



GCOS - Update for WCRP JSC-39

Nanjing, China, 16-20 April 2018 GCOS Secretariat, WMO





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to ensure the availability and quality of observations necessary to monitor, understand and predict the global climate Aim system so that communities and nations can live successfully with climate variability and change Free and **Best available** Principles Transparent Accurate Useful Timely science Open **Review Essential Climate Variables** Monitoring the climate observations are **enhanced and continued** performance of the observational systems against these needs. Support integrated observations, including the Earth's Prepare plans and guidance. Assist with improving the water and carbon cycles and energy balance observational infrastructure in countries with limited Strategic Goals resources (the GCOS Cooperation Mechanism, GCM Components Build on the climate-related components of the established observing systems Advocate for, and facilitate of data repositories with open access to all climate data. to meet identified user needs Coordinate with the disparate observing systems. adaptation and mitigation to climate change, support sustainable development, & the UNFCCC Communicate with users, policy makers, funding agencies free and open access to relevant data and the media

What's new?

Adaptation & Mitigation

Going beyond the traditional science base to support adaptation, mitigation, sustainable development, disasters and emergency response, and in responding overall to the Paris Agreement.

Monitoring Earth's climate cycles

Including the Earth's water and carbon cycles and energy balance in their entirety will improve understanding & prediction of the climate. This will guide mitigation and adaptation measures; assess risks and enable attribution of climatic events to underlying causes; and underpin climate services.

Observation technology is evolving and improving: e.g. ocean buoys and drifters, crowd sourced data

New Technology

Urban Areas

Over 50% of the world's population now living in urban areas. observations are needed where people live, especially in the new urban megacities

Global Climate Indicators



- The Indicators are meant be used to tell stories about climate change in a way that can be understood by non-experts
- The Indicators are not limited to specific datasets or certain storylines

Subsidiary Indicators







Capacity Building

Systematic Observations are fundamental to implementing the Paris Agreement and monitoring its progress.

Time Plan

		2017				2018				2019				2020				2021				2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q 1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10	Adaptation Workshop				not																								
	Plan Regional Workshops																												
	Hold Regional Workshops				Pacif			Afri				TBD			TBD				TBD		Results								
	Strategy & Comm. Plan						EC																						
0	Indicators																												
G	Science Conference (new: cycles, urban, indicators)									Draft Agen da												J							
	Revise 2015 Status Report																		AR6 WG I	AR6 WG III	AR6 WG II								
	Revise IP-2016 (new: cycles, urban, indicators)				Y	1								Ĩ	→			Ĩ				V							
	Steering Committee					V																							
PANELS	Panel Meetings					↑								价				♠				↑							
	Review of adequacy of ECV observations																												
	Review of ECV Requirements						Pro pos al	for new	rqm ts		1 st publ ic	revi ew	revi sion		2 nd publ ic	revi ew													
	Monitor progress on IP actions																												

- Main Objectives:
 - 1. Assessing the current state of the global observing system for climate, and identifying its gaps and inadequacies and designs to ensure long-term monitoring;
 - 2. Advocating and promoting the establishment and enhancement of the systems required to provide long-term and consistent data; securing the implementation of designated GCOS networks;
 - 3. Promoting the transfer and accessibility of data to the user community.
 - 4. Identifying measurable key variables that control the physical, biological and chemical processes affecting climate, and are indicators of climate change;
 - 5. Coordinating activities with other global observing systems, panels and task groups to ensure the consistency of requirements with overall programmes.
- Responsible for overseeing "their" actions
- Panels have flexibility in how to do this BUT there should be consistency in the outputs and timeline

Role of Science Panels





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Vision

a world where users have access to the climate-related information they need

to ensure the availability and quality of observations necessary to monitor, understand and predict the global climate system so that Aim communities and nations can live successfully with climate variability and change Accurate, climate data Transparent, methods and **Timely**, there should be a Free and Open, data is **Useful**, there should be a Based on best available Principles distinguish small trends with standardised clear demand from users from larger annual recent trends Ensure that climate observations are enhanced and continued into the future to provide the Review and where needed update the definitions of Essential Climate Variables empirical evidence needed to understand and predict the evolution of the climate, to guide considering the expanded observational needs for adaptation and mitigation to climate mitigation and adaptation measures, to assess risks and enable attribution of climatic events change. Monitoring the performance of the observational systems against these needs. to underlying causes, and to underpin climate services Support integrated observations of the physical, chemical and biological properties and **Prepare plans and guidance** for the maintenance and improvement of the global climate processes across the atmospheric, oceanic and terrestrial domains, including the Earth's observation system. Assist with improving the observational infrastructure in countries water and carbon cycles and energy balance with limited resources (the GCOS Cooperation Mechanism, GCM). Assist the integration Strategic Goals of national and regional networks into the global observing systems. Components Plan an observing system that is built, as far as possible, on the climate-related components of the established observing systems Advocate for, and facilitate, the establishment and maintenance of data repositories with open access to all climate data. The aims and objectives of GCOS will only be met if the data is accessible by users. Focus on obtaining the observations required to meet identified user needs Coordinate with the disparate observing systems. Encourage the adoption of GCOS ECV in their plans and ensure the definition and requirements of ECV do not lead to Identify observations that more fully meet the needs of adaptation and mitigation to climate unnecessary duplication. change, support sustainable development, the requirements of the UNFCCC and other multilateral environmental agreements Communicate with users, policy makers, funding agencies and the media to explain the benefits of, and needs for, improved climate observations. Promote examples of the Advocate for free and open access to relevant data strong impact that GCOS can make in developing countries with direct societal impacts.