DRAFT TEXT
on

SBSTA agenda item 4
Research and systematic observation

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Draft conclusions proposed by the co-facilitators

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) noted the importance of discussions under this agenda item on scientific advances and research gaps and needs relevant to supporting work under the Convention and the Paris Agreement.

2. The SBSTA noted [with appreciation] the statements submitted for the opening plenary of this session by the Global Climate Observing System, the Intergovernmental Panel on Climate Change (IPCC), WMO and the World Climate Research Programme. [The SBSTA noted the need to ensure sustained systematic observation of the climate system as it is fundamental to scientific research and informing climate action].

3. The SBSTA expressed appreciation to its Chair and the secretariat for organizing the seventeenth meeting of the research dialogue, held on 17 June 2025,[1] particularly for its participatory and engaging approach, which involved plenary, breakout discussion and poster sessions, [as well as][the invitation to engage in] [and took note of the] informal consultations with Parties held ahead of the meeting. It welcomed the scope of thematic areas, which reflects the views expressed in the submissions[2] from Parties and organizations, and noted that the meeting provided relevant research updates and a platform for engagement with the scientific community.

4. The SBSTA thanked the experts and representatives of relevant organizations who contributed to the meeting, as well as the contributors to the poster session, and welcomed the opportunity for informal exchanges.[3] The SBSTA noted the need for further broadening of representation during the research dialogue, including by increasing the participation of experts and including more scientific research from developing countries

5. The SBSTA took note with appreciation of the statement made by the Chair of the IPCC at the meeting and welcomed the update on the ongoing work of the IPCC in its seventh assessment cycle, including the launch of work on its Seventh Assessment Report, methodological report on short-lived climate forcers, and Special Report on Climate Change and Cities. The SBSTA encouraged the IPCC to launch its work on the methodological report on carbon dioxide removal and carbon capture, utilization and storage. [The SBSTA [encouraged] [invited] the IPCC to continue providing [policy-] [relevant] [and timely] information to Parties [as per its mandate] on scientific, technical and socioeconomic aspects of climate change and to [continue to] enhance inclusivity and regional representation in its seventh assessment cycle]. The SBSTA noted the efforts of the IPCC and urged them to continue to improve regional representation and inclusivity for the seventh assessment cycle. The SBSTA encouraged the IPCC to continue providing policy-relevant and timely scientific information for relevant work under the Convention and the Paris Agreement].

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[1] See https://unfccc.int/event/seventeenth-meeting-of-the-research-dialogue-mandated-event.
[2] Available at https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx (in the search field, type “research”, and select “2025”).
[3] The presentations and posters are available on the web page for the meeting, contained in footnote 1 above.

~~5.~~

6. [The SBSTA took note of the WMO *State of the Global Climate 2024*[4] and the *WMO Global Annual to Decadal Climate Update 2025–2029*.[5] The SBSTA noted with alarm and utmost concern the state of the climate system, [in that][with] 2024 [being the] [was] the warmest year on record, ocean heat content and sea levels reach[ed][ing the] highest levels on record, [the Arctic and Antarctic sea ice extent were below average]-with [and] increasing glacier mass loss [.It noted that slow onset] , and extreme events increased globally. It also noted that the current multi-decadal estimates of global warming [which is primarily a result of the long-term warming caused by emissions from pre-industrial times until now] are below 1.5 ºC and therefore below the Paris Agreement temperature goal].

*6 Bis: [*The SBSTA took note of the WMO *State of the Global Climate 2024* and the *WMO Global Annual to Decadal Climate Update 2025–2029*. It expressed utmost concern about the state of the global climate system, [with 2024 being the hottest year on record], which is primarily a result of the long-term warming caused by emissions from pre-industrial times until now. It noted the information provided on changes in the climatic system, both slow onset and extreme events, occurring globally].

~~6.~~

7. The SBSTA [noted the gaps and] welcomed advances in the understanding of observed and projected changes in the climate system and the synergies and trade-offs between climate actions [that limit warming to 1.5C] and sustainable development. It noted the importance of [aligning] [and [urgency] of adaptation and mitigation [actions, as well as the importance of] aligning such actions] with sustainable development [and][including] poverty eradication efforts, [also noting that such an alignment presents more synergies than trade-offs] [,particularly in the near term].

8. [The SBSTA noted the importance of the research dialogue in providing the latest scientific information, and identifying research gaps, needs and research capacity constraints, particularly in developing countries. It also noted the need to strengthen research capacities in developing countries, [especially in the least developed countries and small island developing States]].

9. The SBSTA further noted the information, including the scientific findings, presented by representatives of research programmes and organizations during the meeting of the dialogue, including in relation to:

(a) Ongoing global warming, [~~in particular above 1.5 ºC~~], which increases (impacts) compounding effects, including on the ocean and cryosphere, sea level rise, biodiversity and ecosystems, water scarcity, droughts and [desertification and]~~health~~, which (reinforcing the need to enhance adaptive capacities and scale up adaptation measures to remain responsive to the climate change impacts associated with the temperature goals and ~~increases climate risks and reduces efficacy of adaptation efforts, requiring urgently enhancing adaptation and mitigation strategies~~ to [avoid and [manage] and [minimize] losses and damages;

~~(a)~~(b)

A) [Every increament of] [Ongoing] global warming . [in particular above 1.5C] [will intensify multiple [and] concurrent hazards]], increases compounding ~~impacts~~], including on the ocean and cryosphere, sea level rise, biodiversity and ecosystems, water scarcity, droughts [and desertification] and health) [This

[4] WMO. 2025. *State of the Global Climate 2024*. Geneva: WMO. Available at https://library.wmo.int/records/item/69455-state-of-the-global-climate-2024.

