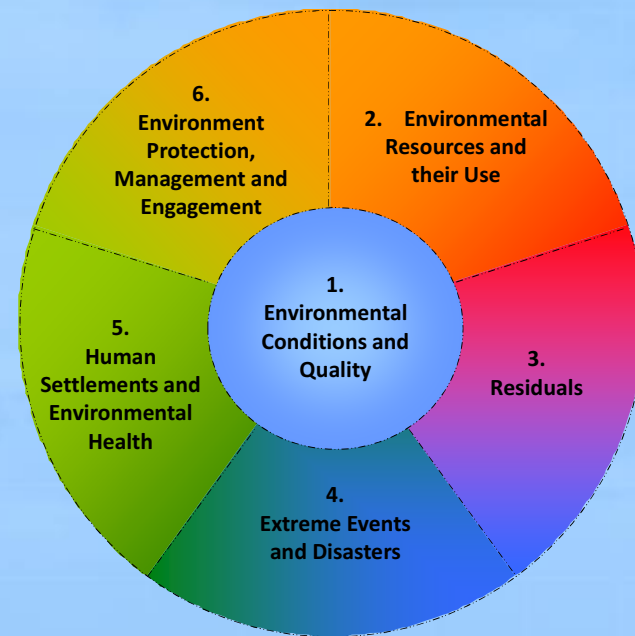




# The Framework for the Development of Environment Statistics (FDES 2013) and the SEEA CF



UNCEEA 26 June, 2014  
Environment Statistics Section  
Environment and Energy Statistics Branch  
UNSD

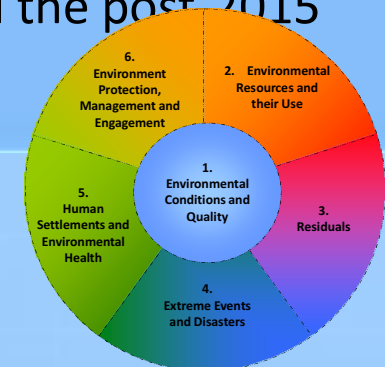
# Revision of FDES and Development of a Core Set of Environment Statistics

SC mandate: The 41<sup>st</sup> (2010) session of the UN Statistical Commission endorsed revision of the 1984 FDES and the development of a Core Set of Environment Statistics.

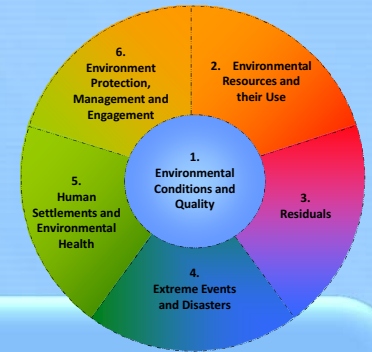
The 1984 FDES already contained clear links to natural resource accounting

One of the reasons for the revision was the recognition of developments in environmental-economic accounting

SC endorsement: The 44<sup>th</sup> (2013) session endorsed the FDES 2013 and recognized it as a useful tool to adequately respond to the increasing demand for environmental information in the follow-up to Rio+20 and the post 2015 development agenda.

