BACKGROUND DOCUMENT TO THE REPORT OF THE SECRETARY-GENERAL ON CLIMATE CHANGE STATISTICS (E/CN.3/2022/17)

GLOBAL CONSULTATION ON THE GLOBAL SET

Prepared by the United Nations Statistics Division (UNSD)

27 January 2022

Introduction

The present background document complements the Report of the Secretary-General on Climate Change Statistics to the United Nations Statistical Commission at its fifty-third session, 1-4 March 2022 (virtual).[1] The relevant content in the Report of the Secretary-General that refers to this background document is in pages 3 to 7 (paras. 4 and 6 to 18), especially within, *III. Recent developments with regard to the global set of climate change statistics and indicators, including the global consultation.*

The present background document comprises four sections, I: Analysis of country responses to Part I of the Global Consultation on the Global Set of Climate Change Statistics and Indicators; II: Analysis of agency responses to Part I of the Global Consultation on the Global Set of Climate Change Statistics and Indicators; III: Analysis of country responses to Part II of the Global Consultation on the Global Set of Climate Change Statistics and Indicators; and IV: Concluding remarks. In addition, there is an Annex I: Inventory of agency responses to Part I of the Global Consultation.

In order to best capture the desired information from two distinctly different but key stakeholders, the United Nations Statistics Division (UNSD) sent two versions of the Global Consultation on the Global Set (hereafter, the Consultation); one for countries, and one for agencies. A key substantive distinction between the two versions of the Consultation was in Part I. For countries, Part I focused upon the Institutional Dimension of Climate Change Statistics and Indicators. For agencies, it focused upon International Agency's Activities on Climate Change Statistics and Indicators. Each version contained the same Part II: Draft Global Set and Metadata, and its own set of Guidelines. An analysis of responses to Part II: Draft Global Set and Metadata is provided in a separate background document to the Report of the Secretary-General on Climate Change Statistics entitled, "Global set and metadata".

The Part I sent to countries contained seven sub-parts which totalled 28 questions. The Part I sent to agencies contained three sub-parts and totalled 14 questions. Many countries and agencies also provided general comments.

Responses provided by countries and agencies to the Consultation were highly appreciated by UNSD, and helped inform the analysis and comment of the Expert Group on Environment Statistics which held its eighth meeting virtually in October 2021.[2] First among the conclusions and recommended actions of that meeting was that the Global Set of Climate Change Statistics and Indicators be submitted to the Statistical Commission at its fifty-third session for adoption. Key to informing that recommendation in particular has been the feedback provided by the 86 countries and 26 agencies, via the Consultation.

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[1] E/CN.3/2022/17 (https://unstats.un.org/unsd/statcom/53rd-session/documents/2022-17-SG-ClimateChangeStats-EE.pdf) Item 3(m) of the provisional agenda of the fifty-third session of the United Nations Statistical Commission.
[2] UNSD, Eighth Meeting of the Expert Group on Environment Statistics, 12-14 and 19-20 October 2021, https://unstats.un.org/unsd/envstats/fdes/fdes_eges8.cshtml (virtual).

The Consultation was responded to by the following 86 countries and areas: They were: Armenia, Australia, Azerbaijan, Bangladesh, Belarus, Bhutan, Bolivia (Plurinational State of), Botswana, Brazil, Bulgaria, Burundi, Cabo Verde, Canada, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Croatia, Cyprus, Denmark, Dominican Republic, Ecuador, Estonia, Finland, France, Georgia, Grenada, Guinea, Guyana, Hungary, India, Indonesia, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Lithuania, Luxembourg, Madagascar, Malaysia, Mali, Mauritius, Mexico, Mongolia, Montenegro, Myanmar, Nepal, Netherlands, New Zealand, North Macedonia, Norway, Paraguay, Peru, Philippines, Poland, Qatar, Republic of Moldova, Russian Federation, Saint Lucia, Saudi Arabia, Senegal, Serbia, Slovakia, Slovenia, South Africa, Spain, Suriname, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Viet Nam, Zambia, Zimbabwe, Bermuda and State of Palestine.
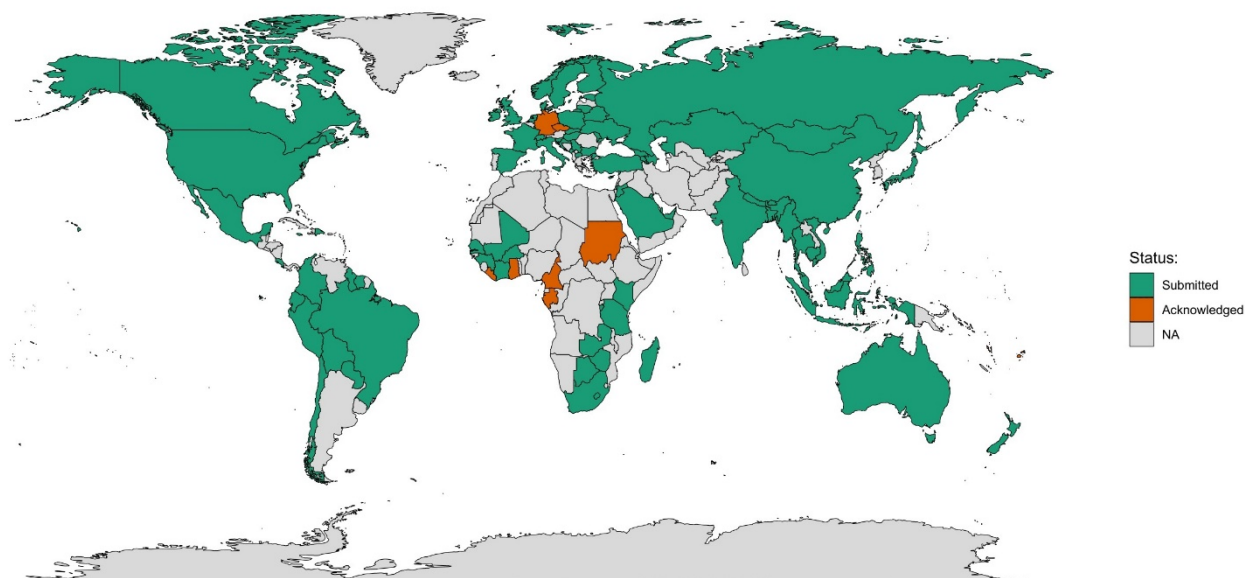

Figure 1: Map showing country and area submissions and acknowledgements to the Global Consultation on the draft Global Set of Climate Change Statistics and Indicators.

Contents

I: Analysis of country responses to Part I of the Global Consultation on the Global Set of Climate Change Statistics and Indicators

Background and summary

1.Part I of the Consultation to countries included the following seven sub-parts: (A): Identification of institutions; (B): National policies/strategies; (C): Mandate and organization of climate change statistics; (D): Production and reporting of climate change statistics; (E): Inter-institutional collaboration; (F): Technical assistance and training; and (G): The way forward in climate change statistics. Additionally, a General Comments section allowed free entry comments from countries.

2.Questions included in the Consultation were worded in such a way as to: allow for yes or no responses; collect detailed qualitative information (e.g. name of an institution, department or unit, description of a policy, etc.); allow for either individual or multiple choices from a limited number of options (e.g. ability to tick either only one option, or more than one option from a finite list). Throughout the Consultation, many opportunities were provided for countries to include a description or comment when answering yes, no, or ticking one or more boxes.

3.In the majority of cases, 61 out of the total of 70 responses were provided by a country's National Statistical Office (NSO) or equivalent institution directly to UNSD. Some countries' responses were led by line ministries, including Ministries and Departments for Transit, Fishery, Environment, Environment and Climate Change, Environmental Conservation, Water, Ecological Transition, Municipality, and the Office of Director-General for Policy Planning on Statistical Policy. Furthermore, 25 countries provided joint submissions, with responses produced by more than a single government entity which was done based on a consultative processes between the NSO and a line ministry. This information was captured in the first question of Part I sent to countries.

4.Herewith follows an analysis of country responses, to the remaining 27 questions of the Consultation's Part I: Institutional Dimension of Climate Change Statistics and Indicators.[3] 68 countries of the 86 countries and areas who responded to the Consultation included a response to Part I. Two of those 68 countries provided responses from two separate institutions. As such, analysis throughout the present section is of 70 responses. Much of the analysis of Part I responses is undertaken at a regional level, where the regional groupings are applied per the Standard country or area codes for statistical use (M49).[4] Refer to table below which illustrates which of the 68 countries and areas correspond to which regions.

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[3] Throughout many charts, analysis is undertaken by region with data provided for the four regions, Africa, the Americas, Asia and Europe. A notable exception is Oceania. Analysis of Oceania's data is absent because no country from that region provided a complete response to Part I of the Consultation.
[4] UNSD, Standard country or area codes for statistical use (M49), available at: https://unstats.un.org/unsd/methodology/m49/ (accessed 14 January 2021).

Table 1: Countries and areas that have responded to Part I of the Global Consultation, and their respective regions per the Standard Country or Area Codes for Statistical Use (M49)

Number of responses	Countries
Africa	
11	Botswana, Burundi, Cabo Verde, Kenya, Mali, Mauritius, Senegal, South Africa, United Republic of Tanzania, Zambia, Zimbabwe
Americas	
13	Bolivia, Brazil, Canada, Chile, Costa Rica, Dominican Republic, Ecuador, Grenada, Guyana, Mexico, Peru, Saint Lucia, Suriname
Asia	
19	Armenia, Bangladesh, Bhutan, Georgia, India, Indonesia, Japan, Kazakhstan, Kuwait, Mongolia, Myanmar, Nepal, Philippines, Qatar, Saudi Arabia, Thailand, Turkey, United Arab Emirates, Viet Nam
Europe	
25	Belarus, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Hungary, Ireland, Italy, Lithuania, Luxembourg, Montenegro, Netherlands, Norway, Poland, Republic of Moldova, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Switzerland, United Kingdom

I.B. National Polices/ Strategies

Question B1: Are there national policies or strategies related to climate change in place?

Yes 65, No 3, Not answered 2.

5.Responses to question B1 demonstrated that almost all countries have either national policies or strategies related to climate change in place. It should be noted that countries also use alternative names such as programmes, plans or agendas. Multiple answers to the question were allowed.

Table 2: Responses to Question B1.

National policies or strategies related to climate change	Number of responses
National strategy	39
Programme	13
Plan	31
Policy	24
Agenda	2
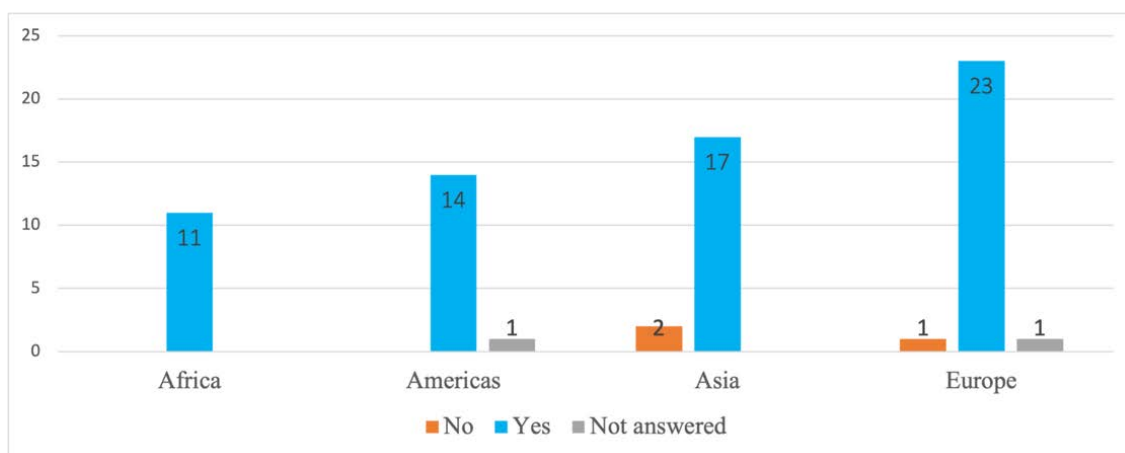
Figure 2: Responses by region to Question B1.

Question B2: Is there a national statistical plan/programme/strategy in place (e.g., National Strategy for the Development of Statistics (NSDS))?

Yes 54, No 11, Not answered 5.

6.Answers to question B2 showed that the vast majority of countries have a national statistical plan, programme, or strategy in place. Table 3a shows responses by type of programme strategy or plan, and Table 3b shows the institution responsible, which is usually the NSO.

Table 3a: Responses to Question B2.

Type of plan/ programme/strategy	Number of responses
Programme	16
Strategic/National Plan	11
Strategy	21
Other	6

Table 3b: Responses to Question B2.

Responsible institution	Number of responses
NSO	48
Ministry	3
Not answered	3
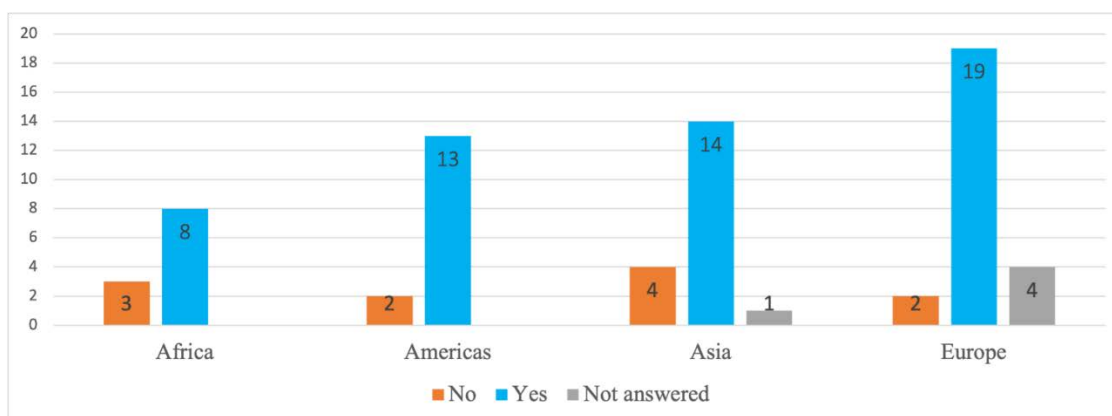
Figure 3: Responses by region to Question B2.

Question B3: Is climate change statistics included in the national statistical plan/programme/strategy?

Yes 41, No 21, Not answered 8.

7.Country responses showed that in approximately two-thirds of responses, countries include climate change statistics in their national statistical plan/programme/strategy. Table 4 shows breakdowns of those who responded, "yes", to this question.

Table 4: Responses to Question B3.

Comments	Number of responses
Plan	11
Programme	5
Strategy	4
Not specified	11
Other (included as part of env stats, etc)	10
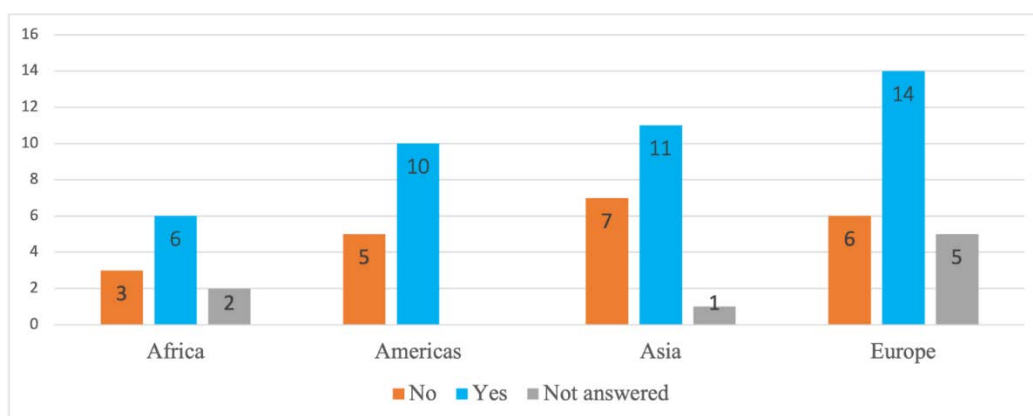
Figure 4: Responses by region to Question B3.

Question B4: Is there a national climate change statistics plan/programme/strategy in place?

Yes 22, No 41, Not answered 7.

8.Question B4 responses showed that in a majority of cases, a national climate change statistics plan/programme/strategy was not in place in countries, with the exception of the Americas region (not in place in 7 out of 15 responses).

Table 5: Responses to Question B4.

Responsible Institution	Number of responses
Ministry	7
NSO	4
Other	9
Not specified	2
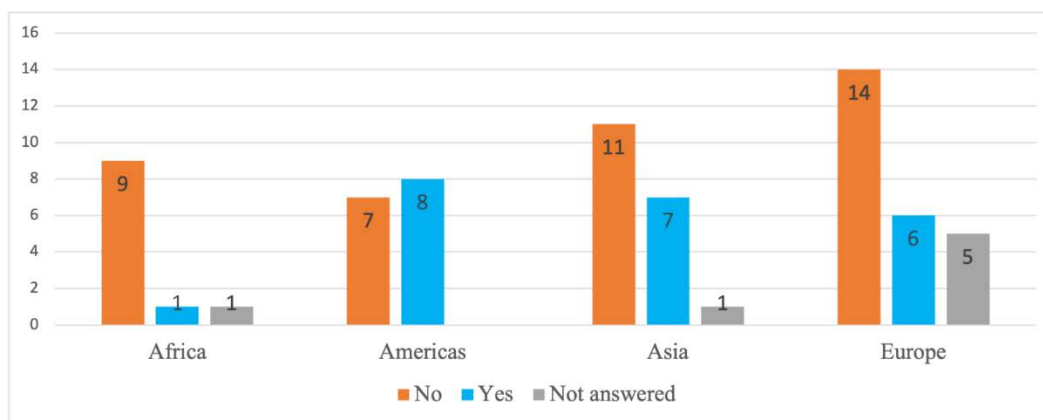
Figure 5: Responses by region to Question B4.

I.C. Mandate and organization of climate change statistics

Question C1: Is there an institution with a legal mandate to produce or to coordinate climate change statistics?

Yes 54, No 15, Not answered 1.

9.Responses to Question C1 showed that for all regions, in a majority of cases, there is an institution with a legal mandate to produce or to coordinate climate change statistics.

Table 6: Responses to Question C1.

If the answer is Yes, please specify the institution	Number of responses
Agency	6
Ministry	19
NSO/CSO	23
Commission	2
Other	4
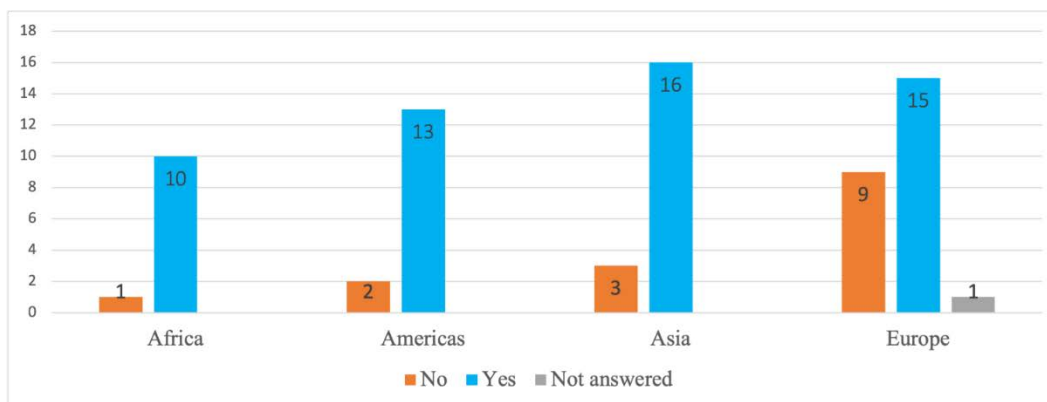
Figure 6: Responses by region to Question C1.

Question C2: Is there a department, division or unit responsible for climate change statistics in the National Statistical Office (NSO)?

Yes 47, No 20, Not answered 3.

10. Countries shared the following in response to Question C2:
- Agriculture and Environmental Statistics department;
- Agriculture, livestock & fishery and forestry section;
- Directorate of Social Resilience;
- Environment, energy;
- Satellite accounts;
- Social Statistics Division;
- Spatial and Environmental Surveys Department;
- Territory and Environment division; and
- under Social Statistics.

11. In response to this question, it is seen that for all regions, in the majority of cases, within the NSO, there is a department, division or unit responsible for climate change statistics. Some countries mentioned their NSO has established a 'combined' environment and climate change statistics unit.
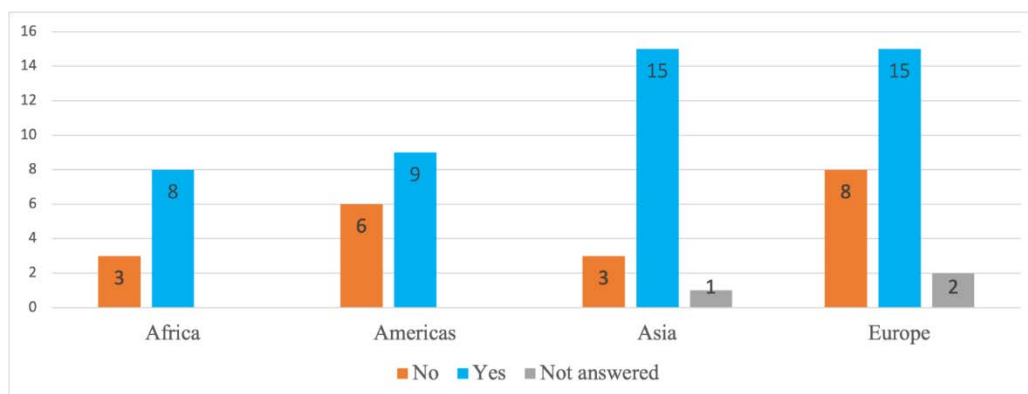
Figure 7: Responses by region to Question C2.

