Environment Statistics

Environment statistics describe the qualitative and quantitative aspects of the state and changes of the environment and its interaction with human activities and natural events. Environment statistics are integrative, measure human activities and natural events that affect the environment, monitor the impacts on the environment and the social responses to environmental impacts. Environment statistics is an emerging statistical field in official statistics in most countries and it is indispensable for evidence based policies and decision making to support sustainable development.

Milestones in the history of environment statistics

The United Nations Conference on the Human Environment (Stockholm, June 1972) was the first global conference to signal that environmental concerns had increasingly become the subject of mainstream socioeconomic policies.

The second major global conference in the environmental field was the United Nations Conference on Environment and Development (Rio de Janeiro, June 1992) where a groundbreaking consensus was achieved that strategies of sustainable development should integrate environmental issues into development plans and policies. Specific recommendations by Agenda 21 to UNSD referred to the development and implementation of integrated environmental and economic accounting and indicators of sustainable development.

In 2000 most countries signed the Millennium Declaration and committed themselves to reach the declaration's goals and targets by 2015, including Goal 7 on environmental sustainability, using 10 globally agreed environmental indicators to monitor progress.

The World Summit on Sustainable Development (Johannesburg, August 2002) put the emphasis on reaching specific targets in specific time frames and monitoring progress, thus reaffirming the need for statistics, indicators and integrated information systems that measure and track progress.

More recently, during the United Nations Conference on Sustainable Development (Rio+20, Brazil, June 2012), member States of the United Nations have addressed the necessary advancement in environmental information. Its outcome document, "The Future We Want", contains various references to the importance of environmental data, information and indicators, that are highly relevant to the work of UNSD.

The first initiatives pertaining to the development of environment statistics at the international level stemmed from two meetings of the Economic Commission for Europe (ECE) in 1973. Given the global environmental concerns, a draft programme of international work in environment statistics was first submitted to the Statistical Commission at its eighteenth session in 1974.

In the 1970's and 1980's, while work at UNSD concentrated on conceptual frameworks for environmental statistics and indicators and on environmental-economic accounting, the UN-ECE Statistics Division pioneered work on standard environment statistics classifications. Environment statistics programmes also started at OECD and later at Eurostat, focusing on data collection and indicator development.

In the late 1990's UNSD embarked on data collection. The first global collection of environment statistics was launched in 1999 and since then it has been established on a biennial basis.

In 2010, following the request of the Statistical Commission, UNSD started the revision of the 1984 Framework for the Development of Environment Statistics (FDES) including the establishment of a Core Set of Environment Statistics (see next section). By using the revised FDES, countries can build and strengthen technical capacities to better respond to the increasing demand for environmental information.

Environmental and sustainable development assessment, climate change information and policy, discussions about ecosystems and biodiversity, the green economy and of measuring progress beyond GDP, as well as the post

2015 development agenda (including Sustainable Development Goals and its potential indicators), are all developments that are influencing and will most likely continue to affect the work carried out in the field of environment statistics.

Revised Framework for the Development of Environment Statistics and a Core Set of Environment Statistics – FDES 2013

UNSD developed a Framework for the Development of Environment Statistics that was published in 1984 (FDES 1984). It presented a systematic approach to the organization and development of environment statistics. It was accompanied by two technical reports which described detailed sets of statistical variables within the FDES entitled Concepts and Methods of Environment Statistics: Human Settlements Statistics published in 1988 and Concepts and Methods of Environment Statistics: Statistics of the Natural Environment published in 1991. The FDES 1984 was considered a successful framework that has been used by many countries.

The Statistical Commission at its forty-first session in 2010 endorsed a work programme to revise: a) the FDES 1984, based on improved scientific knowledge about the environment and new statistical requirements created by emerging environmental policies and concerns; and b) to develop a Core Set of Environment Statistics as part of the FDES revision process. The revision process was led by UNSD with the substantive contribution of the Expert Group on the Revision of the FDES, which met four times and collaborated remotely on a continued basis during the process.

The revision and development process (2010–2013) started with a review of different conceptual, analytical and indicator frameworks. It also included the analysis of relevant international and country practices and data requirements created by international conventions, Multilateral Environmental Agreements and development goals. It required the consideration of current and foreseeable environmental and sustainable development information needs at all levels. The process also involved the consideration of different possible structures for organizing the statistics about the environment into a multi-layered approach. The revision and development process engaged a great variety of stakeholders represented by producers and users of environment statistics from countries in all regions and at different stages of development, as well as international organizations, specialized agencies and NGOs. As part of the process to develop the Core Set of Environment Statistics, more than 2,500 environmental indicators and statistics were analyzed, in terms of relevance, statistical feasibility and methodological soundness. The resulting draft Core Set was tested in 25 countries through a pilot exercise (August to September 2012) that substantively improved it. Both the revised FDES and the Core Set were subjected to a Global Consultation process in which 71 countries, areas and organizations sent their valuable contributions and suggestions (September to November 2012).

