
Comparing NSO dataset for climate change and data gap analysis with FDES

National Workshop on Climate Change and Disaster-related Statistics

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Classification of Environment Statistics (FDES) Jordan

The Framework of Environment Statistics consists of six components structured in a simple, flexible, in addition to sub-component, statistical subjects and individual statistics using a multi-level approach as follows:



Applications of the FDES to cross-cutting issues component 5 . (of FDES 2013)

The FDES can be applied to inform about cross-cutting policy issues important to countries at any given time.

Examples:

- Water and the environment
- Energy and the environment Climate change
- Agriculture and the environment

outline

- ❑ Review of Climate Change Indicators
- ❑ Audit of Existing Indicators
- ❑ Gap data Analysis

Auditing indicators available in the DOS database for environment sector

. Environmental Conditions and Quality

1.1 Physical Conditions

1.1.1 Climate

- **Data Availability:** The database includes a comprehensive set of climate-related data spanning from **1994 to 2022**. Key variables such as monthly rainfall, average relative humidity, wind speed, and temperature are available.
- **Periodicity** دورية : Most tables report data monthly, enabling detailed trend analysis.
- **Data Quality:** Generally high, with standardized methods for measurement across various stations and governorates.
- **Gaps:**
 - Limited data on extreme weather events (e.g., heatwaves, floods) which are crucial for assessing climate resilience.
- **Recommendations:**
 - Integrate real-time weather monitoring systems.
 - Conduct annual assessments of climate extremes to inform policy.

1.1.2 Hydrographical Characteristics

الصفات الوصفية للمياه

Data Availability: Data on river lengths, groundwater wells, and dam storage capacities covers **2014 to 2023**.

Periodicity دورية : Annual updates are common, though some variables are recorded bi-annually.

Data Quality: High reliability but may lack granularity for specific watersheds.

Gaps:

- More seasonal variation data would enhance understanding of water availability throughout the year.
- إن الحصول على المزيد من البيانات المتعلقة بالتغيرات الموسمية من شأنه أن يعزز فهم مدى توفر المياه على مدار العام.

Recommendations:

- Increase data collection frequency during critical hydrological periods (e.g., rainy seasons).
- زيادة وتيرة جمع البيانات خلال الفترات الهيدرولوجية الحرجة (على سبيل المثال، مواسم الأمطار)

1.2 Land Cover Ecosystems and Biodiversity

Data Availability: Data on cultivated areas and organic farming spans **1998 to 2022**.

Periodicity: Annual updates for most agricultural data.

Data Quality: Reliable, though definitions of "organic" may vary. موثوقة، على الرغم من أن تعريفات العضوي قد تختلف

Gaps:

- Insufficient tracking of land-use changes over time, which can impact biodiversity and ecosystem health
- عدم كفاية تتبع التغيرات في استخدام الأراضي بمرور الوقت، مما قد يؤثر على التنوع البيولوجي وصحة النظام البيئي..

Recommendations:

- Establish a comprehensive land-use monitoring program to track changes in real time.

إنشاء برنامج شامل لرصد استخدام الأراضي لتتبع التغيرات في الوقت الحقيقي.

Extreme Events and Disaster

4.1 Natural Extreme Events and Disaster

Data Availability: Data on disasters is available, primarily from **2018**.

Periodicity: Infrequently updated, typically after major events. يتم تحديثه بشكل غير متكرر، عادةً بعد الأحداث الكبرى.

Data Quality: Varies based on event reporting.

Gaps:

- Comprehensive disaster impact assessments are lacking. لا توجد تقييمات شاملة لتأثير الكوارث.

Recommendations:

- Develop a systematic approach to disaster data collection and impact assessment following events.

تطوير نهج منهجي لجمع البيانات حول الكوارث وتقييم الأثر بعد الأحداث.