Question C3: What is the status of the climate change statistics department, division or unit in the NSO?

12. Some 31 out of 45 countries stated that climate change statistics is housed within the environment statistics, department, division or unit of the NSO. Other responses referred to climate change statistics being a stand-alone department, division or unit, or lying within the social statistics department, division or unit. Refer to table 7 for detailed breakdowns.

Table 7: Responses to Question C3.

Status	Number of responses	%
With or within the environment statistics department, division or unit	31	69
A stand-alone department, division or unit	5	11
Within the social statistics department, division or unit	5	11
Other	4	9
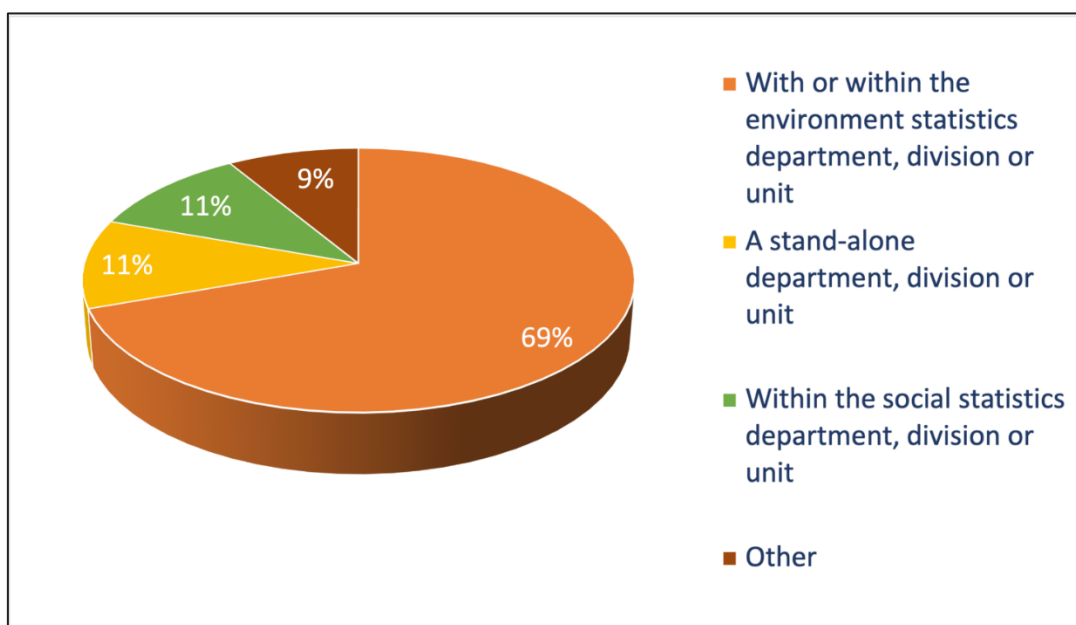
Figure 8: Responses to Question C3.

Question C4: Are there national institutions (e.g., Ministry of Environment, Meteorological Office, Ministry of Water, etc.) that have responsibility to collect climate change statistics or information?

Yes 59, No 6, Not answered 5.

13. The vast majority of countries in all regions confirmed that their country does have a national institution with the responsibility to collect climate change statistics or information. Country responses mentioned the following:
- Biodiversity & Marine Life Sector;
- Climate Change Management Department;
- Department of Agriculture Development & Health;
- Department of Climate Transformation Strategy and Planning;
- Department of Environment;
- Department of Environment and Climate Change;
- Department of Forestry, Fisheries and the Environment;
- Department of Hydrology and meteorology;
- Department of Meteorological Services;
- Department of Sustainable Development;
- Environment Agency/Environment Protection Agency;
- Hydrometeorology and monitoring centre;
- Meteorological institutions;
- Ministry of Agriculture;
- Ministry of Ecology, Geology and Natural Resources;
- Ministry of Ecology, Spatial Planning and Urbanism;
- Ministry of Environment;
- Ministry of Forest and Environment;
- Ministry of Industry & Advanced Technology;
- Ministry of Transportation;
- National Centre for Geo-environmental Information;
- National Disaster Management Centre;
- National Remote Sensing Centre; and
- National Risks Unit
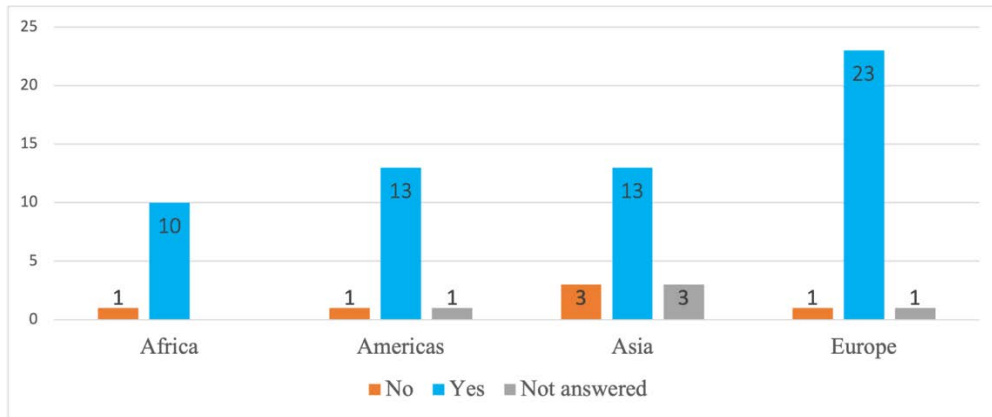
Figure 9: Responses by region to Question C4.

I.D. Production and reporting of climate change statistics

Question D1: Is the NSO currently involved in the preparation of the country's GHG inventory, as part of the reporting obligations of the United Nations Framework Convention on Climate Change (UNFCCC) and/or in the preparation of national reports to UNFCCC (e.g., national communications (NCs) and biennial reports (BRs) for Annex I Parties; and national communications (NCs) and biennial update reports (BURs) for non-Annex I Parties)?

Yes 37, No 31, Not answered 2.

14. A majority of countries involve the NSO in preparation of its GHG inventories. However, at a regional level, it is a minority of countries in the Americas (3 out of 15 responses showed NSO involvement). Furthermore, three countries responded that the NSO is responsible for the preparation of greenhouse gas (GHG) inventories and reporting to UNFCCC.
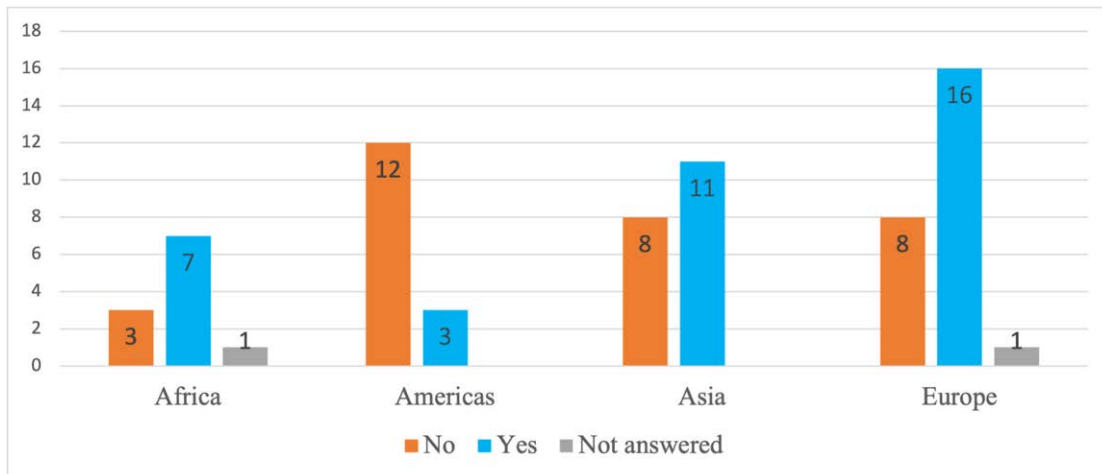
Figure 10: Responses by region to Question D1.

15. When the answer was Yes: Many NSOs mentioned that they provide source data to other line ministries that act as the country focal point for GHG inventory and reporting to UNFCCC. For the inventory of GHG emissions, such data include mainly energy, transport, agriculture, waste, industry etc. Other data that is often provided for reporting to UNFCCC include population, demography, housing, gross domestic product, poverty, unemployment, Human Development Index. In some cases, NSOs are also involved in the data compilation and validation, and in the preparation of the reports for UNFCCC.

16. When the answer was No: Some reasons for NSOs not to be directly involved in the compilation of GHG inventories and reporting to UNFCCC include no legal or institutional mandate to collaborate; and no need for active involvement or involvement on ad-hoc basis. However, even when the NSO is not directly involved, some pointed out that they are still indirectly contributing, since the focal point will use the data that the NSO provided through their official publication and reports.

Question D2: Will the NSO be involved in the preparation of the new Biennial Transparency Reports (BTRs) under the Paris Agreement?

Yes 25 No 39, Not answered 6.

17. Only the African region showed in a majority of cases (6 out of 10 responses) that NSOs would be involved in the preparation of the new BTRs under the Paris Agreement.
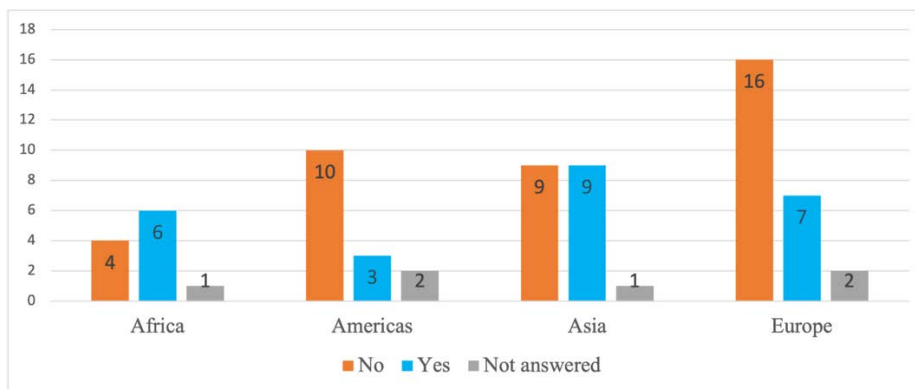
Figure 11: Responses by region to Question D2.

Question D3: Has the NSO received requests from GHG inventory compilers about specific data needs for inventory compilation that could _NOT_ be met by NSOs (e.g., energy, industry, agriculture, transport, waste statistics)?

Yes 32, No 35, Not answered 3.

18. Across all regions with the exception of Africa (2 out of 10 responses), a slight majority of countries stated "no" when in response to this question. There were many specific data needs mentioned, but the most common ones were: industry, industrial processes and product use; agricultural, livestock, forest area; waste, industrial liquid waste; population, rural and urban, income; energy, firewood, biofuel; transport; F-Gas; and wastewater.
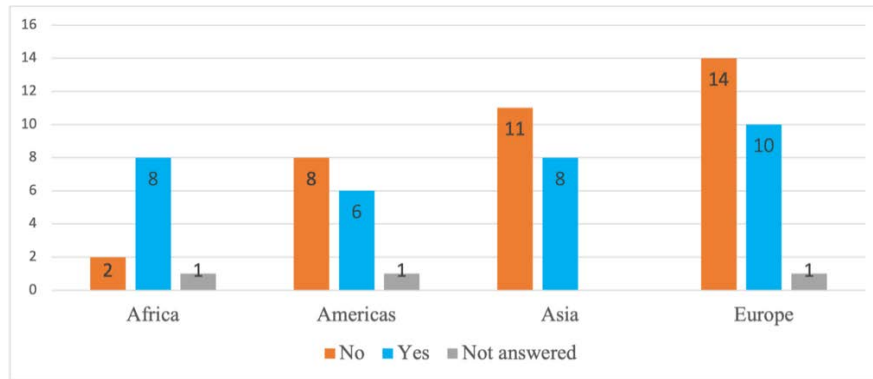
Figure 12: Responses by region to Question D3.

Question D4: What kind of adaptation related information/data/statistics have been provided, or are ready to be provided, by the NSO for use in preparing national reports (such as National Adaptation Plans (NAPs) under the UNFCCC or Adaptation Communications under the Paris Agreement)?

19. Of the 70 responses, 50 provided details on the type of data provided by NSOs on adaptation. Most mentioned some general form of involvement in terms of data supply. Several specified that data from population censuses and household surveys were provided for adaptation measures and policies drawn by relevant national institutions. A few examples include spatially explicit data on population which is applied to overlay with data on hazard areas. Environmental statistics (on crops, livestock, energy) and disaster related statistics (morbidity and mortality caused by climate extremes) supplied by NSOs were also mentioned in a few cases.

Question D5: Has the NSO developed any specialized climate change surveys, or modules in existing censuses/surveys?

Yes 12, No 55, Not answered 3.

20. Twelve responses referenced an NSO's development of a specialized climate change survey, or module within an existing census or survey. Knowing full well that historically, NSOs have rarely incorporated measurement of climate change into their work programmes, these 12 responses demonstrate likely movement in the direction whereby, increasingly, NSOs may be more closely involved in data collection on climate change statistics in future.
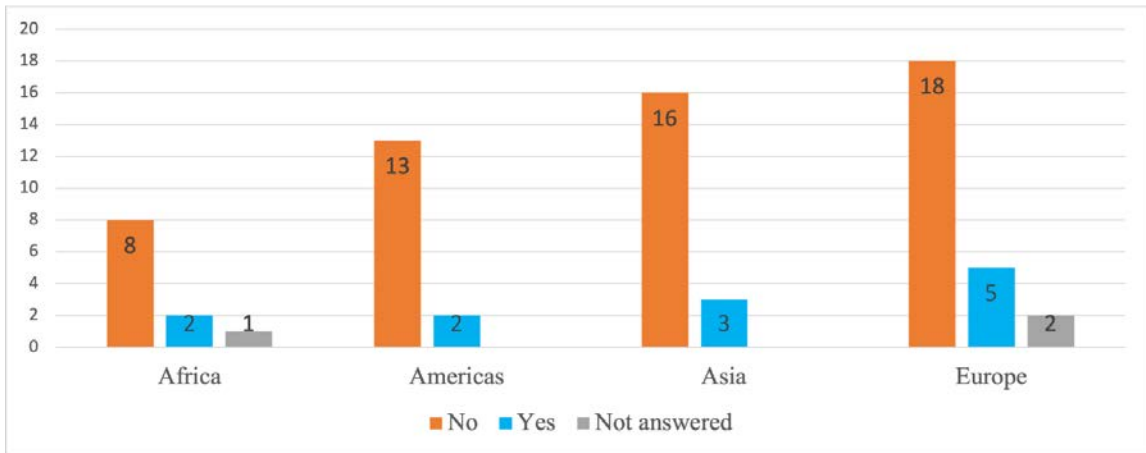
Figure 13: Responses by region to Question D5.

Question D6: If yes to Question 5, please list the names of these surveys and provide website links to the surveys and resulting reports.

21. Countries mentioned various surveys and censuses they have used including:
- Agencia Nacional de Transito;
- Climate Adaption Financing survey;
- Climate Change and Natural Disaster Perspectives;
- Environmental Expenditure Survey;
- Forestry surveys;
- Household environmental survey;
- Living Standards Survey;
- Low carbon and renewable energy economy survey;
- National Climate Change Impact Survey;
- National climate Statistic report;
- Pilot Survey on Sex, Age and Disability Disaggregated Data (SADDD) for Climate Change Adaptation (CCA) and Disaster Risk Reduction;
- Rural, Agricultural and Fishery Census;
- The "Omnibus Survey: Environmental quality and behaviour"; and
- Waste Generation Survey

Question D7: Has the NSO produced and disseminated climate change statistics either in hard copy, electronically or online?

Yes 40, No 28, Not answered 2.

22. Twenty-five responses indicated that climate change statistics have been included in environment statistics compendia and yearbooks, 12 in chapters and sections in a statistical yearbook, and an additional 24 in other formats, including database and website; electronic statistical tables; official statistics portal; online synthesis; shared environmental information system indicators; annual environment accounts; sistema de información sobre cambio climático. Some countries disseminated climate change statistics in multiple formats. One NSO produced a separate report on climate change statistics.
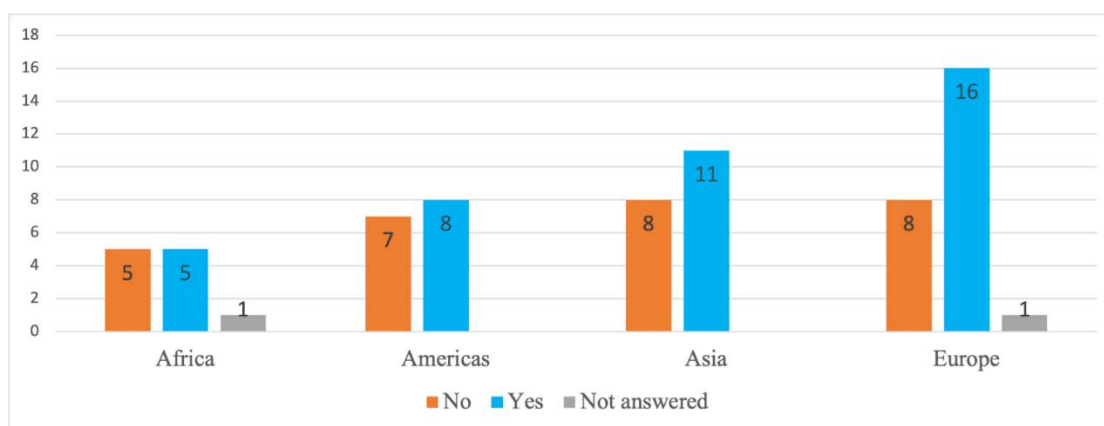
Figure 14: Responses by region to Question D7.

Question D8: Has any other institution in the country produced and disseminated climate change statistics?

Yes 49, No 19, Not answered 2.

23. Some 49 responses were a "yes" response to this question while just 19 were a "no". A strong majority of "yes" responses held true in all four regions. Countries referenced the following institutions in response to this question:

- Agencia de los Estados Unidos para el Desarrollo Internacional;
- Autoridad Plurinacional de la Madre Tierra;
- Climate Change Leadership;
- Coastal Authority under the Ministry of Environment;
- Department of Sustainable Development;
- Environmental Data Compendium;
- Environment, Forestry, Fisheries & Disaster Management;
- Environmental Information and Education Centre;
- Environmental Protection Agency;
- Geological Survey;
- Hydrometeorological Service;
- Meteorological and Hydrological Service;
- Meteorological Institute;
- Ministerio del Ambiente, Agua y Transición Ecológica;
- Ministry of Climate Resilience;
- Ministry of Economy and Sustainable Development;
- Ministry of Environment;
- Ministry of Forest;
- Ministry of Municipality and Environment Meteorological Department;
- Ministry of Natural Resources and Environment;
- Ministry of Spatial Planning and Environment;
- National Disaster Management Centre;
- National observatory on the effects of global warming;
- Nature Agency;
- The Office of Natural Resources and Environmental Policy and Planning; and
- Weather Service
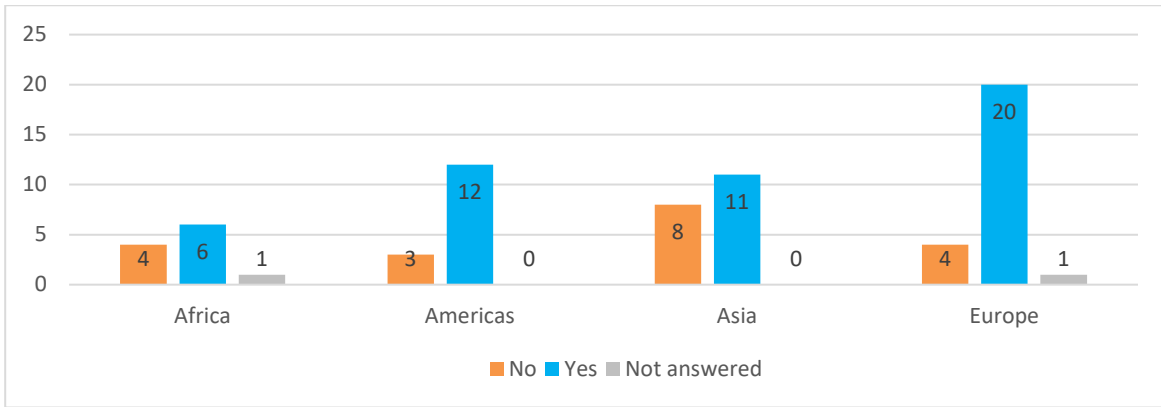
Figure 15: Country responses by region to Question D8.

I.E. Inter-institutional collaboration

Question E1: Does the NSO currently collaborate with the national focal point(s) to the UNFCCC?

Yes 45, No 24, Not answered 1.

