

GCOS Submission to SBSTA 47, COP23

6 – 17 November, 2017

Thank you for the opportunity to report to you on progress, with regard to Decision 19 of COP22 and to the conclusions of SBSTA45, on the Implementation of the Global Climate Observing System (GCOS)¹, a co-sponsored programme led by WMO.

GCOS has made progress in a number of areas in the past 12 months, since Marrakech, in particular through the delivery of the latest version of the report describing the Implementation Needs for a global observing system².

WMO and GCOS have agreed on a core set of 7 climate indicators that can be used to communicate to the widest community the scope and rate of changes to the climate in a widely accessible manner:

- Global Surface Temperature
- Ocean Heat
- Atmosphere Carbon Dioxide
- Sea Level
- Ocean Acidification
- Sea Ice Extent in the Arctic and Antarctic
- Glacier Change.

GCOS will prepare a short document for its website explaining the nature and purpose of these indicators. Copernicus, which is the European Union's earth observation programme, and its Climate Change Service will contribute to all indicators except ocean acidification, for which IOC's Global Ocean Observing System, GOOS, will provide the documentation and baseline dataset.

¹ See: <https://public.wmo.int/en/programmes/global-climate-observing-system>.

² Available from: https://library.wmo.int/opac/doc_num.php?explnum_id=3417.

GCOS' proposed contribution to the Global Stocktake process will include plans to better engage in the adaptation ongoing efforts at national and local levels. GCOS will create a task force that will identify where existing and future observations for climate can support the ambitions of the Paris Agreement and subsequent COP decisions in relation to global stocktake. It will also consider where GCOS can provide advice for observations supporting adaptation, mitigation, assessments of losses and damages, as well as means of implementation. Effective support for these actions will be delivered through climate services which, themselves, require access to extensive, reliable and accurate observational data on the past and current evolution of essential climate variables. GCOS will report on its progress in a year's time.

GCOS recognizes the need for coordination between its planning cycle and the scheduled global stocktake in 2023, and will aim to update its implementation plan in 2021 to ensure that they are synchronised.

GCOS, in collaboration with the UNFCCC and other partners, and mandated at SBSTA45, is planning to hold a series of regionally focussed workshops to develop an understanding of the observations needed for adaptation and agreed action plans for the implementation of the proposed climate indicators and their further use at national level. These workshops are also of high relevance as a mechanism to consolidate the ground-based network requirements.

As a first step, GCOS, jointly with WMO's Integrated Global Observing System, has organized a workshop in Nadi, in Fiji, on 9 – 12 October 2017, which developed an outline for a *Pacific region observing network plan in support of the GCOS Implementation Plan and the Implementation Plan for the Evolution of Global Observing Systems (EGOS IP)* to:

- Strengthen regional and national meteorological networks to support adaptation actions and avert loss and damage;
- Identify capacity building needs to ensure the sustainability of the networks;
- Support requests for finance from the operating entities of the financial mechanism under the Convention, the GCOS Cooperation Mechanism and other relevant funding sources.

The draft plan will be developed by GCOS and WIGOS in collaboration with the Secretariat of the Pacific Regional Environmental Programme (SPREP), the Pacific Islands Communication and Infrastructure Panel (PICI), and Pacific Meteorological Council, and submitted to COP24.

The GCOS Science panels have started the process of reviewing progress on the IP and ensuring mechanisms are in place to monitor the observation, maintenance and free accessibility of all the ECVs. In this context, I would like to highlight the work of the Joint CEOS/CGMS Working Group on Climate (WGClimate) which is tasked with responding to UNFCCC and GCOS on the monitoring of climate from space. This working group has built an inventory for ECVs³, which is accessible through a website and has recently gone live. The ECV inventory is the backbone of the architecture for climate monitoring from space and provides a comprehensive view as to what Climate Data Records are currently planned or available.

On behalf of the GCOS Steering Committee, I would also like to thank the Working Group on Climate which has coordinated and compiled the space agencies' response to the GCOS Implementation Plan. The document has been submitted to this SBSTA, and reiterates the commitment of space agencies worldwide to address actions required for implementation of the Global Climate Observing system and its specific contribution to climate change adaptation efforts around the world.

China and Fiji, as the hosts of a GCOS meeting, received a 2017 certificate of recognition for their significant contributions to the climate observing system, through their stations nominated to the GCOS Surface Network (GSN) and GCOS Upper Air Network (GUAN). However, 2017 monitoring of the GSN and GUAN has continued to show that significant areas of the networks are not meeting the minimum requirements, as many countries are lacking the necessary resources and technical skills to operate and maintain their stations.

I would like to remind you that Parties to this body helped establish the GCOS Cooperation Mechanism, which has enabled donor funds to support continued operation of key climatological stations that were at risk of failing. This now needs to be reinvigorated to avert decline in essential climate observations –

³ See: <http://climatemonitoring.info/ecvinventory>.

for the atmosphere, oceans and land. Following decision 19/CP.22 we encourage Parties to consider participating in the GCOS Cooperation Mechanism.

Lastly, we consider the Earth Information Day initiative as an important opportunity to optimize engagement and connect information and requirements among the observation and science communities. GCOS hopes to contribute to the successor of the very successful Marrakech event, and offers to assist the UNFCCC Secretariat in organizing it.