The Use of Sampling to Simplify SDG Reporting

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UN GGIM
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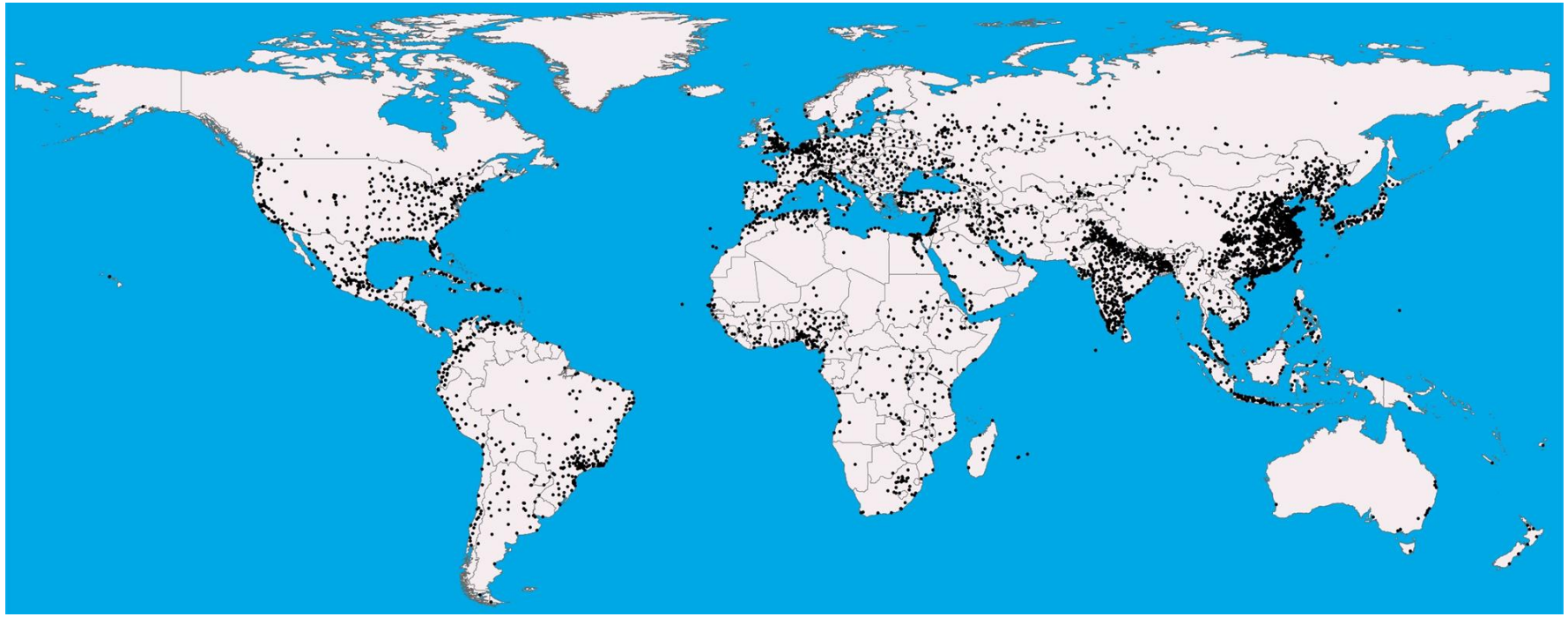
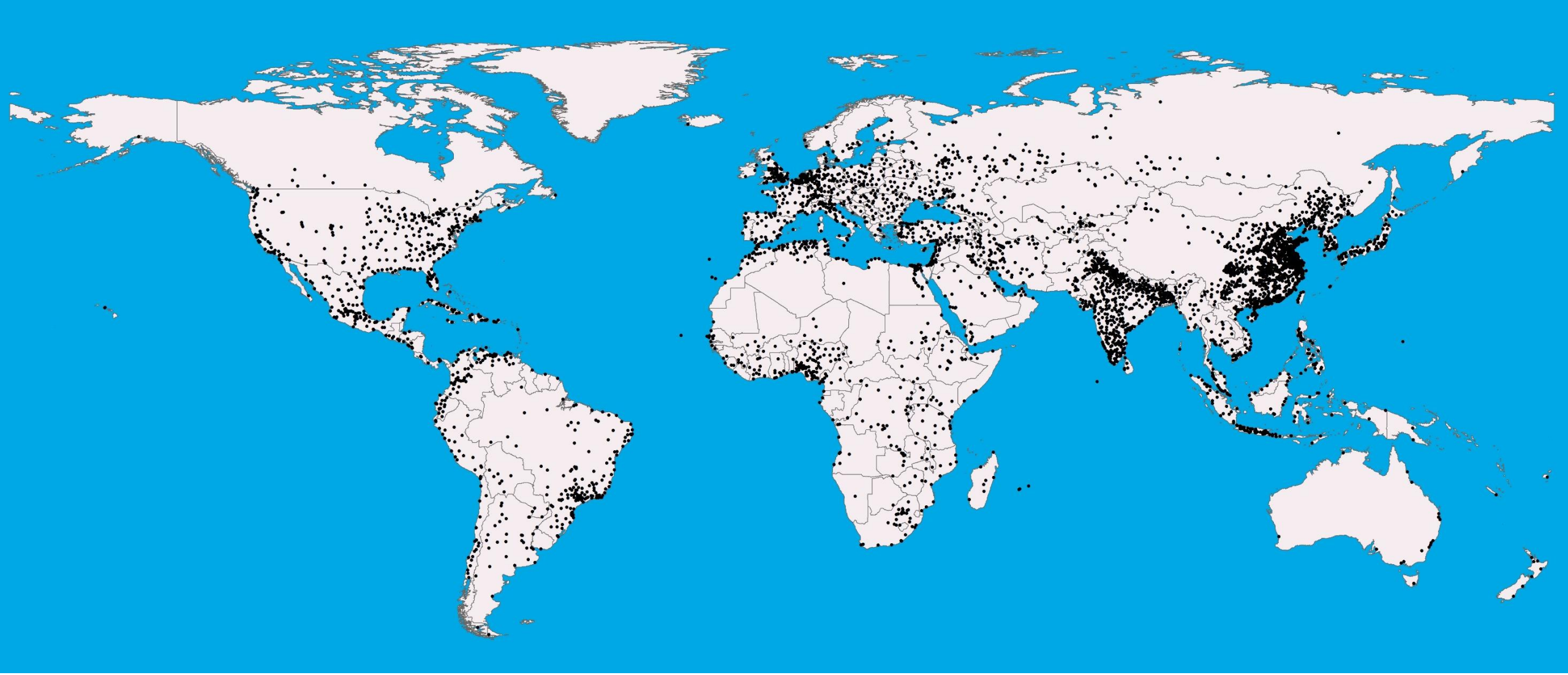