24. Within all regions, the majority of responses stated that the NSO collaborates with national focal points to the UNFCCC. The degree and nature of these collaboration varies greatly. Twelve responses identified the collaboration as "ad-hoc." NSOs are sometimes also in charge of the quality of the data and validate data. Other responses indicated the relation with national focal points such as:

- communication is upon request but no formal relationship;
- consultation of sectorial data in collaboration include:
  - economic data;
  - energy balance;
  - agriculture, animal production; and
- infrastructure, transport, housing, etc.
- direct or indirect involvement;
- formal institutional agreement does not exist in other countries;
- legal obligation for some countries; and
- participation of the meeting/technical committee;
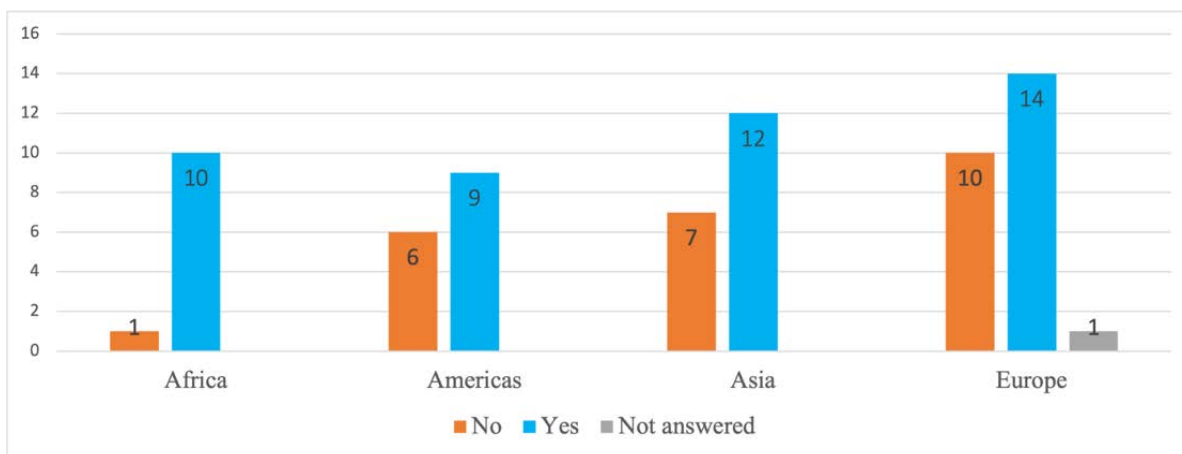
Figure 16: Responses by region to Question E1.

Question E2: Is there a committee, inter-institutional working group or task force in place to coordinate the production of environment statistics?

Yes 38, No 29, Not answered 3.

25. Per responses to Question E2, when aggregated globally, marginally more countries stated that a committee, inter-institutional working group or task force is in place to coordinate the production of environment statistics than did not. At regional level, this holds true in Africa (6 out of 11), the Americas (9 out of 14) and Asia (13 out of 19), but is not so in the case of Europe (10 out of 23).
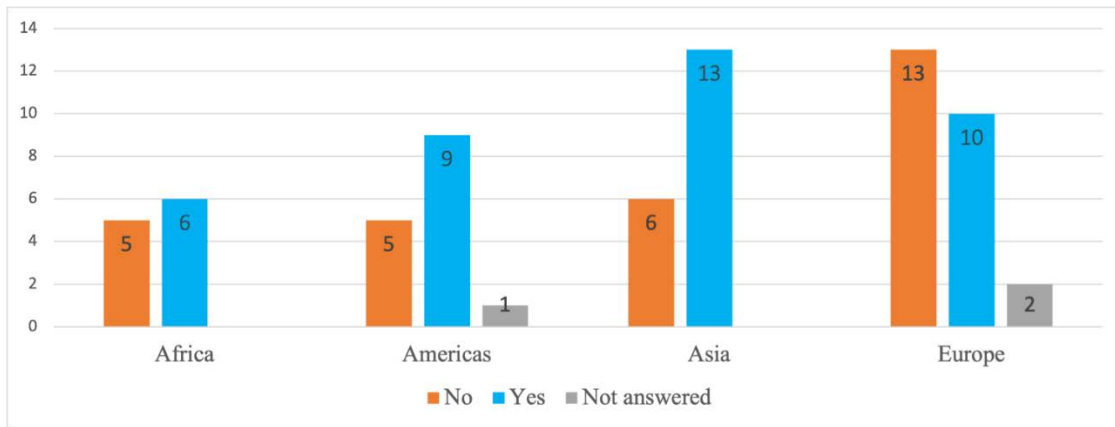
Figure 17: Responses by region to Question E2.

Question E3: If yes to Question 2, does it also include climate change statistics?

Scope of responses was limited to those who answered, "yes" to question E2. Of the 38 responses to Question E3: Yes 35, No 1. Not answered 2

26. This question only considered responses of those countries who answered "yes" to the previous question. Across all regions, in almost all cases, wherever a committee, inter-institutional working group or task force is in place to coordinate the production of environment statistics, its agenda includes climate change statistics.

Question E4: Which institutions are members of the committee, inter-institutional group or task force?

27. Countries mentioned many and varied institutions in response to this question, such as: Forest Department, Geological survey, Meteorology Institute, Ministry of Agriculture, Ministry of Energy, Ministry of Environment, Ministry of Health, the NSO, Spatial planning authority and water authority.

Question E5: What are the main barriers to collaboration among institutions for the production of climate change statistics?

28. In answering question E5, from a choice of limited options, countries' most common response was, "lack of time". After that, "not a priority for institutions" and, then "lack of an organized committee" and "overlapping responsibilities of institutions" were the next most common.
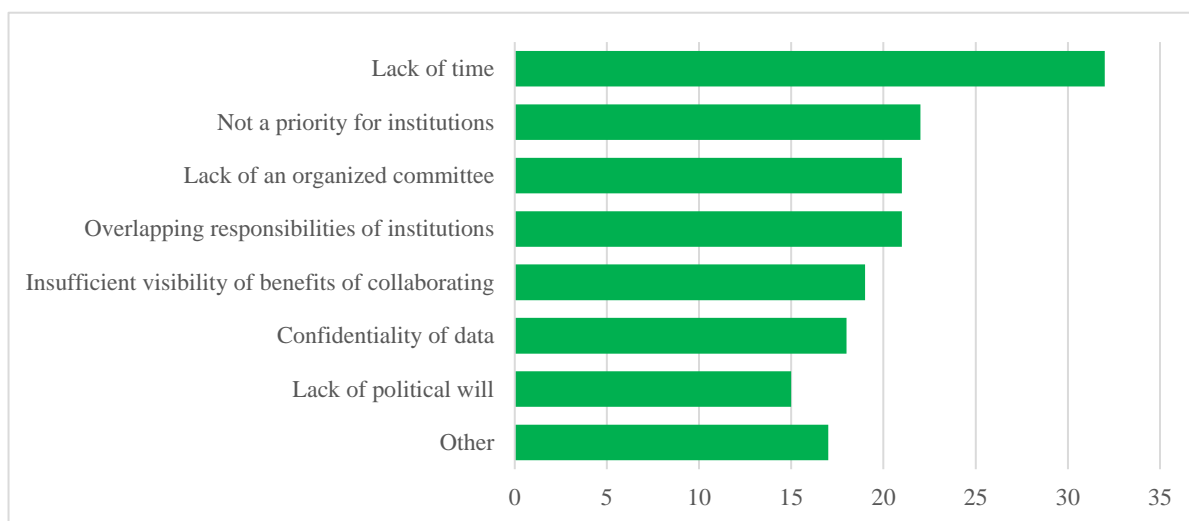
Figure 18: Country responses to Question E5.

29. When responding with, "Other", responses were elaborated upon in the following manner:
- Información en construcción, además del no reconocimiento de los tipos de fuentes de datos;
- Falta de recursos humanos y financieros;
- The strong lobby of farmers organizations opposing the climate targets;
- Political instability;
- There is a need to reinforce and improve the collaboration among all departments, units and institutions working on climate change statistics and information;
- The very broad scope of climate statistics;
- Lack of resources for production of climate change statistics; lack of human resources; lack of human and technical resources; lack of resources to do all the work (first item above only refers to 'regular meetings'); lack of data sharing policy within and outside the government agencies;
- The barriers are essentially related to issues of Data Gaps, Periodicity and timeliness of data and non-availability of detailed segregated data; and
- Limited information is available. Most information required is readily available on public domain website. However, arrangements still to be made to formalise working relations including specialised resources.

I.F. Technical assistance and training

Question F1: Has the country requested technical assistance (e.g., short-term assistance, project proposals) or capacity development in the field of climate change statistics from organizations (e.g., UNSD, UN Regional Commissions, UNFCCC, UNDP, UNEP, World Bank, regional development banks, regional institutions, international development agencies, etc.) or countries?

Yes 22, No 41, Not answered 7.

30. This question only applies to non-annex 1 countries of the UNFCCC. At a global level, a majority of responses showed that countries had not made requests for technical assistance. However, at regional levels, this holds true only in Africa (6 out of 11), Asia (12 out of 17) and Europe (18 out of 21). The opposite is true in the Americas (5 out of 14).

31. In responding to this question, countries mentioned the following bodies: Economic Commission of Latin America and the Caribbean, Eurostat, International Energy Agency, United Nations Economic and Social Commission of Asia and the Pacific, United Nations Entity for Gender Equality and the Empowerment of Women, United Nations Environment Poverty-Environment Initiative, United Nations Environment Programme, United Nations Development Programme, UNSD, World Bank. One respondent country also mentioned Norway.
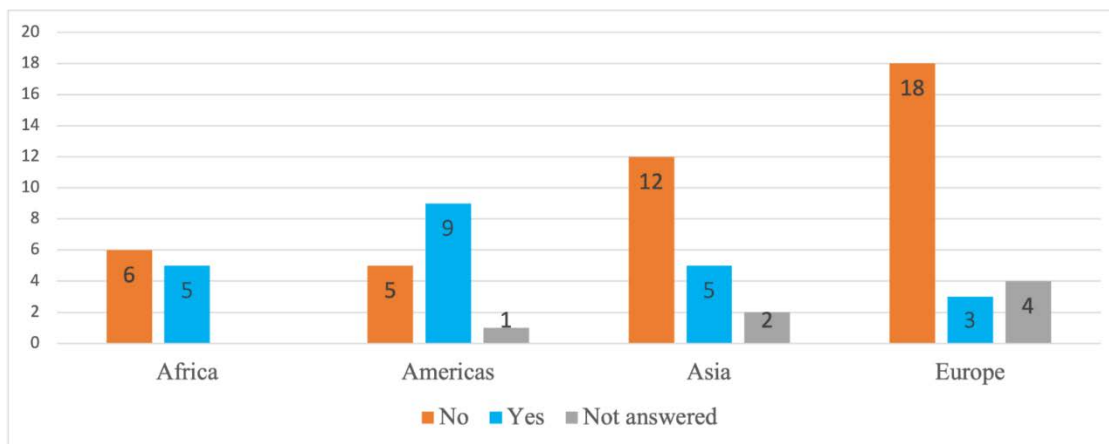
Figure 19: Responses to Question F1.

Question F2: What kind of assistance has the country received from organizations or countries in terms of technical assistance and capacity development in the field of climate change statistics?

32. Countries mentioned capacity building on methodologies (including GHG inventory), data collection tools, technical assistance, sharing of experience including on climate response options, financial assistance, grants and institutional set-up support in response to this question.

Question F3: Has the country provided technical assistance to other countries in the field of climate change statistics (e.g., short-term assistance, project proposals) or capacity development?

Yes 13, No 49, Not answered 8.

33. This question only applies to non-annex 1 countries of the UNFCCC. A minority of countries stated that they have provided technical assistance. The most "yes" responses to this question came from the European region (8 out of 21) followed by the Americas (3 out of 14) and then Asia (2 out of 17).

34. Countries mentioned the following types of assistance provided when responding to this question: webinars; capacity development; workshops; and technical consultancy. Countries also mentioned providing technical assistance via the following institutions when responding to this question: Consultative Group of Experts, UNFCCC, the European Regional Development Fund, the French Global Environment Facility, United Nations Environment Programme, UNSD, and the World Bank.
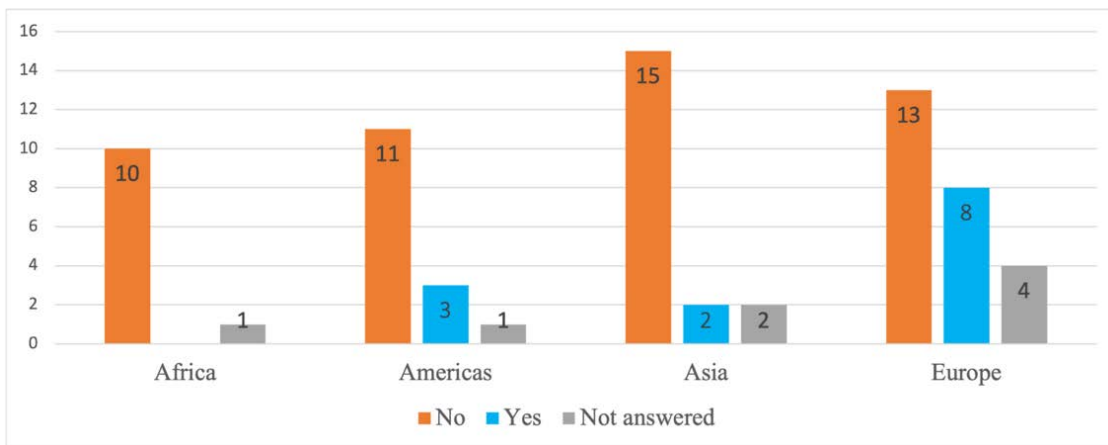
Figure 20: Responses by region to Question F3.

I.G. Technical assistance and training

Question G1. In which areas are there plans to strengthen and develop climate change statistics programmes, units and/or activities in the country?

35. Countries mentioned the following as areas they planned to strengthen and develop climate change statistics: Statistical Act, Environment Act, Environment Code, the Climate change and Energy transition Law, Climate Change Laws, legal diploma which creates the National Inventory System, thematic climate change strategies, legal framework on Statistics, through strengthening data sharing protocols, through the establishment of the National Climate Change Metrics System, on regulating reduction of the greenhouse gas emission and ozone layer protection, on developing legislation for assigning responsibilities for activity, data provision and, reporting as required under Paris Agreement, on emissions by sources and removal by sinks of Greenhouse Gases of anthropogenic origin.

Question G2. What are the main vehicles through which the country requires technical assistance and capacity development in the field of climate change statistics?

36. Responses to this question are tabulated below. Multiple answers to the question were allowed.

Table 8: Country responses to Question G2.

Main vehicles	Number of responses
Manuals/technical guidance in the language used in the country	40
Regional/sub-regional workshops	38
National workshops	44
Country visits/study tours	34
Bilateral consultations	32
E-learning	34
Networking	27
Other	3

Question G3. What are the most important needs for the country to develop climate change statistics?

37. In response to this question, countries mentioned the following:
    - capacity building in collecting climate change related data;
    - capacity building to report on climate change;
    - climate change surveys;
    - coordination across the many institutions/organizations;
    - coordination among the different producers;
    - development of metadata and indicators for climate change statistics;
    - information gaps should be filled with climate change surveys;
    - more staff in the environment-related central statistical office divisions;
    - resources (capital); statistics for climate change adaptation and mitigation processes;
    - study to establish baseline climate change indicators;
    - support tools in indigenous languages, community engagement/platforms; technical training/workshops; and
    - workshops, conferences and meetings with experts.

II: Analysis of agency responses to Part I of the Global Consultation on the Global Set of Climate Change Statistics and Indicators

Background and summary

38. In total, 20 international, regional and specialized agencies responded to Part I of Global Consultation. They were: European Environmental Agency (EEA), Eurostat, Caribbean Community (CARICOM), Intergovernmental Panel on Climate Change (IPCC), Statistical Centre for the Cooperation Council for the Arab States of the Gulf (GCC), International Energy Agency (IEA), International Monetary Fund (IMF), International Organization for Migration (IOM), Economic Commission for Latin America and the Caribbean (ECLAC), Economic Commission for Europe (UNECE), Food and Agriculture Organization of the United Nations (FAO), Organisation for Economic Co-operation and Development (OECD), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Environment Programme (UNEP), United Nations University (UNU), United Nations Office on Drugs and Crime (UNODC), (UNSD - Energy Statistics Section), United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) and World Bank. In the case of the UNECE, two responses were received (from the UNECE's Statistics Division, and UNECE's Transport Division). Those are considered as two responses in the following analysis, tables and charts.

39. Below is a summary of all the responses UNSD gathered for the 13 questions (Questions 2 to 14; Question 1 is on contact information) in Part I of the Consultation.

II.A. Data Collection and Production

Question A2. Are there sections/units within your Agency that are working on climate change related data?

40. Nineteen of the 21 responses indicated that there are units and sections that are working on climate change related data. A number of the agencies (seven), including EEA, Eurostat, FAO, IOM, and UNCTAD, have multiple units within the organization covering different topics of climate change from mitigation, adaptation, energy and transport, land use, land use change and forestry (LULUCF), to agriculture, fishery, forestry, land and water, and structural business statistics. These cross-cutting organizational structures demonstrated the breadth and depth of climate change research and related policy implications within and across the agencies.

Question A3. Does your Agency collect any climate change related data directly from countries?

41. Fourteen responses indicated a collection of climate related data directly from countries. The collected data vary greatly by sectors and by topics. While most of the focus is on a given agency's specialized topics as per their respective mandates (e.g., IOM for migration data associated with climate change, UN-Women for gender-related climate data), natural resources, greenhouse gas emissions, environment,

energy and agriculture are among some of the key topics that have overlaps between multiple agencies. This demonstrated the need for harmonization and collaboration between international agencies to better align national data for key policy frameworks such as the Paris Agreement and the Sustainable Development Goals (SDGs), and to reduce data reporting burden for countries.

Question A4. What are the main sources for the climate change related data that your Agency collects directly from countries?

42. The most common data sources for climate change related data are line ministries, as they were reported by ten different international agencies (EEA, Eurostat, FAO, GCC, IEA, IMF, IOM, UNODC, UNSD - Energy Statistics Section, World Bank). This data source is followed by sources from within the NSO as reported via nine responses (CARICOM, Eurostat, FAO, GCC, IMF, IOM, UN-Women, UNECE's Transport Division, UNSD - Energy Statistics Section). In addition, three agencies reported that they also collect data from national meteorological offices (GCC, IMF, IOM), and two from other sources (UNESCO and UNODC). Central banks and remote sensing agencies, as well as the financial sector, and private vendors also provide some climate change related data.
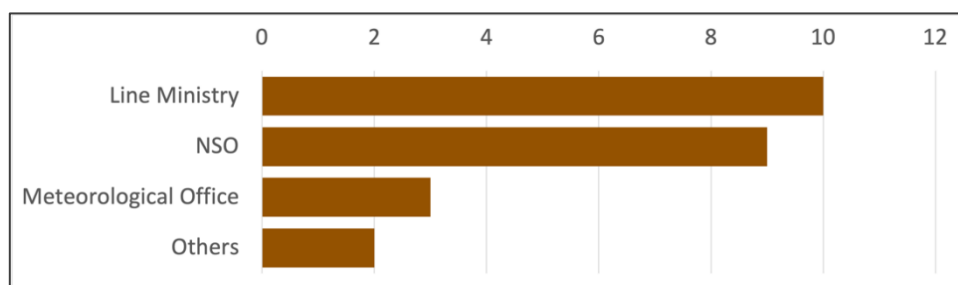
Figure 21: Responses to Question A4.

Question A5. What type of climate change related data does your Agency produce?

43. Secondary data collected from other agencies are the most common type of data produced, as reported in 13 responses (CARICOM, EEA, Eurostat, FAO, GCC, IMF, IOM, OECD, UNCTAD, UNECE's Transport Division, UNEP, UNSD - Energy Statistics Section, World Bank). The next most common type of data are estimated country data, as reported by 10 agencies (EEA, Eurostat, FAO, IEA, IMF, IOM, OECD, UN-Women, UNCTAD, UNSD - Energy Statistics Section). Less frequent answers also included modelled global or regional data (six responses); big data (four responses), and others (not specified). Two responses indicated no production of any type of climate change related data (ECLAC, UNECE's Statistics Division).

44. A major characteristic that can be recognized from the answers is the close collaboration between national, regional and international entities in producing climate change related data. For instance, CARICOM reported that they compile environment statistics from NSOs within their member countries; Eurostat aggregates data from European Union member states' estimates; and FAO data are validated by countries. Collaboration between agencies also plays a key role in supplementing the climate data ecosystem: for example, strong bilateral collaboration among EEA and Eurostat, as well as among the IMF and the World Bank.
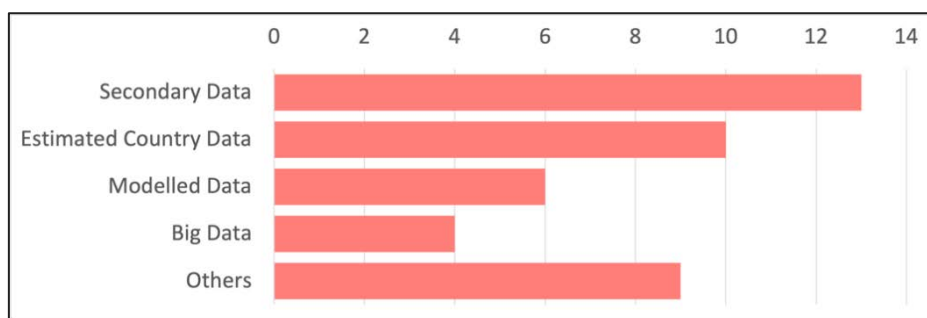
Figure 22: Responses to Question A5.

