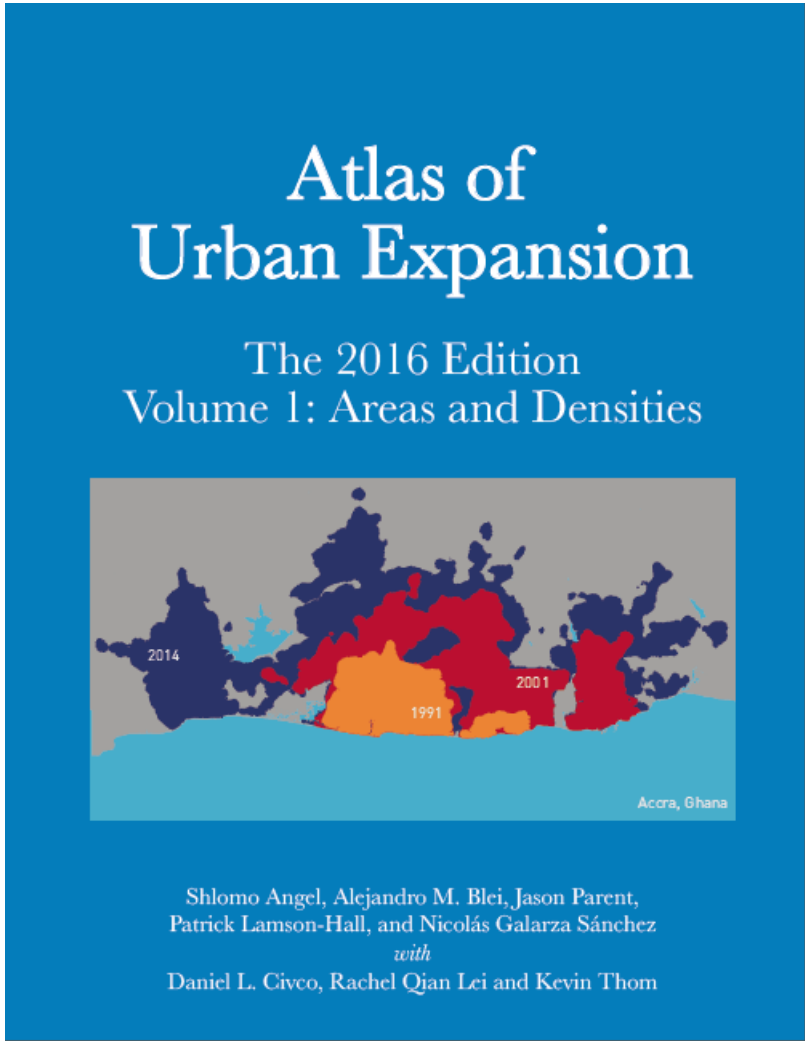

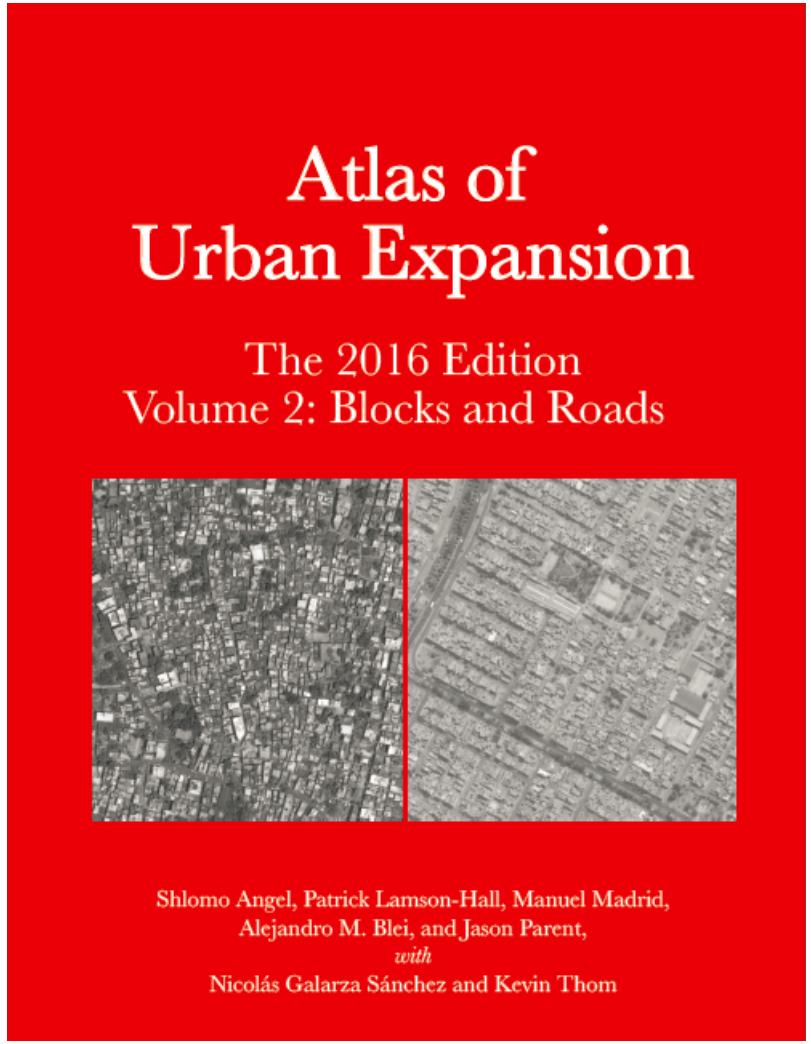

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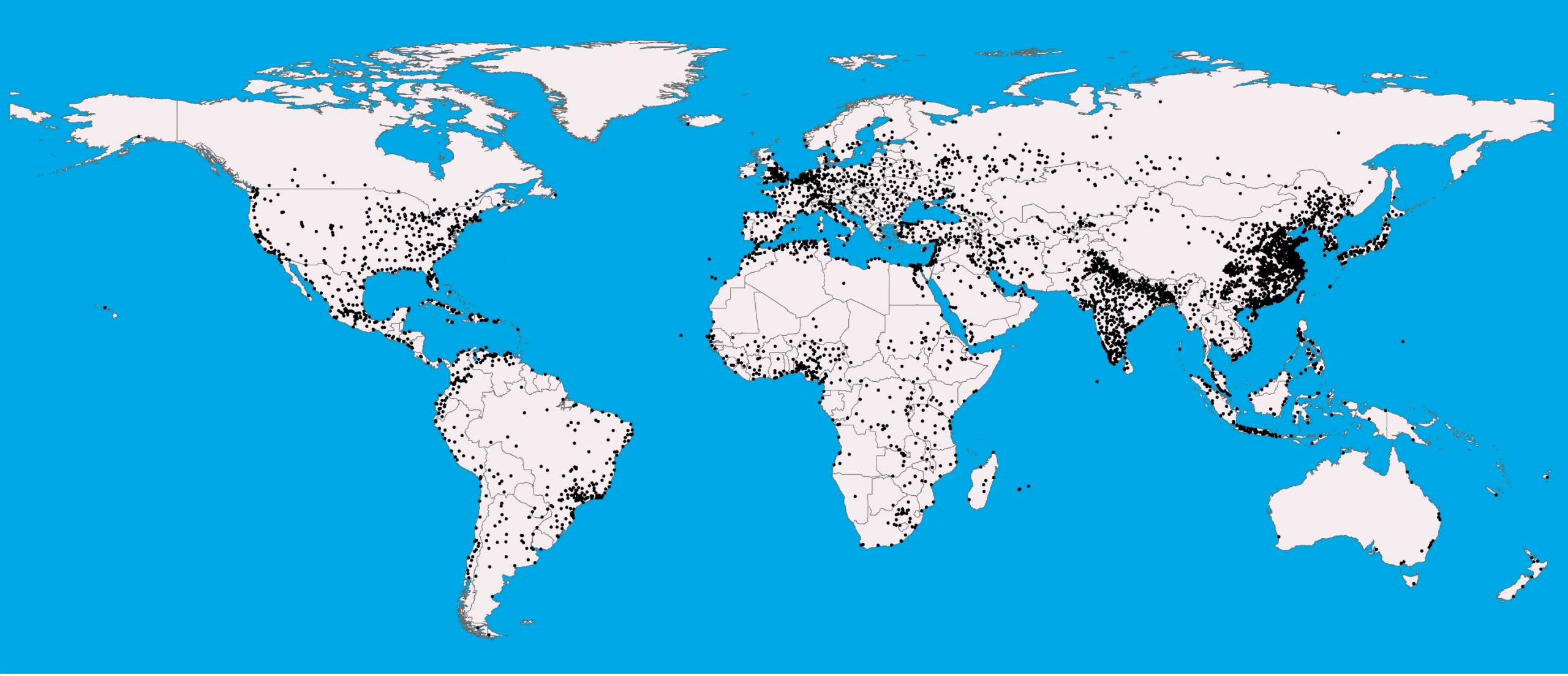
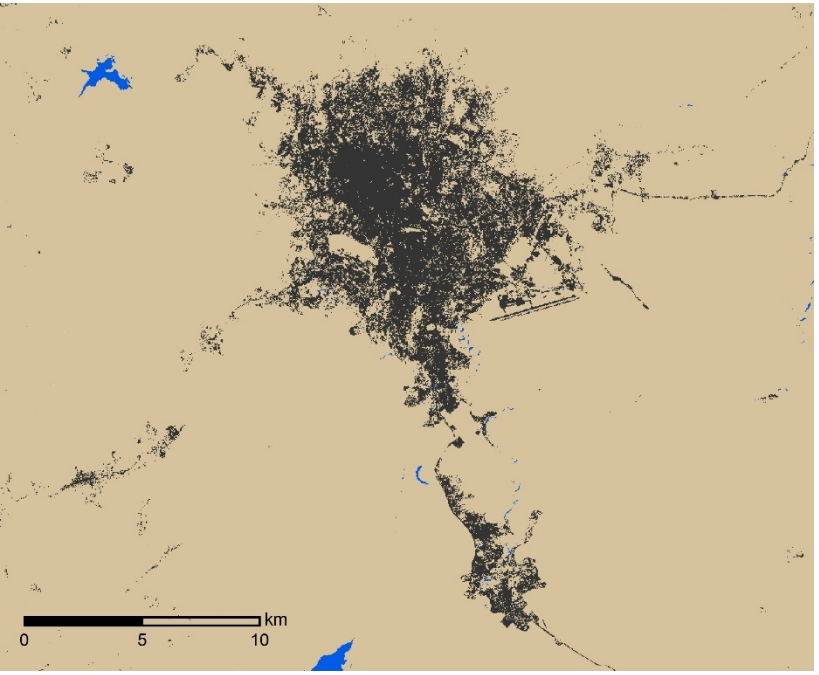
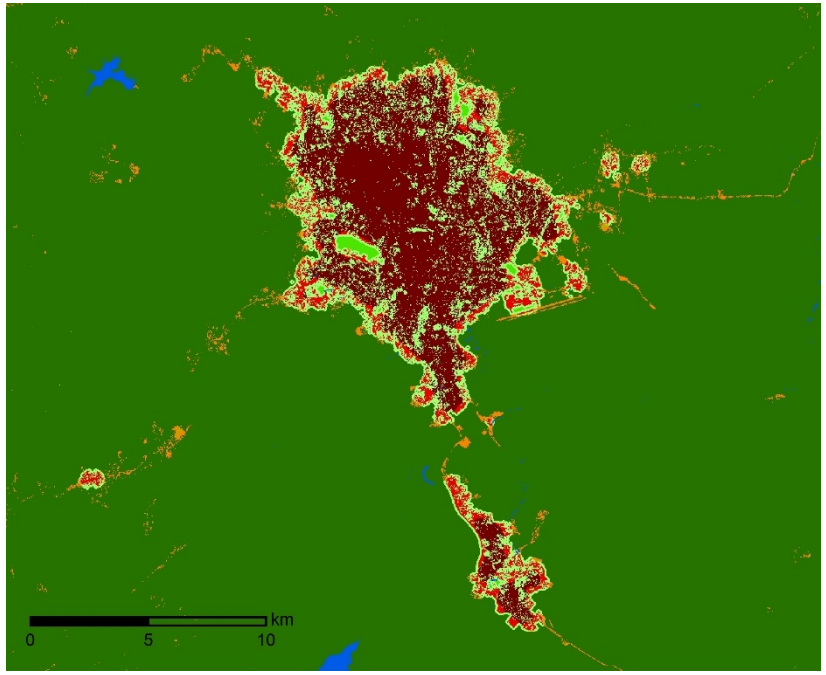
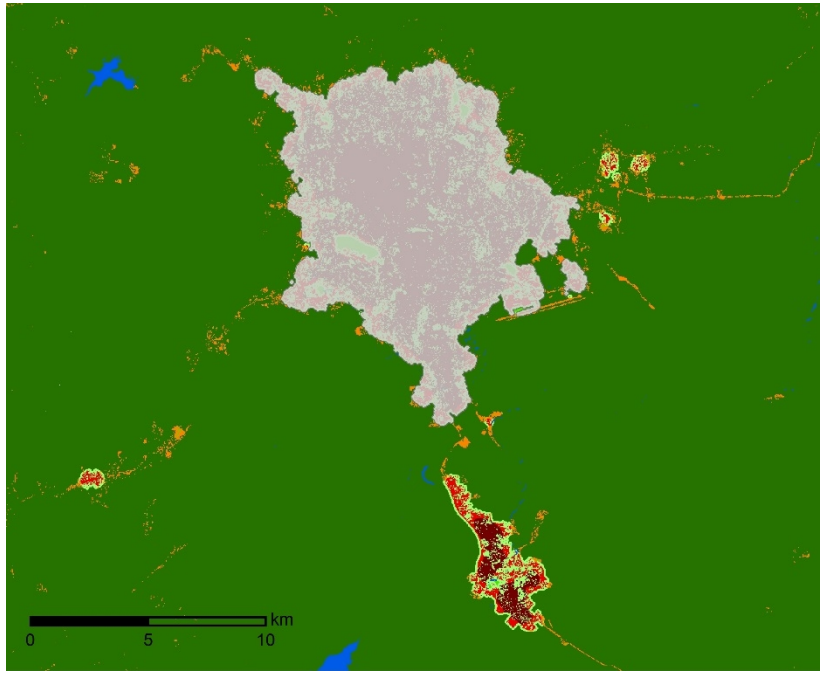


4.231 ciudades que tenían más de 100.000 habitantes en 2010

Muestra global de 200 ciudades
Estratificada por región, por nº de ciudades en cada país y por tamaño



