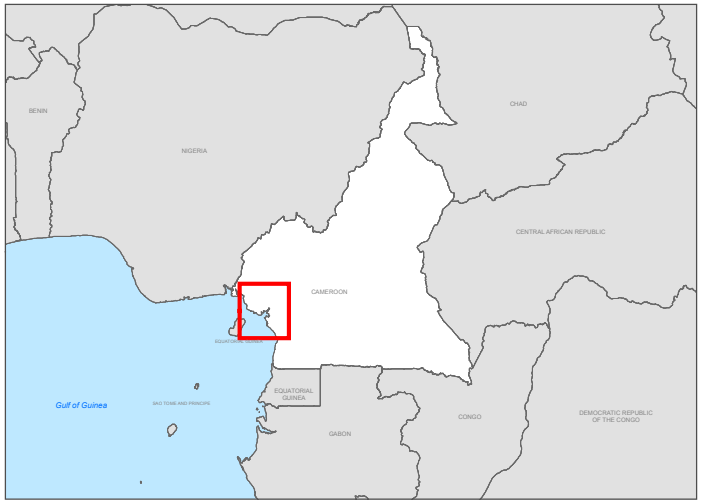
Douala Coastal Vulnerability: The Low Elevation Coastal Zone, Population, and Infrastructure



Sea level rise in the Low Elevation Coastal Zone (LECZ)
Meters

- 0–2
- 2–4
- 4–6
- 6–10

Roads

- Highway
- Primary
- Secondary
- Tertiary

2010 Population density
Persons per km^2

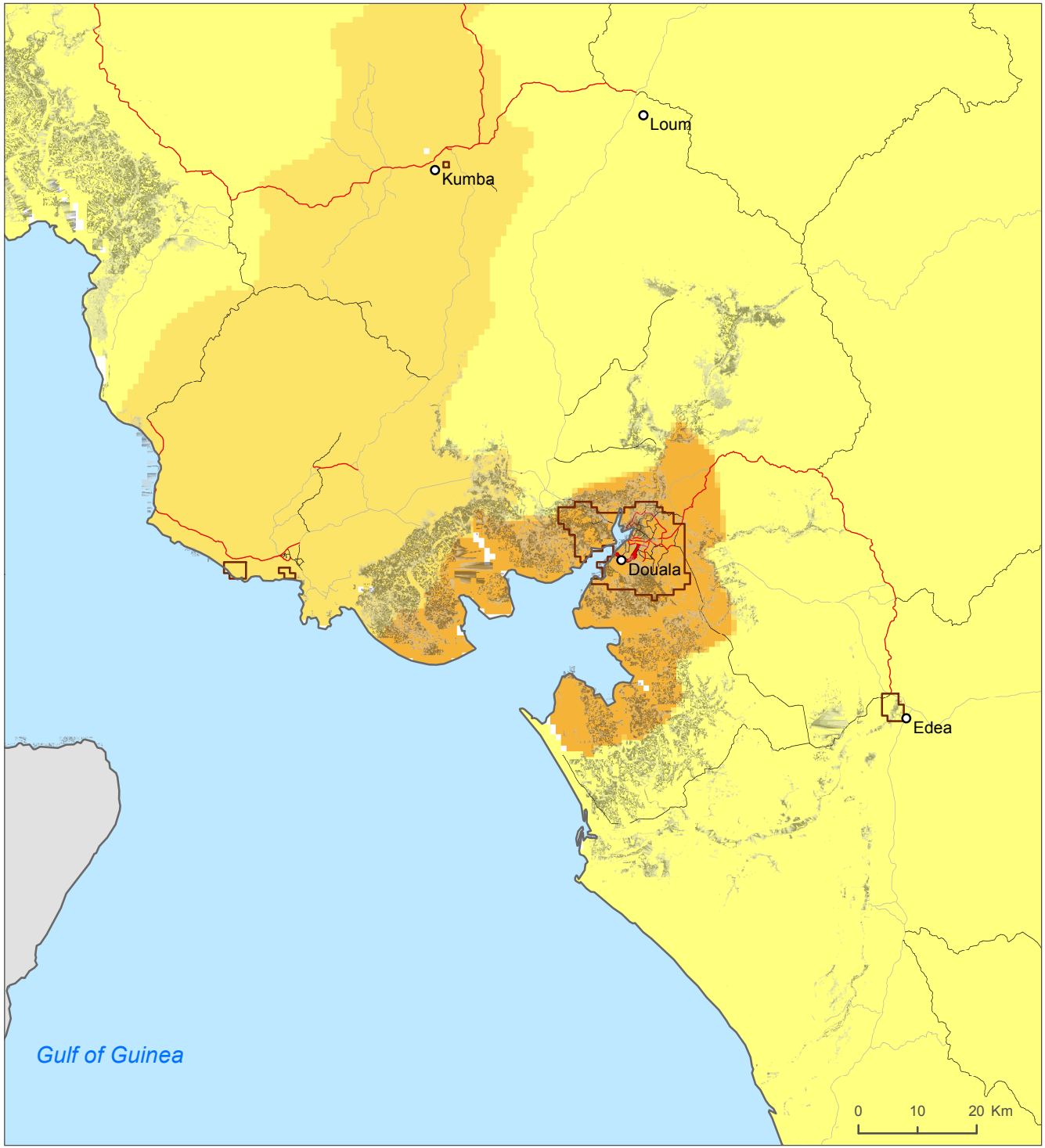
- 0–100
- 101–500
- 501–1,000
- 1,001–5,000
- 5,001–10,000
- 10,001–20,000
- 20,001–50,000
- > 50,000

