

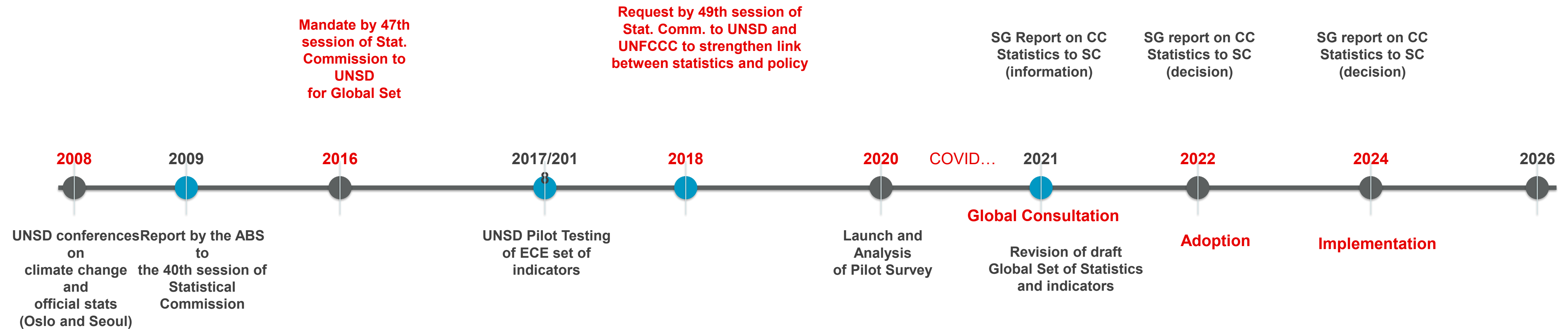
Introduction of the Global Set of Climate Change Statistics and Indicators, including relevant work on gender

National workshop for Tanzania
on data availability for measuring climate change
with a gender dimension for better adaptation
and mitigation policies

1 – 2 September 2026
From 9:00 to 16:30

Place: Best Western Dodoma City Hotel, Dodoma, Tanzania

Climate change statistical programme: Collaboration between UNSD, UNFCCC and the Expert Group on Environment and Climate Change Statistics (EG-ECCS)



UNSD programme on climate change statistics supports countries with less developed statistical systems to start and advance work in this area, with special attention to SIDS and least developed countries, and guidance tailored to their needs.

Latest Decision: ... Urged countries to strengthen their data collection in environment and climate change statistics, and called on all stakeholders to support this effort



Key Decisions of the Statistical Commission:

- **Twenty-eighth session (1995), para. 77**, mandated UNSD to start collecting environmental data from national statistical offices, establishing the basis for the environment statistics data collection programme:
https://unstats.un.org/UNSDWebsite/statcom/session_28/documents/statcom-1995-28th-report-E.pdf
- **Decision 44/105 (2013)**, the Commission endorsed the revised FDES 2013 as the framework for strengthening environment statistics programmes in countries:
https://unstats.un.org/UNSDWebsite/statcom/session_44/documents/statcom-2013-44th-report-E.pdf
- **Decision 53/116 (2022)**, the Global Set was adopted at the 53rd session of the Statistical Commission:
<https://unstats.un.org/unsd/statcom/53rd-session/documents/2022-41-FinalReport-E.pdf>
- **Decision 56/124 (2025)** the Commission supported the restructuring of the expert group based on its expanded scope of work covering environment and climate change statistics:
https://unstats.un.org/UNSDWebsite/statcom/session_56/documents/2025-37-FinalReport-EE.pdf.

