

DATA & APPLICATIONS ONLINE

Sustainability

Overview

The NASA Socioeconomic Data and Applications Center (SEDAC) offers a variety of data sets on environmental sustainability indicators and trends. Data and maps are available for download at sedac.ciesin.columbia.edu/theme/sustainability.

Selected Data

Global Human Modification of Terrestrial Systems data set is a cumulative measure of terrestrial land at a 1 km resolution, using spatially-explicit global data sets with a median year of 2016.

Last of the Wild contains updated Global Human Footprint data sets for 1993 and 2009, using more recent inputs and methodology to measure cumulative human pressure on the environment.

Food Insecurity Hotspots consists of gridded data identifying the level of intensity and frequency of food insecurity over ten years (2009–2019), and hotspots of consecutive food insecurity events, for five regions: Central America and the Caribbean, Central Asia, East Africa, Southern Africa, and West Africa.

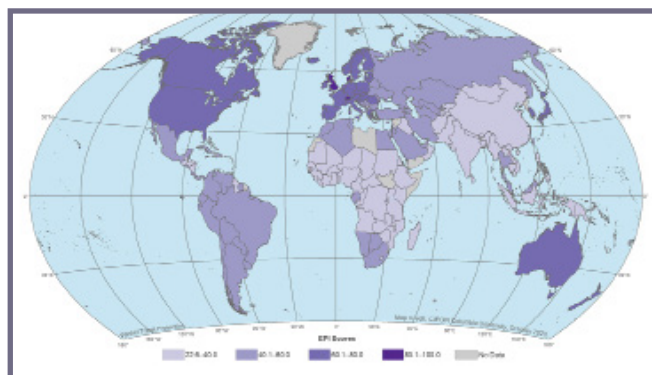
Global Development Potential Indices ranks global land suitability for 13 sectors of renewable energy, fossil fuels, mining, and agriculture, to aid in conservation priority setting.

Development Threat Index maps global threats by sector, including potential agricultural expansion.

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, it can help evaluate emerging threats to water and food security.

Global Man-Made Impervious Surface (GMIS) and **Global Human Built-up and Settlement Extent (HBASE)** are high-resolution data sets derived from global 30 m Landsat satellite data for 2010.

VIIRS Plus DMSP Change in Lights merges nighttime lights imagery with a stable night light composite from the VIIRS satellite, to visualize changes in brightness and extent of global nocturnal lights networks between 1992 and 2015.



U.S. Social Vulnerability Index (SVI) Grids uses census data for 2000, 2010, 2014, 2016, and 2018, under themes of Socioeconomic, Household Composition/Disability, Minority Status/Language, and Housing Type/Transportation, to rank communities on vulnerability, for the entire U.S.

The Environmental Performance Index (EPI) biennially assesses country performance of environmental goals. The 2020 EPI compares 180 countries, using 32 performance indicators across 11 issue categories.

The Natural Resource Protection and Child Health Indicators supports the annual country selection process conducted by the Millennium Challenge Corporation to determine foreign aid.

Effects of Climate Change on Global Food Production investigates the spatial implications of climate change on world crop production, 1970–2080; it is an update to a crop modeling study by the NASA GISS. SEDAC produced the extensive map gallery.

Mapping Resources

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. **The SEDAC Map Viewer** visualizes all SEDAC data set map layers, organized by approximately 15 interdisciplinary topics, with an innovative four-window map view option. Also perform simple to advanced visualizations and analysis via **SEDAC Map Services**.



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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)