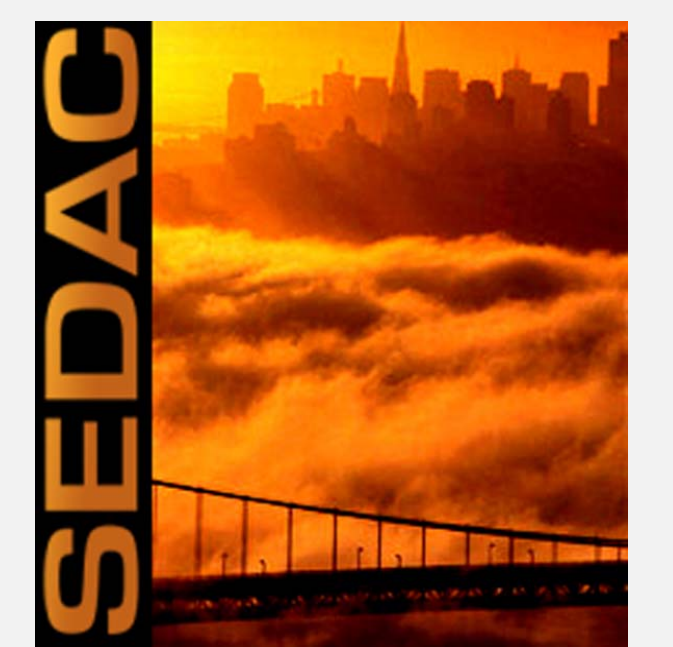


# Visualization of Geospatial and Indicator Data Produced by CIESIN and the NASA SEDAC

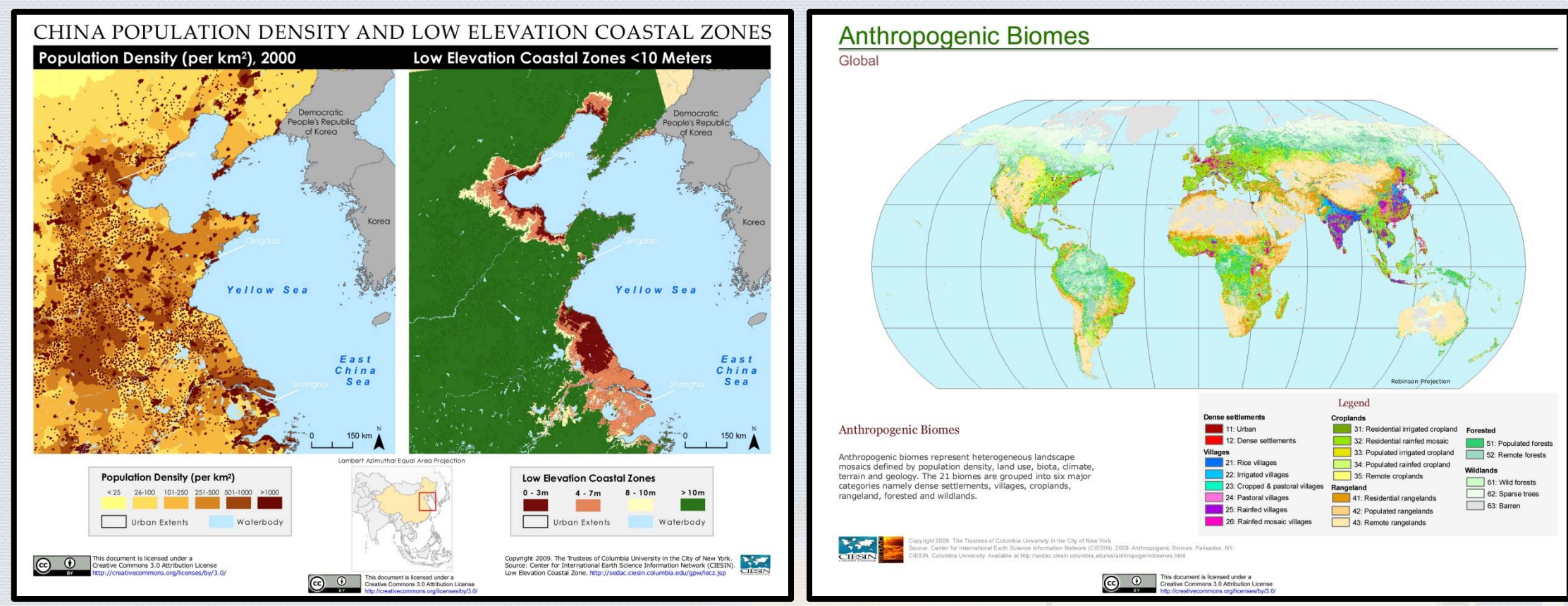
Alex de Sherbinin

NASA Socioeconomic Data and Applications Center (SEDAC)  
CIESIN, The Earth Institute at Columbia University



