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.

Center for International Earth Science Information Network
Earth Institute | Columbia University

CIESIN is located at the Lamont Campus of Columbia University in Palisades, New York. Its international staff have advanced training in a range of fields, including geography, demography, political science, 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

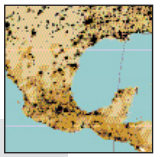
The Earth Institute Columbia University

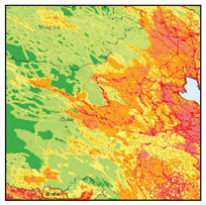
Columbia University's Earth Institute blends research in the physical and social sciences, education and practical solutions to help guide the world on to a path toward sustainability.
www.earth.columbia.edu

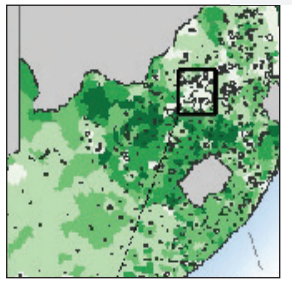
Updated 2020

Center for International Earth Science Information Network
Earth Institute | Columbia University

Data and Information Resources







Environmental Sustainability and Change

Environmental Performance Index (EPI): Assesses national performance with respect to environmental goals.
http://bit.ly/2qO5LYQ

Development Threat Index: Global threat map, by sectors.
http://bit.ly/31M5WSz

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.
http://bit.ly/2CCS0Pk

Global Roads: Includes the public-domain Global Roads Open Access Data Set (gROADS) and catalog of roads data.
http://bit.ly/2X9XM4e

Anthropogenic Biomes: Describes 21 anthromes based on population density, land use, and vegetation cover.
http://bit.ly/2QhJRrs

Gridded Species Distribution: Gridded downloadable data for global amphibian and mammal distribution.
http://bit.ly/2KMWLuf

Historical Anthropogenic Sulfur Dioxide Emissions: Annual estimates of anthropogenic sulfur dioxide emissions, by country, 1850–2005.
http://bit.ly/2OAY8xd

Global Distribution of Mangroves: Database on the extent of mangrove forests for the year 2000, at 30 m spatial resolution.
http://bit.ly/2QFgT5h

IPCC Socioeconomic Data Distribution Centre: Socioeconomic baseline/scenario data for climate impact assessments.
http://bit.ly/379Jwx0

Global Reservoir and Dam (GRanD): 6,862 spatially-explicit records of reservoirs and associated dams.
http://bit.ly/331tx0B

Interactive Tools

SEDAC Map Viewer: An interactive mapping tool enabling different thematic views of the NASA SEDAC data collection.
http://bit.ly/32SJ6I4

Population Estimation Service: A Web-based service to easily estimate population totals for specific areas, updated with basic demographic information and the Population Estimator Tool.
http://bit.ly//1NXjhw5

SEDAC Hazards Mapper: Visualize data and map layers on a variety of themes; analyze potential impacts and exposure.
https://bit.ly/35nzWYo

POPGRID Viewer: Enables direct comparison of different population data sets, with based on different data sources and methodologies.
http://bit.ly/2OBeMNd

Data Visualization and Access Tool: View/download global impervious surface/settlement extent data sets derived from Landsat, by country, tile, shapefile, rectangle, or polygon; at 30 m, 250 m, or 1 km resolution; geographic or UTM projection.
http://bit.ly/348PufX

Hazards and Population Mapper (HazPop): A free mobile app for iOS and Android devices lets users display recent natural hazards data in relationship to population, major infrastructure, and satellite imagery. http://apple.co/1W2IGji or
http://bit.ly/2O1eVKN

Application for Extracting and Exploring Analysis Ready Samples (AppEEARS): Access/transform NASA satellite data; select SEDAC population data sets also accessible.
https://lpdaacsvc.cr.usgs.gov/appeears/

Hudson River Flood Impact Decision Support System: This mapping tool assesses flood inundation impacts from sea level rise, storm surge, and rain events, on lower Hudson Valley areas.
http://bit.ly/37gQi4f

AdaptMap: A mapping tool that visualizes a study of historic landscapes 1609–1877 and potential future green shorelines of Jamaica Bay, New York.
http://bit.ly/2QCJMPa

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://bit.ly/2XvNrQo

Population and the Environment

Urban Extents from VIIRS and MODIS for the Continental US: A highly accurate urban settlement layer at a resolution of 500 m, using 2015 satellite data and machine learning methods.
http://bit.ly/2nfZ0NG

Gridded Population of the World (GPWv4.11): Population counts and density estimates, and totals by age and sex; and more than 100 interactive Web mapping layers.
http://bit.ly/2XtgFPd

High Resolution Settlement Layer (HRSL): Human population distribution estimates at a resolution of 1 arc-second (approximately 30 m) for the year 2015, to date for 140 countries.
http://bit.ly/2WvI5GM

Historical Urban Population: Spatially explicit global data set with urban population location/size for the past 6,000 years.
https://bit.ly/2G5TgK4

Global Man-Made Impervious Surface and Global Human Built-up and Settlement Extent: High-resolution data derived from the 2010 Global Land Survey free Landsat archive.
http://bit.ly/35fcqtM

Global Population Projection Grids Based on Shared Socioeconomic Pathways: At a resolution of 1 km, for urban, rural, and total population, and at ten-year intervals for 2010–2100.
https://bit.ly/35nzWYo

The Global Estimated Net Migration Grids by Decade: Estimates of net migration over three decades, 1970–2000.
http://bit.ly/2Qw8pgo

India Data Collection: High-resolution georeferenced socioeconomic data derived from NASA MODIS, for insights into landscape-scale dynamics in India
http://bit.ly/37y1fyy

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

Global Rural-Urban Mapping Project (GRUMP): A global point database of human settlements and urban extents.
http://bit.ly/32WKrxx

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 m elevation).
http://bit.ly/1EZMChN

Human Footprint and Last of the Wild: Global data on the intensity/extent of human land use and remaining "wild" places.
http://bit.ly/2NY6y2j

Poverty, Health, and Hazards

Global Subnational Infant Mortality Rates: Estimates for 234 countries/territories;143 are subnational. Circa 2015.
http://bit.ly/2FNMACQ

Satellite-Derived Environmental Indicators: Estimates of annual $PM_{2.5}$ concentrations, long-term exposure to NO_2, and global urban heat island/land surface temperature data.
http://bit.ly/37rlsGe

Energy Infrastructure: Nuclear power sites and associated attributes; and country-level estimates of populations in proximity to sites with at least one operating reactor as of March 2012.
http://bit.ly/2NY6Ki3

Global Pesticide Grids: Comprehensive data on the 20 most-used pesticide active ingredients, on six dominant crops and four aggregated crop classes, at 5 arc-minute resolution; for the year 2015 and projected to 2020 and 2025.
https://bit.ly/3cTrzWM