Latest Decisions of the Statistical Commission:

Decision 57/109 (2026), the Commission:

- approved the work programme implemented in collaboration with the restructured Expert Group ...
- endorsed improvements to the Global Set indicators for climate and health and related metadata
- Urged countries to strengthen their data collection in environment and climate change statistics
- Requested the Expert Group to further revise the Global Set indicators and to assess the need to also revise the FDES, taking into account updates in statistical methodologies, especially on environmental-economic accounting, biodiversity and disasters, among others: https://unstats.un.org/UNSDWebsite/statcom/session_57/documents/2026-35-FinalReport-E.pdf



Global Set of Climate Change Statistics and Indicators

1. Contains 158 indicators (and 190 statistics) which link policy targets (drivers, impacts, vulnerability, mitigation, adaptation) and statistical indicator frameworks across:

- Paris Agreement
- Sendai Framework
- Sustainable Development Goals

2. The aim is to contribute to:

- **independent** national policies evaluation
- **comparable** reporting to UNFCCC
- **advance** of climate change and environment statistics

3. The Global Set helps to define the scope and content of:

- National programmes, countries use the Global Set to develop their own sets
- Regional approaches, indicators were adapted/selected by ECLAC and ESCWA

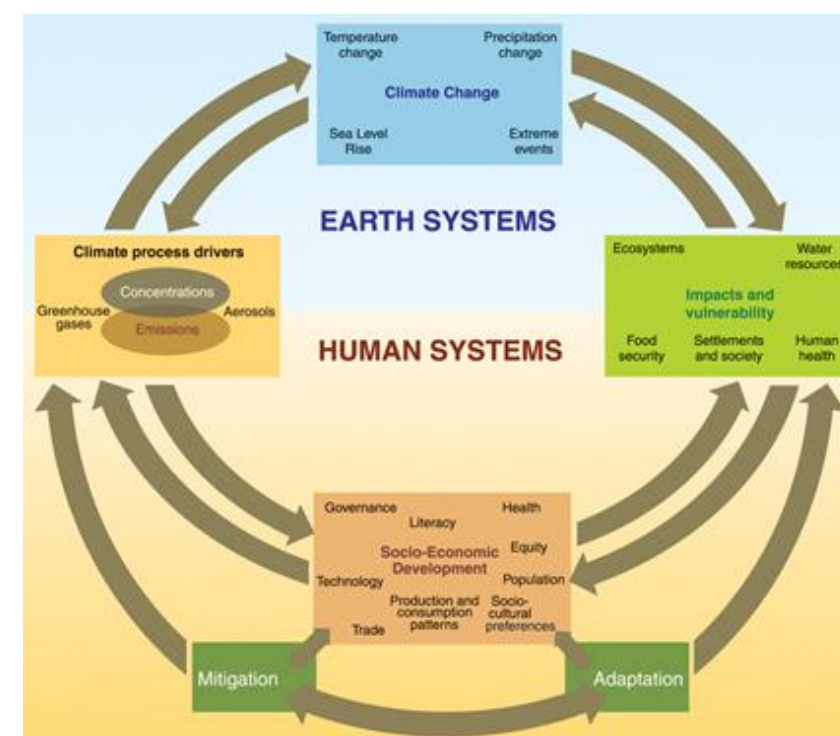
4. Helps to frame and steer:

- further methodology development in prioritized areas such as gender and health
- capacity development by UNSD, UNEP, Regional Commissions, CARICOM, COMESA