[5] WMO. 2025. *WMO Global Annual to Decadal Climate Update (2025-2029)*. Geneva: WMO. Available at https://wmo.int/sites/default/files/2025-05/WMO_GADCU_2025-2029_Final.pdf.

increases compounding and cascading climate risks] increases climate risksincluding water scarcity, food security and health and [reduces efficacy of adaptation efforts], and requires urgently enhancing adaptation and mitigation strategies to minimise loss and damage. [Limiting warming to 1.5C enhances the effectiveness of adaptation efforts and minimises loss and damages.]

~~A)~~ Advances and gaps in the understanding of compounding impacts including on the ocean and cryosphere, sea level rise, biodiversity and ecosystems, water scarcity , droughts and desertification, due to ongoing global warming, including above 1.5C, reinforcing the need to urgently advance adaptive capacities and climate resilience, to ensure the continued ability to avoid, minimize, and manage loss and damage.

~~(b)~~(c) Advances and gaps in attribution science, and particularly the need to improve climate attribution at the regional and national level, such as monsoon pattern changes;

~~(c)~~(d) [Advances and] [continuous research needs][Gaps] in the modelling of sustainable development [and][in] climate mitigation pathways, including the consideration of equity [,sustainability] and justice in modelled pathways [and ongoing] [,and emerging efforts to address these] [particularly the need to improve on pathways that result in futures that are sustainable equitable and 1.5 aligned];

~~(d)~~(e) [Advances,] Gaps and needs in knowledge and methodologies related to assessing [and reducing climate impacts and risks in order to inform and enhance] adaptation [planning and action in the context of the temperature goal of the Paris Agreement] [outcomes] [interventions] [and] [in achieving] risk reduction, particularly in developing countries;

~~(e)~~(f) The role and importance of [traditional and] Indigenous [and] local knowledge in relation to [actionable] climate [science] [change] adaptation] [and mitigation], recognizing the gaps and barriers related to accessing, assessing and communicating that knowledge;

~~(f)~~(g) ~~Monsoon pattern changes and their attribution to anthropogenic climate change;~~

(h) [[Advances and gaps in] [The understanding], acceleration and scale-up of the deployment of carbon dioxide removal [and abatement technologies] and [needs] [options] [for enhancing international cooperation for maximizing potential, alleviate barriers] for addressing associated [co-benefits,] [limits and risks], including [technical barriers] social [,ethical,] and [environmental risks]];

(i) [Advances regarding the role of renewables in the just energy transition and synergies with adaptation and sustainable development];

Bis [Advances in understanding of the role of renewables and carbon dioxide removal and abatement in emission reduction and management, and advances and gaps in the acceleration and scale up of their deployment, in line with national circumstances and in the context of sustainable development and poverty eradication].

~~(g)~~

~~(h)~~(j) [[Gaps in knowledge][Considerations] in regard to [harmonized], science-based carbon accounting ~~frameworks and standards~~metrics and methodologies [that ensure environmental integrity, as well as transparency and comparability of climate action]];

~~(i)~~(k) [Non-CO_2 emissions, [noting that methane emissions in Annex I countries are increasing by 0.5% annually, which points to the need for strengthened mitigation efforts in these countries] [particularly of methane and nitrous oxide], and their [potential] roles [of their reduction] in limiting warming [to 1.5 °C], noting the regional variations in emissions and [emerging tools to identify and reduce these]].

10. The SBSTA encouraged the scientific community to address the identified research gaps and needs referred to in paragraph 9 above.

11. The SBSTA requested its Chair to prepare, with the assistance of the secretariat, an informal summary report on the seventeenth meeting of the research dialogue, to be made available in advance of SBSTA 64 (June 2026).

12. [The SBSTA also requested its Chair to prepare a report on how research gaps identified by the SBSTA since its XXX session are being addressed by the scientific community by SBSTA 64].

13. The SBSTA encouraged the IPCC to consider providing a long-term solution for ensuring sustained, consistent and robust assessment of support for and progress in adaptation.

14. The SBSTA invited Parties and relevant organizations to submit via the submission portal[6] by 14 March 2026 views on possible themes for the eighteenth meeting of the research dialogue, to be held in conjunction with SBSTA 64. The SBSTA noted the need for further broadening of representation during the research dialogue, including by increasing the participation of experts and including more scientific research from developing countries.

15. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in paragraphs 11, 12 and 14 of 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.

A modified version of the textual proposal to paragraph 6, from the RSO SBSTA 61 conclusions text is included here to assist Parties in consideration of these conclusions.

The SBSTA took note of the WMO *State of the Global Climate 2024* and the *WMO Global Annual to Decadal Climate Update 2025–2029*. It expressed utmost concern about the state of the global climate system, with 2024 being the hottest year on record, which is primarily a result of the long-term warming caused by emissions from pre-industrial times until now. It noted the information provided on changes in the climatic system, both slow onset and extreme events, occurring globally.

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[6] https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx.