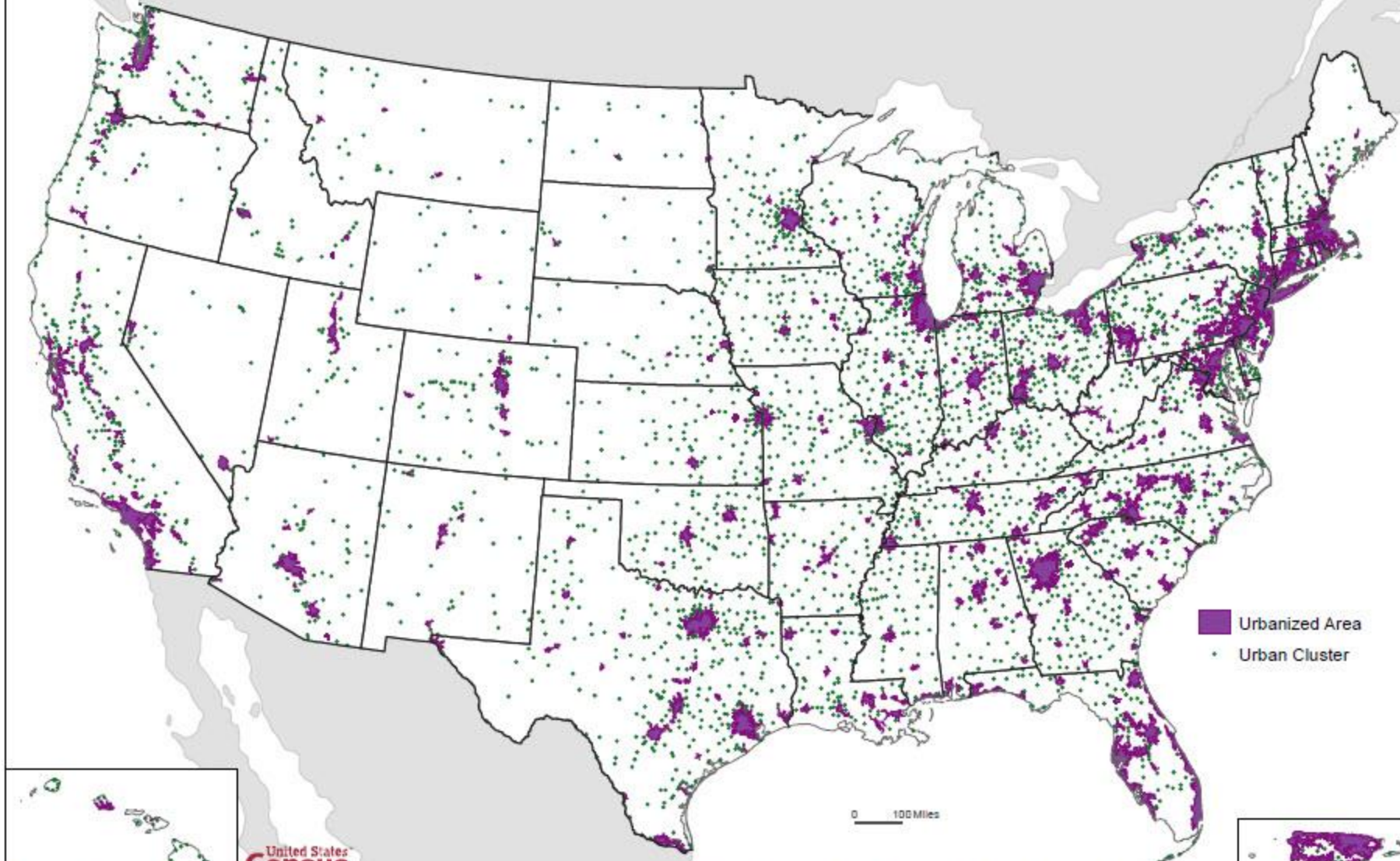
Developing a Global Definition of Cities and Settlements  
New York, NY USA  
30 July 2018

# Census Bureau Urban Areas

- Urbanized areas: 50,000 or more population.
- Urban clusters: at least 2,500 and less than 50,000 population.
- Defined primarily based on residential population density measured at the census tract and census block levels.
  - Initial urban core: at least 1,000 per square mile (386 per km<sup>2</sup>)
  - Remainder of urban area: at least 500 per square mile (193 per km<sup>2</sup>)

	2010 Census Population	2010 Percent
Total	308,745,538	100.0
Urban	249,253,271	80.7
Urbanized Area	219,922,123	71.2
Urban Cluster	29,331,148	9.5
Rural	59,492,267	19.3

