



GLOBAL HUMAN SETTLEMENT LAYER INDICATORS AND KEY FINDINGS



1975 -----1990-----2000-----2014

Atlas of the Human Planet 2016

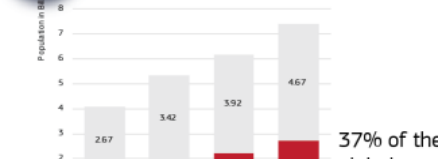


Mapping human presence on Earth

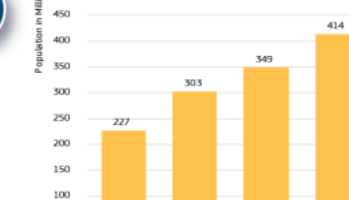
Atlas of the Human Planet 2017



EARTHQUAKE



VOLCANO



United Nations
Framework Convention on
Climate Change



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21 • CMP11



UNISDR
The United Nations Office for Disaster Risk Reduction



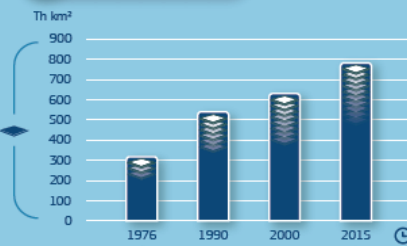
UN World Conference on
Disaster Risk Reduction
2015 Sendai Japan



UN-HABITAT
FOR A BETTER URBAN FUTURE

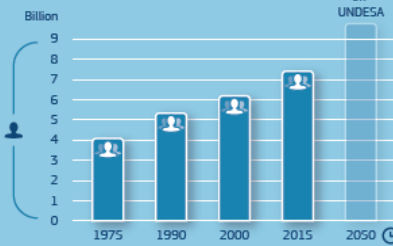


Built-up area

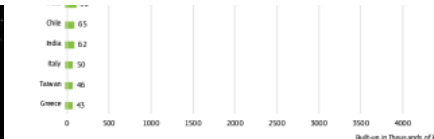


x 2.5
In the last 40 years built-up area
increased by approximately 2.5 times

Population



x 1.8
In the last 40 years population
increased by 1.8 times



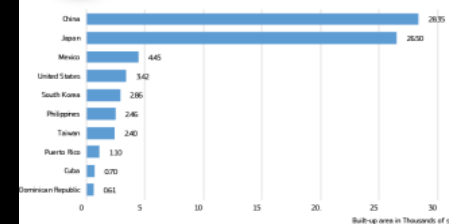
The built-up area potentially exposed to tsunami in Japan is **2 times** the sum of built-up in the other 9 most exposed countries.



Flood, the most frequent natural disaster, potentially affect people in Asia and Africa more than in other regions



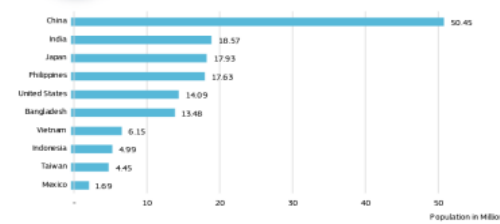
CYCLONE WIND



China and Japan are by far the countries with the most built-up area exposed to strong cyclone winds (178/208 km/h)



CYCLONE SEA LEVEL SURGE



Population exposed to cyclone sea level surge in China approximates the sum of the exposed population of India + Japan + the Philippines

What can it be used for?

To know where and how people live



To map the growth of settlements over time



To know the characteristics of settlements



To measure the size of settlements



How densely populated they are



How green they are



How exposed to disasters they are



Monitoring the implementation of international frameworks



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How densely populated they are



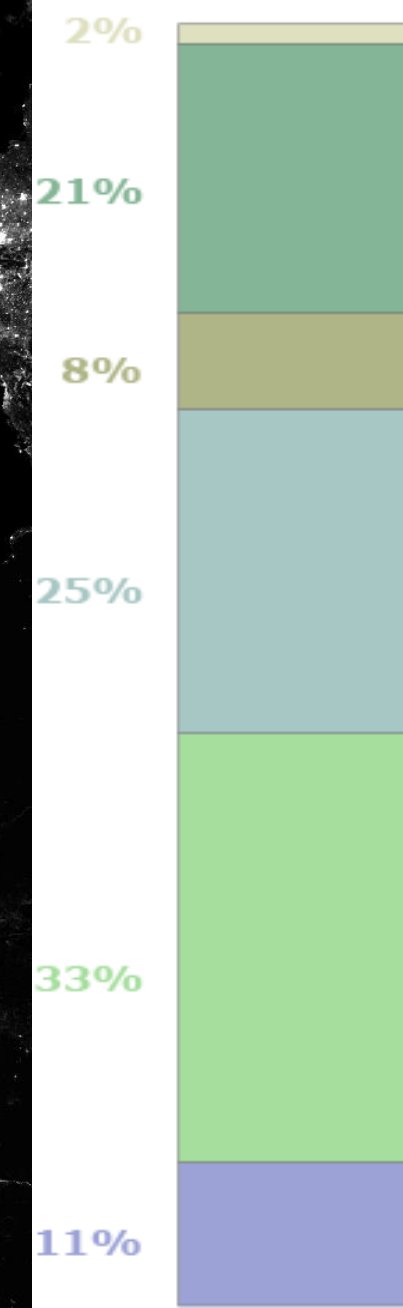
How green they are



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Global Built-up

Africa
Asia
Europe



Global Population

Latin America and the Caribbean
Northern America
Oceania

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Great inequalities between rich and poor in built-up space per capita



The High Income Countries (HIC) have increased the available built-up area per capita. The built-up area per capita in Low-Middle Income Countries (LMC) and Low Income Countries (LIC) is only less than one quarter of that of HIC

180,5
HIC

43,7
LIC

Square metres per inhabitant

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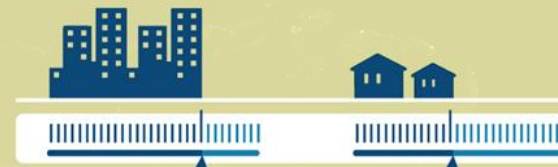
How green they are



How exposed to disasters they are



Monitoring the implementation of international frameworks



Today 7.3 billion people live and work in only 7.6% of the global land mass



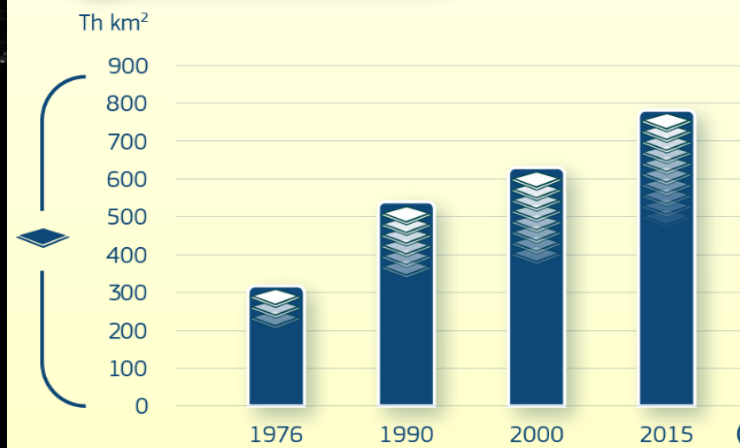
7.3 billion



7.6%



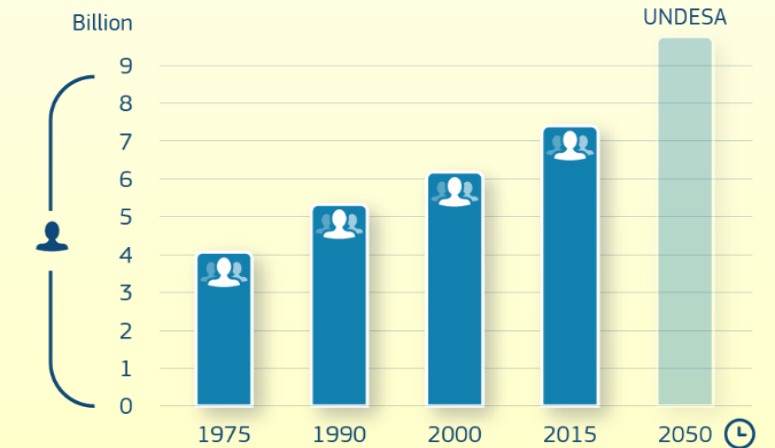
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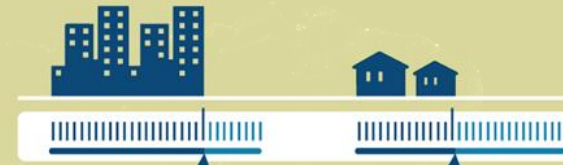