Evaluation of Climate Change Indicators

- Energy Methodology

Indicators

The following indicators will be utilized to assess energy statistics:

- Per capita primary energy and electricity consumption
- Domestic production of oil and gas
- Consumption of petroleum derivatives
- Total energy mix
- Primary energy usage by sector
- Exported and imported electricity
- Electricity generated by fuel type
- Fuel consumption in electricity generation by type
- Electricity consumption by activity classification (ISIC4)
- Renewable energy systems connected to the distribution network under the transit system
- Renewable energy systems connected to the distribution network under net metering
- Percentage of the population benefiting from electricity services
- Percentage of the population relying primarily on clean fuel and technology
- Share of renewable energy in total final energy consumption
- Energy intensity measured in terms of primary energy and GDP

The following sections outline the methodology for collecting, categorizing, and comparing data to achieve comprehensive energy statistics at the national level and across various sectors.

Evaluation of Climate Change Indicators

To conduct an assessment of the Department of Statistics (DOS) Framework for the Development of Statistics (FDES) database to identify and rectify missing variables critical for calculating climate change indicators.

تعزيز قاعدة بيانات إطار تطوير الإحصاءات التابع لدائرة الإحصاءات
إجراء تقييم لقاعدة بيانات إطار تطوير الإحصاءات التابع لإدارة الإحصاء لتحديد وتصحيح
المتغيرات المفقودة التي تعد بالغة الأهمية لحساب مؤشرات تغير المناخ.



United Nations » Department of Economic and Social Affairs » Statistics Division



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SDG Indicators

Metadata repository

The metadata available in this repository is a work in progress. It reflects the latest reference and other international organizations on data and statistics for the Tier I and II indicators in be further updated and periodically reviewed in cooperation with the respective data compilers.

- [Download the complete set of metadata for indicators \(as of January 2022\)](#)

In addition:

- [Official list of Global Sustainable Development Goal indicators](#)
- [Tier Classification for Global SDG Indicators](#)
- [Previous Work Plans for Tier III Indicators \(archive\)](#)
- [Metadata for initially proposed indicators \(archive\)](#)
- [Latest news](#)

Please send your feedback and suggestions for improvements to statistics@un.org.

Drivers

Total greenhouse gas emissions	
	1. Total greenhouse gas emissions per year
	2. Total emissions of indirect greenhouse gases
	3. Greenhouse gas emissions from land use, land use change and forestry
	4. Total greenhouse gas emissions from the national economy
	5. Greenhouse gas emissions per capita
	6. Greenhouse gas emissions in gross fixed capital formation of direct investment
	7. Greenhouse gas emissions in value added of foreign-controlled multinational enterprises
	8. Carbon footprint
Atmospheric concentration of greenhouse gases	
	9. Global concentration of greenhouse gases
Energy production, supply and consumption	
	10. Total primary energy production from fossil fuels
	11. Total energy supply from fossil fuels
	12. Share of fossil fuels in total energy supply
	13. Final energy consumption per capita
	14. Energy intensity measured in terms of primary energy and gross domestic product
Fossil fuels	
	15. Fossil fuel dependency
	16. Amount of fossil-fuel subsidies (production and consumption) per unit of gross domestic product
Population	
	17. Population growth
	18. Urban population as a proportion of total population
Transport	
	19. Number of (fossil-driven) vehicles per capita
	20. Vehicle miles travelled per capita
Land and agriculture	
	21. Intensity of use of forest resources
	22. Deforested area as a proportion of total forest area
	23. Ratio of area of organic soils drained for agriculture to total area of organic soils
	24. Livestock units per agricultural area
	25. Use of nitrogen fertilizers per hectare of total agricultural area (cropland and pasture)
	26. Growth in built-up area

