GCOS

GLOBAL CLIMATE OBSERVING SYSTEM

WMO IOC UNEP ICSU International Council for Science

Summary Report for the Ninth Meeting of the GCOS Cooperation Mechanism Board

3 June 2014, Bonn, Germany at the German Federal Ministry of Transport and Digital Infrastructure (BMVI)

July 2014

GCOS – 186

Chairperson, Publications Board

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Table of Contents

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Summary Report

1 Introduction

Carolin Richter, Director of GCOS, welcomed the participants and thanked them for taking the time to attend this short meeting, at this busy time before the annual SBSTA meeting of the UNFCCC. She summarized the history and reasoning for the GCOS Cooperation Mechanism (GCM) and the role of the 'board'. In the earlier years the board only consisted of those countries that contributed funds to the GCM trust fund but as these had decreased in the more recent years the membership has expanded to include relevant and interested parties and the meeting more of an informal exchange of information and expert advice. She explained what she would like to gain from the meeting and was hopeful that everyone would find the meeting interesting and beneficial.

A 'tour de table' was undertaken for everyone to introduce themselves and what they would like to contribute and take from the meeting. A list of participants and their contact details is given in Annex I.

2 GCOS Cooperation Mechanism

Tim Oakley, GCOS Implementation Manager, presented a more technical summary of the GCM in terms of; what it attempts to achieve; the range of project and activities it supports; the networks it primarily supports and their recent performance statistics; and the challenges for the future. In summary he made the following points:

- that the GCM is an efficient and effective process in supporting the GCOS networks (i.e. standard processes, network priorities, working direct with National Meteorological and Hydrological Services (NMHSs));
- there is an increasing need and requests for support (from all WMO regions);
- in recent years that have been significant changes in how funding is provided and made available (i.e., bilateral and national projects; Capacity Building and Twinning for Climate Observing Systems (CATCOS); West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL); Finnish-Pacific Project to Reduce Vulnerability of the Pacific Island Countries' Livelihoods to the. Effects of Climate Change (FINPAC));
- it is no longer just about data access and sustainability for long term observations, we now have climate services; weather warnings etc.;
- direct funds into the GCM are at an all-time low, with no long term commitments;
- what is the future and effectiveness of the GCM Board? At the 8th Board meeting, in 2012, there were many good recommendations but not much has changed.

The current list of candidate support projects is given in Annex II.

Some of the key discussions following this presentation were as follows:

(1) How do we measure that we are providing an efficient and effective process? We use standard processes within WMO (i.e. specification, procurement), which delivers fit for purpose instrumentation often at a very competitive price; we have a good engagement with industry who are these days the technical expertise for the instrumentation capabilities and

long-term performance; we monitor the impact on the performance of the networks and keep an on-going dialogue with the NMHSs.

(2) The need to support these networks is evident, plus the benefit of what we have done, but somehow GCOS needs to raise its profile to those that have the money, and lobbying for the importance of these observational systems, much of which is taken for granted.

(3) We need to highlight the importance of sustained observing systems and the role that GCOS can provide in making sure that this is a fundamental component of all support projects. The idea was discussed that the GCOS Secretariat will provide so-called "business cases" which would link the generation of Essential Climate Variables to needs in adaptation planning, and which would help national donors to invest into a global observation system.

3 Related projects and activities

An opportunity was offered to all participants to summarize work and projects in their area which was of relevance and interest to the GCM. These were as follows:

José Romero presented an update to the Swiss CATCOS project, phase 1 of which is due to finish this year and a 2nd phase which will run from 2014 to 2015. This project is very much focused on the Global Atmospheric Watch (GAW) and incorporates support for instrumentation, capacity development and an on-going contact between the different institutes.

Kazuyoshi Yoshimatsu presented a summary of the JMA contribution to the WMO trust find, a part of which is allocated to the GCM. In the past this has supported both surface and upper-air stations with the most recent contributions underpinning the operations of the GUAN station at Yerevan, Armenia. Funds for 2015 have been allocated but as yet not specified for any of the GCM projects. The JMA trust fund is also used for a range of other WMO projects, primarily for training workshops.

Carlos Fuller updated the meeting on the work of the Caribbean Community Climate Change Centre (CCCCC), which is still a good example of a regional implementation plan. The centre represents 14 countries in the region, is financially independent and has a range of development and implementation projects. Most recent work has installed 18 tide-gauge stations (12 since have been enhanced), 5 CREW (Coral Reef Early Warning) stations and 60 AWS/Hydrology Stations. The CCCCC also acts as a Regional Archive Centre.

Stefan Roesner provided an update from the German Deutscher Wetterdienst; primarily this is for staff resource (i.e. Junior Professional Officer Staff in the GCOS Secretariat) but also a regular contribution to the GCOS trust fund to be used as most appropriate by the director. There are also a number of projects working in Africa (i.e. WASCAL; Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL)) which include elements that support/enhance national observing networks.

