GCOS Statement to SBSTA 49, COP24

2 – 8 December, 2018

Summary version (21 November 2018)

This is our report to SBSTA 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.

The GCOS Steering Committee developed a strategy in 2018 that will provide additional clarity about the purpose of GCOS. The strategy is promoting three strategic goals:

I. Identify user needs.
II. Ensure that climate observations are enhanced and continued into the future.
III. Advocate for free and open access to relevant data.

GCOS was established in 1992. However, it is now facing new challenges. With the UNFCCC Paris Agreement of 2015, there is a wide consensus that supporting climate policy to address adaptation and mitigation is vital. The science has improved dramatically: the existence of anthropogenic climate change is clear and warming of the climate system is unequivocal. This consensus on the need to act to mitigate and adapt to climate change together with improving and expanding observational technologies leads to more demands on the global climate observing system.

GCOS will consider how best to support users beyond its traditional role of supporting the science and understanding of climate change to include the global climate related observation needs of adaptation, mitigation, sustainable

[1] See homepage: https://gcos.wmo.int/en/home

development, disasters and emergency response, and in responding overall to the Paris Agreement.

The GCOS Task Team on the Paris Agreement has identified where existing and future observations for climate can support the ambitions of the Paris Agreement and subsequent COP decisions in relation to global stocktake. The report[2] of the Task Team is listing 16 activities which will improve the observing system with regard to improving the scientific understanding, supporting emissions an mitigation, supporting adaptation and monitoring the state of environment. 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.

In order for climate observations to support an improved understanding of the climate system, a better attribution of events, and more reliable forecasts and projections, GCOS will need to ask for the whole climate system to be monitored. GCOS will incorporate the Earth's water and carbon cycles and energy balance in their entirety and aim to explain the changing conditions of the biosphere.

To ensure high quality data is available, GCOS will need to improve its monitoring of the performance of ECV observations and implementation of the GCOS plans.

Recent activities emerging from the GCOS Implementation Plan[3] are reported in an extended version of the statement[4].

The GCOS implementation plan asks for the development of an agreed set of global climate indicators[5] that can be used to communicate to the widest community the scope and rate of changes to the climate in a widely accessible manner. The current list of climate indicators is being further promoted: Global Surface Temperature, Ocean Heat, Atmosphere Carbon Dioxide, Sea Level,

[2] Available from: https://library.wmo.int/index.php?lvl=notice_display&id=20689
[3] https://gcos.wmo.int/en/gcos-implementation-plan
[4] https://gcos.wmo.int/en/news/GCOS-report-SBSTA49
[5] https://gcos.wmo.int/en/global-climate-indicators

Ocean Acidification, Sea Ice Extent in the Arctic and Antarctic and Glacier Change.

As called for in the implementation plan and mandated by SBSTA45, GCOS is holding regional workshops, particularly in light of the importance of adaptation, to identify needs and potential regional cooperation.

As a first step, GCOS, jointly with WIGOS, has organized a workshop in Nadi, in Fiji[6], on from 9 to 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.*

GCOS has been supporting jointly with Copernicus, WIGOS and GFCS, in collaboration with UNFCCC a regional workshop held in Entebbe, Uganda, 31 October – 2 November 2018 on improving the value chain from observations to climate services to support climate policy, adaptation and mitigation in East Africa. The workshop outcomes will include a report and a regional plan to improve the observations needed to support climate services in East Africa. The key messages are available[7].

GCOS recognizes the need for coordination between its planning cycle and the scheduled global stocktake in 2023, and will aim to revise its status report in 2020/2021, plan for a second science conference eventually in 2021 and update its implementation plan in 2022.

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.

Thank you.

[6] https://gcos.wmo.int/en/regional-workshops/pacific-workshop
[7] https://gcos.wmo.int/en/regional-workshops/east-africa-workshop