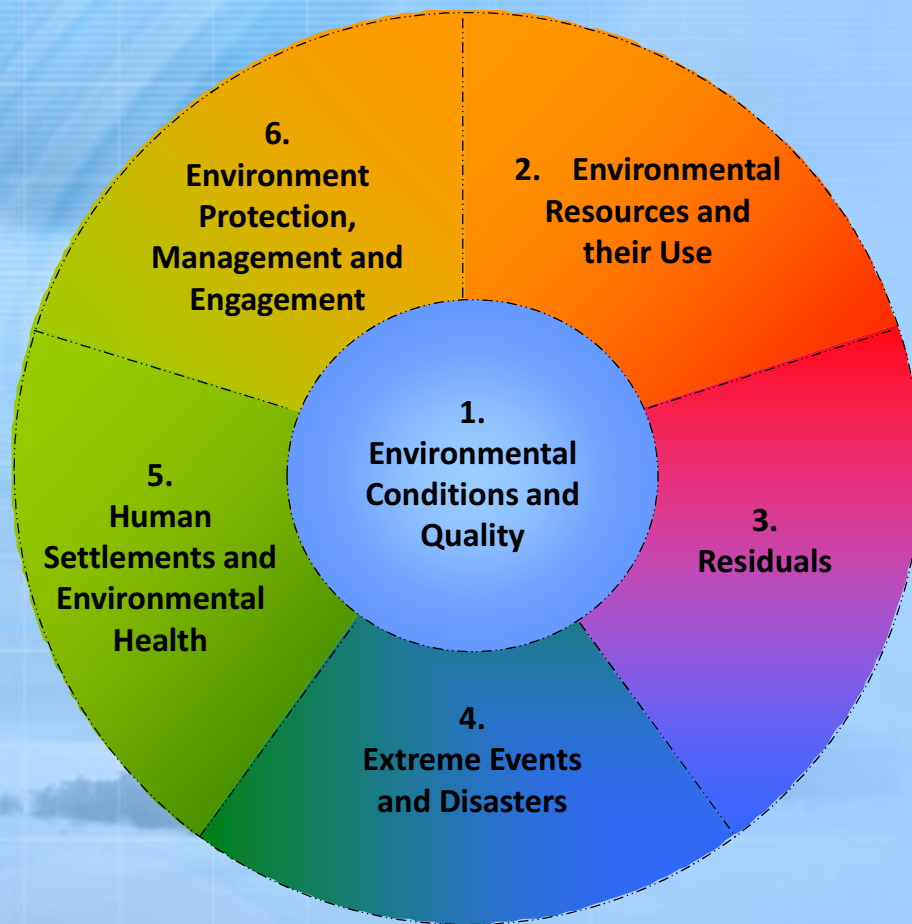


# What is the FDES 2013?

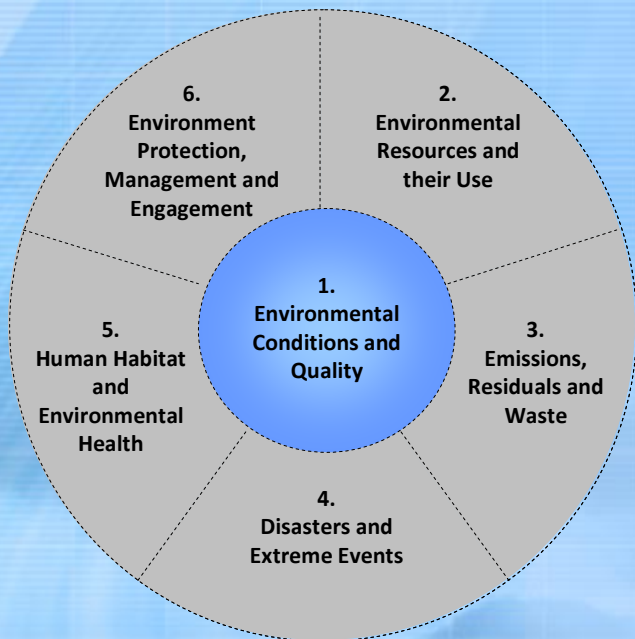


- The FDES 2013 is a flexible, multi-purpose conceptual and statistical framework that provides an organizing structure to guide the collection and compilation of environment statistics at the national level, bringing together data from the various relevant subject areas and sources into a multipurpose database or information system.
- Its main objectives are to:
  - Provide a comprehensive set of descriptive statistics on the state of the environment and the human activities that affect the environment;
  - Provide the necessary environmental data for developing indicators for different policy purposes;
  - Support the development of environmental-economic accounts.

# The FDES 2013 structure



- Six components
- At the center of the FDES: Environmental conditions and quality
- All of the components relate to each other



