

Climate change statistics



Reunión de Expertos en Estadísticas e Indicadores Ambientales de América Latina y el Caribe

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United Nations Statistics Division



Climate change statistics: where are we?



- Demand for data on climate change is greater than its supply, particularly with regard to its **environment** aspects.
- This gap is evidently deeper in **developing and least developed countries** that face critical resource constraints, limited technical capacities, institutional weakness and lack of coordination among national institutions.
- Most of the literature about climate change is focused on analytical and policy aspects.
- Statistical guidance and good practices are **available** for the measurement of climate change mainly focuses on estimating GHG emissions and observing its global concentrations.
- However, work is increasingly being conducted to **develop methodologies** on the other aspects. They include climate change evidence and impacts, quantification of the occurrence of disasters, their magnitude and different impacts, as well as adaptation efforts.



State of statistics and guidance

- **Climate process drivers** and on **climate change evidence** statistics relatively more available.
 - Greenhouse gas (GHG) emissions transform into global concentrations
 - Global concentration of CO₂ and temperatures are also available over long periods of time.
- **Impacts** of climate change: some statistics are produced but more needed
 - Emerging data needs: Extreme climate-related meteorological events and natural disasters increase in frequency and intensity
- **Mitigation** statistics are less often produced and more difficult to capture statistically
 - Insufficient resources for measurement and lack of guidance
- **Vulnerability and adaptation** (as well as resilience) developmental stage
 - Need to develop methodologies and capacity



UNSD Past Activities

- At the Statistical Commission in 2009 a programme review on climate change and official statistics carried out by the Australian Bureau of Statistics was presented.
 - Specify how official statistics may be used for climate change measurement and analysis
 - Identify recommendations and actions to mainstream the climate change aspect in official statistics
- UNSD Conferences on climate change and official statistics
 - Oslo, 14-16 April 2008
(http://unstats.un.org/unsd/climate_change/default.htm)
 - Seoul, 11- 12 December 2008
(http://unstats.un.org/unsd/climate_change/Korea/default.htm)
- No follow-up to the programme review was asked by the Statistical Commission in 2009.

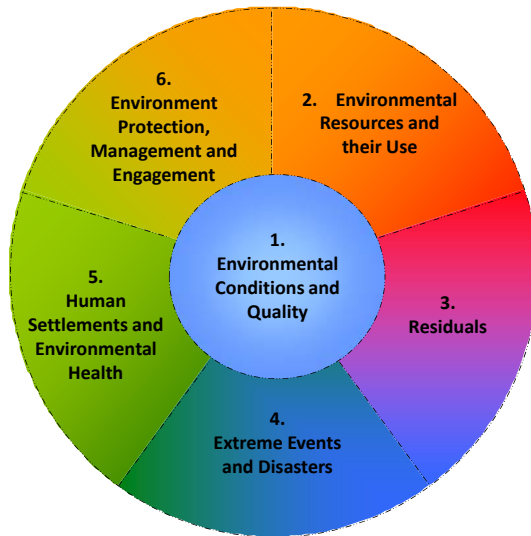


FDES & Climate Change

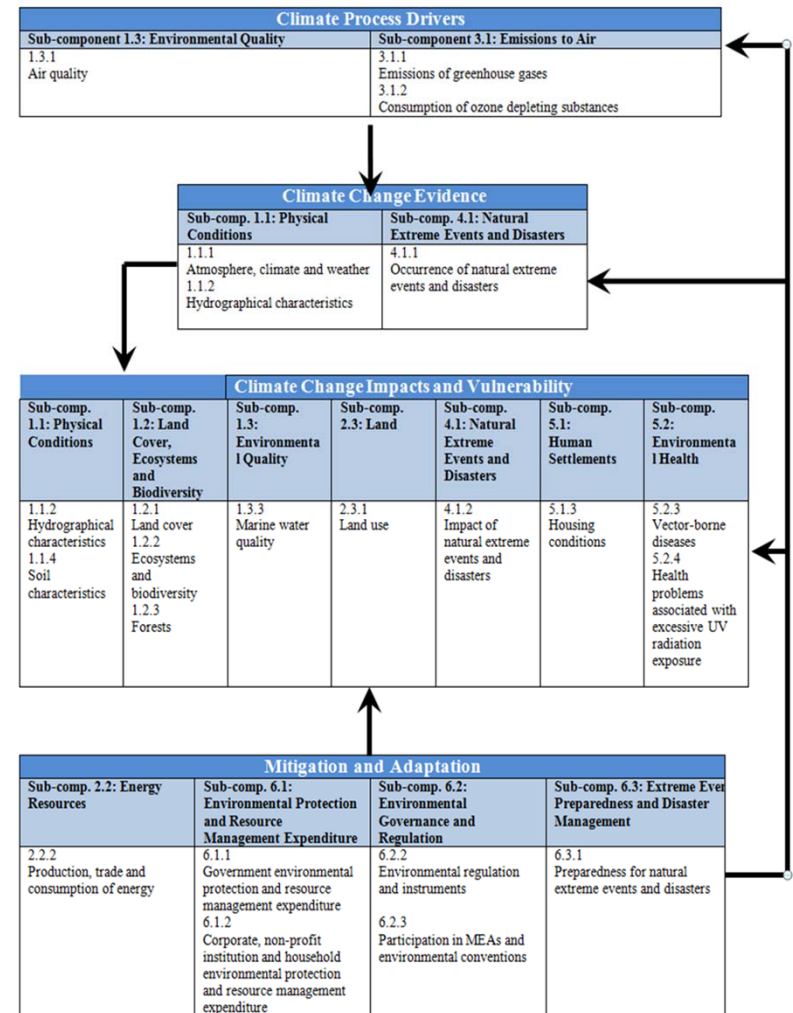
- Highlights statistics necessary for developing indicators reporting on key MEAs such as Kyoto Protocol and the Doha Amendment
- Rio +20 UN Conference on Sustainable Development – launch of SDGs
- Relevant statistics for a country depend on its climate change policies, mitigation and adaptation programmes and MEAs signed up to
- Impacts vary locally and may require sub-national statistics or statistics for specific groups “no one left behind”