NEW YORK UNIVERSITY

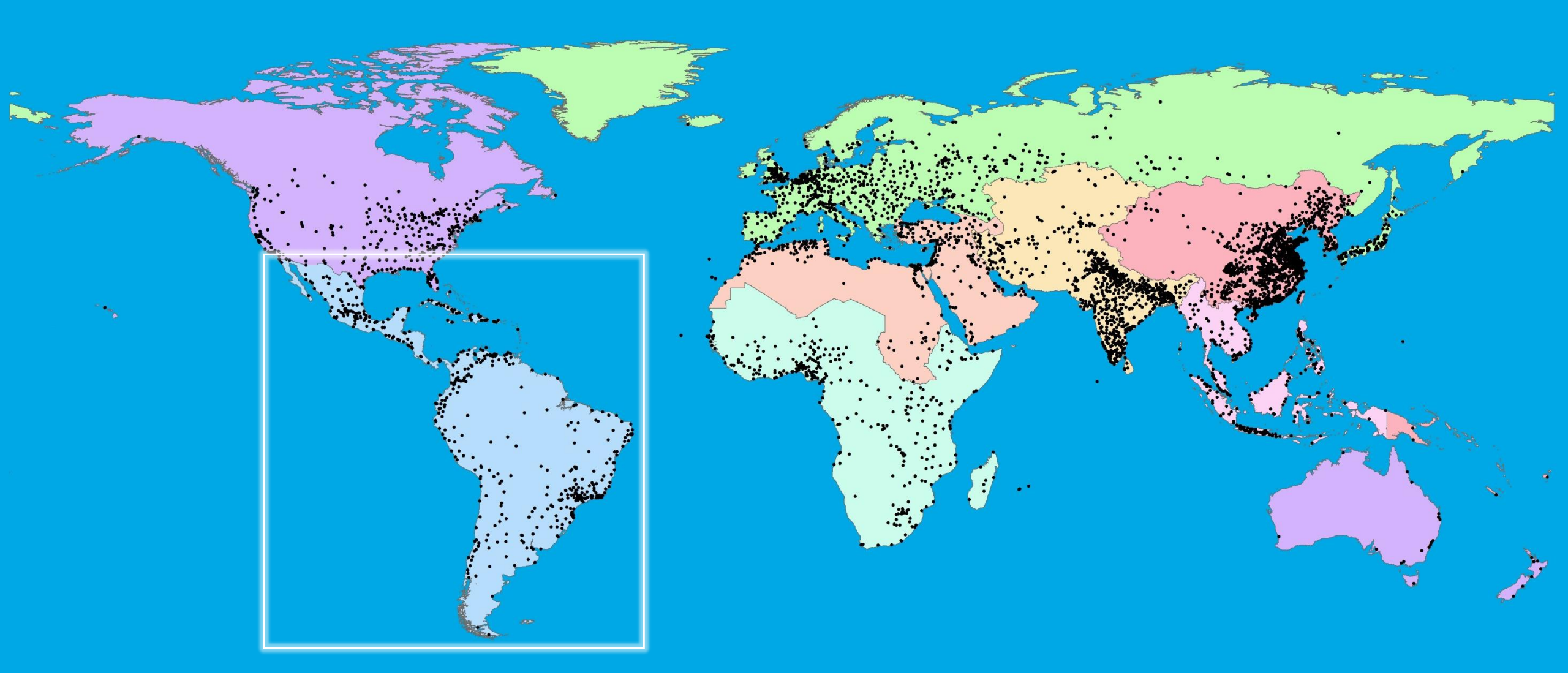
The message:

The UN can monitor ***global and regional*** progress on SDGs that report at the city level with a ***global sample of cities*** that is representative of all cities.



For urban SDG indicators, it is both possible and informative to report directly on global and regional changes in the 2010 Universe of Cities, all 4,231 cities that had 100,000 people or more in that year.

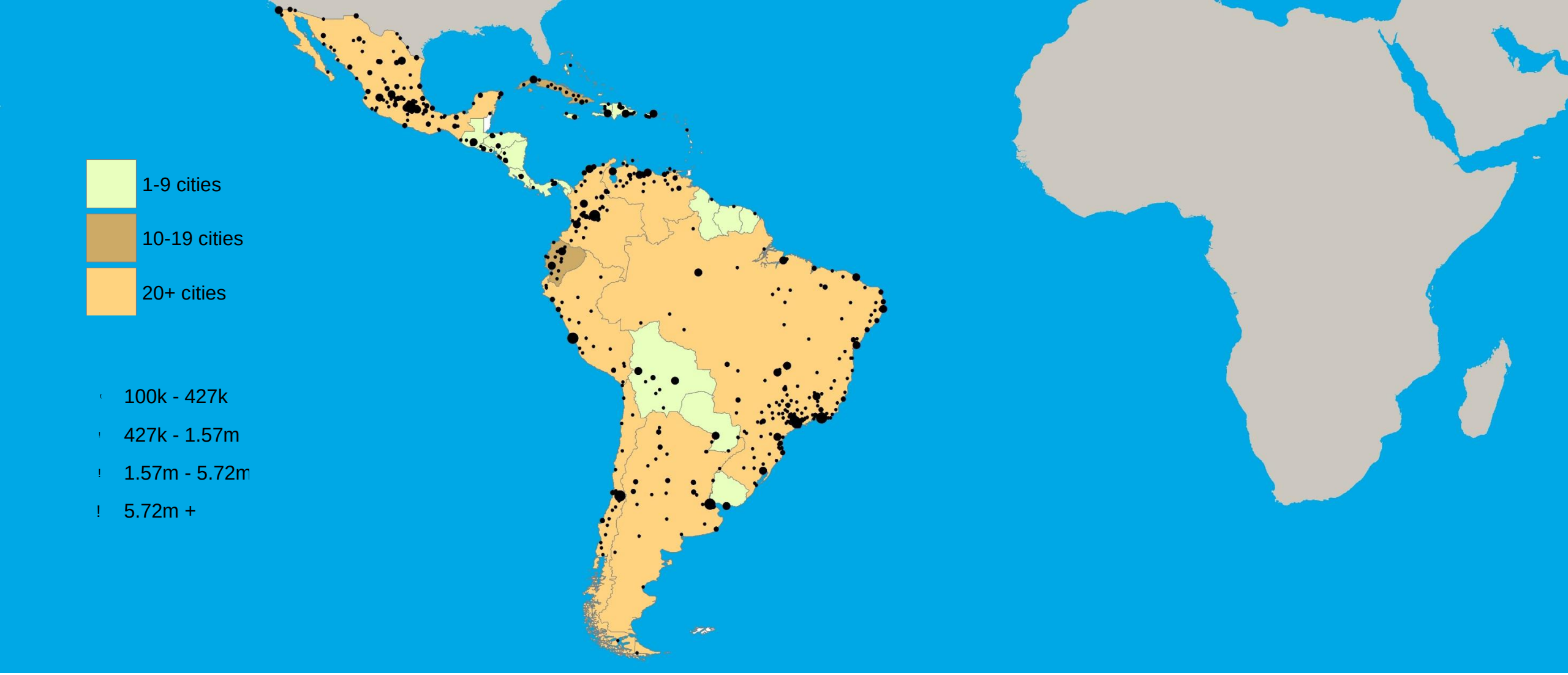
To detect global and regional patterns in the Universe of Cities it is sufficient to focus on the UN Sample of Cities, 200 cities chosen at random to represent the 2010 universe of cities.



The UN Sample of Cities is stratified. Rather than sampling cities from the universe at large, it samples cities from 96 ‘boxes’ created by dividing the universe into 8 world regions, 3 number-of-cities-in-the-country groups, and 4 population size categories ($8 \times 4 \times 3 = 96$).

Latin America & the Caribbean is one of the eight world regions. We have identified all 483 cities in the region that had 100,000 people or more in 2010.

Each country in the Latin American & the Caribbean region is categorized into one of three groups depending on the number of cities in the country. Cities in countries with fewer cities were slightly over-sampled.



