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Agenda item 3
Research and systematic observation

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Draft conclusions proposed by the Chair

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 information on climate change 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 *Greenhouse Gas Bulletin for 2025*,[3] the WMO *State of Global Water Resources 2025*[4] and the WMO State of the Climate 2026 Update,[5] and noted

[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] WMO. 2025. *WMO Greenhouse Gas Bulletin, No 22: The State of Greenhouse Gases in the Atmosphere Based on Global Observations through 2025*. Geneva: WMO. Available at https://library.wmo.int/records/item/69986-no-22-27-october-2026.

[4] WMO. 2026. *State of Global Water Resources 2025*. Geneva: WMO. Available at https://library.wmo.int/records/item/69923-state-of-global-water-resources-2025.

[5] WMO. 2026. *State of the Climate Update for COP31*. Geneva: WMO. Available at https://library.wmo.int/records/item/69998-state-of-the-climate-update-for-cop31.

with utmost concern the state of the global climate system. It noted the information reported therein on the acceleration of the Earth's energy imbalance, due to historical cumulative and ongoing greenhouse gas emissions. It also noted that observed greenhouse gas concentrations reached record levels in 2025. It further noted that the global mean temperature for the period between January and September 2026[6] was 1.47 ± 0.13 °C above the pre-industrial average, noting that global warming estimates are based on a multi-decadal average resulting from historical cumulative emissions and ongoing emissions. The SBSTA noted the extreme weather events occurring globally, that ocean heat content and the rate of global mean sea level rise have increased and that glacier mass loss has accelerated[7] and terrestrial water storage is declining. It also noted that a strong El Niño developed rapidly in 2026 and is expected to persist into early 2027, also driving extreme weather events globally.

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, and GCOS and the Global Ocean Observing System (GOOS). It also noted the vulnerability of in situ observation infrastructure to climate, natural and human-made hazards as well as risks resulting from single points of failure in technical and other support for observing systems arising from the concentration of these in a few countries and regions. The SBSTA underscored the immediate need to enhance climate observations and address persistent monitoring gaps in underobserved regions, including the ocean and cryosphere, arid and semi-arid regions, and coastal and mountain regions. It called on Parties, in accordance with Article 5 of the Convention, and relevant organizations to enhance the support for operating and sustaining long-term observation records and current networks, for closing identified gaps, and for GCOS and GOOS.

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 noted the updates provided by GOOS and welcomed the launch of the International Alliance for the Global Ocean Observing System.[8]

7. The SBSTA noted with utmost 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 noted that the natural phenomenon El Niño can compound with additional heat from long-term climate change, contributing to exceptionally high temperatures and amplifying some climate-related risks. The SBSTA recognized the importance of systematic observations for assessing these risks and providing inputs for early warning systems. 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 also welcomed advances in multi-hazard early warning systems and noted with concern the gaps in the coverage of early warning systems. The SBSTA noted with utmost concern that many vulnerable regions in developing countries lack early warning systems and the capacity to respond to warnings. It encouraged SOFF, which currently prioritizes the least developed countries and small island developing States, to continue to consider extending its provision of support to other developing countries and to expand its activities in ocean observation. It noted that SOFF is currently facing challenges with responding to existing requests due to finance gaps. It called on Parties, in accordance with Article 5 of the Convention, and relevant organizations to enhance support to SOFF.

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 downscaled climate modelling and other climate services. The SBSTA noted constraints related to data access, including to

[6] 2023–2026 are the four warmest years on record.

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

[8] OceanEye International for GOOS.

relevant software, technology, capacity and analytical tools, and encouraged countries to facilitate open access to data, including implementation of digital public infrastructure and transfer of technologies, and associated human and institutional capacity, particularly for developing country Parties, while recognizing data sovereignty. It noted and welcomed the role and contribution of traditional knowledge, knowledge of Indigenous Peoples and local knowledge systems in relation to Earth observations and the need to integrate these with Earth observations.

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 global warming and the impacts and risks of ongoing global warming, including for any exceedance of 1.5 °C of global warming above pre-industrial levels, taking note of Article 2, paragraph 1(a), of the Paris Agreement. It expressed utmost concern that climate impacts will continue to increase with every increment of global warming.

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[9] 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.

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