# Component 1: [\(Link to SEEA EEA\)](#) Environmental Conditions and Quality – Subcomponents and Topics

## Sub-component 1.1: Physical Conditions

*Topic 1.1.1: Atmosphere, climate and weather*

*Topic 1.1.2: Hydrological systems*

*Topic 1.1.3: Geological and geographic information*

## Sub-component 1.2: Soil and Land Cover

*Topic 1.2.1: Soil characteristics*

*Topic 1.2.2: Land cover*

## Sub-component 1.3: Biodiversity and Ecosystems

*Topic 1.3.1: Biodiversity*

*Topic 1.3.2: Ecosystems*

*Topic 1.3.3: Forests*

## Sub-component 1.4: Environmental Quality

*Topic 1.4.1: Air quality*

*Topic 1.4.2: Freshwater quality*

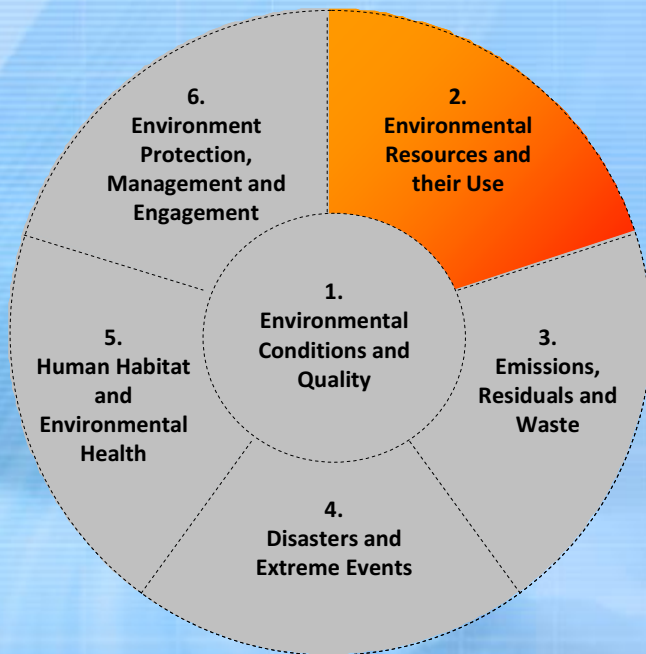
*Topic 1.4.3: Marine water quality*

*Topic 1.4.4: Soil quality*

*Topic 1.4.5: Noise*







## Component 2: (Link to SEEA CF Asset and Physical flow accounts: from the environment to the economy)

# Environmental Resources and their Use

### Sub-component 2.1: Non-Energy Mineral Resources

*Topic 2.1.1: Stocks and changes of non-energy mineral resources*

*Topic 2.1.2: Extraction of non-energy mineral resources and related activities*

### Sub-component 2.2: Energy Resources

*Topic 2.2.1: Stocks and changes of mineral energy resources*

*Topic 2.2.2: Extraction of mineral energy resources and related activities*

*Topic 2.2.3: Production and use of energy resources and related activities*

### Sub-component 2.3: Land

*Topic 2.3.1: Land use*

*Topic 2.3.2: Land use changes*

### Sub-component 2.4: Soil Resources

*Topic 2.4.1: Soil Resources*

### Sub-component 2.5: Biological Resources

*Topic 2.5.1: Timber resources and their use*

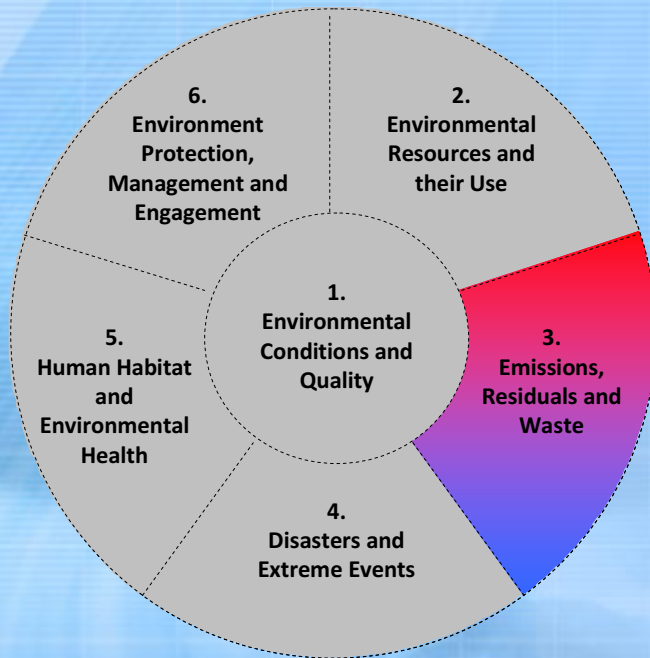
*Topic 2.5.2: Aquatic resources and their use*