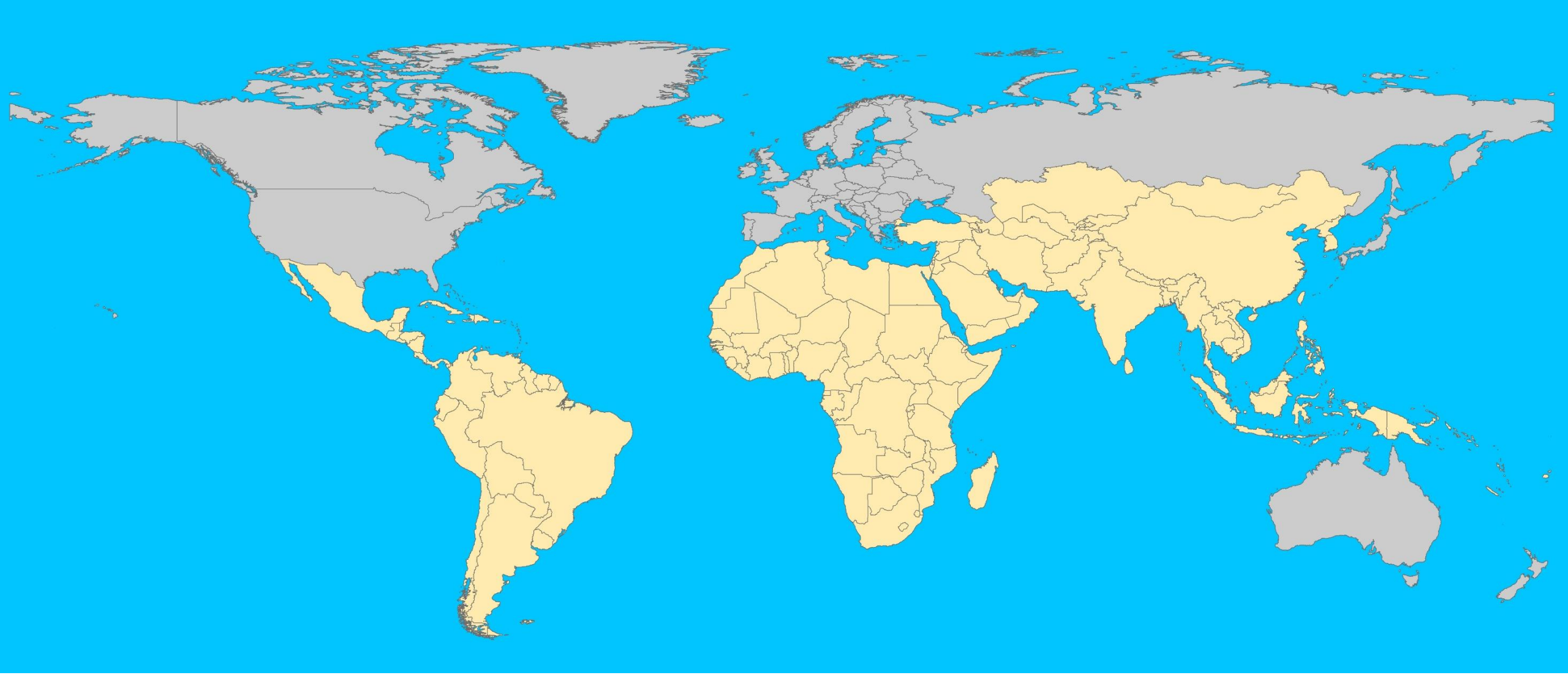
Cities in the Universe are ranked and divided into four population-size groups, each containing a quarter of the total population of the universe. Individual cities are categorized into one of the groups.

There are 23 cities in the universe in the box illustrated here (Latin America & the Caribbean / 20+ cities in the country / 1.57m – 5.72m city population).

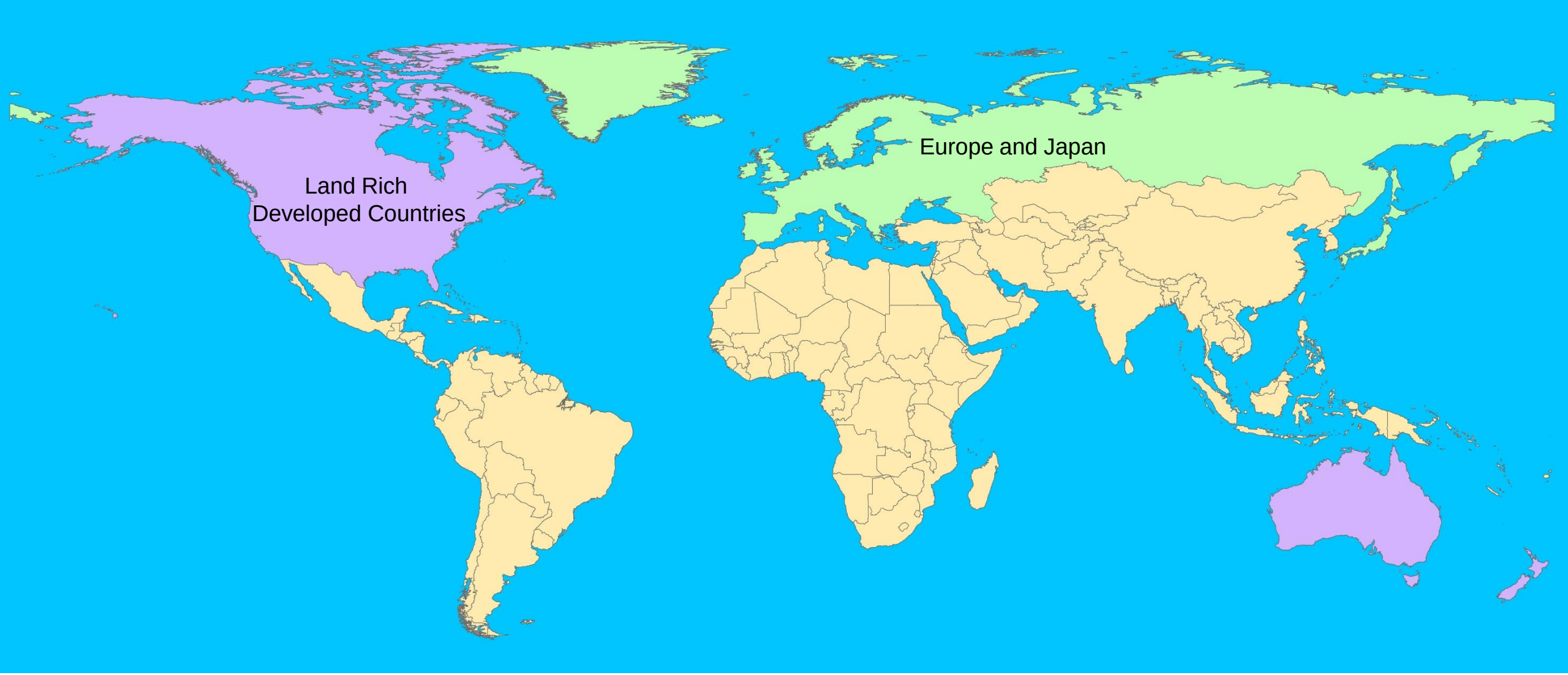
We sampled five cities at random from this box to represent these 23 cities.

The 8 world regions:

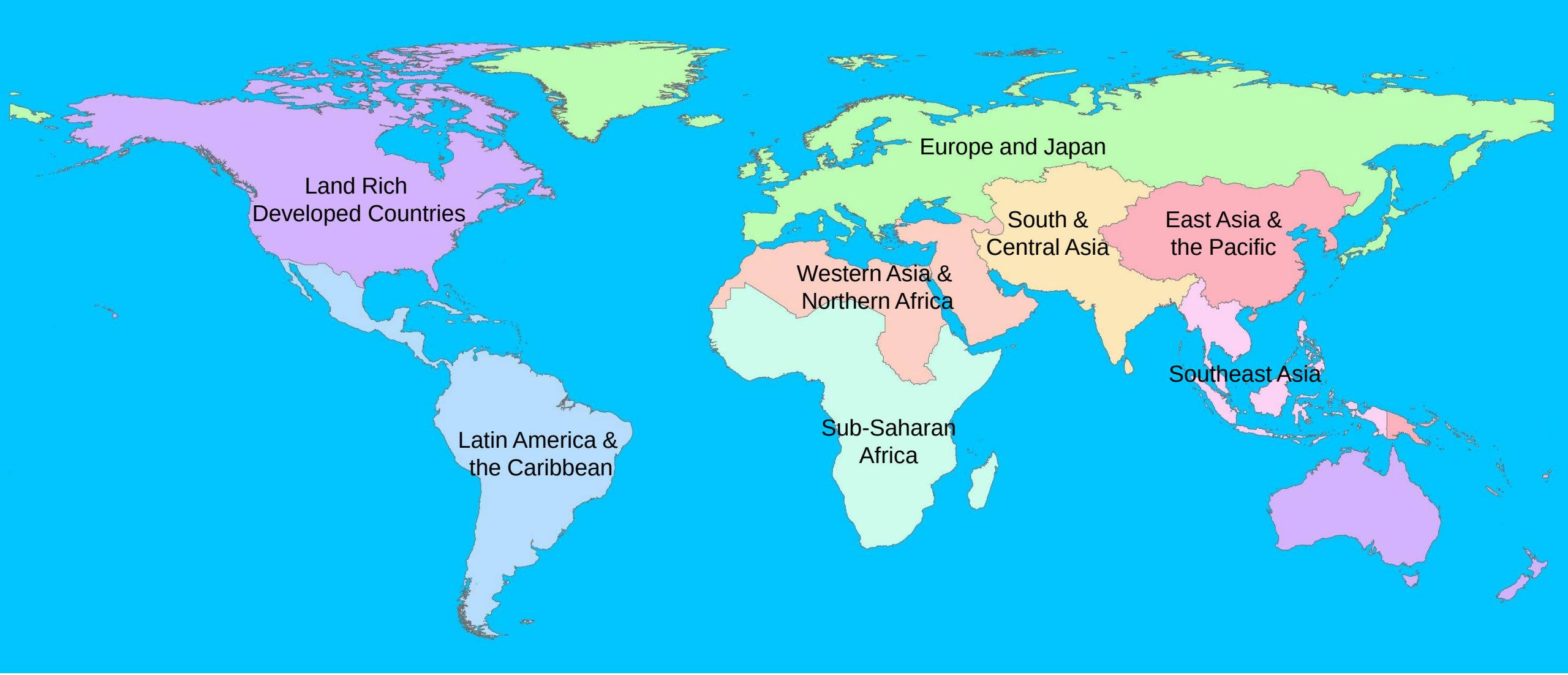
UN sub-regions have been recomposed into eight world regions having similar within-region urbanization patterns to facilitate global monitoring and research.



The UN Population Division divides the world into two mega-regions: More Developed Countries and Less Developed Countries.



The More Developed Countries mega-region can be subdivided into two regions based on land availability (arable land per capita).



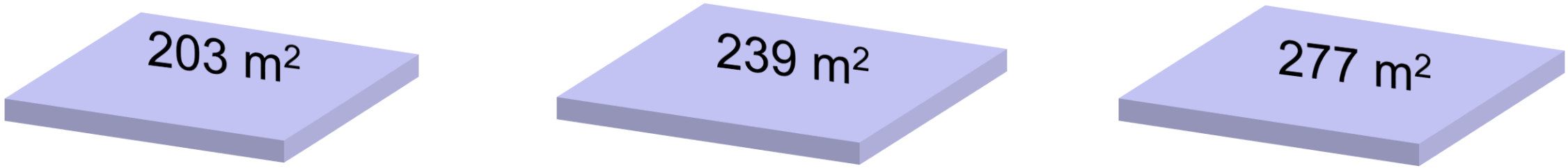
The Less Developed Countries mega-region can be subdivided to form six regions, all composed of UN regions and sub-regions that have similar within-region urbanization patterns.

The global sample as a platform:

The UN Sample of Cities provides UN Habitat with a ***platform for collecting layers of data*** for reporting on global progress on the SDGs and on other research elements that can be analyzed in tandem to model and explain variations amongst cities.

Data Layers Example 1

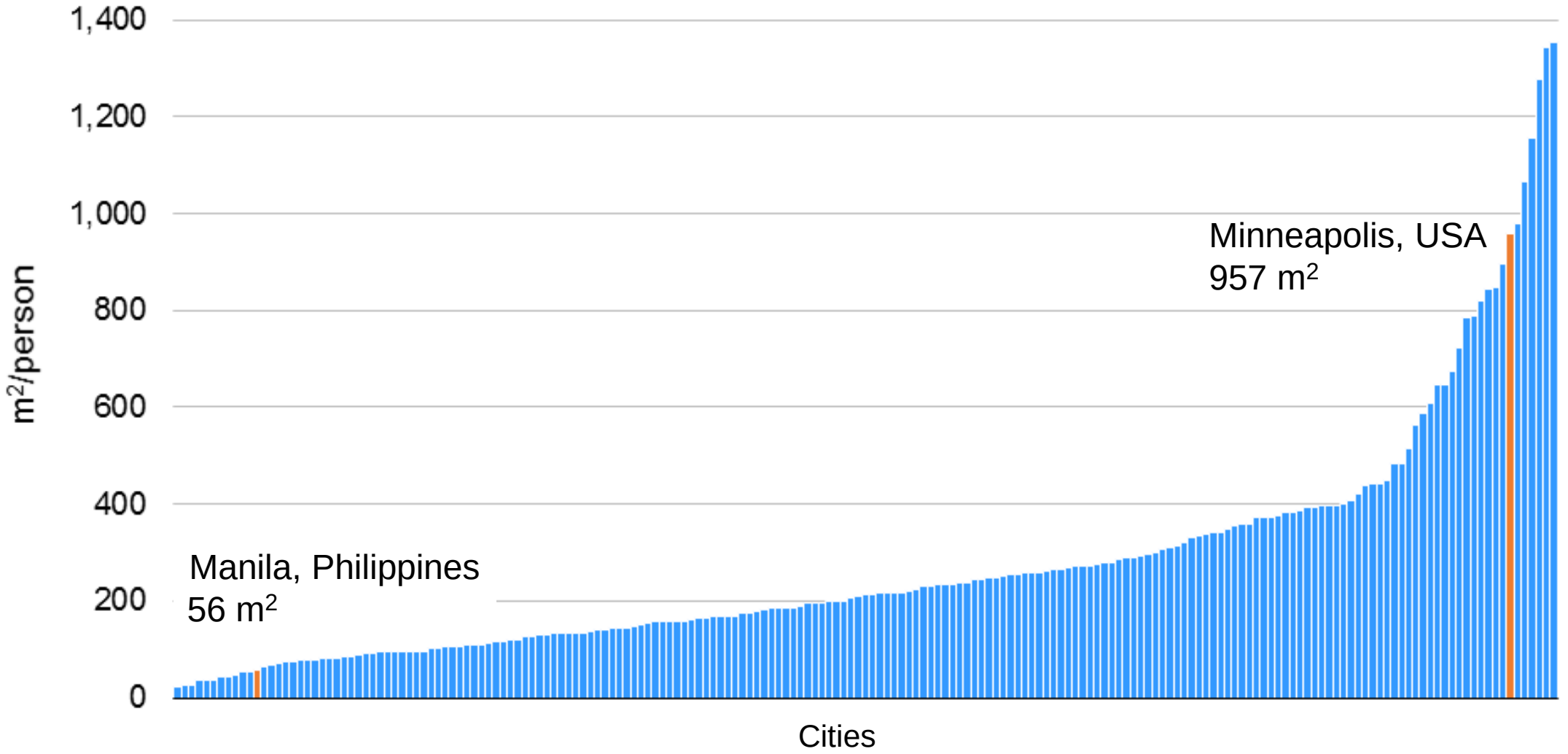
Change in Land Consumption per Capita



1990 2000 2015

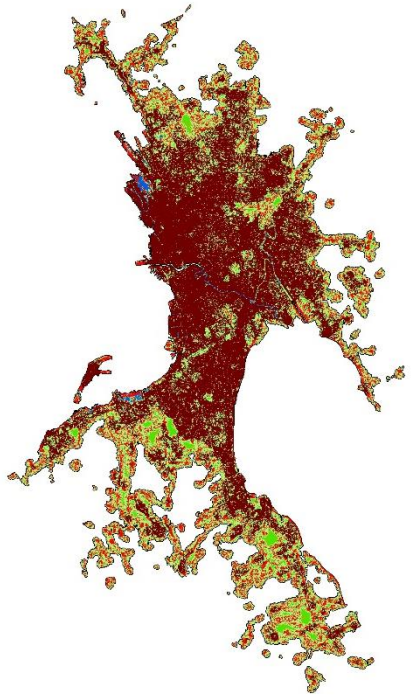
Average land consumption per capita in the universe of cities increased at a rate of 1.6% per year between1990 and 2000, and at a rate of 1.0% per year between 2000 and 2015.