Impacts

Hazardous events and disasters			
	39. Frequency of hazardous events and disasters		
	40. Direct economic loss to all other damaged or destroyed productive assets attributed to disasters		
	41. Direct economic loss in the housing sector attributed to disasters		
	42. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population		
	43. Number of climate refugees, climate migrants and persons displaced by climate change		
Climate change and human health			
	44. Incidence of cases of climate-related diseases		
	45. Incidence of heat- and cold-related illnesses or excess mortality		
	46. Climate-induced air pollution		
Climate change evidence			
	47. Sea level rise		
	48. Reduction of sea ice cover		
	49. Average marine acidity (pH) measured at agreed suite of representative sampling stations		
	50. Reduction of lake and river ice cover		
	51. Global mean surface temperature anomaly		
	52. Mean surface temperature anomaly		
	53. Temperature records		
	54. Temperature-humidity index		
	55. Mean sea surface temperature anomaly		
	56. Ocean heat content		
	57. Temperature of freshwater bodies		
	58. Total rainfall anomaly		
	59. Precipitation record		
	60. Standardized precipitation index		

Vulnerability

Water security, food security and agriculture

- 81. Prevalence of undernourishment
- 82. Balance of food trade
- 83. Customer price of drinking water
- 84. Water production cost
- 85. Area of biofuels (and other non-food crops) as a proportion of total agricultural area
- 86. Population relying on subsistence and pastoral farming

Vulnerable species, ecosystems and their services

- 87. Vulnerable species
- 88. Vulnerable or fragile ecosystems
- 89. Vulnerable ecosystem services
- 90. Ecosystem carbon stocks

Buildings and infrastructure vulnerable to climate change

- 91. Infrastructure vulnerable to climate change
- 92. Buildings (settlements) vulnerable to climate change

Vulnerable population

- 93. Coverage of essential health services
- 94. Net energy imports as a proportion of total energy supply
- 95. Proportion of population with access to electricity
- 96. Proportion of population served by municipal waste collection
- 97. Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water
- 98. Proportion of population using safely managed drinking water services
- 99. Proportion of population with access to heating/cooling
- 100. Proportion of population living in coastal areas
- 101. Proportion of the population living below the international poverty line by sex, age, employment status and geographic location (urban/rural)
- 102. Proportion of population living in non-coastal hazard-prone areas
- 103. Proportion of urban population living in slums, informal settlements or inadequate housing
- 104. Indigenous population living in isolated areas
- 105. Proportion of population with disability

Area of country vulnerable to climate change

- 106. Coastal area vulnerable to climate change
- 107. Islands vulnerable to climate change

Mitigation

Renewable energy	
	109. Production of renewable energy as a proportion of total energy production
	110. Renewable energy share in the total final energy consumption
	111. Non-fossil fuel energy consumption as a proportion of final energy consumption
	112. Proportion of population with primary reliance on clean fuels and technology
	113. Rate of decrease of energy intensity
Climate change mitigation policies, strategies and plans	
	114. Low-carbon development strategies and plans
	115. Reforming or phasing out of government support for fossil fuels, by fuel type and type of support
	117. Share of energy- and transport-related taxes as a percentage of total taxes and social contributions
	118. Amounts provided and mobilized in United States dollars per year in relation to the continued existing collective mobilization goal of the \$100 billion commitment through to 2025
	119. Average trading carbon price
Climate change mitigation technology and practice	
	120. Climate change mitigation technology
	121. Trade in low-carbon technology products
	122. Greenhouse gas intensity of the economy (including transport)
	123. Rate of decrease of greenhouse gas emissions per unit of gross domestic product
	124. Greenhouse gas removals (carbon sequestration)
	125. Increase in forest area
	126. Progress towards achieving the nationally determined contribution