*Topic 2.5.3: Crops*

*Topic 2.5.4: Livestock*

*Topic 2.5.6: Wild, uncultivated biological resources*





## **Component 3: (Link to SEEA CF Physical flow accounts: from the economy to the environment)**

### **Residuals**

#### **Sub-component 3.1: Emissions to Air**

*Topic 3.1.1: Emissions to air*

#### **Sub-component 3.2: Generation, Management and Discharge of Wastewater**

*Topic 3.2.1: Generation and pollutant content of wastewater*

*Topic 3.2.2: Collection and treatment of wastewater*

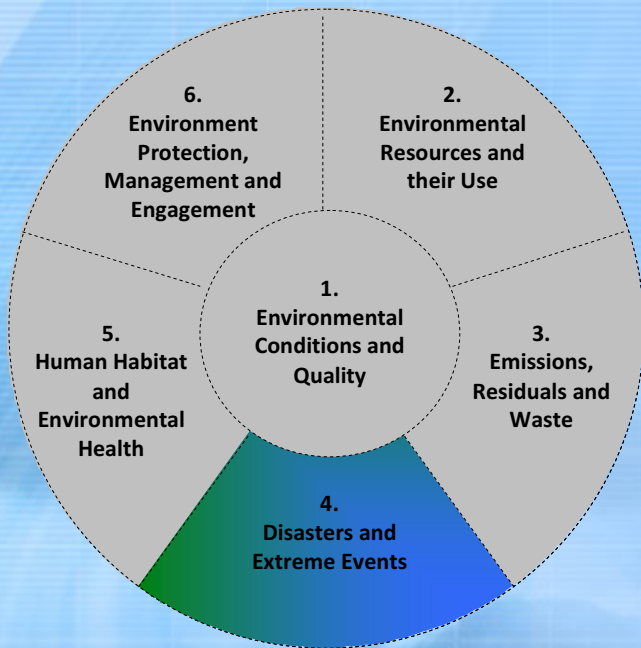
*Topic 3.2.3: Discharge of wastewater to the environment*

#### **Sub-component 3.3: Generation and Management of Waste**

*Topic 3.3.1: Generation of waste*

*Topic 3.3.2: Management of waste*





## Component 4: Disasters and Extreme Events

### Sub-component 4.1: Natural Disasters and Extreme Events

*Topic 4.1.1: Occurrence of natural disasters and extreme events*

*Topic 4.1.2: Impact of natural disasters and extreme events*

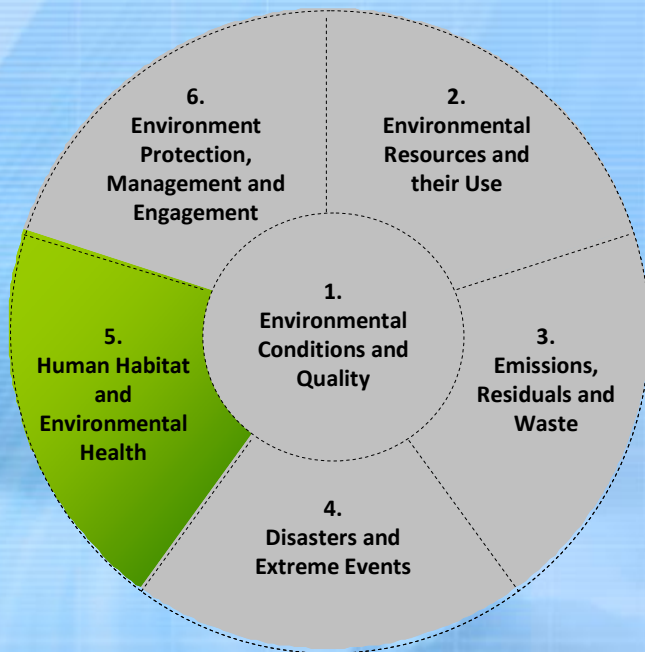
### Sub-component 4.2: Anthropogenic/technological Disasters

*Topic 4.2.1: Occurrence of anthropogenic/technological disasters*

*Topic 4.2.2: Impact of anthropogenic/technological disasters*







# Component 5: Human Habitat and Environmental Health

## Sub-component 5.1: Human Habitat

*Topic 5.1.1: Urban and rural population*

*Topic 5.1.2: Water and sanitation*

*Topic 5.1.3: Housing conditions*

*Topic 5.1.4: Exposure to ambient pollutants related to spatial location of population*