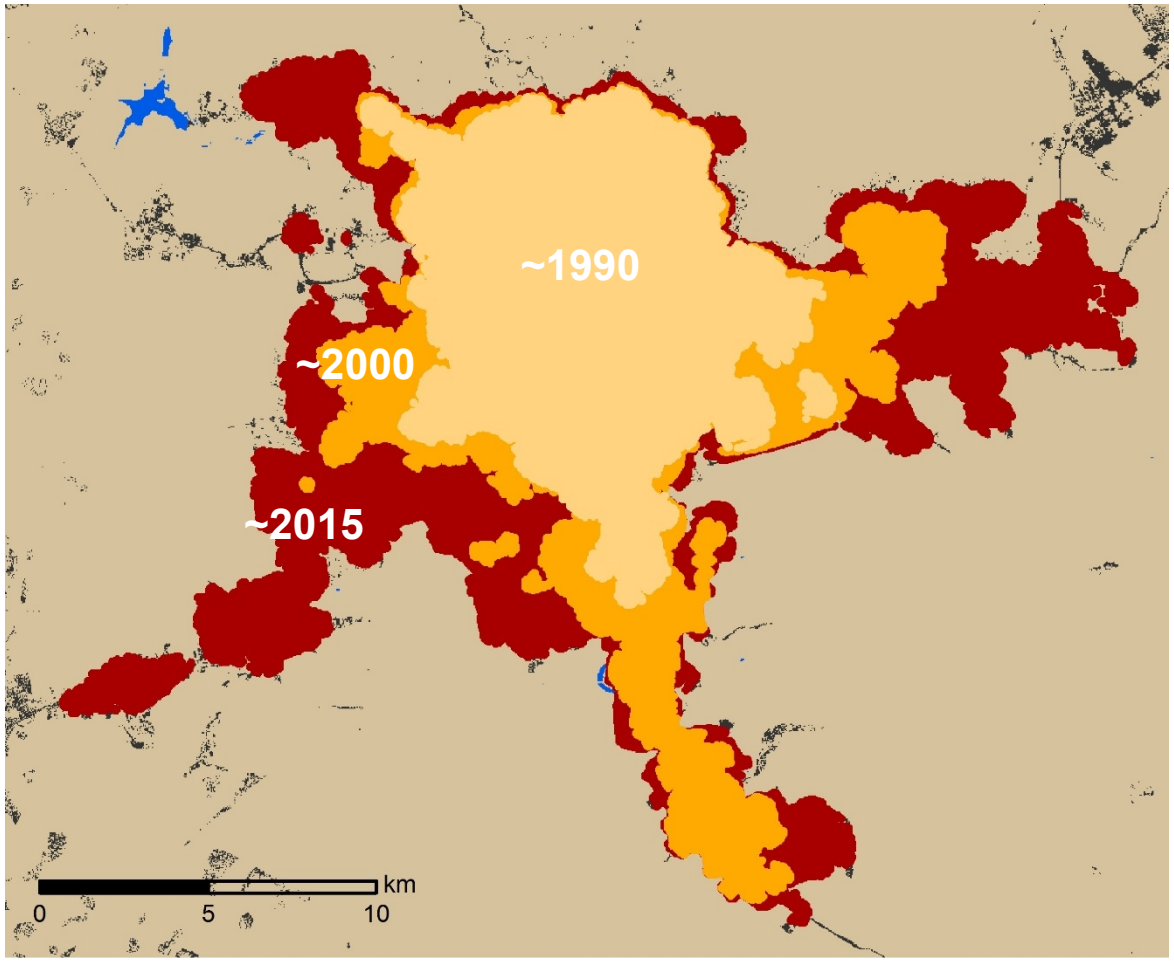


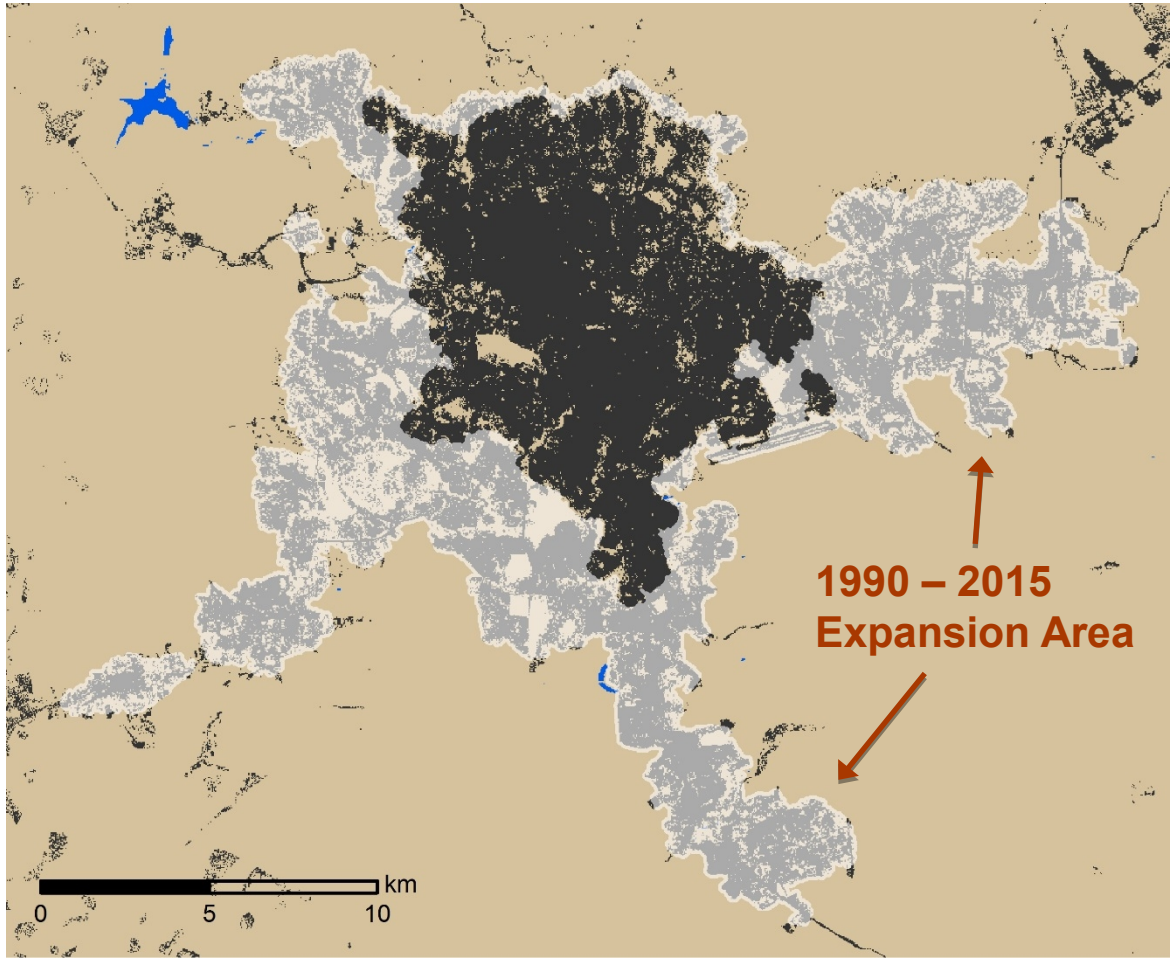


1. A partir de imágenes Landsat clasificamos el suelo en tres categorías: construcciones, espacios abiertos y masas de agua.

2. Mediante el análisis de las construcciones y los espacios abiertos se identificaron agrupaciones de “suelo urbano”.

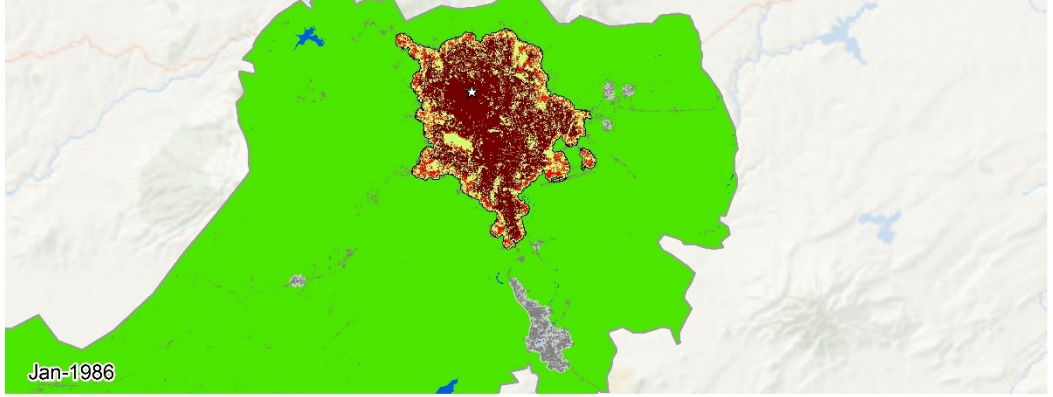
3. Mediante una regla de inclusión se identificó la huella urbana de cada ciudad.

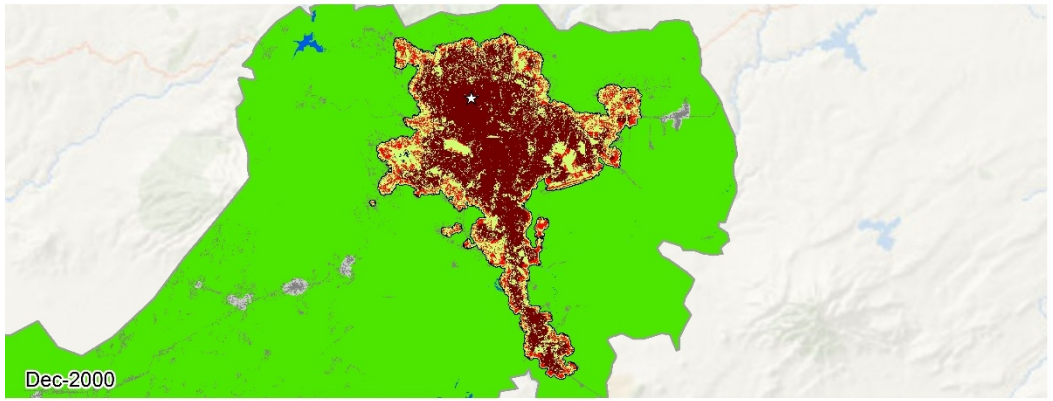


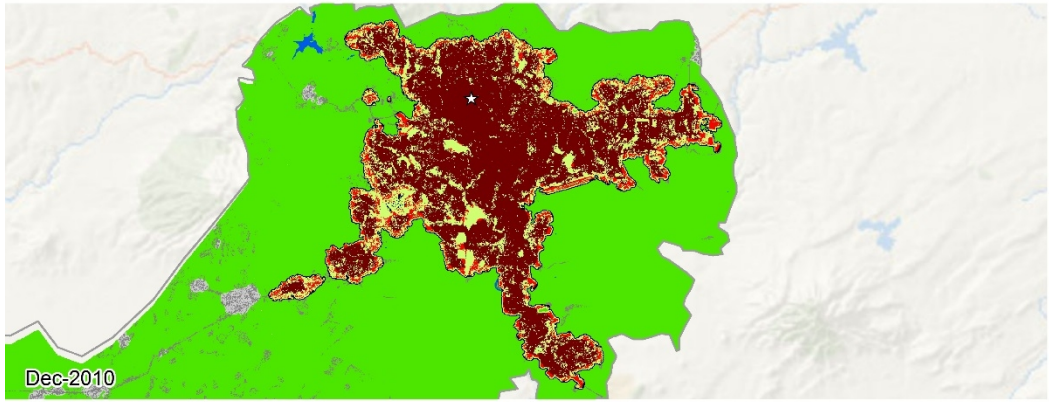


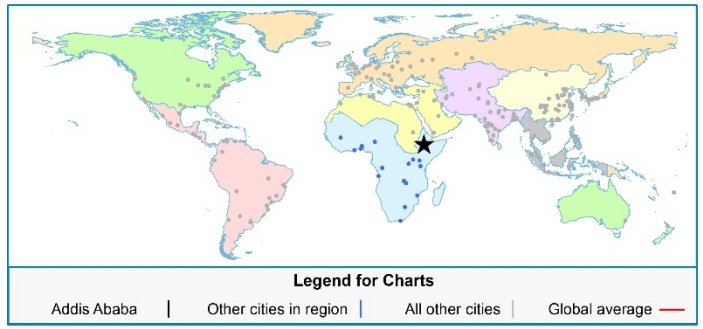
El proceso se realiza para cada una de las fechas del estudio: 1990, 2000 y 2015. La huella de expansión se obtiene por diferencia de huellas urbanas.

Addis Ababa, Ethiopia (Sub-Saharan Africa)

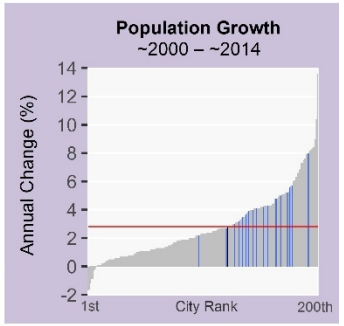


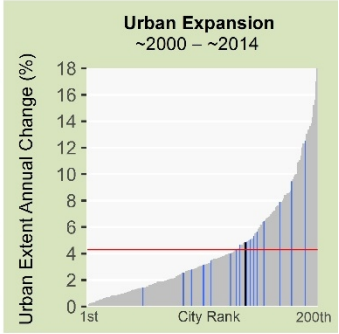


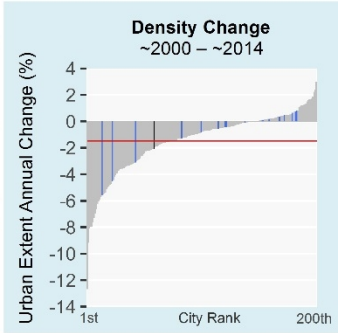


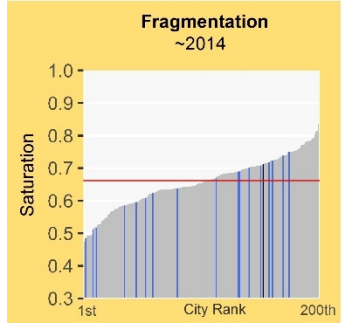


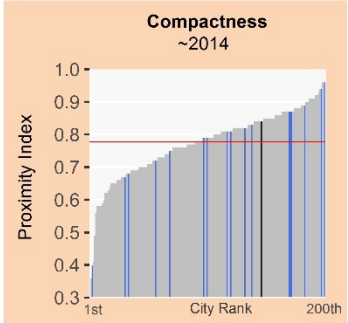
Metrics	Jan 1986	Dec 2000	Dec 2010	% Annual Change ('00-'10)
Population	1,445,700	2,276,356	3,009,130	2.8
Built-up Area (Hectares)				
Total	7,530	11,712	21,133	5.9
Urban	6,242	9,341	18,483	6.8
Suburban	1,198	2,187	2,466	1.2
Rural	90	183	183	-0.0
Open space (Hectares)				
Urbanized Open Space	4,018	6,531	8,494	2.6
Urban Extent	11,549	18,244	29,627	4.8
Density (Persons / Hectare)				
Built-up Area Density	192.0	194.3	142.4	-3.1
Urban Extent Density	125.2	124.8	101.6	-2.1
Fragmentation				
Saturation (Blt-up Area / Urb. Ext.)	0.65	0.64	0.71	1.1
Openness Index	0.29	0.29	0.24	-2.1
Compactness (Roundness)				
Proximity	0.95	0.85	0.84	-0.1
Cohesion	0.95	0.83	0.82	-0.2
Added Area (Hectares)	'86-'00	Share	'00-'10	Share
Infill	1,077	25%	2,996	31%
Extension	2,012	48%	5,520	58%
Leapfrog	0	0%	0	0%
Inclusion	1,091	26%	903	9%

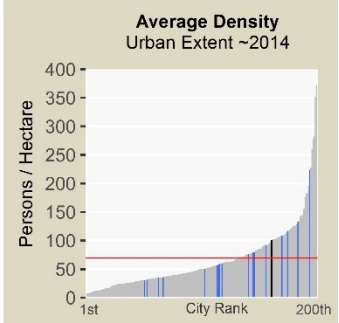




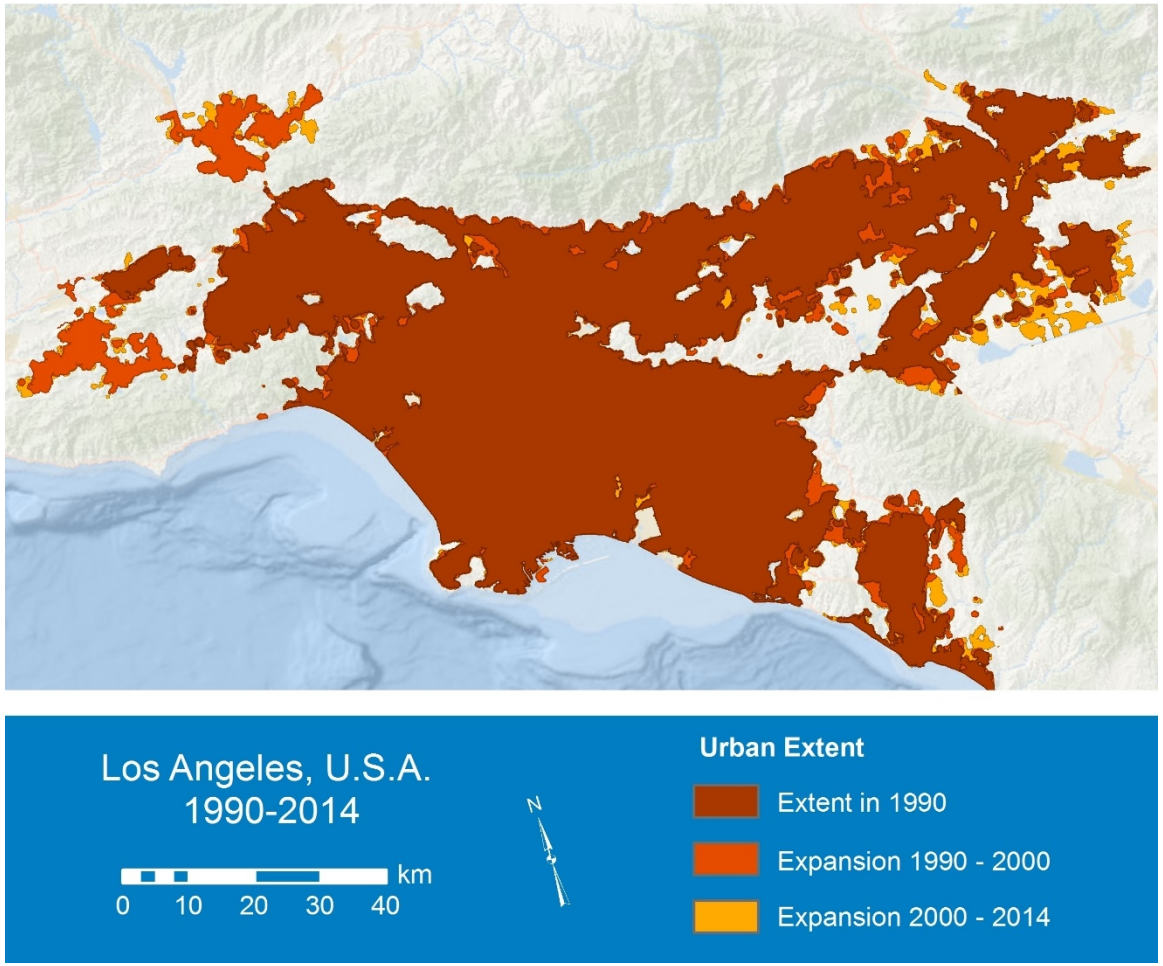


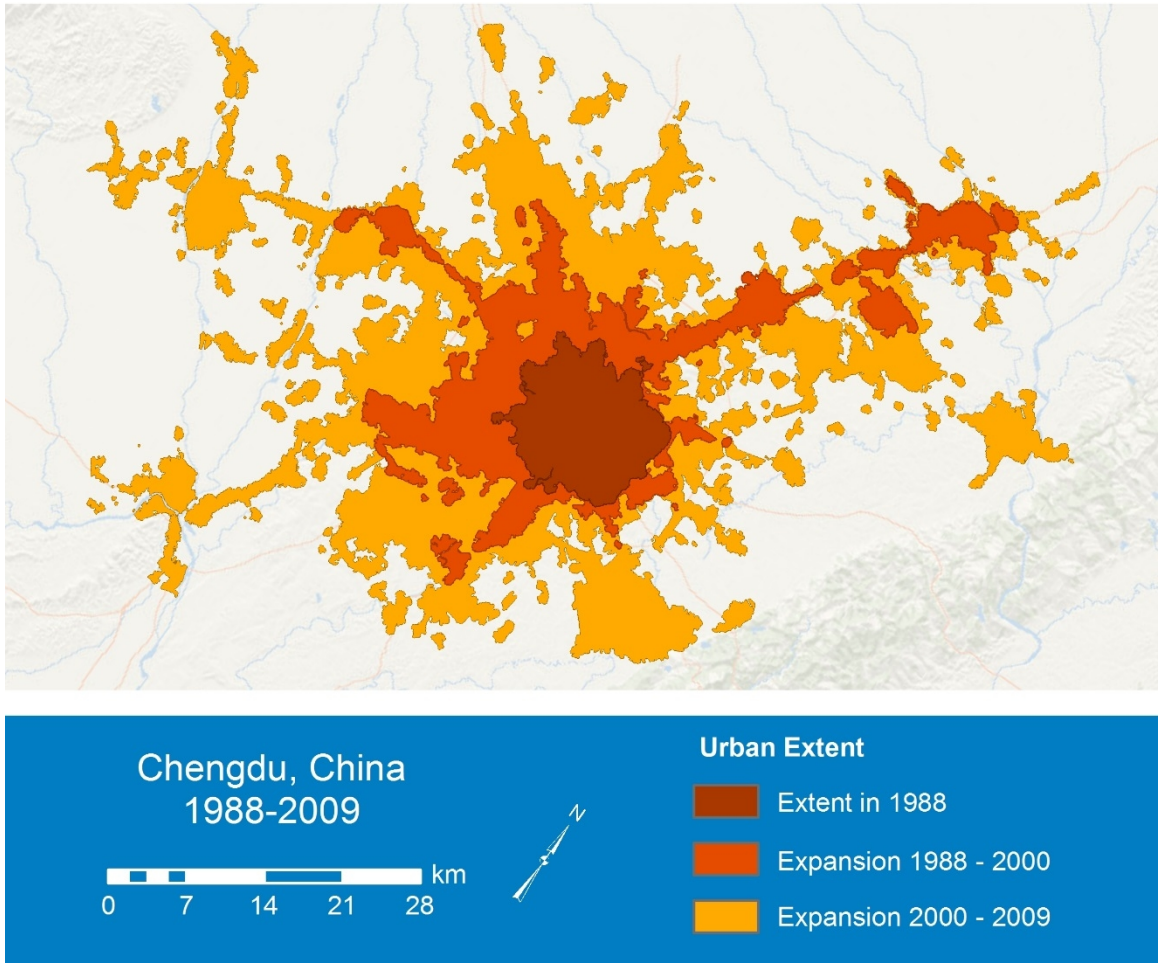




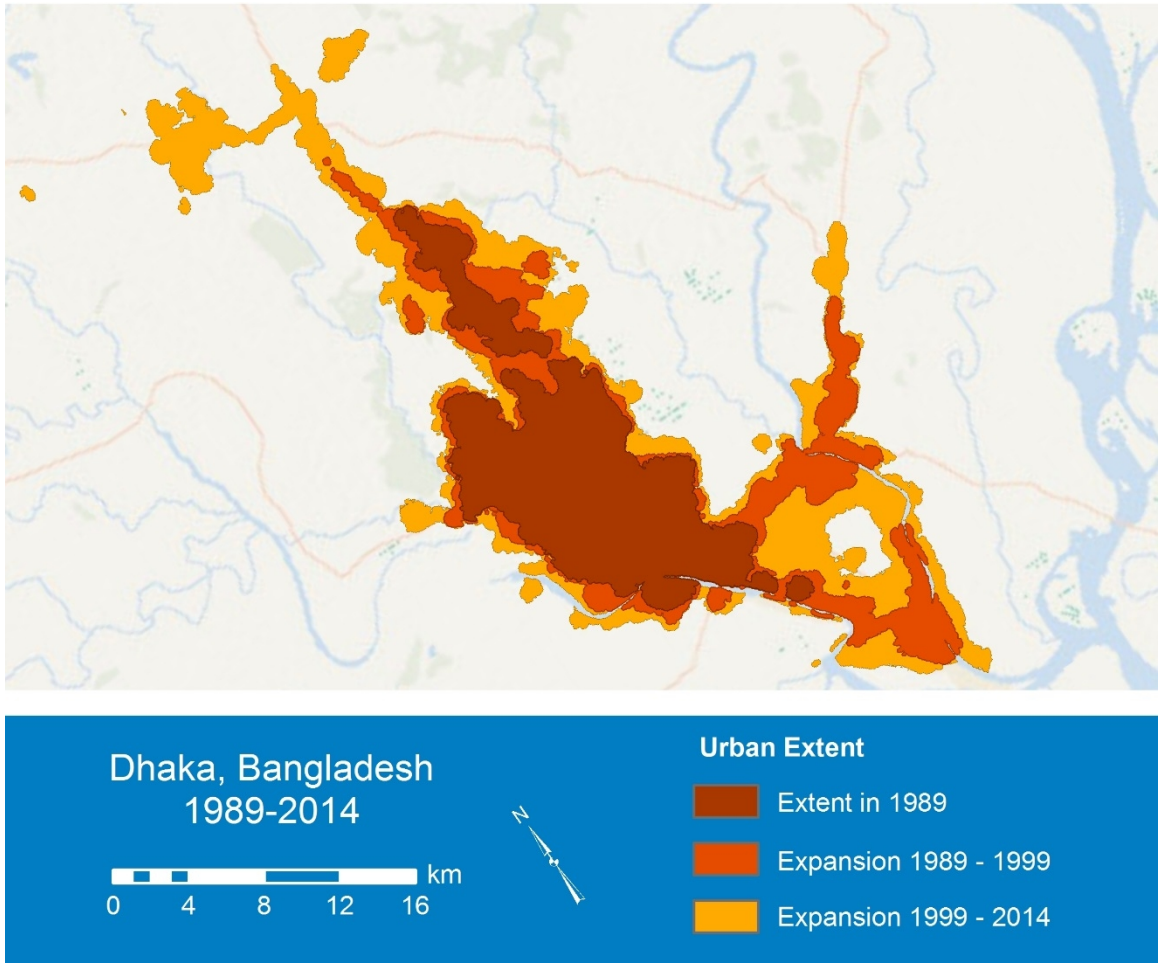


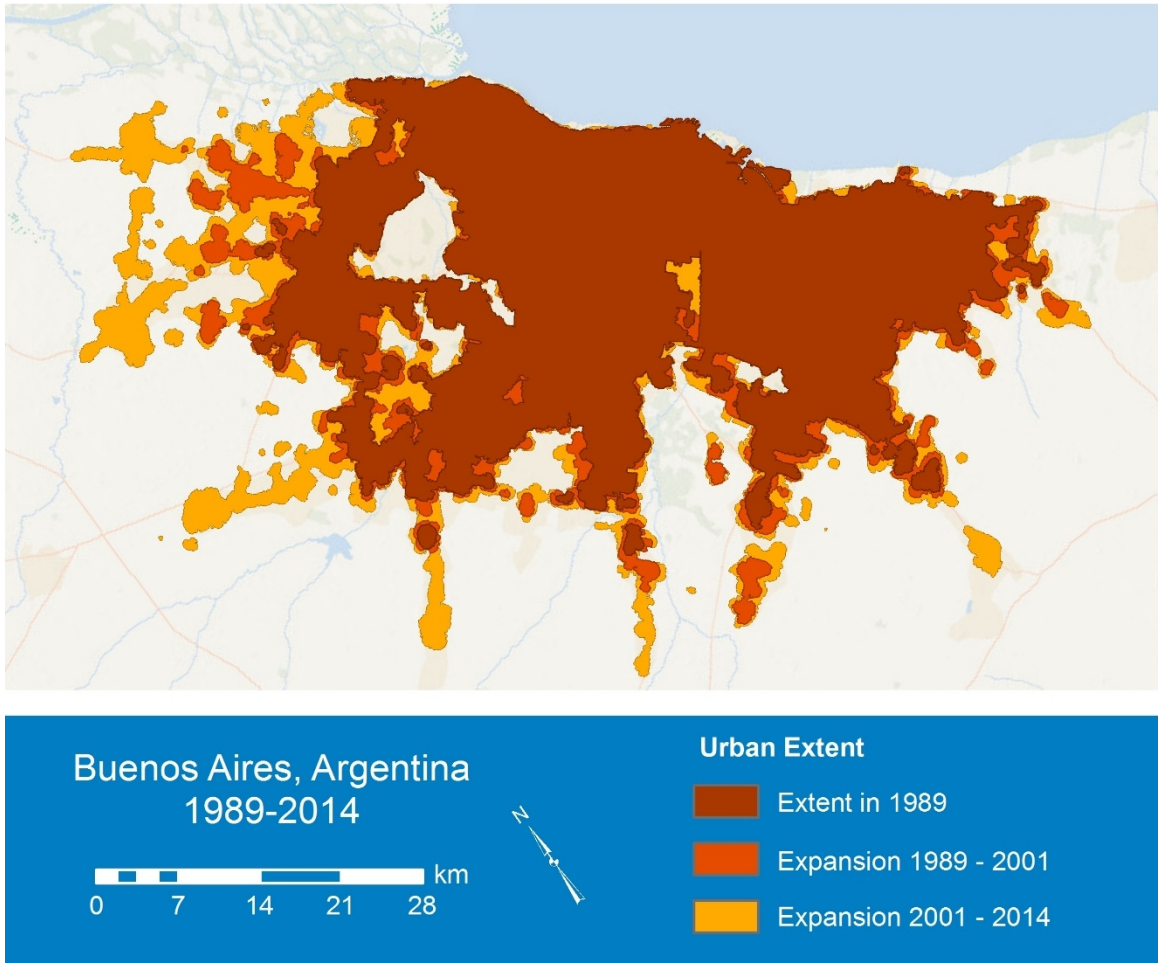
Diferencias en el tamaño de la huella de expansión: Los Angeles y Chengdu



