

CMUG Deliverable

Number: D4.2
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Climate Modelling User Group

Deliverable 4.2

Scientific Exploitation Report

Centres providing input: MOHC, MPI-M, ECMWF, MétéoFrance

Version	Date	Comment
1.0	March 2011	Web pages
2.0	July 2012	Report
3.0	March 2014	



METEO FRANCE
Toujours un temps d'avance



Max-Planck-Institut
für Meteorologie

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Contents

1 Introduction	3
2 Outreach	3
- Meetings	
- Publications	
3 Other documents	4
Annex A	5
- Meetings attended by CMUG	
- Publications with CMUG input and results	
- Report of CMUG Integration Meeting 1	
- Report of CMUG Integration Meeting 2	

**CMUG Deliverable**

Number: D4.2
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CMUG Scientific Exploitation Report

1. Introduction

The CMUG description of work contains a coherent programme of outreach activities to a diverse audience, including: the climate modelling community, scientific press, international coordinating bodies, the general public and others with an interest in Earth observation, reanalysis, climate studies and climate modelling.

Most of this activity involves producing outreach material (newsletters, science summary documents, presentations etc) which is made accessible on the CMUG website (which itself is a useful dissemination tool for project results, data and information). CMUG deliverables 4.2 and 4.3 (Scientific Exploitation Report, and Promotion Package, respectively) both concern themselves with the planning and production of science communication and outreach material, but neither allows for a record of these things and the outcomes/success, which could be used to guide future endeavours in CMUG.

This written report attempts to capture, where possible, key science communication and outreach material produced by CMUG which merits documentation but is not captured in deliverables.

To date there is good alignment between the outreach plans of Section 5 in D4.1 v2 (shown below) and the results to date which are described in this report. Of the nineteen actions in the list below all are complete or well underway, except for number ten which is just about to start, and number sixteen which is an event planned for the end of Phase 1 (in 2014).

5. Plans for outreach

(Taken from D4.1 Scientific Exploitation report v2)

There are many channels of communication to the climate modelling and reanalysis communities, hereafter referred to as users, which will be used to make the users aware of the new CCI CDRs to be generated for the 11 ECVs which this project is initially focussing on. The following channels are being exploited as appropriate:

- 1. Presentations on the planned and sample ESA CCI datasets at meetings during phase 1 of the CCI.*
- 2. Continued development of the CMUG web site to make the community aware of the CCI datasets planned and available. This is easily found by Google searches currently being the second entry displayed when "CMUG" is entered. We will aim to Link CMUG/CCI websites off CLIVAR, WCRP, WGCM pages.*

**CMUG Deliverable**

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3. *Set up a CMUG newsgroup where important announcements about the CCI datasets are sent out to registered users when CCI datasets become available.*
4. *High level awareness of the CMUG activities at the CMUG partner institutes.*
5. *Working level interactions with key scientists in climate modelling and reanalysis centres through the scientists in the CMUG institutes and invitations to CCI/CMUG meetings.*
6. *Lobby to include CCI datasets in appropriate IPCC reviews, CMUG partners contribute to the IPCC reviews and are in a good position to promote this.*
7. *There is a proposal to create an observational data base for CMIP5/AR5 – we need to keep up-to-date with any developments on this, including how the CCI will fit in. Appropriate IPCC and other meetings (e.g. WGCM).*
8. *Link with GCOS activities through GCOS project office and AOPC.*
9. *Link with relevant EU projects which require CCI data as input. The CMUG has a wide involvement with such projects as shown in Table 2.2 of proposal.*
10. *Publication of a brochure promoting the ESA CCI.*
11. *Attendance at key climate modelling, reanalysis and satellite data meetings by CMUG staff to promote the CCI datasets (e.g. CMIP5, GCOS, 4th International Conference for Reanalysis, WCRP Science conference, EUMETSAT Meteorological Satellite Conference, etc)*
12. *Give inputs to the WCRP GEWEX scientific steering group and sub-groups (e.g. WOAP, WGCM) as appropriate.*
13. *Publication towards end of phase 1 of article in Bulletin of American Meteorological Society or similar.*
14. *Co-ordinate outreach with individual CCI projects to ensure consistent message is given*
15. *Advertise early use of CCI datasets in CMUG partner institutes.*
16. *Organise a workshop at the end of phase 1 to promote and inform users about the available CCI datasets. Invite key scientists to attend and offer them travel and subsistence if necessary.*
17. *By working with the CCI projects ensure that the CDRs (and associated observation operators) are easy to access and ingest in commonly used formats. In addition their error characteristics must be provided along with the datasets. Providing the datasets on the Earth System Grid will be a key objective.*
18. *Links to EUMETSAT's proposed activities on climate monitoring – need to ensure complementarity and avoid any duplication of effort, etc. The MOHC is being proposed as a new member of the EUMETSAT climate satellite application facility from 2012 which will facilitate this.*
19. *Continue link to IS-ENES.*