Question A6. What is the temporal coverage of your Agency's climate change data collection/production?

45. The temporal coverage to the data varies: while some data series are dated back to 1961 or even 1901, most of the data are current and available for the last three decades (e.g. about 1990 and onwards, or starting in the 1990s).

Question A7. What is the geographical coverage of your Agency's climate change data?

46. Regional agencies, such as CARICOM, GCC, ECLAC, and UNECE's Transport Division mostly collect data from their member states, and so do EEA, Eurostat, and OECD. Other agencies incorporate global databases, such as IEA, IMF, IOM, UNCTAD, UNODC, UNSD - Energy Statistics Section, UNU, and the World Bank.

Question A8. What is the data quality control/validation process for the climate change data your Agency collects, produces or disseminates?

47. Nineteen of the 21 responses detailed data quality control protocols and data validation processes. This is reaffirming for the confidence of climate change related data disseminated. Different responses showed the incorporation of different approaches to the data validation process. These include:
- CARICOM uses NSO focal points to validate data before publication;
- ECLAC reviews and validates internally and by consulting with other official sources;
- EEA implements various quality assurance frameworks, including the Quality Assurance and Control Framework, among other EU guidelines and regulations;
- FAO's climate change related data are subject to the FAO Statistics Quality Assurance Framework;
- GCC evaluates the temporal data series, their efficiency, comparability and balances;
- IEA's IT management system as well as energy experts assess data quality;
- IMF staffs perform logical/consistency checks;
- IPCC has its Editorial Board which employs a rigorous data assessment process;
- UN-Women validates data per national policies;
- UNCTAD uses statisticians and experts of the substantive area to check the data; and
- UNU relies on academic literature to further model climate change data.

Question A9. Please provide the main output (e.g. publication/database) and weblink for the climate change data that your Agency disseminates.

48. The complex and diverse data collected that are related to climate change has been vital in helping agencies to deliver their messages and policy advice with the support of sound, empirical, and scientific evidence.

49. There are primarily two avenues for disseminating climate change related data: through reports and publications, and through online databases. Data for climate change are prominently featured in some of the flagship publications by the agencies, including CARICOM's Climate Change Statistics 2020 Report, the EEA's Annual European Greenhouse Gas Inventory, FAO's Global Forest Resources Assessments (FRA), UNODC's World Wildlife Crime Report, UNSD - Energy Statistics Section's Energy Statistics Yearbook and Energy Balances, UNU's Global E-waste Monitor 2020, and World Bank's World Development Indicators.

50. Climate change related data also feed into many of the global databases published by the agencies, including the Eurostat Climate Change Database, FAO's AQUASTAT, FAOSTAT and Soils Portal, the IPCC's Emission Factor Database, and the IMF's Climate Change Indicators Dashboard. The use of these data has established multiple knowledge bases, and further fostered a global awareness and understanding of climate change.

Question A10. What are the main challenges that your Agency observes or foresees when it comes to climate change data that are collected, produced and/or disseminated?

51. Despite the quantity and quality of published climate change related data, challenges remain. Responses listed a number of challenges, including:

- lack of resources;
- lack of coordination among NSO and agencies;
- lack of training and methodology;
- competing priorities within NSO and agencies producing data;
- absence of dedicated staff to work in the area of climate change statistics, low priority given to this area, incentivizing and encouraging countries to develop mitigation and adaptation policies to climate change;
- timeliness of submissions;
- inconsistency, redundancies and duplications with other producers of climate change related information;
- data duplication and farm-level data on crop and livestock management, crop masks and livestock activity/density maps;
- fisheries and aquaculture activities data;
- harmonization of methodologies to assess freshwater resources;
- lack of available and reliable granular data on transition risk, e.g. companies' greenhouse gas emissions and emission reduction targets;
- lack of consistent and publicly available data on damages from hazardous events and disasters;
- lack of skills and knowledge to fully understand and analyze climate data;
- lack of willingness of countries to share oceanographic (nearshore) data;
- data that are not produced in/by the country but instead are estimated by international organizations in order to arrive at regional and world totals (particularly in least developed countries);
- data licensing; and
- different definitions across sources and data comparability issues.

II.B. Methodology

Question B11. Does your Agency develop methodological guidelines for climate change statistics or indicators?

52. Fourteen responses indicated development of some methodological guidelines for climate change statistics and indicators (CARICOM, Eurostat, FAO, IEA, IPCC, OECD, UNSD - Energy Statistics Section, UN Women, UNCTAD, UNECE's Statistics Division, UNECE's Transport Division, UNESCO, UNODC, World Bank). Examples of the guidelines include UNFCCC Reporting Guidelines, IPCC Guidelines for National Greenhouse Gas Inventories, and International Recommendations on Energy Statistics (IRES), among others.
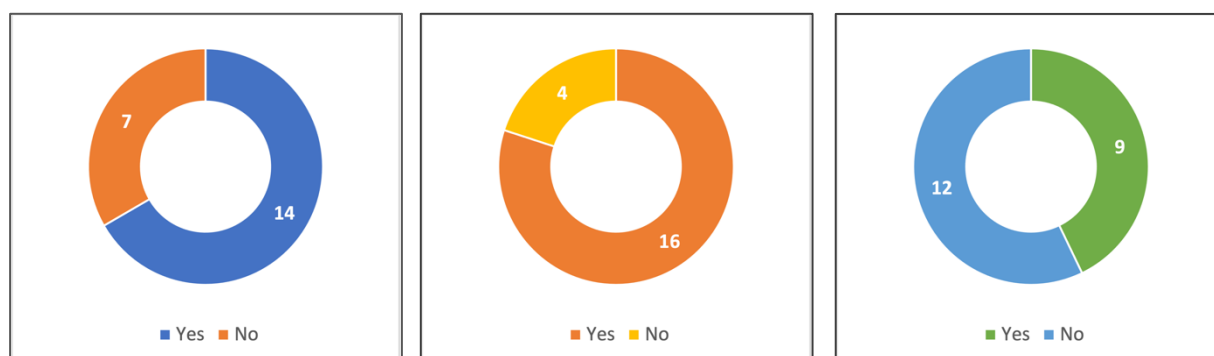
| Question 11. Does your Agency develop methodological guidelines for climate change statistics or indicators? | Question 12. Does your Agency produce or maintain a list of indicator/statistics that pertains to climate change, or some related topics of climate change? | Question 13. Does your Agency convene an inter-agency technical/expert working group to engage in climate change statistics and indicators? |

Figure 23: Responses to Questions B11, B12 and B13

Question B12. Does your Agency produce or maintain a list of indicator/statistics that pertains to climate change, or some related topics (35 topics in the Draft Global Set) / themes (47 themes in the Draft Global Set) of climate change?

53. Sixteen respondents indicated that they are producing and maintaining a list of indicators and statistics pertaining to climate change or its related topics (CARICOM, ECLAC, EEA, Eurostat, FAO, IEA, IMF, IOM, OECD, UNSD - Energy Statistics Section, UNECE's Statistics Division, UNECE's Transport Division, UNEP, UNESCO, UNU, World Bank). The most common topic areas and themes where indicators and statistics were produced are migration, disaster reduction, greenhouse gas emissions, transport, energy, mitigation, adaptation, and ecosystem managements. Refer to figure 23, above, on responses to Question B12.

Question B13. Does your Agency convene an inter-agency technical/expert working group to engage in climate change statistics and indicators?

54. Nine responses confirmed current involvement in convening inter-agency technical work groups or expert groups (CARICOM, Eurostat, FAO, IMF, IOM, OECD, UNECE's Statistics Division, UNECE's Transport Division, UNESCO). The rest of the 12 agencies are not currently involved in such a group. Refer to figure 23, above, on responses to Question B13.

II.C. Capacity Development

Question C14. Has your Agency organized, or is planning to organize, capacity development activities and events in climate change statistics and indicators?

55. Ten respondents have organized or are planning to organize capacity development activities (CARICOM, ECLAC, FAO, IEA, IMF, IOM, UNSD - Energy Statistics Section, UN-Women, UNECE's Statistics Division, UNECE's Transport Division). Some of the agencies have worked together and went so far as to create some joint training and capacity development opportunities, including the Joint IEA-UNEP-UNFCCC Workshop on Energy Data for Climate Policy, and the Joint European Free Trade Association (EFTA)-UNECE Training Webinars on Climate Change. The detailed list of activities can be found in Annex I: Inventory of Agency Responses.

III: Analysis of country responses to Part II of the Global Consultation on the Global Set of Climate Change Statistics and Indicators

56. The draft Global Set consisting of 134 indicators and 195 statistics was assessed as Part II of the Consultation, by 76 countries and 17 regional and international agencies.

Table 9: Countries and areas that have responded to Part II of the Global Consultation, and their respective regions per the Standard Country or Area Codes for Statistical Use (M49)

Number of responses	Countries
Africa	
12	Botswana, Burundi, Cabo Verde, Côte d'Ivoire, Guinea, Kenya, Madagascar, Mali, Mauritius, United Republic of Tanzania, Zambia, Zimbabwe
Americas	
18	Bermuda, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Guyana, Jamaica, Mexico, Paraguay, Peru, Saint Lucia, Suriname, United States
Asia	
21	Armenia, Azerbaijan, Bangladesh, Bhutan, Cyprus, Georgia, India, Indonesia, Japan, Kazakhstan, Kuwait, Malaysia, Myanmar, Nepal, Philippines, Qatar, Saudi Arabia, Thailand, Turkey, United Arab Emirates, Viet Nam
Europe	
24	Belarus, Bulgaria, Denmark, Finland, France, Hungary, Ireland, Italy, Lithuania, Luxembourg, Republic of Moldova, Montenegro, Netherlands, North Macedonia, Poland, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, Ukraine
Oceania	
1	Australia

57. UNSD provided feedback to all countries whose responses were received by about 30 September 2021 as a result of which about 40 countries improved their assessments of the draft Global Set. Most countries were able to assess the suggested indicators/statistics, with short answers (of "Yes", "Partially Yes" or "No") on relevance, methodological soundness and data availability, also additional information was provided, such as links to national policies, methodologies and data sources. Clarifications and suggestions for improvement were also provided. The following offers a brief analysis of the geographical patterns of the relevance, methodological soundness and data availability for the draft Global Set of Climate Change Statistics and Indicators.

58. The patterns were summarized by examining the average per cent by area (e.g. drivers, impacts, vulnerability, mitigation and adaptation) and M49 region (Africa, Americas, Asia, Europe, Oceania). The values were calculated as follow: (1) for each indicator or statistic, the number of countries with a positive assessment was counted (e.g. the number of "Yes" and "Partially Yes" responses); (2) this count was divided by 76 to find the percentage of countries who provided a positive assessment for the indicator or statistic; and (3) an average of the percentages by area and by M49 region was calculated.

59. While some countries assessed relevance for the indicators only, and methodological soundness and data availability for the statistics, most countries assessed both indicators and statistics uniformly.

III.1. Relevance

60. The lowest value for relevance assessment was at 12% (for the indicator on sea ice cover), and the highest was at 83% (for the statistic on total emissions of direct greenhouse gases). Hence this result did not allow to separate any indicator or statistic as irrelevant. Oceania stood out with highest values because these were reported by a single country which assessed almost all indicators and statistics as relevant.
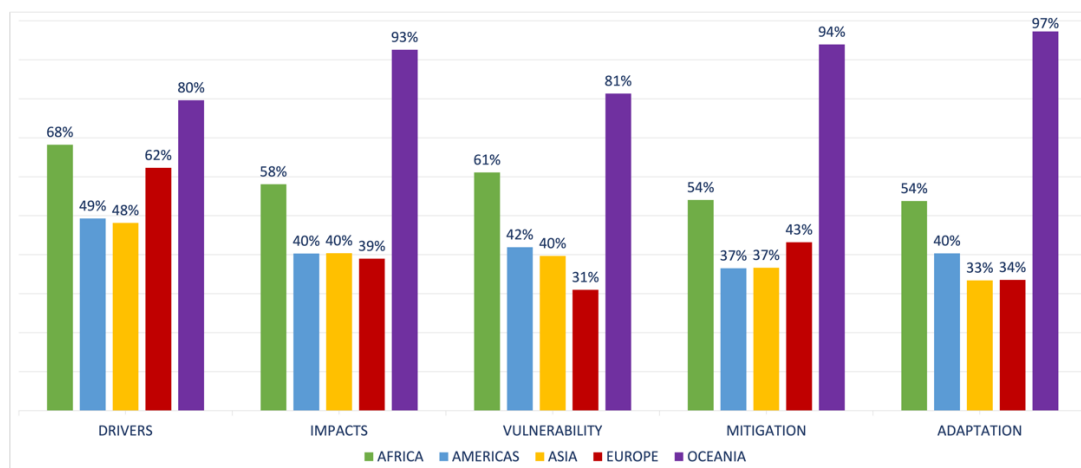
Figure 24: Relevance - Average per cent of indicators and statistics, by M49 region and by area

61. The overall patterns indicated that the indicators and statistics in the area of drivers are relevant to more countries in comparison to those in the remaining areas. African countries have also assessed more indicators and statistics as relevant in comparison to the countries in other regions.

III.2. Methodological soundness

62. The lowest value for methodological soundness assessment was around 3% (for the indicators on ecosystem health and insurance premiums), and the highest value was 61% (again for the statistic on total emissions of direct greenhouse gases).
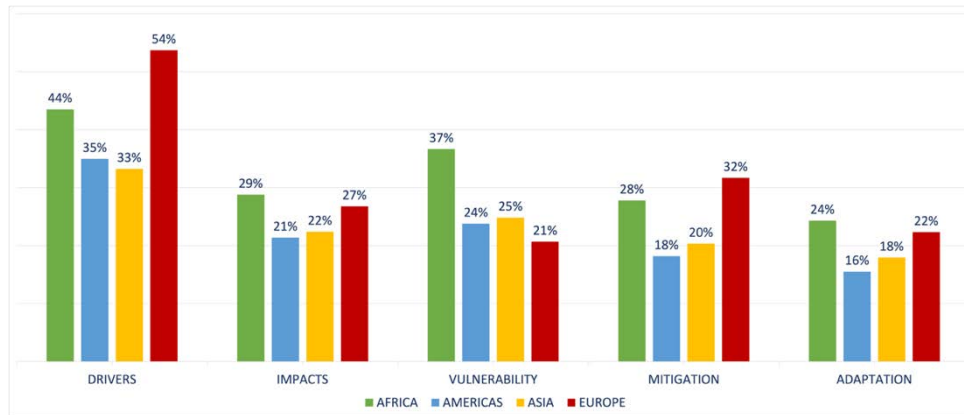
Figure 25: Methodological soundness - Average per cent of indicators and statistics, by M49 region and by area

63. Similar to the assessment of relevance, the overall patterns indicated that the indicators and statistics in the area of drivers were methodologically more sound than the remaining areas, also that the area of adaptation contained the least sound indicators and statistics. The European countries assessed higher per cent of the indicators in drivers and mitigation as sound in comparison to countries elsewhere.

III.3. Data availability

64. For data availability, the lowest assessment value was 2% (for the indicator on risk mitigation mechanisms [subindicator of SDG 2.4.1]), 3% for the indicator on insurance premiums, and the highest was 78% (on total emissions of direct greenhouse gases).

65. The overall patterns demonstrated that the area of relevance contains highest per cent of indicator and statistics for which the countries have data. European countries, as well as the single country from Oceania, stood out to have more indicators and statistics assessed as relevant than countries from other regions. For countries from the Africa, Asia, and the Americas regions, they have assessed most of the indicators in the areas of adaptation and mitigation as data deficient, since the average per cent of relevance assessments in these areas were varying between 16% to 28%.
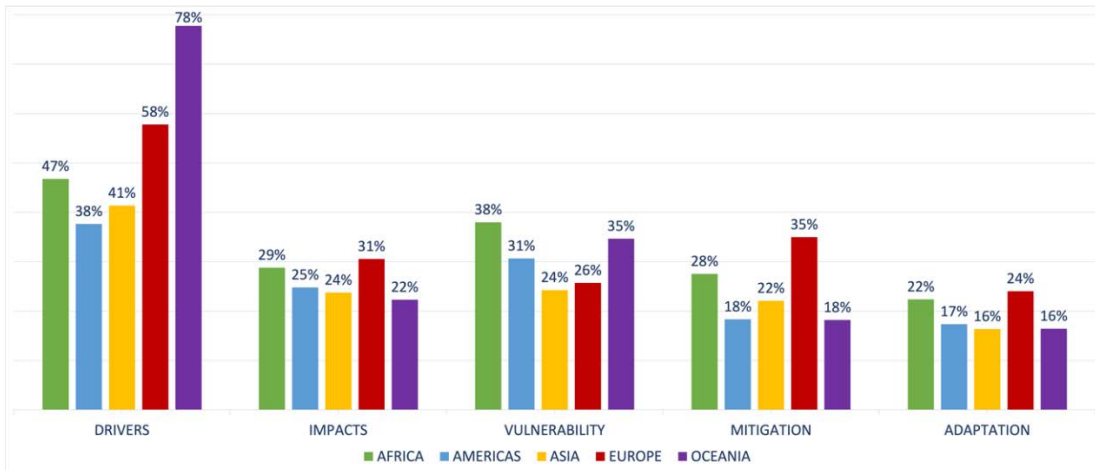
Figure 26: Data availability - Average per cent of indicators and statistics, by M49 region and by area

IV: Concluding Remarks

66. With 70 responses from 68 countries, and 21 responses from 20 agencies to Part I of the Consultation, a sufficient volume of responses was generated for UNSD to make observations and conclusions with a view of anticipating where the future of the work on climate change statistics and indicators may head.

67. The overall picture illustrates that almost all countries have national policies on climate change, most have national strategies for the development of statistics (NSDS) and units working on climate change statistics within NSOs, fewer have specific strategies on climate change statistics. However, findings also showed that means to produce statistics on climate change and to inform climate change policy, are often absent, or in many cases, informal and ad hoc. Furthermore, UNSD considers the high likelihood of a "non-response bias" influencing the results. That is to say, it is much more likely that those countries with resources already devoted to and climate change statistics responded to the Consultation. Although 68 countries offered a response, there were many who did not respond at all. UNSD will continue to advocate for attention on climate change statistics within NSOs, and continue outreach to all UN member states on this issue.

68. The results show that, for many countries and areas, there is scope for better engagement in a formalised dialogue or consultative process (e.g. technical working committee, expert group, etc.) that involves the NSO liaising with line ministries. Furthermore, such a formal arrangement had better include a specific focus and agenda item on climate change, and beyond that, as per a country's needs, a specific focus on those themes within climate change that are of pressing demand (e.g. agriculture, disasters, GHG emissions, sea level rise, etc. and as appropriate). Invariably, due to the broad scope of the issue of climate change, such a process requires expertise from statisticians in close collaboration with expertise of other fields relevant to many themes which climate change encapsulates.

69. Fortunately, per the findings of the Consultation, many countries already have a formalised dialogue or consultation process functioning as a matter of routine. This gives opportunity for capacity development initiatives to involve agencies, countries and areas, and UNSD in the name of advocating for such formalised dialogues and processes, and to learn from and apply countries' successful case examples.

70. Some 12 countries referenced that their NSO has developed a specialized climate change survey, or added a climate change module within an existing census or survey. This demonstration of countries' interest to collect data related to climate change aids UNSD in anticipating an increase in attention to climate change from UN member states' NSOs, and helps inform where UNSD may focus capacity development efforts related to climate change in future.

71. Per liaisons between UNFCCC, UNSD and other key stakeholders at international and national level, in order to streamline the compilation of climate change statistics, and to avoid duplication in efforts, NSOs had best be closely involved with a country's efforts to contribute to: the reporting obligations of the UNFCCC and/or in the preparation of national reports to UNFCCC (e.g., national

communications (NCs) and biennial reports (BRs) for Annex I Parties; and national communications (NCs) and biennial update reports (BURs) for non-Annex I Parties).

72. In future, as more and more countries and areas may wish to further disseminate climate change-related outputs (statistics, indicators, compendia, etc.), a clearly defined Global Set of Climate Change Statistics and Indicators which has undergone a rigorous consultation process at international level shall serve as a tool to improve the compilation of climate change statistics by countries, better prepare countries for reporting obligations to the UNFCCC, and better allow for international comparison across countries on the issue of climate change. At present, one country's climate change statistics may be difficult to compare to another's, and the widespread application of a common Global Set of Climate Change Statistics and Indicators will help resolve this issue.