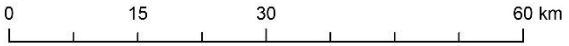
Data Layers Example 1
Land Consumption per Capita



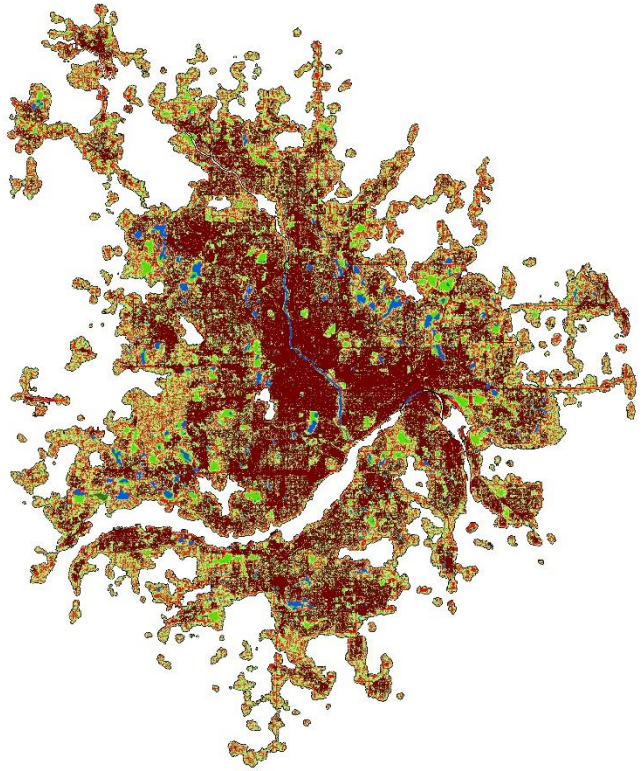
Data Layers Example 1
Land Consumption per Capita

Manila
2015 Population: 19,980,681
2015 Urban Land: 1,125 km^2
Land Consumption per Capita: 56m^2



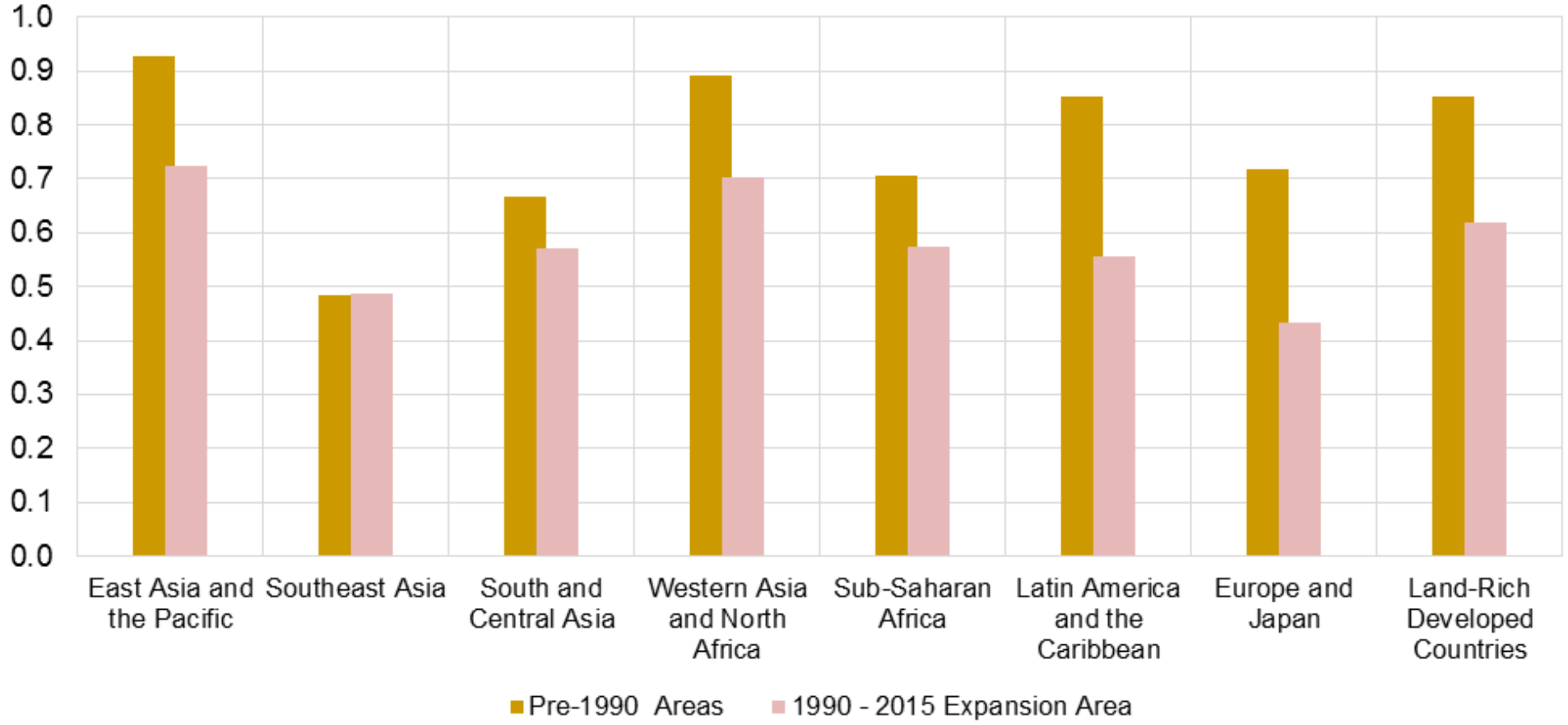


Minneapolis
2015 Population: 2,634,136
2015 Urban Land: 2,521 km^2
Land Consumption per Capita: 957m^2