Given the activities listed above it is hoped that the awareness of the ESA CCI datasets will be sufficient to allow their exploitation to be as wide as possible by interested users.

2 Outreach**2.1 Interaction with the Climate and Reanalyses Communities**

The CMUG outreach activities to the climate modelling and reanalysis communities (the CMC) are in many formats and spread across diverse channels. The CMUG initial consultation with the CMC is recorded in D1.1, while ongoing interactions since then are recorded in monthly and quarterly



CMUG Deliverable

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management reports and presented at CMUG management meetings. The initial consultation which established the CMC user group for CMUG was an in-depth survey conducted via email, telephone and an online tool. This CMC user group has subsequently been kept informed of CMUG news via newsletter and information emails (for example giving notice of CMUG presentations at international conferences). Other modes of interaction with the CMC, through user groups, project, programme and international coordinating bodies, is described below.

2.2 Meetings

There are annually a number of international climate conferences (e.g. EGU, AGU) at which science research can be presented and discussed in an open forum. There are also 'one-off' public events, often with a climate or Earth observation theme (e.g. in 2012 there was the Planet Under Pressure Conference in the UK, see Figure 1). To date, CMUG scientists have given presentations at many of these.

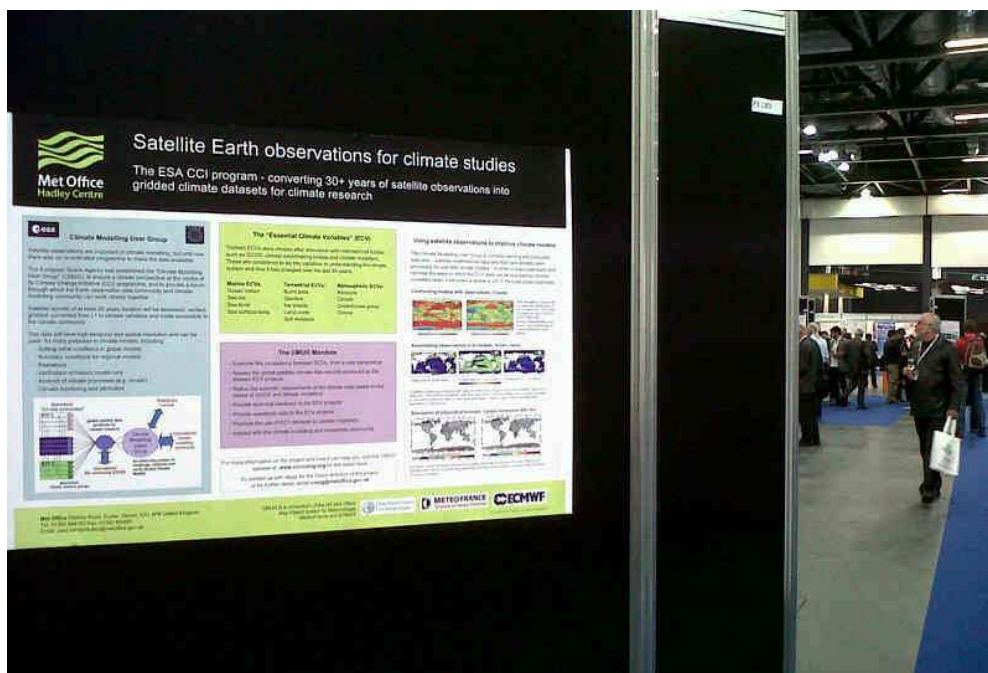


Figure 1. CMUG poster at the Planet Under Pressure Conference, London,

International coordinating bodies and programmes (WMO, WCRP, GRUAN, WOAP, EUMETSAT) hold meetings to which CMUG scientists have presented programme information and results, either as members of these bodies in their own right, or by invitation as experts.

CMUG scientists also give presentations about the programme to international research projects which will have an interest in the CCI, for example IS-ENES, EC-Earth, Obs4MIPs, and MACC.

A full list of all the events where a CMUG presentation was given (up to end June 2012) is to be found in Annex A.

CMUG Deliverable

Number: D4.2
Due date: July 2012
Submission date: July 2012
Version: 2.0



2.3 Publications

To date there have been two CMUG newsletters (November 2010 and October 2011), and articles in the GEWEX and CLIVAR newsletters (October 2010 and May 2011) about the CMUG and the CCI. All of these articles are available on the CMUG website.

Four journal articles in peer-reviewed publications have either been published or submitted, to date. A list of them is given in Annex A.