ANNEX I: Inventory of agency responses to Part I of the Global Consultation

A2. Are there sections/units within your agency that are working on climate change related data?	
Yes	CARICOM, ECLAC, EEA, Eurostat, FAO, GCC, IEA, IMF, IOM, IPCC, OECD, UN-Women, UNCTAD, UNECE's Transport Division, UNESCO, UNODC, UNSD – Energy Statistics Section, UNU, World Bank
No	UNECE's Statistics Division, UNEP
Description	CARICOM The CARICOM Secretariat Regional Statistics Programme ECLAC Sustainable development and human settlements Division. Natural Resources Division. Statistics Division. EEA CET1 Group: Mitigation, Energy and Transport. CET2 Group: Adaptation and LULUCF. Eurostat Directorate E: Sectoral and regional statistics E1: Agriculture and fisheries E2: Environmental statistics and accounts; sustainable development E3: Transport E4: Regional statistics and geographical information E5: Energy G2: Structural business statistics G3: Business cycle; Short-term statistics FAO **Office of the Chief Statistician** Website: http://www.fao.org/statistics/en/ Responsible unit for the 21 SDG indicators under FAO custodianship and overall coordination of FAO statistical programme **AQUASTAT** Website: http://www.fao.org/aquastat/en/ **Animal Production and Health Division (NSA)** Website: http://www.fao.org/agriculture/animal-production-and-health/en/ **Environment statistics team (Statistics Division, ESS)** Website: www.fao.org/economic/ess/agri-environment/en **Fisheries Division (NFI)** Website: http://www.fao.org/fishery/en

Forestry Division (NFO)
Website: http://www.fao.org/forestry/95632/en/

Land and Water Division (NSL)
Website: http://www.fao.org/land-water/home/en/

GCC
Climate change is one of the planned topic within the GCCSTAT – environment sector strategy.

IEA
Energy Data Centre.

IMF
The Statistics Department (STA) is a leading department for IMF's Climate Change Indicators Dashboard (CID). The Monetary and Capital Market department (MCM)'s Financial Sector Assessments and Policies division (FS) works on climate change data in order to analyze climate risks in Financial Sector Assessment Program (FSAP).[5]

IOM
- IOM's Global Migration Data Analysis Centre (GMDAC)
- IOM's Displacement Tracking Matrix (DTM)
- Migration, Environment and Climate Change (MECC) Division
- IOM's disaster risk reduction (DRR) in the IOM Transition and Recovery Division (TRD)

IPCC
The Editorial Board of the IPCC Emission Factor Database (IPCC EFDB) of the IPCC Task Force on National Greenhouse Gas Inventories (TFI) deals with the analysis of data collected, compiled, measured, modelled on emission factors (i.e. emissions per unit of activity) and ancillary parameters, as well as equations, relevant for the preparation of estimates of anthropogenic emissions and removals of greenhouse gases. The Technical Support Unit (TSU) of the IPCC TFI provides support to the Editorial Board and can be contacted at ipcc-efdb@iges.jp.or.

OECD
Work on climate is not centralised at the OECD, not yet at least. Different divisions, directorates and committees have different work-streams that are climate-related. The Environment Directorate leads the work on climate and will lead the newly launched IPAC (International Program for Action on Climate) initiative, which aims at centralising OECD climate-related work so as to speak with one voice.

UNSD - Energy Statistics Section
Energy Statistics Section. Contact: energy_stat@un.org

UN-Women
Women Count programme in Asia and the Pacific.
EmPower project in Asia and the Pacific.

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[5] The IMF has recently completed two pilots, on physical risk from typhoon in the Philippines FSAP, and on transition risks in the Norway FSAP. (They the definition of 'transition' and 'physical' risk commonly adopted in the financial industry: see, e.g. the Recommendations of the Task Force on Climate-related Financial Disclosures (Final Report, 2017), section B). Furthermore, they have also been reviewing climate data vendors (on both physical and transition risks) in order to buy climate-related data.

	UNCTAD - Transport costs: Development Statistics and Information Branch in Division on Globalization and Development Strategies. - Plastics trade: Globalization and Development Strategies. - Biotrade: Division on International Trade and Commodities, Trade Analysis Branch. - Maritime: Division on Technology and Logistics, Trade Logistics Branch. - Enterprise sustainability reporting: Accounting and Corporate Governance Section, Division on Investment and Enterprise. UNECE's Transport Division UNECE's Transport Division collects a variety of transport data. Most of which would come under drivers of climate change, but transport networks suffer from climate change too. UNESCO International Oceanographic Data and Information Exchange Programme (IODE). UNODC Research and Trends Analysis Branch. World Bank World Development Indicators (https://datatopics.worldbank.org/world-developmentindicators/) Contact: Indicators and Data Services, Development Data Group (DECDG), data@worldbank.org Development Data Hub, including the relevant data collections.

A3. Does your agency collect any climate change related data directly from countries?

Yes	CARICOM, EEA, Eurostat, FAO, GCC, IEA, IMF, IOM, OECD, UN-Women, UNECE's Transport Division, UNODC, UNSD - Energy Statistics Section, World Bank
No	ECLAC, IPCC, UNCTAD, UNECE's Statistics Division, UNEP, UNESCO, UNU
Description	CARICOM - Total greenhouse gas (GHG) emissions - Energy production and supply - Energy consumption - Fossil fuels - Transport - Population - Land and agriculture - Areas impacted by climate change - Hazardous events and disasters - Climate change and human health - Climate change evidence - Distribution and status of ecosystems - Climate change impacts on transport and tourism - Food security and agriculture - Buildings and infrastructure vulnerable to climate change - Vulnerable population - Renewable energy - Climate change mitigation policies, strategies and plans - Climate change mitigation technology and practice - Climate change adaptation policies, strategies and plan

EEA
- Total greenhouse gas emissions – code 1021
- National projections on greenhouse gas emissions
- National greenhouse gas policies and measures (qualitative)
- National action on adaptation (qualitative)
- Data on hydrofluorocarbons (HFCs) (fluorinated greenhouse gases) – from companies
- Greenhouse gas intensity of road transport fuels
- Average CO2 emissions from newly registered cars, vans and heavy-duty vehicles

All these data flows are reported under EU legislation.
In addition, the EEA collects data on:
- Economic losses from weather and climate extremes in Europe (these data are collected from the private sector – reinsurance companies); and
- Global and European temperature (from various data providers).

Eurostat
Eurostat provides a large set of statistics that are relevant for climate action. Many of these climate change related data are collected directly from countries, or are based on information provided by countries. These statistics range across all the different Areas of the Global Set and include environmental accounts, statistics on energy, transport and agriculture, forestry statistics or production statistics. A large number of topics are covered by these data sets. These include but are not limited to:
- Drivers: Total greenhouse gas emissions, Energy production and supply, Energy consumption, Fossil Fuels, Transport, Land and Agriculture.
- Impacts: Freshwater resources, abstractions and use, Climate Change Evidence, Soil condition.
- Vulnerability: Vulnerable population.
- Mitigation: Renewable energy, Climate change mitigation technology and practices.
- Adaptation: Climate change adaptation management and practice, Climate change monitoring, Waste management.

FAO
- **Topics**: Land and agriculture; Agricultural production impacted by climate change; Areas impacted by climate change; Freshwater resources and abstraction, supply and use; Dam capacity; Soil condition; Distribution and status of ecosystems; Production and consumption of materials; Food security; Food security and agriculture; Vulnerable species, ecosystems and their services; Vulnerable area of country to climate change; Climate change mitigation technology and practice; Climate change adaptation management and practice
- **Themes**: Forests; Agriculture; Snow and ice; Water resources; Sea and coasts, Soil; Ecosystems; Food; GHG emissions and removals; Land; Protected areas ; Governance; Fisheries
- **Areas**: Drivers; Impacts; Vulnerability; Mitigation; Adaptation

GCC
The 2021 planned activities are about the following:
- Climate statistics: Collection, analysis and calculation of anomalies for precipitation and temperature
- Data collection using transmission tables (TT) for Water, Waste, Air Emissions & Air quality and Biodiversity sectors. These TT have some variables mentioned in the Draft Global Set as proposed by UNSD for Climate Change Statistics and Indicators

IEA
Energy statistics are collected from countries globally. Energy efficiency data and indicators are also collected from countries and disseminated. https://www.iea.org/data-and-statistics/dataproduct/energy-efficiency-indicators

IMF
STA collects data for Environmental taxes (for a subset of countries), Government expenditure on environmental protection (for a subset of countries), and Green bonds (for a subset of countries). MCM can collect climate data for FSAPs if available from the authorities, local agencies, private companies and vendors. Data can include frequency of hazard events and their impact on buildings and infrastructure for physical risk, e.g. Philippines FSAP, or transition risk data on energy production, average trading carbon price, total greenhouse gas emissions from the national economy, GHG intensity of production activities e.g. Norway FSAP.

IOM
Climate refugees, migrant and displaced persons by climate change associated disasters. Also migration governance data in relation to climate change through the Migration Governance Indicators (MGI) initiative.

OECD
The list would be a bit long to report here. Some examples are greenhouse gas (GHG) emission data from UNFCCC non-Annex I countries; taxes and other fiscal measures (OECD PINE database); expenditure data (EPEA, jointly with Eurostat); fossil fuel support; official development assistance; demand- and production-based CO_2 emissions. See Environment at a Glance for more details:
https://www.oecd.org/environment/environment-at-a-glance/

UNSD - Energy Statistics Section
Energy statistics, such as production, supply, consumption (and many other detailed flows) of a comprehensive set of energy products, including fossil fuels, according to SIEC and IPCC classifications.

UN-Women
UN Women provides financial and technical support for NSOs to roll out nationally representative surveys on gender and the environment, which include the following topics (some of which slightly align with topics in the proposed framework):
- Number of live animals, by sex of owner
- Use of fertilizers/pesticides, by sex of land owner
- Changes in crop yield
- Changes in livestock yield
- Indoor air quality and use of fuels for cooking/heating
- Forest (and use of forest resources, decision making on forest committees, etc)
- Land use (including decision-making over use)
- Impact of natural extreme events and disasters (on women/men, their livelihoods, their resources, etc)
- Preparedness for natural extreme events and disasters
- Housing conditions
- Vector-borne diseases (prevention and mitigation strategies)
- Production and consumption of energy resources (through labour statistics and household consumption)
- Participation in committees and other national bodies for environmental management and conservation
- Environmental resource management, including time burdens at the household level
- Ownership of assets for environmental management or coping with crises
- Engagement in environment-related economic activity (including green jobs, jobs severely contributing to climate change, subsistence farming, etc)
- Unpaid production of environmental goods
- Disaster and climate change related unpaid care and domestic work

	- Decreasing availability of environmental resources due to climate change (including management and mitigation techniques applied by men and women when farming, fishing, agriculture)
	- Decision-making on sustainable environmental resource management at the household level
	In addition, utilizing big data UN Women estimates the influence of climate change related factors on gender inequalities.
	UNECE's Transport Division
	Section 13 transport, and section 62 impacts of CC on transport. UNECE-Transport collects vehicle fleet information, and transport volumes by mode (e.g. passenger-km and tonne-km).
	UNODC
	UNODC collects wildlife trafficking data from countries (in the World Wildlife Seizures database, WorldWISE) and environmental crime offences data via the annual UN Crime Trends Survey (UN-CTS).
	World Bank
	Assessment of the status of national meteorological and hydrological services (NMHSs) in developing countries. Most often, NMHSs are the single source of national climate data and NMHSs status is indirectly an indicator of overall climate data quality.

A4. What are the main sources for the climate change related data that your Agency collects directly from countries?

Answer	NSO: CARICOM, Eurostat, FAO, GCC, IMF, IOM, UNSD - Energy Statistic Section, UN-Women, UNECE's Transport Division
	Line ministry: EEA, Eurostat, FAO, GCC, IEA, IMF, IOM, UNODC, UNSD - Energy Statistic Section, World Bank
	Meteorological office: GCC. IMF, IOM
	Others: UNESCO, UNODC
	CARICOM
	The NSO most likely obtain this data from national agencies but CARICOM interacts with the NSO – In addition data are obtained from international organisations' websites such as World Health Organisation, Global Health Observatory and from the Regional Statistics Programme databases.
	EEA
	Environment agencies, private sector.
	FAO
	- Remote sensing and Earth Observation data: Land use and land cover statistics; Forest area; Mountain Green Cover Index; Data are validated by countries.
	- Remote sensing – WAPOR – FAO portal to monitor water productivity (Evaporation and interception, reference evapotranspiration, precipitation, total biomass production).
	- Global Agrometeorological dataset – AgEra5 data set to estimate Penman Monteith Evapotranspiration https://cds.climate.copernicus.eu/cdsapp#!/dataset/sis-agrometeorological-indicators?tab=overview.
	- FAO collects national data for SDG indicator 14.4.1 - "Proportion of fish stocks within biologically sustainable levels" through a questionnaire sent to the Principal Focal Point (PFP) of each country. National-level data are generally reported by the National

	Statistics Office or the Ministry of Fisheries and/or Agriculture. For the complete list of questions used to inform this indicator, please refer to metadata, appendix 2, https://unstats.un.org/sdgs/metadata/files/Metadata-14-04-01.pdf.
	IEA Multiple selection does not work. IEA get data from NSOs, Ministries, Agencies, etc depending on national systems. IMF Central banks, financial sector, private vendors. OECD There are different sources, depending on the data and indicator. OECD normally send data requests to their national focal points and they dispatch the request to the relevant experts, usually from NSOs and ministries. UNSD - Energy Statistics Section Mostly from Ministries of Energy, Energy Agencies, Energy Commissions, and other energy-related bodies. However, for some countries UNSD-Energy receive the data from the NSO. UN-Women UN Women gender-environment surveys are typically rolled out in partnership between NSO, MOW and NDMA. UNESCO National Oceanographic Data Centers and Associated Data Units. UNODC Annual illegal trade reports that CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Parties are required to submit to the Secretariat. World Bank Original climate data in developing countries is produced and disseminated by NMHSs. Climate assessments and reports are developed by various ministries (most often, Ministries of Environment).
A5. What type of climate change related data does your agency produce?	
Answer	Secondary data (collected from other agencies): CARICOM, EEA, Eurostat, FAO, GCC, IMF, IOM, OECD, UNSD - Energy Statistics Section, UNCTAD, UNECE's Transport Division, UNEP, World Bank Estimated country data: EEA, Eurostat, FAO, IEA, IMF, IOM, OECD, UNSD - Energy Statistics Section, UN-Women, UNCTAD, Modelled global or regional data: Eurostat, FAO, IMF, OECD, UNCTAD, UNU Big data: FAO, IOM, UN-Women, UNCTAD Others: EEA, FAO, IMF, IOM, IPCC, OECD, UNSD - Energy Statistics Section, UNESCO, UNODC None: ECLAC, UNECE

Description	CARICOM
	Data compiled on Environment Statistics from NSOs within Member countries are reorganized under the themes recommended internationally by the IPCC, such as Drivers, Impacts, Vulnerability, to produce a regional Climate Change Statistics publication.
	EEA
	In situ and satellite observation data (Copernicus programme).
	Eurostat
	Eurostat collects estimates by the EU Member States and other countries associated to the EU. Eurostat also produces aggregated estimates for the EU.
	Other agencies for which Eurostat re-publishes the data include European Environmental Agency, IEA.
	FAO
	Data produced from remote sensing and Earth Observation data: Land use and land cover statistics; Forest area; Mountain Green Cover Index; Data are validated by countries.
	Concerning SDG indicator 14.4.1 "Proportion of fish stocks within biologically sustainable levels", for global and regional levels, FAO uses data to inform stock assessments from many different sources, including fishery-dependent and fishery-independent sources. Fishery-dependent data are collected from the fishery itself, using both commercial and recreational sources through reporting or sample-based surveys at sea, at landing sites, or within fishing communities. Fisheries-independent are obtained in ways not related to any fishing activity and are typically collected by scientists via surveys (often scientific cruises) designed to sample species abundance and biomass over long time series, and over consistent seasons and geographic areas.
	IEA
	Multiple selection does not work. IEA produces estimations of country level emissions from energy.
	IMF
	Some of CID indicators includes IMF staff calculations. Details available in metadata. When collaborating with the World Bank and AIR Worldwide for FSAPs, IMF can use cat models that simulate damages from physical risk at country and regional level, e.g. Philippines FSAP. For transition risk IEA may estimate the impact of certain decarbonization policies (e.g. carbon pricing) on firms, based on their CO2/greenhouse gas emissions, e.g. Norway FSAP.
	IOM
	Primary data
	IPCC
	The IPCC EFDB is a repository of data (mainly emission factors) collected from publications (national GHG inventories, peer reviewed journals, reports, etc.). Emission factors are actually indicators of the impact of activities in terms of GHG emissions and thus of their contribution to climate change.
	OECD
	Data collected directly from countries through their questionnaires, e.g. GHG emissions from non-Annex I countries and EPEA. But also new indicators from existing databases, e.g. patents.

	UNSD - Energy Statistics Section
	Regional and world aggregations.
	
	UNESCO
	Relevant datasets accessible through IODE (see https://catalogue.odis.org).
	
	UNODC
	   1. Individual wildlife seizure data
	   2. Administrative data on environmental crime offenses, specifically:
	      - Acts that cause environmental pollution or degradation (1001), number of offences
	      - Acts involving the movement of dumping of waste (1002), number of offences
	      - Trade or possession of protected or prohibited species of fauna and flora (1003), number of offences
	      - Acts that result in the depletion of degradation of natural resources (1004), number of offences
	
	UNU
	Effects on climate change of recycled metals / e-waste and greenhouse gas emission from mismanagement of refrigerants.
	
	World Bank
	World Development Indicators (WDI) is a compilation of development statistics collected from international agencies and countries. For example, historical greenhouse gas (GHG) emissions (by country, year, and type) are obtained from CAIT.

A6. What is the temporal coverage of your agency's climate change data collection/production?

Answer	CARICOM
	It varies depending on availability - please refer to the Climate Change publication on the website statistics.caricom.org for details
	
	ECLAC
	  • Atmosphere, climate, and weather:
	     Frequency: Annually.
	     Data series: 1961-2019.
	
	  • Air quality:
	     Frequency: Annually.
	     Data series: 2010-2017.
	
	  • Emissions to air:
	     Frequency: Annually.
	     Data series: 1990-2018.
	
	  • Hazardous events and disasters:
	     Frequency: Annually.
	     Data series: 1970-2020.
	
	  • Energy Resources:
	     Frequency: Annually.
	     Data series: 1970-2019.

- Forest:
  Frequency: Annually.
  Data series: 1990-2020.

- Water:
  Frequency: Annually.
  Data series: 1990-2016.

- Human settlements
  Frequency: Annually.
  Data series: 1990-2015.

EEA
It depends on the type of data:
- For GHG emissions: from 1990 until the previous year.
- For GHG projected emissions: until 2040. The regulation requires that they include at least quantitative estimates for a sequence of four future years ending with 0 or 5 immediately following the reporting year.
- For economic losses on weather and climate extremes: 1980-until the previous year.
- For global and European Temperature: 1850-until the previous year.

Eurostat
Given the large number of data series, it is not possible to provide for each of them a detailed description. The temporal coverage can vary quite significantly. Starting year can range from 1990 (some very particular time series present earlier data) to 2017 for the newest datasets. Regarding the end date, it is often dependent on the frequency and ranges from 2013 to 2021. For most statistics, frequency is yearly. However, for some data series quarterly or monthly data is available while others display a longer frequency of several years (2/3 years usually).

FAO
- FAOSTAT – Emissions from agriculture and land use, by sources – 1961-2019 with projections for 2030 and some cases 2050. For some sources, data are available from 1990-2019
- FAOSTAT – Land use and land covers statistics – 1961-2018
- FAOSTAT – Inputs (Fertilizers) – 1961-2001 (archived series), 2002-2021 (current series)
- FAOSTAT – Inputs (Livestock Manure) – 1961-2019
- FAOSTAT – Inputs (Pesticides) – 1990-2019
- AQUASTAT – 1962-2018
- WAPOR – 2009-2021
- Forest resources assessment – 1990-2020
- Global agro-meteorological dataset - AQUAMAPS: 1979 – 2021

SDG indicator 14.4.1 - "Proportion of fish stocks within biologically sustainable levels":
- Global/regional level: from 1974 to 2018.
- National level: Not available yet (first questionnaire dispatched in November 2019, considered a trial/testing phase, data to be published for 11 countries).

GCC
The countries are requested to fill the questionnaires starting from 1990.

IEA
Annual data for energy balances, emissions, efficiency data;
Monthly data for fuel specific information, weather information.

IMF

For CID, temporal coverage varies across indicators. See metadata for details. If IMF collect data for an FSAP it is done as a one off. An update of the data could happen when IMF repeats the FSAP for the same country (after a minimum of 5 years, for systemically important jurisdictions, and less frequently for the other jurisdictions).

IPCC

The IPCC EFDB was set in 2002 and first data uploaded are the IPCC default values contained in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and the associated Good Practice Guidance. Data included are either spot measurements or multi-time averages. All data are meant to be used to estimate annual fluxes of anthropogenic greenhouse gases.

OECD

The list would be too long. It depends on the indicator, but OECD tries to have the longest possible series, sometimes starting in 1990 or even 1980. See the links provided above.

UNSD - Energy Statistics Section
- From 1950 to Y-1, yearly data.
- Some less detailed monthly data on production.

UN-Women

Data collection efforts on gender-environment started in 2020. Reference period for disaster data is one year, for climate change data it ranges between 5 and 10 years.

UNCTAD

Transport costs: for now 2016 (first launched in 2021), time series coverage is being extended forward
Plastics trade: 1995-2020 (database to be published in autumn 2021)
Biotrade: 2007-2020 (database to be published in autumn 2021)
Maritime: from 1980 (2006) – (2020) 2021 depending on indicator
Enterprise sustainability reporting: (some indicators relate to climate change), preliminary data: 2020.

UNECE

Most data start in 1993.

UNESCO

Varying depending on data catalogues/products.

UNODC

2000-now (World WISE). 2014-2019 (UN-CTS data on environmental crime offenses).

UNU

2010 to 2020 (statistics), and projections to 2050.