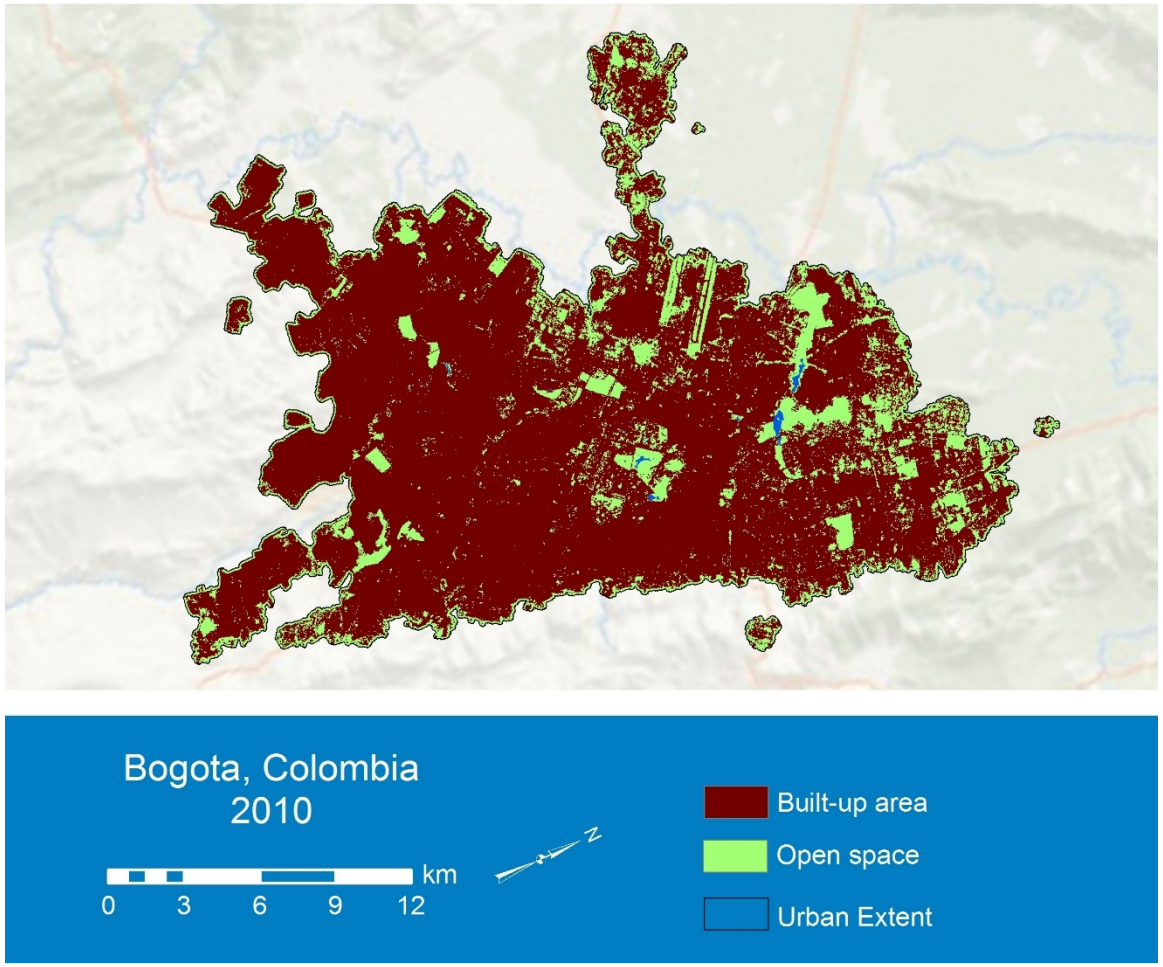


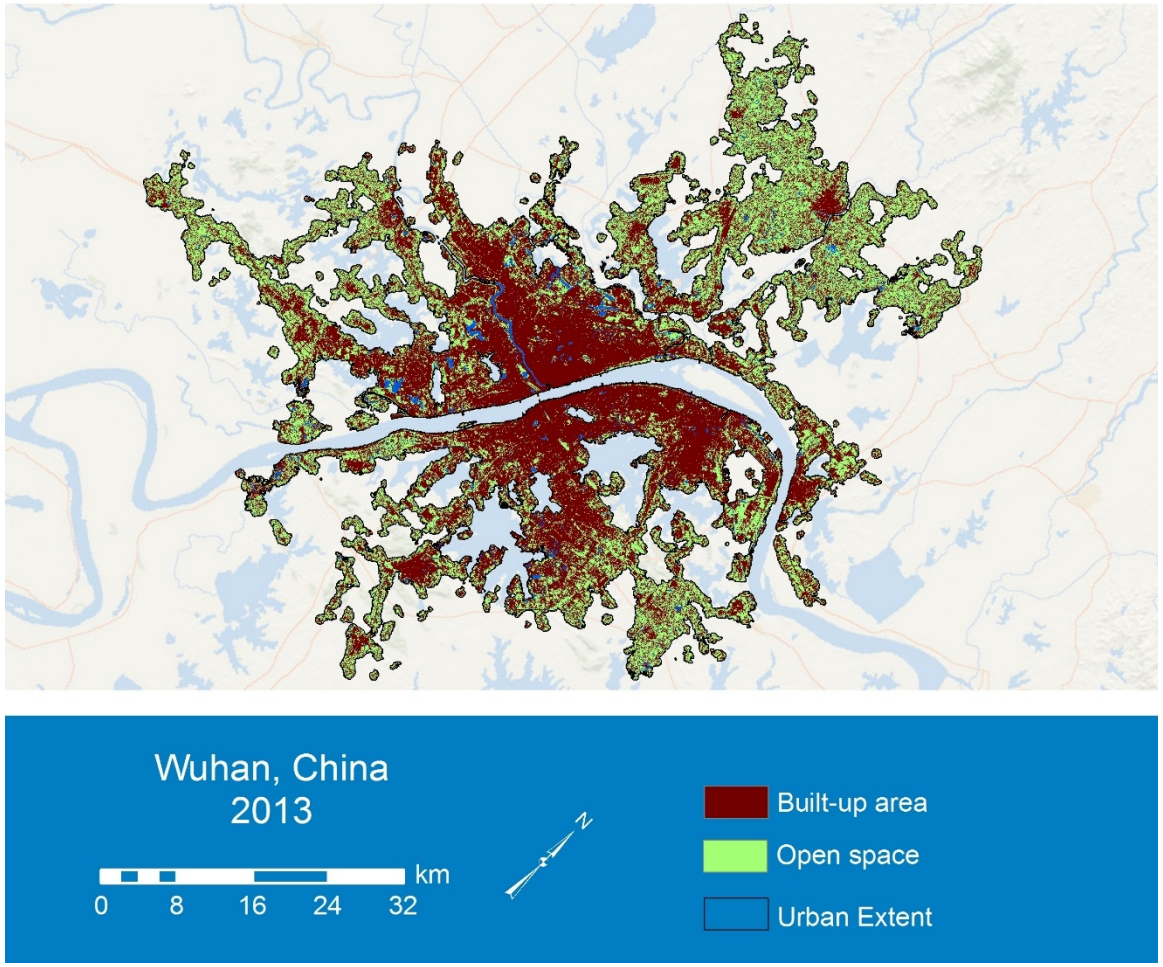
Diferencias en densidad de población: Dhaka y Buenos Aires



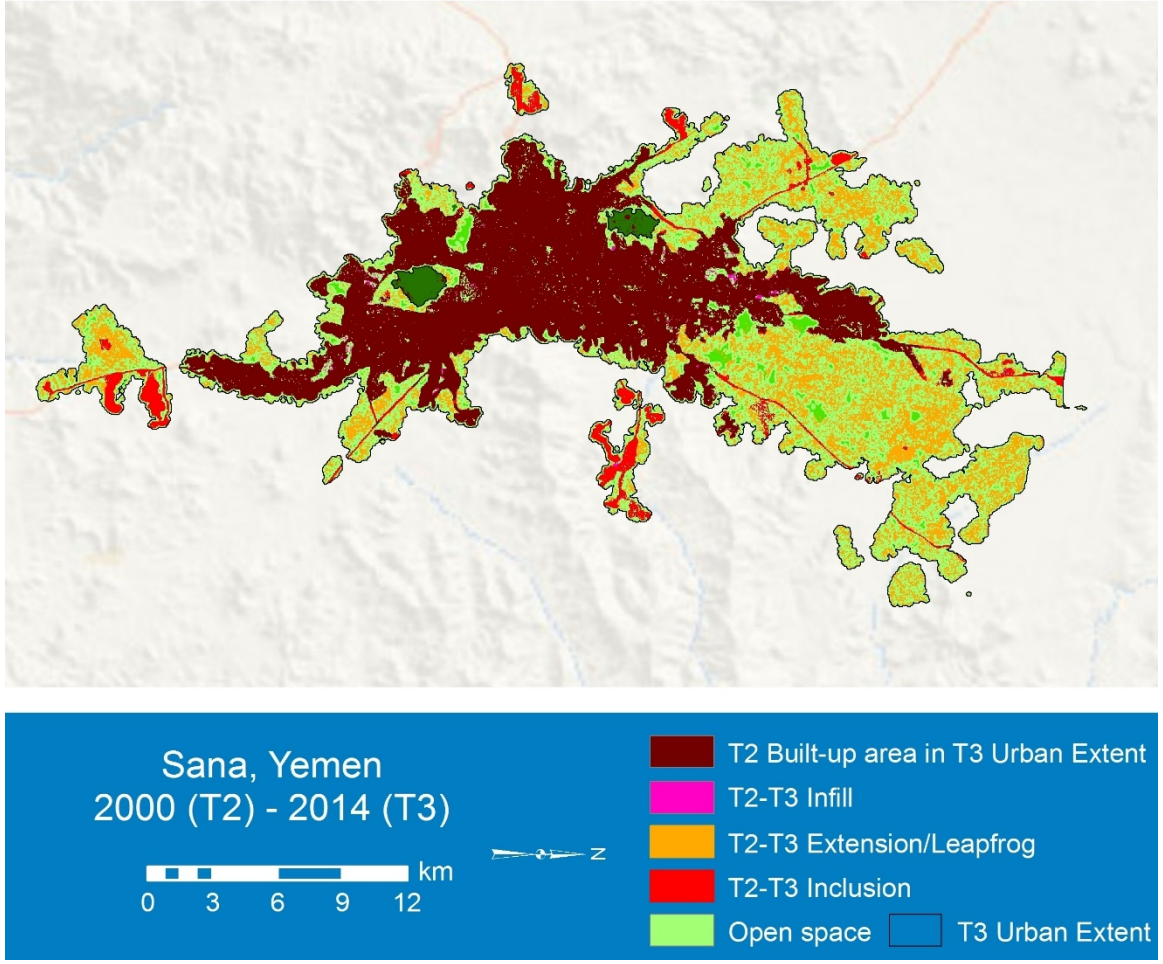


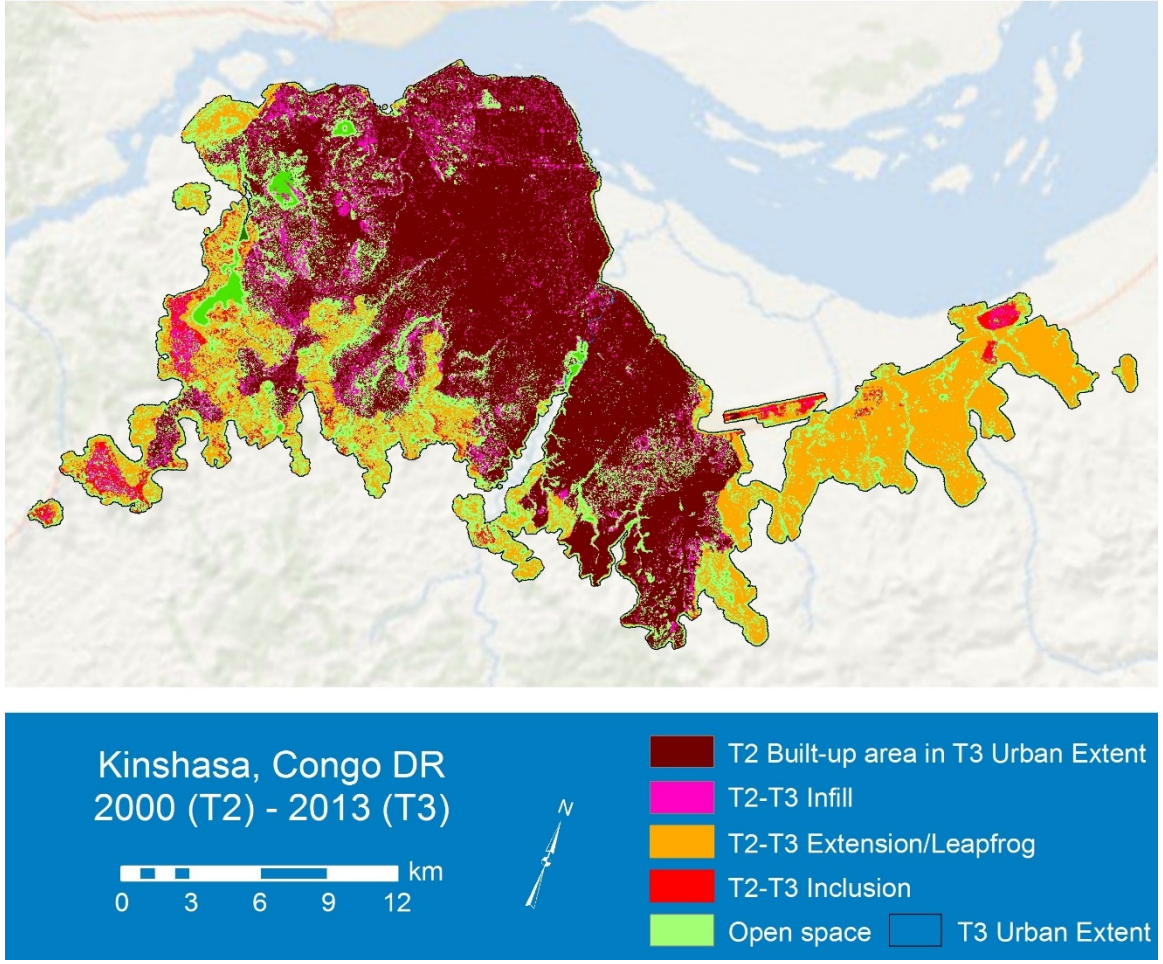
Diferencias en los niveles de saturación: Bogotá y Wuhan





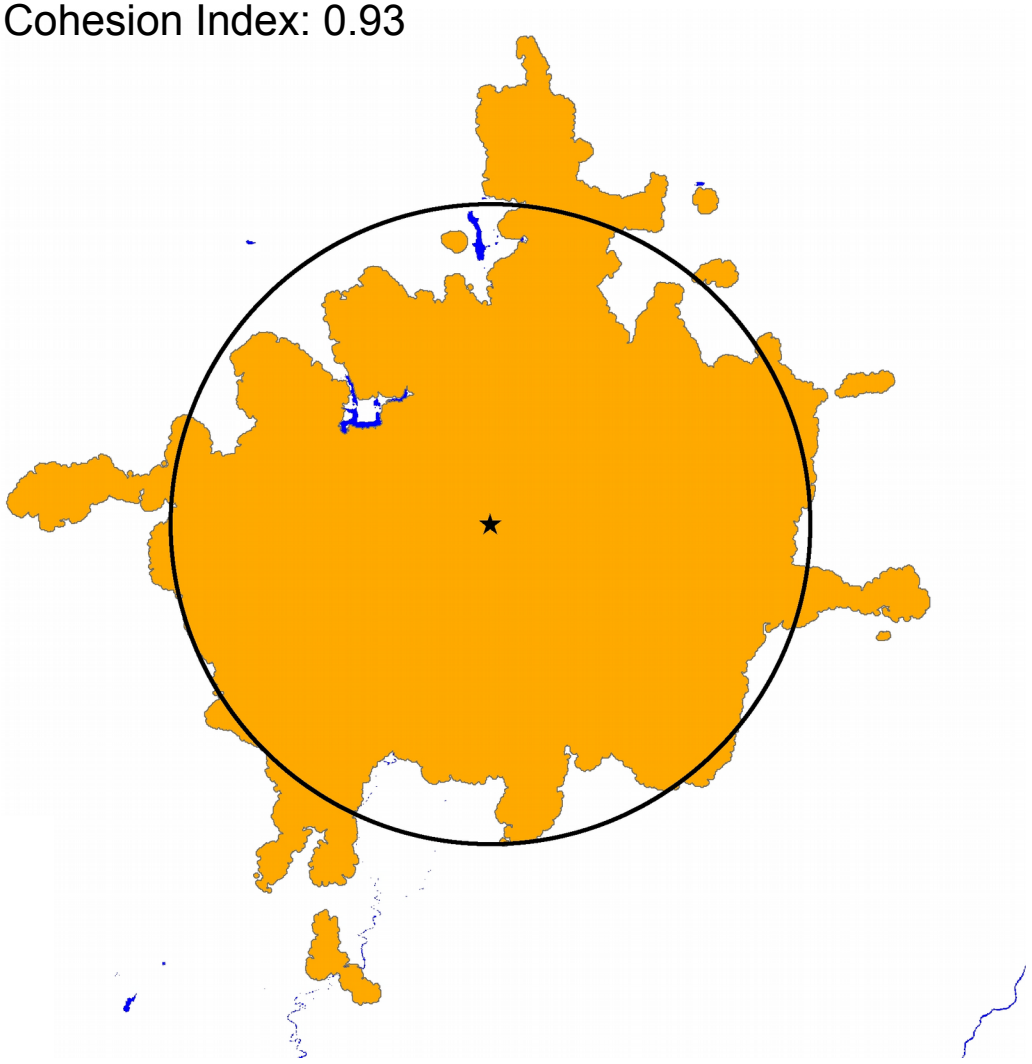
Diferencias en superficie ganada: Sana y Kinshasa