# Urbanized Areas and Urban Clusters: 2010

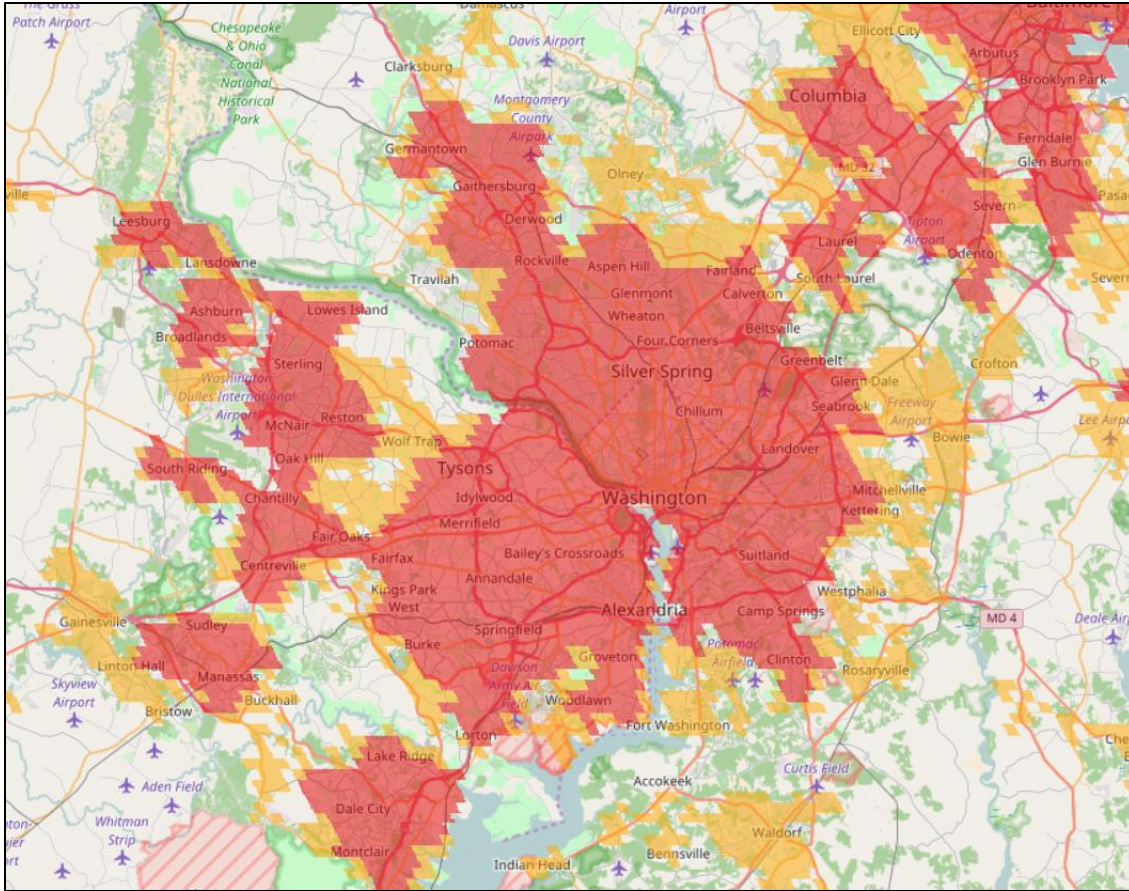


■ Urbanized Area  
• Urban Cluster

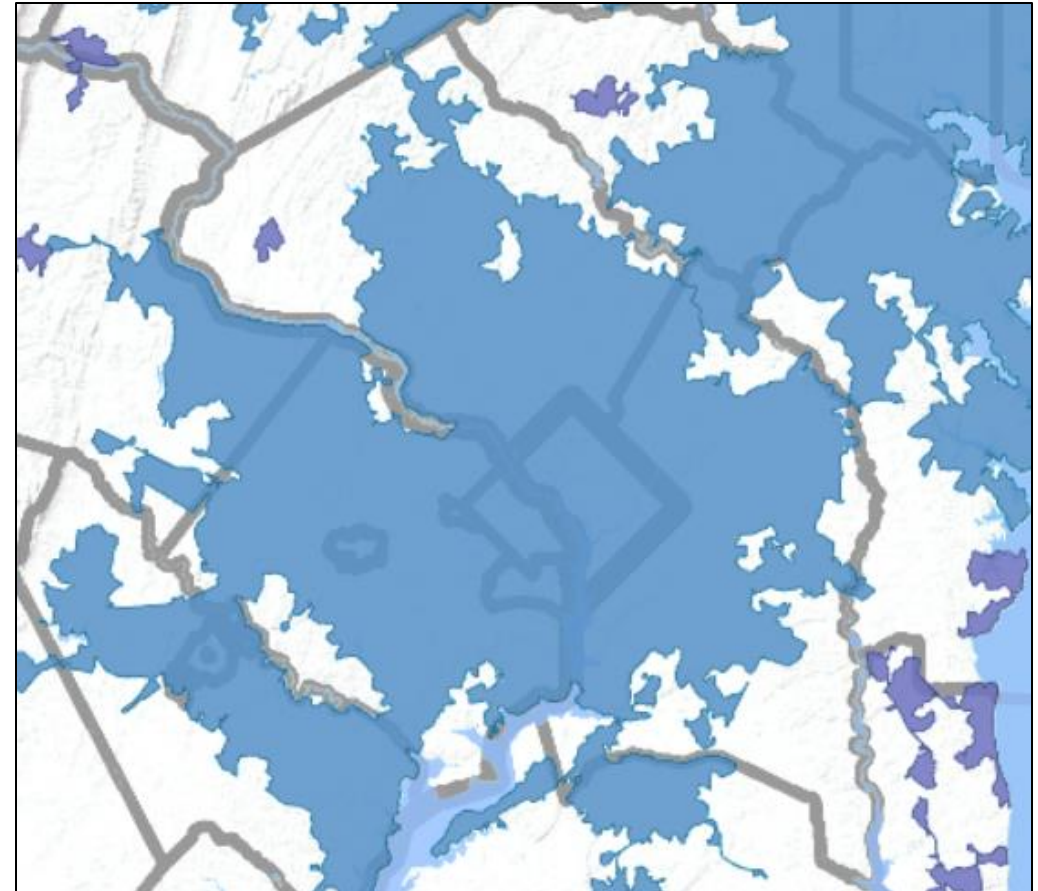
# Findings and Results

- The European Commission's (EC) overall classification of urban and rural population and area compares favorably with the Census Bureau's urban/rural classification.
- We see close comparability in the urban centre/urbanized area categories and in the rural categories:
  - 98% likelihood that an EC-urban centre cell is urban in the Census Bureau's classification.
  - 97.9% likelihood that an EC-rural cell also is rural in the Census Bureau's classification.
- Differences at all scales can be explained by:
  - Differences in population density thresholds and other criteria.
  - Differences in geographic units of analysis: grid cells v. census blocks.

# Comparison of Urbanization Classifications: Washington, DC Area



EC Global Human Settlement Classification



Census Bureau Urban Area Classification

# Findings and Results

- In terms of definitions, the EC's categories are similar to the Census Bureau's categories.
- In terms of spatial extent, the EC's urban categories differ from the Census Bureau's.
  - The EC's urban centre category generally covers a smaller spatial extent than Census Bureau urbanized areas, but generally corresponds to the initial cores of urbanized areas.
- The EC's urban cluster category differs substantially from the Census Bureau's urban cluster category.
  - Encompasses territory within Census Bureau urbanized areas that might be considered "suburban."
  - Includes areas defined as urban clusters by the Census Bureau.
  - Does not include some smaller Census Bureau urban clusters.

# Comparison Overview

Classification	US Census	
	Hectares	Pct. of Area
Total Rural Area	780,905,007	96.5%
Urbanized Areas	23,062,645	2.9%
Urban Clusters	5,103,293	0.6%
<b>Total Urban Area</b>	<b>28,165,938</b>	<b>3.5%</b>

Classification	Euro Urbanisation	
	Hectares	Pct. of Area
Uninhabited or Rural	786,790,741	97.2%
Village	2,746,152	0.3%
Town	2,144,211	0.3%
Suburban	8,150,154	1.0%
