

Linking climate change statistics and environment statistics at the global level



Side Event: Environment and Climate Change Statistics – the nexus
Tuesday, 3 March 2020

51st session of the Statistical Commission, New York

United Nations Statistics Division

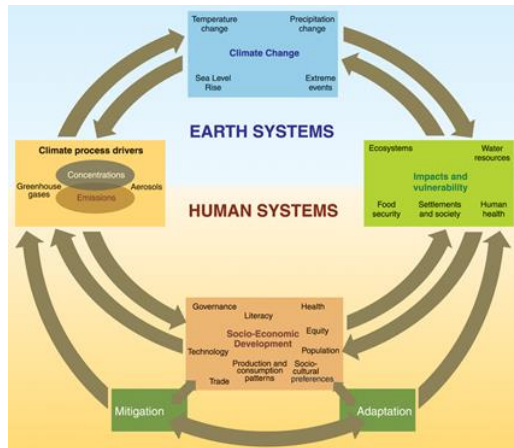


Outline

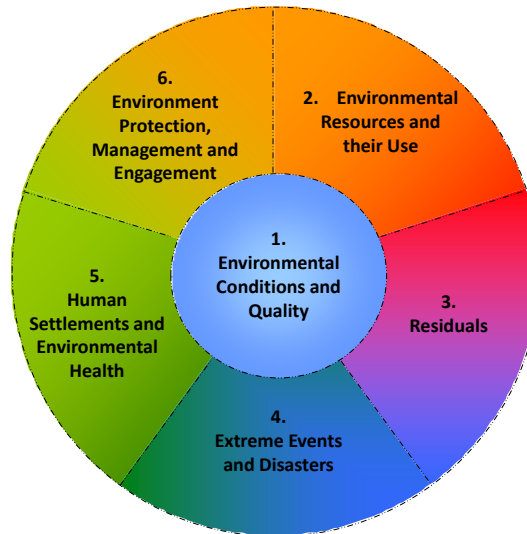
- Environment statistics (FDES 2013) and climate change statistics (IPCC)
- Statistical Commission (47th session) - relationship between FDES and climate change statistics
- Environment statistics and climate change statistics – the links
- UNSD: Globalizing climate change statistics and indicators
- Statistical Commission (49th session) – linking climate change statistics and policy; and countries to contribute to Pilot Survey and Global Consultation
- Climate change statistics – Pilot Survey and plans for Global Consultation
- Regional and national work on climate change statistics - examples
- SG Report on Env. Statistics + Background Report (51st session of Commission)
 - Provides update on environment statistics and climate change statistics
 - Analysis of 2018 data collection – light of SDGs, increasing demand/use of data from Q
 - Inventory of data collection activities
 - Inventory of capacity development activities



FDES 2013 & climate change statistics



IPCC, 2007, Fourth Assessment Report (drivers, evidence, impacts & vulnerability, mitigation and adaptation)



Framework for the Development of Environment Statistics (FDES 2013)

- FDES cross-cutting application (Chapter 5) links climate change and environment statistics based on IPCC Framework (4th report in 2007)
- Integrating official statistics for climate change monitoring

Climate Process Drivers	
Sub-component 1.3: Environmental Quality	Sub-component 3.1: Emissions to Air
1.3.1 Air quality	3.1.1 Emissions of greenhouse gases 3.1.2 Consumption of ozone depleting substances

Climate Change Evidence	
Sub-comp. 1.1: Physical Conditions	Sub-comp. 4.1: Natural Extreme Events and Disasters
1.1.1 Atmosphere, climate and weather 1.1.2 Hydrographical characteristics	4.1.1 Occurrence of natural extreme events and disasters

