Status and completion of the Manual on the Basic Set of Environment Statistics

Environment Statistics Section, UNSD

Session Three: Environment Statistics Toolbox

Outline

1. BSES manual completion
2. Published chapters
3. Chapters under review (Freshwater quality, Geology)
4. Updating the BSES
5. Concluding remarks

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 (13/23)	Topic 2.1.1: Stocks and changes of mineral resources	Topic 3.1.1: Emissions of greenhouse gases
Topic 1.1.2: Hydrographical characteristics (6/12)	Topic 2.1.2: Production and trade of minerals	Topic 3.1.2: Consumption of ozone depleting substances (0/7)
Topic 1.1.3: Geological and geographical information	**Sub-component 2.2: Energy Resources**	Topic 3.1.3: Emissions of other substances (1/3)
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 (4/7)
Topic 1.3.4: Soil pollution (0/4)	Topic 2.5.2: Aquatic resources (7/12)	
Topic 1.3.5: Noise (0/2)	Topic 2.5.3: Crops	
	Topic 2.5.4: Livestock	
	Topic 2.5.5: Other non-cultivated biological resources (3/7)	
	Sub-component 2.6: Water Resources	
	Topic 2.6.1: Water resources	
	Topic 2.6.2: Abstraction, use and returns of water	

Number of Tier 3 statistics shown in brackets

Complete
Draft under review
Not started

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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 (5/6)
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 (3/4)	Topic 5.1.4: Exposure to ambient pollution	Topic 6.2.1: Institutional strength (0, 8, 3 descriptions)
Topic 4.2.2: Impact of technological disasters (8/11)	Topic 5.1.5: Environmental concerns specific to urban settlements	Topic 6.2.2: Environmental regulation and instruments (3/9)
	Sub-component 5.2: Environmental Health	Topic 6.2.3: Participation in MEAs and environmental conventions (0/1, description)
	Topic 5.2.1: Airborne diseases and conditions	Topic 6.3.1: Preparedness for natural extreme events and disasters (5/8)
	Topic 5.2.2: Water-related diseases and conditions	Topic 6.3.2: Preparedness for technological disasters (2/2)
	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 (1/5, 3 descriptions)
	Topic 5.2.5: Toxic substance- and nuclear radiation-related diseases and conditions	Topic 6.4.2: Environmental Education (3/3)
		Topic 6.4.3: Environmental Perception and Awareness (2/2)
		Topic 6.4.4: Environmental engagement (2/3)

Number of Tier 3 statistics shown in brackets

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Complete
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Not started

Published chapters

As there are 458 environment statistics identified in the Basic Set of Environment Statistics, their methodology sheets are being developed in a modular and progressive manner. The available volumes (sets) of methodology sheets are disseminated below.

- 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
- MS 1.3.3 Marine Water Quality Statistics
- MS 2.1 Mineral Resources
- MS 2.2 Energy Resources
- MS 2.5 Crops and Livestock Statistics
- MS 2.6 Water Resources
- MS 3.2 Wastewater `new`
- 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.

Geological and geographical information and Statistics chapter

Manual on the Basic Set of Environment Statistics

of the FDES 2013

Geological and geographical information and Statistics
(Topic 1.1.3: of the Basic Set of Environment Statistics of the FDES 2013)

*Elaborated by the Environment Statistics Section
of the United Nations Statistics Division,
in collaboration with the
Expert Group on Environment Statistics*

**Version 3.0
23 September 2022**

1. Nearly complete, to be published soon
2. The draft was presented at EGES in 2019
3. Reviewed latest by Global Geospatial Information Management Section at UNSD, UNEP, Armenia and GCC.
4. Some issues that were addressed:
   - Reference to the work of the United Nations Group of Experts on Geographical Names (UNGEGN)
   - Reference to ISO specifications on Geographic information and Geomatics
   - Update of international data source
   - Reference to NSDI in Armenia
   - More SDG references and correspondences
- Still needed: improve presentation of dissemination formats

Water quality chapter

Component 1: Environmental Conditions and Quality				
Sub-component 1.3: Environmental Quality				
Topic 1.3.2: Freshwater quality				
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**
a.	Nutrients and chlorophyll		▪ By water body ▪ By watershed/river basin ▪ By surface or groundwater ▪ By point measurement ▪ By type of water resource	▪ UNECE Standard Statistical Classification of Freshwater Quality for the Maintenance of Aquatic Life (1992) ▪ UN Environment Programme (UNEP) Global Environment Monitoring System-Water (GEMS-Water) ▪ WHO
	1. **Concentration level of nitrogen**	Concentration		
	2. **Concentration level of phosphorous**	Concentration		
	3. Concentration level of chlorophyll A	Concentration		
b.	Organic matter			
	1. **Biochemical oxygen demand (BOD)**	Concentration		
	2. Chemical oxygen demand (COD)	Concentration		
c.	Pathogens			
	1. **Concentration levels of faecal coliforms**	Concentration		
d.	Metals (e.g., mercury, lead, nickel, arsenic, cadmium)			
	1. Concentration levels in sediment and freshwater	Concentration		
	2. Concentration levels in freshwater organisms	Concentration		
e.	Organic contaminants (e.g., PCBs, DDT, pesticides, furans, dioxins, phenols, radioactive waste)			▪ UNECE Standard Statistical Classification of Freshwater Quality for the Maintenance of Aquatic Life (1992) ▪ UNEP GEMS-Water ▪ Stockholm Convention
	1. Concentration levels in sediment and freshwater	Concentration		
	2. Concentration levels in freshwater organisms	Concentration		
f.	Physical and chemical characteristics			▪ UNECE Standard Statistical Classification of Freshwater Quality for the Maintenance of Aquatic Life (1992) ▪ UNEP GEMS-Water
	1. pH/Acidity/Alkalinity	Level		
	2. Temperature	Degrees		
	3. *Total suspended solids (TSS)*	Concentration		
	4. Salinity	Concentration		
	5. Dissolved oxygen (DO)	Concentration		
g.	Plastic waste and other freshwater debris			
	1. Amount of plastic waste and other debris	Area, Mass		

Concluding remarks

1. Some statistics and terminology have changed since 2013, for example on disasters

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 (Tier 3). Also addressed in the Global Set:

- Preparedness for disasters
- Environmental awareness and educations

Questions

1 BSES Manual is nearly complete for statistics at tier 1 and 2 (besides the tier 3 topics in component 6). Should we still prioritize the remaining topics, some will need different grouping, should it be a final chapter?

2 How to address duplicated topics/indicators included in the Global Set?

3. Should we do a survey on which components, the statistics are most used, most needed, outdated or outstanding for methodology development?

Thank you for your attention!

For more information please contact the Environment Statistics Section
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Climate Change Statistics Website
https://unstats.un.org/unsd/envstats/climatechange.cshtml
and
https://unstats.un.org/unsd/envstats/ClimateChange_StatAndInd_global.cshtml