
**GCOS STEERING COMMITTEE
TWENTY-SEVENTH SESSION**

GCOS SC-27, 28–31 October 2019
Paris, France

Status Report 2021

(Submitted by the GCOS Secretariat)

Summary and Purpose of Document:

The document gives background and context for the preparation of 4th Status Report, and is asking to decide on preparing a draft report.

Action Proposed:

Adopt the draft Decision 7.3.

DRAFT DECISIONS

Draft Decision 7.3 (SC-27)

1. The GCOS Steering Committee requests the secretariat to prepare a fourth Status Report (SR4) in 2021. A proposed skeleton is attached in Annex 1.

Background

1. In accordance with its Memorandum of Understanding¹, GCOS prepares regular reports on the status of the global climate observing system that address issues and gaps. This report is submitted to GCOS` sponsoring organisations and UNFCCC Subsidiary Body on Science and Technology (SBSTA)². Based on these Status Reports, GCOS prepares Implementations Plans that address issues and gaps described in the Status Report in form of recommended actions.
2. GCOS will prepare a fourth Status Report (SR4) in 2021. This will allow that a fourth Implementation Report can be prepared in 2022. The reports will be presented to the United Nations Framework Convention on Climate Change (UNFCCC) in time for the UNFCCC's Global Stocktake in 2023 and will also align with the Intergovernmental Panel on Climate Change (IPCC) assessment cycle.
3. The GCOS Secretariat has prepared a document, *Work plan and Guidelines for updating the GCOS 2015 Status Report and 2016 Implementation Plan* in July 2019. This was approved by the steering committee chair and distributed to the GCOS panels for their guidance.
4. At the GCOS Joint Panels Meeting in 2019³, it was decided (Action G2) to "Consider Traceability, Sustainability and Open Data and ensure these are addressed in upcoming updates to the Status Report and Implementation Plan, considering WMO, IOC and UNFCCC regulations and decisions." In addition it was decided (Action G10) for the "next status report [to] cover extremes [and] include reports about the capability of current observing systems for extreme events explicitly in next status report." For observations for and of adaptation, the GCOS Steering Committee Subgroup on observations in support of adaptation recommended to "start with existing GCOS ECVs, and evaluate which existing ECVs in their current specifications could inform adaptation".
5. The SR4 will mainly address (1) the current capability of the global climate observing system to monitor individual ECVs; (2) the status of the main global climate networks for the atmosphere, ocean, land and satellites, and (3) the progress of implementing Actions of the 2016 Implementation Plan. In a fourth part, the information of these three sections will be integrated into conclusions on the overall ability of the global climate observing system to adequately monitor the three main climate cycles and the biosphere.
6. The SR4 shall address traceability, sustainability and open data as well as the current capability of the global observing system for climate to capture extremes and provide observations for and of adaptation as requested by the GCOS Joint Panels Meeting 2019 and by the GCOS Steering Committee Subgroup on observations in support of adaptation.

¹ Memorandum of Understanding between the World Meteorological Organization, the Intergovernmental Oceanographic Commission of the United Nations, Educational, Scientific and Cultural Organization, the United Nations Environment Programme and the International Council for Science. 1998

²E.g. see FCCC/SBSTA/2015/L.18 and Decision 19/CP.22 Implementation of the global observing system for climate

³GCOS Joint Panels Meeting Report, GCOS-228, 2019,
https://library.wmo.int/index.php?lvl=notice_display&id=21481.

Annex 1

PROPOSED STRUCTURE FOR THE STATUS OF THE GLOBAL CLIMATE OBSERVING SYSTEM REPORT 2021

1. FOREWORD

2. EXECUTIVE SUMMARY

3. INTRODUCTION

4. STATUS OF THE GCOS ESSENTIAL CLIMATE VARIABLES

4.1 Atmosphere Essential Climate Variables

4.1.1 Surface Air Temperature

Role in the Climate System:

Text from the factsheets, why this variable and its products are relevant for the climate

Status of the Observation

Status of ECV monitoring covering the observations itself, if necessary individually per ECV product. This includes in-situ and satellite.

At the end, a maturity rating for each ECV Product will be provided, red, yellow green. These qualitative judgement should be defined as exact as possible so the individual ECV Stewards can do this rating homogeneously across all ECVs.

Status of Data Availability and Quality

Text about the data availability and quality aspect for the ECV, if necessary individually per ECV product. For both of these aspects, a rating similar to the maturity rating is given for each ECV product (red, yellow, green).

Adaptation

If ECV is relevant for adaptation, text from adaptation report (as decided in Marrakesh).

Extreme

Text about the capability to monitor extremes of this ECV, if relevant (as decided in Marrakesh).

4.2 Land Essential Climate Variables

Similar to Atmospheric

4.3 Ocean Essential Climate Variables

Similar to Atmospheric

5. STATUS OF THE OBSERVING NETWORKS

5.1 Atmosphere

5.2 Land

5.3 Ocean

5.4 Satellite

6. STATUS OF THE IMPLEMENTATION OF ACTIONS FROM THE 2016 IMPLEMENTATION PLAN

Table of all actions with text from IP Rapporteurs. A rating system (red, yellow, green) will indicate progress. These need to be defined in order to assure homogeneity across domains and actions.

7. CONCLUSIONS

7.1 Principal Findings

7.2 The Earth System Cycles (integrating results of sections 4-6)

7.2.1 The Energy Cycle

7.2.2 The Water Cycle

7.2.3 The Carbon Cycle

7.2.4 The Biosphere

7.3 Observations of and for Adaptation

7.4 Monitoring Extremes