*Topic 5.1.5: Other urban habitat concerns*

## Sub-component 5.2: Environmental health

*Topic 5.2.1: Airborne diseases and conditions*

*Topic 5.2.2: Water-related diseases and conditions*

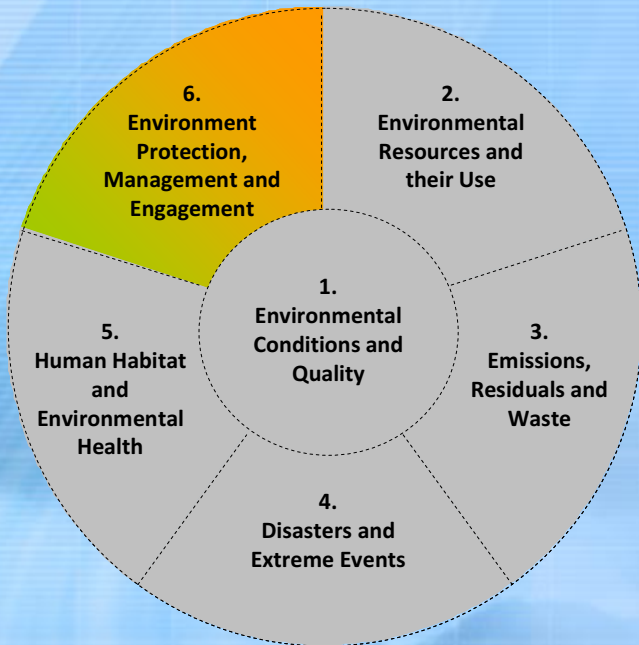
*Topic 5.2.3: Vector-borne diseases*

*Topic 5.2.4: health problems associated with excessive UV radiation exposure*

*Topic 5.2.5: Toxic substance related diseases and conditions*

*Topic 5.2.6: Nuclear radiation related diseases and conditions*





# Component 6: Environment Protection, Management and Engagement

## Sub-component 6.1: Environment Protection and Management Expenditure ([Link to SEEA CF Environmental activity accounts](#))

*Topic 6.1.1: Government environment protection and management expenditure*

*Topic 6.1.2: Corporate, non-profit institution and household environment protection and management expenditure*

## Sub-component 6.2: Environmental Governance, Regulation and Engagement

*Topic 6.2.1: Institutional strength*

*Topic 6.2.2: Environmental regulation and instruments ([Link to SEEA CF Environmental activity accounts](#))*

*Topic 6.2.3: Participation in multilateral environmental agreements (MEAs) and environmental conventions*

## Sub-component 6.3: Disaster Preparedness and Management

*Topic 6.3.1: Disaster preparedness and management for natural disasters and extreme events*

*Topic 6.3.2: Disaster preparedness and management for anthropogenic/technological disasters*

## Sub-component 6.4: Environmental Information, Education and Perception

*Topic 6.3.1: Environmental information*

*Topic 6.3.2: Environmental education and awareness*

*Topic 6.3.3: Environmental participation and perception*

*The FDES is a work in progress and is subject to revision.*



# Layers of the FDES

- Components
  - Sub-components
    - Statistical Topics
      - Statistics





# Multi-layered structure of the FDES

## Levels of the FDES

1 digit	2 digits	3 digits	4 or 5 digits
Component	Sub-component	Statistical Topic	Statistics

<b>Component 1: Environmental Conditions and Quality</b>	Sub-component 1.1: Physical Conditions Sub-component 1.2: Land Cover, Ecosystems and Biodiversity Sub-component 1.3: Environmental Quality
<b>Component 2: Environmental Resources and their Use</b>	Sub-component 2.1: Non-energy Mineral Resources Sub-component 2.2: Energy Resources Sub-component 2.3: Land Sub-component 2.4: Biological Resources Sub-component 2.5: Water Resources
<b>Component 3: Residuals</b>	Sub-component 3.1: Emissions to Air Sub-component 3.2: Generation and Management of Wastewater Sub-component 3.3: Generation and Management of Waste
<b>Component 4: Extreme Events and Disasters</b>	Sub-component 4.1: Natural Extreme Events and Disasters Sub-component 4.2: Technological Disasters
<b>Component 5: Human Settlements and Environmental Health</b>	Sub-component 5.1: Human Settlements Sub-component 5.2: Environmental Health
<b>Component 6: Environment Protection, Management and Engagement</b>	Sub-component 6.1: Environment Protection and Resource Management Expenditure Sub-component 6.2: Environmental Governance and Regulation Sub-component 6.3: Extreme Event Preparedness and Disaster Management Sub-component 6.4: Environmental Information and Awareness