## SEDAC Map Gallery

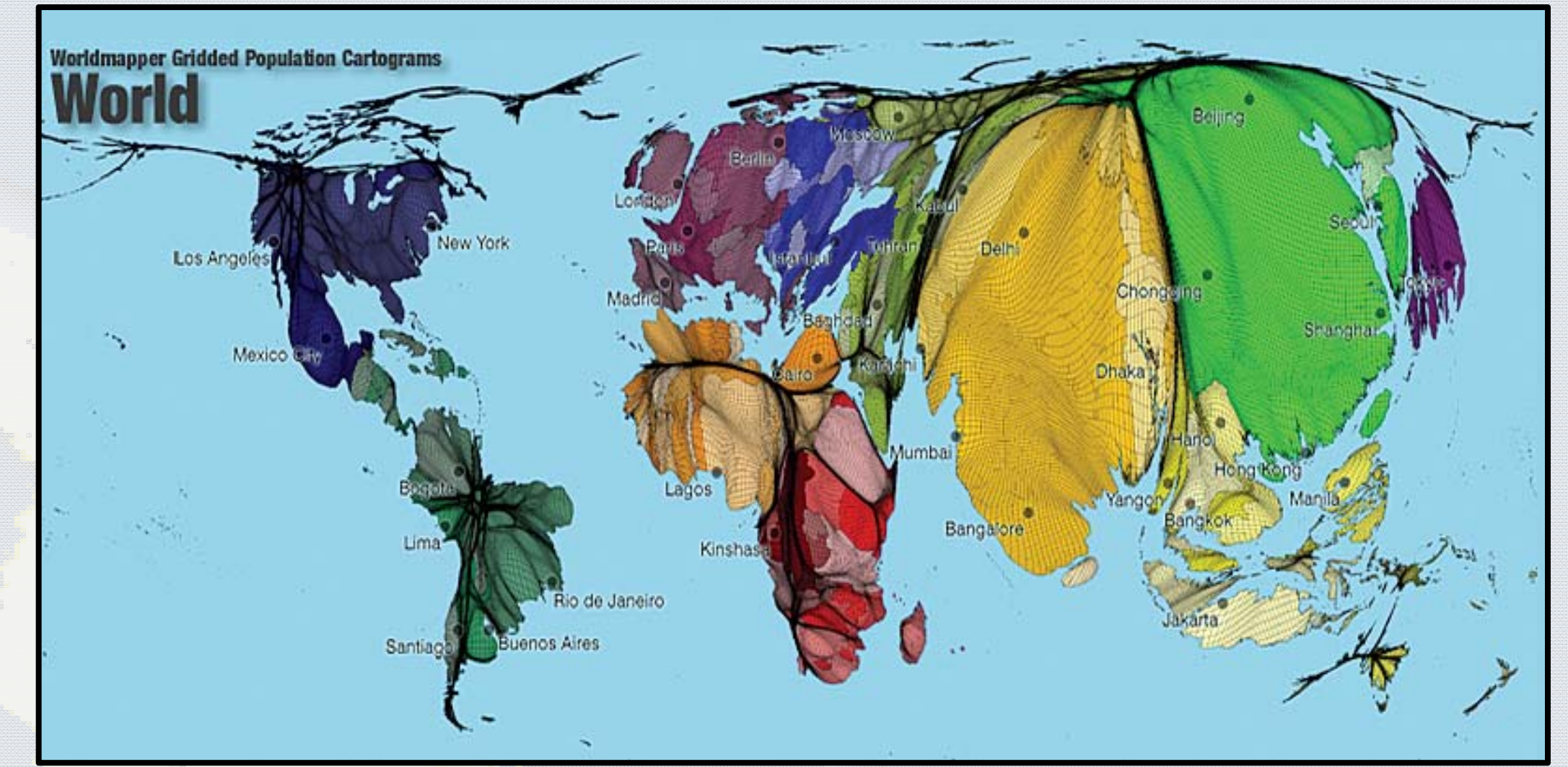
SEDAC has a map gallery with thousands of maps. Here two samples. All SEDAC maps have Creative Commons licenses.



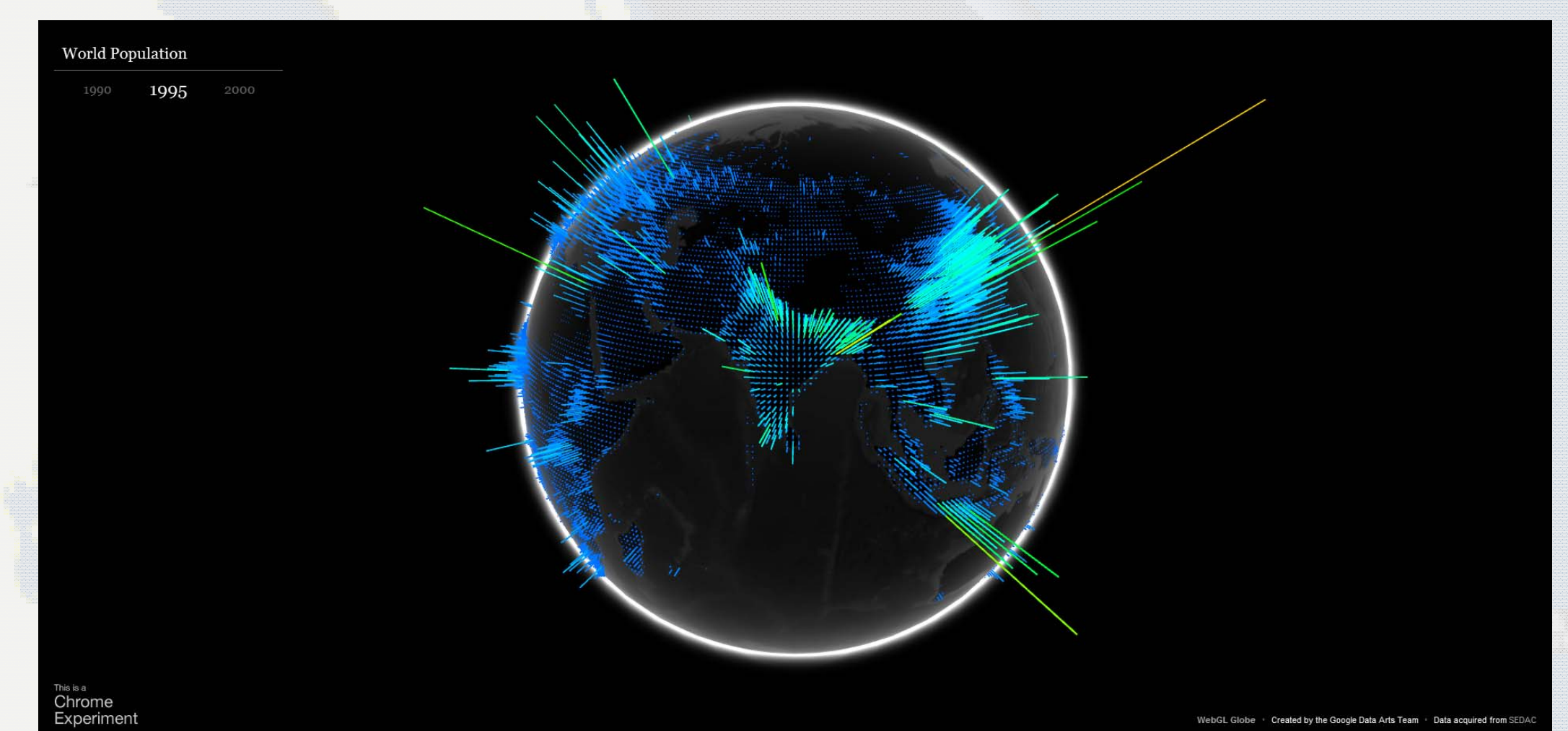
## Abstract

The Center for International Earth Science Information Network (CIESIN) and the NASA Socioeconomic Data and Applications Center (SEDAC), which CIESIN manages, produce a wide array of geospatial and indicator data for studies at the interface of human and ecological systems. This poster looks at different approaches to data visualization using CIESIN/SEDAC and third-party data..

