



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, policy-makers, educators, and students.



Center for International Earth Science Information Network

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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.
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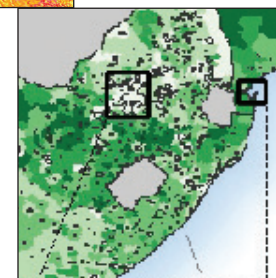
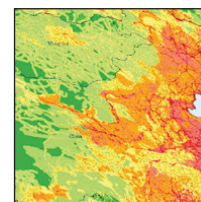
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The Earth Institute, Columbia University, mobilizes the sciences, education and public policy to achieve a sustainable earth. Through interdisciplinary research among more than 500 scientists in diverse fields, the Institute is adding to the knowledge 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 Sustainability Indicators: A Web site that distributes sustainability indicator collections and global-scale data produced by governmental and NGO groups, including the following:

Compendium of Indicators aids comparison and analysis of sustainability indicators by compiling 426 indicators from six collections.

Environmental Performance Index (EPI) uses a proximity-to-target approach to measure countries' progress towards environmental goals.

Indicators of Coastal Water Quality uses chlorophyll-a concentrations from NASA's SeaWiFS sensor to analyze trends from 1998–2007 to help identify near-coastal areas that may need management intervention.

Natural Resource Management Index (NRMI) is a composite of four indicators, updated annually to help determine a country's eligibility for funding by the US government's Millennium Challenge Corporation.

Population, Landscape, and Climate Estimates (PLACE), now in its second version, is a tabular data set providing national-level aggregates of territorial extent and population size by biome, climate zone, coastal proximity and elevation.

<http://sedac.ciesin.columbia.edu/es>

Intergovernmental Panel on Climate Change (IPCC)

Socioeconomic Data Distribution Centre: A Web site providing access to baseline and scenario data on population, economic development, technology, and natural resources for use in climate impact assessments.

<http://ciesin.columbia.edu/ddc>

Global Geographical Distribution of Vulnerability to Climate Change:

A report, global distribution maps, and data available for download. Developed by a team of scientists to advance understanding of the nature of climate change risks and vulnerabilities.

<http://ciesin.columbia.edu/data/climate>

Thematic Guides: Guides to research and data on the human dimensions of global environmental change.

<http://sedac.ciesin.columbia.edu/tg>

Interactive Tools

Population Estimation Service: This Web-based service lets users of a variety of map clients/tools estimate population totals for specific areas, without downloading or analyzing large amounts of spatial data.

<http://sedac.ciesin.columbia.edu/gpw/wps.jsp>

Environmental Treaties & Resource Indicators

(ENTRI): Online search and retrieval of treaty texts by signatory, date, and thematic area; includes country summaries of treaty participation, and EarthTrends and ESI environmental profiles.

<http://sedac.ciesin.columbia.edu/entri>

Hudson River Mapping Tool: A Web-based data portal and mapping tool for exploring the physical and cultural geography of the Hudson River Watershed.

<http://nbii-nin.ciesin.columbia.edu/beacon/mapviewer.jsf>

SEDAC Map Client: Open Geospatial Consortium (OGC)-compliant tool lets users explore different thematic views of SEDAC global data holdings. (Requires Windows PC.)

<http://sedac.ciesin.columbia.edu/mapviewer/index.jsp>

2011 TerraViva! SEDAC Viewer: Free global spatial data visualization/analysis software application to enhance viewing of SEDAC collections of sustainability and socioeconomic variables and maps.

<http://sedac.ciesin.columbia.edu/tv>

Population and the Environment

Gridded Population of the World (GPW), v. 3: A flagship CIESIN data product, GPW provides population size and density in a gridded format (2.5 arc-minutes) that may be easily combined with Earth science data.

<http://sedac.ciesin.columbia.edu/plue/gpw>

Global Rural-Urban Mapping Project (GRUMP): This spatial data collection includes a global point database of human settlements (cities and towns of 1,000 persons or more), an urban extent mask of settlements of 5,000 persons or more, and a 1km population grid.

<http://sedac.ciesin.columbia.edu/plue/gpw>

Global Fertilizer and Manure: The Web site provides access to data on fertilizer application rates and manure production of Nitrogen (N) and Phosphorous (P).

<http://sedac.ciesin.columbia.edu/data/collection/ferman-v1>

Anthropogenic Biomes v.1: Describes 21 anthropogenic biomes based on population density, land use, biota, climate, terrain, and geology.

<http://sedac.ciesin.columbia.edu/es/anthropogenicbiomes.html>

Global Agricultural Lands: Combines satellite data with agricultural inventory data to represent the proportion of land area used as cropland and pasture for the year 2000.

<http://sedac.ciesin.columbia.edu/es/aglands.html>

Human Appropriation of Net Primary Productivity:

Describes global patterns of net primary productivity (NPP) and human consumption thereof.

<http://sedac.ciesin.org/es/hanpp.html>

U.S. Census Grids: Census block and block group boundaries are transformed into grids for faster and easier analysis. Population and housing counts, plus a wide variety of socioeconomic characteristics, are available for the year 2000.

<http://sedac.ciesin.columbia.edu/usgrid>

Human Footprint and Last of the Wild: These data sets map the intensity and extent of human land use and the remaining "wild" places.

<http://sedac.ciesin.columbia.edu/wildareas/>

Population in the Low-Elevation Coastal Zone

(LECZ): Data on the numbers and proportions of the world's population located in the LECZ, defined as all areas below 10 meters elevation. Country estimates by urban and rural population are provided.

<http://sedac.ciesin.columbia.edu/gpw/lec.z.jsp>

Poverty, Health, and Hazards

Global Poverty Mapping Project: Downloadable maps, spatial data, and tabular data of subnational measurements of poverty. Global coverage of infant mortality and malnutrition; higher-resolution national coverage for consumption and basic needs in 28 countries.

<http://sedac.ciesin.columbia.edu/povmap>

Natural Disaster Hotspots—A Global Risk Analysis:

Developed with the World Bank and others, a global geospatial data set on six major natural hazards and associated risks of mortality and economic loss.

<http://www.ideo.columbia.edu/chrr/research/hotspots>