## Basic Set of Environment Statistics

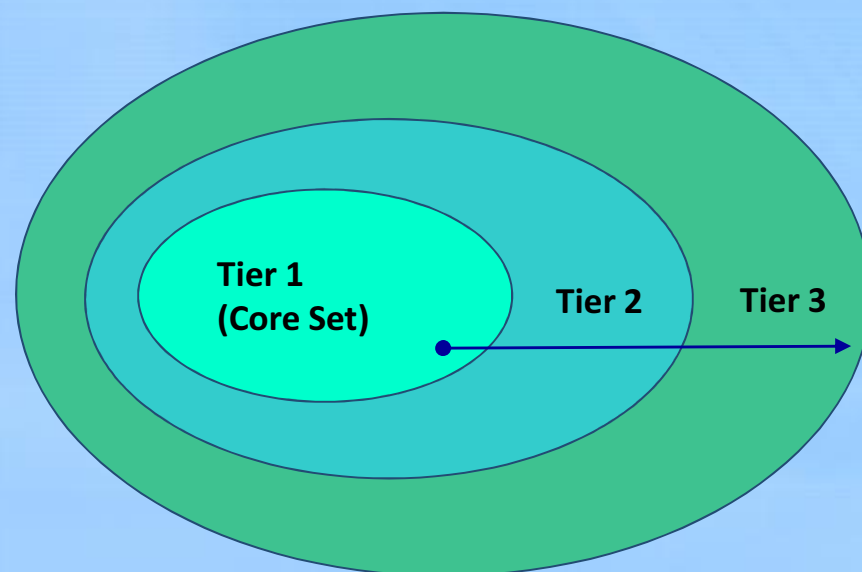
<b>Component 1: Environmental Conditions and Quality</b>	
<b>Sub-component 1.2: Land Cover, Ecosystems and Biodiversity</b>	
<b>Topic</b>	<b>Statistics and Related Information</b> ( <b>Bold Text - Core Set/Tier 1</b> ; Regular Text - Tier 2; <i>Italicized Text - Tier 3</i> )
<b>Topic 1.2.3: Biodiversity</b>	a. Flora - terrestrial, freshwater and marine (also in 1.2.2.c)
	1. <b>Number of known species by status category</b>
	2. Species population
	3. Number of endemic species
	4. Number of invasive alien species
	5. <i>Habitat fragmentation</i>
	b. Fauna - terrestrial, freshwater and marine (also in 1.2.2.c)
	1. <b>Number of known species by status category</b>
	2. Species population
	3. Number of endemic species
4. Number of invasive alien species	
5. <i>Habitat fragmentation</i>	

Flexibility and adaptability: prioritizing components, sub-components and topics

Flexibility and adaptability: tiers

# The Basic Set of Environment Statistics

- The **Basic Set of Environment Statistics** organizes a comprehensive (though not exhaustive) list of environment statistics describing the statistical topics
- The Basic Set is organized in **three tiers**, based on the level of relevance, availability and methodological development of the statistics.



- **Tier 1** is the **Core Set of Environment Statistics** which are of high priority and relevance to most countries and have a sound methodological foundation
- **Tier 2** includes environment statistics that are of priority and relevance to most countries but need more investment in time, resources or methodological development.
- **Tier 3** includes environment statistics which are either of less priority or require significant methodological development.