Data Layers Example 2

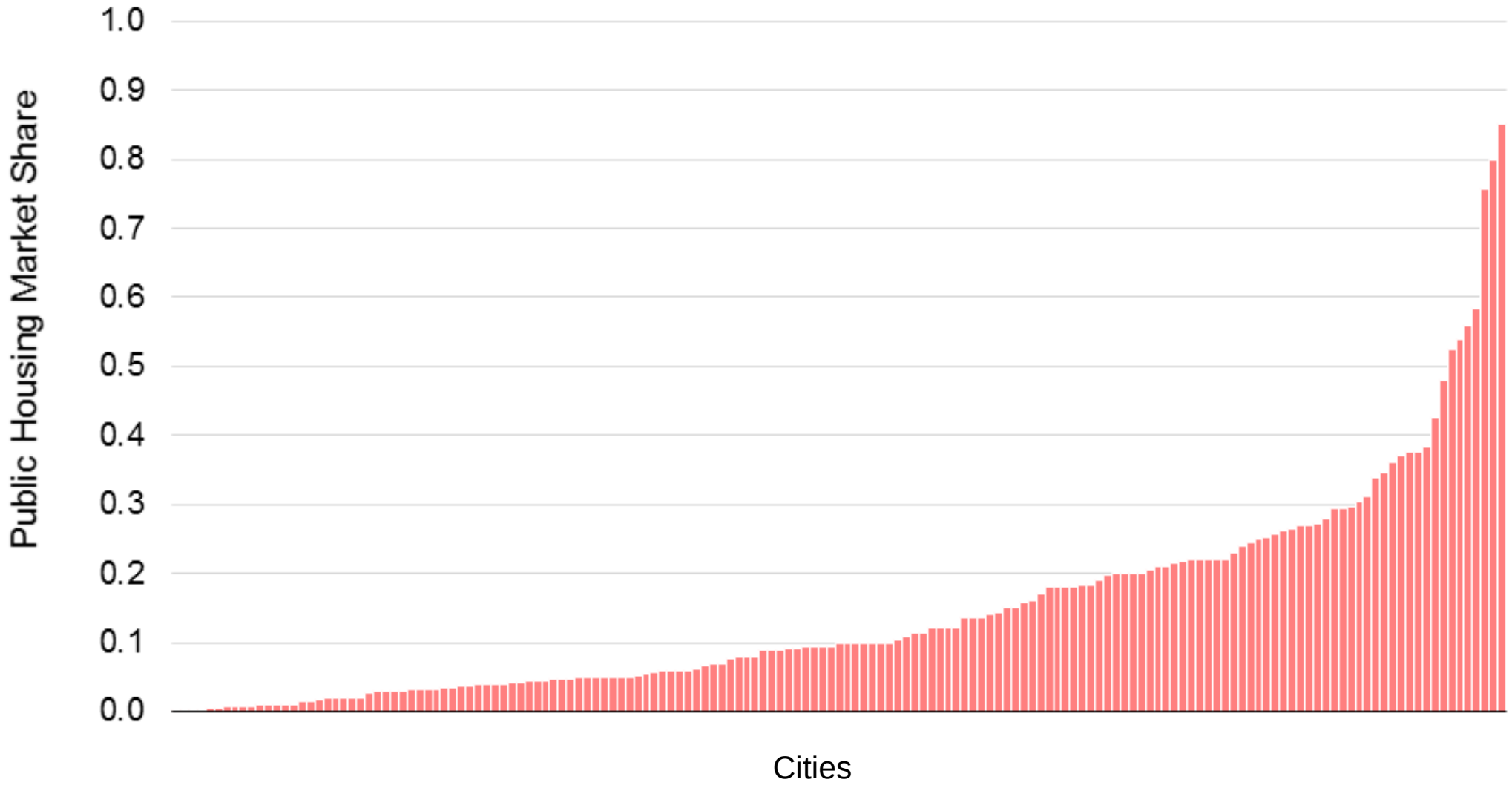
Share of Built-up Area Within Walking Distance of Wide Arterial Roads



The share of cities' built-up areas within walking distance of wide arterial roads – roads ideally suited for rapid transit and trunk infrastructure – has decreased by 25%, on average, when comparing areas built before 1990 and areas built after 1990.

Data Layers Example 3

Public Housing as a Share of the Housing Market



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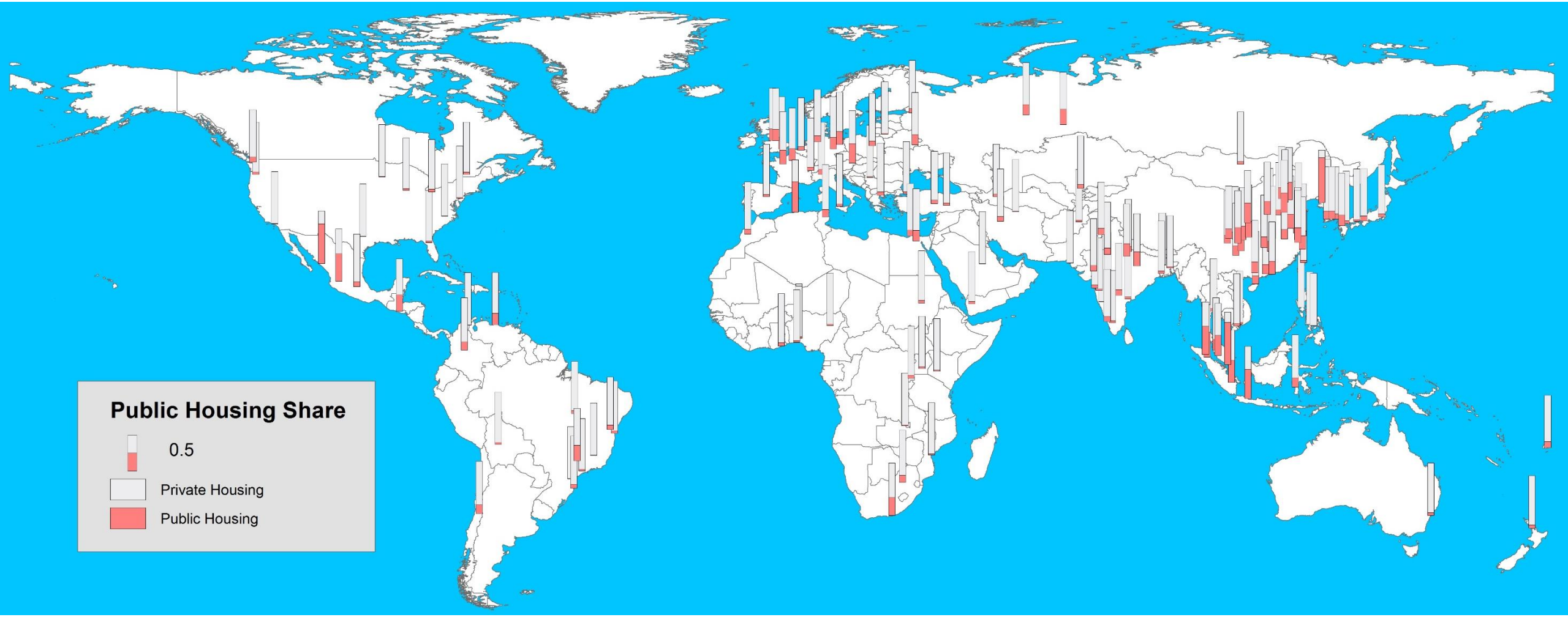
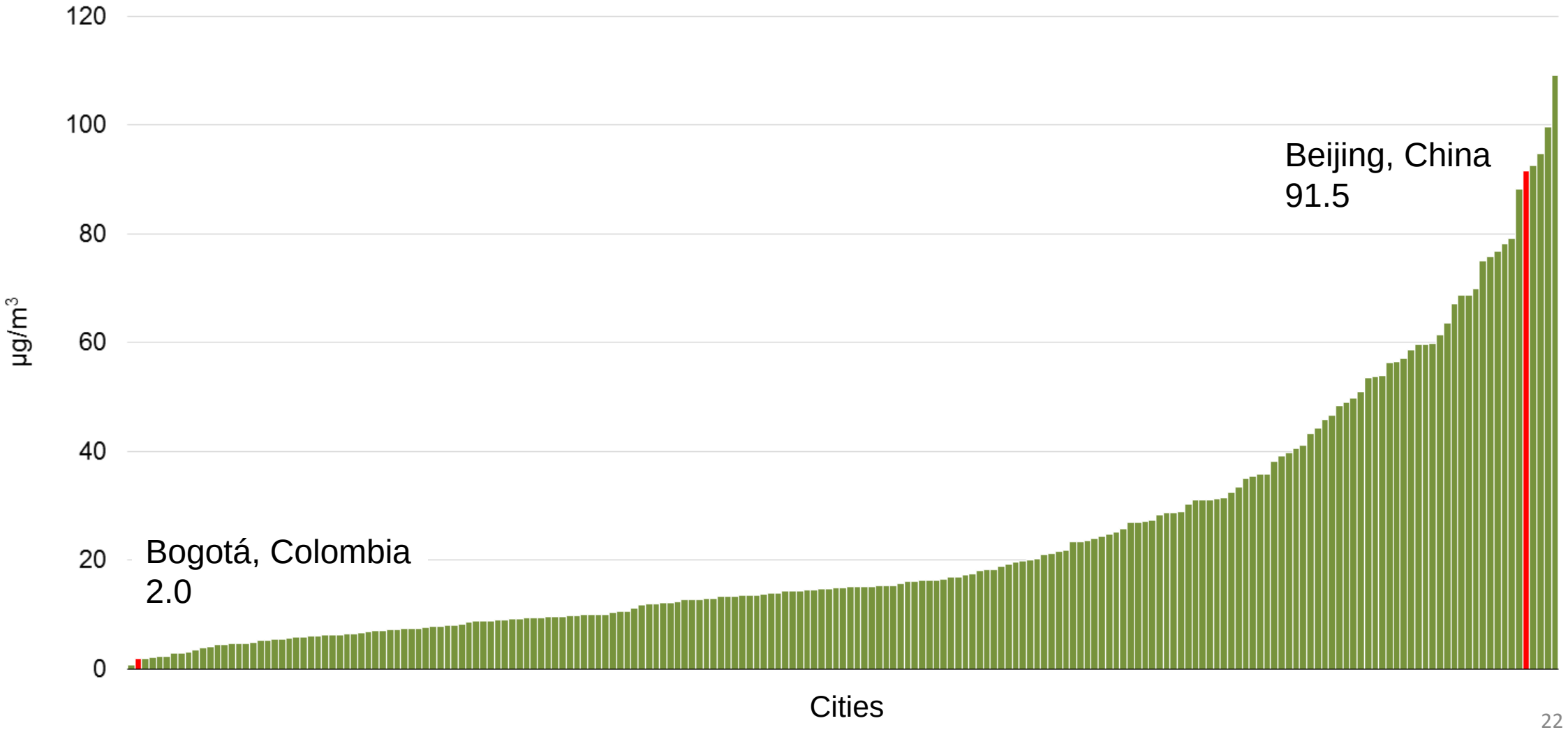


