



Newsletter – 2 / 2010

Welcome to the 5th issue of the GCOS newsletter!

Scientific Highlights

CryoSat-2 satellite launches on mission to monitor climate change in the Arctic

After the first CryoSat satellite crashed minutes after launch in 2005, the European Space Agency now successfully launched the CryoSat-2 satellite into polar orbit, where it will begin measuring changes in the thickness of the ice sheets over Antarctica and Greenland as well as changes to the thickness of sea ice in the Arctic Ocean. CryoSat-2 follows on from the Gravity field and steady-state Ocean Circulation Explorer ([GOCE](#)) mission, launched in March 2009, and the Soil Moisture and Ocean Salinity ([SMOS](#)) mission, launched last November. Read the full article: http://www.esa.int/SPECIALS/ESOC/SEMH5ZZNK7G_0.html.

Measurement Challenges in Climate Change Monitoring

The World Meteorological Organization ([WMO](#)) and the International Bureau for Weights and Measures ([BIPM](#)) organized a workshop on 'Measurement Challenges for Global Observation Systems for Climate Change Monitoring - Traceability, Stability and Uncertainty' from 1-3 April 2010, at WMO headquarters in Geneva, Switzerland. The workshop brought together around 120 experts to debate and review the status of applied meteorology with respect to meteorological traceability to deliver more accurate and reliable observations. Find more information on the meeting website:

http://www.bipm.org/en/events/wmo-bipm_workshop/

Observing Domains, Networks and Measuring Systems

World Data Centre for Aerosols (WDCA)

As of January 2010 the [WDCA](#) was transferred from the Joint Research Centre ([JRC](#)) in Ispra, Italy, to the Norwegian Institute for Air Research ([NILU](#)) in Oslo, Norway. Metadata related to aerosol measurements within GAW and its contributing networks are hosted by the GAW Station Information System ([GAWSIS](#)), while the data are archived by the [WDCA](#). Data providers are encouraged to contact the new WDCA at NILU, to arrange for data submission (<http://www.nilu.no/projects/ccc/submission.html>). The existing ftp-site of the WDCA (<ftp://ftp-ccu.jrc.it/pub/WDCA/>) will maintain at least until all the datasets and associated metadata are available from the [EBAS](#) database of NILU.

Terrestrial Observation Panel for Climate (TOPC)

The TOPC was set up to develop a balanced and integrated system of in-situ and satellite observations of the terrestrial ecosystem. The Panel focuses on the identification of terrestrial observation requirements, assisting the establishment of observing networks for climate, providing guidance on observation standards and norms, facilitating access to climate data and information and its assimilation, and promoting climate studies and assessments. TOPC is jointly sponsored by the Global Climate Observing System ([GCOS](#)), the Global Terrestrial Observing System ([GTOS](#)) of the United Nations Food and Agricultural Organization ([FAO](#)), and the World Climate Research Programme ([WCRP](#)).

The 12th Session of the TOPC was held 10-11 March 2010 at FAO Headquarters in Rome, Italy. It focused on the role of GCOS within the envisaged Global Framework for Climate Services (GFCS), the status of the Global Terrestrial Networks, and on a new Reference Network for Ecosystem sites. The observation of soil moisture was discussed as it will be designated an Essential Climate Variable (ECV). TOPC members were further briefed on the GEO Carbon Strategy and the Global Forest Monitoring Facility with respect to its potential for GCOS. The Director of the GTOS Secretariat reported on the status, plans and role of TOPC and GTOS in establishing a framework for terrestrial observations. The meeting report will soon be available.

Ocean Observation Panel for Climate (OOPC)

The OOPC, which is sponsored by GCOS, the Global Ocean Observing System ([GOOS](#)) and WCRP, held its 14th session from 19 to 21 January 2010 at the NOAA Atlantic Oceanographic and Meteorological Laboratory in

Miami, Florida. Participants discussed scientific issues related to tropical cyclones and deep ocean observations, as well as liaison with other organisations and programmes, such as the WCRP Climate Variability and Predictability ([CLIVAR](#)) project. Other important issues were the establishment of a new framework for sustained ocean observations as an outcome of the OceanObs'09 conference in Venice, in September 2009, and the update of the GCOS Implementation Plan, in particular the ocean related ECVs. The next OOPC session will take place in January 2011. More information on OOPC activities can be found here: <http://ioc-goos-oopc.org/meetings/index.php>.

