CMUG cci

esa

climate change initiative

→ CMUG NEWSLETTER

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Some of the 69 researchers from 38 institutes across Europe and the USA who attended the CMUG Integration Meeting.

In this issue:

CMUG CCI Fifth Integration Meeting

The CMUG **5th Integration Meeting** was held on 26-28th May at SMHI in Norrköping, Sweden. It allowed the thirteen CCI ECV projects to demonstrate their current datasets and supporting research to the CCI, the CMUG and a select group of climate research experts. All the data sets shown demonstrated improvements over those produced in Phase 1 (for example with a longer time series or reduced bias) and also provide more information for users such as better uncertainty characterisation. The meeting allowed the CMUG to show their research results on validating these data sets with climate models, reanalyses and other climate research applications.

In addition the meeting had a number of high level representatives from international projects and initiatives present their work, which allowed the CCI teams to discuss the relevance of the CCI data sets to these results. These projects included: GAIA-CLIM, PRIMAVERA, Copernicus Climate Change Services, FIDUCEO, CORE-CLIMAX, and the CCI data portal project. The outputs from two CCI uncertainty workshops held last year (SST and Aerosol) were also presented and discussed.

Lastly the meeting heard about the high level plans for Phase 2 of the CCI from Pascal Lecomte (Head of the ESA Climate Office) before dividing in to two groups to discuss scientific direction, and climate research issues across the CCI. The climate research discussion included common issues such as data continuity, data coverage, data validation, consistency with other CCI datasets, comparisons with modelling outputs, uncertainty and the use of CCI data in CMIP6.

The agenda and presentations are available on the CMUG website – click here to access them.

CMUG and the ESMVal tool

ESMVal is the community Earth System Model evaluation tool whose purpose is to give a better understanding of climate processes and interactions by confronting climate model outputs with observations, such as the CCI ECVs. The current version of the ESMVal tool is being developed for use with climate models that will be used in, and evaluated by, the next IPCC climate change assessment.

CMUG supported an **ESMValTool Workshop** on 3-4 March at the Ludwig Maximilians Universität (LMU) at München, Germany, that was attended by 17 experts from Europe and the USA. The workshop helped enable further technical development of the ESMValTool to handle ESA CCI datasets and to produce performance metrics.

Work is progressing on benchmarking models with ESA CCI data (CMUG Task 5). A flexible interface has been implemented in ESMVal tool which allows users to use diagnostics scripted in Python, with a diagnostic for the CCI soil moisture dataset already working.

In addition to developing the ESMVal tool the CMUG work includes applying the tool to confront the models used in CMUG with CCI data to understand coupled ocean-atmosphere circulation. Early results from this work are expected in July.

Progress is also being made on development of the operational CMF user interface and its database. This includes work on the user interface design, product definition files (now at review stage), and a web publishing tool (now at test stage).

Validating CCI datasets

One of the key roles of CMUG in the CCI is to provide an independent assessment and validation of the CCI datasets by using CCI data in climate models, reanalyses and other climate research applications.

The CMUG Scientific Impact Report (Deliverable 2.1) and Product Assessment Technical Note (Deliverable 2.3) were delivered in the spring this year.

The CMUG Scientific Impact Report describes how CCI datasets and scientific results have been used in the climate research and reanalyses community. It also demonstrates the value of the CCI work by showing how and where the CCI results have been used, for example in the IPCC Fifth Assessment Report (AR5).

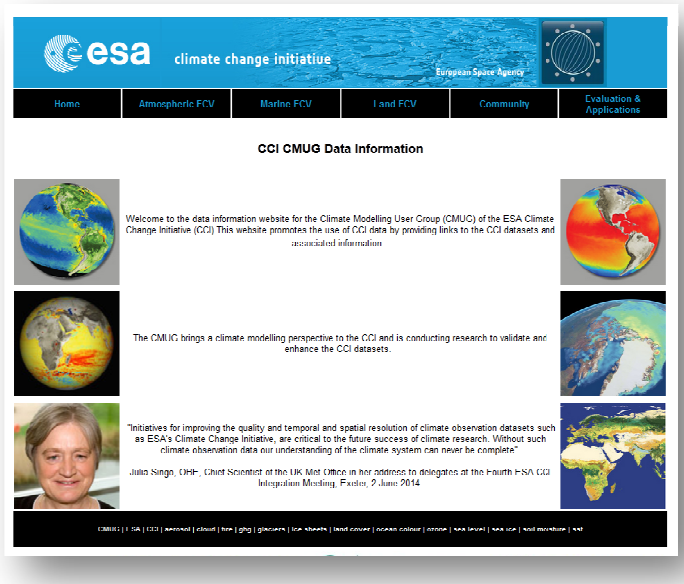
Key fact: At the time the CMUG Scientific Impact report was written there were 181 peer reviewed journal publications based on CCI Phase 1 research, from which there were 55 citations in the IPCC AR5.

The CMUG Product Assessment Technical Report reviews the CCI product reports to provide independent feedback on the quality, uncertainty characterisation and maturity of the CCI datasets. It also describes how far the datasets go in reaching GCOS requirements for remote Earth observation data sets.