3. Other documents

In the course of the CMUG project other documents were generated with a specific role or audience in mind. These are communication products which are not formal deliverables, and thus not submitted to ESA for contractual acceptance. This document provides an archive for such material. These documents (meeting reports, publications, etc) are found in Annex A.

CMUG Deliverable

Number: D4.2
Due date: July 2012
Submission date: July 2012
Version: 2.0



Annex A

Contents

- Meetings attended by CMUG
- Publications
- Report of CMUG Integration Meeting 1
- Report of CMUG Integration Meeting 2

CMUG Deliverable

Number: D4.2
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**Meetings attended by CMUG**

This list describes the international and other programme meetings attended by CMUG, at which there was input by the CMUG team (presentation, poster etc). It does not include the ECV project meetings which are part of the CCI and are also attended by CMUG team members.

Date	Meeting	Location	Communications action by CMUG
2012			
30-31 May	EC-Earth	ECMWF	CMUG presentation
14-16 May	CMUG Integration meeting	Toulouse	All
7-11 May	WCRP Reanalysis Conference	USA	CMUG presentations
2 May	GCOS AOPC	Geneva	CMUG presentation
27-28 March	CMSAF	Offenbach, Germany	CMUG interaction with Cloud ECV
26-30 March	Planet Under Pressure	London	CMUG poster
5-9 March	4th GRUAN Implementation and Coordination Meeting (ICM4)	Tokyo	CMUG Presentation
2011			
24-28 Oct	WCRP Open Science Conference	Denver	Thierry - Poster. Dick gave a presentation on CMUG
17-18 Oct	Technical workshop on Global Burned Area algorithms for coarse resolution data	Stresa, Italy	http://forest.jrc.ec.europa.eu/related-workshops/fire-cci-workshop A joint initiative of ESA Fire_CCI and the GOFC-GOLD Fire Implementation Team
12-14 Oct	CCI Colocation 2	ESRIN	All
12-14 Sep	CLIVAR WGSIP 14th session	Trieste, Italy	PVDL
5-6 Sep	EUMETSAT Meteorological Satellite Conference	Oslo	Roger Report on 2011 EUMETSAT Satellite Conference.htm
28 June- 7 July	IUGG	Melbourne, Australia	Thierry (submitted an abstract for the Earth system obs session)
6-10 June	CFMIP / GCSS boundary layer cloud WG/EUCLIPSE meeting	Exeter, UK	Mark, Roger
23-25 May	Terrabites WG3 meeting: "How to integrate remote sensing data into DGVMs?"	ESRIN, Frascati	Alex
2-10 May	Visit to NASA-JPL	Pasadena	Roger to liaise with US initiatives relevant to CMUG
18-20 April	WOAP	ESRIN	Roger, Paul, Alex, Serge, David, Stefan, Thierry
4-8 Apr	WCRP	Exeter	CMUG presentation
3-8 Apr	EGU	Vienna	Presentation on land surface fire modelling - IK
14-16 Mar	CMUG ECV interaction meeting	Reading	All
8-10 Mar	GEWEX/ESA Due GlobVapour Workshop	ESRIN	Mark