How exposed to disasters they are

To map the growth of settlements over time

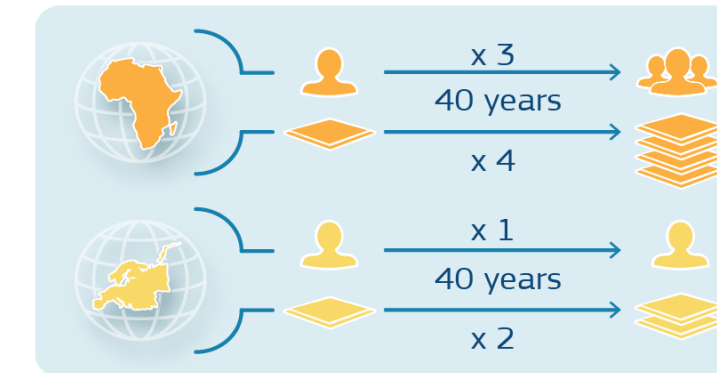


To measure the size of settlements



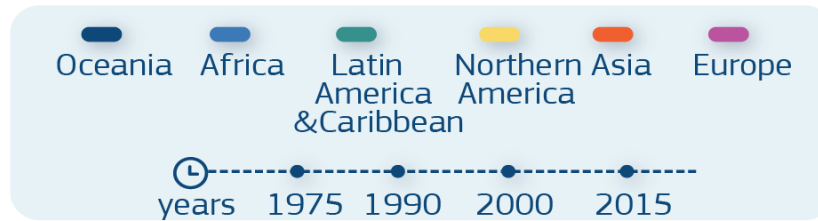
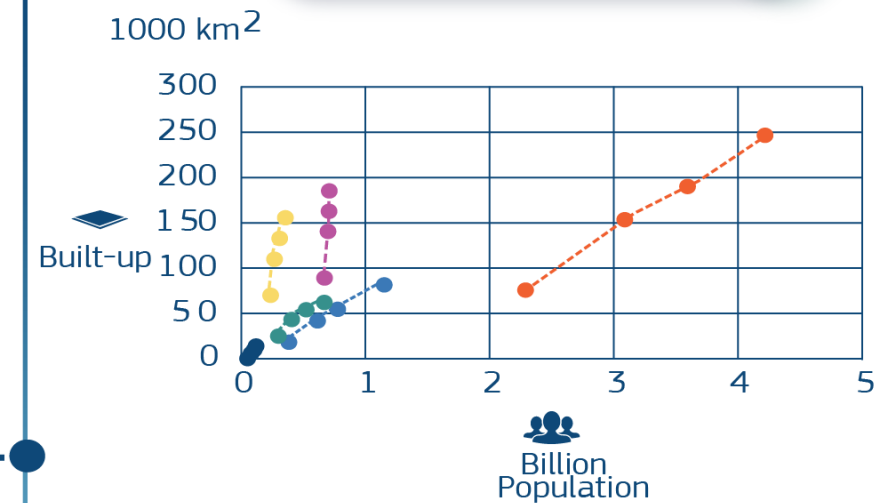
Monitoring the implementation of international frameworks

The dynamic of population and built-up increase have very strong regional differences

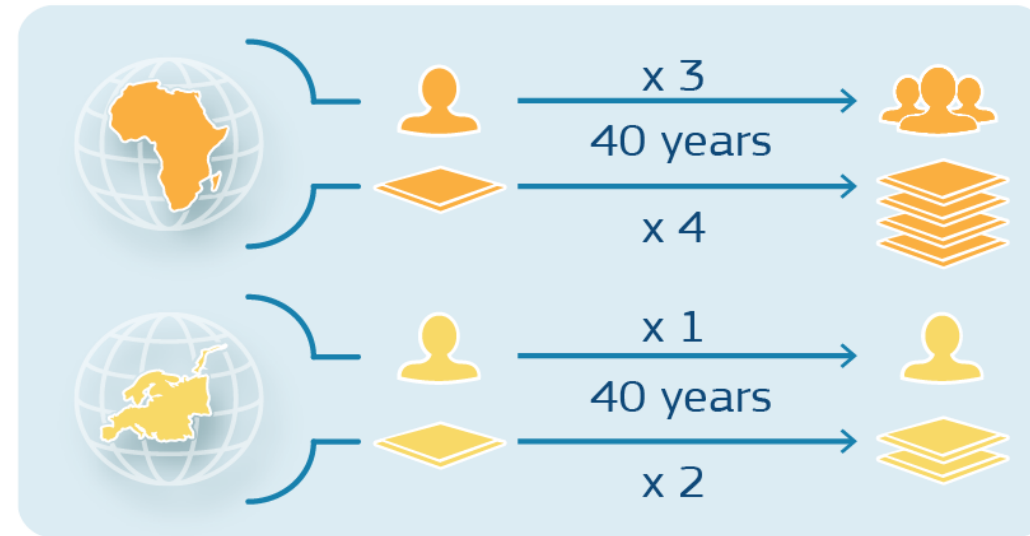


Asia is by far the most populated continent and has since the year 2000 also the biggest amount of built-up areas