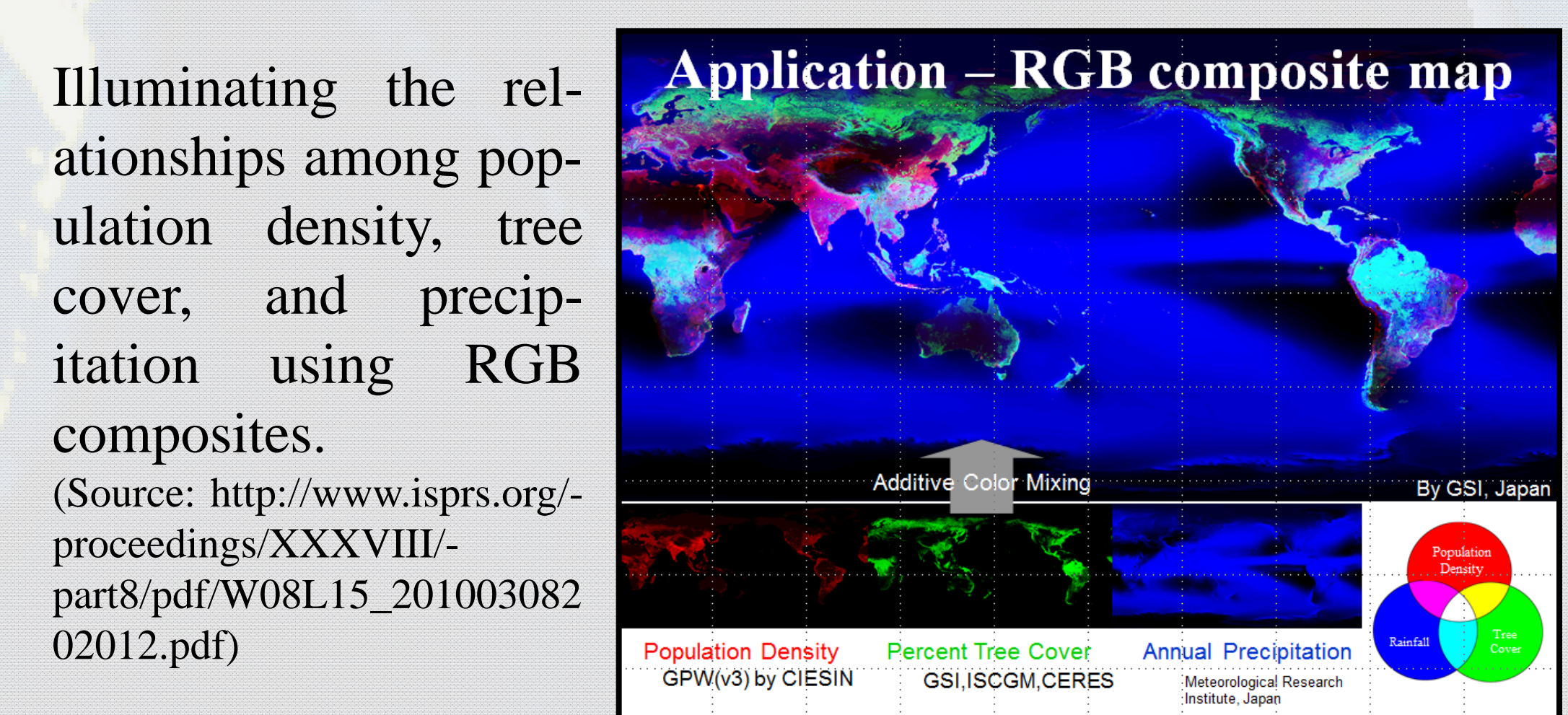
## Population Visualization



Cartogram based on CIESIN's Gridded Population of the World (GPWv3) (Source: <http://www.esri.com/news/arcuser/0110/cartograms.html>)



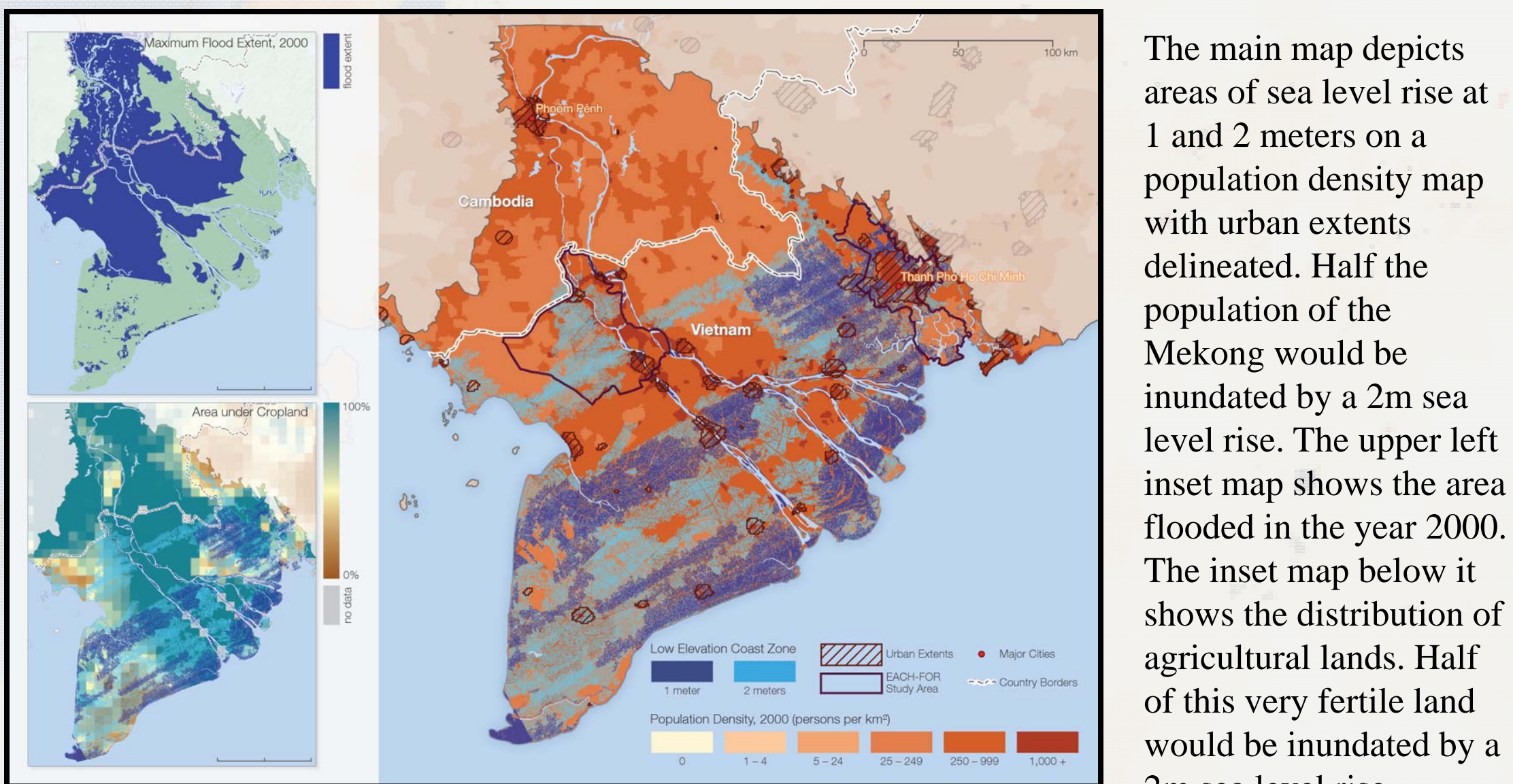
Google Chrome Experiment based on CIESIN's GPWv3 (Source: <http://data-arts.appspot.com/globe>)