Climate Change Impacts and Vulnerability						
Sub-comp. 1.1: Physical Conditions	Sub-comp. 1.2: Land Cover, Ecosystems and Biodiversity	Sub-comp. 1.3: Environmental Quality	Sub-comp. 2.3: Land	Sub-comp. 4.1: Natural Extreme Events and Disasters	Sub-comp. 5.1: Human Settlements	Sub-comp. 5.2: Environmental Health
1.1.2 Hydrographical characteristics 1.1.4 Soil characteristics	1.2.1 Land cover 1.2.2 Ecosystems and biodiversity 1.2.3 Forests	1.3.3 Marine water quality	2.3.1 Land use	4.1.2 Impact of natural extreme events and disasters	5.1.3 Housing conditions	5.2.3 Vector-borne diseases 5.2.4 Health problems associated with excessive UV radiation exposure

Mitigation and Adaptation			
Sub-comp. 2.2: Energy Resources	Sub-comp. 6.1: Environmental Protection and Resource Management Expenditure	Sub-comp. 6.2: Environmental Governance and Regulation	Sub-comp. 6.3: Extreme Event Preparedness and Disaster Management
2.2.2 Production, trade and consumption of energy	6.1.1 Government environmental protection and resource management expenditure 6.1.2 Corporate, non-profit institution and household environmental protection and resource management expenditure	6.2.2 Environmental regulation and instruments 6.2.3 Participation in MEAs and environmental conventions	6.3.1 Preparedness for natural extreme events and disasters



Report of the Secretary-General on Climate Change Statistics to the 47th session of the Statistical Commission in 2016

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) (New York, 8-10 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>

Main decisions:

For countries: **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.**

For UNSD: Review and consider UN-ECE set of climate change-related statistics and indicators as a basis for **developing a global set of climate change statistics and indicators, applicable to countries at various stages of development.**



Environment statistics and climate change statistics – the links

- Environment statistics – similar to climate change statistics:
 - Synthesize data originating from various types of sources, e.g. surveys or monitoring systems.
 - Involve large number of institutions or stakeholders - need collaboration.
 - Overwhelming volume of data across various institutions – challenging to translate into official statistics.
 - Environmental/climate change-related questions in censuses/surveys and/or develop specialized environmental/climate change surveys
 - Different users need environment statistics at different levels of aggregation and depths of information. They may need cross-cutting environment statistics data sets, for instance regarding climate change.
- When developing climate change statistics, as for env. stats., important to have:
 - Working group at national level – could cover both env & cc statistics.
 - Tool, e.g. ESSAT, to assess data availability, relevance, priority of statistics
 - National action plan or strategy – both environment statistics and climate change statistics can be covered or separate plans
 - National sets of environment statistics and climate change statistics – based on FDES-Basic Set of E.S. and Global Set of Climate Change Indicators



Report of the Secretary-General on Climate Change Statistics to the 49th session of the Statistical Commission in 2018

UNSD, in collaboration with UN-ECE and UNFCCC, prepared the Report of the Secretary-General on Climate Change Statistics to the 49th session of the Statistical Commission (E/CN.3/2018/14) (New York, 6-9 March 2018).

<https://unstats.un.org/unsd/statcom/49th-session/documents/2018-14-ClimateChange-E.pdf>

Decision: 49/113

<https://unstats.un.org/unsd/statcom/49th-session/documents/Report-on-the-49th-session-E.pdf>

