

DRAFT INFORMAL NOTE

on

SBSTA agenda item 4 Research and systematic observation

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1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) recognized that the Paris Agreement was adopted 10 years ago, and that science, including outputs of the Intergovernmental Panel on Climate Change (IPCC), has informed the establishment of the Convention and the Paris Agreement and the work thereunder, and that systematic observations are fundamental to monitoring and understanding the global climate system as well as informing effective climate policies and actions.
2. The Subsidiary Body for Scientific and Technological Advice (SBSTA) recognized the vital importance of robust Earth observation systems and related long-term data records for supporting enhanced understanding of the drivers of and changes in the global climate system, including attribution of the impacts of global warming, and mitigation and adaptation actions, as well as for supporting responses to climate change such as early warning systems.
3. *[Placeholder for welcoming statements made at the joint opening plenary]*
4. The SBSTA took note of the informal summary report¹ on Earth Information Day 2024. It expressed appreciation to its Chair and the secretariat for organizing Earth Information Day 2025, held on 10 November, whose scope, themes and organization were based on the views expressed in relevant submissions from Parties and organizations.² The SBSTA thanked the experts and representatives of relevant organizations who contributed to the event by providing relevant information and updates on systematic observations and engaging in the rich discussions. The SBSTA noted the efforts made in broadening the geographical representation of experts contributing to the event and called for the thematic scope to be expanded to cover all geographical regions. It requested its Chair, with the assistance of the secretariat, to prepare an informal summary report on the event.
5. The SBSTA welcomed the update provided by the IPCC, during the Earth Information Day 2025, on work in its seventh assessment cycle, including the launch of work on all six reports. It noted the efforts of the IPCC to enhance inclusivity for the cycle and invited the IPCC to continue to provide policy-relevant information.
6. The SBSTA noted the importance of and expressed appreciation for the work and contribution of the Global Climate Observing System (GCOS) secretariat, including its role in strengthening global observation of essential climate variables (ECVs). It welcomed the updates provided by GCOS on the status of the global climate observing system as well as the launch of work on the next GCOS status report and Implementation Plan to be produced in 2027. The SBSTA noted the importance of consistent, continuous and sustained long-term observations of the Earth's climate system, and noted with concern the decline in support for GCOS and for sustained long-term observation networks as well as the threats to the continuity of existing in-situ networks and uncertainty about the future of satellite Earth observation missions. It invited Parties and relevant organizations to enhance their provision of support to GCOS to ensure the continuity of its work.
7. The SBSTA took note of the World Meteorological Organization's State of the Climate 2024 Update. It noted with concern that atmospheric greenhouse gas concentrations reached record levels in 2024, that 2025 is on track to being among the three warmest years on record, that ocean heat content reached a record high in 2024, that the long-term rate of sea level rise has increased and that more intense extreme events are occurring globally. It also noted with concern the irreversible changes to the cryosphere, which have led to glacier mass loss, including complete loss of glaciers in two countries, with related impacts including sea level rise.

¹ See <https://unfccc.int/documents/645882>

² Available at <https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx> (in the search field, type "Earth information day", and select "2025").

8. The SBSTA welcomed the updates provided on advances in systematic observation, including through initiatives such as Early Warnings for All, the Systematic Observations Financing Facility and organizations supporting satellite and round-based observations. It recognized the important role of the Systematic Observations Financing Facility in supporting Global Basic Observing Network compliance and early warning systems, and invited the Facility, which currently prioritizes support for systematic observation in the least developed countries and small island developing States, to consider extending its provision of support for systematic observation to more developing countries. The SBSTA noted the Facility's impact bond and invited Parties and relevant organizations to strengthen their provision of support to the Facility.

9. The SBSTA recognized the important role of systematic observation, both in situ and satellite, in supporting the planning and monitoring, including support for analysis and reporting, of greenhouse gas emissions and removals climate impacts and adaptation, including through the United Arab Emirates Framework for Global Climate Resilience, and for the assessment of economic and non-economic loss and damage.

10. The SBSTA noted the advances made in attribution of the scale and occurrence of extreme events to climate change as well as the gaps in attribution studies due to data unavailability, particularly in data sparse regions. It invited relevant organizations to continue to address such data gaps and improve the scope of attribution studies, particularly in vulnerable regions.

11. The SBSTA noted the advances made in and the need to further enhance the availability of and access to interoperable data sets, particularly satellite-based, and encouraged local and regional hubs to connect to global observation systems, and also encouraged international cooperation in this regard. It noted the increasing contribution of local observation networks to global outputs, including those of the IPCC.

12. The SBSTA also noted the work under the Indicators of Global Climate Change initiative to regularly update analysis of climate indicators using IPCC methodologies. It noted the information provided by the initiative, including on the increasing global energy imbalance, the current rate of global warming and ocean heat uptake. It encouraged continuation of this work and possible expansion thereof to include indicators relevant to arid regions and desertification.

13. The SBSTA acknowledged the role of technological innovations such as artificial intelligence and machine learning, particularly in developing countries, for supporting, forecasting, predicting extreme events and supporting early warning systems. It noted challenges associated with using such technologies.

14. The SBSTA invited Parties and relevant organizations to submit views on possible themes for and ways to organize Earth Information Day 2026, to be held in conjunction with SBSTA 65 (November 2026), via the submission portal³ by 1 August 2026.

15. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in these conclusions.

16. It requested that the actions of the secretariat called for in these conclusions be undertaken subject to the availability of financial resources.

³ <https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx>.