

DATA & APPLICATIONS ONLINE

Urban

Overview

The NASA Socioeconomic Data and Applications Center (SEDAC) offers a variety of data sets on urbanization and human settlements. Data and maps are available for download at sedac.ciesin.columbia.edu/theme/urban.

Selected Data

Daily and Annual PM2.5 Concentrations for the Contiguous US is comprised of a modeled ensemble of predicted daily 1 km resolution grid cell data for 2000–2016, based on satellite data, meteorological and land-use variables, elevation, and other predictors.

Annual PM2.5 Concentrations for Countries and Urban Areas uses MODIS, MISR+SeaWiFS AOD data w/GWR 1998–2016; urban extents are from the Global Rural-Urban Mapping Project (GRUMP). Population-weighted country averages are for 2008–2015.

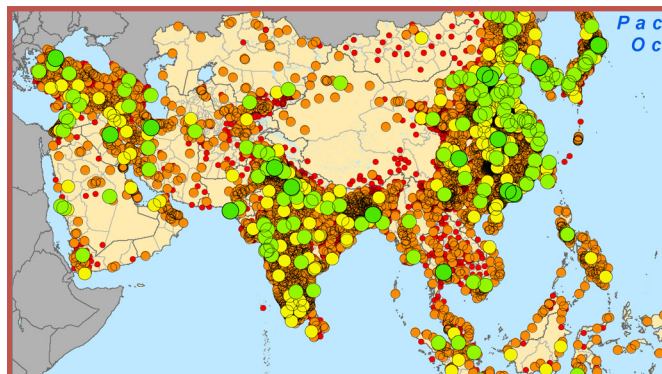
Global Summer Land Surface Temperature Grids (LSTs) and Global Urban Heat Island (UHI) gridded data products represent global summer daytime maximum and nighttime minimum surface temperatures in urban areas. Urban extents are from GRUMP; LSTs are from 2013 MODIS composite data.

Global One-Eighth Degree Urban Land Extent Projection and Base Year Grids by SSP Scenarios are a set of global, spatially explicit urban land scenarios consistent with the Shared Socioeconomic Pathways 2000–2100.

VIIRS Plus DMSP Change in Lights fuses nighttime light imagery from two satellite instruments to map the changes in geographical extent and brightness of nighttime lights between 1992 and 2013

Urban Extents from VIIRS and MODIS for the Continental US uses 2015 satellite data and machine learning methods, for a highly accurate urban settlement layer at a resolution of 500 m.

Global Man-Made Impervious Surface (GMIS) and Global Human Built-up and Settlement Extent (HBASE) are high-resolution companion data sets



derived from global 30 m Landsat satellite data for 2010; for use with the Data Visualization and Access mapping tool.

Low Elevation Coastal Zone (LECZ) Population Estimates provides country-level estimates of the world's urban and rural populations located in the LECZ—all areas below 10 m elevation—for 1990, 2000, 2010, and 2100.

Dar es Salaam Land Use and Informal Settlement represents urban land use and consolidation of informal settlements for the years 1982, 1992, 1998, and 2002, in Dar es Salaam, Tanzania.

Global Roads Open Access Data Set combines the best available roads data 1980–2010 by country into a global roads coverage, using the UN Spatial Data Infrastructure Transport v2 as a common data model.

Mapping Resources

The **Hazards Mapper** can visualize socioeconomic, infrastructure, natural disaster, and environment data and map layers, for analysis of potential impacts and exposure. The **Population Estimation Service** lets users quickly get estimates of the population in a user-defined geographic region without downloading large amounts of spatial data; and more. Perform simple to advanced visualizations and analysis via the **SEDAC Map Viewer** and **SEDAC Map Services**. To view and download the GMIS/HBASE data sets by country, tile, shapefile, rectangle or polygon, access the **Data Visualization and Access Tool** (tutorial included).



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