



Newsletter – 2 / 2009

Welcome to the 2nd issue of the GCOS newsletter!

Atmospheric Observation Panel for Climate (AOPC)

The 15th Session of the Atmospheric Observation Panel for Climate (AOPC) of the Global Climate Observing System (GCOS) took place at WMO Headquarters in Geneva from 27 - 30 April 2009. Core issues of the meeting were to assess the development and performance of existing GCOS networks, the implementation of the newly established GCOS Reference Upper-Air Network GRUAN, and the space agencies' efforts to generate satellite based climate data records. The role of GCOS activities in the proposed Global Framework for Climate Services, as an expected outcome from the World Climate Conference-3 (WCC-3), was also discussed. For more information see the meeting homepage: <http://www.wmo.int/pages/prog/gcos/index.php?name=aopcXV>

Progress in measuring global river runoff

Freshwater plays a role in driving the climate system as discharge from rivers influences oceanic circulation at inter-annual to decadal time scales. Therefore, records of outflow discharge from major rivers are useful for estimating climate change. General awareness of the need for long, uninterrupted river discharge data records has improved, and progress has been made in establishing the Global Terrestrial Network for River Discharge (GTN-R). To date, in cooperation with National Hydrological Services, 185 stations in 20 countries have been confirmed, while station selection for a network of 265 stations in 62 countries is in progress.

GlobGlacier project

The new project [GlobGlacier](#) is one of ESA's data user activities in the context of the Global Terrestrial Network for Glaciers (GTN-G). The objective of the GlobGlacier projects is to establish a service for glacier monitoring from space in order to give a global picture of glaciers and ice caps and their role as Essential Climate Variables. The project will explore and apply existing methods to already-archived satellite data in order to contribute to existing databases (GLIMS, WGI) and observation programmes ([WGMS](#)).

ESA Climate Change Initiative (CCI)

This new programme seeks to systematically generate, preserve, and give access to long-term data sets of the ECVs required to meet the needs of the Parties to the UNFCCC. CCI, capitalizing on previous European investment in space (in particular, on existing long-term archives of earth observation data), was submitted to the ESA Ministerial at the end of 2008 and accepted with a level of funding of about 75 million € over 6 years.

Global Precipitation Climatology Centre (GPCC)

The GPCC in Offenbach, Germany, has finalized two major product updates: the "GPCC Full Data Reanalysis 4" for the period 1901-2007 and a new Global Monthly Precipitation Climatology with a grid size of 0.25° x 0.25° (comprising 50678 stations): <http://gpcc.dwd.de>.

Development of standards and guidelines for the Terrestrial Essential Climate Variables

Major progress has been made in addressing the need for consistent and comparable observations of terrestrial and land surface properties. Under the leadership of the Global Terrestrial Observing System (GTOS) Secretariat, overview brochures describing the current status of standards and guidelines for terrestrial variable observations have been released: <http://www.fao.org/gtos/pubs.html>.

Using Google Earth to evaluate GCOS weather station sites

In the January 2009 issue of the Royal Meteorological Society journal "Weather" Ian Strangeways has highlighted the usefulness of GCOS Google Earth applications in support of climate research. The use of Google Earth allows judgment about a site's representativeness with respect to the physical nature of the site and its surroundings. A detailed analysis is presented for the six UK land surface meteorological stations, which are part of the GCOS Surface Network (GSN).

See the full [article](#). – Access the [GCOS Google Earth visualization](#) tool.

Practical help for compiling CLIMAT Reports

A summary of common errors in the generation of CLIMAT Reports, intended to assist station operators charged with the production of CLIMAT Reports, is now available in [English](#), [French](#), [Russian](#) and [Spanish](#).

GCOS Reference Upper-Air Network (GRUAN)

The 1st GRUAN Implementation-Coordination Meeting ([ICM-1](#)) was held 2-4 March 2009 in Norman, Oklahoma, USA. The meeting afforded an opportunity for the Working Group on Atmospheric Reference Observations ([WG-ARO](#)), the GRUAN Lead Centre, and representatives from fourteen initial GRUAN candidate sites to review progress to date and exchange their views on how to define the most practical mode of operation for GRUAN. Furthermore, it has been agreed that GRUAN should become a Pilot Project for the WMO Integrated Global Observing System ([WIGOS](#)). For more information see the meeting report: [GCOS-131](#).