The resulting FDES 2013 is a multi-purpose conceptual and statistical framework that is comprehensive and integrative in nature and marks out the scope of environment statistics. It provides an organizing structure to guide the collection and compilation of environment statistics at the national level. It brings together data from the various relevant subject areas and sources. It is broad and holistic in nature, covering the issues and aspects of the environment that are relevant for policy analysis and decision making by applying it to cross-cutting issues such as climate change as well as the relation of agriculture to the environment.

The FDES 2013 organizes environment statistics into a structure of six components, each of them broken down into sub-components and statistical topics, which in turn contain the individual environment statistics. It is structured in a way that allows links to economic and social domains therefore facilitating further integration of information for analytical purposes.

The objective of the Core Set of Environment Statistics contained in the FDES 2013 is to serve as an agreed, limited set of environment statistics that are of high priority and relevance to most countries. The Core Set is organized and presented in accordance to the FDES 2013 structure. The Core Set of Environment Statistics is actually Tier 1 of a greater (though not exhaustive) Basic Set of Environment Statistics composed of three tiers according to the level of relevance, availability and methodological development of the statistics.

The FDES 2013 targets a wide user community. Though the FDES 2013 is relevant to, and recommended for use by countries at any stage of development, its primary objective is to guide countries at early stages in the development of their environment statistics programmes. The audience at the national level includes environmental statisticians in national statistical offices (NSOs), environmental administration and management as well as other producers of environment statistics in line ministries and sectoral authorities. The FDES 2013 helps to mark out the roles of the different data producers, thus facilitating inter-agency coordination. Finally, the FDES 2013 can also be used by international and regional institutions to organize and strengthen their production of environment statistics.

The Statistical Commission at its 44th session in February 2013 is expected to endorse the revised FDES, including the Core Set of Environment Statistics, as well as a Blueprint for Action to put the FDES to work.

Collection and dissemination of global environment statistics and indicators

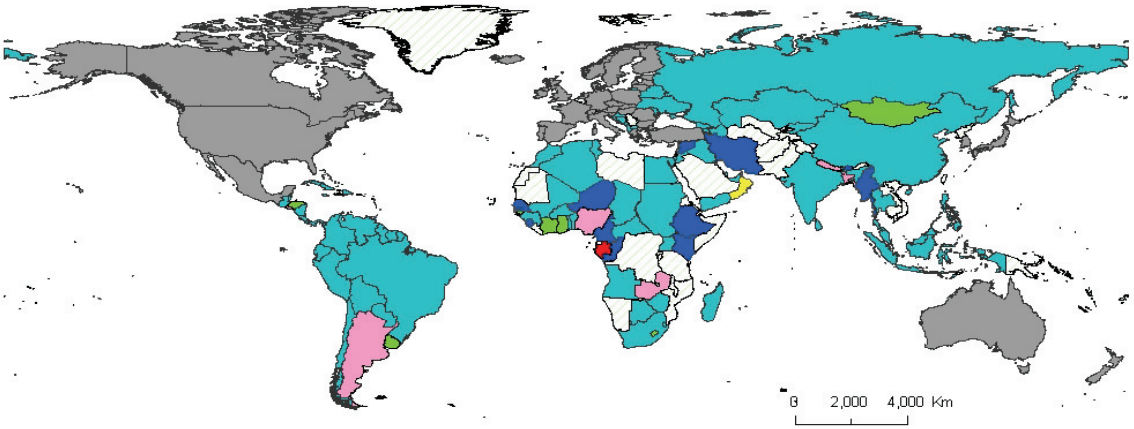
The Statistical Commission in 1995 approved the proposal by the Intergovernmental Working Group on the Advancement of Environment Statistics that UNSD carry out a global compilation of environmental indicators from national statistical services, based on a core set of indicators. UNSD embarked on the collection of environment statistics from national statistical offices in 1999, covering all non-OECD/Eurostat countries. The data collection has since been established on a biennial basis as part of UNSD's data collection programme. UNEP joined the data collection in 2004.