The OceanObs'09 Conference established a 'Task Team on an Integrated Framework for Sustained Ocean Observations.' Its members are representatives of the International Oceanographic Commission ([IOC](#)), the International Council for the Exploration of the Sea ([ICES](#)), the International Council for Science ([ICSU](#)) Scientific Committee on Oceanic Research (SCOR), the International Geosphere-Biosphere Programme ([IGBP](#)), the North Pacific Marine Science Organization ([PICES](#)), the WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology ([JCOMM](#)), the Partnership for Observation of the Global Oceans ([POGO](#)), the Census of Marine Life ([CoML](#)), the Scientific Committee on Antarctic Research ([SCAR](#)), the Group on Earth Observations ([GEO](#)), the Committee on Earth Observation Satellites ([CEOS](#)), WCRP, GOOS and GCOS. The Task Team will provide recommendations on the organizational structure as well as the spatial distribution of the proposed Framework by October 2010. The Framework is intended to integrate existing efforts with new observations, bridging satellites and in-situ observations, physics, bio-geochemistry and biological observations.

Atmospheric Observation Panel for Climate (AOPC)

The 16th session of the AOPC had to be postponed due to the interruption of air traffic following the Icelandic volcanic eruption. It will be held in the week 7-11 February 2011 at WMO HQ in Geneva, Switzerland. In the meantime, the Chairman and GCOS Secretariat have started bilateral discussions of the agenda items based on meeting documents, and will approach members on an individual or collective basis, as appropriate. As an intermediate result of that activity, a summary paper of the discussions will be distributed. In that way any time-critical issues or concerns can hopefully be resolved ahead of the 2011 AOPC session.

Global Ocean Observing System (GOOS)

The 13th session of the GOOS Scientific Steering Committee (GSSC) was held in London from 8 to 12 March 2010. The Panel for Integrated Coastal Observations (PICO) met jointly with the GSSC for some of the sessions. PICO is working on finalizing a 'phased, prioritized implementation plan for the coastal module of GOOS.' The GSSC Chairman, Dr Ralph Rayner, identified four items that the GSSC should continue to support. In order of priority, these are: 1) the Open Ocean Implementation Plan (i.e., the implementation of the ocean domain actions contained in the 2010 GCOS Implementation Plan), 2) the work of PICO to complete the coastal implementation plan, 3) interaction with the [Assessment of Assessments process](#), and 4) implementation of the outcomes of the OceanObs'09 conference. The report of GSSC-XIII should be available soon on the GOOS web site: <http://www.ioc-goos.org/>.

GCOS Reference Upper-Air Network (GRUAN)

The 2nd Implementation and Coordination Meeting (ICM-2) was held 1-3 March at the GRUAN site in Payerne, Switzerland. Main outcomes of the meeting were the update of the annual GRUAN work plan and the instigation of several task specific teams, for example on a GRUAN measurements schedule and on the value of ancillary measurements. ICM-2 also agreed in principle to the reference guidelines as outlined in a paper by Immler et al., which is currently open for discussion at the journal 'Atmospheric Measurements Techniques': <http://www.atmos-meas-tech-discuss.net/3/1807/2010/amtd-3-1807-2010.html>

For further information visit the GRUAN homepage: <http://www.gruan.org>, or the GRUAN Communication Platform (blog) at: <http://gruan.wordpress.com>.

Implementation Projects

Several projects aimed at expanding and improving the GCOS Upper-air and Surface Networks (GUAN and GSN) have been undertaken in recent months:

- A contract for the replacement of instruments for the 8 GSN stations in Angola has been awarded, and the equipment should be shipped in early May.
- The equipment for the renovation of the GSN station at Mt. Aragats, Armenia, has arrived in Yerevan. It will soon be transported to the mountain-top observatory.
- The renovation of the 11 GSN stations in Madagascar will be initiated soon, to be funded by KNMI.

- The high-performance wind system installed last year at Bjelasnica, Bosnia-Herzegovina, did not perform well during the harsh winter, and it will be returned to the supplier. Another system capable of working in this environment will be procured.
- The upper-air equipment at Harare, Zimbabwe, was repaired by the supplier, and radiosondes were provided with funding from Switzerland.

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

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

CBS Lead Centres for GCOS - Annual Reports

As agreed during the last meeting of the Commission for Basic Systems (CBS) Lead Centres for GCOS, held November 2009 in Geneva, annual reports from the Lead Centres are now available on the GCOS website:

<http://www.wmo.ch/pages/prog/gcos/index.php?name=CBSLeadCentres>.

Climate Observations and Regional Modeling in Support of Climate Risk Management and Sustainable Development

GCOS partnered with WMO, WCRP, and the Inter-Governmental Authority on Development ([IGAD](#)) Climate Prediction and Applications Center ([ICPAC](#)) to hold the first of the three integrated workshops planned for the World Bank-supported project, 'Climate Observations and Regional Modeling in Support of Climate Risk Management and Sustainable Development.' The workshop was held at ICPAC headquarters in Nairobi, Kenya 19-23 April 2010. Participants included representatives of both the climate information provider and climate information user communities from the ten countries of the Greater Horn of Africa. The participants were trained in the use of RCLimDex software, which enables data to be properly formatted and quality-controlled. It is then used to calculate a series of 27 climate indices which provide quantified information on weather and climate extremes and enables analysis of changing climate patterns. The results achieved will be used as input for the second workshop, which will be held in August 2010 and which will focus on regional modeling.