FDES & Climate change statistics



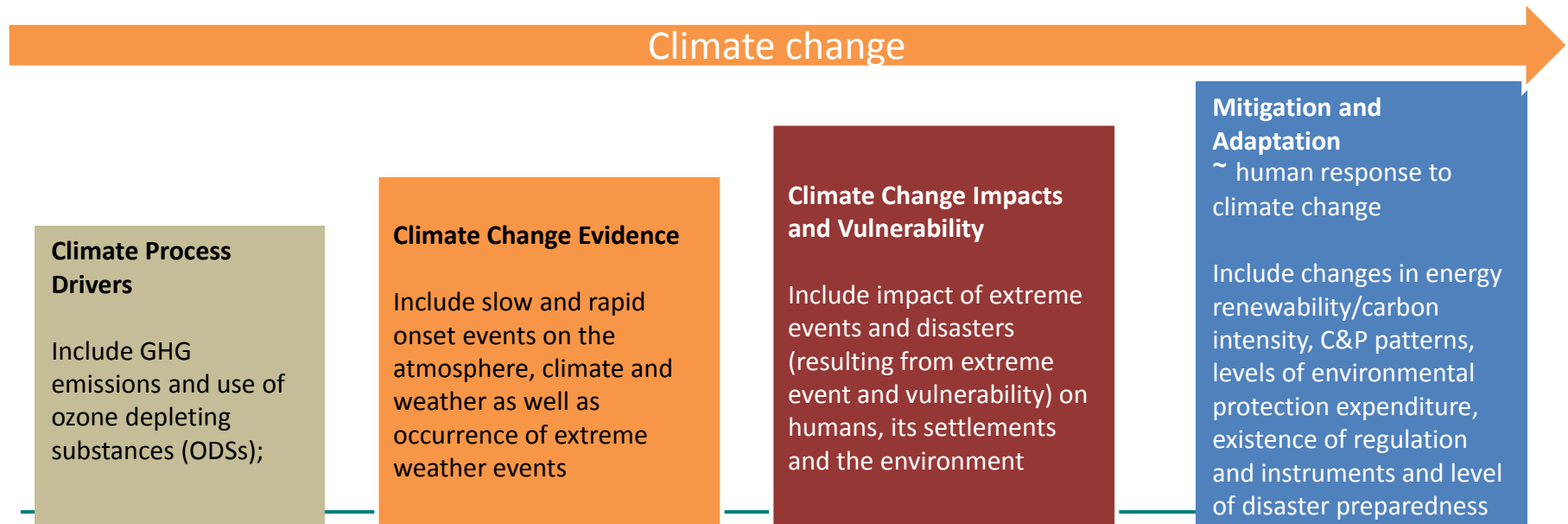
- FDES cross-cutting application (Chapter 5) links climate change and environment statistics based on IPCC Framework
- Integrating official statistics for climate change monitoring



IPCC Sequence of climate change

The IPCC framework was the basis upon which the stages of the sequence of climate change were constructed to substantiate the application of the FDES to climate change statistics.

The FDES application to climate change statistics identifies the components, topics and individual statistics that are needed to inform about each of the stages of the sequence of climate change:



UNSD Recent Activities

- Member of the UN-ECE Task Force on a set of key climate change-related statistics and indicators.
- Preparation, in collaboration with UN-ECE, of the Secretary-General's report on climate change statistics for the 47th session of the Statistical Commission in 2016 that focused on:
 - Demand and supply of climate change statistics
 - Statistical work on climate change in the Statistics Division
 - Climate change-related statistics work in the Economic Commission for Europe
 - The way forward



Report of the Secretary-General on Climate Change Statistics to the 47th session of the Statistical Commission


UNSD, in collaboration with UN-ECE, prepared the Report of the Secretary-General on Climate Change Statistics to the 47th session of the Statistical Commission (E/CN.3/2016/15), that was held in New York from 8 to 10 March 2016.

http://unstats.un.org/unsd/environment/climatechange_docs_conf.html

Decision 47/112:

<http://unstats.un.org/unsd/statcom/47th-session/documents/Report-on-the-47th-session-of-the-statistical-commission-E.pdf>

United Nations E/CN.3/2016/15

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Statistical Commission
Forty-seventh session
8-11 March 2016
Item 3 (k) of the provisional agenda*
Items for discussion and decision: climate change statistics

Climate change statistics
Report of the Secretary-General

Summary

In accordance with Economic and Social Council decision 2015/216 and past practice, the present report was prepared by the Statistics Division of the Department of Economic and Social Affairs, in its capacity as secretariat of the Statistical Commission, in collaboration with the Economic Commission for Europe (ECE). It contains a discussion of climate change statistics and highlights their relevance and the need for them. It builds upon the programme review on climate change and official statistics, undertaken at its fortieth session in 2009, and upon the outcome of two related conferences on climate change and official statistics organized by the Division. The present report elaborates on the demand and supply of climate change statistics, describing the situation around the world, with particular emphasis on the constraints that developing countries face. Responding to increasing demand from countries, the present report summarizes the work of the Division on climate change statistics, including methodological guidance, technical assistance and training, as it pertains to three key statistical domains relevant to climate change, namely, environment statistics, geospatial statistics and environmental-economic accounts. Complementarily, it describes the progress made in the work of ECE on climate change-related statistics and indicators. The Statistical Commission is invited to express its views on the report and discuss the way forward.

* E/CN.3/2016/1.

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47th session of Commission – Summary of decisions

- For countries:
 - Develop and strengthen environment statistics;
 - Use the FDES 2013 to guide the development of climate change statistics and indicators given the close interrelationship between environment statistics and climate change statistics; and
 - Invest adequate resources in the development of climate change statistics, in particular the underlying environment, energy, agriculture and industry statistics, and environmental-economic accounts that relate to the climate-economy interface and the physical flow accounts for greenhouse gas emissions.
- For the international statistical community:
 - Expand its regional, subregional and national capacity-building efforts in climate change statistics; and
 - Consider the Sendai Framework for Disaster Risk Reduction 2015-2030 in the development of climate change statistics and indicators.



47th session of Commission – Summary of decisions

- For UNSD:
 - Review and consider the set of climate change-related statistics and indicators of the Economic Commission for Europe as a basis for developing a global set of climate change statistics and indicators, applicable to countries at various stages of development;
 - Include climate change statistics on the multi-year programme of the Statistical Commission with greater frequency; and
 - Develop a workplan for submission to the Commission at its forty-eighth session.



UNSD: Globalizing climate change statistics and indicators



- The UN-ECE set of indicators was endorsed by the Conference of European Statisticians plenary session in June 2017 as an initial list.
- UNSD is currently:
 - pilot testing the UN-ECE set of indicators with countries to assess its applicability for developing countries, in particular to consider areas of concern such as adaptation/vulnerability.
 - discussing the set of indicators in various fora, including the Expert Group on Environment Statistics, and regional and national capacity building workshops.
 - developing a work plan to be presented at the Statistical Commission in 2018 in preparation for Global Consultation.



Dedicated page on UNSD website

Environment Statistics

Climate Change Statistics

<http://unstats.un.org/unsd/environment/climatechange.html>

The UNFCCC has affirmed that climate change is one of the greatest challenges of our time. Climate change is a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

The world's climate system, including the atmosphere, oceans and cryosphere, is changing and will continue to change at rates unprecedented in recent human history. Findings on the scientific basis for climate change suggest that a number of human-induced alterations of the natural world are involved.

Climate change affects all countries and remains one of the most important development challenges facing humanity. It disrupts national economies and affects lives, costing people, communities and countries significantly today and in the future. The main impacts of climate change are observed through both slow onset events (e.g., sea level rise, increasing temperatures, ocean acidification, forest degradation, biodiversity loss and desertification) and sudden extreme weather events.

Climate change occurs in a sequence of key events. They include process drivers, GHG emissions, CO2 concentrations, changes evidencing climate change, occurrence of slow onset events and occurrence of extreme hydrometeorological events; which, depending on the country's disaster preparedness and risk reduction infrastructure, will result in disasters and their corresponding impacts on people, human settlements, economic assets and ecosystems. Each of the parts of this sequence can be described and measured to some extent, and pertinent statistics can be produced, depending on countries' priorities and resources.

Most of the literature about climate change is focused on analytical and policy aspects. The guidance available about data and statistics for the measurement of climate change is mainly about methodologies to estimate GHG emissions. However, work is increasingly being conducted to develop methodologies on the other aspects. They include climate change evidence and impacts, quantification of the occurrence of disasters, their magnitude and different impacts, as well as adaptation efforts.

Due to this increasing importance of statistical work on climate change, this new knowledge platform is dedicated to climate change statistics. It aims to provide guidance and tools for countries interested in collecting, compiling and disseminating climate change statistics, emphasizing those that are related to environment statistics.

This platform includes various documents, tools and resources which are being made available.

[UNSD documents and conferences on climate change statistics](#)

[Other useful resources](#)