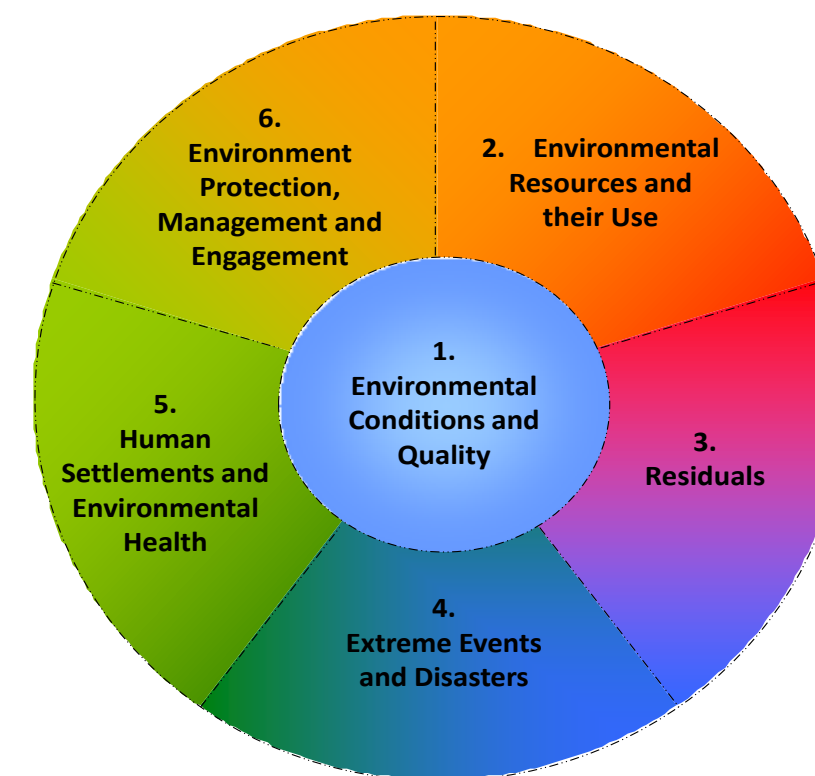


Methodological foundation

- Given that there was no underlying framework linking the reporting requirements stemming from the Paris Agreement and the necessary statistics or indicators to support climate policy action, UNSD worked closely with UNFCCC to develop such a framework explicitly for climate change.
- The Global Set, developed in close collaboration with UNFCCC, is structured according to the IPCC framework and FDES, with a tiering system as in the FDES and the SDG indicators.