Adaptation

Climate change adaptation policies, strategies and plans	
	127. Proportion of sectors planning, budgeting and implementing climate change adaptation actions
	128. Proportion of women in managerial positions
	129. Share of government adaptation expenditure in relation to gross domestic product
	130. Number of units dedicated to climate change in government structures
	131. National integrated coastal zone management
	132. Fisheries management measures in place and multilateral/bilateral fisheries management arrangements
Risk management, disaster forecasting and early warning systems	
	133. Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies
	134. Coverage of disaster shelters per capita
	135. Climate change funds received
	136. Coverage of early warning systems
	137. Average increase of insurance premiums incurred due to climate change
Public awareness of and education on climate change	
	138. Proportion of population with access to climate information
	139. Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
	140. Number of companies publishing sustainability reports
	141. Number of reports on climate change statistics and indicators
Area-based adaptation to climate change	
	142. Adaptation at coastal zones or river basins
	143. Nature-based adaptation
	144. Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
	145. Share of green urban areas in the total area of cities
	146. Proportion of degraded area of ecosystems that has been restored
	147. Buildings adapted to climate change
	148. Proportion of agricultural area under productive and sustainable agriculture
	149. Progress towards sustainable forest management
Climate change monitoring	
	150. Biodiversity information monitoring index

CC Indicators: Mitigation & Adaptation

Production of renewable energy as a proportion of total energy production
Renewable energy share in the total final energy consumption
Non-fossil fuel energy consumption as a proportion of final energy consumption
Rate of decrease of energy intensity
Low-carbon development strategies and plans
Average trading carbon price
Climate change mitigation technology
Greenhouse gas intensity of the economy (including transport)
Rate of decrease of greenhouse gas emissions per unit of gross domestic product
Greenhouse gas removals (carbon sequestration)
Increase in forest area
Progress towards achieving the nationally determined contribution
Share of government adaptation expenditure in relation to gross domestic product
Number of units dedicated to climate change in government structures
National integrated coastal zone management
Fisheries management measures in place and multilateral/bilateral fisheries management arrangements
Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies
Climate change funds received
Coverage of early warning systems
Proportion of population with access to climate information
Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
Number of reports on climate change statistics and indicators
Adaptation at coastal zones or river basins
Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
Share of green urban areas in the total area of cities
Proportion of agricultural area under productive and sustainable agriculture
Progress towards sustainable forest management

Variable 1

Renewable energy production
Renewable energy consumption
Non-fossil fuel energy consumption
Intermediate consumption of energy products of total ISIC Industries (01-99) in TJ
List and description of strategies and plans
Average price paid on the market for 1 ton CO2 equivalent during the reference year
Number of hybrid and electric driven vehicles
Total greenhouse gas emissions from production activities of industries, including services, of a national economy
Total emissions of direct greenhouse gases (excluding LULUCF)
GHG removals (carbon sequestration) by ecosystems
Forest area: Total
Nationally determined contributions (NDCs) embody efforts by each country to reduce national GHG emissions and adapt to the impacts of climate change.
Environmental protection expenditure
List and description of units
Areas covered by ICZM
This indicator measures the status of fisheries management by checking fisheries management measures prescribed in national legislation, policies or multilateral/ bilateral fisheries management arrangements
Description of local disaster risk reduction strategies
report the funds received within their Biennial Update Reports
Existence and number of early warning systems
Number of households with timely access to climate information
Number of children deprived of education
List and description of climate change statistical products
Area protected through storm surge infrastructure
Key biodiversity areas
Green urban area

Climate Change Indicators



Ref.
221.T2
221.T2
221.T2
221.T2 & GDP
?
tbc min env
V1: 515.T5/T6 V2:?
311.T1 & 4th National communication-Min Env
311.T1 & 4th National communication-Min Env
311.T & 4th National communication-Min Env
n.a
n.a
Min. Env
n.a
tbc with Min Agriculture & DOS
National Center For security & crisis management مركز ادارة الازمات
MOPEC
National Center For security & crisis management مركز ادارة الازمات
n.a
DOS/social
DOS/envir
ASEZA شرطة اقليم العقبة
Min. Env & DOS
LC FAO project 2022
tbc with Min Agriculture & DOS
n.a





قاعدة البيانات التفاعلية
Interactive Database

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