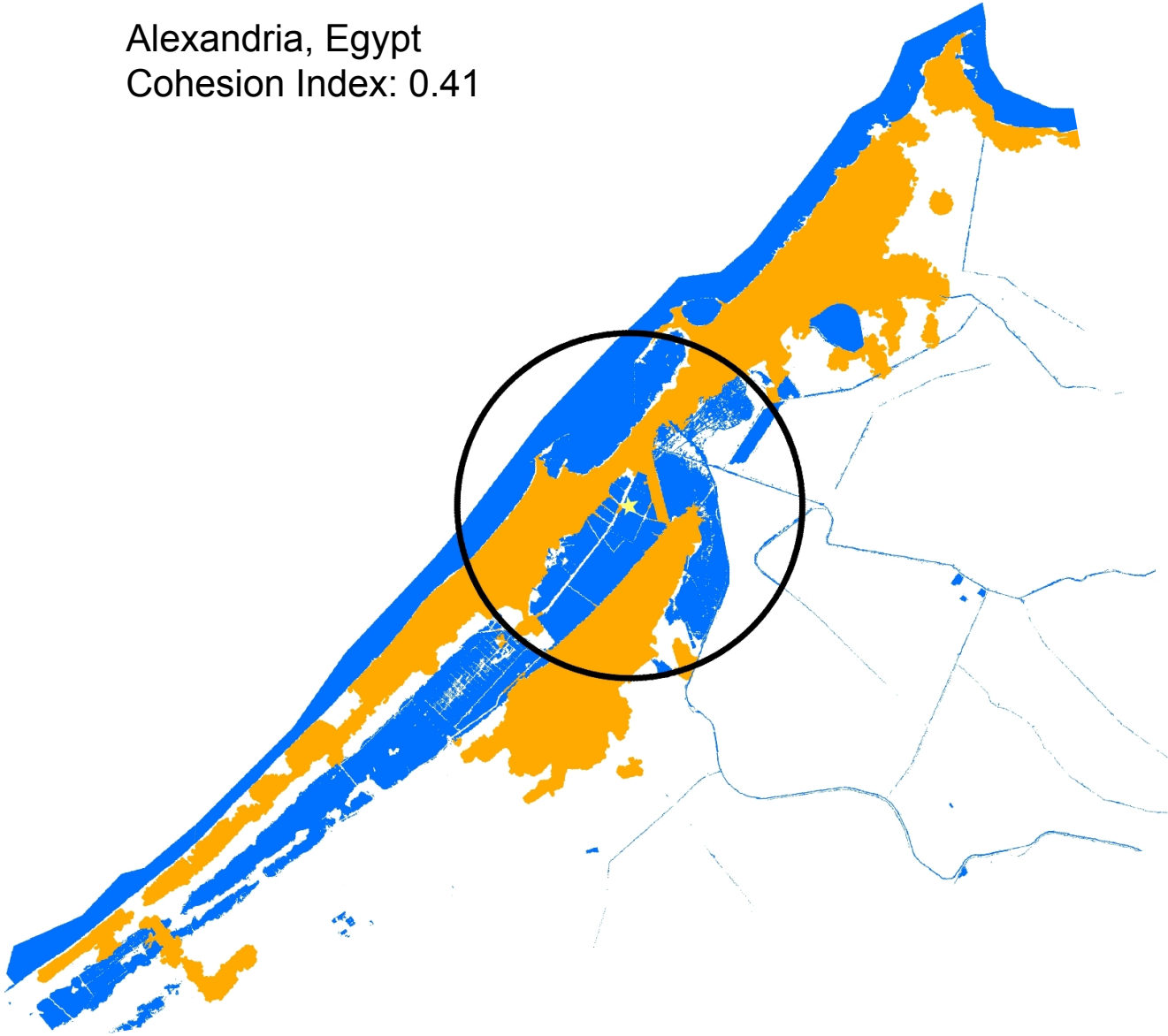


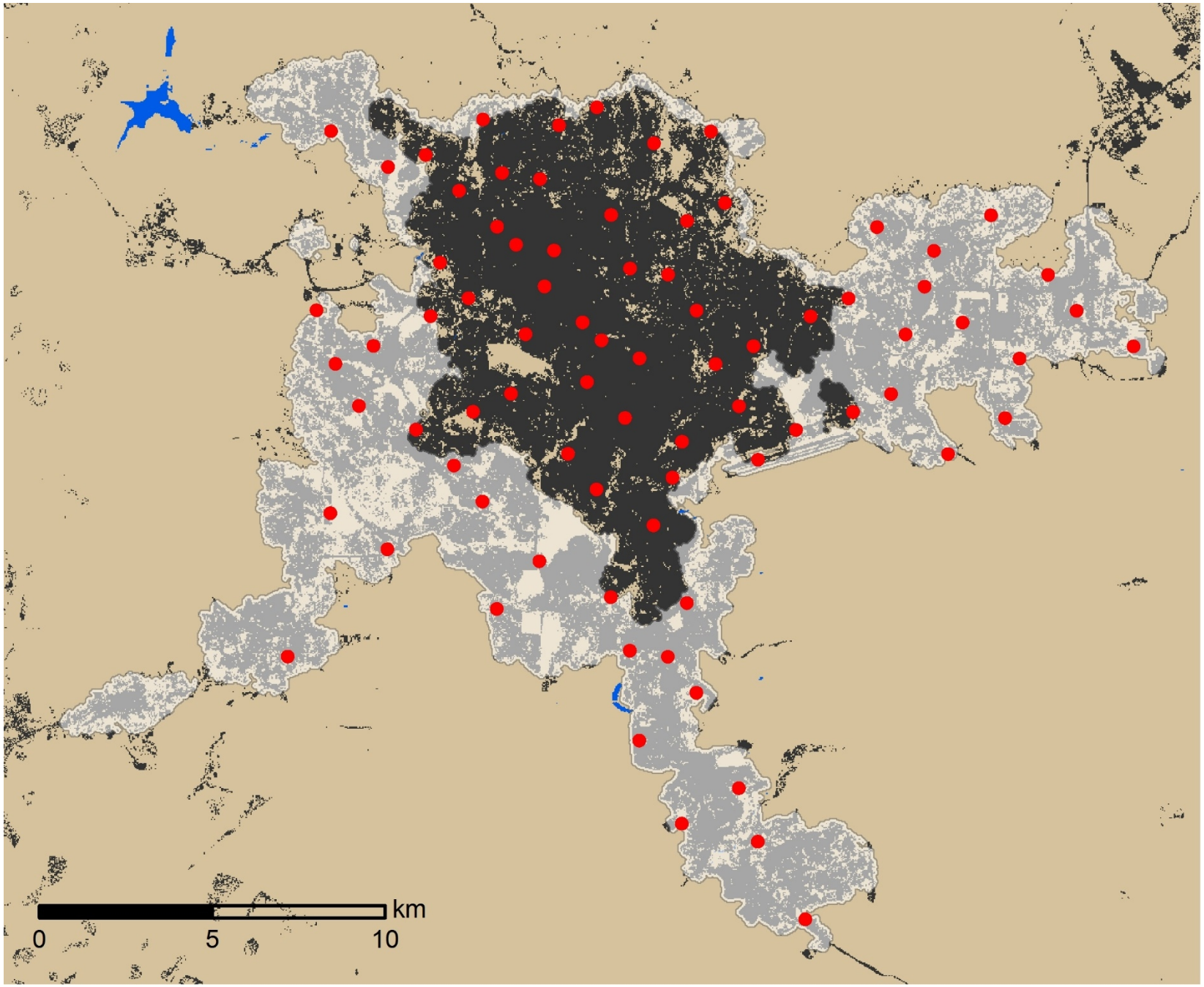
Diferencias en forma y compacidad: Ibadan y Alexandria

Ibadan, Nigeria
Cohesion Index: 0.93



Alexandria, Egypt
Cohesion Index: 0.41

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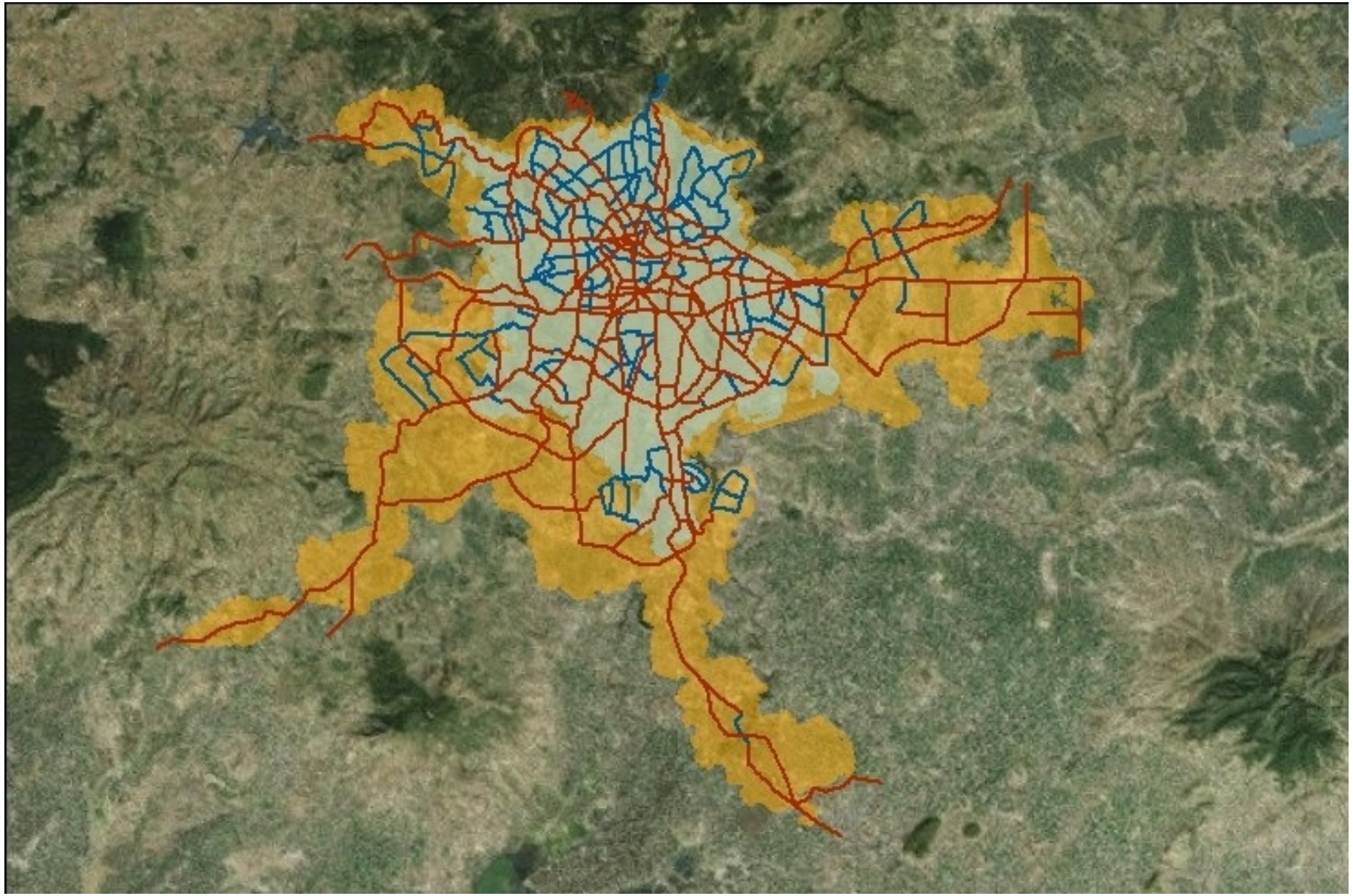
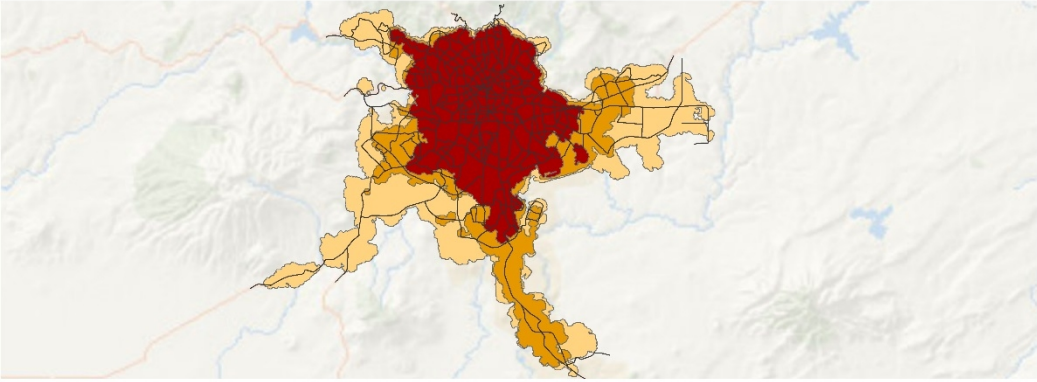


Addis Ababa, Ethiopia (Sub-Saharan Africa)

Selected Locales in Area Developed Before 1986

Selected Locales in Expansion Area, 1986-2010

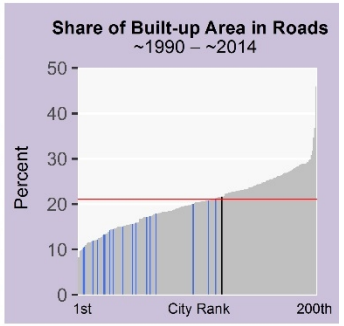


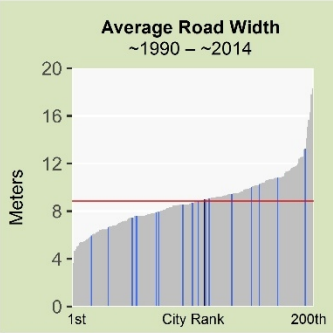
Addis Ababa, Ethiopia (Sub-Saharan Africa)

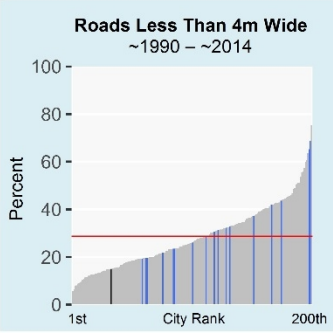
Legend for Charts

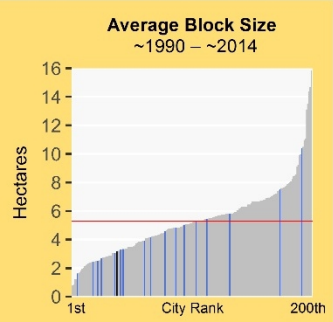
Addis Ababa | Other cities in region | All other cities | Global average

