



SUBMISSION BY SLOVENIA AND THE EUROPEAN COMMISSION ON BEHALF OF THE EUROPEAN UNION AND ITS MEMBER STATES

Subject: Submission on the 4th Earth Information Day

29 September 2021

1. Summary of the key points

The EU appreciates the annual Earth Information Day (EID) events under the SBSTA, informing the negotiations with updates on the state of the global climate system. The EU also welcomes the opportunity to submit its views on possible themes for the next and future events.

The EU appreciates the increasing availability of information on the state of the climate from a suite of Earth observations as shown by the EIDs at COP22, COP25, and during the UNFCCC Climate Change Dialogues, November/ December 2020. The data showed how the atmosphere, oceans and terrestrial systems are changing and how this is central to informing adaptation and mitigation decision making.

The EU considers that the EID events should continue to present updated information on key drivers of climate change and their effects on the global energy balance, and on key climate indicators relevant to the ocean, atmosphere and terrestrial domains including the cryosphere. The EU also looks forward to information on observed ocean acidification and its impacts. The EU offers to present relevant information from its activities such as the Copernicus Programme¹, ESA CCI² initiative, and its contributions to the GEOSS of GEO³ as well as from relevant activities of its member states.

The EU wishes to emphasize that information on observed trends and impacts is crucial for fully implementing the Paris Agreement and monitoring progress.

¹ <https://www.copernicus.eu/en>

² ESA CCI – European Space Agency Climate Change Initiative <http://cci.esa.int/>

³ GEOSS of GEO – Global Earth Observation System of Systems of the Group on Earth Observation <https://www.earthobservations.org/geoss.php>

2. Introduction

While the IPCC provides authoritative scientific assessments of climate change every 5-7 years, new information on the changing climate becomes successively available each year. The EID provides an important opportunity to regularly inform the negotiations about the most recent changes in the climate system, about related impacts e.g. from extreme events and on the effects of mitigation and adaptation measures. The monitoring of the key elements of the climate system is coordinated by the GCOS⁴ along with its sponsors WMO⁵, IOC of UNESCO⁶, UN Environment, ISC⁷, and its partners such as WCRP⁸, the GEO, the CEOS⁹, and the CGMS¹⁰. Regular information on the most recent evolution of GCOS Essential Climate Variables (ECVs)¹¹ is key for assessing the collective efforts on implementing the Paris Agreement, particularly in the context of the Global Stocktake. Long-term time series of these ECVs are central to our understanding of climate variability and change across the atmospheric and terrestrial domains, the ocean and the cryosphere. The ECVs also enable the provision of a multitude of climate services at all timescales, in support of mitigation and adaptation actions.

The EU wishes to highlight the joint European investments in the Copernicus Programme, the ESA CCI, and the EUMETSAT programmes. The Copernicus Programme is a major European contribution to GEO and provides free, unrestricted, and crucial information on the climate system through delivery of its Climate Change Service and its services on atmosphere, land, and ocean monitoring.

3. Views of the EU on elements of Earth Information Days

The EU appreciates the EID being a regular SBSTA mandated event held at sessions when systematic observation is addressed by the SBSTA agenda item on Research and Systematic Observation (RSO). In this way, the EID complements the Research Dialogue¹² held at sessions when research is addressed by the SBSTA agenda item RSO, allowing for consideration of both aspects of the RSO agenda item during in-session events.

Overall, the EU looks forward to being informed and updated about the state of the climate system and ongoing trends, ongoing, forthcoming and planned climate system observation activities (in-situ, air-borne, remote sensing including from space) at global, regional and local

⁴ GCOS – Global Climate Observing System

⁵ WMO – World Meteorological Organization

⁶ IOC of UNESCO – Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization

⁷ ISC – International Science Council

⁸ WCRP – World Climate Research Programme

⁹ CEOS – Committee on Earth Observation Satellite

¹⁰ CGMS – Coordination Group for Meteorological Satellites

¹¹ An Essential Climate Variable is a physical, chemical or biological variable that is critical to characterizing Earth's climate, and for which global observation is currently feasible and that satisfies the requirements of the UNFCCC and broader user communities. ECVs are listed in the GCOS 2016 Implementation Plan ([GCOS-200](#)).

¹² So far twelve such Research Dialogues have been conducted:

<https://unfccc.int/topics/science/workstreams/research/research-dialogue>

scales, as well as their integration into existing data sets and records, and presentations on their added value for climate monitoring, analysis, and modelling, contributing to a better understanding of the climate system.

The EU proposes to address the following elements at this and future Earth Information Days:

- Information on the current state of the global climate¹³;
- The most recent data on the key drivers of climate change, in particular long-lived greenhouse gases as well as aerosols and their precursors, land use change, and estimates of their impacts on the global energy balance and on the water cycle;
- Information on the energy imbalance in the ocean, terrestrial systems (including cryosphere) and the atmosphere through indicators such as the average global temperature, sea-level rise, ocean heat storage and cryospheric mass balance, and other key indicators across the climate system components¹⁴;
- Data and information on climate change driven ecosystem changes, changes to the carbon and nitrogen cycles, and relevant ocean characteristics, in particular acidification;
- Updates on the status of the GCOS and the progress in realising the GCOS Implementation Plan 2016 (GCOS-200¹⁵) addressing observational gaps across atmosphere, ocean, terrestrial and cryosphere domains at global, and regional scales;
- Q&A between representatives of the climate observation community, and Parties and Observers.

The EU notes that a poster session may add value for an in-depth exchange between experts and Parties as well as Observers during the EID.

¹³ Including WMO's state of the climate report and the WMO Greenhouse Gas Bulletin

¹⁴ For motivation and background see GCOS-206 or at <https://gcos.wmo.int/en/global-climate-indicators>.

¹⁵ <https://gcos.wmo.int/en/gcos-implementation-plan>