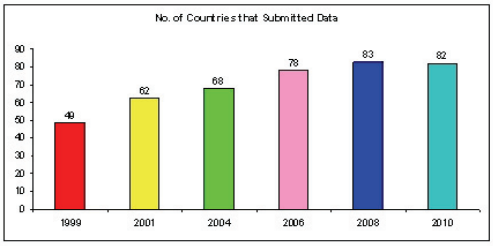
The most recent round of data collection took place in 2010 and the responses can be seen in the map below showing the coverage of UNSD environmental data collections. The next round of data collection from the countries will take place in 2013.

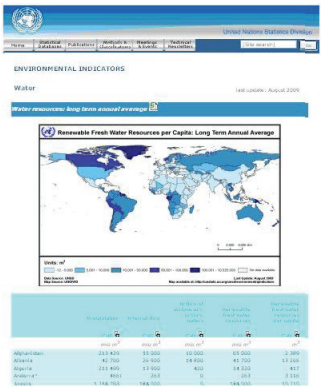
The UNSD/UNEP Questionnaire on Environment Statistics covers the areas of water, air, land and waste. The last three data collections focused on water and waste. Response rates vary strongly by region. The best response rates are from Eastern Europe, Latin America and the Caribbean, and Asia. Africa and the Pacific show low response rates.

While the number of countries responding with data to the Questionnaire has increased since 1999, many countries still have only scattered data and are able to reply only on a limited number of variables..

Coverage of UNSD Environment Data Collections







Following a thorough validation process selected data sets, together with data from OECD, Eurostat and other sources, are published by UNSD through two main web-based products: the UNSD Environmental Indicators and Country Snapshots.

Ten themes have been selected to organize the current set of UNSD Environmental Indicators: Air and Climate; Biodiversity; Energy and Minerals; Forests; Governance; Inland Water Resources; Land and Agriculture; Marine and Coastal Areas; Natural Disasters; and Waste. The Country Snapshots include many of the indicators from the UNSD Environmental Indicators list, as well as other economic and demographic background information.

Technical cooperation and capacity building

During the last two decades, UNSD has been committed to technically assist countries in the field of environmental statistics and indicators, and has conducted various specialized regional, sub-regional and national workshops, seminars and training courses around the world. UNSD has constructed partnerships to build capacities in the different regions and sub-regions working closely with the UN Regional Commissions and other regional and sub-regional institutions. A wide range of practitioners from NSOs, environmental ministries and sectoral authorities involved in the production of environment statistics have participated in these capacity building activities over the years.

In addition, technical assistance in environment statistics through statistical capacity building projects was provided in the CARICOM, ESCWA and ECOWAS regions. Within these projects, several activities were undertaken including workshops, inter-country study tours, and direct technical assistance to selected countries.

A major output of the CARICOM project was a regional publication entitled The CARICOM Environment in Figures 2002. The CARICOM Secretariat has launched a regular data collection programme in environment statistics and the third regional compendium is planned for 2013. UNSD has continued to provide technical assistance in this subject to the CARICOM Secretariat and its Member States.

The ESCWA and ECOWAS projects resulted in the publication of detailed assessments of the situation of environment statistics in the countries of these two regions.

A strategic Framework for Strengthening Capacity in the Development and Institutionalisation of Environment Statistics in the ECOWAS Region was developed and is being implemented by the ECOWAS Secretariat. The ECOWAS Secretariat has started data collection in environment statistics from its Member States and UNSD continues to assist the Secretariat in this regard.

Coordination of international activities in environment statistics

The Statistical Commission at its thirty-fourth session in 2003 empowered UNSD to convene an Intersecretariat Working Group on Environment Statistics (IWG-ENV) to coordinate and harmonize methodological work, data collection, dissemination, training and capacity building programmes in environment statistics. The permanent members of the IWG-ENV are those organisations that have well-established international programmes on environment statistics (current members are UNSD, UN-ECE, UN-ECLAC, UN-ESCWA, UNEP, OECD, Eurostat and FAO). The IWG-ENV also works through thematic sub-groups as needed.

Information on the Web

ENVSTATS, Environment Statistics News and Notes report about national, regional and international events and developments in environment statistics at http://unstats.un.org/unsd/environment/newsletters.htm

For more on ongoing methodological work in environment statistics, questionnaires, indicators, country data, access to data sources and publications visit http://unstats.un.org/unsd/environment/default.htm

For the FDES revision process, visit:

http://unstats.un.org/unsd/environment/fdes/fdes_egm.htm

For the final draft FDES 2013 (as submitted to the 44th session of the Statistical Commission for its approval), visit:

http://unstats.un.org/unsd/statcom/doc13/BG-FDES-Environment.pdf

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