<b>Urban Center</b>	<b>9,239,687</b>	<b>1.1%</b>

Total area for corresponding classifications

Area in Hectares		US Census		
		Rural	Urban Cluster	Urbanized Area
Euro Urbanisation	Uninhabited or Rural	777,124,941	2,850,092	6,815,708
	Village	1,602,541	672,133	471,478
	Town	247,326	476,045	1,420,840
	Suburban	1,520,987	1,100,524	5,528,643
	Urban Center	409,212	4,499	8,825,976

Percent of total area for each corresponding classification

Percent of all Area		US Census		
		Rural	Urban Cluster	Urbanized Area
Euro Urbanisation	Uninhabited or Rural	96.05%	0.35%	0.84%
	Village	0.20%	0.08%	0.06%
	Town	0.03%	0.06%	0.18%
	Suburban	0.19%	0.14%	0.68%
	Urban Center	0.05%	0.00%	1.09%

Percent of each Euro-classification that falls within each Census-Classification

Percent of Euro-Classification		US Census			
		Rural	Urban Cluster	Urbanized Area	
Euro Urbanisation	Uninhabited or Rural	98.8%	0.4%	0.9%	100%
	Village	58.4%	24.5%	17.2%	100%
	Town	11.5%	22.2%	66.3%	100%
	Suburban	18.7%	13.5%	67.8%	100%
	Urban Center	4.4%	0.0%	95.5%	100%

Percent of each Census-classification that falls within each Euro-Classification

Percent of Census-Classification		US Census		
		Rural	Urban Cluster	Urbanized Area
Euro Urbanisation	Uninhabited or Rural	99.5%	55.8%	29.6%
	Village	0.2%	13.2%	2.0%
	Town	0.0%	9.3%	6.2%
	Suburban	0.2%	21.6%	24.0%
	Urban Center	0.1%	0.1%	38.3%
		100%	100%	100%



# Errors of Omission

Percentage of Census Bureau urbanized areas and urban clusters delineated as undeveloped or rural by EC (urban included for comparison), by Census Division

	Pct Undev	Pct Rural	Pct Urban
Urbanized Areas	0.4	29.8	69.8
Urban Clusters	0.7	63.3	36.0
<b>TOTAL</b>	<b>0.4</b>	<b>35.9</b>	<b>63.7</b>

Division	Pct Undev	Pct Rural	Pct Urban
New England	0.1	47.0	52.9
Middle Atlantic	0.3	36.0	63.7
East North Central	0.1	34.0	65.9
West North Central	0.3	35.2	64.6
South Atlantic	0.7	37.4	61.9
East South Central	0.5	47.8	51.7
West South Central	0.4	34.7	64.9
Mountain	0.9	31.7	67.5
Pacific (excl. AK & HI)	0.4	25.0	74.6
Hawaii	4.1	41.7	54.2
Alaska	2.3	55.2	42.5
<b>All UAs and UCs</b>	<b>0.4</b>	<b>35.9</b>	<b>63.7</b>

