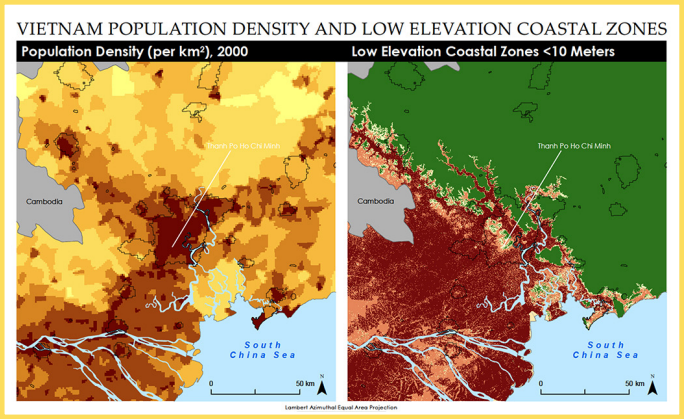
National Aeronautics and Space Administration

DATA & APPLICATIONS ONLINE

Low-Elevation Coastal Zone (LECZ)

Overview

The low-elevation coastal zone is defined as the land area and the total and percentage population, by country, that is located in various low elevation coastal zone bands ranging from 1m to 20m elevation above mean sea level. The collection includes three data sets: the Urban-Rural Population Estimates, v1 (1990, 1995, 2000), the Urban-Rural Population and Land Area Estimates, v2 (1990, 2000, 2010, 2100), and the Sea Level Rise Impacts on Ramsar Wetlands of International Importance, v1 (2000–2010).



About the Data

- Country-level estimates of urban, rural and total population and land area in LECZ's were generated globally using Global Rural-Urban Mapping Project (GRUMP) population and land area data products:
  —The Urban-Rural Population Estimates, v1 (1990, 1995, 2000) data set uses GRUMP alpha data and was estimated at a 1km (30 arc second) grid resolution.
  —The Urban-Rural Population and Land Area Estimates, v2 (1990, 2000, 2010, 2100) dataset used GRUMP v1 population inputs and urban-rural data, and is estimated at a ~90m (3 arc second) grid resolution to conform with the native resolution of the elevation data. Both data sets are based on a Digital Elevation Model (DEM) derived from NASA Shuttle Radar Topographic Mission (SRTM) data.
  —Sea Level Rise Impacts on Ramsar Wetlands of International Importance, v1 (2000–2010) provides estimates of the area and percent area of coastal Ramsar wetland sites that would become inundated under 1 and 2 meter sea level rise scenarios.

Data Access

Go to http://sedac.ciesin.columbia.edu/gpw to download data, maps and information.

References

Ewing, L. C. 2015. Resilience from coastal protection. *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences* 373(2053), Article 20140383. http://dx.doi.org/10.1098/rsta.2014.0383.

McGranahan, G., Balk, D., and Anderson, B. 2007. The rising tide: assessing the risks of climate change and human settlements in low elevation coastal zones. *Environment and Urbanization* 19(1): 17–37. http://dx.doi.org/0.1177/0956247807076960.

Socioeconomic Data and Applications Center (SEDAC)
CIESIN, Earth Institute at Columbia University Palisades, New York
http://sedac.ciesin.columbia.edu

www.nasa.gov

EOSDIS DAACs
SEDAC is one of twelve NASA Earth Observing System Data and Information System (EOSDIS) Distributed Active Archive Centers (DAACs)

To learn more about data and tools available from EOSDIS, go to earthdata.nasa.gov.

Updated March 2016