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on

SBSTA 65 agenda item 3
Research and systematic observation

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1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) emphasized the importance of robust and sustained Earth observation systems and long-term data records for climate research, as well as for understanding changes in the climate system, assessing associated risks, informing climate action and supporting early warning systems. It noted the need to enhance efforts to promote and support open science and the integrity of climate change information as well as advance international cooperation on systematic observation.

2. The SBSTA noted with appreciation the statements[1] delivered at the joint opening plenary of the sixty-fifth sessions of the subsidiary bodies by representatives of the Global Climate Observing System (GCOS); the Intergovernmental Panel on Climate Change; the Joint Working Group on Climate of the Committee on Earth Observation Satellites and the Coordination Group for Meteorological Satellites; the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization; the World Climate Research Programme; and the World Meteorological Organization (WMO), and noted the information and updates provided by these organizations.

3. The SBSTA took note of the informal summary report on Earth Information Day 2025.[2] It expressed appreciation to its Chair and Vice-Chair and the secretariat for organizing Earth Information Day 2026, which was held on 9 November, and welcomed the scope of the themes of the event. The SBSTA thanked the experts and representatives of organizations who gave presentations and contributed to the video presentations and world café discussions. It noted that the presentations made provided relevant updates and information from the Earth observation community. The SBSTA requested its Chair, with the assistance of the secretariat, to prepare an informal summary report on the event

4. The SBSTA noted the WMO *Global Greenhouse Gas Bulletin* for 2025, WMO *State of Global Water Resources 2025* and the WMO State of the Climate 2026 Update, [3] and expressed concern regarding the state of the global climate system. It noted the information reported therein on the acceleration of the Earth's energy imbalance and also noted that observed greenhouse gas concentrations reached record levels in 2025 and that the global mean temperature for the period between January and September 2026[4] was 1.47 ± 0.13 °C above the pre-industrial average, noting that global warming estimates are based on a multi-decadal average from historical cumulative emissions and ongoing emissions. The SBSTA further noted that ocean heat content and the rate of global mean sea level rise have increased and that glacier mass loss has accelerated[5] and terrestrial water storage is declining. It noted the extreme weather events occurring globally, including those influenced by the current El Niño, which is forecasted to be the strongest on record, and noted that its impacts will vary across regions and sectors.

5. The SBSTA noted with concern the threats to the continuity and sustainability of long-term observation records and networks, particularly in situ networks, and the declining support available to sustain them, including support for GCOS. It also noted the vulnerability of in situ observation infrastructure to human and natural related hazards and the vulnerability

[1] Available at https://unfccc.int/documents/663655, https://unfccc.int/documents/663960, https://unfccc.int/documents/663720, https://unfccc.int/documents/663699, https://unfccc.int/documents/663661 and https://unfccc.int/documents/663654 respectively.

[2] Available at https://unfccc.int/documents/656340.

[3] See https://wmo.int/resources/publication-series/greenhouse-gas-bulletin/no-22, https://wmo.int/resources/publication-series/state-of-global-water-resources/2025 and State of the Climate Update for COP31.

[4] 2023- 2026 are the four warmest years on record.

[5] Glacier mass loss has accelerated from less than 100 Gt/year in 1976–1995 to around 390 Gt/year in 2016–2025.

of observation systems created by the concentration of these in a few countries and regions. The SBSTA encouraged developed country Parties and relevant organizations to enhance their provision of financial, technical and capacity-building support with a view to sustaining these networks and to support GCOS. The SBSTA underscored the immediate need to enhance climate observations and address persistent monitoring gaps in under observed regions, including the ocean and cryosphere, arid and semi-arid regions, and coastal and mountain regions. It encouraged developed country Parties and relevant organizations to enhance their support for closing these gaps.

6. The SBSTA noted the importance of and expressed appreciation for the work and contribution of the GCOS secretariat and welcomed the progress by GCOS in the preparation of the GCOS Status Report and the High-Priority Action Plan. The SBSTA also noted the updates provided by the Global Ocean Observing System and welcomed the launch of the International Alliance for the Global Ocean Observing System.[6]

7. The SBSTA noted with concern the increasing frequency and intensity of extreme events and the associated risks and impacts of climate change, particularly for vulnerable countries and communities. It welcomed the updates provided on advances in systematic observation, including through initiatives such as Early Warnings for All, the Systematic Observations Financing Facility (SOFF) and organizations supporting satellite and in situ observations. It welcomed advances in multi-hazard early warning systems and noted with concern the gaps in the coverage of early warning systems. The SBSTA also noted with utmost concern that many vulnerable regions in developing countries lack early warning systems and the capacity to respond to warnings. It encouraged the SOFF to expand its activities to include ocean observations and encouraged the facility, which currently prioritizes least developed countries and small island developing States, to continue to consider extending its provision of support to other developing countries. It encouraged developed country Parties and relevant organizations to further strengthen their provision of support to the facility.

8. The SBSTA welcomed the information provided by relevant organizations on Earth observation data, tools and products during Earth Information Day 2026. It noted the advances and gaps related to ensuring timely, equitable, inclusive and reliable access to Earth observation data and interoperable data, as well as to related technologies, tools and resources, including for climate assessments, regional down scaled modelling and other climate services. The SBSTA noted constraints related to data access, including to relevant software, technology, capacity and analytical tools, and encouraged countries to facilitate open access to data, and transfer of technologies and associated human and institutional capacity, particularly for developing country Parties, while recognizing data sovereignty.

9. The SBSTA recognized the essential role of Earth observations in supporting climate action, including adaptation and mitigation and averting, minimizing and addressing loss and damage. It also recognized the importance of sustained Earth observations to monitor and assess the impacts and implications of ongoing global warming, including a projected exceedance of warming of 1.5 °C above pre-industrial levels. It noted that climate impacts will continue to increase with increased warming and that returning global temperatures to 1.5 °C by the end of the century would require stabilizing global temperature as soon as possible following an exceedance and then decline. This would require large-scale emission reductions, achieving net zero carbon dioxide emissions and carbon dioxide removal to counterbalance residual greenhouse gas emissions, as well as additional sustained net negative carbon dioxide emissions to lower the global temperature. It also noted that large-scale carbon dioxide removal, particularly land-based, has potential benefits, risks and implications for food and water security, biodiversity, livelihoods and sustainable development.

[6] OceanEye International Alliance.

10. The SBSTA invited Parties and relevant organizations to submit views on possible themes for and ways to organize Earth Information Day 2027, to be held in conjunction with SBSTA 67 (November 2027), via the submission portal[7] by 1 August 2027.

11. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in paragraph 3 above.

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

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[7] https://submissions.unfccc.int/.