# Errors of Commission

Percentage of Census Bureau rural area defined as urban by EC, by Census Division

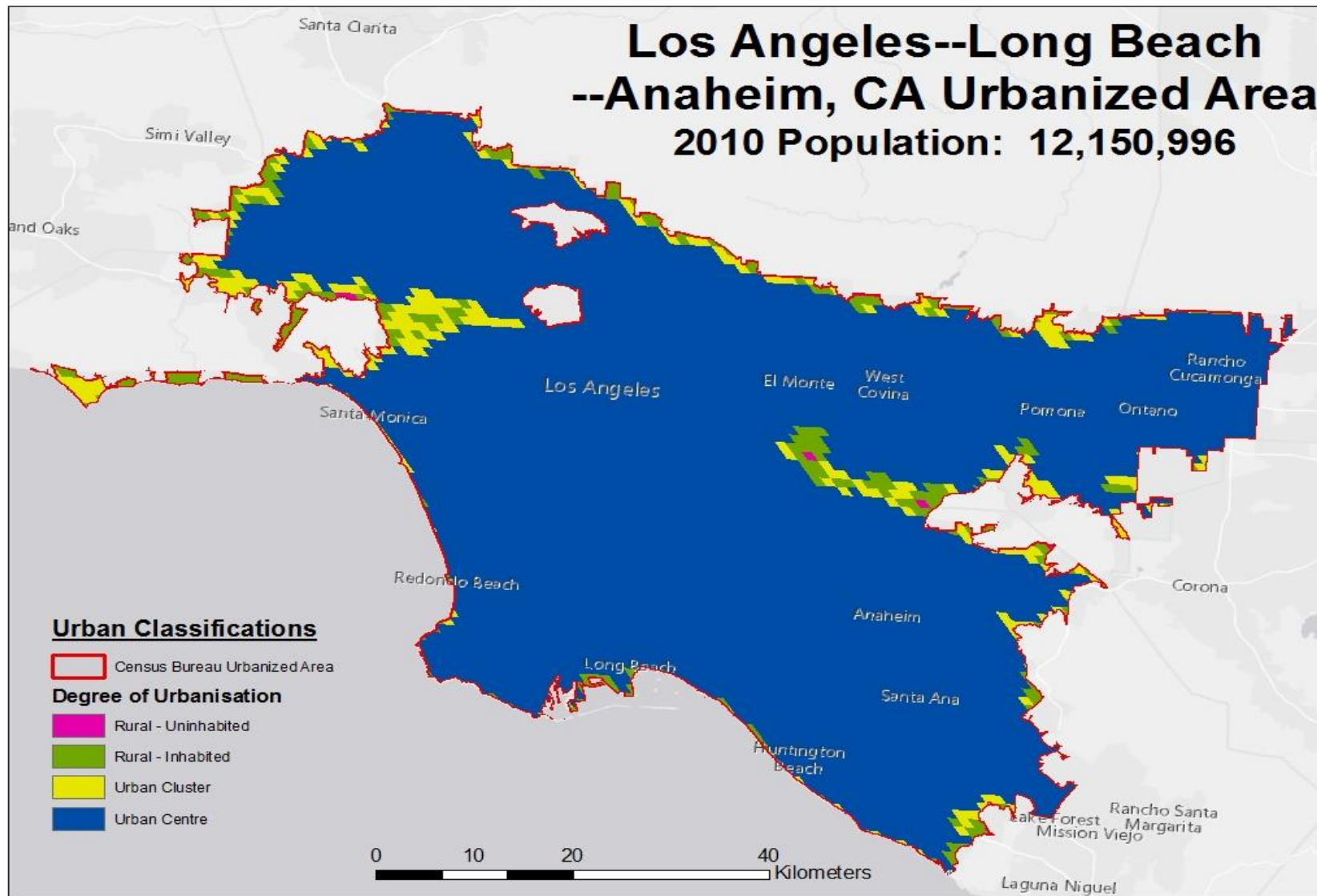
Division	Pct. of Rural Area Delineated as EC-Urban	Pct. of EC-Urban outside Census-Urban
New England	0.45	7.0
Middle Atlantic	0.66	7.6
East North Central	0.33	7.0
West North Central	0.15	9.0
South Atlantic	0.55	7.4
East South Central	0.27	8.4
West South Central	0.26	9.0
Mountain	0.08	10.1
Pacific (excl. AK & HI)	0.29	8.9
Hawaii	0.48	18.8
Alaska	0.007	15.4
<b>TOTAL</b>	<b>0.23%</b>	<b>8.15%</b>