Growth of population and built-up

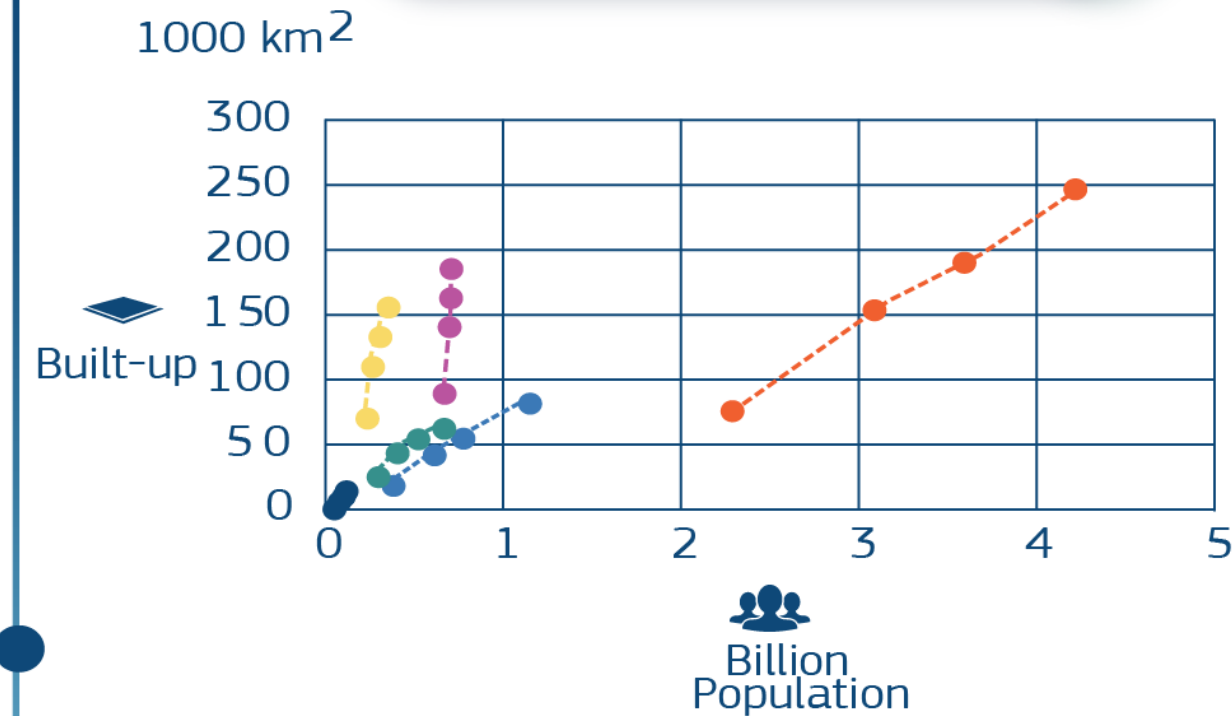


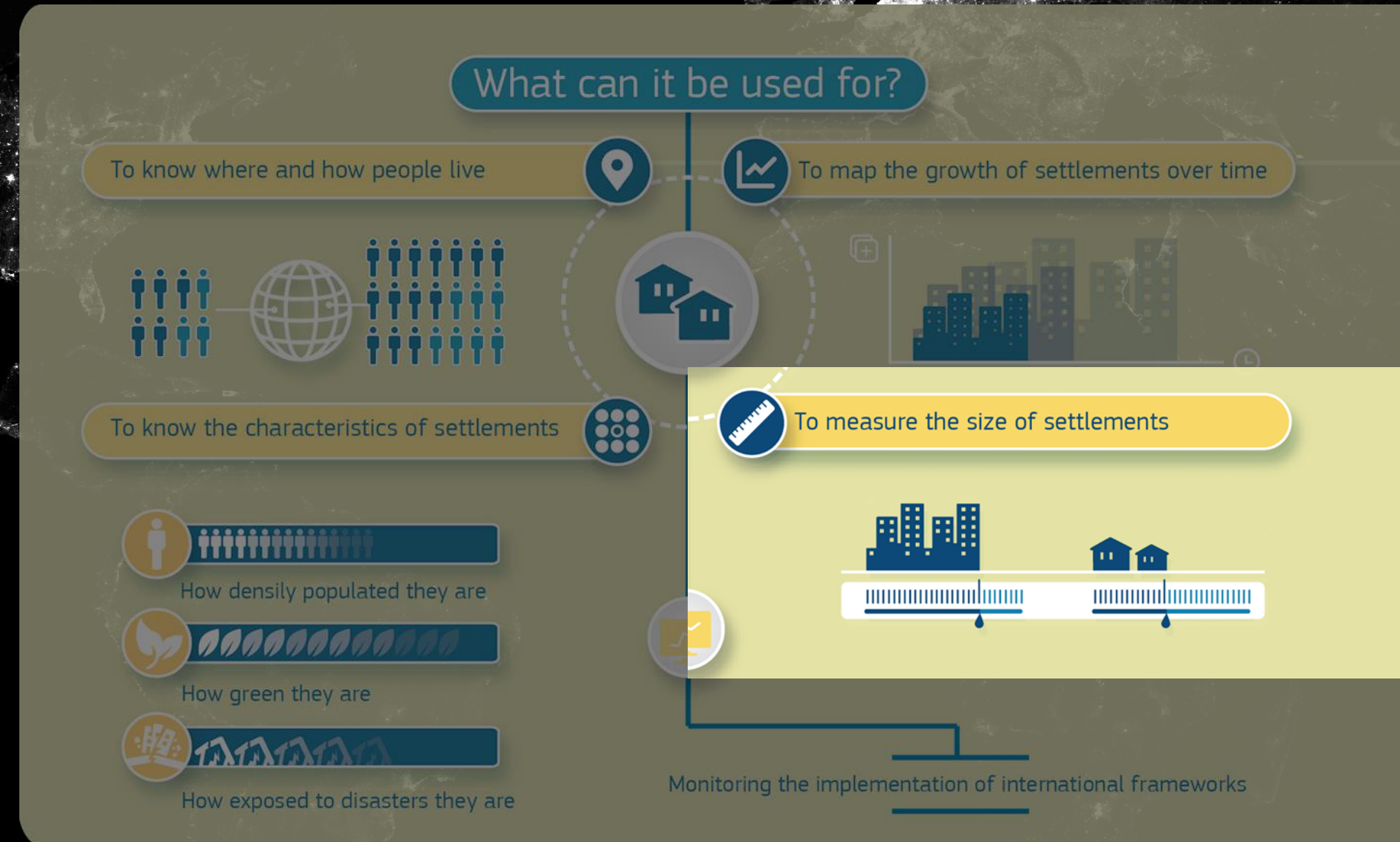
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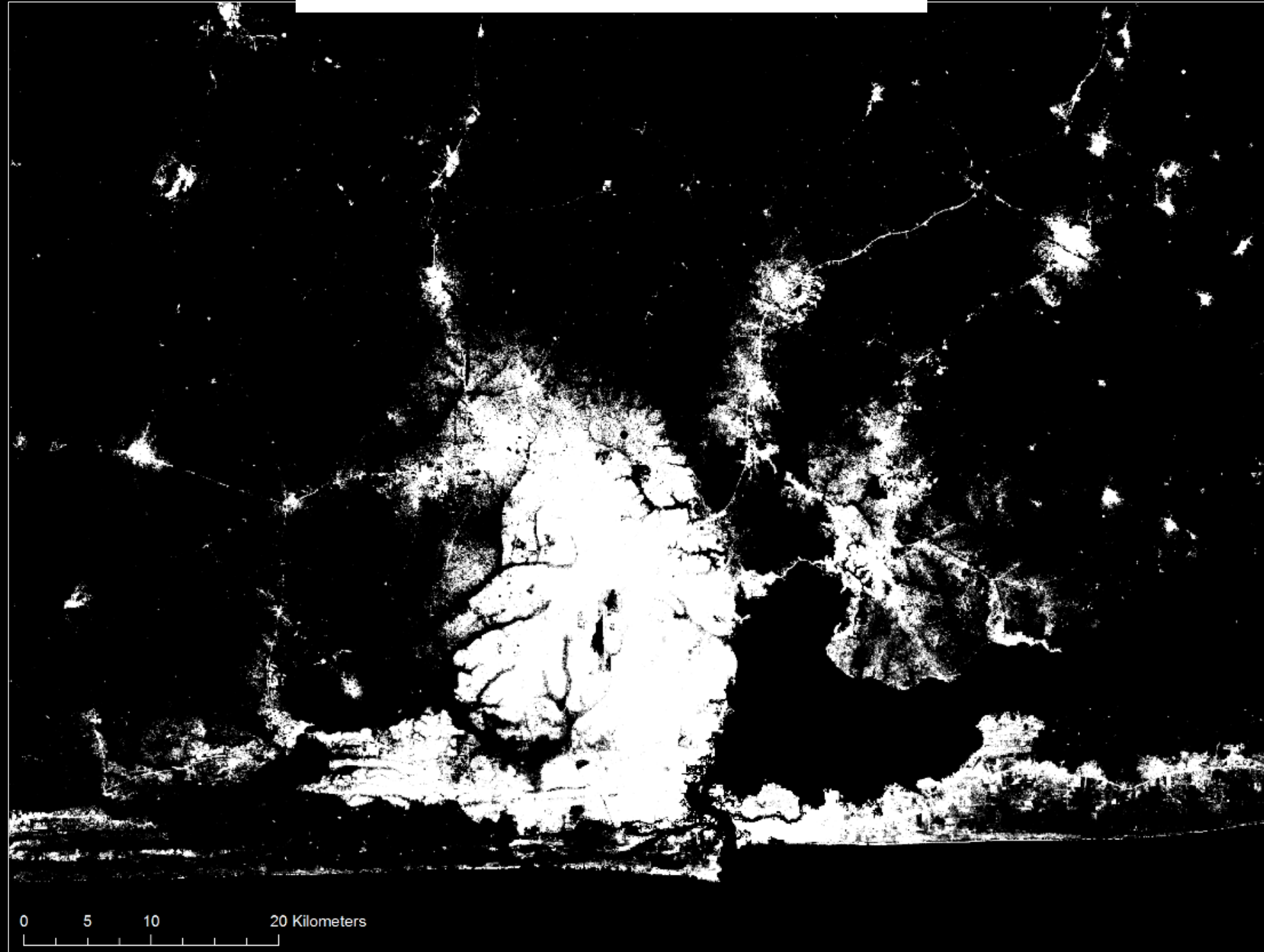
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Growth of population and built-up