2010 Nighttime lights extents

This map depicts population density, roads, and nighttime lights extents in relationship to the low elevation coastal zone (LECZ) of West Africa in 0–2m, 2–4m, 4–6m, 6–10m increments. The LECZ approximates areas that could be affected by varying degrees of sea level rise and storm surge. References to data layers included in this map are found below. Note that patterns of land subsidence and other crustal processes means that sea level rise will not be uniform in the coastal zone. Storm surge will also exhibit patterns of spatial differentiation depending on wind patterns. Because of differences in scale and spatial resolution in the original data sets, there are spatial mismatches between the LECZ, the land layer, and the political boundaries. As a result, areas at the ocean's edge may appear to be outside the LECZ but are in fact within the LECZ, and political boundaries do not always match the coastline.

References:

LECZ: Berry, P.A.M., R. Smith, and J. Benveniste. 2008. ACE2: the new Global Digital Elevation Model. IAG International Symposium on Gravity, Geoid & Earth Observation 2008, Chania, Crete, 23–27th June 2008.
Nighttime lights: Data Source: NOAA. NGDC. Version 4 DMSP-OLS Nighttime Lights Time Series. 2010 annual global composite of radiance lights inter-calibrated to the DN values of gain 55 for satellite F16-2006. Courtesy of C. Elvidge, Earth Observation Group, NOAA/NGDC (Image and data processing by NOAA's National Geophysical Data Center. DMSP data collected by US Air Force Weather Agency). http://www.ngdc.noaa.gov/dmsp/index.html
Population Density: Center for International Earth Science Information Network - CIESIN - Columbia University, and Centro Internacional de Agricultura Tropical - CIAT. 2005. Gridded Population of the World, Version 4 (GPWv4): Population Density Grid. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). (Release forthcoming.)
Roads: OpenStreetMap, downloaded 23 April 2014.

USAID FROM THE AMERICAN PEOPLE

This map was produced by the Center for International Earth Science Information Network (CIESIN) at the Earth Institute of Columbia University, under contract to Tetra Tech ARD for the USAID-funded African and Latin American Resilience to Climate Change (ARCC) project (September 2014). All maps, spatial data inputs, and reports/documentation can be found at http://ciesin.columbia.edu/data/wa-coastal.