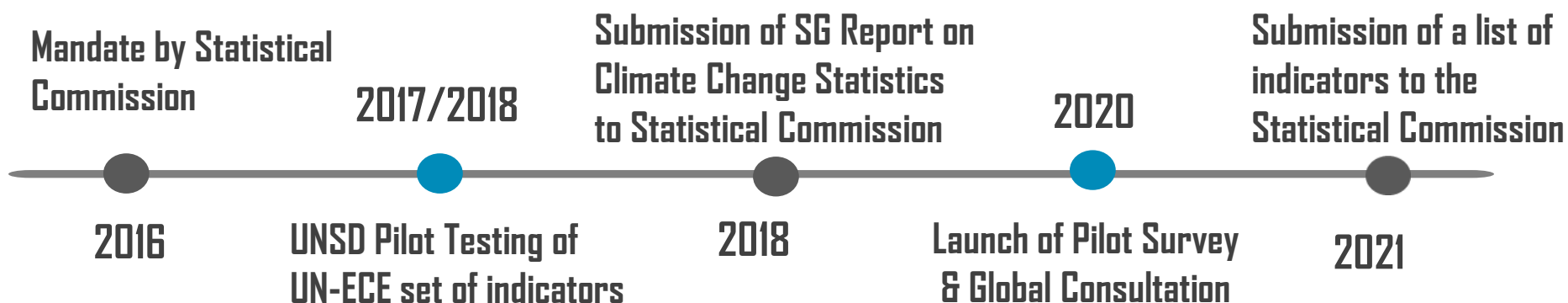
Main decisions

For countries: (i) Participate in the Pilot Survey on Climate Change-related Statistics and Indicators currently being undertaken by UNSD, as well as in the planned Global Consultation on Climate Change Statistics and Indicators; (ii) Enhance collaboration between NSOs and national authorities responsible for reporting climate change related information to UNFCCC Secretariat;

For UNSD and UNFCCC: Strengthen the link between statistics and policy, for example, by: (i) undertaking joint initiatives in the development of climate change statistics and indicators; (ii) encouraging joint capacity building efforts and trainings with other partners, and exploring ways to encourage NSOs to be more involved in the preparation of data submissions to the UNFCCC secretariat, for supporting the implementation of the Paris Agreement.



UNSD: Globalizing climate change statistics and indicators



To strengthen link between statistics and policy, UNSD is engaging closely with UNFCCC to develop global set of climate change indicators.

- Joint report to the 49th session of the Stat. Commission
- Joint Side Events at Statistical Commission meetings
- UNFCCC participation in the Expert Group on Environment Statistics
- UNSD participation in a Side Event at the High-Level Political Forum in July 2019 organized by UNFCCC, UNSD, UNDRR, FAO, WMO)
- UNFCCC participation in UNSD organized regional workshops on environment (including climate change statistics) statistics [e.g. Arab region in 2018, CARICOM region in 2019]



UNSD: Globalizing climate change statistics and indicators

Objective: develop a global set of climate change indicators, tailored for all countries, while ensuring that the needs of countries with less developed statistical systems are taken into account.

Following criteria applied:

- consistency with existing thematic indicator sets and guidance, namely from UNFCCC/IPCC, FAO, SDGs, UNDRR, UNCCD, UNCBD, as well as with the FDES statistics.
- complementarity with existing regional climate change indicators, e.g. EEA, UN-ECE, and Eurostat, where applicable, as well as other relevant initiatives.
- selection of indicators for which metadata can be developed.
- balanced coverage of the five IPCC areas (drivers, impacts, vulnerability, adaptation and mitigation).



UNSD: Globalizing climate change statistics and indicators

Process: UNSD has

- carried out a systematic review of climate change statistics and indicators from 130 countries with representative regional coverage,
- analysed more than 7,500 individual climate change statistics and indicators, and
- has identified a draft set of the most commonly repeated indicators (approx. 133 currently) thereby promoting a bottom-up approach to their selection.

Many of the indicators are repeated across different countries and come from at least one national source. The draft set of climate change statistics and indicators has been organized according to the five areas of the IPCC framework: **drivers, impacts, vulnerability, mitigation and adaptation**, and then divided by topics.

The relevant articles of the [Paris Agreement](#) are mentioned for each indicator in the draft set thereby clearly demonstrating the link between statistics and policy.

International frameworks and agreements such as SDGs, FDES and Sendai Framework, as well as the UN-ECE set of indicators, have been considered to promote consistency and harmonize the wording of the indicators to the extent possible.



Towards the global set of climate change indicators

(consulted 130 national sources to date)



UNSD: Globalizing climate change statistics and indicators

Process:

Final number of statistics and indicators will be decided after Pilot Survey and Global Consultation but set of indicators will be comprehensive and applicable to all countries.

The [Expert Group on Environment Statistics](#) (EGES) has been contributing to work on the draft set through review of iterative versions and discussions at Expert Group meetings.

At its [sixth meeting](#) in May 2019, it was agreed that UNSD share the draft set with interested experts of the EGES, before conducting the current Pilot Survey.