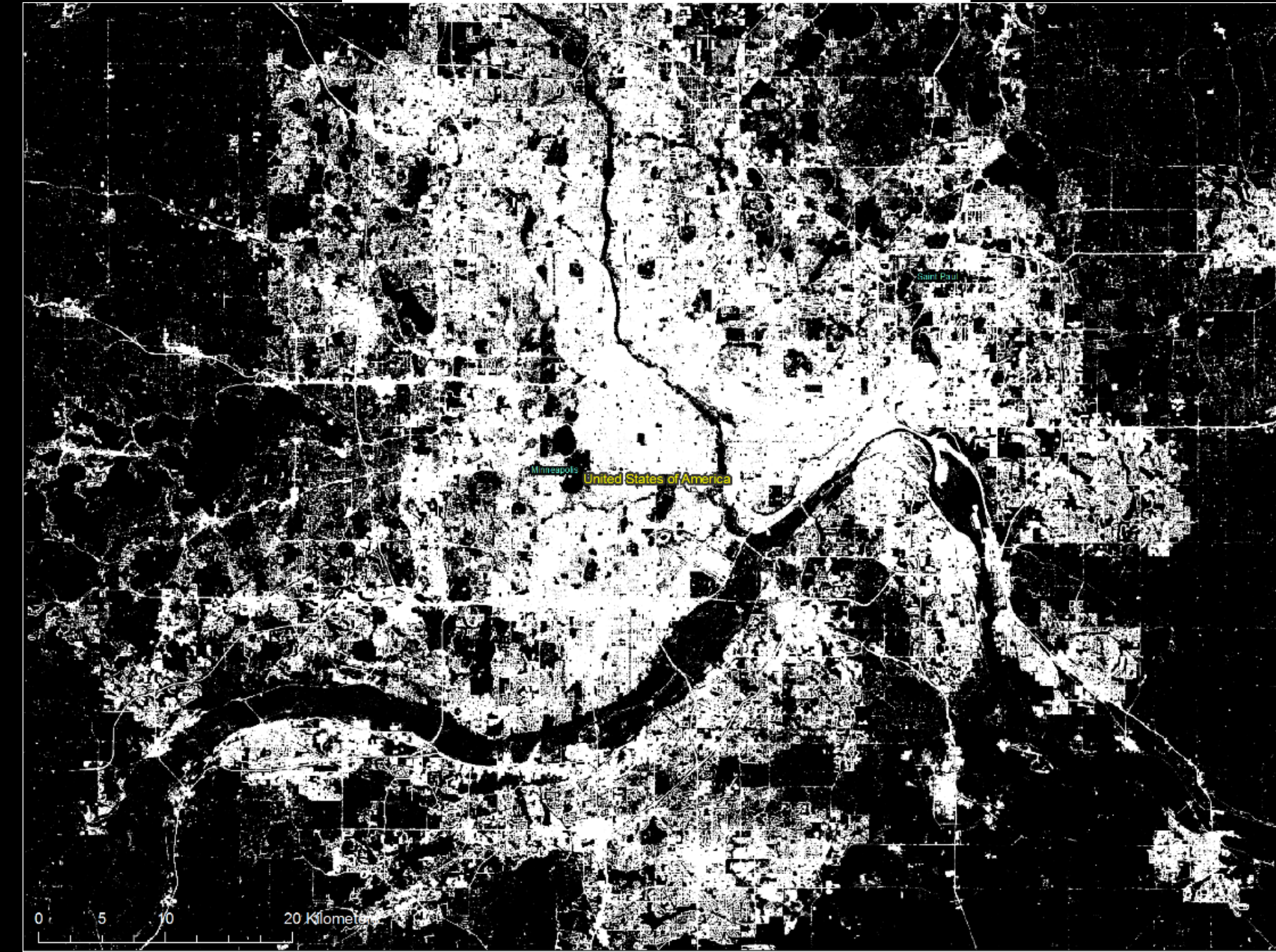


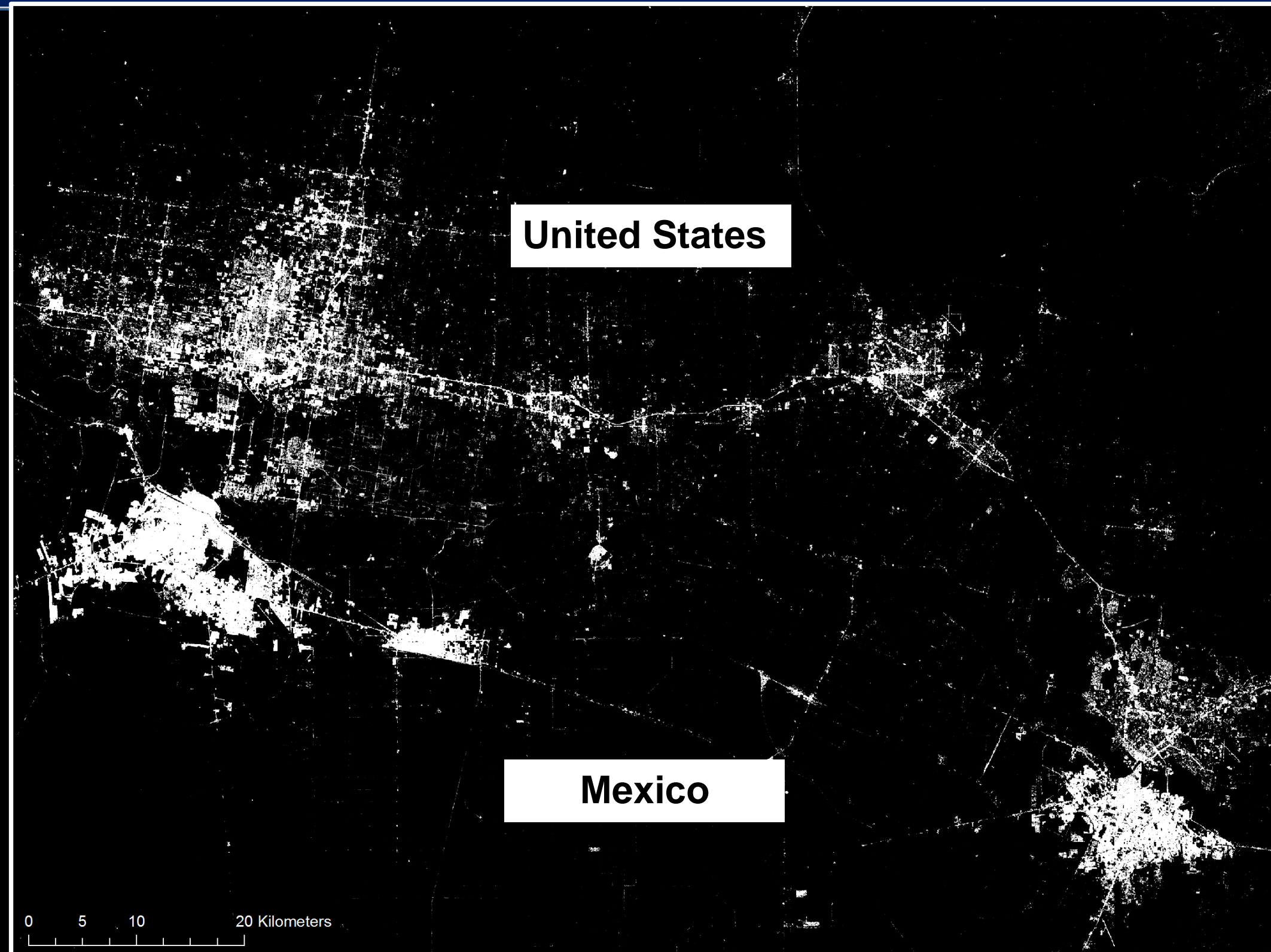


Lagos, Nigeria, 2015
~5 millions inhabitants

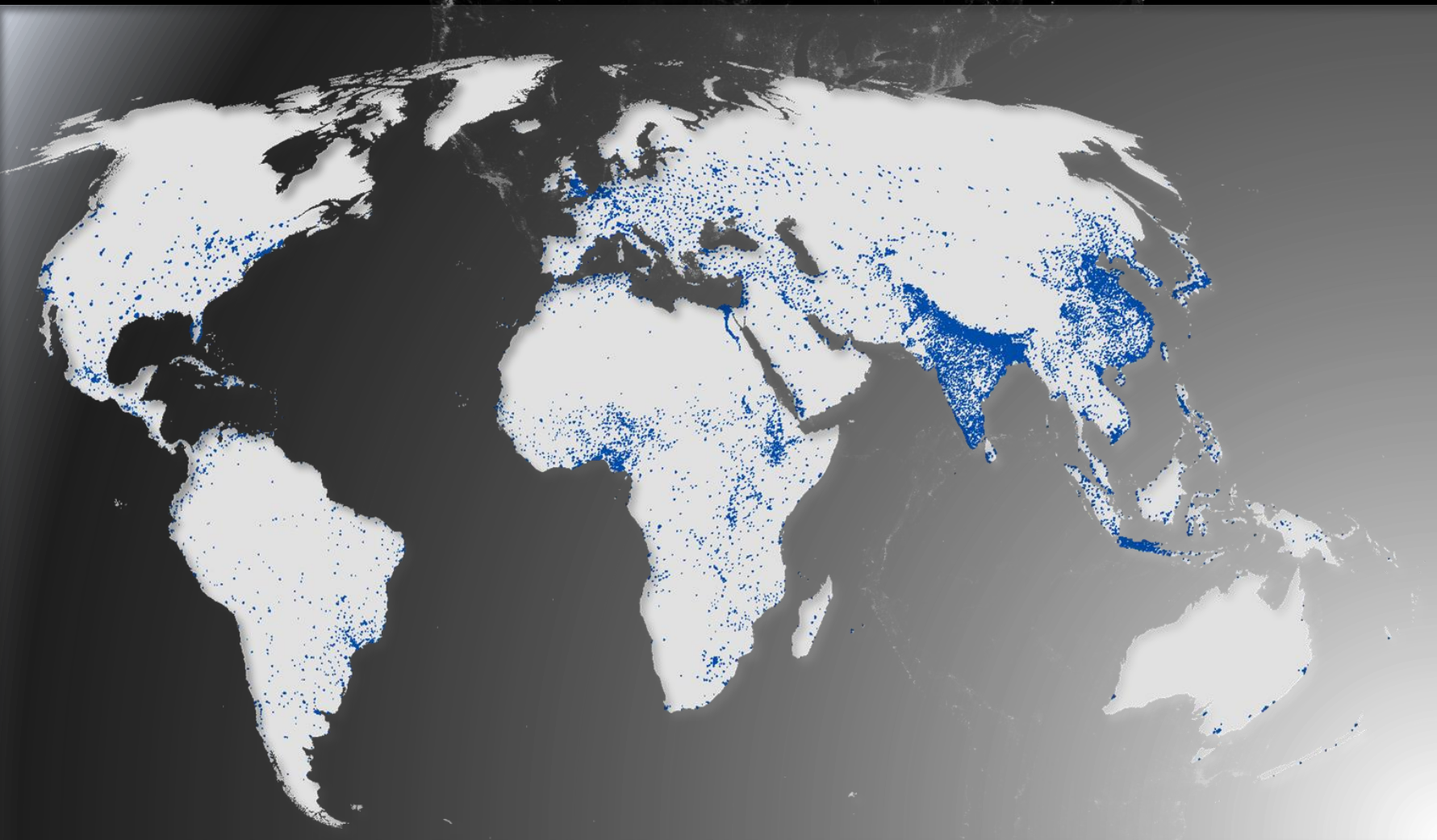


Minneapolis, US, 2015
~0.5 millions inhabitants





**The GHSL maps more than 13,000
urban centres in 2015**

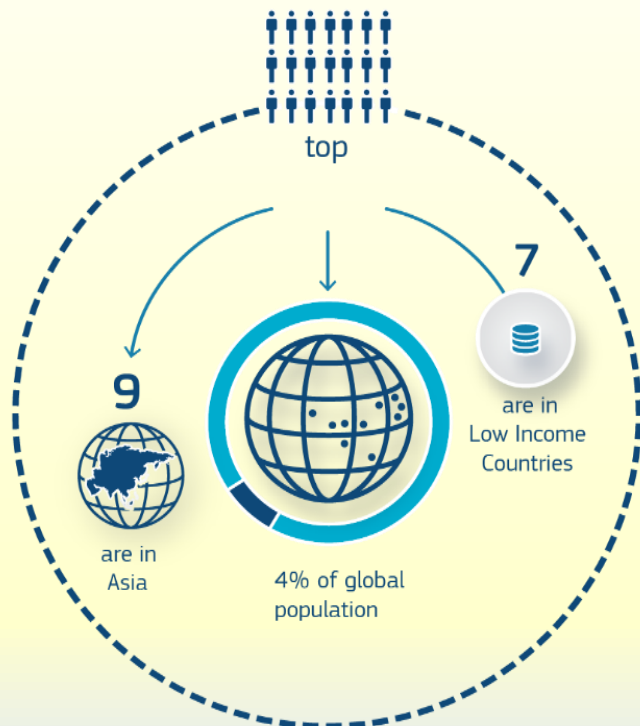


**32 urban centres with more than 10
million of inhabitants in 2015**

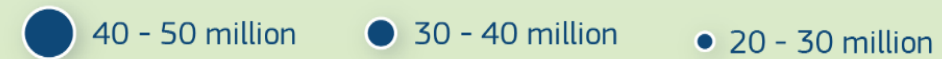