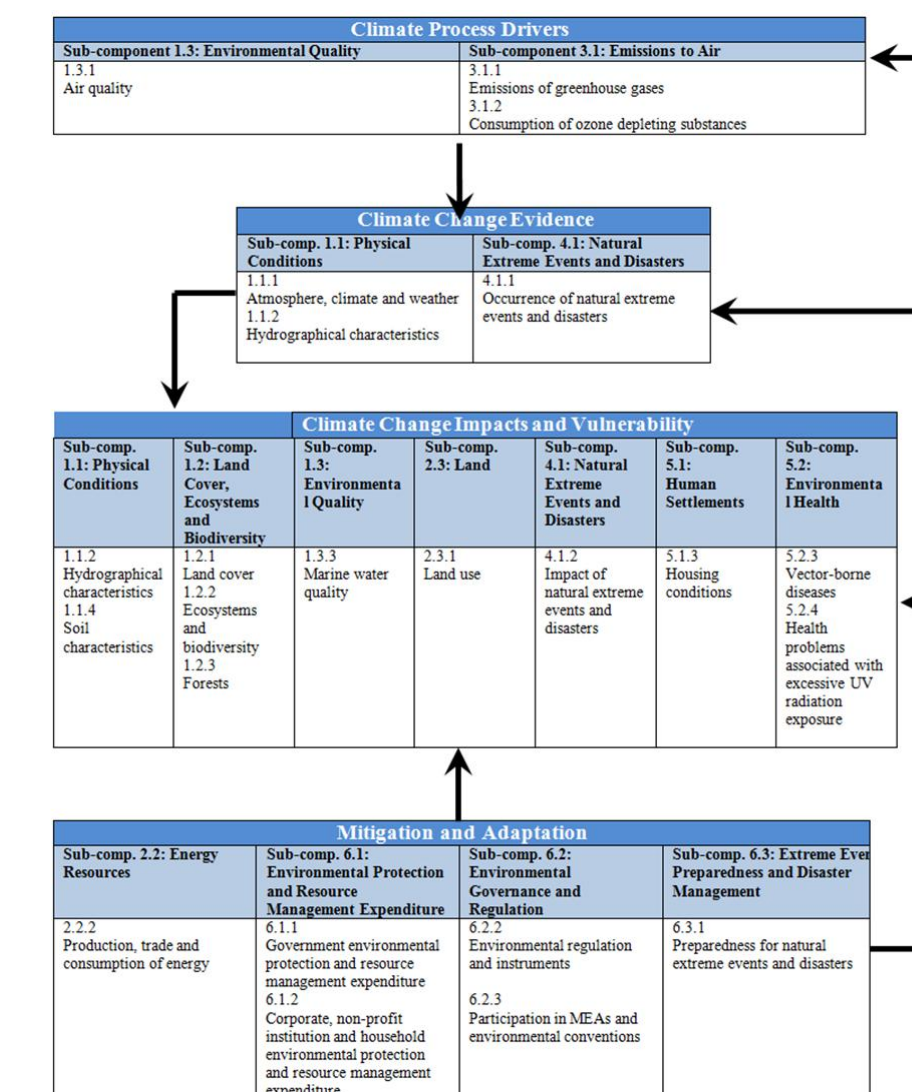


IPCC, 2007, Fourth Assessment Report



Framework for the Development of Environment Statistics (FDES 2013)

Relevant chapters of the Manual of the BSES
https://unstats.un.org/unsd/envstats/fdes/manual_bsesh.html



FDES cross-cutting application (Chapter 5) links climate change and environment statistics based on the IPCC Framework



Connections with indicators from:

The Sendai Framework 2030 Agenda for Sustainable Development



Statistical references

The main statistical references including the internationally accepted frameworks, standards and guidelines, are presented in abbreviated form in the last column (entitled Method):

- **IPCC:** the Intergovernmental Panel on Climate Change 2006 guidelines;
- **FDES:** the Framework for the Development of Environment Statistics and its Manual on the Basic Set of Environment Statistics (BSES);
- **SDG:** Sustainable Development Goal indicators metadata;
- **Sendai:** Sendai Framework for Disaster Risk Reduction 2015-2030;
- **UN-ECE:** the Conference of European Statisticians set of core climate change-related indicators metadata;
- **IRES:** the International Recommendations for Energy Statistics
- **SEEA-CF:** the System of Environmental-Economic Accounting Central Framework;
- **SEEA-EA:** the System of Environmental-Economic Accounting-Ecosystem Accounting.



Main structure (1)

- **158 indicators**, which serve to support developing and monitoring of national climate policies and international reporting requirements, in particular those under the Paris Agreement.
- **190 statistics**, which serve three main purposes:
 - (i) to provide less complex options for countries with less developed statistical systems to initiate climate monitoring through official statistics;
 - (ii) to provide statistics needed to compile the indicators (for Tier 1 and 2); and
 - (iii) to provide inputs to further define and develop the Tier 3 indicators.

Statistics were not introduced for indicators for which:

- (i) indicator and statistic are identical (9 cases, denoted with 'Equivalent to the indicator' in the metadata sheets); and
- (ii) indicators for which the statistics and their metadata are fully described within the cited methodology source, e.g. often from SDG and Sendai Framework indicators (21 cases, denoted with 'Refer to original source in metadata' in the metadata sheets).



Main structure (2)

- **Five areas:** drivers, impacts, vulnerability, mitigation and adaptation. These events are applied as five top-level areas in the Global Set. Each indicator is assigned to one of the five IPCC areas as a primary belonging, while some indicators were also assigned as applicable in one or more additional areas;
- **34 topics,** represent the quantifiable aspects of the areas taking into account the types and sources of the statistics needed to describe them;
- **Paris Agreement article:** Correspondence between the indicator/statistic and the articles in the Paris Agreement specifying the reporting requirements;
- **PAWP-Katowice:** Correspondence between the indicator/statistic and the decisions from the Paris Agreement Work Programme (PAWP), adopted in Katowice, specifying the reporting requirements;
- **Statistical references** (next slide).



Tiers

Defined by considering the relevance (to climate change), methodological soundness and data availability. The relevance or connection to climate change varies per indicator, however a certain relation to climate change has been identified for all the indicators included in the Global Set:

- Tier 1 are relevant, methodologically sound, and for which more than 50 per cent of the countries that responded to the Global Consultation indicated that data are available. However, this rule was not applied for the SDG indicators included in the Global Set and the original SDG indicator Tiers are used;
- Tier 2 are relevant, methodologically sound, and for which less than 50 per cent of the countries that responded to the Global Consultation indicated that country data are available. Again, the rule was not applied for the SDG indicators;
- Tier 3 are relevant, but not methodologically sound, and country data may not be available.