The expert review was completed in January 2020 based on feedback from six countries (Jamaica, Luxembourg, Suriname, Tanzania, The Netherlands and Zimbabwe) and four international and regional organizations (UNFCCC, FAO, ECLAC, EEA).

The Pilot Survey covers selected countries and international/regional organizations that have participated through different processes such as EGES, regional or national workshops. The Global Consultation will take place in mid-2020 and will involve all countries.



Examples of regional/national work on climate change statistics and indicators

- Regional
 - Current UN-ECE set includes 44 indicators relevant to the region and complementary to the global set
 - ECLAC – programme on climate change and disaster statistics
 - Caribbean Community (CARICOM) producing first report on climate change statistics.
 - ESCWA – regional report on climate change statistics
- National
 - Jamaica – Climate Change Statistics Report (2016)
 - Tanzania – National Climate Change Statistics Report (2020)
 - Nepal – Climate Change Impact Survey (2016)
 - Slovenia – Statistical Day 2020: Climate Crisis – Hot Data



Report of the Secretary-General on Environment Statistics to the current (51st session) of the Statistical Commission

UNSD prepared the Report of the Secretary-General on Environment Statistics to the 51st session of the Statistical Commission (E/CN.3/2020/33) (NY, 3-6 March 2020).

<https://unstats.un.org/unsd/statcom/51st-session/documents/2020-33-EnvironmentStats-E.pdf>

- Overview of activities in environment statistics
- Update and plans for climate change statistics (2021-SG report on climate change stats)

Accompanied by Background Report:

<https://unstats.un.org/unsd/statcom/51st-session/documents/BG-item-4e-EnvironmentStats-E.pdf>

- Part I provides analysis of results of UNSD/UNEP Questionnaire 2018 on Env. Statistics (Water and Waste), by variables of particular interest to the SDG agenda.
- Part II contains inventory of regular, international environmental data collection, reporting and dissemination from countries undertaken by the United Nations, its specialized agencies, intergovernmental organizations and conventions.
- Part III contains inventory of capacity development activities in env. statistics, in particular starting with those led by international and regional organizations.

The two inventories have been compiled by the Environment Statistics Section of UNSD in collaboration with the members of the Intersecretariat Working Group on Environment Statistics (IWG-ENV) and other partner organizations.



Report of the Secretary-General on Environment Statistics to the current (51st session) of the Statistical Commission

- **Part I provides analysis of results of UNSD/UNEP Questionnaire 2018 on Env. Stats (Water and Waste), by variables of particular interest to SDG indicators**
(SDG indicators – (water) 6.3.1, 6.4.1, 6.4.2; (waste) 11.6.1, 12.4.2, 12.5.1)
- UNSD liaised closely with several interested stakeholder organisations when considering modification to the 2018 Questionnaire. When considering request for addition of variables to the Questionnaire, careful consideration was paid to balancing demand for data pertinent to SDG indicators and other purposes, together with countries' capacity to provide such data, and the respondent burden being placed upon countries by international organisations, including UNSD. 2020 Questionnaire – similar process.
- UNSD
 - carries out extensive data validation procedures that include built-in automated procedures, manual checks and cross-references to national data sources.
 - does not make any estimation or imputation for missing values so the number of data points provided are actual country data.
 - only publishes data on its website that are considered accurate or confirmed by countries.