# Combined Measure

## Urban Land Area and Ratio of EC-Urban to Census-Urban

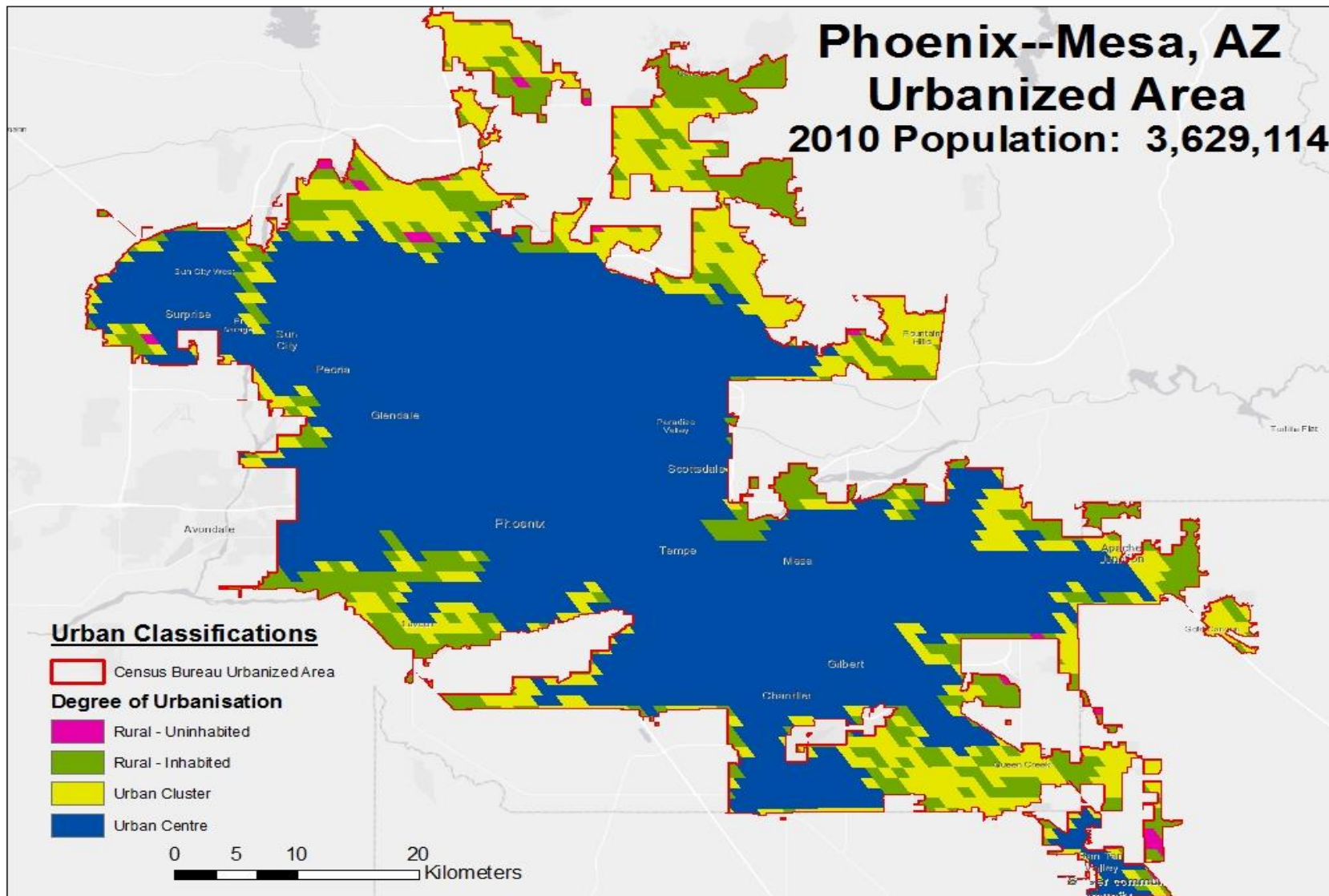
Division	Census-Urban (hectares)	EU-Urban (hectares)	EU-Urban / Census Urban
New England	1,716,510	977,575	0.570
Middle Atlantic	3,082,504	2,097,839	0.681
East North Central	4,344,466	3,077,038	0.708
West North Central	1,763,696	1,254,667	0.711
South Atlantic	6,695,663	4,470,068	0.668
East South Central	2,011,828	1,141,177	0.567
West South Central	3,459,183	2,467,981	0.713
Mountain	1,883,657	1,414,888	0.751
Pacific (excl. AK & HI)	3,102,524	2,540,189	0.819
Hawaii	103,967	69,400	0.668
Alaska	68,836	34,700	0.504
<b>Total</b>	<b>28,232,834</b>	<b>19,545,522</b>	<b>0.692</b>

# Los Angeles--Long Beach --Anaheim, CA Urbanized Area 2010 Population: 12,150,996



Urban Area	HU/Hectare	HU Count	Population	EC-Classifications within Census UA			
				Pct Undev	Pct Rural	Pct Non-Urban	Pct Urban
Los Angeles, CA	9.2	4,217,448	12,150,996	0.1	4.6	4.7	95.3

