



STATUS AND COMPLETION OF THE MANUAL AND IMPLEMENTATION TOOLS (ESSAT AND NAP REPORTING TEMPLATES)

Session One: Environment Statistics Toolbox

Seventh Meeting of the Expert Group on Environment Statistics, New York
10-19 November 2020



OUTLINE

1. Basic Set of Environment Statistics (BSES) and BSES manual
2. Update needs for BSES
3. National Action Plans (NAP)
4. Environment Statistics Self-Assessment Tool (ESSAT)
5. SDG indicators + Basic Set (FDES) matrix
6. Reporting templates



Basic Set of Environment Statistics

- BSES is available in all UN official languages:
<https://unstats.un.org/unsd/envstats/fdes/basicset.cshtml>
- All statistical tables from chapter 3 included, on 44 pages document
- From Basic set to core set in chapter 4

Basic Set of Environment Statistics

28 August 2018

Component 1: Environmental Conditions and Quality				
Sub-component 1.1: Physical Conditions				
Topic	Statistics and Related Information (Bold Text - Core Set/Tier 1; Regular Text - Tier 2; Italicized Text - Tier 3)	Category of Measurement	Potential Aggregations and Scales	Methodological Guidance
Topic 1.1.1: Atmosphere, climate and weather	a. Temperature		• National • Sub-national	• World Meteorological Organization (WMO) • Intergovernmental Panel on Climate Change (IPCC) • National Oceanic and Atmospheric Administration (NOAA) National Aeronautics and Space Administration (NASA)
	1. Monthly average	Degrees		
	2. Minimum monthly average	Degrees		
	3. Maximum monthly average	Degrees		
	b. Precipitation (also in 2.6.1.a)			
	1. Annual average	Height		
	2. Long-term annual average	Height		
	3. Monthly average	Height		
	4. Minimum monthly value	Height		
	5. Maximum monthly value	Height		
	c. Relative humidity		• National • Sub-national	
	1. Minimum monthly value	Number		
	2. Maximum monthly value	Number		
	d. Pressure			
	1. Minimum monthly value	Pressure unit	• National • Sub-national • By station	
	2. Maximum monthly value	Pressure unit		
	e. Wind speed		• National • Sub-national	
1. Minimum monthly value	Speed			
2. Maximum monthly value	Speed			
f. Solar radiation		• WMO • IPCC • NOAA/NASA		
1. Average daily value	Area, Energy unit			
2. Average monthly value	Area, Energy unit			















- generating national sets or databases of environment statistics.
- reporting on environment (MEAs) or sustainable development (SDGs).
- calculating environmental indicators.
- generating environmental-economic accounts.

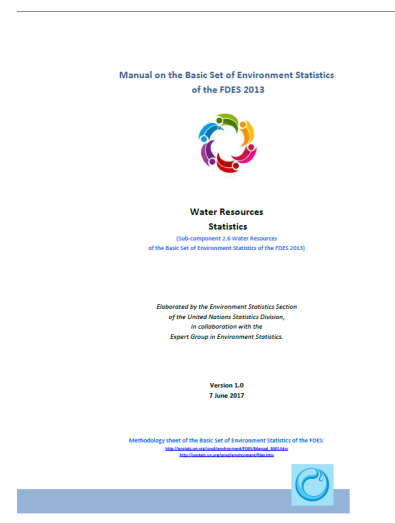
Number of Statistics	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Total
Tier 1	32	30	19	4	12	3	100
Tier 2	58	51	34	11	22	24	200
Tier 3	51	43	5	16	20	23	158
Total	141	124	58	31	54	50	458



Manual on the Basic Set of Environment Statistics

https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml

-  [MS 1.1.4 Soils](#)
-  [MS 1.2.2 Ecosystems and Biodiversity Statistics](#)
-  [MS 1.2.1 & 2.3.1 Land Cover and Land Use](#)
-  [MS 1.2.3, 2.3.2, 2.5.1 & 2.5.5 Forests](#)
-  [MS 1.3.1 Air Quality](#)
-  [MS 1.3.1 and 3.1.1 GHG Statistics](#) **new**
-  [MS 1.3.3 Marine Water Quality Statistics](#) **new**
-  [MS 2.1 Mineral Resources](#)
-  [MS 2.2 Energy Resources](#)
-  [MS 2.5 Crops and Livestock Statistics](#)
-  [MS 2.6 Water Resources](#)
-  [MS 3.3.1 & 3.3.2 Generation and Management of Waste](#)
-  [MS 5.1 Human Settlements](#)
-  [MS 6.1.1 Environmental Protection Expenditures](#)



Includes: definitions, classifications, statistical methods for collection and/or compilation, dissemination and main uses of the sets of the respective environment statistics.