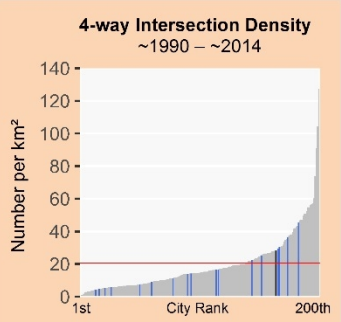
Metrics	Pre-1986	1986-2010
Roads		
Share of Built-Up Area Occupied by Roads	18%	21%
Share of Built-Up Area that is Gridded or Partially Gridded	2%	30%
Average Road Width (m)	9.0	8.1
Share of Roads less than 4m Wide	13%	15%
Share of Roads more than 16m Wide	12%	8%
Arterial Roads		
Density of Arterial Roads (km/km²)	2.7	1.7
Average Beeline Distance to Arterial Roads (m)	123	257
Share of Urban Extent Within Walking Distance (625m) of all Arterial Roads	99%	89%
Share of Urban Extent Within Walking Distance of Wide Arterial Roads (>16m wide)	93%	83%
Block Size, Plot Size, Intersection Density, and Walkability		
Share of Intersections that are 4-way	7%	12%
Average Block Size (ha)	3.1	3.2
3-way Intersection Density (number per km²)	104	176
4-way Intersection Density (number per km²)	10	28
Walkabity Ratio	1.8	1.6
Average Plot Size in Informal Subdivisions (m²)		244
Average Plot Size in Formal Subdivisions (m²)	675	187
Stages in the Evolution of Residential Layouts		
Share of Built-Up Area in Residential Use	56%	73%
Share of Residential Area Not Laid Out Before Occupation	65%	41%
Share of Residential Area Laid Out Before Occupation	34%	58%
Share of Residential Area in Informal Land Subdivisions	15%	43%
Share of Residential Area in Formal Land Subdivisions	18%	1%
Share of Residential Area in Housing Projects	1%	12%

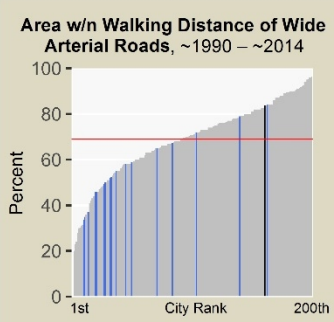


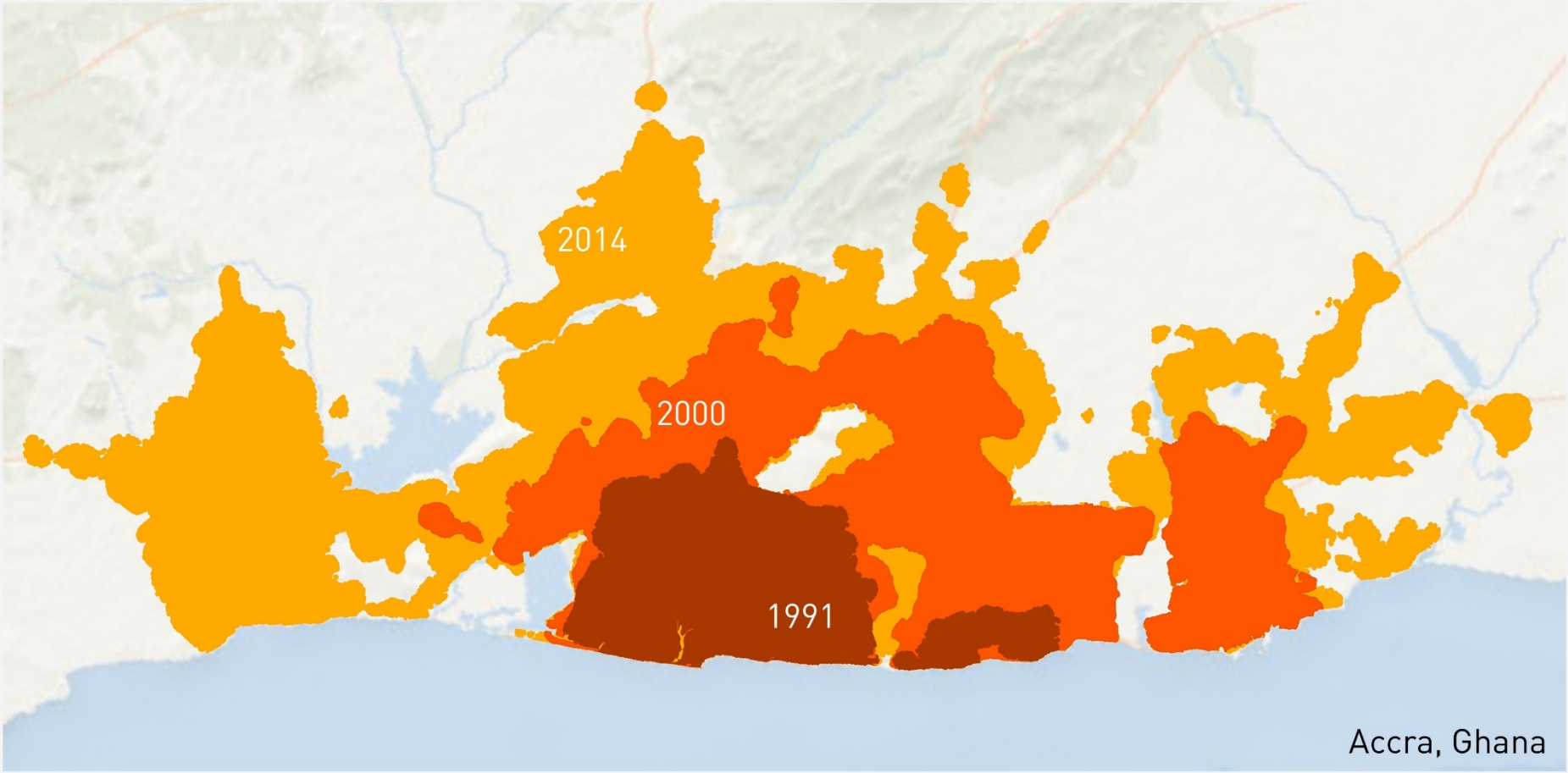






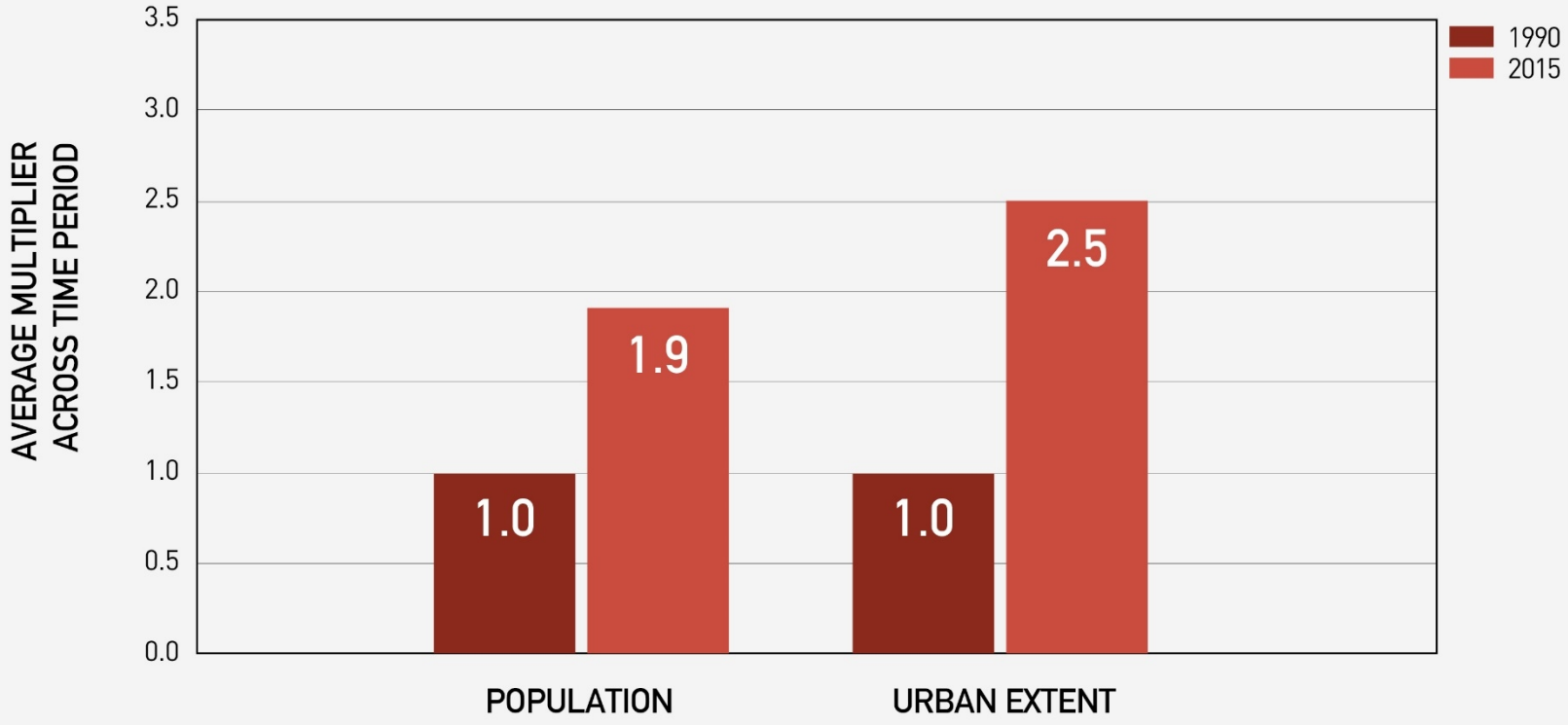






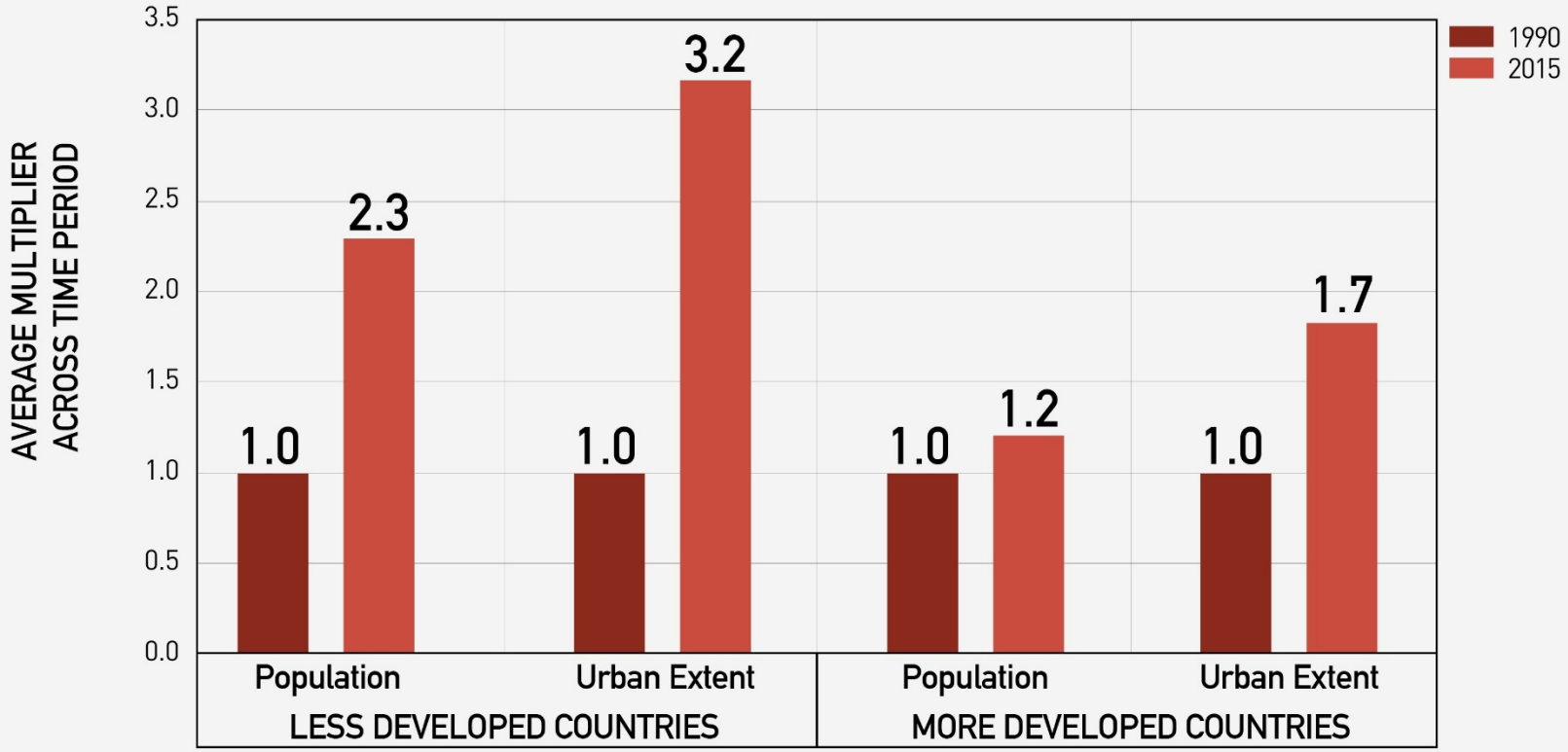
FACT

Las ciudades están creciendo en superficie a mayor ritmo que en población.



