



## Programme details

### WEDNESDAY 2 MARCH

#### Performance of the current climate observations

This day assesses the performance of the current global climate observing systems and its current set of ECV

08:00 - 09:00	Registration
<b>Session I</b>	
<i>Scope and aims of the conference</i>	
<p>This session outlines the need and successes of global climate observations. Keynote presentations will cover the relevance to climate science research, UNFCCC and IPCC and discuss the outcome and recommendations of the recent EUMETSAT Climate Symposium in Darmstadt, 2014. An introduction to the status report and new implementation plan of GCOS are scheduled to provide guidance to the conference.</p>	
Session Chair	<b>Han DOLMAN (VU University Amsterdam)</b>
09:00 - 09:05	Welcome speech; <b>Han DOLMAN (VU University Amsterdam)</b>
09:05 - 09:15	Opening speech; <a href="#">[PPT]</a> <b>Petteri TAALAS (WMO)</b>
09:15 - 09:35	Opening and aims of the conference; <b>Stephen BRIGGS (Chairman, GCOS Steering Committee)</b>
09:35 - 10:10	<i>Keynote talk:</i> <a href="#">Focussing the Macroscope: Tracking the Earth System's Vital Signs</a> ; <a href="#">[PPT]</a> <b>Chris RAPLEY (University College London)</b>
10:10 - 10:30	<i>Keynote talk:</i> From the WCRP Climate Symposium 2014 to the GCOS Conference via the COP 21; <a href="#">[PPT]</a> <b>Alain RATIER (EUMETSAT)</b>
10:30 - 11:00	Coffee break / Poster session
Session Chair	<b>Caroline RICHTER (GCOS Secretariat)</b>
11:00 - 11:30	<i>Keynote talk:</i> IPCC WG I findings and some new findings from cryospheric observation in Tibetan Plateau; <a href="#">[PPT]</a> <b>Dahe QIN (CAS)</b> <a href="#">[PPT]</a>
11:30 - 12:00	<i>Keynote talk:</i> On the use of observations (UNFCCC/SBSTA); <a href="#">[PPT]</a> <b>Carlos FULLER (SBSTA Chair)</b>
12:00 - 12:30	<i>Keynote talk:</i> <a href="#">Status of the Global Observing System for Climate</a> ; <a href="#">[PPT]</a> <b>Adrian SIMMONS</b>
12:30 - 13:00	<i>Keynote talk:</i> Impact of the new Implementation Plan; <a href="#">[PPT]</a> <b>Alan BELWARD (JRC, EC)</b>
13:00 - 14:00	Lunch

## Session II

### *Successes of the current global observing system*

This session will cover keynote and oral presentations from climate in the GCOS domains: ocean, land, cryosphere and atmosphere. We seek contributions that highlight the relevance of climate observations to climate science, the trails and tribulations of obtaining them, and exciting science results.

Session Chair	<b>Kenneth HOLMLUND (EUMETSAT)</b>
14:00 - 14:15	<b>Keynote talk:</b> <a href="#">ESA's strategies and GCOS</a> ; [PPT] <b>Volker LIEBIG (ESA)</b>
14:15 - 14:30	<a href="#">The ESA Climate Change Initiative- Exploiting satellite archives to respond to GCOS needs</a> ; [PPT] <b>Pascal LECOMTE (ESA)</b>
14:30 - 14:45	<a href="#">CLIMATE @EUMETSAT- From Space-Based Measurements to Climate Data Records</a> ; [PPT] <b>Joerg SCHULZ (EUMETSAT)</b>
14:45 - 15:15	<b>Keynote talk:</b> The prospects and rationale for a global biogeochemical Argo system; [PPT] <b>Ken JOHNSON (MBARI)</b>
15:15 - 15:30	<a href="#">Global Terrestrial Network for Glaciers – from a research-based collaboration network towards an operational glacier monitoring service</a> ; [PPT] <b>Michael ZEMP (World Glacier Monitoring Service)</b>
15:30 - 15:45	<a href="#">Coordination and Integration of Global Ocean Observing through JCOMM NOAA</a> ; [PPT] <b>David LEGLER (NOAA)</b>
15:45 - 16:00	<a href="#">Argo: past achievements, future risks and opportunities</a> ; [PPT] <b>Toshio SUGA (Argo Steering Team)</b>
16:00 - 16:30	Coffee break / Poster session
Session Chair	<b>David CARLSON (WCRP)</b>
16:30 - 16:45	<a href="#">CCI-based Sea Level ECV and GCOS requirements</a> ; [PPT] <b>Anny CAZENAVE (LEGOS-CNES)</b>
16:45 - 17:00	<a href="#">Status of Surface Radiation Budget Observation for Climate</a> ; [PPT] <b>Nozomu OHKAWARA (JMA)</b>
17:00 - 17:15	<a href="#">WMO Global Atmosphere Watch Measurements of Greenhouse Gases</a> ; [PPT] <b>Edward DLUGOKENCKY (NOAA ESRL GMD)</b>
17:15 - 17:30	<a href="#">Atmospheric ozone monitoring in the frame of WMO-Global Atmospheric Watch programme</a> ; [PPT] <b>Johanna TAMMINEN (Finnish Meteorological Institute)</b>
17:30 - 17:45	<a href="#">Current Status of GOSAT and GOSAT-2 Projects</a> ; [PPT] <b>Ryoichi IMASU (University of Tokyo)</b>
17:45 - 18:00	<a href="#">Observation Systems in support of water-related Essential Climate Variables- The Global Terrestrial Network Hydrology</a> ; [PPT] <b>Wolfgang GRABS (German Federal Institute of Hydrology)</b>
19:00 - 21:00	<b>CONFERENCE DINNER</b>