World Bank

WDI from 1960 to the present.
CCKP from 1901-2100.
Observed data: 1901-2020.
Projections: 2006-2100 (against modeled historical reference period: 1986-2005)

A7. What is the geographical coverage of your agency's climate change data?	

Answer	**CARICOM**
	CARICOM Member countries- Member States and Associate members
	
	ECLAC
	Latin America and the Caribbean region: Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Ecuador, El Salvador, Netherlands Antilles, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Cayman Islands, Turks and Caicos Islands, British Virgin Islands, United States Virgin Islands, Jamaica, Martinique, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Dominican Republic, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Suriname, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of).
	
	EEA
	Geographical scope: EU-27 and for some indicators also Iceland, Liechtenstein, Norway, Switzerland, Turkey and United Kingdom.
	
	Eurostat
	EUROSTAT climate change data covers the EU 27 Member States. Data for some non-EU European countries and Turkey may also be published depending on the dataset. Aggregates for the European Union are also produced and published. Data is in most cases published at national level, in some cases sub-national level.
	
	FAO
	The geographical coverage of FAO's climate change data is national. Below are some specificities:
	    - FAOSTAT – Global.
	    - Forest resources assessment – Global.
	    - AQUASTAT - Global.
	    - Global agro-meteorological data set – AQUAMAP – Global.
	    - WAPOR – Africa and Near East.
	    - SDG indicator 14.4.1 - "Proportion of fish stocks within biologically sustainable levels": global, regional, and national levels.
	
	GCC
	Countries: Bahrain, Kuwait, Oman, Qatar, UAE & Saudi Arabia.
	
	IEA
	Global for most databases.
	
	IMF
	Geographical coverage varies across CID indicators. See metadata for details. At the moment the geographical coverage for FSAPs is limited to the few countries for which IMF has conducted climate risk analyses in FSAPs. Ideally, IMF will have coverage for all jurisdictions with mandatory FSAPs or even the whole membership (190 countries).
	
	IOM
	Global
	
	IPCC
	Global, with stratification of data per climate zones, geographical regions, countries

	OECD OECD mostly collects data from OECD member countries, but also, depending on the data, for Accession countries, key partners (Brazil, China, India, Indonesia and South Africa) and the Russian Federation. UNSD - Energy Statistics Section Global. UN-Women Asia-Pacific (select countries only for now, with goal to expand to more): Mongolia, Bangladesh, Samoa, Solomon Islands have completed or are in the process of completing surveys. Big data has been analyzed for Philippines, Indonesia, Timor Leste, Nepal, Bangladesh. UNCTAD Global with various country groupings. UNECE's Transport Division 56 ECE countries (data are not always available). UNESCO Varying depending on data catalogues/products. UNODC Global (World WISE). Approx. 60 countries (UN-CTS data on environmental crime offenses), coverage varies by year and type of offense. UNU National datasets, that can be compiled to any region / globally. World Bank Global, regional, individual countries.
A8. What is the data quality control/validation process for the climate change data your agency collects, produces or disseminates?	
Answer	CARICOM Data compiled from Member countries is validated internally and resent to focal points in the NSOs for final verification before publishing. ECLAC ECLAC verifies the updated data, these must be compared with the previous published data, the percentage variation will be used to detect possible inconsistencies or atypical values. Before any publication, ECLAC does another review by going to the official source (or custodian agency) one more time, by other team-member and ECLAC does a full check of the processing along with a comparison of a small sample of countries to ensure good procedure. EEA - Elements of the Union greenhouse gas inventory system and the Quality Assurance and Control (QA/QC) programme (Staff Working Document SWD [2013] 308 final). - Quality assurance and quality control procedure for national and Union GHG projections 2021 (DRAFT).

- Elements of the Union system for policies and measures and projections and the quality assurance and control (QA/QC) programme as required under Regulation (EU) NO 525/2013.
- Guidelines for the Reporting on greenhouse gas policies and measures under Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.

Eurostat
The data quality control and validation process depends on the dataset. It can include the following procedures/guidelines:
- methodological guidelines to assist countries,
- extensive validation procedure of the dataset,
- gap-filling of missing statistical information,
- quality reporting,
- quality tests and validation checks such as coherency tests, time-series checks, consistency and completeness checks,
- regular monitoring.

FAO
FAO's climate change statistics and data are subject to FAO Statistics Quality Assurance Framework (http://www.fao.org/docrep/019/i3664e/i3664e.pdf).
Below are some specificities:
- For SDG indicators under FAO custodianship, IDWG-SDG protocols are applied
- AQUASTAT - http://www.fao.org/aquastat/en/overview/methodology/
- The FAO carries out a quality assurance review to help with consistency and correctness of the reporting process. The review is performed in two steps to quantify the level of confidence that can be attributed to national reporting: 1) to verify that the questionnaire has been correctly and sufficiently filled out and complies with the reporting guidelines, and 2) to assess the reliability of the responses relative to the supporting information reported by the country. Validation for SDG indicator 14.4.1: FAO carries out a series of validations to assure that the data and information are provided by countries in line with the questionnaire instructions. The validation process consists of: (i) identification of errors, mistakes and missing value in the data and, (ii) correcting errors, mistakes and missing values in close consultation with the countries concerned. Each country is asked either to confirm that the data provided are correct or to provide remarks and / or revise data accordingly if they identify any errors.

GCC
Data quality control/validation process for environment statistics is based on the analysis of the following parameters: temporal series, efficiency, comparability and balances.

IEA
Data validation through IT data management system / balances relationships / iterations with data providers / consultation of energy experts / check with secondary sources, etc.

IMF
Staff perform logical/consistency checks for CID. Ad hoc controls/validation during a FSAP.

IOM
For migration governance data in relation to climate change policies (MGI initiative), there are several layers of quality control and a summary of the information collected is published in Migration Governance Profiles that are validated by the government.

IPCC
Upload of data into the IPCC EFDB is decided by the Editorial Board, which is composed by international experts on national greenhouse gas inventories covering all sectoral expertise and being geographically representative, as mandated by the IPCC. The assessment process implemented by the Editorial Board to conclude on the appropriateness to include the data into the IPCC EFDB is based on 3 criteria: i) Robustness (within the accepted uncertainty, the value is unlikely to change if there was repetition of the original measurement programme or modelling activity); ii) Applicability (an emission factor can only be applicable if the source and its mix of technology, operating and environmental conditions and abatement and control technologies under which the emission factor was measured or modeled are clear and allow the user to understand how it can be applied); iii) Documentation (access information to the original technical reference must be provided to evaluate the robustness and applicability as described above).

OECD
Data is normally checked for plausibility, internal coherence and with older series, as well as for definitions, methodologies, break in series etc.

UNSD - Energy Statistics Section
Time series analysis (completeness, trend, volatility, etc.); intra-product and cross-product data checks; balances of energy; refinery balances; efficiencies of energy transformation; balance of transfers; checks of aggregates versus breakdowns; including for total electricity production against production by source; comparison with other similar datasets, among others.

UN-Women
Depending on the country, NSO compares estimates with previous existing data from other sources (e.g. post-disaster needs assessment surveys, administrative data, geospatial data, etc). In addition, as this is household survey data, the usual validation process takes place per national policy.

UNCTAD
The data are calculated via two independent processes and then validated in a review by two processes by a statistician and an expert of the substantive area.

UNECE's Transport Division
Order of magnitude checks; growth over time; reasonableness depending on what UNECE-Transport know from other sources.

UNESCO
IODE has published a number of manuals and guides related to quality control and also recommends best practices through https://www.oceanbestpractices.org.

UNODC
Duplication removal, multiple source data conversion and validation.

UNU
The source data, e-waste data, are validated. UNU is using academic literature to further model this to be relevant for climate change.

	World Bank Data are validated from the statistical and contextual perspectives; various tests are performed to detect differences from other data sources and between vintages, logical coherence of the indicators, realistic values of the data, and missing values.

A9. Please provide the main output (e.g. publication/database) and weblink for the climate change data that your agency disseminates.

Answer	CARICOM Name of the output: Caribbean Community (CARICOM) Climate Change Statistics 2020 Date of release: 2020 Weblink: http://statistics.caricom.org/climatepub.html ECLAC Name of the output: - Mean temperature change - Level of concentration of coarse particulate matter (PM10) - Level of concentration of fine particulate matter (PM2.5) - Carbon dioxide (CO2) emissions, total and from land-use change and deforestation. - Proportion of carbon dioxide (CO2) emissions in relation to global emissions - Greenhouse gas (GHG) emissions by sector - Proportion of greenhouse gas emissions (GHG) in relation to global emissions - Carbon dioxide (CO2) emissions (Total, per capita and per gross domestic product) - Consumption of ozone depleting substances (ODS) - Consumption of all ozone-depleting substances (ODS) - Area covered by permanent snow and glaciers, change with respect to the base year - Protected marine area in relation to total marine area - Number of extreme events and disasters, and affected persons - Accumulated economic cost of disasters by type of disaster - Renewable (combustible and non-combustible) and non-renewable primary energy supply - Supply of primary renewable energy by energy resource - Energy intensity of gross domestic product - Natural forest area, forest plantation area and proportion of forest area in relation to total area - Sectoral distribution of water extraction and water intensity of agricultural value added - Sectoral extraction of water as a proportion of total renewable water resources - Proportion of the population that uses improved sources of drinking water supply, by national, urban and rural area - Proportion of the population using improved sanitation facilities, by national, urban and rural area - Urban population living in slums, informal settlements, or inadequate housing - Motorization rate - Proportion of the population without access to electricity, by quintile and geographic area Date of release: The database is constantly updated, the Statistical Yearbook is published in the first quarter of the year Weblink: https://cepalstat-prod.cepal.org/portal/cepalstat/dashboard.html?lang=en&temaIndicadores=493 EEA Name of the output: EEA will publish a new platform with climate and energy data, covering all available datasets on mitigation and complementing Climate Adapt. Current information:

Indicators:
Climate change mitigation: https://www.eea.europa.eu/data-and-maps/indicators/#c0=30&c12-operator=or&b_start=0&c12=climate
Climate change impacts and adaptation: https://www.eea.europa.eu/data-and-maps/indicators/#c0=30&c12-operator=or&b_start=0&c12=climate-change-adaptation

Publications:
Annual European Union greenhouse gas inventory 1990–2019 and inventory report 2021 - Submission to the UNFCCC Secretariat
https://www.eea.europa.eu/publications/annual-european-union-greenhouse-gas-inventory-2021
Trends and projections in Europe 2020
https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2020
Fluorinated greenhouse gases 2020 - Data reported by companies on the production, import, export and destruction of fluorinated greenhouse gases in the European Union, 2007-2019
https://www.eea.europa.eu/publications/fluorinated-greenhouse-gases-2020
Monitoring and evaluation of national adaptation policies throughout the policy cycle (2020)
https://www.eea.europa.eu/publications/national-adaptation-policies
Other information:

Climate change impacts in Europe https://discomap.eea.europa.eu/climate
Climate change impacts and vulnerability in Europe
https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016
Country profiles: Greenhouse gases and energy 2020
https://www.eea.europa.eu/themes/climate/trends-and-projections-in-europe/climate-and-energy-country-profiles/country-profiles-greenhouse-gases-and-1
EU greenhouse gas inventory https://www.eea.europa.eu/themes/climate/eu-greenhouse-gas-inventory
European Climate Adaptation Platform (Climate-ADAPT)
https://www.eea.europa.eu/themes/climate-change-adaptation/climate-adapt
European Climate Data Explorer
https://climate-adapt.eea.europa.eu/knowledge/european-climate-data-explorer/
Financing Europe's low carbon, climate resilient future
https://www.eea.europa.eu/themes/climate/financing-europe2019s-low-carbon-climate
National policies and measures on climate change mitigation in Europe
https://www.eea.europa.eu/themes/climate/national-policies-and-measures/national-policies-and-measures-on-1
Protecting the ozone layer while also preventing climate change
https://www.eea.europa.eu/themes/climate/ozone-depleting-substances-and-climate-change
Soil and climate change
https://www.eea.europa.eu/themes/soil/climate

Date of release: online.
Weblink: eea.europa.eu

Eurostat
Name of the output: Eurostat Climate Change Database
Weblink: https://ec.europa.eu/eurostat/web/climate-change/data/database

FAO

Name of the output: Tracking progress on food and agriculture-related SDG indicators
Date of release: Annual
Weblink: http://www.fao.org/sdg-progress-report/en/

Name of the output: FAOSTAT database

Date of release: Regularly updated
Weblink: http://www.fao.org/faostat/en/#data

Name of the output: FAOSTAT – Dissemination Briefs
Date of release: Regular updates
Weblink: http://www.fao.org/food-agriculture-statistics/resources/publications/data-dissemination-briefs/en/; http://www.fao.org/food-agriculture-statistics/data-release/en/

Name of the output: The State of Food and Agriculture (SOFA). Climate change, agriculture and food security
Date of release: 2016
Weblink: http://www.fao.org/3/i6030e/i6030e.pdf

Name of the output: Global Forest Resources Assessment (FRA)
Date of release: Every five years
Weblink: https://fra-data.fao.org/

Name of the output: FAO Yearbook of Forest Products
Date of release: Annual
Weblink: http://www.fao.org/forestry/statistics/80570/en/

Name of the output: FAO Soils Portal
Date of release: Regularly updated
Weblink: http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/

Name of the output: AQUASTAT (FAO's Global Information System on Water and Agriculture)
Date of release: 1994
Weblink: http://www.fao.org/aquastat/statistics/query/index.html?lang=en

Name of the output: WAPOR – FAO portal to monitor Water Productivity
Date of release: 29/11/2019
Weblink: https://wapor.apps.fao.org/catalog/WAPOR_2/1

Name of the output: The State of Food Security and Nutrition in the World (SOFI). Building climate resilience for food security and nutrition
Date of release: 2018
Weblink: http://www.fao.org/3/I9553EN/i9553en.pdf

Name of the output: The State of World Fisheries and Aquaculture (SOFIA)
Date of release: Every two years
Weblink: http://www.fao.org/publications/sofia/en/

Name of the output: FishStat (Data collections on fisheries and aquaculture)
Date of release: Regularly updated

Weblink: http://www.fao.org/fishery/statistics/collections/en

GCC
Name of the output: No specific publication on Climate Change: Only environmental sectors publication such as Water statistics report, waste statistics report, air statistics report, biodiversity report.
Date of release: from 2015 to 2020.
Weblink: www.gccstat.org

IEA
Name of the output: Greenhouse gas emissions from energy AND Weather for Energy tracker
Date of release: Aug 2021
Weblink: https://www.iea.org/data-and-statistics/dataproduct/greenhouse-gas-emissions-from-energy
https://www.iea.org/articles/weather-for-energy-tracker
CO_2, N_2O, CH_4 emissions estimation from energy, by sector; includes fugitive emissions; global
Weather indicators for energy analysis https://www.iea.org/articles/weather-for-energy-tracker
includes temperature, precipitation, heating and cooling degree days at national level and over grids.

IMF
Name of the output: Climate Change Indicators Dashboard (CID); and FSAPs Technical Notes, Financial System Stability Assessments, Working papers
Date of release: CID: April 7, 2021; FSAP: varies
Weblink: CID: https://climatedata.imf.org/

FSAP:
- Norway: Financial Sector Assessment Program-Technical Note-Risk Analysis and Stress Testing (2020):
  https://www.imf.org/en/Publications/CR/Issues/2020/11/10/Norway-Financial-Sector-Assessment-Program-Technical-Note-Risk-Analysis-and-Stress-Testing-49873

- The Bahamas: Financial Sector Assessment Program-Technical Note on Financial Stability and Stress Testing (2019):
  https://www.imf.org/en/Publications/CR/Issues/2019/07/02/The-Bahamas-Financial-Sector-Assessment-Program-Technical-Note-on-Financial-Stability-and-47071

- Philippines: Financial System Stability Assessment (2021):
  https://www.imf.org/en/Publications/CR/Issues/2021/04/08/Philippines-Financial-System-Stability-Assessment-Press-Release-and-Statement-by-the-50347

- Grippa and Mann, Climate-Related Stress Testing: Transition Risks in Norway (2020):
  https://www.imf.org/en/Publications/WP/Issues/2020/11/08/Climate-Related-Stress-Testing-Transition-Risks-in-Norway-49835

IPCC
Name of the output: The IPCC Emission Factor Database (IPCC EFDB)
Date of release: 2002
Weblink: https://www.ipcc-nggip.iges.or.jp/EFDB/main.php
The EFDB is freely accessible online (no registration needed), and can also be downloaded
entirely at once (offline application) at https://www.ipcc-
nggip.iges.or.jp/EFDB/downloads.php

OECD
See the link above on the climate repository, as well as Environment at a Glance. In the
near future an IPAC platform will be created.

UN-Women
Name of the output: None published online yet
Date of release: Survey data from Mongolia, Bangladesh to be made available in
September 2021. Survey data from Samoa, Solomon Islands to be made available after
validation (likely in 2022). Big data analysis to be made available in October 2021
Weblink: https://data.unwomen.org/

UNSD - Energy Statistics Section
Name of the output: Energy Statistics Yearbook, Energy Balances, Electricity Profiles,
Energy Statistics Pocketbook, UN Energy Statistics Database, Energy Data Visualization
Portal, Energy Dashboards, Energy Data API. (not counting with joint publications and
outputs)
Date of release: Yearly
Weblink: https://unstats.un.org/unsd/energystats/
All the outputs are accessible from the main webpage provided.

UNCTAD
Name of the output: Transport costs database
Date of release: Spring 2021
Weblink: https://unctadstat.unctad.org/EN/TransportCost.html

Name of the output: Plastics – life-cycle trade database
Date of release: Under development, to be uploaded here in autumn 2021:
https://unctadstat.unctad.org/
Weblink: https://unctad.org/webflyer/global-trade-plastics-insights-first-life-cycle-trade-
database
Please provide any further details: Experimental database, see UNCTAD Research paper
(web link above).

Name of the output: Biotrade
Date of release: Under development, to be uploaded here in 2021:
https://unctadstat.unctad.org/
Weblink: https://unctad.org/topic/trade-and-environment/biotrade

Name of the output: Maritime transport
Date of release: Several dates across the year
Weblink: https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx

UNECE's Transport Division
Name of the output: Inland transport Statistics
Date of release: Continuous
Weblink: https://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__40-TRTRANS/, https://unece.org/transport/publications/2020-inlandtransport-statistics-europe-and-north-america-volume-lx

UNESCO
Name of the output: See relevant data catalogues/products
Date of release: varying
Weblink: Relevant datasets accessible through IODE (see https://catalogue.odis.org). Also: soon to come: https://oceaninfohub.org.

UNODC
Name of the output: World Wildlife Crime Report / WorldWISE database / UNODC DataPortal
Weblink: https://www.unodc.org/unodc/en/data-and-analysis/wildlife.html
https://dataunodc.un.org/

UNU
Name of the output: Global E-waste Monitor 2020
Date of release: June 2020
Weblink: http://ewastemonitor.info/

World Bank
Name of the output: World Development Indicators (WDI) Climate Change Knowledge Portal (CCKP)
Date of release: Updated July 2021
Weblink: https://databank.worldbank.org/source/world-developmentindicators
https://climateknowledgeportal.worldbank.org/

A10. What are the main challenges that your Agency observes or foresees when it comes to climate change data that are collected, produced and/or disseminated?

Answer	**CARICOM** Same challenges exist for Environment Statistics data collection which include lack of resources, lack of coordination among NSO and agencies, lack of training and methodology, competing priorities etc. within NSO and agencies producing data, absence of dedicated staff to work in the area of Climate Change Statistics, generally low priority given to this area of statistics despite its relevance when faced with the other competing areas. **ECLAC** It is difficult to obtain information / data on mitigation and adaptation, the actions that the countries are taking are not easily identifiable. But the most complicated thing is to incentivize and encourage countries to develop mitigation and adaptation policies to climate change, understanding that it must be more resilient.

ECLAC is elaborating a Climate Change Profile for the Region, using the five areas of the IPCC Framework: Drivers, Impacts, Vulnerability, Adaptation, Mitigation. The challenge is achieving the countries expectations and needs coverage.

EEA
Different tier levels of methods used by countries reporting to EEA (anyway all consistent with IPCC/UNFCCC guidelines). Timeliness of submissions for some data flows, such as national GHG projections.

Eurostat
The following aspects are foreseen to be areas where further improvement can be achieved:
- Ensure consistency across the various International Statistics Standards.
- Promote the use of climate-related data both towards policy-makers and the general public.
- Avoid redundancies and duplicities with other producers of climate change related information.
- Communicate to users the differences between separate datasets on same or similar topics.

FAO
For the **agri-food sector in general**, FAO has many data challenges to provide climate change-relevant evidence that will support decision-making:
- While national-level data are available across many dimensions (not all), farm-level data on crop and livestock management are lacking, including at geospatial level, at levels sufficient to identify realistic adaptation and mitigation strategies
- Data from fisheries and aquaculture activities by country are still insufficient to elaborate climate risk and response strategies
- Lack of realistic crop masks and livestock activity/density maps that are geospatially referenced and regularly updated
- Lack of data on input use by crop, both nationally and geospatially
- Incomplete data on food systems across supply chains and consumption dimensions
- Lack of sufficient farm data in support of an integrated view on the links between environmental and economic impacts at local to national level

Water:
Availability of data at country level
Harmonization of methodologies to assess freshwater resources.
More info. http://www.fao.org/aquastat/en/overview/challenges/

Non wood forest products, biofuels, pastoral farming and multilateral/bilateral fisheries management arrangements
Availability of data at country level, need for capacity development

IEA
Timeliness of statistical data provision from countries.