CMUG Deliverable

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7-11 Feb	GCOS-AOPC (rescheduled from April 10)	Geneva	Roger
2-4 Feb	IS-ENES	Hamburg	Serge
11-12. Jan	GlobAlbedo project meeting	Hamburg	Alex
10-12 Jan	GCOS update of GCOS satellite supplement	Geneva	Roger
2010			
23-27 August	GEWEX	Seattle	Mark
13-17 Sept	CERES/GERB	Paris	Mark
13-17 Sept	EMS-ECAC	Zurich	Dick
15-17 Sept	CMUG colocation meeting	Frascati	All ESA_CCI_Project_Guidlines_V1.pdf
20-24 Sept	EUMETSAT satellite conference	Cordoba	Roger, Thierry
27-30 Sept	AeroCom workshop	Oxford	Stefan
28-30 Sept	NCEO	Leicst'r UK	Mark
4-6 Oct	WCRP WG Climate Models meeting	Exeter, UK	Mark, Roger
18-22 Oct	2nd MACC Assembly	Toulouse, France	Stefan
21 Oct	ESA Long Term Data Preservation Workshop on User Requirements	ESRIN, Italy	David Tan_DataReqsForClimReanaly_20101003.pptx
3-5 Nov	ESA/EGU/iLEAPS Earth observation for land-atmosphere interaction science	ESRIN, Italy	Silvia
30 Nov -3 Dec	COP-16	Cancun, Mexico	Roger, CMUG presentation
13-17 Dec 2010	AGU Session A49: Climate processes and other research applications enabled by satellite sounders, imagers and profilers.	San Francisco	Silvia
15-17 Dec 2010	IS-ENES Coupling technologies for Earth system models	CERFACS France	Serge

CMUG Deliverable

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Submission date: July 2012
Version: 2.0

**Publications**

- Hollmann, R., C. Merchant, R. Saunders, C. Downy, M. Buchwitz, A. Cazenave, E. Chuvieco, P. Defourny, G. de Leeuw, R. Forsberg, T. Holzer-Popp, F. Paul, S. Sandven, S. Sathyendranath, M. van Roozendaal, W. Wagner, 2012: The ESA Climate Change Initiative: satellite data records for essential climate variables. Submitted to BAMS.
- Lean, K. and R. Saunders, 2012: Validation of the ATSR Re-processing for Climate (ARC) dataset using data from drifting buoys and a three-way error analysis. Submitted to Journal of Climate.
- D. A. Ford, K. P. Edwards, D. Lea, R. M. Barciela, M. J. Martin, and J. Demaria, 2012: Assimilating GlobColour ocean colour data into a pre-operational physical-biogeochemical model Ocean Sci. Discuss., 9, 687-744, 2012
- Jiang, J. H., H. Su, C. Zhai, V. Perun, A. D. Del Genio, L. S. Nazarenko, L. J. Donner, L. W. Horowitz, C. J. Seman, J. Cole, A. Gettelman, M. A. Ringer, L. D. Rotstayn, S. J. Jeffrey, T. Wu, F. Brient, J.-L. Dufresne, H. Kawai, T. Koshiro, W. Masahiro, T. S. LECuyer, E. M. Volodin, T. Iversen, H. Drange, M. dos Santos Mesquita, W. G. Read, J. W. Waters, B. Tian, J. Teixeira, and G. L. Stephens, 2012: Evaluation of Cloud and Water Vapor Simulations in CMIP5 Climate Models Using NASA "A-Train" Satellite Observations. J. Geophys. Res., doi:10.1029/2011JD017237, in press.