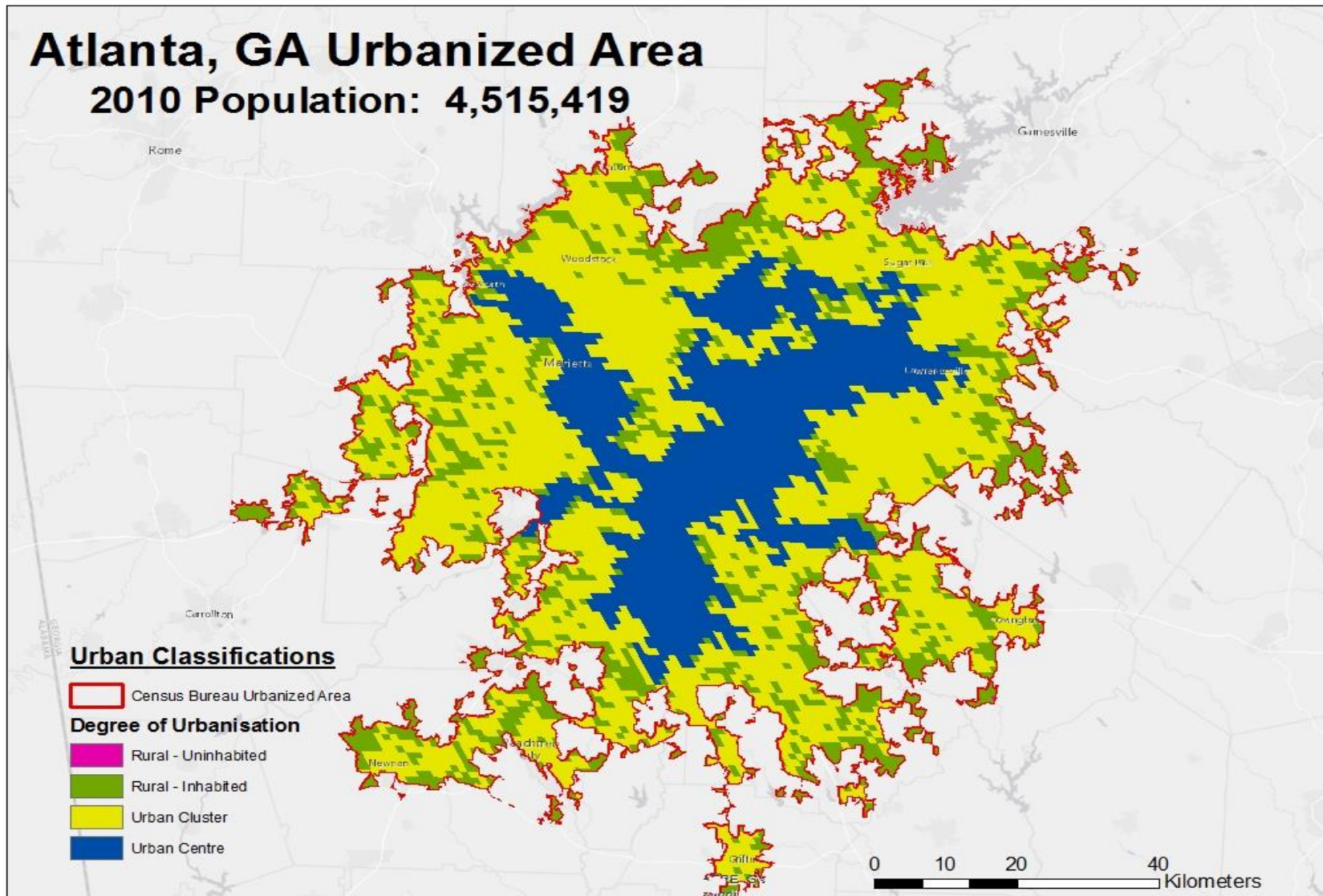
# Phoenix--Mesa, AZ Urbanized Area 2010 Population: 3,629,114



Urban Area	HU/Hectare	HU Count	Population	EC-Classifications within Census UA			
				Pct Undev	Pct Rural	Pct Non-Urban	Pct Urban
Phoenix, AZ	5.3	1,575,123	3,629,114	0.6	15.9	16.5	83.5