Data Layers Example 4

Pollutant Levels: Particulate Matter (PM) 2.5



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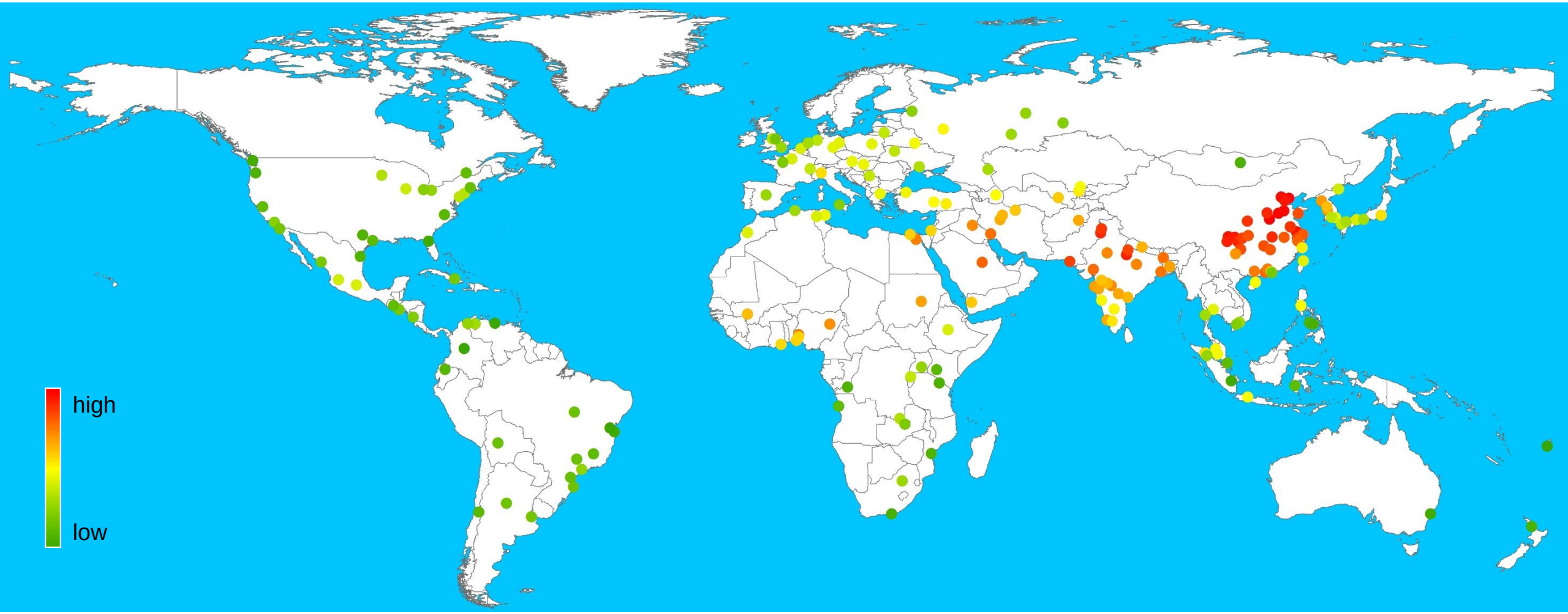
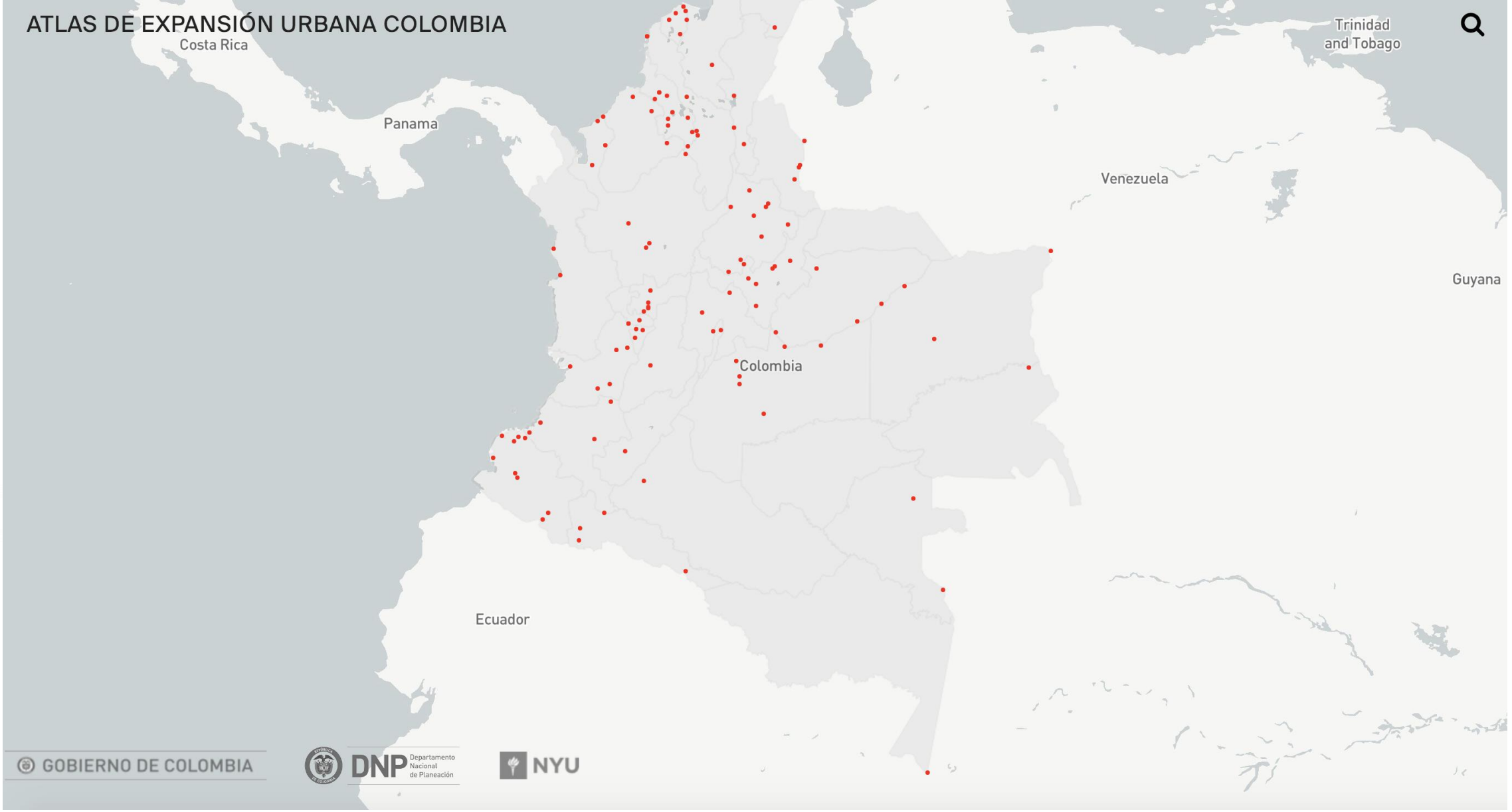
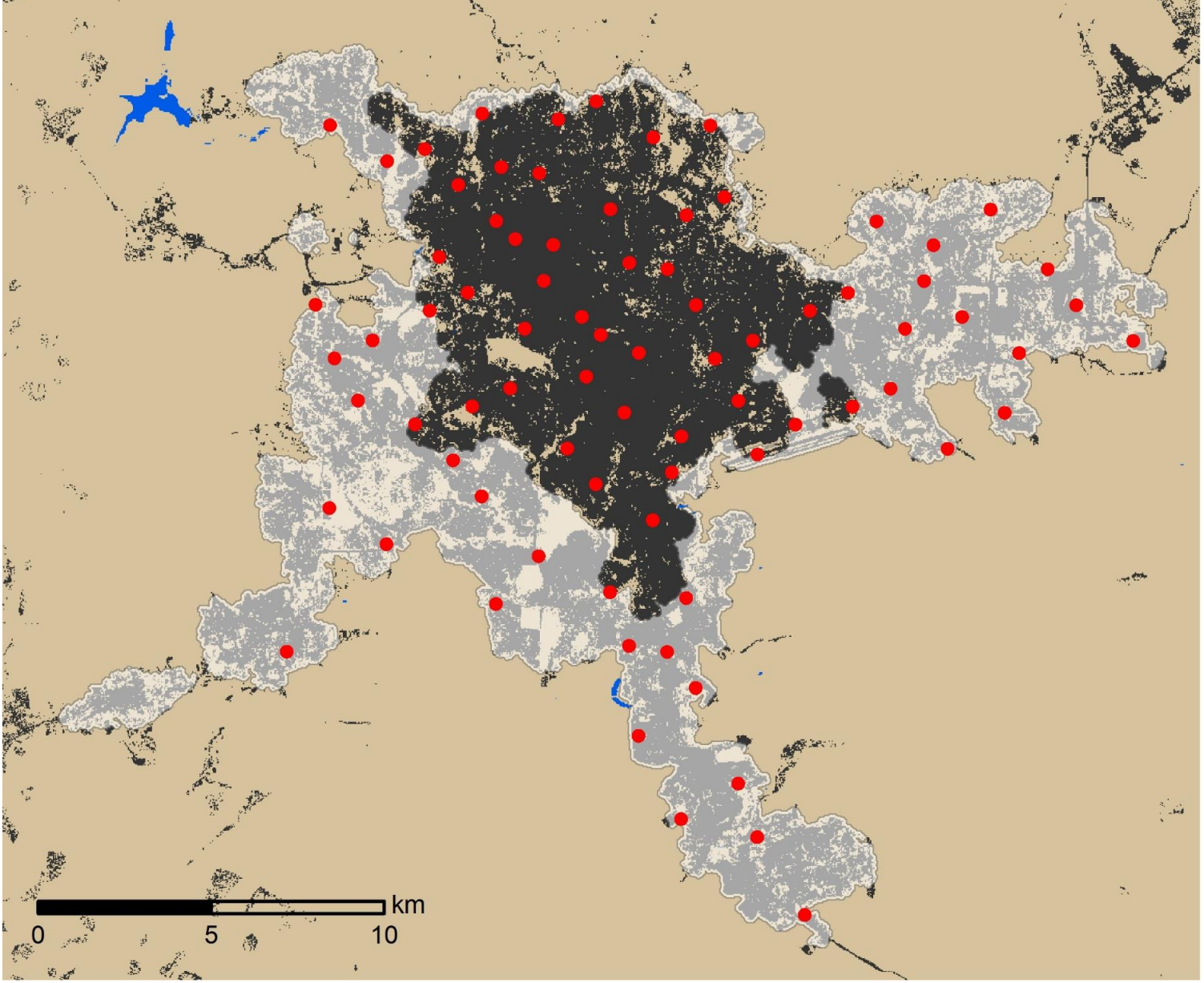