Six **initial GRUAN sites** have been officially confirmed so far:

- Cabauw Observing Station, supported by the Koninklijk Nederlands Meteorologisch Instituut (KNMI)
- Lindenberg Meteorological Observatory, supported by the Deutscher Wetter Dienst (DWD)
- Payerne Observing Station, supported by MeteoSuisse
- Sodankylä Observing Station, supported by the Finish Meteorological Institute (FMI)
- Tito Scalo (Potenza), supported by the Istituto di Meteorologie per l'Analisi Ambientale (IMAA) of the Italian National Research Council (CNR)
- Xilinhot Observing Station, supported by the Chinese Meteorological Administration (CMA)

For further information visit the GRUAN homepage: www.gruan.org

World Bank Project

The GCOS Secretariat and its partners, the Joint Planning Staff for the World Climate Research Programme ([WCRP](#)), the Climate Prediction and Adaptation Branch of WMO's Climate and Water Department, and the Nairobi-based Intergovernmental Authority on Development ([IGAD](#)) Climate Applications and Prediction Center ([ICPAC](#)), recently received funding for the programme "Climate Observations and Regional Modeling in Support of Climate Risk Management and Sustainable Development". A preparatory meeting for the 3-workshop programme for the countries of the Greater Horn of Africa will take place in Geneva in June, with the workshops to follow at approximately five-month intervals. If this pilot programme is successful, the partners plan to implement the programme in other regions, pending the availability of funding.

Implementation Projects

Several projects aimed at expanding and improving the GCOS Upper-air and Surface Networks (GUAN and GSN) were initiated:

- The GUAN station at Lima, Peru, received an update of equipment and local operating staff has been trained.
- Instrument experts will be sent to Kenya and Zimbabwe to provide repairs and instructions on the use of hydrogen generators.
- The GUAN station in Dar es Salaam, Tanzania, has been supported with a year's supply of radiosondes.
- The Technical Support Project (TSP) for the Americas has completed a major survey of troubled stations in South America. Several previously silent stations are now reporting. The staff of the TSP arranged telecommunication solutions, often through the internet, for stations without good access to the Global Telecommunication System (GTS) and station meta-data was collected at all sites visited.

Training activities

A GUAN upper-air training workshop for GUAN stations in Region II (Asia) is scheduled for October 2009 in India. It will cover all aspects of upper-air sounding, including the safe handling of hydrogen and proper balloon inflation techniques. This workshop, similar to the one conducted in Namibia in late 2007, will be taught by the UK Met Office team, lead by Dr. John Nash, President of the WMO Commission for Instruments and Methods of Observation (CIMO), in cooperation with the WMO World Weather Watch Programme and GCOS.

Technical support

A technical support project for the southern part of Africa, similar to the one currently operating in the Americas, will be implemented soon.

More information on recent and ongoing renovation and technical support projects can be found at:

<http://www.ncdc.noaa.gov/oa/usgc/renovationprojects.htm>

IPCC Observer status for GCOS

On the occasion of the 30th Session of the Intergovernmental Panel on Climate Change, [IPCC](#), held 21-23 April 2009 in Antalya, Turkey, GCOS has been formally endorsed as an Observer Organization of the IPCC. This authorizes GCOS representatives to participate in all Sessions of the IPCC and its Working Groups on qualified matters. An associated meeting document highlights the unique role of GCOS as representative of the various systems dealing with climate-related observations.

GCOS Progress Report 2004 - 2008

The [“Progress Report on the Implementation of the Global Observing System for Climate in Support of the UNFCCC 2004-2008”](#) addresses progress since late 2004 in implementing the Actions called for in the 2004 “Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC” ([GCOS-92](#)). This version of the Report was submitted to the UNFCCC Secretariat on 8 April 2009 in response to a request from its Subsidiary Body for Scientific and Technological Advice (SBSTA) in December, 2005. SBSTA invited the GCOS Secretariat to “provide a comprehensive report at its 30th session (June 2009) on progress with the GCOS Implementation Plan.” The Report is available for technical review and comment until **20 June 2009**.

Please send your comments, preferably by indicating line numbers, to gcossjpo@wmo.int.

Liaison with GOOS SSC

The GCOS Steering Committee Chairman and the Chair of the Ocean Observations Panel for Climate (OOPC) attended the 12th Session of the Global Ocean Observing System ([GOOS](#)) Scientific Steering Committee (SSC) in Perth, Australia, on 25-27 Feb 2009. The session reviewed GOOS-GCOS coordination in the context of SBSTA 30 and the implementation of the Global Earth Observation System of Systems ([GEOSS](#)). The open ocean (climate) module of GOOS constitutes the ocean component of GCOS. More information is available on the meeting website:

http://www.ioc-goos.org/index.php?option=com_oe&task=viewEventRecord&eventID=343.