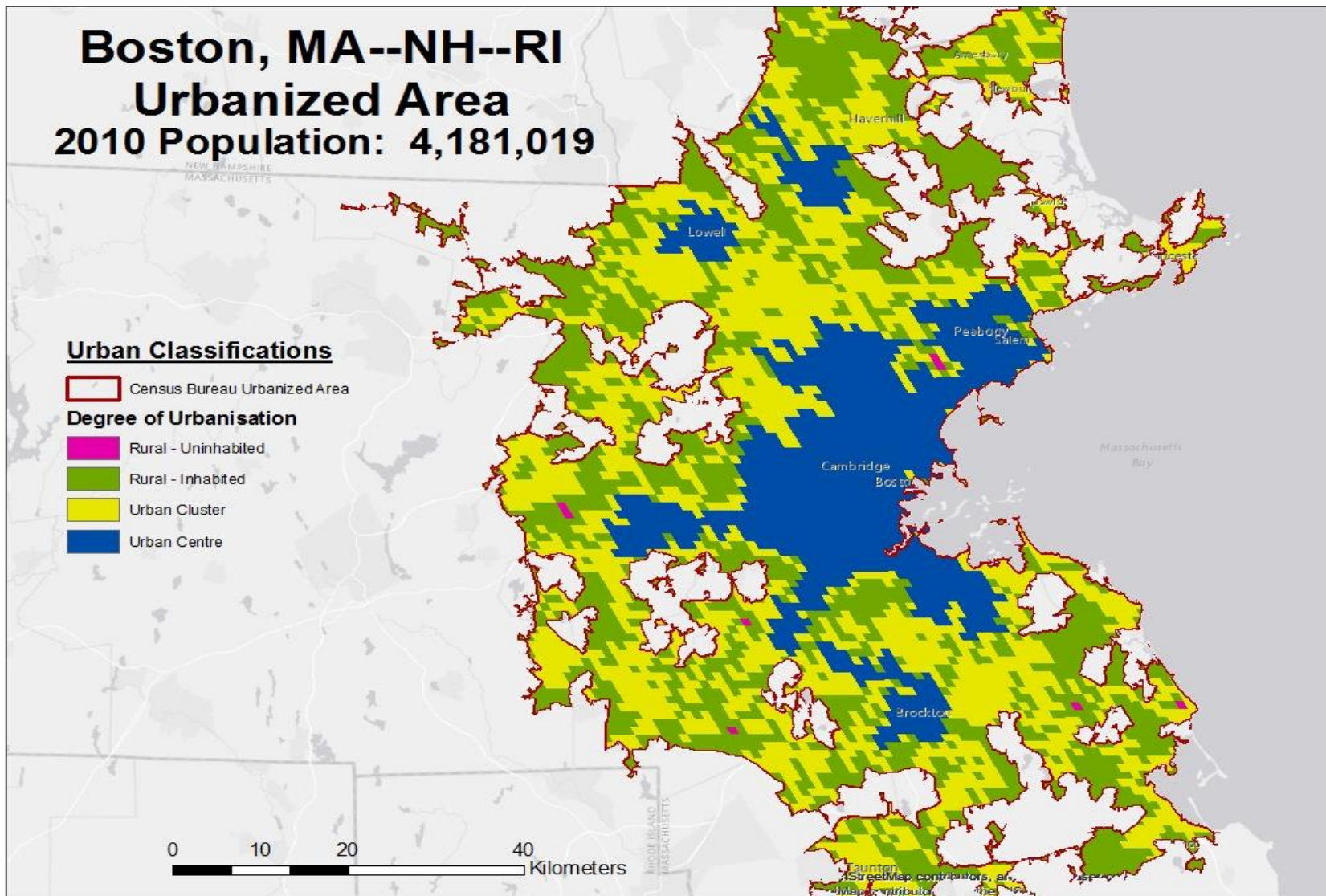
# Atlanta, GA Urbanized Area

## 2010 Population: 4,515,419



Urban Area	HU/Hectare	HU Count	Population	EC-Classifications within Census UA			
				Pct Undev	Pct Rural	Pct Non-Urban	Pct Urban
Atlanta, GA	2.67	1,861,932	4,515,419	0.02	25.7	25.7	74.3

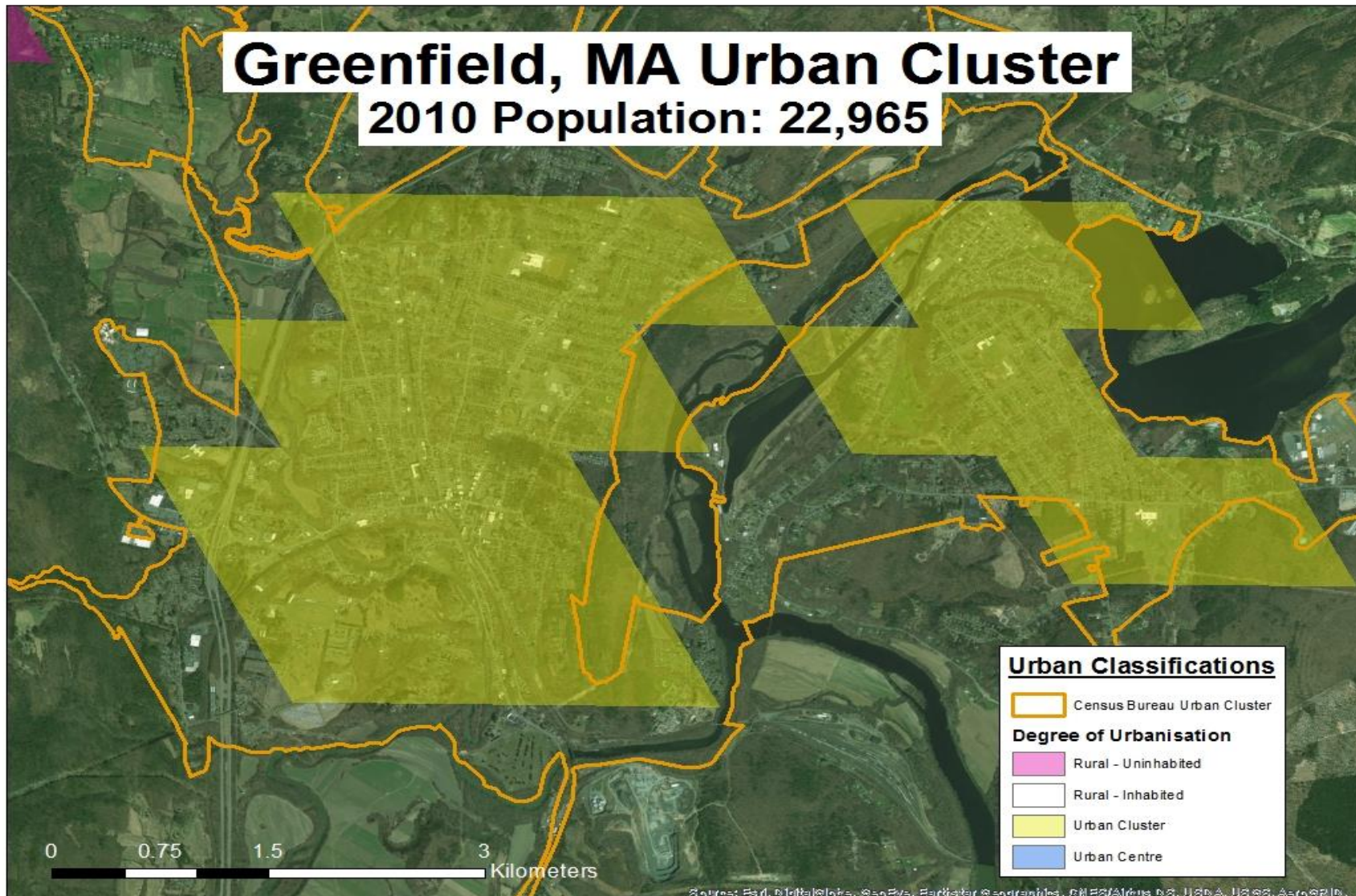
# Boston, MA--NH--RI Urbanized Area 2010 Population: 4,181,019



