

DATA & APPLICATIONS ONLINE

Remote Sensing

Overview

The NASA Socioeconomic Data and Applications Center (SEDAC) offers a variety of data sets on applications of satellite remote sensing. Data and maps are available for download at sedac.ciesin.columbia.edu/theme/remote-sensing.

Selected Data

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

Global Annual PM2.5 Grids consists of annual concentrations of mineral dust- and sea salt-filtered fine particulate matter combining aerosol optical depth retrieval from NASA MODIS, MISR, and SeaWiFS satellite instruments, with geographically-weighted regression; for 1998–2016.

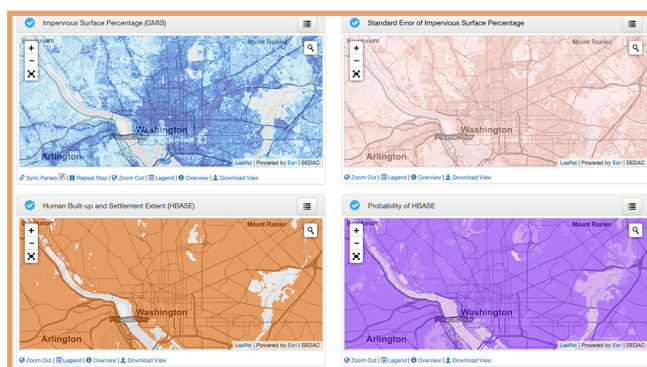
Global Summer Land Surface Temperature Grids (LSTs) and Global Urban Heat Island (UHI) gridded data products represent global summer daytime maximum/nighttime minimum surface temperatures in urban areas. Urban extents are from the Global Rural-Urban Mapping Project (GRUMP) collection; LSTs are from 2013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

Trends in Global Freshwater Availability measures changes in the terrestrial water cycle by assessing small changes in Earth's gravity field. Based on NASA GRACE satellite data 2002–2016, the data set can help evaluate emerging threats to water and food security.

India Annual Winter Cropped Area utilizes the NASA MODIS Enhanced Vegetation Index for the winter growing season (October–March) for most of India, 2000–2001 to 2015–2016.

Global Fire Emissions Indicators contains a time-series of raster data for total area burned and total carbon content, 1997–2015, in gridded and tabular versions.

VIIRS Plus DMSP Change in Lights fuses nighttime lights imagery with a stable night light composite from



the VIIRS satellite, to visualize changes in brightness/ extent of global nocturnal lights networks, 1992–2015.

Urban Extents from VIIRS and MODIS for the Continental U.S. Using Machine Learning Methods 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, 2010.

Anthropogenic Biomes of the World, v2 describes human-caused changes to the terrestrial biosphere, including agriculture and urbanization, circa 1900. Part of a time series for 1700, 1800, 1900, and 2000.

Mapping Resources

Use the **Hazards Mapper** to visualize socioeconomic, natural disaster, infrastructure, and environment data and map layers, for analysis of potential impacts and exposure. Access the **Data Visualization and Access Tool** to view and download the GMIS/HBASE data sets by country, tile, shapefile, rectangle or polygon, tutorial included. Explore the **SEDAC Map Viewer** and wide array of **SEDAC Map Services** to perform visualizations and analysis, from simple to advanced.



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