

## **Statement to SBSTA 51 on behalf of the co-sponsors<sup>1</sup> of GCOS**

**2-13 December 2019, Madrid**

As requested by SBSTA 45, the Global Climate Observing System (GCOS)<sup>2</sup> regularly reports on the implementation of global climate observations. This statement provides an update since the last report to SBSTA 50 in Bonn. The value of basic observation systems cannot be over-emphasized - terrestrial and radiosonde observations are an important part of a sustainable climate observing system. Entering their data into international systems is vital and leads to increased accuracy of weather and climate models which, in turn, leads to improved forecasting, projections and climate services globally.

However, there are observing gaps. For example, in 2018, atmospheric observations in Africa showed consistently poor results with only 22% of sites meeting minimum GCOS requirements for upper air observations and 37% for surface meteorological observations (a significant decline over recent years).

As requested by SBSTA 45 in 2016, GCOS has held a series of regional workshops, together with the WMO Integrated Global Observing System and in association with the UNFCCC. Workshops in the Pacific, East Africa and the Caribbean have shown that the costs of sustained, systematic, observations are too expensive for many countries: while all countries benefit from these observations. Based on the outcomes of these workshops, WMO has agreed to establish a the Global Basic Observing System (GBON) and is developing a Systematic Observations Financing Facility that would to support its development and ongoing operation. GBON is estimated to cost US\$ 750 million by 2025 and lesser amounts thereafter.

Climate observations are also needed for the whole climate system, covering carbon and water cycles and the Earth's energy balance. For example, climate observations of the upper oceans are currently fairly well covered (e.g. ARGO profilers reach 88% of target density and drifters 80% with gaps in polar and coastal regions), while there are relatively few observations below 2000m. However, the funding is very fragile with sustainable funding for only 28% of ocean observations, and with 52% requiring renewed funding within 2-3 years<sup>3</sup>.

During this week's Earth Information Day GCOS will present more information on the regional workshops. Subject to the availability of funds, GCOS would like to continue regional workshops linking observing systems to service delivery.

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<sup>1</sup> The World Meteorological Organization (WMO), The Intergovernmental Oceanographic Commission of UNESCO (IOC), UN Environment Programme (UNEP) and the International Science Council (ISC)

<sup>2</sup> See homepage: <https://gcos.wmo.int/en/home>

<sup>3</sup> Data from EUROGOOS (coordinating European Contributions) – globally the situation is likely to be worse.

GCOS will be starting a public consultation on updating the requirements for climate observations in January 2020 and plans to produce a report on the status of the global climate observing system in 2021. Thank you for this opportunity to report on progress and GCOS remains committed to supporting the parties to the UNFCCC and their observational needs.