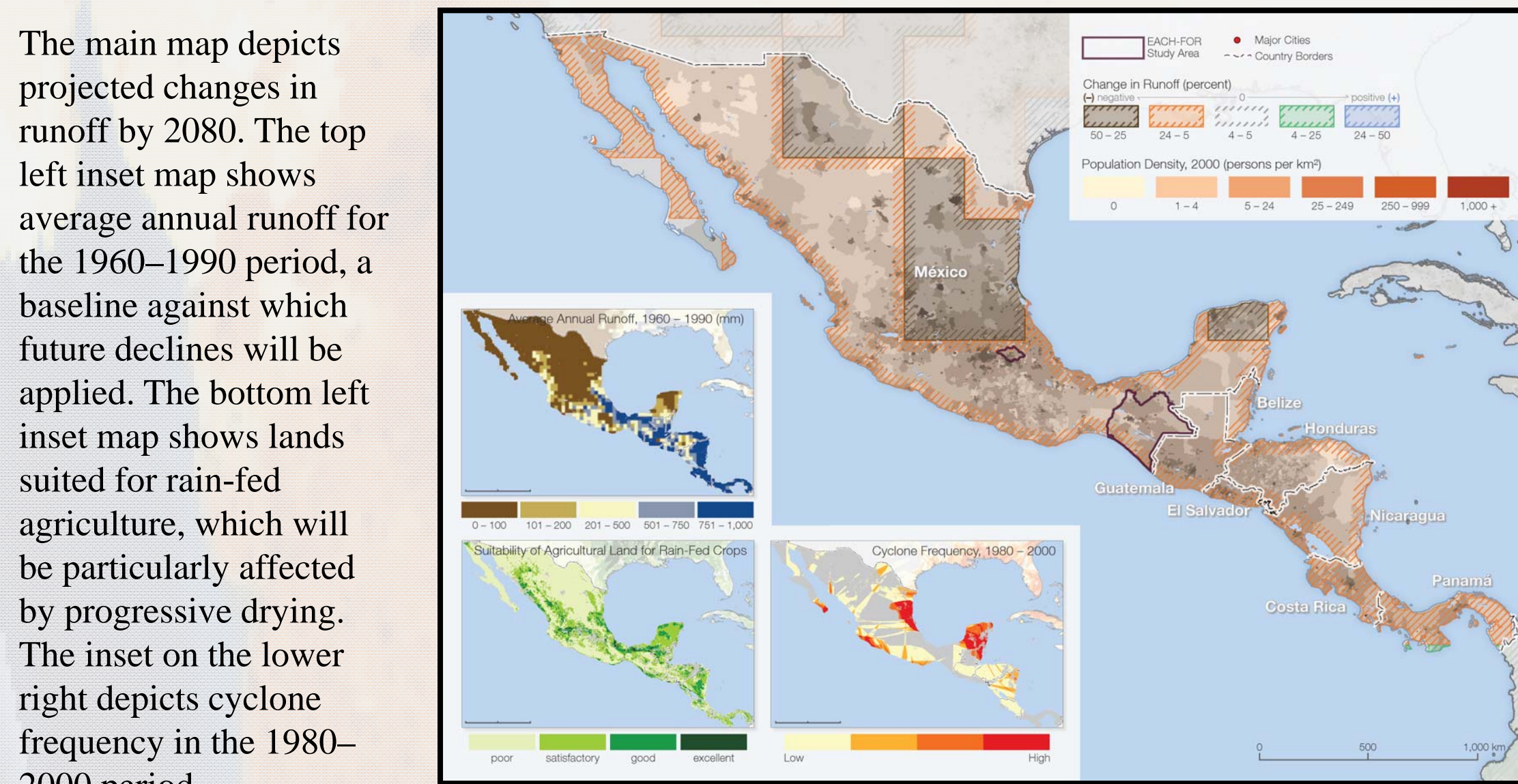
Illuminating the relationships among population density, tree cover, and precipitation using RGB composites. (Source: [http://www.isprs.org/proceedings/XXXVIII/part8/pdf/W08L15\\_2010030820212.pdf](http://www.isprs.org/proceedings/XXXVIII/part8/pdf/W08L15_2010030820212.pdf))

