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Agenda item 7(b)
Matters relating to science and review
Research and systematic observation

Research and systematic observation

Draft conclusions proposed by the Chair

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) noted with appreciation the activities and information reported in the statements delivered at this session by representatives of the European Organisation for the Exploitation of Meteorological Satellites on behalf of the Committee on Earth Observation Satellites (CEOS) and the Coordination Group for Meteorological Satellites (CGMS), the Global Climate Observing System (GCOS), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the Intergovernmental Panel on Climate Change (IPCC), the World Climate Research Programme (WCRP) and the World Meteorological Organization (WMO).[1]

2. The SBSTA also noted with appreciation the following submissions by WMO for this session: the *WMO Provisional Statement on the State of the Global Climate in 2019*; the 2019 *Greenhouse Gas Bulletin*; the *2019 State of Climate Services* report; and the update on GCOS, WCRP, WMO and Global Framework for Climate Services activities.[2]

3. The SBSTA noted the release of the IPCC Special Report on Climate Change and Land[3] and the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate[4] as well as the SBSTA–IPCC special events held on these reports at this session.[5] It expressed its appreciation and gratitude to the IPCC and the scientific community for preparing these Special Reports.

[1] Available at https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx and https://unfccc.int/node/820.

[2] As footnote 1 above.

[3] IPCC. 2019. *IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems*. Available at https://www.ipcc.ch/report/srccl/.

[4] IPCC. 2019. *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*. Available at https://www.ipcc.ch/srocc/home/.

[5] See https://unfccc.int/event/srccl-special-event and https://unfccc.int/event/srocc-special-event.

4. The SBSTA noted the submissions from Parties on Earth Information Day 2019.[6] It also noted the information note prepared by its Chair to provide an overview of the event in advance of this session.[7]

5. The SBSTA expressed its appreciation to the secretariat for organizing Earth Information Day 2019,[8] held on 3 December 2019 in conjunction with this session. It also expressed its appreciation to Parties and all participating organizations and programmes and their representatives for their contributions to the Earth Information Day. The SBSTA welcomed the diverse and informative presentations, posters and dialogue, and the value of the rich exchange of information during the Day.

6. The SBSTA requested its Chair to prepare a summary report on Earth Information Day 2019, including on reported knowledge gaps on systematic observation, to be made available prior to SBSTA 52 (June 2020).

7. The SBSTA noted with concern the state of the global climate system as conveyed at Earth Information Day 2019.

8. The SBSTA recognized the importance of sustained systematic observation, both in situ and remote sensing, including from space, for monitoring changes in the atmosphere, ocean and cryosphere, and on land, for supporting adaptation, particularly in vulnerable communities and ecosystems, and for mitigation. The SBSTA also recognized the importance of systematic observation for advancing understanding of the role of the ocean in the climate system and supporting adaptation and mitigation in communities exposed to ocean changes.

9. The SBSTA highlighted the importance of enhanced systematic observation and integrating data in both Earth system models and other climate models for further developing global and regional climate models (and reducing the associated uncertainty) and for improving historical reanalysis, emission estimates and future projections, including in support of the implementation of the Convention and the Paris Agreement.

10. The SBSTA encouraged Parties and relevant organizations to maintain, strengthen and enhance systematic observation, increase observation network density and address systematic observation gaps, including gaps in upper air monitoring systems and monitoring of the ocean and cryosphere and high mountain areas, as well as climate change impacts, particularly in the most vulnerable regions and countries.

11. The SBSTA welcomed the work of the scientific community, Parties, climate service providers and space agencies in collecting, managing and openly sharing data and processed data products for addressing climate change and current and future climate risk. The SBSTA urged Parties and relevant organizations to continue to establish and support open data-sharing and the development of openly available, relevant and accessible data products, particularly for supporting and monitoring adaptation and mitigation.

12. The SBSTA recognized the important work and coordination of the GCOS secretariat, including with the Global Ocean Observing System secretariat, and noted the progress in implementing the GCOS implementation plan.[9] It also noted the plans of GCOS to provide an overview of the status of the global observing system for climate in 2021, address gaps and set new requirements for the system, and publish an update to the GCOS implementation plan in 2022.[10] The SBSTA encouraged Parties, the co-sponsors of the GCOS programme[11] and relevant organizations to actively engage in this work.

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[6] As footnote 1 above.

[7] Available at https://unfccc.int/sites/default/files/resource/COP25_EarthInformationDay_Informationnote.pdf.

[8] See https://unfccc.int/node/200761.

[9] See https://gcos.wmo.int/en/gcos-implementation-plan.

[10] Discussed at the GCOS joint panels meeting, held in Marrakech, Morocco, in March 2019; see https://gcos.wmo.int/en/gcos-joint-panels-meeting.

[11] The Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, International Science Council, United Nations Environment Programme and WMO.

13. The SBSTA welcomed the outcomes of the regional GCOS–WMO Integrated Global Observing System workshops,[12] held for the Pacific Islands (in Nadi, Fiji, from 9 to 12 October 2017), East Africa (in Entebbe, Uganda, from 31 October to 2 November 2018) and the Caribbean (in Belize City, Belize, from 10 to 12 July 2019). It noted the key messages from the most recent workshop[13] and the need to continue to hold such workshops in other regions. It recognized the development of the Global Basic Observing Network by WMO.[14]

14. Recalling the conclusions of SBSTA 47,[15] the SBSTA welcomed the continued work of the Joint CEOS/CGMS Working Group on Climate in response to the GCOS implementation plan.[16] It recognized the systems approach of the constellation architecture, which combines satellite, in situ and modelling components for emission estimates, for monitoring carbon dioxide and methane from space.[17] It encouraged meaningful engagement among space agencies, modellers and Parties in implementing and using the system.

15. The SBSTA re-emphasized the need for sustained funding to meet the essential needs for global climate observation under the Convention.

16. The SBSTA invited Parties and relevant organizations to submit their views on possible themes for the Earth Information Day in 2020, to be held in conjunction with SBSTA 53 (November 2020), and those in subsequent years via the submission portal[18] by 14 August 2020.

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[12] See https://gcos.wmo.int/en/regional-workshops.

[13] See https://gcos.wmo.int/en/wmo-gcoswigos-caribbean-workshop-observations-climate-and-meteorology.

[14] See https://www.wmo.int/pages/prog/www/wigos/GBON.html.

[15] FCCC/SBSTA/2017/7, para. 59.

[16] See http://ceos.org/document_management/Meetings/COP-21/COP-21_2015/Strategy-Towards-Architecture-for-Climate-Monitoring-from-Space.pdf.

[17] See http://ceos.org/document_management/Virtual_Constellations/ACC/Documents/CEOS_AC-VC_GHG_White_Paper_Publication_Draft2_20181111.pdf.

[18] https://unfccc.int/submissions_and_statements.