Global set, metadata [covers 26 fields]

36. Renewable freshwater resources per capita

Field	Description			
Indicator	Renewable freshwater resources per capita			
Statistics		Precipitation	Evapotranspiration	Inflow
Area	Impacts			
Topic	Freshwater resources			
Themes	Water resources			
Paris Agreement article	7; 13.8	7; 13.8	7; 13.8	7; 13.8
PAWP-Katowice	Decision 18/CMA.1, chapter IV; Decision 9/CMA.1	Decision 18/CMA.1, chapter IV; Decision 9/CMA.1	Decision 18/CMA.1, chapter IV; Decision 9/CMA.1	Decision 18/CMA.1, chapter IV; Decision 9/CMA.1
FDES		1.1.1.b	2.6.1.b.1	2.6.1.a.2 [similar to]
SDG				
Sendai Framework				
Tier	2	1	2	2
Definition	The indicator measures the renewable freshwater resources divided by the population of the country. Renewable freshwater resources = Internal flow + Inflow of surface and groundwaters from neighbouring countries. Renewable freshwater (surface and groundwater) resources are replenished by precipitation (less evapotranspiration) falling over the territory of the country that ends up as runoff to rivers and recharge to aquifers (internal flow), and by surface waters and groundwater flowing in from	Total volume of atmospheric wet precipitation (rain, snow, hail, dew, etc.) falling on the territory of the country over one year, in millions of cubic metres. [UNSD/UNEP Questionnaire, https://unstats.un.org/unsd/enystats/Questionnaires/2020/q2020_Water_English.pdf] [FDES BSES manual, Water resources, p.11, https://unstats.un.org/unsd/environment/FDES/MS%202.6%20Water%20Resources.pdf]	Actual evapotranspiration: Total actual volume of evaporation from the ground, wetlands and natural water bodies and transpiration of plants. According to the definition of this concept in Hydrology, the evapotranspiration generated by all human interventions is excluded, except unirrigated agriculture and forestry. The 'actual evapotranspiration' is calculated using different types of mathematical models, ranging from very simple algorithms (Budyko, Turn Pyke, etc.) to schemes that represent the hydrological cycle in detail.	Total volume of river run-off and groundwater generated over the period of a year, in natural conditions, exclusively by precipitation into a country. The internal flow is equal to precipitation less actual evapotranspiration and can be calculated or measured. If the river and groundwater generation are measured separately, transfers between surface and groundwater should be



Global set: metadata [covers 26 fields] (2)