## Data Integration

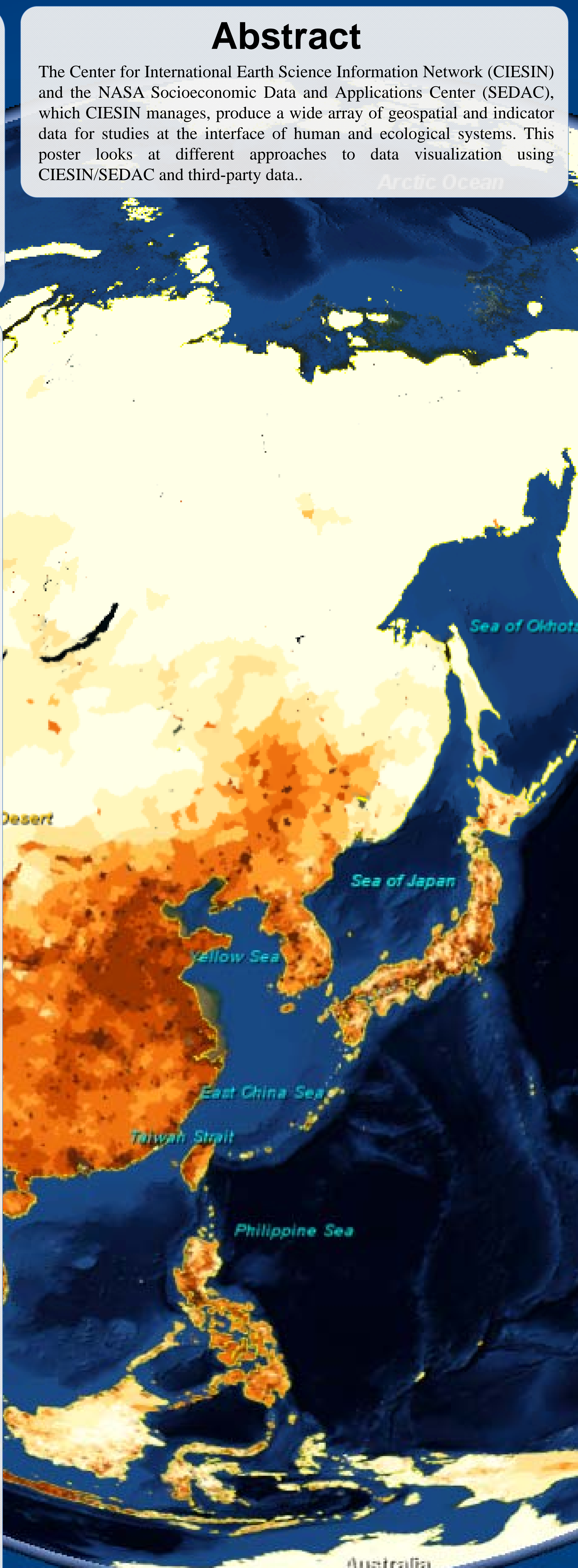
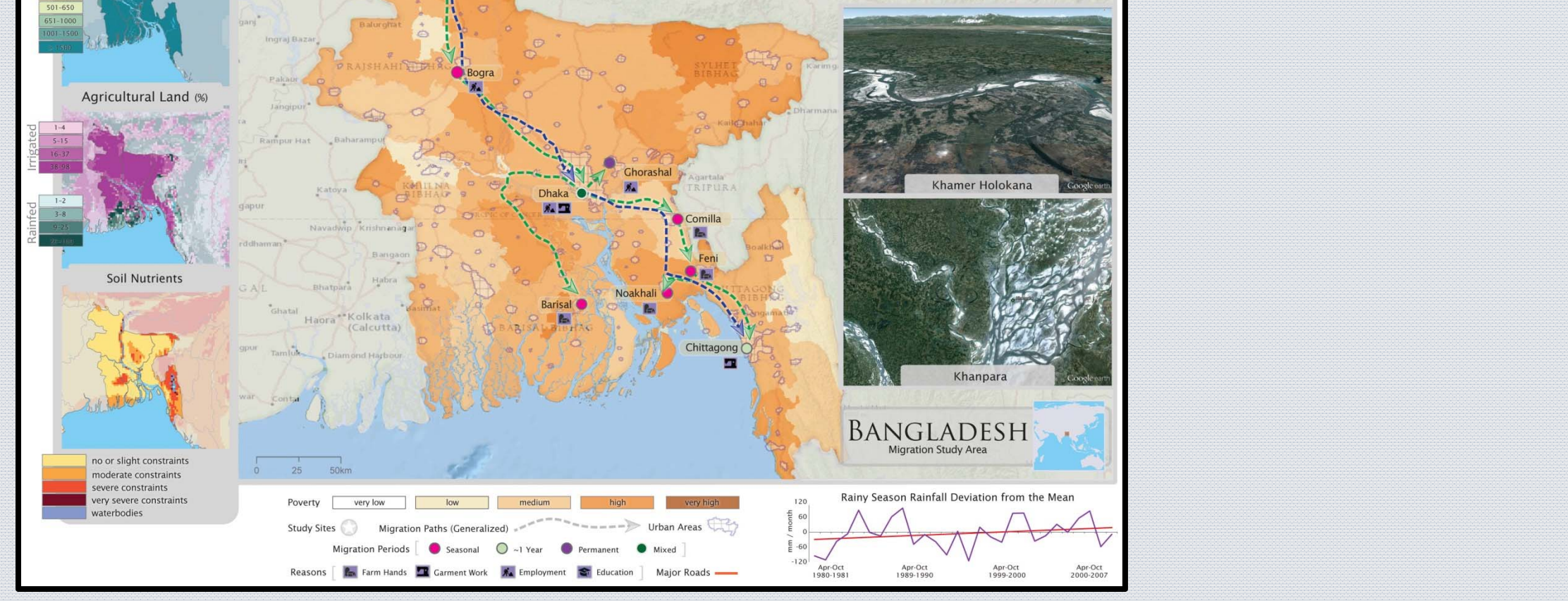
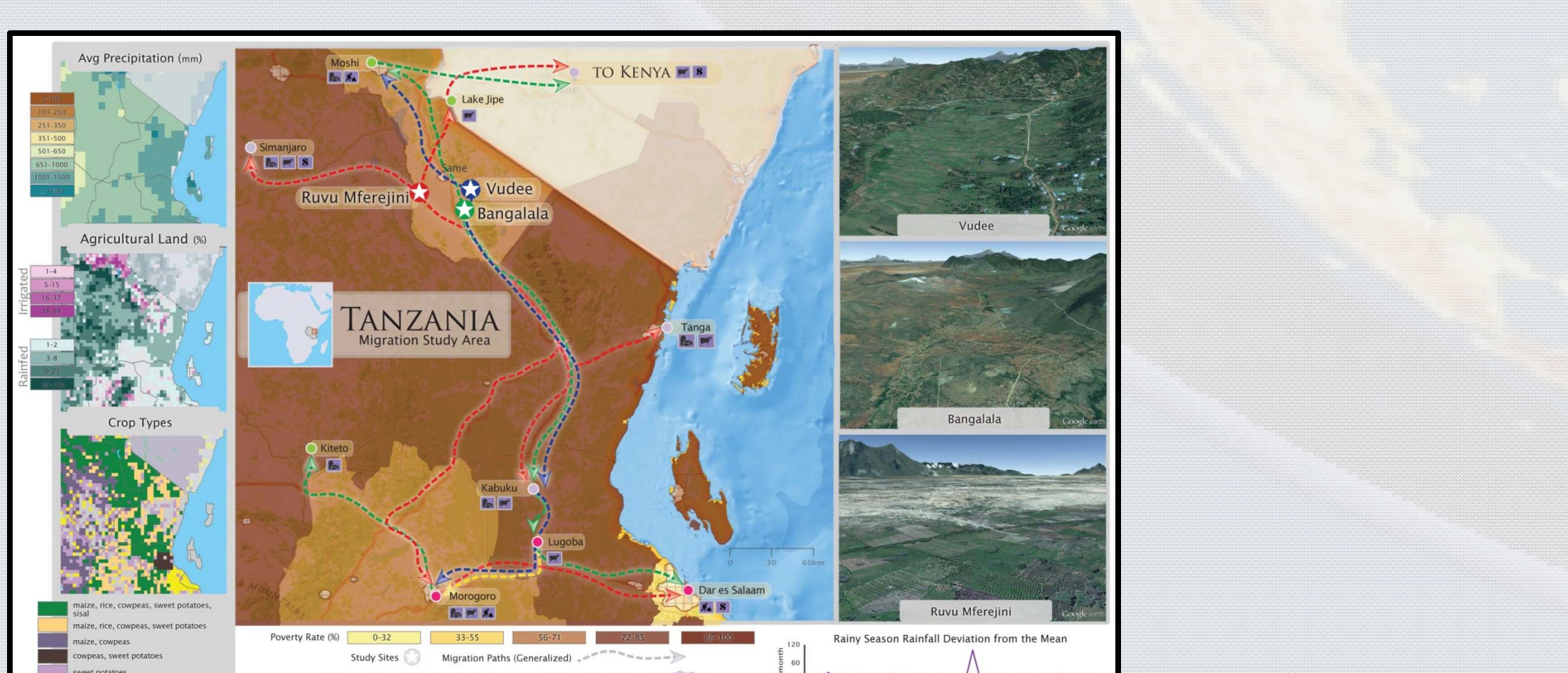
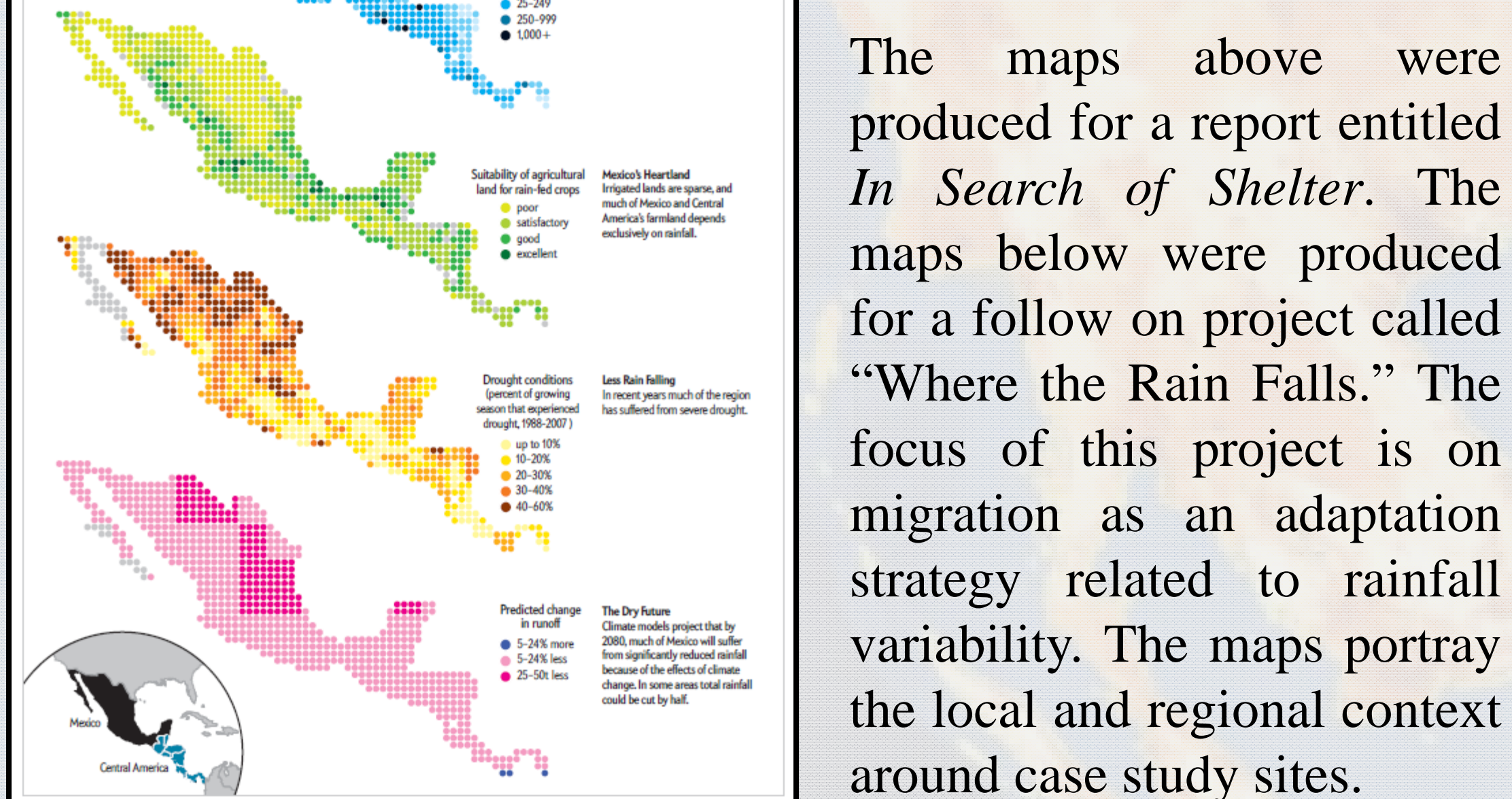
CIESIN has partnered with CARE and the United Nations University to produce maps that complement findings from ground-based research on climate change and migration. The integration of data from multiple sources help tell the story in a way that narrative alone could not accomplish.