IMF
CID: the IMF's emphasis will remain in providing the climate change-related data that is most relevant for Fund's staff surveillance work, while leveraging existing data sources and efforts by other international organizations.

FSAP: Lack of available and reliable granular data on transition risk, e.g. companies' greenhouse gas emissions (in particular Scope 3) and emission reduction targets. Lack of

consistent and publicly available data on damages from hazardous events and disasters. Lack of skills and knowledge on climate science to fully understand and analyze climate data.

IOM
Lack of availability of the data

IPCC
Two are the main challenges to address in collecting data for the IPCC EFDB:
- Data access; confidentiality as well as ownership of data may not allow its access and publication into the IPCC EFDB;
- ii. Data compilation; mining data from relevant publications is a labor-intensive activity that therefore limits the annual data addition to the IPCC EFDB.

OECD
Climate-related data does not necessarily pose different problems or challenges with respect to other environmentally-related data, e.g. timeliness, lack of agreed methodologies, lack of data, poor quality etc.

UNSD - Energy Statistic Section
Just because figures are available for all countries and areas, people think there is little need for capacity building in the area. However, for many developing countries, particularly LDCs, data are not produced in/by the country and are instead estimated by international organizations in order to arrive at regional and world totals. This leads to inaccuracies and great variance in the numbers.

UN-Women
Strong focus on extreme weather events (e.g. disasters and effects on population and assets) may overshadow measurement of natural resource management and other key drivers of climate change – including gender roles and how women and men typically contribute.

UNCTAD
UNCTAD is currently reviewing the above datasets with relevance to climate change to compile climate indicators relating to the impacts of trade depending on the mode of transport, but also depending on the types of goods traded, such as plastics and biotrade. Plastics, for instance, account for a significant share of total oil consumption and thus the annual carbon budget. Given UNCTAD's position as the focal point for trade, investment and development, in its further work, UNCTAD is in a good position to compile and analyse data and statistics on cross-border trade, investment and finance, including in relation to climate change and environmental concerns. Climate-related indicators are also released as part of UNCTAD's data-driven analysis in the SDG Pulse and in the Development Globalization Facts and Figures on small island developing States.

UNECE's Transport Division
Comparability across countries.

UNESCO
The main issue is the (lack of) willingness of countries to share oceanographic data, especially nearshore.

UNODC
Having to collect seizure data from multiple data sources to expand the data coverage led to duplication, data inconsistency.

	UNU
	Direct data on depollution and recycling of e-waste are not globally covered. Needs statistical imputations to get global harmonized datasets.
	World Bank
	- Low quality of data;
	- Lack of quality-controlled data;
	- Lack of recent data;
	- Data licensing;
	- Different definitions across sources;
	- Comparability issues;
	- Time and resource constraints to enable faster technical buildout of CCKP site to continue to add new data offerings, update historical data (as necessary) and present expanded analysis opportunely.

B11. Does your agency develop methodological guidelines for climate change statistics or indicators?	
Yes	CARICOM, FAO, Eurostat, IEA, IPCC, OECD, UNSD - Energy Statistics Section, UN Women, UNCTAD, UNECE's Statistics Division, UNECE's Transport Division, UNESCO, UNODC, World Bank
No	ECLAC, EEA, GCC, IMF, IOM, UNEP, UNU

Description	CARICOM
	Methodology document was prepared for Environment Statistics which includes climate change statistics or indicators. Generally however these are based on international methodological frameworks such as the FDES:
	http://statistics.caricom.org/helpdesk/documentarycentre/Dom3/EnvStatsMetadata.pdf
	
	EEA
	EEA use the following guidelines:
	   - UNFCCC Reporting Guidelines (Decision 24/CP.19 Revision of the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention);
	   - 2006 IPCC Guidelines for national GHG inventories;
	   - 'Guiding principles' (wider than just data quality, such as improving quality and transparency over time) on transparency under the Paris Agreement (Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement).
	
	Eurostat
	Guidelines, Guidance notes or best practices are provided in some case.
	More details are available on the following link:
	https://ec.europa.eu/eurostat/web/environment/methodology
	
	FAO
	Water
	AQUASTAT methodology
	http://www.fao.org/aquastat/en/overview/methodology/water-resources/
	Renewable Water Resources Assessment 2015 AQUASTAT methodology review
	http://www.fao.org/3/bc818e/bc818e.pdf
	International Recommendations for Water Statistics (IRWS)
	https://seea.un.org/sites/seea.un.org/files/irws_en.pdf
	
	FAO (2017) Tracking adaptation in agricultural sectors: Climate change adaptation indicators, http://www.fao.org/3/i8145en/I8145EN.pdf

Conversion of animal populations to livestock units
FAO (2011) Guidelines for the preparation of livestock sector reviews. Animal Production and Health
FAO, http://www.fao.org/faostat/en/#data/QC/metadata
FAO, http://www.fao.org/food-agriculture-statistics/statistical-domains/agricultural-surveys/en/

GHG Emission estimations
FAO, http://www.fao.org/3/i4260e/i4260e.pdf

SDG metadata
SDG 2.1.1 metadata, https://unstats.un.org/sdgs/metadata/files/Metadata-02-01-01.pdf
SDG 2.1.2 https://unstats.un.org/sdgs/metadata/files/Metadata-02-01-02.pdf
SDG 2.4.1 metadata https://unstats.un.org/sdgs/metadata/files/Metadata-02-04-01.pdf
SDG 6.4.1 metadata https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-01.pdf
SDG 6.4.2 metadata http://www.fao.org/sustainable-development-goals/indicators/642/en/
SDG 14.4.1 metadata https://unstats.un.org/sdgs/metadata/?Text=&Goal=14&Target=14.4
SDG 14b1 https://unstats.un.org/sdgs/metadata/files/Metadata-14-0b-01.pdf
SDG 15.1.1 metadata https://unstats.un.org/sdgs/metadata/files/Metadata-15-01-01.pdf
SDG 15.2.1 metadata https://unstats.un.org/sdgs/metadata/files/Metadata-15-02-01.pdf

FAO (2016) Integrated coastal area management and agriculture, forestry and fisheries. FAO Guidelines. Environment and Natural Resources Service, http://www.fao.org/3/W8440e/W8440e02.htm

Soils
FAO (2020) Technical specifications and country guidelines for Global Soil Organic Carbon Sequestration Potential Map (GSOCseq).
http://www.fao.org/3/cb0353en/CB0353EN.pdf
FAO, http://www.fao.org/about/meetings/soil-erosion-symposium/key-messages/en/

Forests
FAO (2017) Non-wood forest products in international statistical systems, Non-Wood Forest Products 22, Rome, FAO, http://www.fao.org/3/i6731e/i6731e.pdf;
FAO, FRA Guidelines and specifications http://www.fao.org/3/I8699EN/i8699en.pdf

SEEA Ecosystem Accounting
https://seea.un.org/ecosystem-accounting
https://unstats.un.org/unsd/statcom/52nd-session/documents/BG-3f-SEEA-EA_Final_draft-E.pdf

IEA
Energy efficiency indicators statistics:
https://www.iea.org/reports/energy-efficiency-indicatorsfundamentals-on-statistics
IRES, International Recommendations on Energy Statistics (with UNSD)
https://unstats.un.org/unsd/energystats/methodology/ires/

IPCC
The objectives of the IPCC TFI are:
-    To develop and refine an internationally-agreed methodology and software for the calculation and reporting of national GHG emissions and removals; and

To encourage the widespread use of this methodology by countries participating in the IPCC and by signatories of the United Nations Framework Convention on Climate Change (UNFCCC).

Latest guidelines are the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, its 2019 Refinement and the 2013 Supplements on Wetlands and on the Kyoto Protocol activities (https://www.ipcc-nggip.iges.or.jp/public/index.html)

OECD
There are some examples, e.g. patents (see http://stats.oecd.org/Index.aspx?DataSetCode=PAT_DEV) and Production- and Demand-based CO_2 emissions from the OECD dataset on Carbon Dioxide Embodied in International Trade (see https://www.oecd.org/sti/ind/carbondioxideemissionsembodiedininternationaltrade.htm)

UN Women
A compendium of metadata, a model questionnaire and an enumerator's manual are being developed (for release in October 2021) for the gender-environment survey.

UNECE's Statistics Division
CES Recommendations on climate change- related statistics on how to improve the usefulness of existing official statistics for climate analyses and greenhouse gas (GHG) inventories endorsed by the Conference of European Statisticians in 2014: https://unece.org/statistics/publications/recommendations-climate-change-related-statistics

CES Set of Core Climate Change-related Indicators and Statistics Using the System of Environmental-Economic Accounting (https://statswiki.unece.org/x/Yw8AEQ) endorsed by the Conference of European Statisticians in 2020, including:
- Main report of the Task Force
- Implementation guidelines
- Indicators metadata sheets

A new link to the final version published on unece.org will be available in September 2021.

UNECE's Transport Division
The Glossary for transport Statistics gives common definitions https://unece.org/transport/publications/glossary-transportstatistics-fifth-edition

The Glossary for transport Statistics gives common definitions https://unece.org/transport/publications/glossary-transportstatistics-fifth-edition

Through IOC's co-sponsored World Climate Research Programme (https://www.wcrp-climate.org/)

UNODC
Develop guidelines in data conversion for internal use.

UNSD- Energy Statistics Section
The International Recommendations for Energy Statistics (IRES), fully aligned with the IPCC methodology, as well as its practical companion manual; the Energy Statistics Compilers Manual (ESCM).

| | World Bank |
| | Each indicator follows the methodological guidelines in the sector. |

B12. Does your agency produce or maintain a list of indicator/statistics that pertains to climate change, or some related topics/themes of climate change?	
Yes	CARICOM, ECLAC, EEA, Eurostat, FAO, IEA, IMF, IOM, OECD, UNSD - Energy Statistics Section, UNECE's Statistics Division, UNECE's Transport Division, UNEP, UNESCO, UNU, World Bank
No	GCC, IPCC, UNCTAD, UNODC
Description	CARICOM The topics themes are found in the publication: http://statistics.caricom.org/climatepub.html ECLAC Statistics Division in ECLAC maintain the following list of climate change indicators (themes in the Draft Global Set): GHG emissions, GHG concentration, Energy, Fossil fuels, Population, Transport, Forests, Agriculture, Urban areas, Snow and ice, Water resources, Sea and coasts, Water quality, Disasters, Health, Air quality, Temperature, Soil, Species, Ecosystems, Fisheries, Food, Infrastructure, Energy, Electricity, Waste, Sanitation, Poverty, Indigenous population, Disability, Governance, Expenditures, Taxes, Funding, Prices, Technology, Education, Land, Protected areas, Biodiversity, Meteorology, Water. EEA **DRIVERS**: Greenhouse gas emission intensity of fuels and biofuels for road transport in Europe (CLIM055) Greenhouse gas emission intensity of electricity generation in Europe (ENER038) Greenhouse gas emissions from transport in Europe (TERM002) CO2 performance of new passenger cars in Europe (TERM017) CO2 performance of new vans in Europe (TERM041) Atmospheric greenhouse gas concentrations (CSI013/CLIM052) Primary and final energy consumption in Europe (ENER016) Forest: deadwood (SEBI018) Imperviousness and imperviousness change in Europe (LSI002) Soil moisture deficit (LSI012) Drought impact on ecosystems in Europe (LSI011) Pesticides in rivers, lakes and groundwater in Europe (WAT009) Landscape fragmentation pressure and trends in Europe (CSI054/LSI004) Total greenhouse gas (GHG) emission trends and projections in Europe (CSI010/CLIM050) **IMPACTS**: Economic losses from climate-related extremes in Europe (CSI042/CLIM039) Nationally designated terrestrial protected areas in Europe (CSI008/SEBI007) Forest: growing stock, increment and fellings (SEBI017) Arctic and Baltic Sea ice (CSI053/CLIM010) Ecosystem coverage (SEBI004) Natura 2000 sites designated under the EU Habitats and Birds Directives (SEBI008) Extreme sea levels and coastal flooding (CLIM045) Abundance and distribution of selected species in Europe (CSI050/SEBI001) Trends in marine non-indigenous species (MAR002) Conservation status of habitats under the EU Habitats Directive (CSI057/SEBI005)

Drought impact on ecosystems in Europe (LSI011)
Forest fires in Europe (CLIM035)
Ecosystem coverage (SEBI004)
Land take in Europe (CSI014/LSI001)
Status of marine fish and shellfish stocks in European seas (CSI032/MAR007)
Global and European sea-level rise (CSI047/CLIM012)

VULNERABILITY:
Use of renewable energy for transport in Europe (CSI037/TERM031)
Primary and final energy consumption in Europe (ENER016)
Urban wastewater treatment in Europe (WAT005)

MITIGATION
Share of energy consumption from renewable sources in Europe (CSI048/ENER028)
Use of renewable energy for transport in Europe (CSI037/TERM031)
Forest composition and distribution (CLIM034)
Electric vehicles as a proportion of the total fleet (TERM034)
Hydrofluorocarbon phase-down in Europe (CSI044/CLIM048)
Marine protected areas in Europe's seas (MAR004)

ADAPTATION

Eurostat
EUROSTAT publishes statistics related to climate change within the climate change
database Database - Climate change - Eurostat (europa.eu). These statistics are classified
according to the following categories: Greenhouse gas emissions, Drivers (Energy,
Transport, Industrial Processes and product use, Waste, Agriculture, and Land use, land use
change and forestry), Mitigation, Impact and Adaptation, and Climate action initiatives.
The classification is quite close to the Area classification of the Draft Global Set.
EUROSTAT is currently conducting a review of climate change related statistics offered by
the European Statistical System. The outcome of this review will include findings and
recommendations on climate change related statistics.

FAO
FAO (2017) Tracking adaptation in agricultural sectors: Climate change adaptation
indicators, http://www.fao.org/3/i8145en/I8145EN.pdf, Annex 4 – A list of indicators
under each of the main and sub-categories of indicators (national level).

FAOSTAT Temperature change statistics. http://www.fao.org/food-agriculture-
statistics/data-release/data-release-detail/en/c/1396579/

FAOSTAT Emissions Shares, by sector. http://www.fao.org/food-agriculture-statistics/data-
release/data-release-detail/en/c/1304919/

FAOSTAT Emissions intensities. http://www.fao.org/faostat/en/#data/EI

IEA
Energy indicators 4-9; 76; etc global emissions indicators (from energy sector, all gases)
global number of vehicle 13 (selected countries); temperature and precipitation by
countries (values and anomalies) - more indicators could be derived on request by country,
on global scale. https://www.iea.org/articles/weather-for-energy-tracker

<u>IMF</u>
CID includes a list of indicators. See metadata for details.

<u>IOM</u>
Displacement Tracking Matrix (DTM): Collect data on disaster displacement, migration, and movement of pastoralists, depending on operational needs – on an ad-hoc basis and with different frequency depending on the evolving features of each context. This information can contribute to the development of relevant indicators to inform policymaking and operations.

    a. Number of disaster displaced persons, composition of humanitarian caseload, evolution of numbers and characteristics over time, returns/durable solutions
    b. Reasons for migration (as part of broader mobility assessments, often involving cross-border movements, such as in the Horn and in West Africa) or intentions to migrate from areas affected by environmental hazards (e.g. Dry Corridor)
    c. Movement of pastoralists, through the Transhumance Tracking Tool, which can be used to understand differences in triggers and timing, directrices, settlement patterns and potential for tensions/conflicts across seasons – including informing relevant early warning and conflict prevention/stabilization initiatives.
    d. Quantifying population "at risk of displacement". In collaboration with IDMC, IOM is producing national and sub-national-level analyses to quantify potential for displacement in future disasters, based on the number of people exposed to hazards and the structural features of their houses.

The Displacement Tracking Matrix (DTM) Regional Evidence for Migration Analysis and Policy (REMAP) project developed in response to the critical need to collect and analyse information on (protracted) displacement and human mobility in, to and from Afghanistan, Bangladesh, Iran (Islamic Republic of), Iraq and Pakistan and to contribute to evidence-based humanitarian and development programming in these countries and in the region.

Under DTM REMAP, climate related indicators are collected under various activities in various countries. This is primary data collection focusses on

1) in some countries, actual in and outflows in communities related to climate; these internal migrants are labelled as 'climate mobility'
2) in some countries it collects in-depth information on types of climate related incidents (6-month cycle)
3) in Bangladesh the specific assessments have been built to collect data to compare the 'disaster' prone season with the non- disaster prone season (e.g. access to school, health, roads, agriculture etc.).

Disaster Risk Reduction (DRR): IOM participates in the work of the inter-agency CADRI Initiative, and has contributed to the development and rollout of a full assessment tool on governments' capacities for DRR and CCA, including by leading the development of a thematic module on human mobility, which includes assessments questions on evacuations, displacement, migration as adaptation, inclusion of migrants in DRR, and planned relocations.

Migration, Environment and Climate Change (MECC): IOM regularly produces Migration, Environment and Climate Change country profiles, identifying and analysing key migration and environment numbers and trends.

Migration Governance Indicators (MGI): Collect governance data related to the following topics related to climate change:

a. The country has strategies in place for addressing migration linked to environmental degradation and the adverse effects of climate change (e.g., planned re-location)
b. The country has a contingency plan in place to manage large scale population movements in times of crisis
c. Are there communication systems in place to receive information on the evolving nature of crises and how to access assistance, as well as a way for the public to communicate their needs to the government
d. The country has measures to make exceptions to the immigration procedures for migrants whose country of origin is experiencing a crisis.
e. Does the national development strategy have measures regarding displacement (e.g., provisions on refugees, internally displaced persons (IDPs)

OECD
See the link above on climate repository, and the forthcoming IPAC platform.

UNSD - Energy Statistics Section
UNSD - Energy Statistics Section does not "maintain a list", but produces all that are derived solely from energy statistics, plus other energy-related SDGs that need other data (population, SDG, etc.).

UN-Women
Related indicators will be published in UN Women's data hub for full list of topics covered in the survey (mentioned above) / AP list of gender-environment indicators currently available here: https://data.unwomen.org/publications/mainstreaming-gender-environment-statistics-sdgs-and-beyond-identifying-priorities

UNECE's Statistics Division
CES Set of Core Climate Change-related Indicators and Statistics Using the System of Environmental-Economic Accounting (version 2.0) (https://statswiki.unece.org/x/Yw8AEQ) endorsed by the Conference of European Statisticians in 2020. The Set covers the following thematic areas: drivers, emissions, impacts, mitigation and adaptation, and subareas: national total, production, consumption, physical conditions, water resources, land, land cover, ecosystems and biodiversity, human settlements and human health, agriculture, forestry and fishery, energy resources, expenditures, environmental governance and regulation. A new link to the final version published on unece.org website will be available in September 2021.

UNECE's Transport Division
UNECE-Transport is working on an SDG indicators list appropriate for the UNECE region. See this publication: https://unece.org/sites/default/files/2021-04/Inforcards_2021_ENG_forweb light.pdf

UNEP
Fossil fuels, water quality, National Integrated Coastal Zone Management (ICZM), climate change public awareness and education.

UNESCO
SDG Indicator 14.3.1, for which IOC-UNESCO acts as custodian agency.

UNU
Data sets are available internally.