**THURSDAY 3 MARCH**
**Adequacy of the current global climate observations**

This day discusses how adequate the current ECVs are in terms of science needs; do they help improving the understanding of key aspects of the climate system, and in terms of user needs; do they provide the information an increasing variety of users needs.

**Session III**

*Relevance of the current ECVs to improved understanding of the global cycles of water, energy and carbon*

This session will cover keynote and oral presentations discussing the possibility of using the current set of ECVs to achieve closure of the three key cycles of the Earth. It will also aim at identifying gaps and missing elements with the aim of possibly amending the GCOS 2016 Implementation Plan.

Session Chair	<b>Sybil SEITZINGER (University of Victoria)</b>
09:00 - 09:30	<b>Keynote talk:</b> Observational constraints on the global carbon budget; [PPT] <b>Corinne Le QUÉRÉ (Tyndall Centre University of East Anglia)</b>
09:30 - 10:00	<b>Keynote talk:</b> Observations needed to advance understanding of the role of clouds in climate; [PPT] <b>Sandrine BONY (LMD/IPSL)</b>
10:00 - 10:15	<b>Roles of Air/Sea Exchange in the Cycles of Energy, Moisture and CO<sub>2</sub>; [PPT] Mark BOURASSA (Florida State University)</b>
10:15 - 10:30	<b>Measuring global forest biomass: current status and new developments; [PPT] Shaun QUEGAN (University of Sheffield)</b>
10:30 - 11:00	Coffee break / Poster session
Session Chairs	<b>Toshio SUGA (Tohoku University) and Bernadette SLOYAN (CSIRO)</b>
11:00 - 11:15	<b>Essential Climate Variables in the Copernicus Global Land Service; [PPT] Roselyn LACAZE (HYGEOS)</b>
11:15 - 11:30	<b>Climate Monitoring from Space: The EUMETSAT Satellite Application Facility on Climate Monitoring; [PPT] Martin WERSCHECK (DWD)</b>
11:30 - 11:45	<b>Optimized space collection of ECVs and threading ECVs back to MIT's storied earth systems modeling efforts; [PPT] Douglas HELMUTH (LM - SSC)</b>
11:45 - 12:00	<b>A New Look at the Ocean Biogeochemistry ECVs; [PPT] Toste TANHUA (GEOMAR Helmholtz Institute of Marine Research)</b>
12:00 - 12:15	<b>The ESA Ocean Colour Climate Change Initiative (OC-CCI): meeting the Global Climate Observation System requirements for ocean colour data; [PPT] Robert BREWIN (Plymouth Marine Laboratory)</b>
12:15 - 12:30	<b>Fresh Water as an Essential Climate Variable in the Arctic Climate System; [PPT] Dmitry DUKHOVSKOY (FSU)</b>
12:30 - 12:45	<b>Upper tropospheric cloud systems from Satellite Observations : what can be achieved? A GEWEX perspective; [PPT] Claudia STUBENRAUCH (CNRS / LMD)</b>
12:45 - 13:00	<b>Comparing observations of fossil fuel-derived CO<sub>2</sub> in California with predictions from bottom-up inventories; [PPT] 1245 GRAVEN Comparing observations of fossil fuel derived CO<sub>2</sub> in California.pdf Heather GRAVEN (Imperial College London)</b>



13:00 - 14:00	Lunch
14:00 - 14:30	Poster session



## Session IV

### *User needs from diverse areas*

This session will cover keynote and oral presentations to identify user needs from non-UNFCCC areas, such as conventions on biodiversity and desertification, ECVs for adaptation and mitigation and the use of the concept of essential variables in other domains.