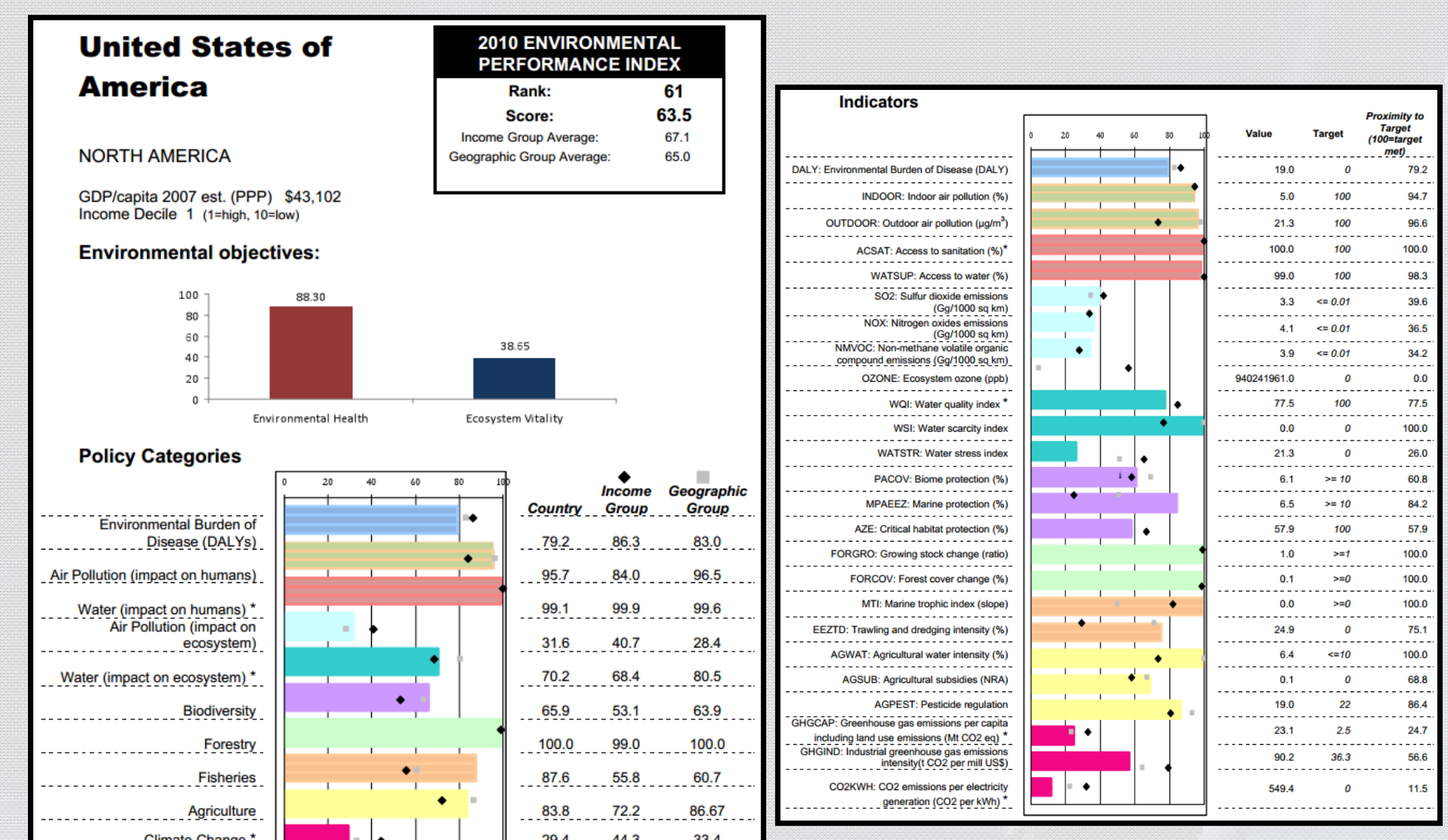
The main map depicts areas of sea level rise at 1 and 2 meters on a population density map with urban extents delineated. Half the population of the Mekong would be inundated by a 2m sea level rise. The upper left inset map shows the area flooded in the year 2000. The inset map below it shows the distribution of agricultural lands. Half of this very fertile land would be inundated by a 2m sea level rise.



