

Center for International Earth Science Information Network

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The Center for International Earth Science Information Network (CIESIN) is a data and research center of Columbia University's Earth Institute that addresses human interactions with the environment. Our focus is on the impacts of human activities and institutional arrangements on the environment, and, in turn, how environmental change affects society.

We manage a number of Web sites that contain data, information, and interactive applications useful to researchers, policymakers, educators, and students.

CIESIN is located at the Lamont-Doherty Campus of Columbia University in Palisades, New York. Its international staff have advanced training in a range of fields, including geography, demography, political science, history, economics, natural resource management, geophysics, information management, library science, geospatial technologies, software engineering and computer science.
www.ciesin.columbia.edu.

Contact Information:
P.O. Box 1000, 61 Route 9W
Palisades, NY 10964 USA
Tel: +1(845) 365-8988
Fax: +1(845) 365-8922
E-mail: ciesin.info@ciesin.columbia.edu



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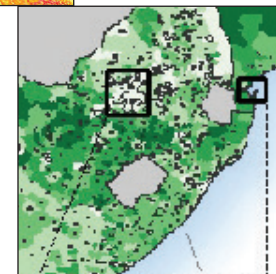
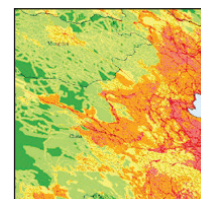
The Earth Institute, Columbia University, mobilizes the sciences, education and public policy to achieve a sustainable Earth. Through interdisciplinary research among more than 500 scientists in diverse fields, the Institute is adding to the knowledge necessary for addressing the challenges of the 21st century and beyond. With over two dozen associated degree curricula and a vibrant fellowship program, the Earth Institute is educating new leaders to become professionals and scholars in the growing field of sustainable development. We work alongside governments, businesses, nonprofit organizations and individuals to devise innovative strategies to protect the future of our planet.
www.earth.columbia.edu



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Data and Information Resources



Environmental Sustainability and Change

Environmental Performance Index (EPI): Assesses national performance with respect to environmental goals.
sedac.ciesin.columbia.edu/data/collection/epi

Population, Landscape, and Climate Estimates: National-level aggregates of territorial extent and population size (urban and rural) by biome, climate zone, coastal proximity, and elevation.
sedac.ciesin.columbia.edu/theme/sustainability

Anthropogenic Biomes: Describes 21 anthropogenic biomes based on population density, land use, biota, climate, terrain, and geology.
sedac.ciesin.columbia.edu/data/collection/anthromes

Gridded Species Distribution: Downloadable data available in 1 km (30 arc-second) resolution grids, for global amphibian and mammal distribution.
sedac.ciesin.columbia.edu/data/collection/species

Global Distribution of Mangroves, 2000: Database on the extent of mangroves forests from the Global Land Survey and the Landsat archive, at 30 m spatial resolution.
bit.ly/1QqZ834

Intergovernmental Panel on Climate Change (IPCC)

Socioeconomic Data Distribution Centre (DDC): A Web site providing socioeconomic baseline and scenario data for use in climate impact assessments.
sedac.ciesin.columbia.edu/ddc/

Interactive Tools

SEDAC Hazards Mapper: Enables users to visualize data and map layers related to socioeconomic, infrastructure, natural disaster, and environmental themes, and analyze potential impacts and exposure.
<http://sedac.ciesin.columbia.edu/mapping/hazards/>

Hazards and Population Mapper (HazPop): A free mobile app enabling users to easily display recent natural hazard data in relationship to population, major infrastructure, and satellite imagery.
<http://apple.co/1W2IGji>

Hudson River Flood Impact Decision Support System: An online mapping tool to assess the impacts of flood inundation posed by sea level rise, storm surge, and rain events, on communities in the lower Hudson Valley region.
<http://www.ciesin.columbia.edu/hudson-river-flood-map/>

Climate and Health Analysis for Global Education Viewer (Change Viewer): 3D NASA World Wind technology is used to visualize climate change impacts on human health.
climatechangehumanhealth.org/changeviewer/

Population Estimation Service: A Web-based service for easily estimating population totals for specific areas.
bit.ly/1NXjhw5

AdaptMap: Story map/sea level rise viewer visualizes a study of historic landscapes 1609–1877 and potential future green shorelines of Jamaica Bay, New York.
<http://adaptmap.info/jamaicabay2/>