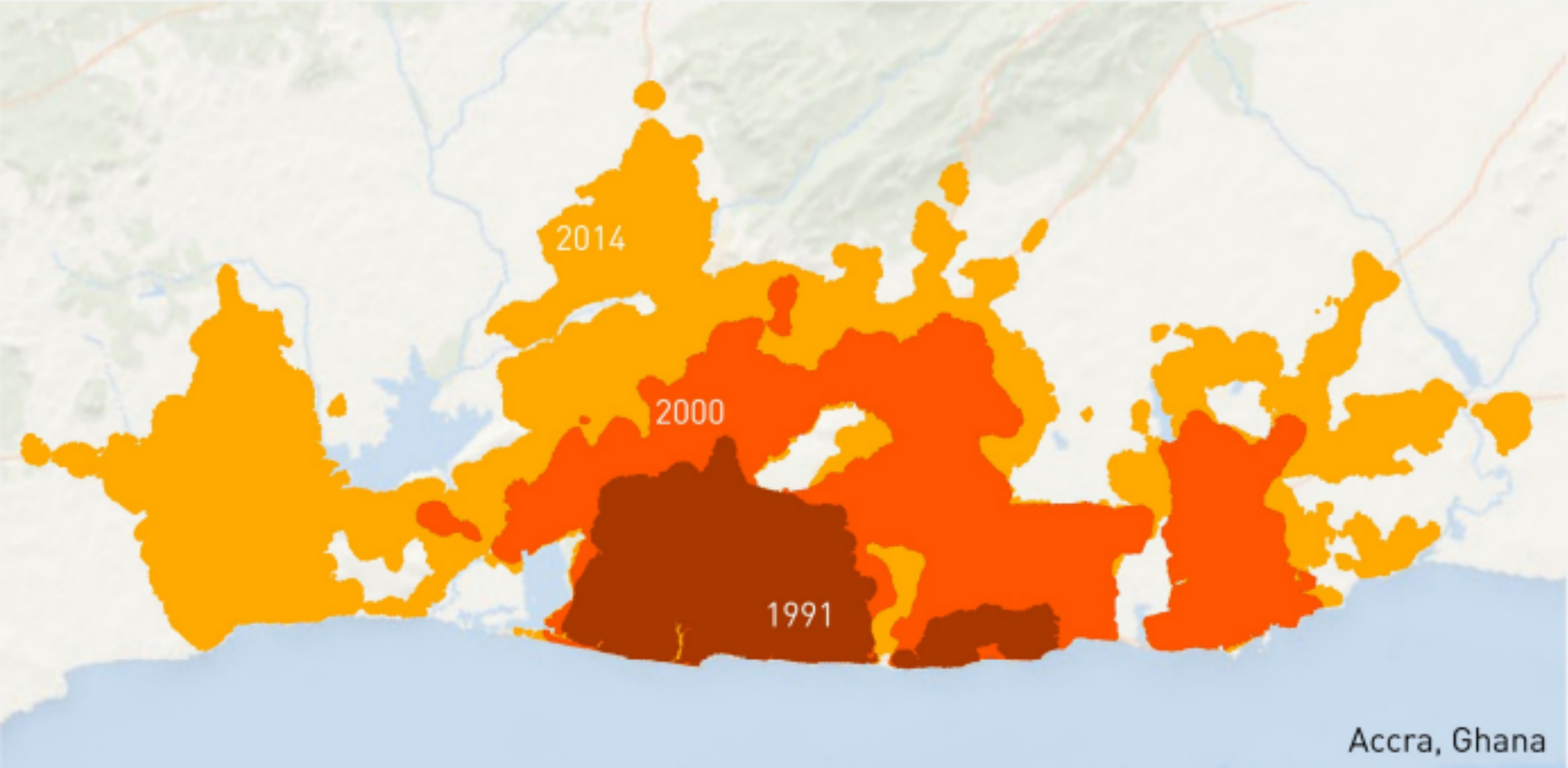
EVIDENCE

Entre 1990 y 2015 la población de las ciudades se multiplicó por 1,9 de media mientras que su superficie se multiplicó por 2,5 de media.



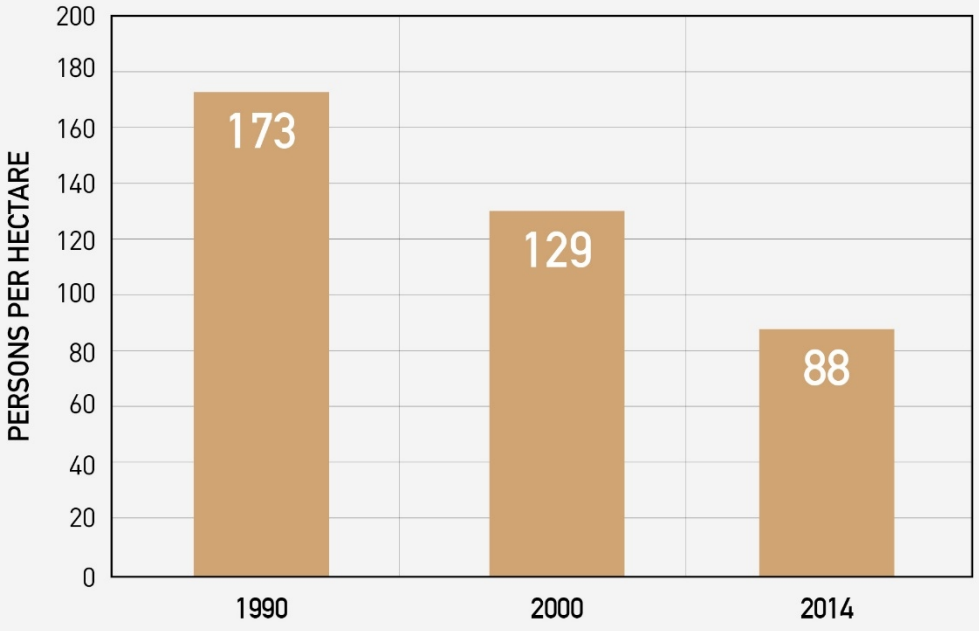
EVIDENCE

En los países menos desarrollados la población de las ciudades creció 2,3 veces mientras que su superficie creció 3,2 veces. En los países más desarrollados población de las ciudades creció 1,2 veces mientras que su superficie creció 1,7 veces.



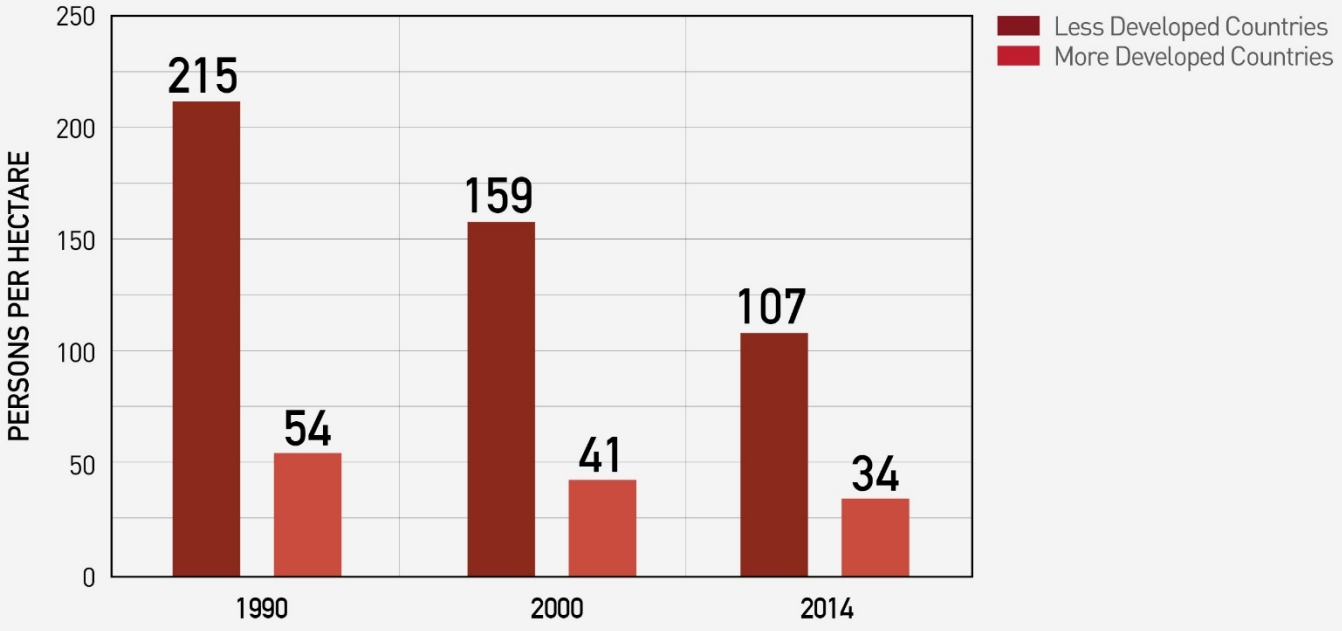
FACT

La densidad de población media de las ciudades está en retroceso.



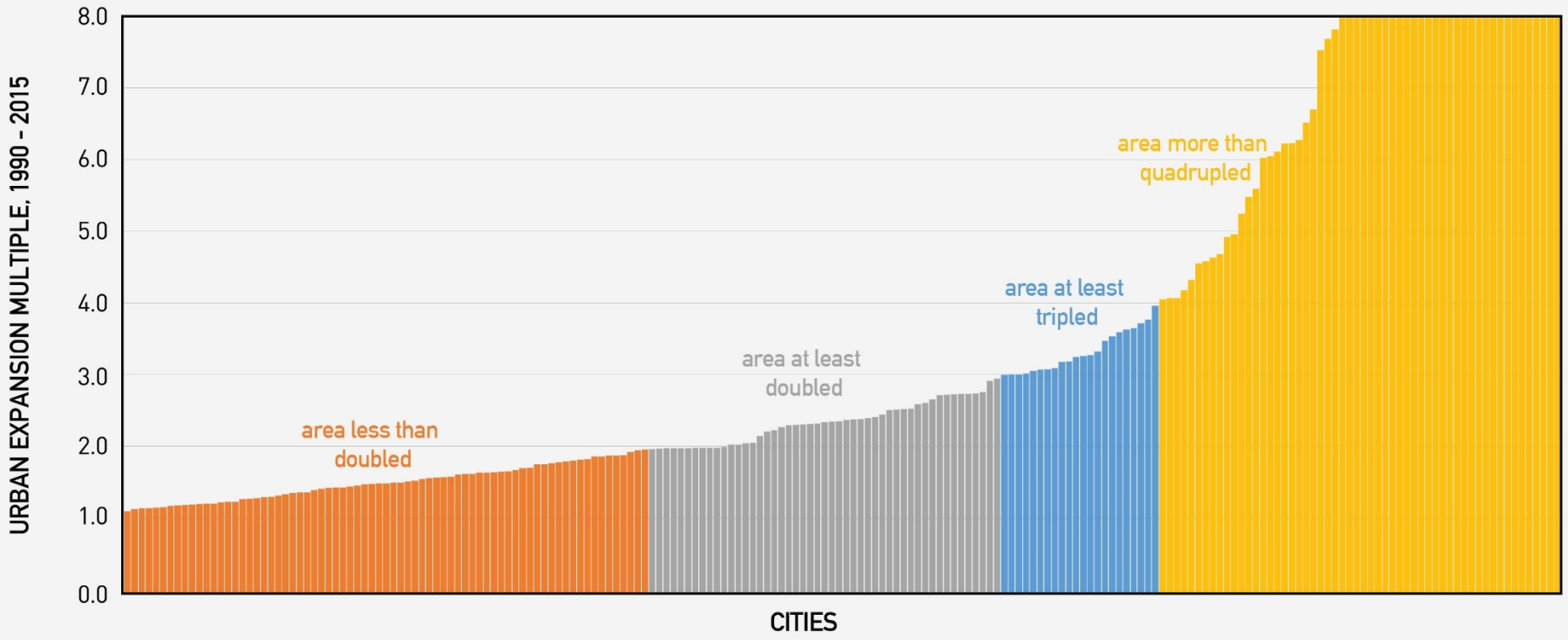
EVIDENCE

La densidad de población de las ciudades decreció a nivel mundial significativamente en ambos periodos.



EVIDENCE

La densidad de población media de los países menos desarrollados es mucho mayor que la de los países más desarrollados. No obstante el descenso es patente en ambos grupos y en ambos periodos.

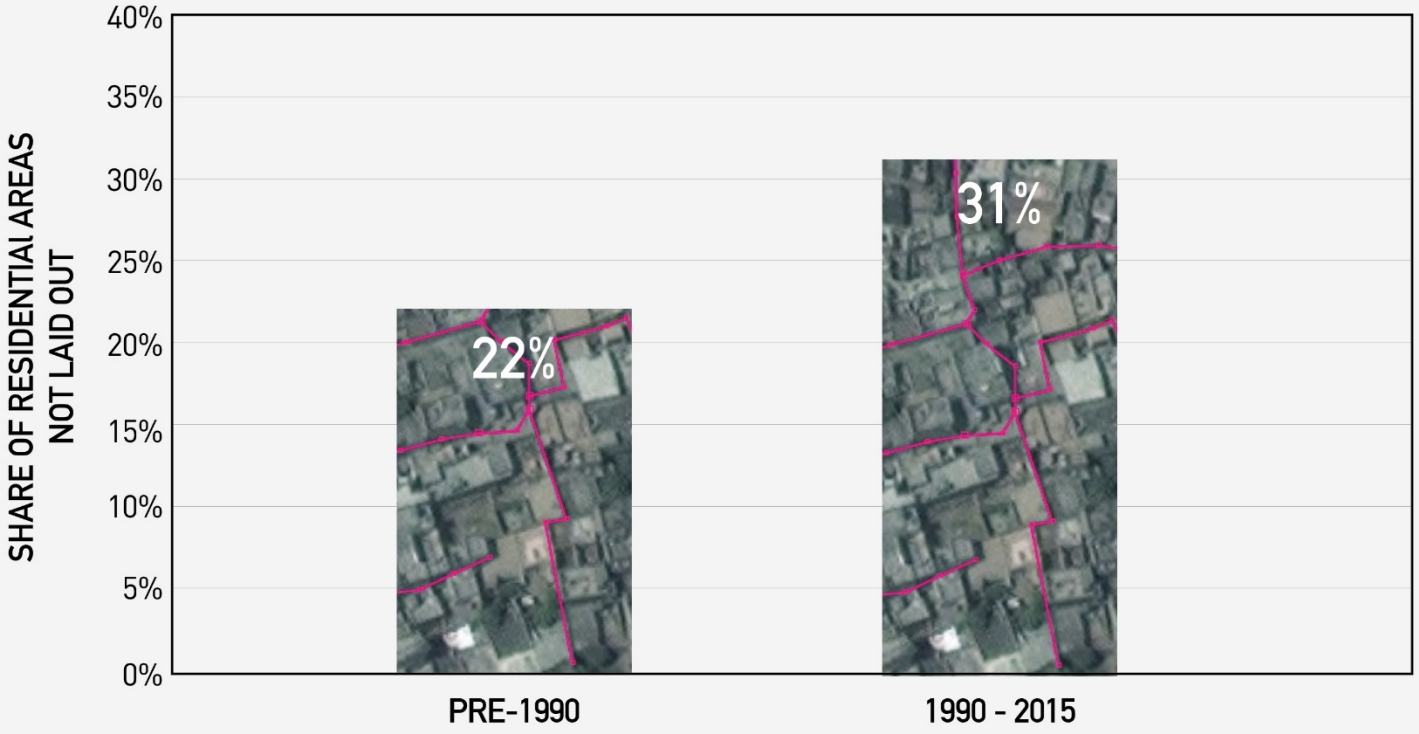


FACT

Las ciudades están creciendo a diferente velocidad. El 64% han, al menos, doblado su superficie y el 28% la han, al menos, cuadruplicado desde 1990.

FACT

La proporción de áreas residenciales que no fueron planificadas antes de su construcción ha aumentado significativamente a lo largo del tiempo en todo el planeta.

