A Compendium of Selected Educational Resources for You and Your Students, Part 2

CIESIN—Center for International Earth Science Information Network
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• is a research and data center of the Earth Institute of Columbia University
• supports interdisciplinary research on issues related to human interactions in the environment
• operates the NASA Socioeconomic Data and Applications Center, SEDAC

CIESIN (➔ think in terms of NGSS)

• Works at the intersection of social, natural, and information sciences
• Specializes in on-line data and information management, spatial data integration and training
• Interdisciplinary research related to human interactions in the environment.
Welcome
The Center for International Earth Science Information Network (CIESIN) is a center within the Earth Institute at Columbia University. CIESIN works at the intersection of the social, natural, and information sciences, and specializes in on-line data and information management, spatial data integration and training, and interdisciplinary research related to human interactions in the environment.

Map of the Month
Teen Literacy in Nigeria is Lower in the North
In Nigeria, differences in adolescent literacy rates between states are striking—higher in the South and lower in the Northeast.

More Map Stories

In the Spotlight
Global Partnership for Sustainable Development Data to be Launched
CIESIN is joining a coalition of national governments, international organizations, foundations, private sector companies, and other organizations in launching a Global Partnership for Sustainable Development Data, aimed at providing financial, political, and technical support for data management and access needed to achieve the proposed Sustainable Development Goals (SDGs). A Global Partnership is one of the recommendations made by the United Nations Independent Expert Advisory Group on the Data Revolution for Sustainable Development (IEAG) in its fall 2014 report, A World That Counts.

A critical need to be addressed by the Global Partnership is to integrate a range of new data sources and monitoring approaches with existing statistical systems and to scale these up to meet the challenge of sustainable development from local to global scales. Earth observations and geospatial data are increasingly recognized as key resources not only for developing policy-relevant indicators in support of the SDG process, but also as vital management tools in increasing the efficiency and effectiveness of development investments and ensuring accountability. However, the human and financial resources needed to access and utilize these information resources are often lacking, especially in developing countries. The Global Partnership will help address this gap.

In support of planning for the Global Partnership, CIESIN has been working closely with the Sustainable Development Solutions Network (SDSN) and Open Data Watch. Earlier this year, several CIESIN staff members contributed to the SDSN report, “Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development,” which identified eight instruments as the primary basis of SDG indicators, including geospatial information systems and earth observations. The report develops an initial estimate for new data and monitoring resources of just over $1 billion a year, drawn from a mix of government annual budgets and overseas development aid. This is a small investment compared with the many billions invested in development annually.

More recently, SDSN and Open Data Watch have released “Data for Development: An Action Plan to Finance the Data Revolution for Sustainable Development,” which proposes global and national efforts to ensure adequate public financing for core national data systems, to enhance and broaden data instruments for SDG monitoring, and to expand the reach and benefits of the data revolution to the least-developed countries. CIESIN contributed case study material and other inputs to the report.

Other participants in the Global Partnership are expected to include the World Bank, the Bill and Melinda Gates Foundation, Esri, and the One Campaign. The SDSN was launched by United Nations Secretary-General Ban Ki-moon in August 2012, and is led by Jeffrey Sachs, director of the Earth Institute. Open Data Watch is a not-for-profit, non-governmental organization founded by three development data specialists. CIESIN director Robert Chen was a member of the UN IEAG.

See: 2015 Reports: Data for Development
DATA & APPLICATIONS ONLINE

Global Natural Disaster Hotspots

Overview

Natural hazards are a major source of risk for both rich and poor and can be a significant impediment to sustainable development. Global assessments of natural hazard exposure and risk are useful for prioritizing investments in disaster mitigation and for improving response and recovery planning.

Data

Go to http://sedac.ciesin.columbia.edu/data/collection/ndh to download maps and data.

Natural Disaster Hotspots: A Global Risk Analysis assesses the global risks posed by six major natural hazards: earthquakes, volcanoes, landslides, floods, drought, and cyclones.

Risk levels are estimated by combining hazard exposure with historical vulnerability for two indicators at risk, population and Gross Domestic Product (GDP) per unit area. Relative risks are calculated for each grid cell to show patterns of risk at subnational scales.

- Natural Disaster Hotspots: Case Studies provides case studies that support the global analysis, including: drought disaster in Asia; global landslide risks; storm surges in coastal areas; natural disaster risks in Sri Lanka; multihazard risks in Caracas; and reducing the impacts of floods through early warning.
The Climate and Health ANalysis for Global Education Viewer (CHANGE Viewer) is a free tool that can be used to access, analyze, and visualize Earth systems data. It offers opportunities for teachers and students to improve their understanding of the Earth and issues relevant to human interactions in the environment. CHANGE Viewer provides capabilities for accessing global data sets to study the environment and the effects of hazards on populations, property, and locations.
Global Climate Change & Human Health

Natural Disasters: Cyclones

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Global Climate Change & Human Health

Water Resources

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BACKGROUND

Climate change has a profound impact on freshwater resources: all regions of the world show an overall net negative impact from climate change on water resources and freshwater ecosystems. Areas in which runoff is projected to decline are likely to face a reduction in the value of the services provided by water resources. In fact, a country with more than approximately 1,700 cubic meters of renewable fresh water per person per year will generally experience intermittent or localized water shortages. As the amount of available fresh water sinks below this level, countries begin to experience “water stress”.