<u>Session Chair</u>	<b>Roger PULWARTY (NOAA)</b>
14:30 - 15:00	<b>Keynote talk:</b> <a href="#">Soils and climate change: user needs for mitigation and adaptation</a> ; [PPT] <b>Pete SMITH (Institute of Biological and Environmental Sciences, University of Aberdeen)</b>
15:00 - 15:30	<b>Keynote talk:</b> <a href="#">How much biology does the Global Climate Observing System need?</a> ; [PPT] <b>Bob SCHOLES (GCSRI, South Africa)</b>
15:30 - 15:45	<a href="#">Satellites for Climate Services- Case studies for Establishing an Architecture for Climate Monitoring from Space</a> ; [PPT] <b>Stephan BOJINSKI (WMO)</b>
15:45 - 16:00	<a href="#">Climate Service and Climate Observation in China</a> ; [PPT] <b>Qingchen CHAO (Beijing Climate Center)</b>
16:00 - 16:45	Coffee break
<u>Session Chair</u>	<b>Qinchen CHAO (CMA)</b>
16:45 - 17:00	<a href="#">Observations to support adaptation- Principles, scales and decision-making</a> ; [PPT] <b>Roger PULWARTY (NOAA)</b>
17:00 - 17:15	<a href="#">Coordinating Global Land Cover Observations as Contribution to GCOS</a> ; [PPT] <b>Brice MORA (GOFC-GOLD Land Cover Office)</b>
17:15 - 17:30	<a href="#">Metrological approaches to Earth Observation in relation to GCOS requirements</a> ; [PPT] <b>Christopher MERCHANT (University of Reading)</b>
17:30 - 17:45	<a href="#">Data and meta-data exploration and data quality reporting for GCOS</a> ; [PPT] <b>Jared LEWIS (BODEKER SCIENTIFIC)</b>


**FRIDAY 4 MARCH**
**Planning for future global climate observations**

The final day outlines a future programme of climate observations based on improved communication with a variety of stakeholders, technology improvements, and requirements that arise from recent climate negotiations and treaties.

**Session V**
*Future Observations and Communication of climate science*

This session will cover keynote and oral presentations identifying how to best communicate the results of climate science and observations to the general public, policy makers and politicians. It will cover the development of key indicators such as ocean heat content or sea level rise.

Session Chair	<b>Pascal LECOMTE (ESA)</b>
09:00 - 09:30	<b>Keynote talk:</b> <a href="#">Vital Signs for Managing Climate Change</a> ; [PPT] <b>Charles KENNEL (SCRIPPS Institution of Oceanography)</b>
09:30 - 10:00	<b>Keynote talk:</b> <a href="#">Evolving Essential Climate Variables into Public-Private Partnerships for Societal Benefit</a> ; [PPT] <b>Mike TANNER (NOAA)</b>
10:00 - 10:15	<a href="#">Climate change impacts and mitigation processes</a> ; [PPT] <b>S. K. SHARMA (Carman Residential and Day School)</b>
10:15 - 10:30	Supporting activities to interdisciplinary global programmes as GCOS [PPT] <b>Gueladio CISSE (ICSU)</b>
10:30 - 11:45	Coffee break / Poster session
Session Chair	<b>Michel VERSTRATETE (University of the WITWATERSRAND)</b>
11:45 - 12:00	<a href="#">Progress toward an Integrated Global Greenhouse Gas Information System (IG3IS)</a> ; [PPT] <b>Diane STANITSKI (NOAA ESRL)</b>
12:00 - 12:15	<a href="#">The Copernicus Climate Change Service (C3S)- a European response to Climate Change</a> ECMWF; [PPT] <b>Dick DEE (ECMWF)</b>
12:15 - 12:30	<a href="#">Planning and evaluating climate observing systems of the future</a> ; [PPT] <b>Elizabeth WEATHERHEAD (University of Colorado Boulder)</b>
12:30 - 12:45	<a href="#">Space-based component of WMO Integrated Global Observing Systems (WIGOS)</a> ; [PPT] <b>Wenjia ZHANG (WMO)</b>
12:45 - 13:00	<a href="#">Integrating ocean observations across the coastal shelf boundary</a> ; [PPT] <b>Bernadette SLOYAN (CSIRO)</b>
13:00 - 14:00	Lunch



Session Chair	<b>Stephen BRIGGS (Chairman, GCOS Steering Committee)</b>
14:00 - 14:30	<b>Keynote talk:</b> Ocean Heat Content: <a href="#">[PPT]</a> <b>Matthew PALMER (Met Office Hadley Centre)</b>
14:30 - 15:00	<b>Keynote talk:</b> What are the needs for a post-COP21 monitoring? <a href="#">[PPT]</a> <b>Philippe CIAS (LSCE)</b>
15:00 - 15:15	<a href="#">The GEO Carbon Cycle and Greenhouse Gas Flagship</a> ; <a href="#">[PPT]</a> <b>Antonio BOMBELLI (CMCC - Euro-Mediterranean Center on Climate Change)</b>
15:15 - 15:30	<a href="#">Essential Climate Variables to Support Climate Change Mitigation in the Land Use Sector</a> ; <a href="#">[PPT]</a> <b>Martin HEROLD (Wageningen University)</b>
15:30 - 15:45	<a href="#">First review of COP-21 and potential impacts on Space Agencies</a> ; <a href="#">[PPT]</a> <b>Pascal LECOMTE (ESA)</b>
15:45 - 16:00	<a href="#">The WCRP-FPA2 Polar Challenge- promoting a scalable, cost-effective and sustainable monitoring system</a> ; <a href="#">[PPT]</a> <b>Micheal RIXEN (WCRP)</b>
16:00 - 16:30	Discussion and conclusion session
	Finish