BSES updates

Compiled on GHGs, disasters and marine water quality

Component 4: ~~Extreme Hazardous~~ Events and Disasters

Sub-component 4.1: ~~Natural Environmental, Hydrometeorological and Geophysical Extreme Hazardous~~ Events and Disasters

Statistics and Related Information		Category of Measurement	Potential Aggregations and Scales	Methodological Guidance
(Bold Text - Core Set/Tier 1; Regular Text - Tier 2; <i>Italicized Text - Tier 3</i>)				
a.	Occurrence of natural extreme hazardous events and disasters		<ul style="list-style-type: none"> By event National Sub-national <ul style="list-style-type: none"> Hazard (e.g. earthquake, landslide, flood, drought) 	<p><u>In development:</u></p> <ul style="list-style-type: none"> Revised hazard terminology and classification (UNDRR, expected to be finalised in the course of 2020) <p><u>Most recent guidelines:</u></p> <ul style="list-style-type: none"> Disaster-related Statistics Framework (DRSF), ESCAP, 2018 Recommendations on Measuring Hazardous Events and Disasters, UNECE, 2019 Technical guidance for monitoring and reporting on progress in achieving the global targets of the Sendai Framework for Disaster Risk Reduction (UNISDR, 2018) <p><u>Older reference documents:</u></p> <ul style="list-style-type: none"> Centre for Research on the Epidemiology of Disasters Emergency-Events Database (CRED-EMDAT) UN Economic Commission for Latin America and the Caribbean (UNECLAC) Handbook for Estimating the Socio-economic and Environmental Effects of Disasters
	1. Type of natural extreme hazardous event and disaster (geophysical, meteorological, hydrological, climatological, biological/hydrometeorological, environmental)	Description		
	2. Location	Location		
	3. Magnitude (where applicable)	Intensity		
	4. Date of occurrence	Date		
	5. Duration	Time period		
ab	People affected by natural extreme events and Death and missing persons attributed to disasters		<ul style="list-style-type: none"> By event National Sub-national <ul style="list-style-type: none"> Hazard (e.g. earthquake, landslide, flood, drought) Sex Age Disability Income 	
	Death and missing persons attributed to disasters	Number		
	1. Number of people killed	Number		
	1. Deaths attributed to disasters	Number		
	2. Missing persons attributed to disasters	Number		
c.	Directly affected people attributed to disasters			
	Directly affected people attributed to disasters	Number		
	21. Number of people injured or ill attributed to disaster	Number		
	32. Number of people whose damaged dwellings were attributed to disasters	Number		
	3. People whose destroyed dwellings were attributed to disasters	Number		
	4. People whose livelihoods were disrupted or destroyed, attributed to disasters	Number		
d.	Indirectly affected people attributed to disasters			
	1. Indirectly affected people attributed to disasters	Number		
	4. Number of people affected	Number		



BSES manual completion (1)

Component 1: Environmental Conditions and Quality	Component 2: Environmental Resources and their Use	Component 3: Residuals
Sub-component 1.1: Physical Conditions	Sub-component 2.1: Mineral Resources	Sub-component 3.1: Emissions to Air
Topic 1.1.1: Atmosphere, climate and weather	Topic 2.1.1: Stocks and changes of mineral resources	Topic 3.1.1: Emissions of greenhouse gases
Topic 1.1.2: Hydrographical characteristics	Topic 2.1.2: Production and trade of minerals	Topic 3.1.2: Consumption of ozone depleting substances
Topic 1.1.3: Geological and geographical information	Sub-component 2.2: Energy Resources	Topic 3.1.3: Emissions of other substances
Topic 1.1.4: Soil characteristics	Topic 2.2.1: Stocks and changes of energy resources	Sub-component 3.2: Generation and Management of Wastewater
Sub-component 1.2: Land Cover, Ecosystems and Biodiversity	Topic 2.2.2: Production, trade and consumption of energy	Topic 3.2.1: Generation and pollutant content of wastewater
Topic 1.2.1: Land cover	Sub-component 2.3: Land	Topic 3.2.2: Collection and treatment of wastewater
Topic 1.2.2: Ecosystems and biodiversity	Topic 2.3.1: Land use	Topic 3.2.3: Discharge of wastewater to the environment
Topic 1.2.3: Forests	Topic 2.3.2: Use of forest land	Sub-component 3.3: Generation and Management of Waste
Sub-component 1.3: Environmental Quality	Sub-component 2.4: Soil Resources	Topic 3.3.1: Generation of waste
Topic 1.3.1: Air quality	Topic 2.4.1: Soil resources	Topic 3.3.2: Management of waste
Topic 1.3.2: Freshwater quality	Sub-component 2.5: Biological Resources	Sub-component 3.4: Release of Chemical Substances
Topic 1.3.3: Marine water quality	Topic 2.5.1: Timber resources	Topic 3.4.1: Release of chemical substances
Topic 1.3.4: Soil pollution	Topic 2.5.2: Aquatic resources	
Topic 1.3.5: Noise	Topic 2.5.3: Crops	
	Topic 2.5.4: Livestock	
	Topic 2.5.5: Other non-cultivated biological resources	
	Sub-component 2.6: Water Resources	
	Topic 2.6.1: Water resources	
	Topic 2.6.2: Abstraction, use and returns of water	

Complete
Draft under review
Not started



BSES manual completion (2)

Component 4: Extreme Events and Disasters	Component 5: Human Settlements and Environmental Health	Component 6: Environmental Protection, Management and Engagement
Sub-component 4.1: Natural Extreme Events and Disasters	Sub-component 5.1: Human Settlements	Sub-component 6.1: Environmental protection and resource management expenditure
Topic 4.1.1: Occurrence of natural extreme events and disasters	Topic 5.1.1: Urban and rural population	Topic 6.1.1: Government environmental protection and resource management expenditure
Topic 4.1.2: Impact of natural extreme events and disasters	Topic 5.1.2: Access to selected basic services	Topic 6.1.2: Corporate, non-profit institution and household environmental protection and resource management expenditure
Sub-component 4.2: Technological Disasters	Topic 5.1.3: Housing conditions	Sub-component 6.2: Environmental Governance and Regulation
Topic 4.2.1: Occurrence of technological disasters	Topic 5.1.4: Exposure to ambient pollution	Topic 6.2.1: Institutional strength
Topic 4.2.2: Impact of technological disasters	Topic 5.1.5: Environmental concerns specific to urban settlements	Topic 6.2.2: Environmental regulation and instruments
	Sub-component 5.2: Environmental Health	Topic 6.2.3: Participation in MEAs and environmental conventions
	Topic 5.2.1: Airborne diseases and conditions	Topic 6.3.1: Preparedness for natural extreme events and disasters
	Topic 5.2.2: Water-related diseases and conditions	Topic 6.3.2: Preparedness for technological disasters
	Topic 5.2.3: Vector-borne diseases	Sub-component 6.4: Environmental Information and Awareness
	Topic 5.2.4: Health problems associated with excessive UV radiation exposure	Topic 6.4.1: Environmental Information
	Topic 5.2.5: Toxic substance- and nuclear radiation-related diseases and conditions	Topic 6.4.2: Environmental Education
		Topic 6.4.3: Environmental Perception and Awareness

Complete

Draft under review

Not started



Environment Statistics Self-Assessment Tool

- Introduction

[English](#) [Arabic*](#) [Chinese*](#) [French*](#) [Portuguese*](#) [new](#) [Russian*](#) [Spanish*](#)

- Part I: Institutional Dimension of Environment Statistics

[English](#) [Arabic*](#) [Chinese*](#) [French*](#) [Portuguese*](#) [new](#) [Russian*](#) [Spanish*](#)

- Part II: Statistics Level Assessment

English [excel](#) [pdf](#), Arabic* [excel](#) [pdf](#), Chinese* [excel](#) [pdf](#),

French* [excel](#) [pdf](#), Portuguese* [excel](#) [pdf](#), Russian* [excel](#) [pdf](#),

Spanish* [excel](#) [pdf](#)



ESSAT Part II

Component 1: Environmental Conditions and Quality

Statistics and Related Information	Category of Measurement	Potential Aggregations and Scales	Relevance of Statistic at the National Level (High /Medium /Low/Not Relevant/Not Applicable)	Priority for National Data Collection (High /Medium /Low/Not a Priority)	Availability of Statistic at the National Level (Identical/Similar/Not Available)	Primary Institution(s) Responsible for Collecting Statistic Check all that apply		Requirements or User Requests for Collection/Reporting on this Statistic Check all that apply	Periodicity (Annual/Monthly/Daily/Hourly/Other [specify])	Earliest Year Available	Latest Year Available	Format of Statistic (Publication/Excel/Data base/Website/Individual records)	Unit of Measurement	Main Reasons why Statistic is not Available Check all that apply			
						NSO	Ministry of Environment or equivalent institution							Other (specify):	Sub-national	National	Regional
<p>Bold Text - Core Set/Tier 1</p> <p>Regular Text - Tier 2</p> <p><i>Italicized Text - Tier 3</i></p>																	

Sub-component 1.1: Physical Conditions

Topic 1.1.1: Atmosphere, climate and weather

a. Temperature	1. Monthly average	Degrees	• National															
	2. Minimum monthly average	Degrees	• Sub-national															
	3. Maximum monthly average	Degrees																
b. Precipitation (also in 2.6.1.a)	1. Annual average	Height																
	2. Long-term annual	Height																
	3. Monthly average	Height																
	4. Minimum monthly value	Height																
	5. Maximum monthly value	Height																
c. Relative humidity	1. Minimum monthly value	Number																
	2. Maximum monthly value	Number																
d. Pressure	1. Minimum monthly value	Pressure unit	• National															
			• Sub-national															

Check Box **X**

High **H**

Medium **M**

Low **L**

Not Relevant **NR**

Not Applicable **NAP**

High **H**



ESSAT Reporting templates

- 1.0 Purpose
- 2.0 Rationale
- 3.0 Environment Policies
- 4.0 Collaboration and Institutional Structures
- Legal Framework
- National Strategy for the Development of Statistics (NSDS) or Sector Strategic Plan for Environment Statistics (SSPES)
- Coordination within the National Statistical System/Cooperation
- 6.0 Stakeholders and FDES Topics
- 7.0 Summary of available environment statistics
- 8.0 Data Overlaps and Data Gaps
- 9.0 Priority future activities to improve environment statistics
- Annexes



National Action Plans

1.0 Background and justification

1.1 Justification

1.2 National and international environment policies

1.3 Other related initiatives

2.0 Objective of the national plan

3.0 Stakeholders

4.0 Environment Statistics Self-Assessment (ESSAT) Summary

4.1 Data summary

4.2 Institutional needs

4.3 Organisational needs

5.0 Outputs and activities

5.1 Impact

5.2 Outcome

5.3 Outputs and activities

Objective 1.0: Inter-institutional collaboration: Improve collaboration, coordination and awareness of key players across all stages of statistical production and dissemination