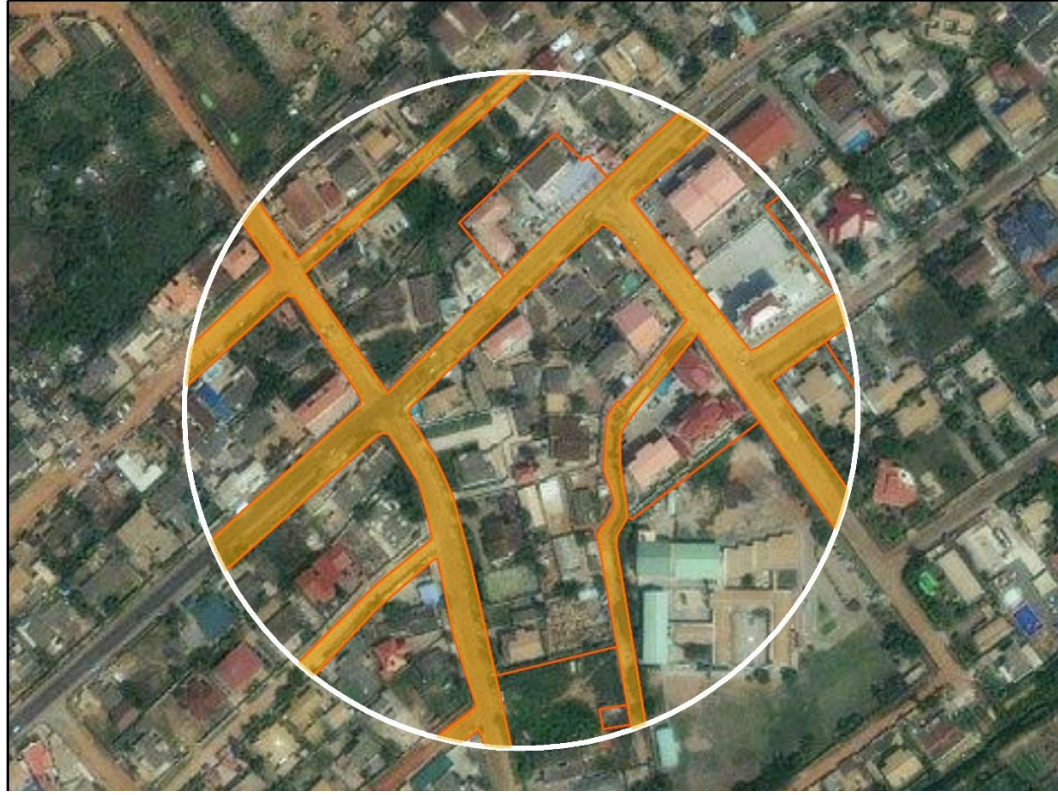
The message:

National governments can also use a sampling frame, allowing them to report on results in consistent and accurate but less resource intensive manner.



The Colombian national sample of 109 cities can be used to track SDG indicators and report results for different regions and city size categories.





Intra-urban sampling can be also used to measure SDG indicators at the city level, reducing data collection and monitoring costs.

Key Policy Messages

Message 1:	UN-Habitat can monitor global and regional progress on the SDGs with a global sample of cities that is representative of all cities.
Message 2:	UN-Habitat should provide countries with the methodology for mapping urban extent and for monitoring progress on the urban agenda with a country-based sample of cities.
Message 3:	Intra-urban sampling and national sampling can dramatically reduce data collection costs when compared to traditional techniques.

Thank You!

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