'ClimatView' tool

The Tokyo Climate Center (TCC) of the Japan Meteorological Agency ([JMA](#)) has provided since August 2007 the so-called '[ClimatView](#)' enabling users to view or download monthly mean temperature and monthly total precipitation derived from CLIMAT reports. Recently, some bugs were found in this tool. Please see the following details on the problems and addressing them. <http://ds.data.jma.go.jp/gmd/tcc/climatview/notice.html>.

Sponsoring Organisations & Partners

Climate Observations from Space

The 10th Consultative Meeting on High Level Policy on Satellite Matters, held 28-29 January 2010 at WMO in Geneva, gathered high-level representatives from space agencies to discuss space agency involvement and coordination of climate observations (Panel 1) and the way forward for space agency collaboration on climate (Panel 2). The final report can be downloaded here: http://www.wmo.int/pages/prog/sat/documents/CM-10_Final-Report.pdf.

Commission for Climatology and WCRP Joint Steering Committee

Over 150 participants representing 88 countries and three international organizations met at the [15th Session of the WMO Commission for Climatology \(CCI-XV\)](#) in Antalya, Turkey from 19 to 24 February 2010 and agreed on a future strategy to provide improved climate information and services.

The session was preceded by a [Technical Conference on 'Changing Climate and Demands for Sustainable Development'](#) held in Antalya, Turkey from 16 to 18 February 2010 including a [Special Session with the Joint Scientific Committee \(JSC\)](#) for WCRP. The 31st session of the Joint Scientific Committee for WCRP was held 15-19 February 2010. Session discussions followed the future structure of the WCRP and supported key themes. The JSC discussed major events in 2009, such as the World Climate Conference-3, the OceanObs'09 Conference, and the review of WCRP by its sponsors.

Global Framework for Climate Services (GFCS)

The WMO-led High-Level Taskforce for Climate Services, which was mandated by the World Climate Conference-3 to elaborate a GFCS, held its first meeting from 25-26 February 2010, at WMO headquarters in Geneva, Switzerland. The newly set up Taskforce of independent advisers will follow up with recommendations for proposed elements of the Framework. Its report will be published before the next quadrennial World

Meteorological Congress in May 2011. The first meeting of the High-Level Taskforce for Climate Services elected Jan Egeland (Norway) and Mahmoud Abu-Zeid (Egypt) as its co-chairs. Find more information here: http://www.wmo.int/hlt-gfcs/index_en.html.

WOAP-4 session

The World Climate Research Programme ([WCRP](#)) Observation and Assimilation Panel (WOAP) held its 4th meeting from 29-31 March 2010, at the KlimaCampus of the University of Hamburg in Germany. The meeting addressed many issues on observations, analysis, datasets and data management. The agenda with linked presentations, as well as the written report is available on the meeting website: http://wcrp.wmo.int/AP_WOAP4.html.

Calendar Highlights in 2010

- Meeting of the Task Team on an Integrated Framework for Sustained Ocean Observations (IFSOO-TT), Los Angeles, USA, 17-19 May 2010
 - 32nd Sessions of the UNFCCC Subsidiary Bodies, Bonn, Germany, 31 May-9 June
 - 43rd Session of the IOC Executive Council, [IOC/EC-XLII](#), 8-16 June
 - 62nd Session of the WMO Executive Council, WMO/EC-LXII, Geneva, Switzerland, 8-18 June
 - WMO Commission for Instruments and Methods of Observation (CIMO) Technical Conference, Helsinki, Finland, 30 Aug – 1 Sept
 - 5th Session of the WMO Commission for Instruments and Methods of Observation, CIMO-XV, Helsinki, Finland, 2-8 Sept
 - IPCC Plenary, Busan, Republic of Korea, 11-14 Oct
 - 7th GEO Plenary Session, Beijing, China, 3-4 Nov
 - WMO Commission for Basic Systems (CBS) Technical Conference, Windhoek, Namibia, 15-16 Nov
 - 16th Conference of the Parties (COP 16) / 6th Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP 6), and 33rd Sessions of the Subsidiary Body for Scientific and Technological Advice (SBSTA 33), Cancun, Mexico, 20 Nov – 10 Dec
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Event Announcement: WCRP Open Science Conference

The World Climate Research Programme ([WCRP](#)) will host a major international Open Science Conference on 24-28 October 2011 in Denver, Colorado, USA. The conference will gather the international scientific community working to advance understanding and prediction of variability and change of the Earth's physical climate system on all space and time scales. For more information, please visit the conference webpage: www.wcrp-climate.org/conference2011. Or contact the Secretariat: info.conf2011@wcrp-climate.org.

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