Jamaica Bay Water Quality Data Visualization and Access Tool: Enables users to explore, visualize, and download water quality data and metadata for Jamaica Bay, New York.
<http://www.srijb.org/jbwebinarseries/>

Environmental Treaties & Resource Indicators (ENTRI): Online search and treaty status data.
sedac.ciesin.columbia.edu/data/collection/entri

Population Estimation Service: A Web-based service for easily estimating population totals for specific areas.
bit.ly/1NXjhw5

SEDAC Map Client: An interactive mapping tool enabling different thematic views of the NASA SEDAC data collection.
sedac.ciesin.columbia.edu/maps/client

The NPL Superfund Footprint Mapper: An interactive, online mapping application that visualizes demographic and environmental data for communities near U.S. hazardous waste sites.
superfund.ciesin.columbia.edu/sfmapper/index.html

Africa Soil Information Service (AfSIS) Map Tool: Displays geo-referenced digital elevation, topographic wetness, specific catchment area data, and other parameters.
africasoils.net/data/datasets

Population and the Environment

Global Roads: Includes the public-domain Global Roads Open Access Data Set (gROADS) and a catalog of roads data.
sedac.ciesin.columbia.edu/data/collection/globalroads

Dar es Salaam Land Use and Informal Settlement, v1: Urban land use and consolidation of informal settlements for 1982, 1992, 1998, and 2002, in Dar es Salaam, Tanzania.
<http://bit.ly/1OT48ym>

The Global Estimated Net Migration Grids by Decade: Estimates of net migration over three decades, 1970 to 2000.
<http://bit.ly/2odejpm>

Global Grid of Probabilities of Urban Expansion: Spatially explicit probabilistic forecasts of global urban land cover change from 2000 to 2030, at a 2.5 arc-minute resolution.
<http://bit.ly/1R3Z4Tm>

Global Rural-Urban Mapping Project (GRUMP), v1: Includes a global point database of human settlements, an urban extent mask, and a 1 km population grid.
sedac.ciesin.columbia.edu/data/collection/grump-v1

Population in the Low-Elevation Coastal Zone (LECZ): The numbers and proportions of the world's population located in the LECZ (all areas below 10 meters elevation).
sedac.ciesin.columbia.edu/data/collection/leczone

Gridded Population of the World (GPW), v4: SEDAC's flagship data product provides population size and density from the 2010 round of censuses, in a gridded format (30 arc-seconds) easily combined with earth science data.
sedac.ciesin.columbia.edu/data/collection/gpw-v4

U.S. Census Grids: Census block and block group boundaries are transformed into grids for faster, easier analysis.
sedac.ciesin.columbia.edu/data/collection/usgrid

Historical Anthropogenic Sulfur Dioxide Emissions: Annual estimates of anthropogenic sulfur dioxide emissions, 1850–2005.
sedac.ciesin.columbia.edu/data/collection/haso2

Global Fertilizer and Manure: Global data on fertilizer application and manure production of nitrogen and phosphorus.
sedac.ciesin.columbia.edu/data/collection/ferman-v1

Global Reservoir and Dam (GRAND), v1: 6,862 satellite-imaged records of reservoirs and associated dams.
sedac.ciesin.columbia.edu/data/collection/grand-v1

Human Footprint and Last of the Wild: Global data on the intensity and extent of human land use and remaining “wild” places.
sedac.ciesin.columbia.edu/data/collection/wildareas-v2

Global Agricultural Lands: Estimates the proportion of land area in cropland and pasture for the year 2000.
sedac.ciesin.columbia.edu/data/collection/aglands

Human Appropriation of Net Primary Productivity: Global patterns of net primary productivity (NPP) and human consumption.
sedac.ciesin.columbia.edu/data/collection/hanpp

Poverty, Health, and Hazards

Global Poverty Mapping Project: Global spatial data sets of infant mortality and malnutrition and country-level data sets with subnational measures of poverty for 28 countries.
sedac.ciesin.columbia.edu/povmap

Satellite-Derived Environmental Indicators: Estimates of annual PM_{2.5} concentrations over a 10-year period, derived from NASA MODIS and MISR satellite data.
sedac.ciesin.columbia.edu/data/collection/sdei