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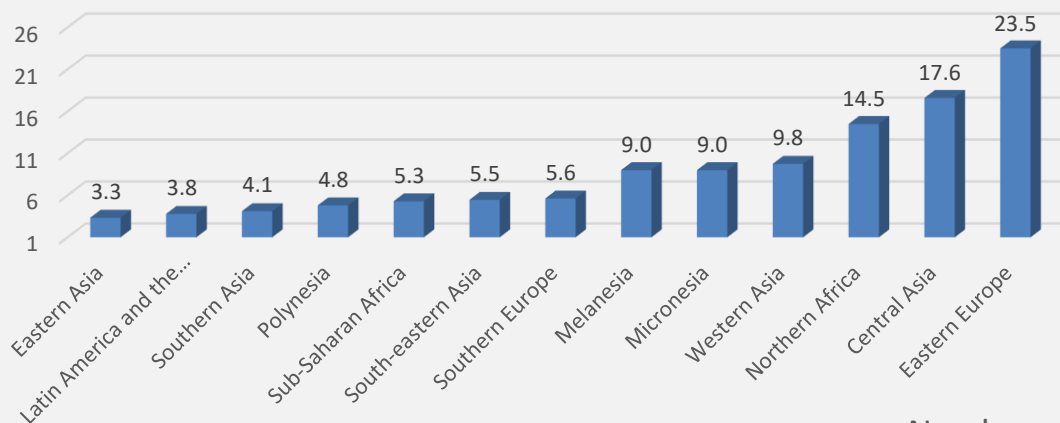
- **Part II: Inventory of regular, international environmental data collection, reporting and dissemination from countries**
- The inventory serves as a useful resource to assist in alleviating the reporting burden on countries. It shows that dozens of international and regional organizations collect and disseminate a multitude of environment-related data and statistics. These data cover various topics, and, when combined together, they provide detailed information of Member States' environmental conditions.
- Several environment topics, including water and waste, feature in multiple international institutions' data collection mandates. This illustrates the importance of data in these topics to compile and monitor related SDG indicators.
- Based on the metadata and methodological documents, it is evident these parallel data collection efforts may cover similar themes but have different data points, time periods, and practical considerations. While every effort should be made to reduce the data reporting burden for countries, this inventory shows that data of the same topic, collected from different channels, can be beneficial and complementary.



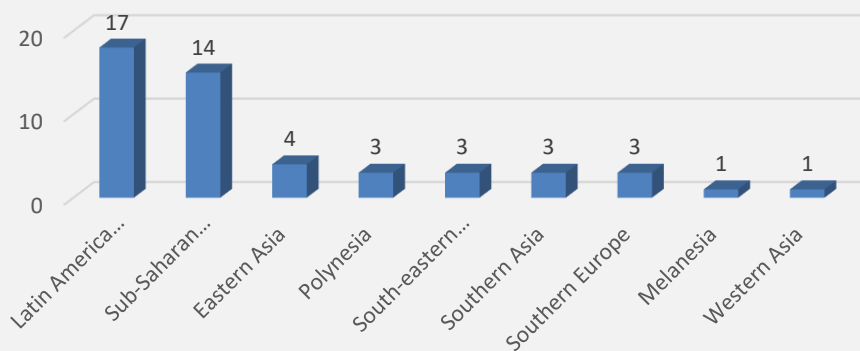
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- **Part III: Inventory of capacity development activities in environment statistics**
- Purpose of inventory is to synthesize capacity development activities on environment statistics at the international level which will assist and improve their coordination and contribute towards geographically balanced coverage of these activities.

Concentration of reported activities



Number of countries without reported activities



UNSD Immediate Plans

Issues/Questions

UNSD plans

- Analysis of Pilot Survey on Climate Change Indicators (March-April 2020)
- Prepare for/conduct Global Consultation on Climate Change Indicators (May-July 2020)
- Organize capacity development activities in environment statistics and climate change statistics at regional and national level to encourage the two areas to develop in parallel
- Discuss at the next Expert Group on Environment Statistics meeting, inter alia, results of the Pilot Survey on Climate Change and two inventories on data collection and capacity development
- Continue collaboration with UNFCCC to encourage and mainstream the climate change policy and statistics interface.
- Develop, with UNFCCC, a set of guidelines/ guidance for promoting cooperation between NSOs and institutions reporting climate change information at the national level.

Issues/questions

- How can NSOs and institutions reporting climate change information to UNFCCC cooperate more effectively?
- How can NSOs be more involved in both the development and reporting of environment statistics and climate change statistics, given their close interrelationship?



Thank you for your attention!

For more information please contact the Environment Statistics Section
at the United Nations Statistics Division:

E-mail: envstats@un.org

Website: <https://unstats.un.org/unsd/envstats/>

Climate Change Statistics Website

<https://unstats.un.org/unsd/envstats/climatechange.cshhtml>