	neighbouring countries (inflow). [UNSD/UNEP Questionnaire, https://unstats.un.org/unsd/envstats/Questionnaires/2020/q2020_Water_English.pdf] [FDES BSES manual, Water resources, p.7, p.48, https://unstats.un.org/unsd/environment/FDES/MS%202.6%20Water%20Resources.pdf]		[UNSD/UNEP Questionnaire, https://unstats.un.org/unsd/envstats/Questionnaires/2020/q2020_Water_English.pdf] [FDES BSES manual, Water resources, p.13, https://unstats.un.org/unsd/environment/FDES/MS%202.6%20Water%20Resources.pdf]	netted out to avoid double counting. [UNSD/UNEP Questionnaire, https://unstats.un.org/unsd/envstats/Questionnaires/2020/q2020_Water_English.pdf] [FDES BSES manual, Water resources, p.12, https://unstats.un.org/unsd/environment/FDES/MS%202.6%20Water%20Resources.pdf]
Relevance	Freshwater-related risks of climate change increase significantly with increasing greenhouse gas (GHG) concentrations. Modelling studies since AR4, with large but better quantified uncertainties, have demonstrated clear differences between global futures with higher emissions, which have stronger adverse impacts, and those with lower emissions, which cause less damage and cost less to adapt to. For each degree of global warming, approximately 7% of the global population is projected to be exposed to a decrease of renewable water resources of at least 20% (multi-model mean). [IPCC AR5, p 232, https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap3_FINAL.pdf]			
National data sources	Meteorological office/Ministry of natural resources/Water and related agencies	Meteorological office/Ministry of natural resources/Water and related agencies	Meteorological office/Ministry of natural resources/Water and related agencies	Meteorological office/Ministry of natural resources/Water and related agencies
Data collection methods		Monitoring systems	Monitoring systems	Monitoring systems
Update frequency		Monthly, annual	Annual	Annual
Category of measurement	Volume	Volume	Volume	Volume
Computation/compilation methods	Precipitation plus inflows minus evapotranspiration divided by the population	Interpolation of point measurements over a geographic area (GCWAS pg. 71). GIS modelling of precipitation.	Residual of precipitation less surface and sub-surface run-off (GCWAS pg. 71).	Sum of inflows from other territories
International primary data reference	UNSD Environmental Indicators (Inland water resources); FAO	UNSD Environmental Indicators (Inland water resources); AQUASTAT (FAO's Global Information System on Water and Agriculture), https://www.fao.org/aquastat/en/ ;	UNSD Environmental Indicators (Inland water resources); AQUASTAT (FAO's Global Information System on Water and	UNSD Environmental Indicators (Inland water resources); AQUASTAT (FAO's Global Information System on Water and



Global set, metadata (covers 26 fields) [3]

		FAO	Agriculture), http://www.fao.org/aquastat/en/ ; FAO	Agriculture), http://www.fao.org/aquastat/en/ ; FAO
International primary data reference, description	Renewable freshwater resources per capita; AQUASTAT (FAO's Global Information System on Water and Agriculture)	Precipitation; AQUASTAT (FAO's Global Information System on Water and Agriculture)	Actual evapotranspiration; AQUASTAT (FAO's Global Information System on Water and Agriculture)	Inflow of surface and groundwaters from neighbouring countries; AQUASTAT (FAO's Global Information System on Water and Agriculture)
International primary data reference, URL	https://unstats.un.org/unsd/envstats/qindicators ; http://www.fao.org/aquastat/en/			
Type	C	C	C	C
International secondary data references				
Other data references				
Potential aggregations and scales	National Regional	National	National	National
Methodological guidance	UNSD/UNEP Questionnaire, https://unstats.un.org/unsd/envstats/Questionnaires/2020/q2020_Water_English.pdf ; FDES BSES manual, Water resources, https://unstats.un.org/unsd/environment/FDES/MS%202.6%20Water%20Resources.pdf ; International Recommendations for Water Statistics, http://unstats.un.org/unsd/EconStatKB/Attachment491.aspx?AttachmentType=1 ; Draft Guidelines for the Compilation of Water Accounts and Statistics, https://seea.un.org/sites/seea.un.org/files/guidelines_comp_water_stats_en.pdf ; Renewable Water Resources Assessment 2015 AQUASTAT methodology review, http://www.fao.org/3/bc818e/bc818e.pdf ; Key water statistics in AQUASTAT, http://www.fao.org/3/l9241EN/i9241en.pdf ; Review of world water resources by country, http://www.fao.org/3/Y4473E/y4473e.pdf			



Subgroup on climate change questions for censuses and surveys

- Key objective to develop a set of environment and climate change questions for censuses and surveys.
- Mandate: strengthen national data collection and help countries produce statistics and indicators needed for the Global Set and international reporting.
- Work completed: Terms of Reference and chair/co-chair in place (by the former chair of the EG-ECCS and Uganda); membership from 16 countries and 5 agencies; regular meetings held in 2024, 2025 and ongoing in 2026.
- Technical work: mapping of existing census and survey questions to Global Set indicators, complemented by a consultant review of national examples, findings and recommendations, all published in a repository of questions here: [BG-3i-Background Report Climate questions.pdf](#)
- Next step: refine a repository of questions and best practices to guide national implementation and future data collection support; recommend a short set for censuses and longer set for surveys