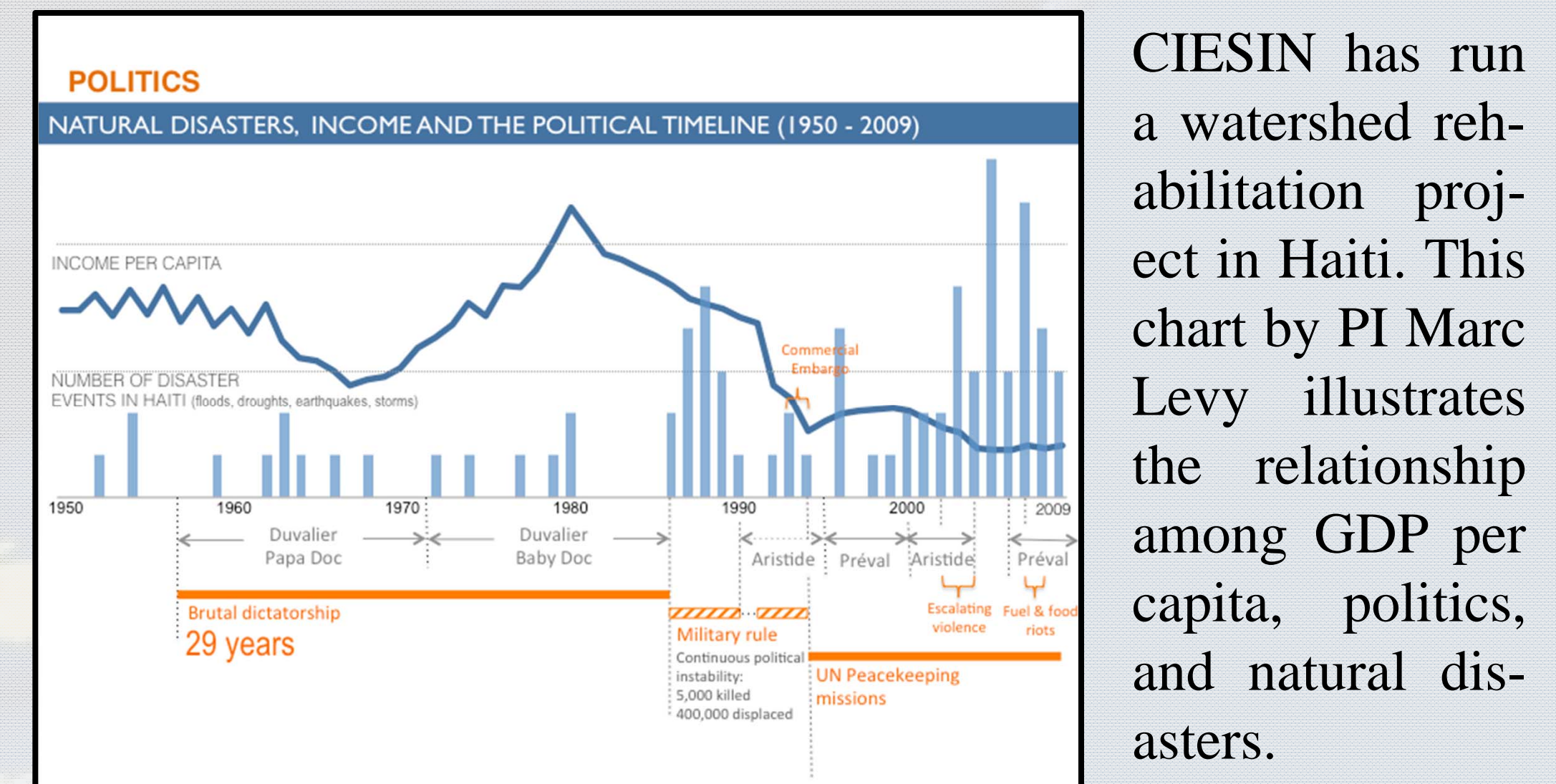
The main map depicts projected changes in runoff by 2080. The top left inset map shows average annual runoff for the 1960-1990 period, a baseline against which future declines will be applied. The bottom left inset map shows lands suited for rain-fed agriculture, which will be particularly affected by progressive drying. The inset on the lower right depicts cyclone frequency in the 1980-2000 period.