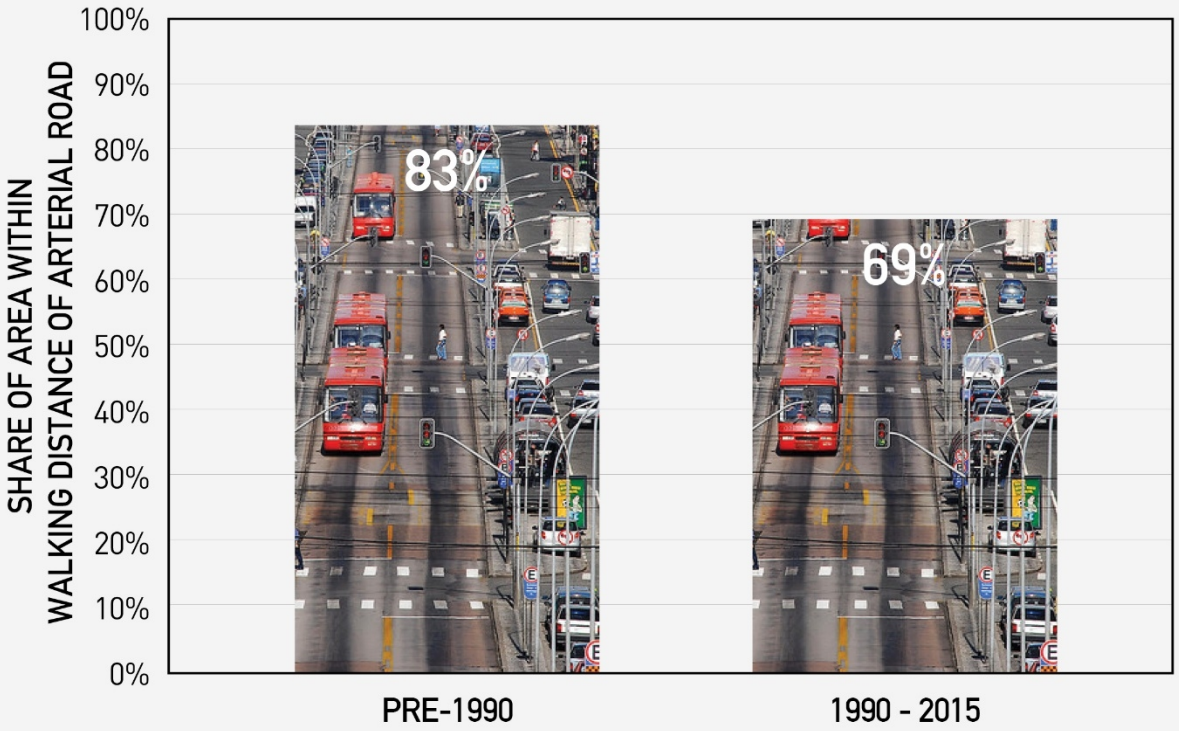


EVIDENCE

La proporción de áreas residenciales que no fueron planificadas ha aumentado considerablemente entre las áreas construidas antes (22%) y después de 1990 (31%).

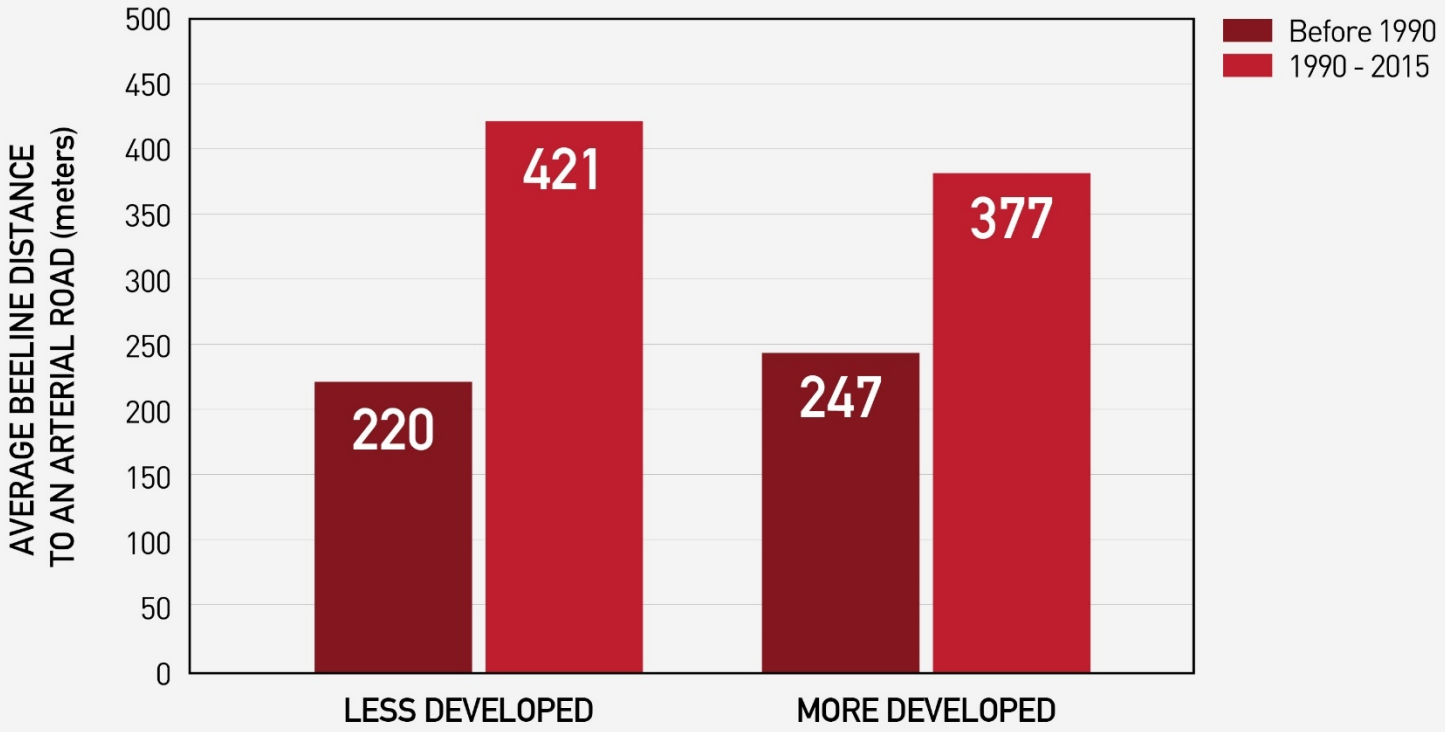
FACT

Las ciudades están reservando ahora menos espacio para el derecho de paso de vías arteriales y la gente vive cada vez más lejos de estas.



EVIDENCE

La proporción de área construida que está a menos de 500m. una vía arterial ha caído drásticamente desde 1990.

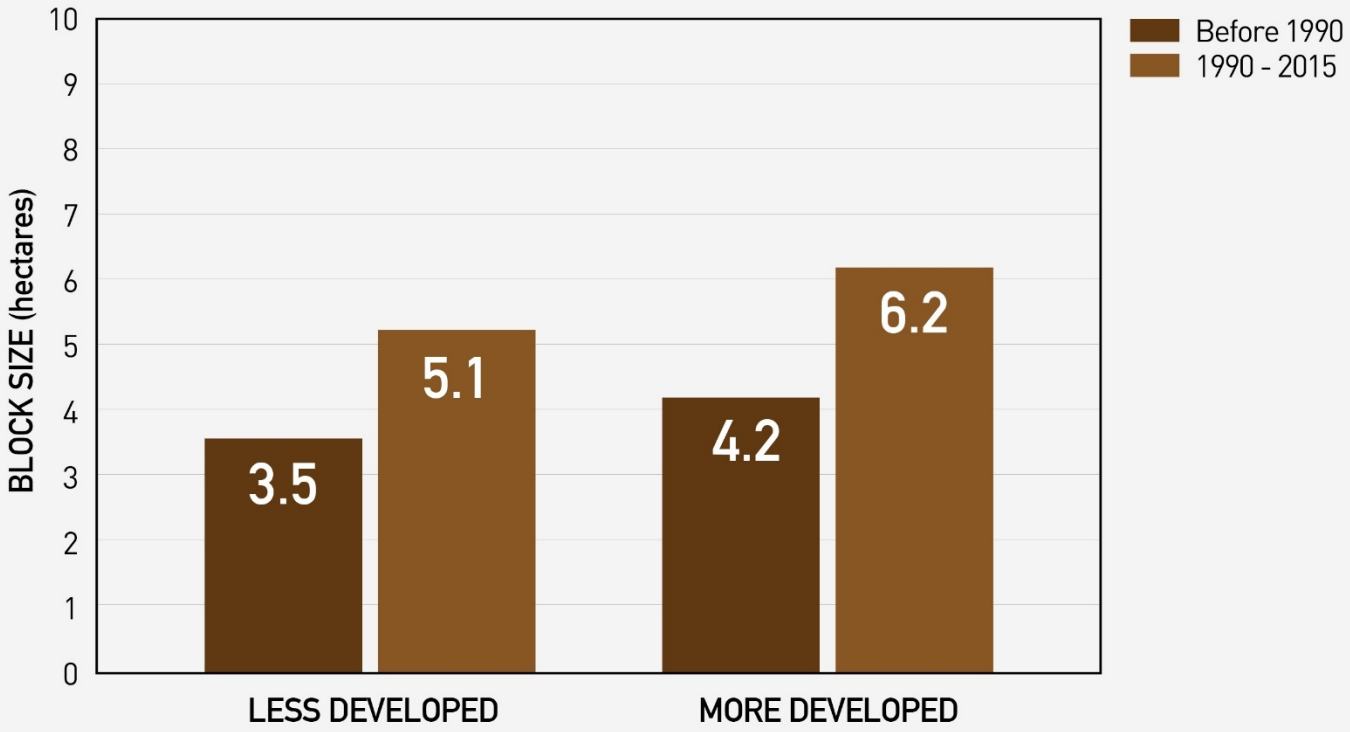


EVIDENCE

Tanto en los países menos desarrollados como en los países más desarrollados la distancia media a vías arteriales ha sufrido un claro incremento.

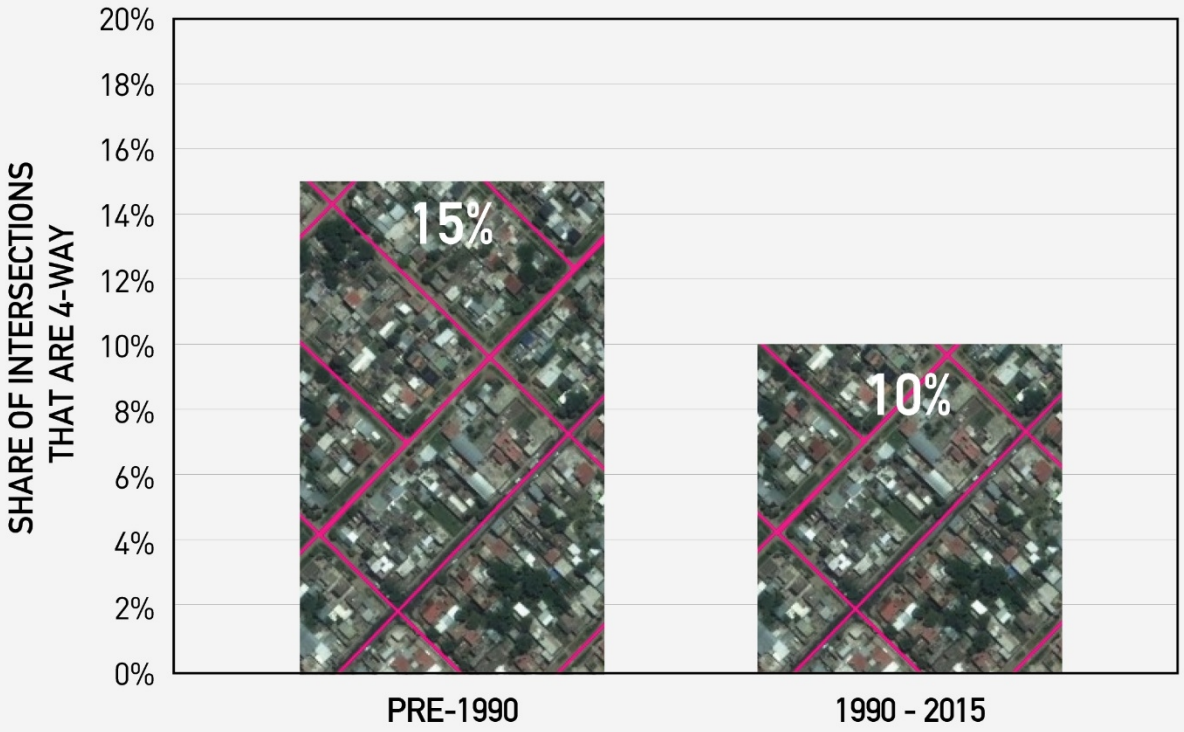
FACT

Los tramados urbanos en las periferias de las ciudades son cada vez menos paseables.



EVIDENCE

El tamaño medio de las manzanas se ha incrementado significativamente, tanto en los países menos desarrollados como en los más desarrollados, desde 1990.



EVIDENCE

La proporción de intersecciones de 4 ejes en áreas construidas después de 1990 ha descendido con respecto a áreas construidas antes de 1990.

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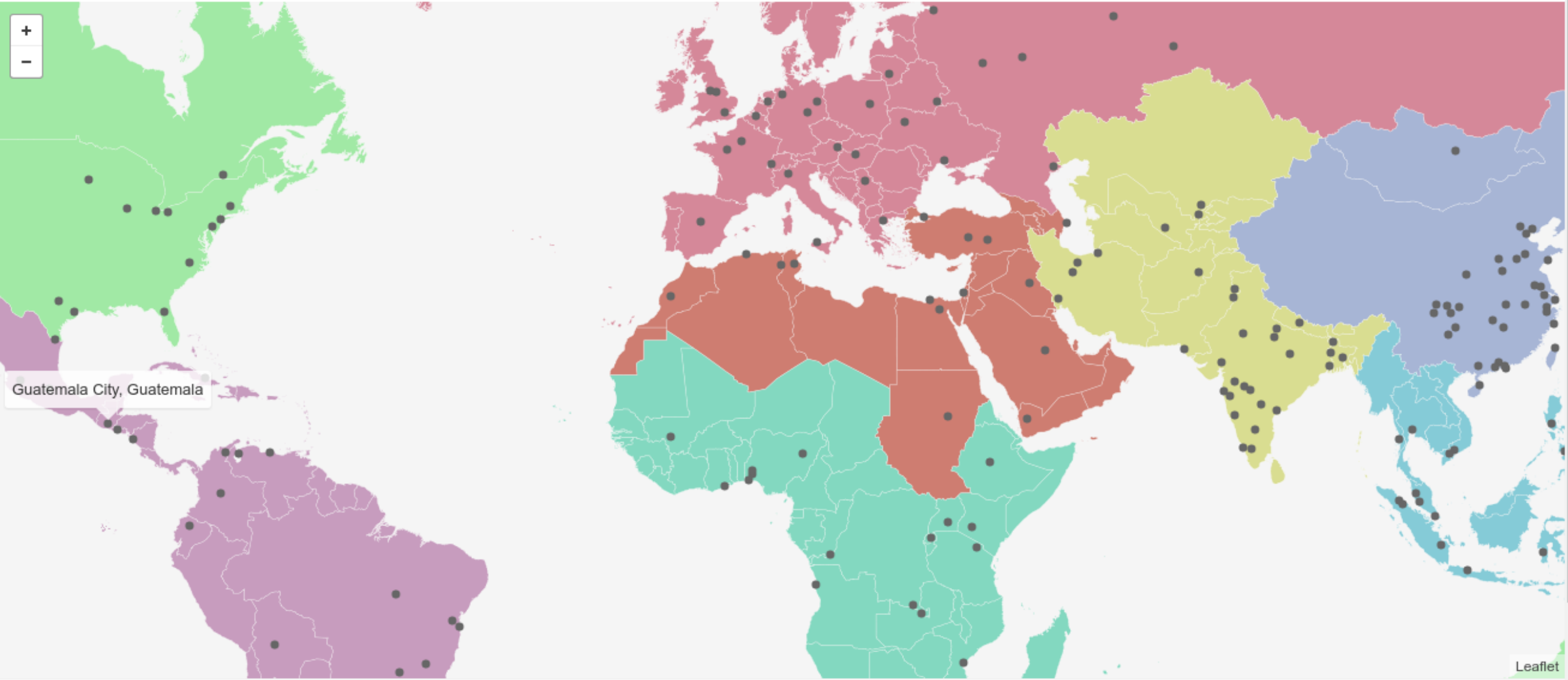

As of 2010, the world contained 4,231 cities with 100,000 or more people. The Atlas of Urban Expansion collects and analyzes data on the quantity and quality of

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Muchas gracias por vuestra atención

¿Preguntas?