WIGOS Technical Conference

The WMO Commission for Basic Systems (CBS) Technical Conference on WIGOS (WMO Integrated Global Observing System) was held in Dubrovnik, Croatia on 23-25 March. The GCOS, GOOS and GTOS Steering Committees and Secretariats were represented by the Chairman of the GCOS Steering Committee, who presented a paper on “WIGOS and its co-sponsored observing systems ([GOOS](#), [GTOS](#), [GCOS](#))”

GEO Target Task Team and Reconciliation Meeting

The Group on Earth Observations ([GEO](#)) Target Task Team, including the GCOS Steering Committee Chairman, participated in a GEO Reconciliation Meeting, held 30 March – 1 April in Geneva, Switzerland. The meeting was aimed at bringing the Global Earth Observation System of Systems ([GEOSS](#)) targets for 2015 and the GEO Work Plan tasks into closer alignment within an overall GEO Monitoring and Evaluation Framework. As a result of the meeting, the Target Task Team is further revising the summary statement of GEOSS targets and expected outcomes, including those for the Climate Societal Benefit Area (Climate SBA). It is hoped that this process will lead to increasing harmonization of the planning and implementation of the Climate SBA and GCOS as the climate observing component of GEOSS.

WCRP Joint Scientific Committee Meeting

The World Climate Research Programme ([WCRP](#)) is sponsored by the International Council for Science ([ICSU](#)), the World Meteorological Organization ([WMO](#)) and the Intergovernmental Oceanographic Commission ([IOC](#)) of UNESCO and its two overarching objectives are to determine the predictability of climate, and to determine the effect of human activities on climate. WCRP is jointly sponsoring the three GCOS Panels (AOPC, OOPC and TOPC) and thus ensures that GCOS can meet research needs. Further, the implementation of GCOS bases on results of the observing systems research. GCOS is also co-sponsoring the WCRP Observations and Assimilation Panel (WOAP), chaired by Kevin Trenberth.

The WCRP Joint Scientific Committee (JSC) met for its 30th session at the University of Maryland’s Earth System Science Interdisciplinary Center in College Park, Maryland, USA, 6 – 9 April 2009. John Zillman, Chairman of the GCOS Steering Committee, Adrian Simmons, Chairman of the Atmospheric Observation Panel for Climate (AOPC) and Carolin Richter, Director of the GCOS Secretariat, participated at this meeting. The JSC participants agreed on a basic new structure for WCRP beyond 2013 with focus on the following science areas: land/atmosphere, ocean/atmosphere, cryosphere and stratosphere/troposphere. Those science themes will

have to build up a strong relationship to the WCRP deliverables, i.e. observations, processes, modeling and applications/communications. The work of the GCOS panels was recognized as being able to underpin the needs of the scientific research community. Find more information at: <http://wcrp.essic.umd.edu/JSC2009/>

Calendar Highlights

- Joint TOPC/OOPC/AOPC Workshop, Ispra, Italy, 2-5 June 2009
- WMO Executive Council (WMO EC-LXI), Geneva, Switzerland, 3-12 June 2009
- UNFCCC SBSTA 30, Bonn, Germany, 1-12 June 2009
- IOC/WMO/UNEP Intergovernmental Committee for GOOS ([I-GOOS-IX](#)), Paris, France, 10-12 June 2009
- IOC Assembly ([IOC-25](#)), Paris, France, 16-25 June 2009
- GCOS/GOOS/WCRP Ocean Observations Panel for Climate ([OOPC-14](#)), Paris, France, 7-10 July 2009
- Scoping Meeting for the 5th IPCC Assessment Report (AR5), Venice, Italy, 13-17 July 2009
- [World Climate Conference-3](#), Geneva, Switzerland, 31 Aug - 4 Sept 2009
- [OceanObs'09](#), Venice, Italy, 21-25 Sept 2009
- Training Workshop on GUAN Upper-air Observations for RA II, New Delhi, India, 5-9 Oct 2009
- GCOS Steering Committee (GCOS SC-XVII), Paris, France, 27-30 Oct 2009
- 31st Session of the IPCC and Sessions of the three Working Groups, Bali, Indonesia, 26-29 Oct 2009
- GCOS/GTOS Terrestrial Observation Panel for Climate, TOPC-XII, Rome, Italy, 4-5 Nov 2009
- Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology, Marrakech, Morocco, 5-12 Nov 2009
- GCOS/CBS Lead Centres Meeting Geneva, 10 -12 Nov 2009

People

The new chairman of the GCOS-GOOC-WCRP Ocean Observations Panel for Climate (OOPC) will be Dr. Eric Lindstrom, effective in July 2009 when the OOPC next meets in Paris. Dr. Lindstrom works as a scientist for the NASA Earth Science Division's Physical Oceanography Program in Washington DC, USA. He will succeed Dr Ed Harrison, who has been a member of OOPC since 1996 and served as OOPC chair since 2003.

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