## Indicator Visualization

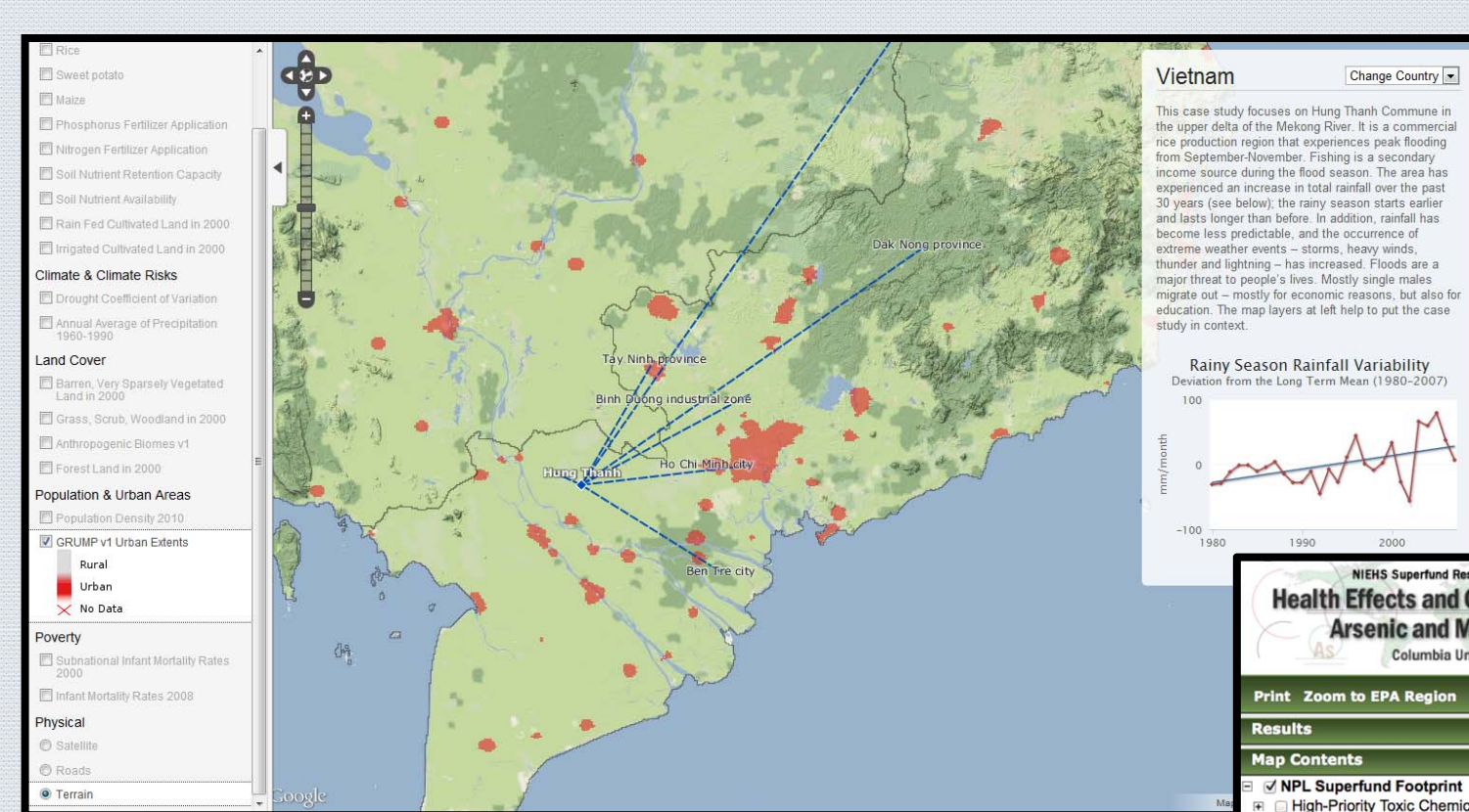


CIESIN and Yale University have produced four releases of the Environmental Performance Index (EPI) since 2006. This is an example of a 2010 EPI country profile for the United States. (Source: <http://sedac.ciesin.columbia.edu/es/epi/>)

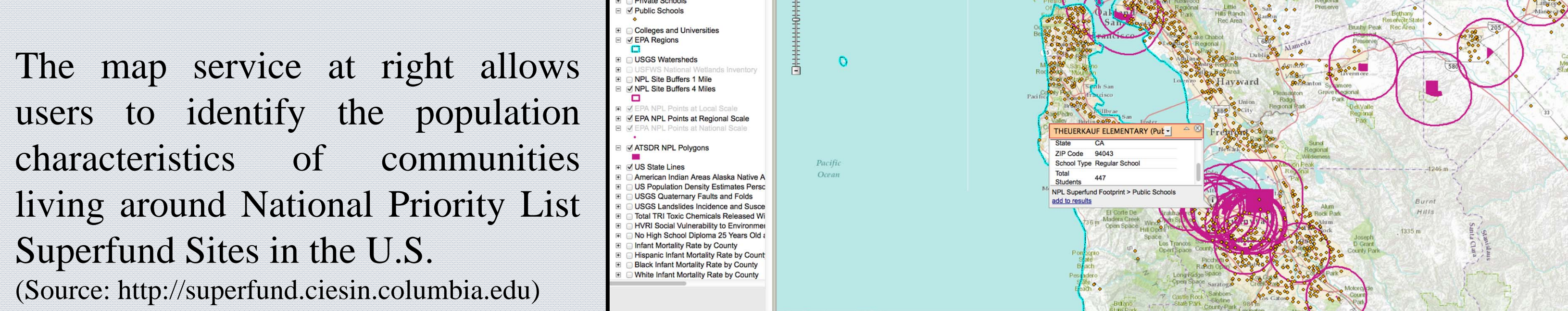


CIESIN has run a watershed rehabilitation project in Haiti. This chart by PI Marc Levy illustrates the relationship among GDP per capita, politics, and natural disasters.

## Interactive Map Services



The map service at left allows users to explore in greater detail the agricultural, environmental and climatic conditions that relate to migration in the Where the Rain Falls Project (see bottom left panel as well). (Source: <http://www.wheretherainfalls.org/>)



The map service at right allows users to identify the population characteristics of communities living around National Priority List Superfund Sites in the U.S. (Source: <http://superfund.ciesin.columbia.edu>)

## Contact

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