Urban Centres (High Density Clusters with more than 50k inhabitants)

The 10 most populated urban centres

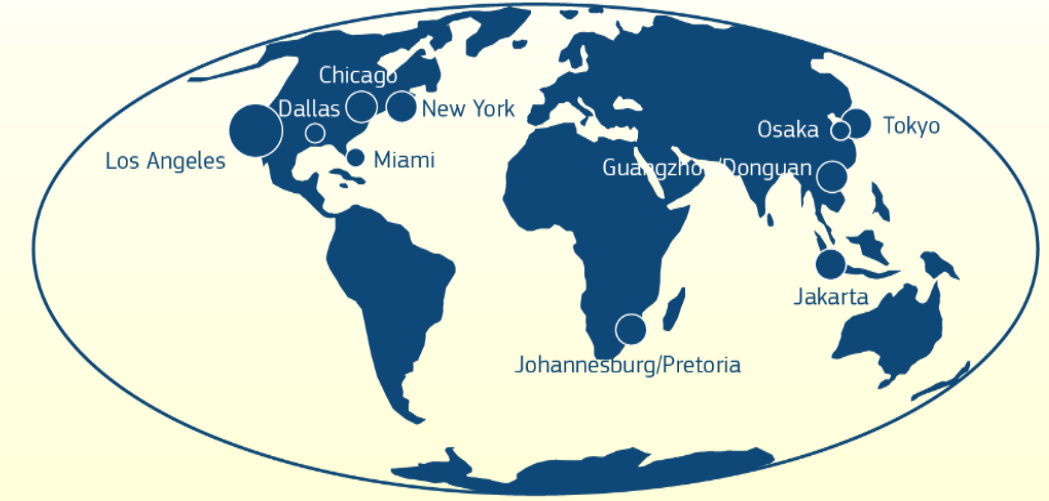
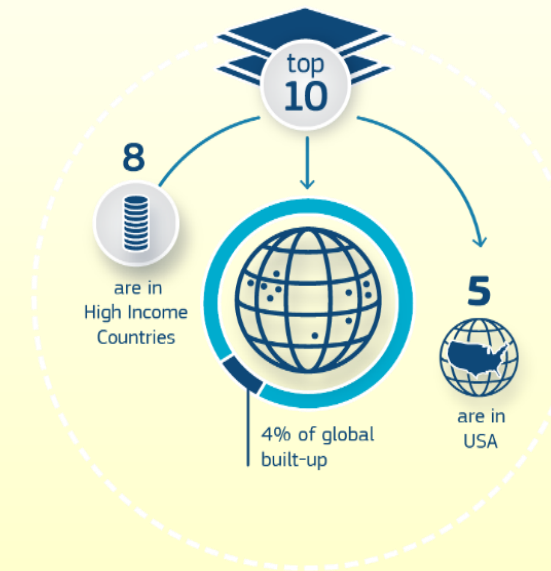


Population in million of inhabitants (2015)



Urban Centres (High Density Clusters with more than 50k inhabitants)

The 10 urban centres with the biggest built-up area



Built-up in sqKm (2015)



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To measure the size of settlements