Both reports are available on the CMUG website - click here to access them.

The CMUG data forum

The CMUG CCI data forum – www.esa-data-cci.org/index.htm – has been further developed and now includes direct links to CCI datasets alongside CMUG validation results for each dataset. The site also contains a blog and links to other useful sites on observation data. It is planned to develop the forum aspect further in the next quarter to encourage community participation with an interactive capability.



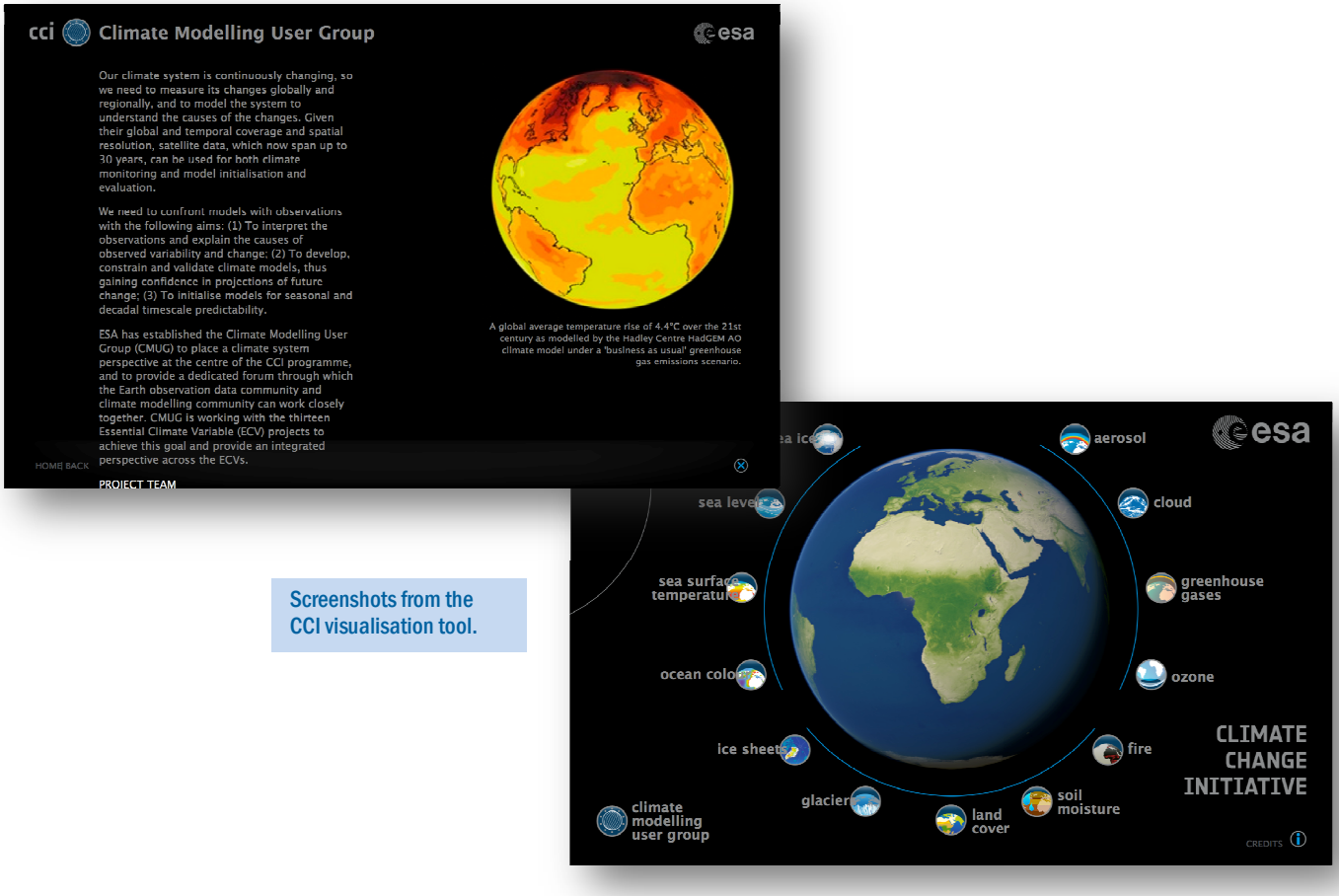
Screenshot of the CMUG data forum home page.

CMUG data visualisations

CMUG along with the 13 ECV projects in the CCI has been working with an independent scientific graphics company, Planetary Visions, to create cutting edge animations of its data outputs.

The CMUG visualisation of modelling and reanalysis of the Sea Surface Height, Ocean Colour and Ozone CCI datasets is being prepared and will be released in the autumn. The animations of these data sets will be monthly averages covering several decades, with global coverage and will be available online for a range of devices.

Below are screen shots for the CMUG home page and the main CCI page from the visualiser.



Screenshots from the CCI visualisation tool.

CMUG Outreach and engagement

CMUG will attend and present at the UK Space Conference in June, the EUMETSAT Conference in France in September, the CCI Colocation meeting in Italy in October and the GCOS conference in the Netherlands in March 2016 – for more information click here to visit the CMUG events page.

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