4 General discussion

The key outcomes from this meeting were as follows:

There is a need for GCOS and the GCM to raise its prominence and peoples' understanding, so it becomes more visible at the mainstream level. There are many good examples of it working at an expert level but it struggles to then link this to the bigger programmes and the funding agencies. In some countries, the GCOS message and implementation plan is enough to gain governmental funding but in others there is a need for them to be further convinced. There is also a need to engage with the non-traditional forms of funding (foundations and private sector).

It would be of great benefit (both effective and efficient) if Regional and National projects engage early with GCOS to see if the 'global' networks can be incorporated, added and improved as a component of the project. The Regional and National projects might be able to learn from previous activities in the country and region and perhaps an opportunity to share costs. GCOS could also manage a database of all projects, to avoid duplication and provide and document an overall summary. It was suggested to engage actively the national GCOS coordinators, and to call in a coordination meeting to inform and train the national GCOS representatives and focal points.

Also, it was suggested to establish feedback mechanism for UNFCCC Parties, i.e., that GCOS activities are better reflected in national guidelines.

5 Next meeting

All participants agreed that the meeting had been useful and an interesting insight to some of the success and challenges of the Observing networks, both in terms of GCOS and the GCM and the National and Regional projects.

It was suggested that future meeting should have a better representation from the different regions and UN and other international programmes and institutions (i.e. Global Framework for Climate Services (GFCS), Global Earth Observation System of Systems (GEOSS), space agencies through CEOS and CGMS, the international and national development aid programmes and existing UN technical cooperation programmes, Global Environment Facilities, World Bank).

There were concerns about a similar meeting combined with the meeting of the Conference of the Parties (COP), as although this will have the relevant people, these meetings are very busy. All agreed that GCOS should arrange for the meeting in 2015 (COP21, in Paris) but this should be focused on a particular topic.

Following the meeting the GCOS Director and Implementation Manager talked further about the merits of this meeting and one aligned with the COP. We agreed that this meeting, both venue and time of year, was ideal for an update on the GCM work, the exchange of success stories both GCOS and National and Regional projects and to discuss challenges and future plans. Any GCOS GCM meeting at the COP would need to be more focused, primarily identifying the gaps both in capability and funding. If the participants agree we would like to propose that we hold a regular GCM 'Board' type meeting in advance of the June SBSTA, adopting a similar format to this meeting and if announced well in advance, plus held regularly, we would hope that we achieve a more representative participation for the next meeting, preceding SBSTA42 in June 2015. We would also propose a side-meeting for the GCM at the COP21, SBSTA43 in 2015, focusing on the new GCOS Implementation Plan and the needs for funding.

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Annex I

LIST OF PARTICIPANTS

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Annex II

GCOS Cooperation Mechanism (GCM)
Project Candidates 2014

Current Requests of operational/network importance

€20K per site: Service visits by manufacturer for Hydrogen Generator's at Gan(Maldives), Dar Es Salaam(Tanzania) and Harare(Zimbabwe)
The current systems are 10+ years old and are getting unreliable as they are lacking the recommended in depth service of the equipment, which will prolong the operational life of the system. The performance of these stations in 2013 against the GCOS minimum requirement was poor and much of this was due to the condition of the hydrogen generator.

€100K: Replacement Hydrogen Generator for Khartoum, Sudan
Current system is 20 years old, is unreliable and proving almost impossible to purchase spares when components fail. Performance of the station in 2013 against the GCOS minimum requirement has been very poor and much of this is due to the age & condition of the hydrogen generator.

€40K: Technical Support Person in Africa
It is important and of significant benefit to have a person based in Africa as our contact person and to work with countries to resolve problems/support projects. It is also more efficient than issuing a separate purchase order/contract when assistance is needed. We have recent examples of this direct hire on an interim basis and it seems to work well. This would provide one person for one year.

€50K & €200K: Support for GUAN Station Raratonga (Cook Islands)
This important (remote & data sparse region) GUAN station has recently informed GCOS that it will run-out of radiosondes during 2014 and has requested the support from GCOS. In the past this has been supported through funds sent to the New Zealand Met Service but any future support will be direct with the local Met Service. This project would provide a short-term supply of radiosondes for their current equipment and, if funds available, start the process for a competitive procurement for a replacement system and sufficient stock for 2-3 years. The 2nd phase of the project would also incorporate improvement to the communications infrastructure to enable the access to the GSN stations in the Cook Islands.

€20-50K: Technical Support/Equipment for River/Tide Gauge stations in Tanzania
Requested through Terrestrial Observation Panel on Climate (TOPC) this would be a demonstration/test of what can be done in support of these measurements in Africa. Tanzania has been identified as a country needing support, with final costings being dependent on what equipment/technical support is required.