Urban Area	HU/Hectare	HU Count	Population	EC-Classifications within Census UA			
				Pct Undev	Pct Rural	Pct Non-Urban	Pct Urban
Boston, MA	3.4	1,719,241	4,181,019	0.2	41.8	42.0	58.0

# Greenfield, MA Urban Cluster

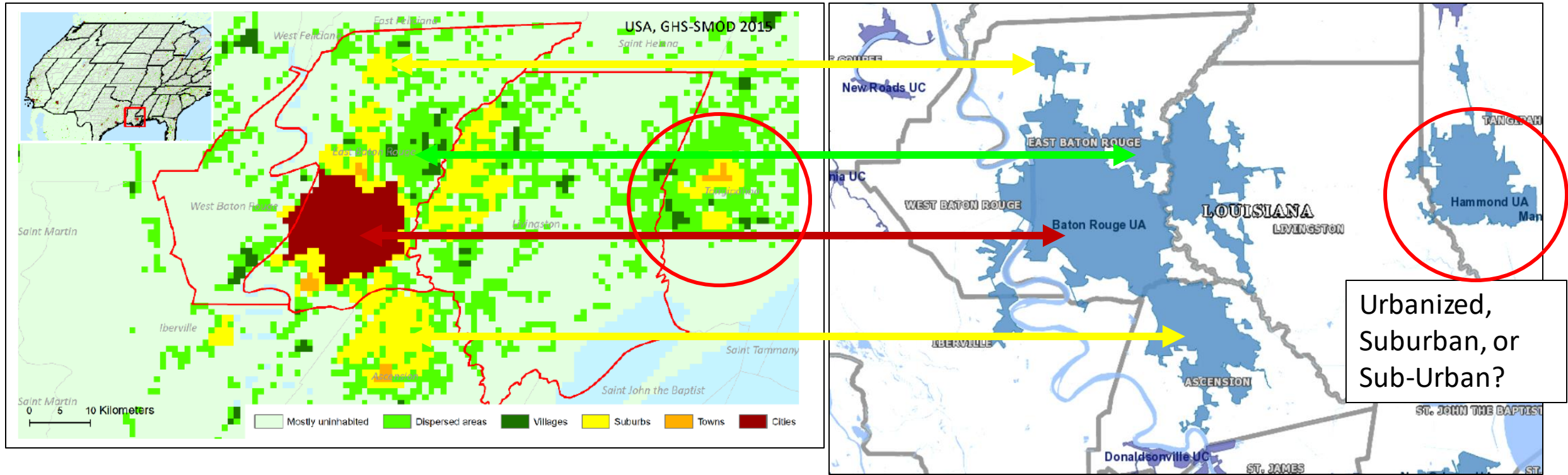
2010 Population: 22,965



Urban Area	HU/Hectare	HU Count	Population	EC-Classifications within Census UA			
				Pct Undev	Pct Rural	Pct Non-Urban	Pct Urban
Greenfield, MA	2.9	10,890	22,965	0.0	58.5	58.5	41.5



# Comparison of Urban Area Classifications and Categories



## Concluding Thoughts: Terminology

- Overall, the terms used in the EC's Level 2 categories are appropriate and useful for the US settlement system.
- Terminology, however, is always a challenge. Terms such as “town,” “village,” and “suburban” have different meanings and perceptions depending on context.
- “Suburb” implies a spatial relationship with an urban center/city. Yet, in the EC's classification, there is no explicit linkage.
- In the US settlement context, areas classified as “town” in the EC classification may have functional relationships with larger urban centers and are, in effect, suburbs.

## Concluding Thoughts

- EC's overall classification of urban and rural population and area compares favorably with the Census Bureau's urban/rural classification.
- Differences related to density thresholds, geographic units of analysis, minimum population thresholds, and other criteria are to be expected.
- Differences between the two classifications do not indicate that one is better than the other, but do raise questions about the Census Bureau's criteria and classification that warrant further consideration.
  - Example: Should the Census Bureau apply different criteria at different scales to avoid overbounding of smaller urban areas?

Thank you! Questions?

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