# The Core Set of Environment Statistics

- The objective of the Core Set of Environment Statistics is to serve as an agreed, limited set of environment statistics that are of high priority and relevance to most countries
- It is flexible and adaptable to the countries circumstances
- The Core Set is organized and presented in accordance to the FDES 2013 structure

**The Core Set**

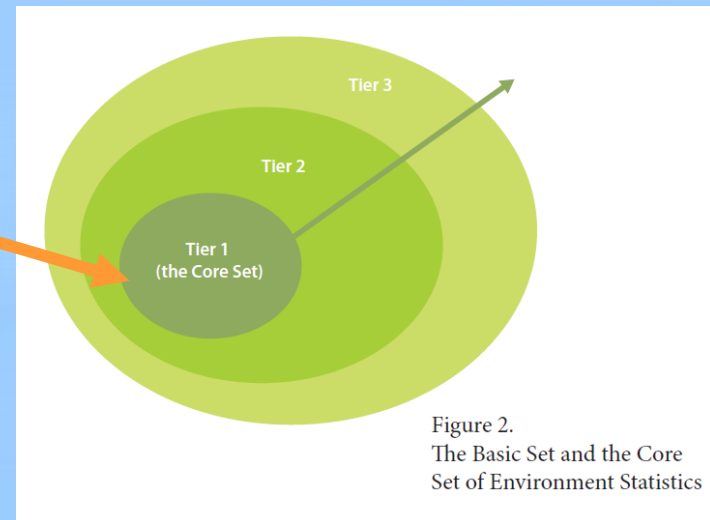
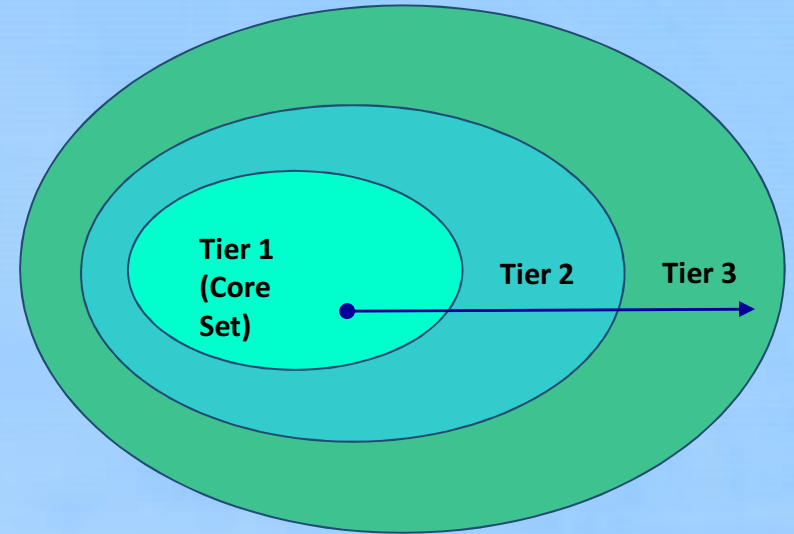


Figure 2.  
The Basic Set and the Core Set of Environment Statistics



# Number of statistics in the Basic and Core Set of Statistics

Core Set = 107  
Basic Set = 492



	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Total
Tier 1	35	35	19	4	11	3	107
Tier 2	83	46	33	12	17	21	212
Tier 3	64	43	5	17	21	23	173
Total	182	124	57	33	49	47	492

# The Basic Set of Environment Statistics and the SEEA CF

- About 35 per cent of the statistics included in the Basic Set is relevant and can feed into the SEEA CF tables.
- These statistics are based on the definitions and classifications applied in the SEEA CF.
- When SEEA CF Core Tables become available, a comparison with the Basic and Core Set of Environment Statistics will be carried out

## Manual on the Basic Set of Environment Statistics

The Manual is currently being developed to provide methodological guidance for the compilation of the statistics in the Basic Set.

Where relevant, the Manual builds on the SEEA CF.





# Environment Statistics Self-Assessment Tool (ESSAT)

A self-assessment tool has been developed based on the Basic Set, that can be used by countries ex ante and ex post to measure the state and progress in developing their environment statistics.

As the Basic Set of Environment Statistics contains statistics that feed into the SEEA CF tables, the ESSAT provides information also about the availability and state of statistics for environmental-economic accounting.



# The UNSD/UNEP Questionnaire on Environment Statistics

- Biennial data collection since 1989
- Air, Land, Water, Waste until 2004
- Water and Waste since 2006 (to eliminate duplication)
- Fully harmonized and coordinated with OECD/Eurostat Joint Questionnaire
- Two of the Water and one of the Waste tables are fully aligned with SEEA CF
  - Data availability is very low, data quality is weak
  - Around 70 (non-EU/OECD) countries respond with sporadic data
  - About 10 statistical series have geographical coverage and quality acceptable for publication.





Thank you