Subgroup on climate and health statistics

- Priority methodology workstream under the restructured EG-ECCS, supported by a dedicated subgroup led by UK-ONS and WHO with UNSD as secretariat.
- Improvements to the Global Set health-related indicators and metadata were adopted, drawing on the SOSCHI project and country testing needs.
- Proposed updates focus on Global Set indicators 44–46: climate-related diseases; heat- and cold-related illness or excess mortality; and climate-induced air pollution.
- Subgroup work emphasizes testing methods with national data, assessing data availability and capacity constraints, and ensuring global relevance beyond early country experience.
- Future work centers on implementation tools, capacity-building and alignment with and further addressing indicators from WHO (premature births), Lancet Countdown, the Global Goal on Adaptation and ILO-related work.



Contributions to climate and gender statistics

- Collaboration continued with the Inter-Agency and Expert Group on Gender Statistics (IAEG-GS), rather than through a fully separate workstream.
- A guidance note on mainstreaming gender into climate change statistics was prepared by the IAEG-GS with inputs from EG-ECCS under Colombia/DANE leadership.
- The note frames climate statistics through gender and intersectional lenses across drivers, impacts, vulnerability, mitigation and adaptation, with country examples and statistical considerations.
- Key activities are now taking shape under a dedicated DA17 project entitled Measuring Climate Change with a gender dimension for better adaptation and mitigation policies, led by UNEP, co-implemented with UNSD
- Next steps: use the guidance to close data gaps, strengthen sex-disaggregated and linked data, introduce new indicators on climate and gender in the Global Set and inform future EG-ECCS work on climate impacts on women and men.



Only two indicators name gender explicitly

Gender is present in the Global Set—but it is usually embedded below the indicator-title level

2
of 158

indicator titles explicitly
reference sex or women

24 more

people-focused indicators carry a sex /
women / men disaggregation pathway
in their metadata

101

Proportion of the population living below the international poverty line

Explicit dimensions: sex, age, employment status and geographic location (urban/rural). SDG 1.1.1 • Tier 2

128

Proportion of women in managerial positions

Tracks women in total management and in senior/middle management; includes women’s participation in environmental governance bodies. SDG 5.5.2 • Tier 1

The issue is visibility: gender-relevant content exists, but users must search the metadata rather than the indicator list to find most of it.

Reading rule used here

“Explicit” means the indicator title itself names sex or women. Metadata-level relevance includes suggested aggregation by sex, women/men household headship or household composition.

Source: UNSD, Global Set Metadata (updated 5 June 2026); scan of all 158 indicator sections.



Gender enters primarily through disaggregation—not indicator design

Across the metadata, 26 people-focused indicators provide a sex / women / men pathway; only two signal it in their titles

26

people-focused indicators

2 explicit in titles + 24 embedded in metadata

The footprint spans drivers, impacts, vulnerability, mitigation and adaptation.

Drivers & consumption

8 Carbon footprint • 13 Final energy consumption per capita

Population & livelihoods

18 Urban population • 28 Crop loss • 81 Undernourishment • 86 Subsistence/pastoral farming • 101 Poverty • 103 Slums/inadequate housing

Health, hazards & mobility

39 Hazardous events • 42 Disaster impacts • 43 Climate displacement • 44–46 Climate-related disease, temperature illness and air pollution

Essential services & energy

95 Electricity • 96 Waste collection • 98 Drinking water • 99 Heating/cooling • 110–112 Energy mix and clean fuels

Preparedness, information & agency

128 Women in management • 134 Disaster shelters • 136 Early warning • 138 Climate information • 139 Education

Excluded from the people-focused count: indicator 24 uses “sex-age categories” for livestock, not human gender analysis.

Source: UNSD, Global Set Metadata (updated 5 June 2026), “Potential aggregations and scales” fields.



Thank you for your attention!

For more information please contact the Environment Statistics and Accounts
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.cshtml>

and

https://unstats.un.org/unsd/envstats/ClimateChange_StatAndInd_global.cshtml