	World Bank WDI data are tagged as "Climate Change" in the Open Data site (https://data.worldbank.org/indicator), while the team plans to review it. WDI also presents part of the Draft Global Set of climate change. Country Climate and Development Report (CCDR) https://worldbankgroup.sharepoint.com/sites/Climate/Pages/pc/CCDR-05032021- 102951/CCDR-Overview-05032021-104156.aspx. Please also see attached CCKP breakdown of available climate variables and indicators.
B13. Does your agency convene an inter-agency technical/expert working group to engage in climate change statistics and indicators?
Yes	CARICOM, Eurostat, FAO, IMF, IOM, OECD, UNECE's Statistics Division, UNECE's Transport Division, UNESCO
No	ECLAC, EEA, GCC, IEA, IPCC, UNSD - Energy Statistics Section, UN Women, UNCTAD, UNEP, UNODC, UNU, World Bank
Description	CARICOM Name of the meeting: Technical Working Group for Environment Statistics Date of the meeting: Last meeting held 19 April 2018/Meeting held in 2021 to consider this area of statistics and to provide feedback to the UNSD List participating agencies: CARICOM NSOs Number of attendees: 8 Eurostat Name of the meeting: Inter-agency task team to develop quarterly estimates of greenhouse gas emissions by country (participation with other organisations, namely IMF, OECD, IEA, UNSD). Climate change related matters are also discussed in the working group Environmental accounts and working group Monetary environmental statistics and accounts. List participating agencies: IMF, OECD, IEA, UNSD, EUROSTAT Number of attendees: Inter-agency task team: circa 10; Eurostat working groups: circa 30-40 Weblink: https://circabc.europa.eu/ui/group/922b4700-1c83-4099-b550-763badab3ec0 FAO Name of the meeting: FAO's Interdepartmental Working Group on Statistics Date of the meeting: Ad hoc List participating agencies: FAO only Number of attendees: 30 Weblink: Internal only IMF Name of the meeting: Bilateral meetings with OECD, World Bank, BIS and FSB. Date of the meeting: On a continuous basis List participating agencies: OECD, World Bank, BIS and FSB Number of attendees: Various IOM Name of the meeting: Platform on Disaster Displacement Date of the meeting: On a monthly basis List participating agencies: Under the Platform on Disaster Displacement, IOM co-chairs the Data and Knowledge Working Group, regularly bringing together key international (e.g. IDMC, UNHCR) and academic actors to discuss issues related to data on disasters, environmental and climate change, migration and displacement Weblink: https://disasterdisplacement.org/

Name of the meeting: Capacity for Disaster Reduction Initiative (CADRI)
List participating agencies: IOM co-chairs the Capacity for Disaster Reduction Initiative (CADRI), an inter-agency initiative bringing together UN, INGOs and other international actors to assess and build national and local capacities for disaster risk reduction and climate change adaptation.
Weblink: https://www.cadri.net/

OECD
Name of the meeting: Technical Expert Group of the IPAC
Date of the meeting: UNSD and UNFCCC participate in this group

UNECE's Statistics Division
Name of the meeting: UNECE Expert Forum for Producers and Users of Climate Change Related Statistics
Date of the meeting:
In 2021: 31 August – 3 September 2021
In 2022: 29-30 September 2022 (TBC)
List participating agencies:
In 2020: The meeting was attended by representatives of the following: Countries: representatives of the following countries: Armenia, Azerbaijan, Belarus, Brazil, Canada, Chile, Croatia, Finland, France, Germany, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Mexico, Montenegro, Netherlands, New Zealand, Philippines, Poland, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Tajikistan, Turkey, United Kingdom of Great Britain and Northern Ireland and Uzbekistan; Agencies: DG CLIMA, Eurostat, EEA, the EU, GEO, IRENA, OECD, UNDP, UNDRR, UNEP, UNFCCC, UN ECLAC, UN ESCAP, UN ESCWA, UNSD, the World Bank Group and WMO. See:
https://unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.33/2020/mtg3/2020_EF_Con clusions.pdf
Number of attendees: For in-person meetings: 70-80. For online meetings: 100-120
Weblink: 2021 meeting: https://unece.org/statistics/events/expert-forum-producers-and-users-climate-change-related-statistics-2021
Previous meetings: https://unece.org/info/events/unece-meetings-and-events?f%5B0%5D=area%3A268&f%5B1%5D=program%3A178

Name of the meeting: Steering Group on Climate Change-Related Statistics
Date of the meeting: Online meetings every few weeks
List participating agencies: NSOs of Netherlands, Italy, Canada, Italy, Kyrgyzstan, Luxembourg, Mexico, Russian Federation, United Kingdom; International organizations: Eurostat, the Food and Agriculture Organization of the United Nations (FAO), International Energy Agency (IEA), United Nations Economic Commission for Latin America and the Caribbean (ECLAC), the Secretariat of United Nations Framework Convention on Climate Change (UNFCCC); Private sector and academia: Midsummer Analytics and Bennett Institute for Public Policy of the University of Cambridge.
Number of attendees: 25
Weblink: https://unece.org/statistics/networks-of-experts/steering-group-climate-change-related-statistics

UNECE's Transport Division
Name of the meeting: Working Party on Transport Statistics
Date of the meeting: Annually in June
List participating agencies: UNECE, Eurostat, ITF/OECD, UIC, member States
Number of attendees: 50

	Weblink: https://unece.org/transport/events/wp6-working-partytransport-statistics-72nd-session UNESCO Name of the meeting: See WCRP Strategy and Action Plan and relevant planned events Weblink: https://www.wcrp-climate.org/

C14. Has your agency organized, or is planning to organize, capacity development activities and events in climate change statistics and indicators?

Yes	CARICOM, ECLAC, FAO, IEA, IMF, IOM, UN-Women, UNECE's Statistics Division, UNECE's Transport Division, UNSD – Energy Statistics Section
No	GCC, IPCC, OECD, UNCTAD, UNEP, UNESCO, UNODC, UNU, World Bank
Description	CARICOM Name of the activity or event: Webinars (Due to COVID-19 these would be held rather than face-to-face). Government of Italy provided prior support in this area earlier this year. Recipient institution: CARICOM Member States/Associate Members Dates: To be determined Description of capacity development activity: Training workshop/ virtual technical assistance Funding mechanism: European Development Fund Themes: Varied - including those listed in the example. Methodological guidance used: FDES, IPCC, SDG Collaborating partners: To be determined but normally call on the UNSD ECLAC Name of the activity or event: Technical Assistance for the Caribbean SIDS: relevant climate change and disasters indicators for evidence-based policies Recipient institution: (English speaking) Caribbean countries Dates: 2021-2023 Location: Caribbean Countries Format: It will be combined between face-to-face events and virtual events Description of capacity development activity: Workshops and remote countries assistance Funding mechanism: Development Account (DA12) Themes: Indicators prioritized by countries based on the draft of the Global Set of Climate Change Statistical processes: Carry out an assessment of the information they have and compile to disaggregate it and support them in building indicators Methodological guidance used: FDES/ESSAT/Draft of Global Set of Climate Change Statistics and Indicators Collaborating partners: UNSD/CARICOM/OECS Eurostat Name of the activity or event: EUROSTAT regularly provides capacity development activities to its members through several regular activities: training courses, handbooks, compilation tools, grants. Material from past training courses is available here: https://circabc.europa.eu/w/browse/6ade1ca8-6a06-44bd-bff0-498217d0ec05. Handbooks are available here: https://ec.europa.eu/eurostat/web/environment/methodology. Dates: Training courses occur throughout the year. Format: Due to recent circumstances, many training courses are being transformed into online activities.

Themes: Recent and upcoming courses on environmental accounts cover the following subjects: water statistics and accounts, monetary environmental accounts, ecosystem accounts. The courses requested for 2022 are: physical environmental accounts, water statistics and accounts, ecosystem accounts, monetary environmental accounts, waste statistics.
The 2021 Eurostat grants' topic is the European Green Deal.

FAO
Name of the activity or event: World Water Week 2021, "Real time water data from satellites to achieve faster resilience". https://www.worldwaterweek.org/event/9658-real-time-water-data-from-satellites-to-achieve-faster-resilience
Recipient institution: Open access to all free of charge. The target audience of this course includes:
- Policy makers or advisors
- Directors and senior staff of national statistical office
- Statisticians of national statistical offices
Provider contact information: SDG-indicators@fao.org; worldwaterweek@siwi.org
Dates: Thursday 26 August - 8:00 - 9:00
Location: Online
Format: Online event
Description of capacity development activity: Timely access to water data is key for effective adaptive measures. Three practical examples of how open access remote sensing (RS) data can support resilient agricultural systems will be showcased, ranging from water accounting in Karnataka, to sugarcane water productivity, and policy implications of monitoring groundwater use in arid areas.
Themes: Water and sanitation

Name of the activity or event: World Water Week 2021 "Presenting the 2021 global status of water and sanitation" https://www.worldwaterweek.org/event/9932-presenting-the-2021-global-status-of-water-and-sanitation
Recipient institution: Open access to all free of charge. The target audience of this course includes:
- Policy makers or advisors
- Directors and senior staff of national statistical office
- Statisticians of national statistical offices
Provider contact information: SDG-indicators@fao.org; worldwaterweek@siwi.org
Dates: Monday 23 August - 17:00 - 18:25 (This session is repeated live on 25 August at 07:30 CEST)
Location: Online
Format: Online event
Description of capacity development activity: This event will present the results of the integrated process of collecting country data on the SDG 6 global indicators in 2020. Participants will have an opportunity to discuss results and lessons learned with UN custodian agencies and their implications for policymaking and acceleration toward achieving SDG 6.
Themes: Water and sanitation
Methodological guidance used: SDG 6.4.1 metadata,
https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-01.pdf
SDG 6.4.2 metadata, https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-02.pdf
Collaborating partners: WHO, UNECE, UNICEF, UNEP, UNESCO, UN-Habitat

Name of the activity or event: 2021 Virtual Training on SDG indicator 2.4.1 "Proportion of Agricultural Area under Productive and Sustainable Agriculture"
http://www.fao.org/sustainable-development-goals/indicators/241/en/
Recipient institution: Open access to all free of charge. The target audience of this course includes:
- Policy makers or advisors
- Directors and senior staff of national statistical office
- Statisticians of national statistical offices

Provider contact information: SDG-indicators@fao.org;
Dates: 2021
Location: Online
Format: Online event
Description of capacity development activity: The overall objective of this virtual training is to provide (government officials responsible for monitoring SDG indicator 2.4.1) capacity development on the methodology, data collection and analysis relevant to sustainable food and agriculture and how to assess data gaps starting from available national and subnational (farm-level) information and associated reporting processes.
Themes: Sustainable agriculture

Name of the activity or event: E-learning course on "SDG Indicator 2.1.1 – Prevalence of Undernourishment (PoU)" (https://elearning.fao.org/course/view.php?id=386)
Recipient institution: Open access to all free of charge. The target audience of this course includes:
- Policy makers or advisors
- Directors and senior staff of national statistical office
- Statisticians of national statistical offices
- FAO regional statisticians

Provider contact information: SDG-indicators@fao.org
Dates: May 2018
Location: Online
Format: Online learning module
Description of capacity development activity: This course focuses on SDG Indicator 2.1.1, which is one of two indicators that focus on food insecurity. The PoU is an estimate of the proportion of the population facing serious food deprivation, and is derived from official national level information on food supply and consumption, and energy needs. This course has been developed to support countries in analysis and reporting for Indicator 2.1.1.
Themes: Prevalence of Undernourishment
Methodological guidance used: SDG 2.1.1 metadata,
https://unstats.un.org/sdgs/metadata/files/Metadata-02-01-01.pdf

Name of the activity or event: E-learning course on "SDG Indicator 2.1.2 – Using the Food Insecurity Experience Scale (FIES)"
(https://elearning.fao.org/course/view.php?id=360&lang=en)
Recipient institution: Open access to all free of charge. The target audience of this course includes:
- Data analysts responsible for working with data to report on SDG Indicator 2.1.2
- National statistics officers responsible for planning and implementing data collection and reporting for SDG Indicator 2.1.2
- Director level staff responsible for reporting on this SDG Indicator
- Policy makers who may use the reported data to inform decisions

Provider contact information: SDG-indicators@fao.org
Dates: February 2018
Location: Online

Format: Online learning module

Description of capacity development activity: In the context of reporting on the SDG Indicator 2.1.2, this course introduces the Food Insecurity Experience Scale (FIES) and explains how it can be used to measure food security. The course provides guidance on the collection and analysis of data, and on how the information provided by the FIES can be used to inform and guide policy.

Methodological guidance used: SDG 2.1.2, https://unstats.un.org/sdgs/metadata/files/Metadata-02-01-02.pdf

Name of the activity or event: E-learning course on "SDG Indicator 2.4.1 – Sustainable Agriculture" (https://elearning.fao.org/course/view.php?id=503&lang=en)

Recipient institution: Open access to all free of charge.

The course is primarily intended for those who play a role in data collection, analysis and reporting for SDG Indicator 2.4.1, including agronomists, statisticians, enumerators and data analysts, as well as policy makers and people with an interest in the process.

Provider contact information: SDG-indicators@fao.org

Dates: December 2019

Location: Online

Format: Online learning module

Description of capacity development activity: This course has been developed to support countries in the analysis and reporting for Indicator 2.4.1 of the 2030 Sustainable Development Goals (Proportion of agricultural area under productive and sustainable agriculture), and to facilitate the understanding of the main concepts underpinning the methodology.

Themes: Sustainable agriculture

Methodological guidance used: SDG 2.4.1 metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-02-04-01.pdf

Name of the activity or event: E-learning course on "SDG Indicator 6.4.1 – Change in water-use efficiency over time" (https://elearning.fao.org/course/view.php?id=475&lang=en)

Recipient institution: Open access to all free of charge.
- Decision makers, policy planners, donors.
- Program directors.
- Technical specialists in national institutions in charge of SDG monitoring, including water experts, statisticians, environmental specialists or economists.

Provider contact information: SDG-indicators@fao.org

Dates: August 2019

Location: Online

Format: Online learning module

Description of capacity development activity: The course provides guidance on the rationale and the main characteristics of Indicator 6.4.1, and on how to compute the two dimensions constituting the indicator: the hydrologic and the economic component. It also highlights possible challenges related to data availability, and the impact that monitoring results may have on national decision-making and identification of development policies.

Themes: Access to water; Water-use efficiency over time

Methodological guidance used: SDG 6.4.1 metadata, https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-01.pdf

Name of the activity or event: E-learning course on "SDG Indicator 6.4.2 – Level of water stress" (https://elearning.fao.org/course/view.php?id=365&=en)

Recipient institution: Open access to all free of charge. This course is primarily intended for professionals who play a role in the data collection, analysis and reporting on SDG

Indicator 6.4.2, as well as for people with an interest in the process. They include policy-makers, water specialists, statistical officers and environmental specialists from national institutions, NGOs, regional and international organizations, academia/ researchers and donor community.

Provider contact information: SDG-indicators@fao.org

Dates: February 2018

Location: Online

Format: Online learning module

Description of capacity development activity: This course provides tools, methods and processes to support countries in monitoring and reporting on SDG Indicator 6.4.2 "Level of water stress: freshwater withdrawal in percentage of available freshwater resources".

Themes: Level of water stress

Methodological guidance used: SDG 6.4.2 metadata,

https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-02.pdf

Name of the activity or event: E-learning course on "SDG Indicator 14.4.1 - Fish stocks sustainability" (https://elearning.fao.org/course/view.php?id=502)

Recipient institution: Open access to all free of charge.

The target audience of this course includes:
- National fisheries administration officials
- Policy-makers or advisors
- Members of the fishing community/fishing organizations
- Fisheries scientists, data analysts, and statisticians

Provider contact information: SDG-indicators@fao.org; SDG14-4-1-eForms@fao.org

Dates: November 2019

Location: Online

Format: Online learning module

Description of capacity development activity: his e-learning course focuses on SDG Indicator 14.4.1 - Fish stocks sustainability: "Proportion of fish stocks within biologically sustainable levels". It introduces basic fisheries concepts and definitions, illustrates some technical aspects of classical and data-limited stock assessment and provides detailed guidance on process and tools for the analysis and reporting of the Indicator. FAO also conducts a series of regional workshops

Themes: Fisheries, fisheries statistics

Methodological guidance used: SDG 14.4.1 metadata,

https://unstats.un.org/sdgs/metadata/?Text=&Goal=14&Target=14.4

Collaborating partners: Regional fisheries bodies and management organizations…

Other information: E-learning course on "SDG Indicator 14.4.1 - Fish stocks sustainability" (https://elearning.fao.org/course/view.php?id=502)

Name of the activity or event: E-learning course on "SDG Indicator 14.b.1 – Securing sustainable small-scale fisheries"

(https://elearning.fao.org/course/view.php?id=348&lang=en)

Recipient institution: Open access to all free of charge.

This course is primarily intended for those who play a role in data collection, analysis and reporting for the Indicator 14.b.1 of the Sustainable Development Goals, as well as for people with an interest in the process, such as:
- Policy-makers or advisors
- National fisheries administration officials
- Small-scale fishing community members/organizations
- Representatives from NGO, regional organizations, academia/researchers, donor community

Provider contact information: SDG-indicators@fao.org

Dates: November 2017
Location: Online
Format: Online learning module
Description of capacity development activity: This course has been designed to support countries in their data collection, analysis and reporting of SDG Indicator 14.b.1 – Securing sustainable small-scale fisheries: "Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries".
Themes: Sustainable small-scale fisheries
Methodological guidance used: SDG 14.b.1 metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-14-0b-01.pdf

Name of the activity or event: E-learning course on "SDG indicators 15.1.1 and 15.2.1 – Forest area and sustainable forest management" (https://elearning.fao.org/course/view.php?id=446&lang=en)
Recipient institution: Open access to all free of charge. This course is primarily intended for those who play a role in data collection, analysis, monitoring and reporting for the SDG Indicators 15.1.1 (Forest area as a proportion of total land area) and 15.2.1 (Progress towards sustainable forest management). The course may also be of interest for all the professionals who wish to have concrete guidance on how to effectively play their role in this process. For example:
- FRA National Correspondent (NC)
- Head of national forestry authority or ministry or policy advisor
- National statistical officer

Provider contact information: SDG-indicators@fao.org
Dates: December 2018
Location: Online
Format: Online learning module
Description of capacity development activity: This course has been developed to guide countries in reporting on Indicators 15.1.1 and 15.2.1. It illustrates the rationale of the indicators, the definitions and methodologies on which monitoring activities are based, and explains the process and the tools available for compiling data related to the two indicators through the Global Forest Resources Assessment (FRA) Programme.
Themes: Sustainable forest management
Methodological guidance used: SDG 15.1.1 metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-15-01-01.pdf; SDG 15.2.1 metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-15-02-01.pdf

IEA
Name of the activity or event: https://www.iea.org/events/joint-iea-unep-unfccc-workshop-on-energy-data-for-climate-policy   various energy statistics training.
Provider contact information: IEA, UNFCCC
Location: virtual, physical planned (tbc).
Description of capacity development activity: to strengthen national capacities to report energy data for climate transparency.
Statistical processes: methodologies, collection, inter-agency work, etc.
Methodological guidance used: IPCC + IEA.
Collaborating partners: UNFCCC IPCC UNEP.

IMF
Name of the activity or event: Details to be finalized.

IOM
Name of the activity or event: Regional Dialogue to Address Human Mobility and Climate Change Adaptation in the Eastern Caribbean
Recipient institution: Governments and National Statistical Offices of Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines.
Dates: September 2021 (TBC)
Location: Dominica
Format: To be confirmed, depending on pandemic situation
Description of capacity development activity: Workshop
Funding mechanism: Project funded by a Foreign Affairs Ministry
Themes: Migration, environment and climate change data

UNSD - Energy Statistics Section
Name of the activity or event: https://unstats.un.org/unsd/energystats/events/
Recipient institution: Countries, regions, organizations
Provider contact information: Energy_stat@un.org
Dates: Various
Location: Various (see weblink)
Format: In-person, online, e-learning
Description of capacity development activity: workshop, in-person country assistance, remote country assistance, eLearning
Funding mechanism: UN funds and grants (RPTC, RB, DA, etc.)
Themes: Energy Statistics, links to GHG emissions (including IPCC methodology).
Statistical processes: data collection, compilation, dissemination, inter-institutional mechanism/set up, national action plan, assessments, etc
Methodological guidance used: IRES, IPCC
Collaborating partners: IEA, OLADE, AFREC, UN Regional Commissions, IEF, APEC, IAEA, WB and others.

UN-Women
Name of the activity or event: Training on using big data (including GIS) for assessing the gendered effects of climate change / Training on implementing Gender-Environment Surveys
Recipient institution: NSOs, Ministries of Women, NDMAs across the region
Provider contact information: UN Women and SIAP
Dates: July-August 2021 for the big data training
Periodic trainings during 2022-2025 for the survey, as needed
Location: Online (for big data) / In-country (for survey)
Format: Online (for big data) / Face to face (for survey)
Description of capacity development activity: Virtual training; Remote country assistance
Funding mechanism: Women Count, Building Back Better projects
Themes: Using big data for gender statistics / Collecting gender-environment data
Statistical processes: Data collection
Methodological guidance used: A combination of existing guidance, depending on the topic
Collaborating partners: UN SIAP (for big data) / UN ESCAP, IUCN, UNEP (for gender-environment)
Other information: One past event on indicator selection also available here: https://data.unwomen.org/news/experts-call-better-measurement-gender-environment-nexus-asia-pacific
A-P list of gender environment indicators here:

UNECE's Statistics Division
Name of the activity or event: Joint EFTA/UNECE Training Webinars on Climate Change-related Statistics, online, (https://www.efta.int/Statistics/Climate-Change-related-Statistics)
Recipient institution: EECCA countries
Dates: 8, 25 November and 2 December 2020
Location: Online
Format: Online event
Description of capacity development activity: A series of three webinars
Funding mechanism: EFTA funds, UNDA 10th tranche
Themes
- Climate change-related statistics and its role in national and international climate change policies
- Using climate change-related statistics in the context of the Paris Agreement
- Statistics and accounts needed for producing selected climate change-related indicators: FDES, SEEA: energy, air emissions, land cover, monetary-related indicators, disaster risk reduction expenditure accounts

Methodological guidance used: UNECE set of core climate change-related indicators / FDES / SEEA
Collaborating partners: European Free Trade Association (EFTA), National Statistical Committee of the Kyrgyz Republic, UNDP Kyrgyzstan, FAO Kyrgyzstan, UNEP, UNEP/CBD, UNESCAP and Statistics Luxembourg.
Other information: The above mentioned training was initially planned as an in-person event and was converted into an online event due to the Covid-19 pandemic. An in-person training is planned to be held in the future when the Covid-19 situation allows.
In the meantime, similar online trainings may be held.
In addition to the above mentioned training concentrating specifically climate change-related statistics, UNECE also conducts capacity development activities aiming to improve underlying environment statistics needed for informing SDGs, Sendai Framework and Paris Agreement as well as for environmental assessments and sharing of environmental information, in close collaboration with UNEP, ESCAP, EFTA and other partners.

UNECE's Transport Division
Name of the activity or event: Occasional workshops in EECCA countries
Recipient institution: Eastern Europe, Caucasus, Central Asia, and ESCWA
Dates: various
Location: Beirut, Sarajevo, Podgorica, Astana
Format: in-person
Description of capacity development activity: Improve statistical knowledge
Funding mechanism: RPTC
Themes: transport
Statistical processes: data collection
Methodological guidance used: SDGs.