How densely populated they are



How green they are



How exposed to disasters they are

How exposed to disasters they are

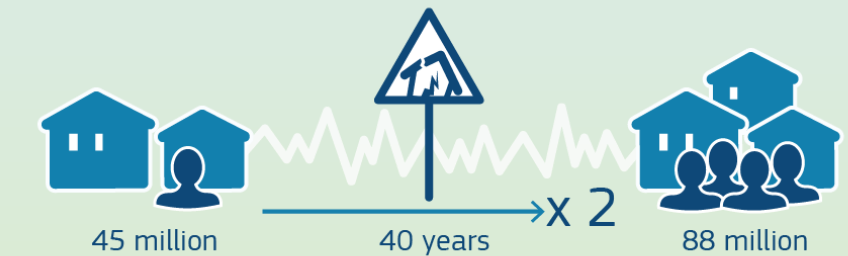


Monitoring the implementation of international frameworks

Globally, city centres are becoming greener



Global exposure to disaster has increased



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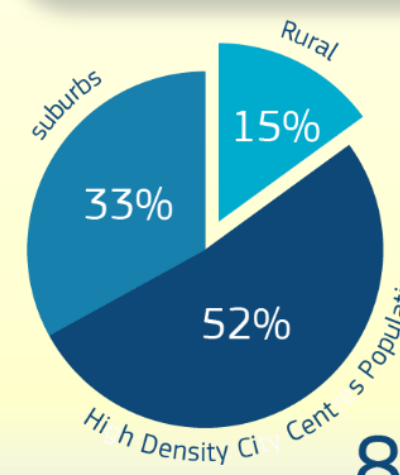


Monitoring the implementation of international frameworks

We are much more urbanised than what we think



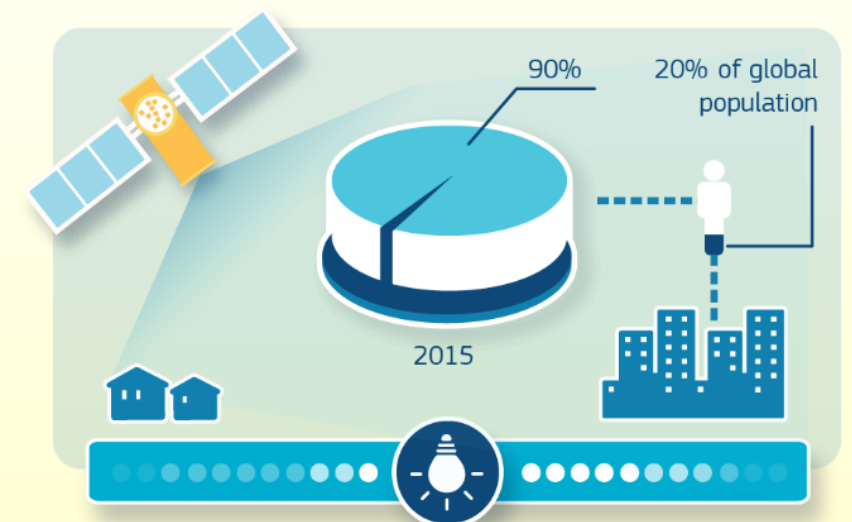
Urbanisation in 2015



3.8 billion people

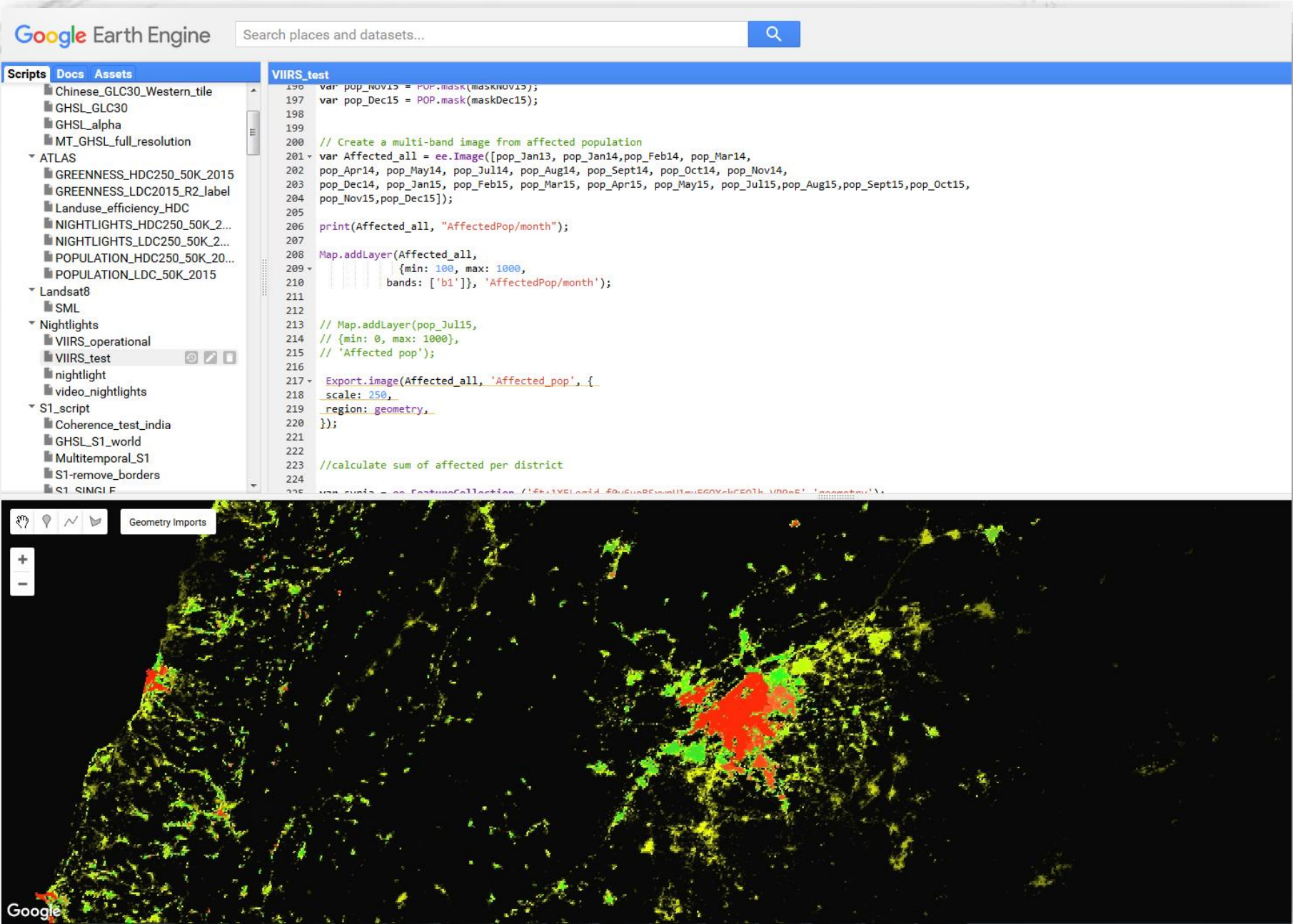
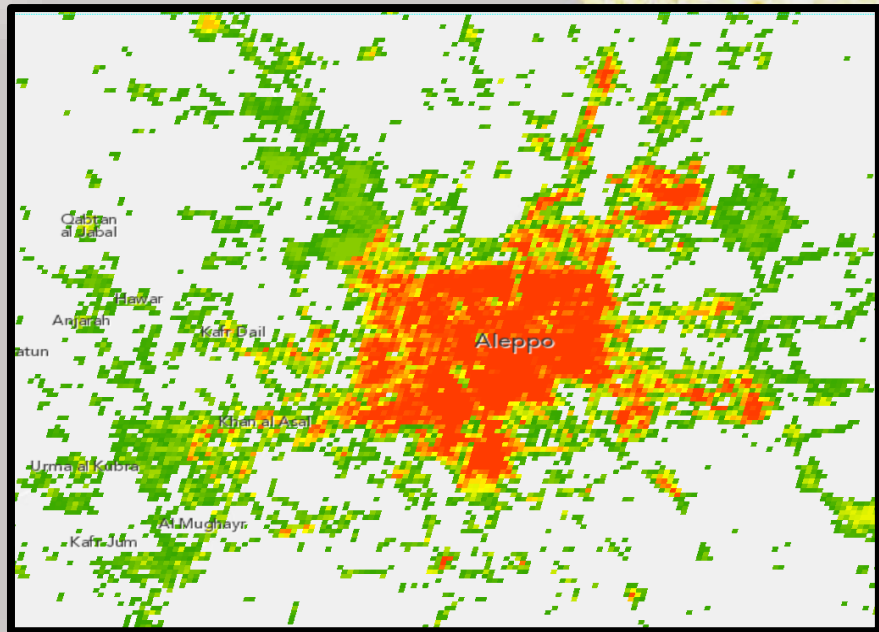
85% urban population