Objective 2.0: Methodological development and dissemination of know-how

Objective 3.0: Capacity building and technical assistance

Objective 4.0: Investing in physical infrastructure

Objective 5.0: Human resource development and management

Objective 6.0: Networking

Objective 7.0: Resource mobilization and advocacy

6.0 Workplan

7.0 Overall budget

8.0 Next Steps

SDG indicators + Basic Set (FDES) matrix

https://unstats.un.org/unsd/envstats/fdes/SDGsInd_BasicSetMatrix.pdf

SDG Indicators	Location in the FDES: Component Sub-Component and Topic	Statistics used in the SDG Indicator corresponding to BSES (SDG Indicator can be compiled either fully or partially from BSES statistics)	Statistics related to but not directly used in SDG Indicators OR Statistics related to Tier III indicators (either fully or partially linked to BSES)	Supporting Information
15.3.1 Proportion of land that is degraded over total land area (Tier II)	Component 1: Environmental Conditions and Quality, Sub-component 1.1: Physical Conditions, Topic 1.1.4: Soil characteristics	1.1.4.a. Soil characterization 1.1.4.a.1. Area by soil types 1.1.4.b. Soil degradation 1.1.4.b.1. Area affected by soil erosion 1.1.4.b.2. Area affected by desertification 1.1.4.b.3. Area affected by salinization 1.1.4.b.4. Area affected by waterlogging 1.1.4.b.5. Area affected by acidification 1.1.4.b.6. Area affected by compaction 1.1.4.c. Nutrient content of soil, measured in levels of: 1.1.4.c.1. Nitrogen (N) 1.1.4.c.2. Phosphorous (P) 1.1.4.c.3. Calcium (Ca) 1.1.4.c.4. Magnesium (Mg) 1.1.4.c.5. Potassium (K) 1.1.4.c.6. Zinc (Zn) 1.1.4.c.7. Other		The indicator proposes sub-indicators of land cover and land cover change; land productivity and carbon stocks above and below ground.
	Component 1: Environmental Conditions and Quality, Sub-component 1.2: Land Cover, Ecosystems and Biodiversity, Topic 1.2.1: Land cover	1.2.1.a. Area under land cover categories		



Other matrices

<https://www.oceanaccounts.org/technical-guidance-on-ocean-accounting-2/>

6.4 Potential FDES (2013) topics and statistics applicable to Ocean Accounts

538. The table provides a basic indication of FDES (2013) topics and statistics which may be relevant to the proposed set of Ocean Accounts. This is a broad indication given that the ocean accounts are in development and is thus subject to further refinement. It draws particularly on the August 2018 workshop concept note²⁰⁹.

	Proposed Ocean Accounts	Disaggregation	FDES Component, Sub-component and Topic	FDES Statistic	Notes
	<i>Source: Annex 1 Concept Note ESCAP Expert Workshop on Ocean Accounts 1-3 August 2018</i>	<i>National, international waters, sub-national (bay, coastline). In general, FDES would need to be more specific about the spatial areas to cover.</i>	<i>Further work is necessary to identify the ocean related spatial areas.</i>	<i>Statistics have been proposed where possible, otherwise only the FDES (2013) Topic level is provided and the statistics cell is not yet completed.</i>	
	Drivers/Pressures				
1	Air emissions (GHGs and others)		Component 3: Residuals, Sub-component 3.1: Emissions to Air, Topic 3.1.1: Emissions of greenhouse gases		
2	<u>Effluents</u> Water flows to the ocean Solid wastes Plastics Hazardous waste		Component 3: Residuals, Sub-component 3.2: Generation and Management of Wastewater, Topic 3.2.3: Discharge of wastewater to the environment	•3.2.3.a.2: Wastewater discharge: Total volume of wastewater discharged to the environment without treatment	Would need to specify at risk areas.
			Component 3: Residuals, Sub-component 3.3: Generation and Management of Waste: Topic 3.3.1: Generation of Waste and Topic 3.3.2: Management of Waste		
			Component 2: Environmental Resources and their Use, Sub-component 2.2: Energy Resources, Topic 2.2.2:		HS Chapter Code 39 Plastics and articles thereof. Plastics



Concluding remarks

On completion of the manual and updating the BSES:

1. Some topics are challenging to complete because of very dynamic developments
 - Disasters: Hazard Definition Classification Review has been launched, <https://www.undrr.org/publication/hazard-definition-and-classification-review>
2. BSES updates are compiled on:
 - Disasters,
 - GHGs,
 - Marine water quality,
 - possibly needed on Env. Health,
 - Minor updates already included in the manual (on crops and livestock), mostly reflecting on new guidance.
3. Other topics are hard to address in statistics, e.g. mainly in component six. Geology and geographic information includes statistics which hardly change.

On revising the ESSAT and NAP templates:

- Need further review of national examples of ESSAT and NAP applications
- Need to improve the ability to communicate the important outcomes