

## ESA Climate Change Initiative – Climate Modellers Users Group (CMUG)

Roger Saunders  
Met Office Hadley Centre

The future improvement of climate models and reanalyses depends on high quality global observational data for initializing models, validating model simulations and for developing parameterizations to represent complex physical (subscale) processes. The European Space Agency (ESA) has 20 years of satellite observation data sets and many of these are going to be reprocessed specifically with climate applications in mind. In the initial effort, climate quality data sets for 11 Essential Climate Variables (ECVs) are being addressed.

	<b>Phase I ECVs</b>
	<i>Oceanic Domain</i>
O.1	Sea Ice
O.2	Sea Level
O.3	Sea-Surface Temperature
O.4	Ocean Color
	<i>Terrestrial Domain</i>
T.1	Glaciers & Ice Caps
T.2	Land Cover
T.3	Fire Disturbance
	<i>Atmospheric Domain</i>
A.1	Cloud Properties
A.2	Ozone
A.3	Aerosol Properties
A.4	Greenhouse Gases

To ensure that climate modellers requirements are met, ESA is funding an overarching initiative to scope out the following: (i) What types of observational data are needed for climate modelling and climate services? (ii) What are the most important climate variables and how should they be processed? (iii) What are the requirements for integrating satellite data products with climate models? (iv) What data formats are needed and how will the data be accessed by the climate community?

This activity is being led by the Climate Modellers User Group (CMUG), a consortium of four partners: the Met Office Hadley Centre, the Max Planck Institute for Meteorology, European Centre for Medium-Range Weather Forecasts (ECMWF), and MétéoFrance.

The overall objectives of CMUG are threefold:

1. Support integration within the Climate Change Initiative (CCI) programme by providing ESA and data producers with requirements and user assessment from the climate modelling community, and feedback from a “climate system” perspective (e.g., examining consistencies across ECVs, synergies).
2. Foster the exploitation of global satellite data within the climate modelling community by promoting the use of ESA-CCI data sets to climate modellers, and by building partnerships and links with existing research organizations, networks and scientific bodies of the climate modelling community.
3. Assess the quality and impact of individual/combined Global Satellite Data Products in the Climate Model and Data Assimilation context by assessing suitability of products for climate applications (e.g., climate modelling, decadal prediction, reanalysis), and by quantifying their incremental value on model performance in an objective manner.

Starting with the observation requirements as formulated by the Global Climate Observing System (GCOS) for all selected ECVs, the CMUG have started the process of gathering feedback from climate modellers to refine these requirements. CMUG is interested in reaching out to all organizations with a need for quality climate satellite data sets. More specifically, if you are a climate modeller or at least are working with reanalyses or climate data, CMUG hopes that you will share your thoughts and suggestions. Your input now and in the future can help to shape this project.

More information is available on the CMUG web site at: <http://www.cci-cmug.org/> and you can contact us via E-mail ([cmug@metoffice.gov.uk](mailto:cmug@metoffice.gov.uk)). A questionnaire is available at this site and we urge you to consider providing input. This is a unique opportunity to help shape the outcome of the entire program and it is important to ensure that the data sets produced are fit for their purpose.

### **GEWEX/WCRP Calendar**

For the complete listing, see the GEWEX web site:  
<http://www.gewex.org>

**14–16 June 2010—WCRP Regional Climate Modelling Workshop—Lille, France.**

**14–18 June 2010—6<sup>th</sup> Study Conference on BALTEX—Miedzyzdroje, Island of Wolin, Poland.**

**22–25 June 2010—2<sup>nd</sup> Hydrology delivers Earth System Science to Society (HESSS) International Conference—Tokyo, Japan.**

**22–25 June 2010—Joint Meeting for GSWP/GLASS, AsiaFlux/FLUXNET, and LandFlux-EVAL—Tokyo, Japan.**

**22–25 June 2010—GEWEX Cloud Assessment Workshop—Berlin, Germany.**

**28–30 June 2010—15<sup>th</sup> International Symposium for the Advancement of Boundary Layer Remote Sensing—Paris, France.**

**28 June–2 July 2010—13<sup>th</sup> Conference on Cloud Physics and Atmospheric Radiation—Portland, Oregon, USA.**

**28 June–2 July 2010—ESA Living Planet Symposium—Bergen, Norway.**

**29 June–1 July 2010—International Climate Change Adaptation Conference: Climate Adaptation Futures: Preparing for the Unavoidable Impacts of Climate Change—Queensland, Australia.**

**2–3 July 2010—10<sup>th</sup> Kovacs Colloquium Hydrocomplexity: New Tools for Solving Wicked Water Problems—Paris, France.**

**7–9 July 2010—THORPEX/WGNE Workshop on Diagnosis of Model Errors—Zurich, Switzerland.**

**19–21 July 2010—Second International Workshop on Energy and Water Cycle over the Tibetan Plateau and High-elevations—Lhasa, China.**

**19–23 July 2010—British Hydrological Society's Third International Symposium: Role of Hydrology in Managing Consequences of a Changing Global Environment—Newcastle upon**