Access to energy is still very unequal



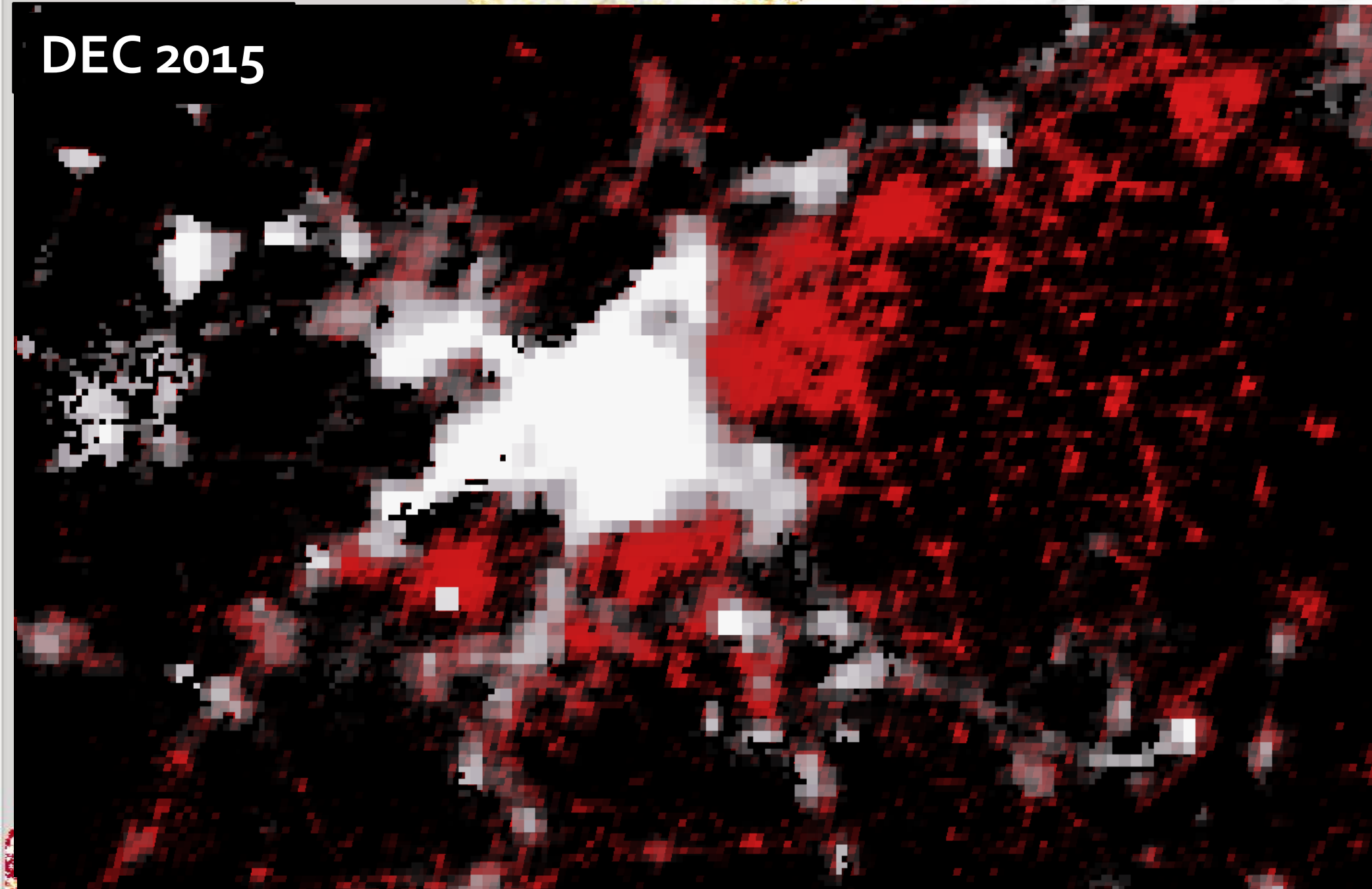
In 2015, 90% of the night light observed from space was emitted from urban areas that host only 20% of the global population

Monitoring the Syrian Humanitarian Crisis with the Global Human Settlement Layer (GHSL) & Night-Time Satellite Data



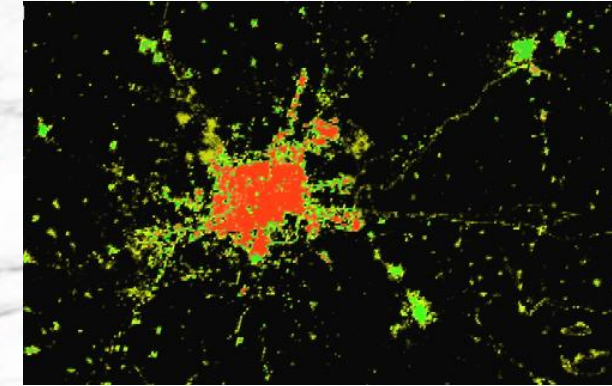
Visible Infrared Imaging Radiometer Suite sensor (VIIRS) monthly nightlight intensities

DEC 2015

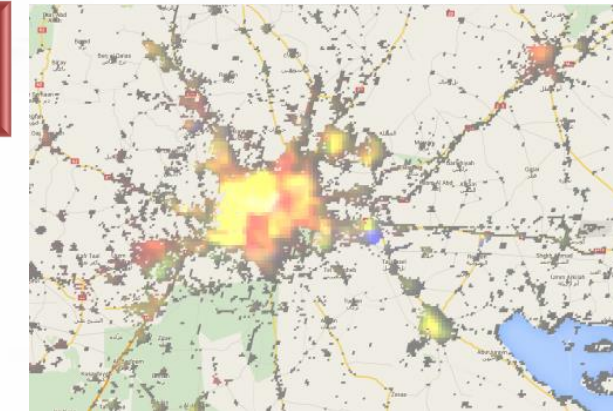


Integrating GHSL derived population data with night-light satellite imagery VIIRS

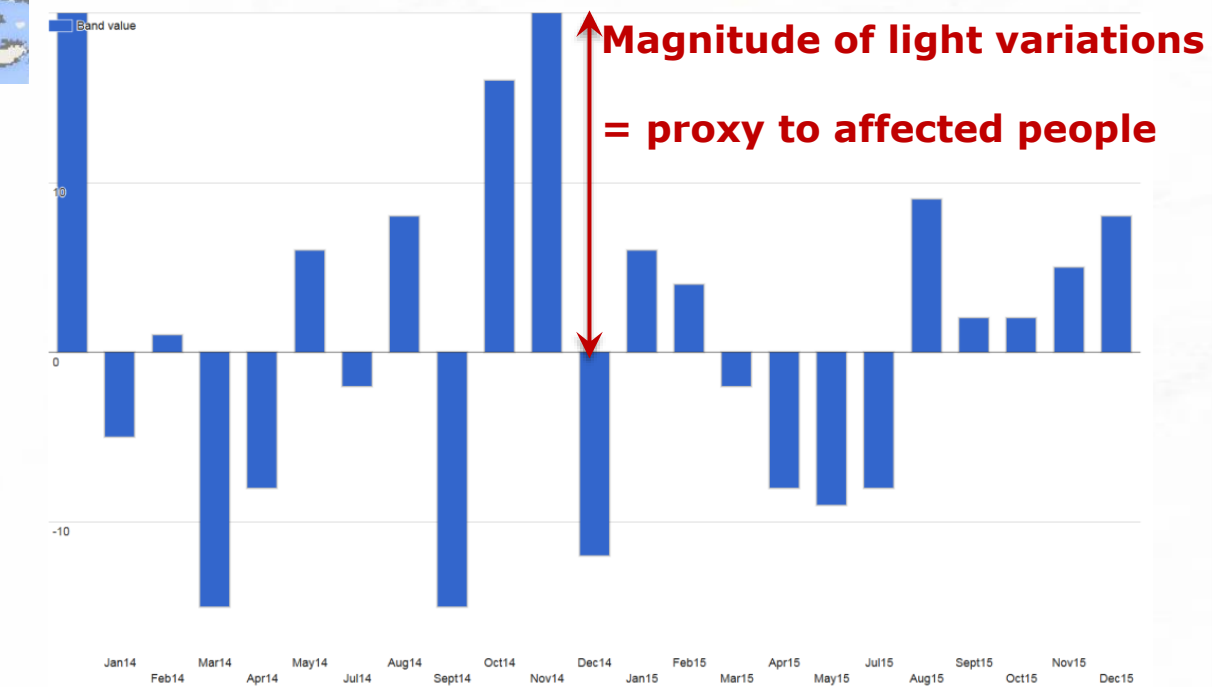
GHSL derived population data (250 m)