€10-20k per year: Emergency Operational Support, low value orders, to ensure that any downtime is kept to a minimum.
Examples of support can be emergency spares, transit of components to enable a repair and sending expert engineers. The decision as to whether support is provided or not is with the GCOS Implementation Manager, with the advice of the relevant GCOS advisory panel.

€50K: Technical Support/Equipment for Ocean Buoy, Bosnia & Herzegovina
Request for support to fund an ocean buoy, as part of a project for a marine centre on the Adriatic coast. Further information about the project and support from the Ocean Observations Panel on Climate (OOPC) would be sought before any funding was committed.

€15K: Technical Support/Equipment for Ivan Sedlo GAW station, Bosnia & Herzegovina
Request for support to rehabilitate the GAW station at Ivan Sedlo, which is a nominated as a National component of the GAW network. Request is for repairs to existing instruments and essential consumables for operations. Further information about the importance of the station and its measurements will be sort from the programme secretariat before any funding was committed.

€50K Complete the Telecommunications upgrade for Zambia
Replacement of the SSB radio system used to communicate between the observing stations and the headquarters office. Eleven radio sets are needed in order to re establish this communication. The initial contract was for the main system and interfaces for only two stations. The additional interfaces and installations are needed.

€50 - €500K Additional Radiosondes for GUAN Stations
Many GUAN stations routinely require support with radiosondes and balloons. Stations such as Gan(Maldives), Vacoas(Mauritius), Harare(Zimbabwe), Tarawa, Port Morest (PNG), Honiara (Solomon Islands), Bauerfield, Yerevan (Armenia) and others will need radiosondes (About €50K/year per supported station). If funding for 2 years supply is made available then a competitive procurement process can be used to further reduce the costs and replace equipment where applicable.

Carried forward from 2012 list, would need validating for current requirment.

€30K Additional Instruments for Cuba
The first phase of support to the Cuban GSN stations did not address all needed instruments. Additional replacements are needed.

€200K/ Each Additional Upper Air Stations (Add to GUAN)
A number of counties have requested assistance with support to establish additional upper air stations that would likely be added to the GUAN:

- In South America, Colombia, Ecuador, and Peru have requested assistance
- Sri Lanka has also requested. The current upper air station at Colombo has gone silent as radiosondes furnished during a recent project have been consumed. The PR prefers a location on the east side of the island.
- Mozambique asks for assistance to renovate Nampula upper air.
- Uganda has requested support to VCP to renovate Entebbe

€60K Data rescue Project for Yemen
An important amount of historical data for stations in Yemen has been found in the library at the UKMO. Staff from Yemen would assist in the project. This project would provide for the rescue of that data.

€40K Data rescue Project for Cuba
The Met Institute of Cuba has a good amount of historical data in paper form that should be rescued. The staff of INSMET could do the work but some equipment and support are needed

€200K Central African Republic
-Replacement of 3 AWS with associated radio communication equipment for data transmission for the 3 GSN stations. Also replace the Automatic Message Switching System (AMSS) for GTS connection. They currently use AFTN but most of the time their data is and CLIMAT reports are missing.

€50K CLIMAT/CLIREP Workshop in Pacific
Three of these workshops have been held so far. Based on the performance of stations, the countries in the Pacific will be addressed next. This workshop was scheduled last year but cancelled because of lack of funds.

€50K Upgrading Kishinev equipment for monitoring ultraviolet radiation and total column ozone content
This is for the upgrade of the Institute's ground-based station with the state-of-the-art radiometric instrumentation. Radiometric instrumentation will be used for spectral and broadband UV-visible solar radiation measurements at the ground-based station in the course of the long-term observations.

€1.5M Enhancing the GLOSS network
Repair of existing stations and installation of addition tide gauges and co located continuous GPS equipment. GLOSS consists of 300 stations, only 60% are operational. Includes travel and technician support to the network for 5 years.

€1M In-Situ Western Indian Ocean Met/Ocean Observing Network
To establish a network of 5 climate/ocean mooring along the African east coast. The needed five moorings would cost around 600K and support around 200K/year for 2 years.

€250K PIRATA Southeast Extension
Technical support for 3 years including training of technician to support the deep ocean mooring at 6°S 8°E. This is a network of 17 deep ocean moorings with this critical 18th mooring currently not operational.

€250K Luanda, Angola (GUAN addition)
Renovation of the upper air station at Luanda. It needs a new hydrogen generator, upper air equipment, and consumables for at least one year. The actual observing building is no longer useable and the Angolan Met Service has repaired one building but needs to construct a new balloon inflation building. This is the highest AOPC priority for additional GUAN. Currently on hold as projects in Angola are very difficult to manage.

€50K Solar power system for BSRN station at Ilorin, Nigeria
The baseline solar radiation station at Ilorin, Nigeria needs a solar power generating equipment to provide reliable power. The University of Ilorin would continue to operate the station and the Met Service of Nigeria would assist in the installation. Currently on hold pending confirmation of support from the Met Service.

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