Monthly composites of night-time data
VIIRS (750 m)-



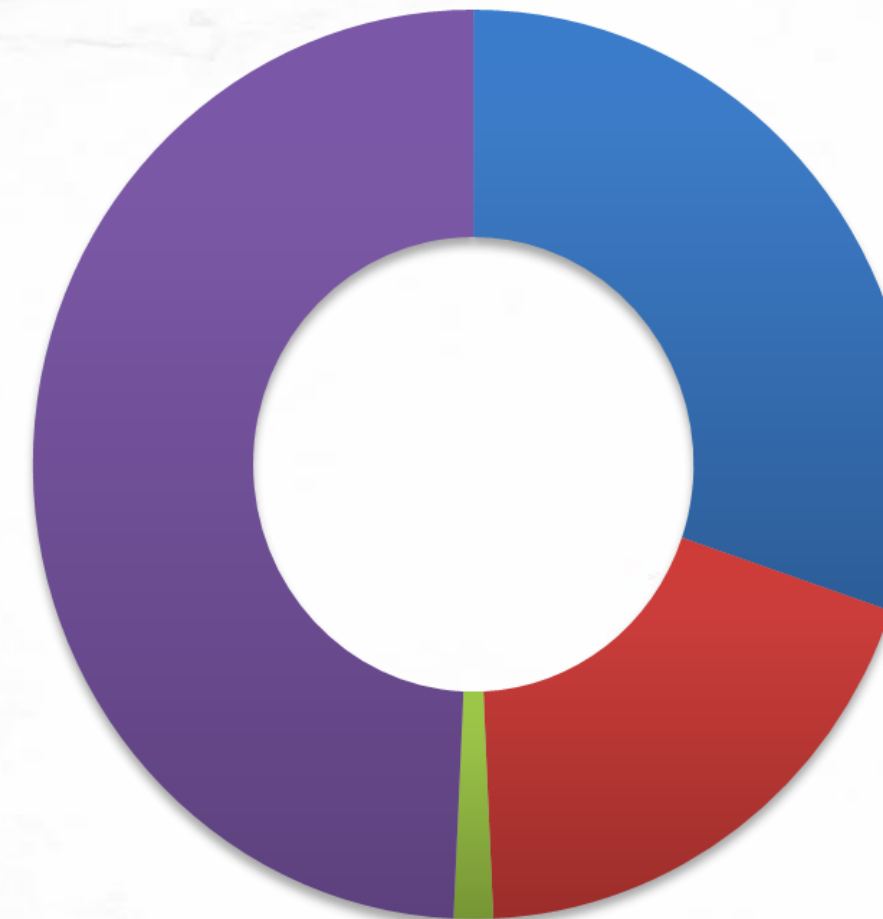
Differences in light intensities between
each two consecutive months



Estimated affected population in Syria (Source: the Syrian Observatory for Human Rights)

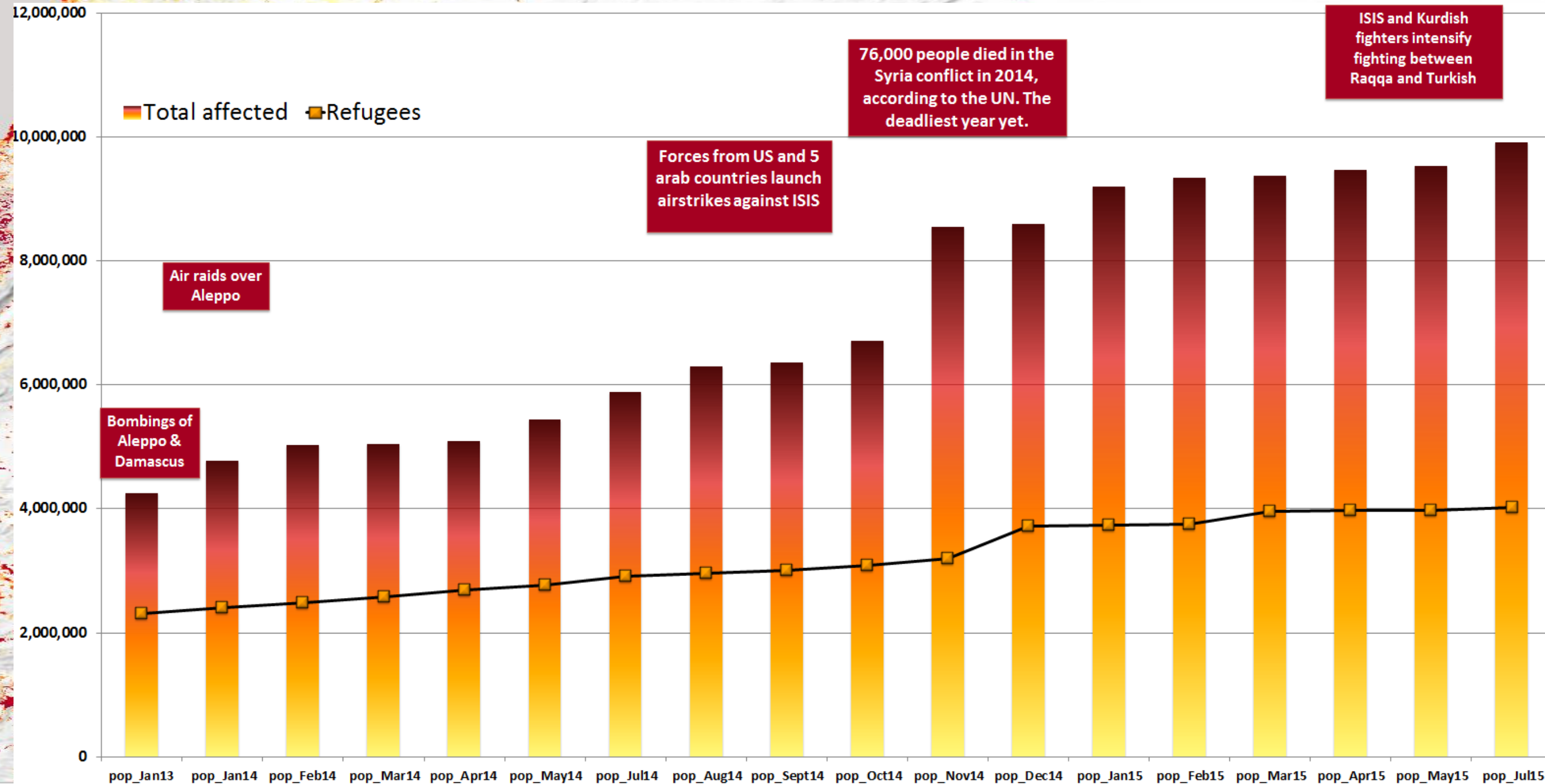
Half a population uprooted

One out of two Syrians has fled home since the war began-or been killed



- 6.5 million Displaced within Syria
- 4.1 million Refugees abroad
- 310.000 Killed
- 10.6 million Still in their homes

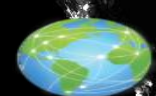
Affected population derived from geospatial analysis and number of registered refugees (source: UN OCHA)



Thanks for your attention!

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For further information and to
explore the GHSL:

<http://ghsl.jrc.ec.europa.eu>