Hosted by: METEO FRANCE Toujours un temps d'avance — STAE TOULOUSE

CCI project integration meeting ~ facilitated by the CMUG

MétéoFrance, Toulouse, France, 14 to 16 May 2012

Aims and Programme

This meeting is to discuss the over-arching scientific challenges for research, identify how the CCI contributes to meeting those challenges, allow a focus on the climate perspective in the CCI, and examine future possible scientific directions for the CCI.

A. Aims of the meeting are for:

1. CCI science leaders and climate research group members to explore the over-arching scientific challenges for research and identify how the CCI contributes to meeting them
2. CCI teams who have started producing ECV data to show their results to the CRG and CMUG and demonstrate the value in their product
3. CMUG to give a summary of its present state of assessment of precursor datasets including dealing with uncertainty
4. CMUG to demonstrate to the CCI teams how ECV data might be applied by researchers in the climate modelling and reanalysis communities including dealing with uncertainties in products
5. maintain oversight of the position within the international research framework in which CMUG/CCI is operating (e.g. FP, JRC, GMES-Climate, etc)
6. discussion on phase 1 strategy and phase 2 perspectives within the CCI
7. allow discussion to finalise the CCI science paper

Success in fulfilling these aims will be evidenced by the subsequent direction of the CCI projects.

B. Inputs of the meeting are:

1. CMUG Deliverables to date [D1.1; 1.2; 2.1; 2.4; 3.1; 4.1 and 4.2, available at www.cci-cmug.org] see *Section F: Meeting Inputs* on page 5 for deliverable titles and access.
2. Final approved URDs, DARDs, PSDs and PUGs from ECV projects [available from project websites] and other ECV documents, e.g. ATBDs, Uncertainty Characterization Docs, Round Robin evaluations, etc (where available)
3. Guidance notes from previous colocation and integration meetings
4. Updated GCOS requirements [see:http://www.wmo.int/pages/prog/gcos/documents/SatelliteSupplement2011Update.pdf]
5. Latest draft of BAMS science paper

C. Outputs of the meeting will be (see page 5, *Section I*, for meeting products)**:**

1. Meeting report of outcomes (including directions agreed by CCI projects, and reports to plenary from sessions 2 and 3)
2. Better understanding by CCI projects of use of products by modellers and reanalysis.
3. Input to CMUG D2.2 and D2.3
4. Agreed final text for BAMS paper and good discussions between CCI project leads to share problems and experiences

D. Programme

Monday 14th – afternoon			
12:00-13:00	Registration		
	SESSION 1: Key Note Presentations:		
	Identification of the over-arching science challenges that the CCI will help address		
13:00-13:15	1. CCI update *Mark Doherty, ESA*		
13:15-13:45	2. Cryosphere *Andy Shepherd, Leeds University*		
13:45-14:15	3. Oceans *Johnny Johannessen, NERSC*		
14:15-14:45	4. Carbon cycle *Shaun Quegan, Sheffield University / NCEO*		
	SESSION 2: CCI progress in the context of key note presentations in 3 parallel sessions		
	Presentations are 20 minutes plus 10 minutes for Q+A, 30 minutes total. They should cover: the over-arching science challenges • CCI project response to those challenges • CCI project success stories to now • the anticipated outcomes of each CCI project, starting with current prototype data		
14:45-15:00	Tea / coffee		
15:00-17:00	**LAND**	**OCEAN**	**ATMOSPHERE**
	Chair: *Emilio Chuvieco*	Chair: *Shuba Sathyendranath*	Chair: *Rainer Hollman*
	5. Land cover [*PD*]	10. Ocean colour [*SS*]	14. Aerosols [*GdL*]
	6. Fire [*EC*]	11. Sea level [*MA*]	15. Clouds [*RH*]
	7. Soil moisture [*WW*]	12. SST [*CM*]	16. Ozone [*MvR*]
	8. Ice sheets [*CH*]	13. Sea ice [*SS*]	17. GHG [*MB*]
	9. Glaciers [*FP*]		
17:00-17:30	**Key Note Presentation:**		
	CMIP and observations *Robert Ferraro, NASA-JPL*		
Monday evening "an over-arching Reception" drinks and snacks			
Tuesday 15th – morning			
09:00-10:00	**SESSION 3: Report back to plenary**		
	Chairs from Land, Ocean and Atmosphere sessions report key points from the presentations and discussions (10 minutes each). Plenary discussion to include cross cutting issues.		
10:00-13:00	**SESSION 4: Brainstorming**		
	Two parallel groups as follows:		
Tea/coffee	**Group A – CCI Science Leads**	**Group B – Climate Research Group**	
11:00-11:30	Chair: *Chris Merchant*	Chair: *Alex Loew*	
	Rapporteur: *Roger Saunders*	Rapporteur: *Paul van der Linden*	
	See Section G for topics to be brainstormed	*See Section G for topics to be brainstormed*	
Tuesday 15th – afternoon			
13:00-14:00	Lunch		
14:00-17:30	Brainstorming groups **A** and **B**		
15:30-16:00	Tea / coffee		
Tuesday evening "an Integrating Dinner" Self-funded dinner at the Allouch Brasserie Les Arcades, Place du Capitole, Toulouse, €35 per person.			
Wednesday 16th – morning			
	SESSION 5: Climate data – international perspectives and CMUG precursors		
09:00-09:30	18. Clouds precursor dataset *Met Office*		
09:30-10:00	19. SST precursor dataset *Met Office/ECMWF/MétéoFrance*		
10:00-10:30	20. Landcover or Fire precursor dataset *MPI*		
10:30-11:00	Tea / coffee		
	SESSION 6: Conclusions		
11:00-11:45	21. Presentations of outcomes from the brainstorming groups (20mins each inc. Q&A)		
11:45-12:00	22. CCI next steps *Pascal Lecomte, ESA*		
12:00	**Meeting ends**		

E: Meeting Inputs:

Documents with underline can be downloaded from the CMUG website by clicking on them

D1.1: Profile and needs of the climate modelling community (v1.1)

D1.2: User Requirement Document (v1.5)

D3.1: Technical note on CMUG ECV quality assessment report (in preparation)

D2.4: Technical note: Analysis of how the CCI datasets will meet climate modellers needs (v1.2)

Report on CCI Project Integration Meeting (v1.0) 14-16 March 2011

CMUG "Golden Year" document (v4)

CCI URDs, DARDs and PSDs:

ECV	URD	DARD	PSD
Aerosol	v1.4 (01.03.2011) FINAL	v4.1 (02.08.2011) FINAL	v1.1 (18.04.2011) FINAL
Cloud	v1 (10.02.2011) FINAL	v1.3 (23.02.2011) FINAL	V1.0 (06.04.11) FINAL
GHG	v1 (08.01.2011) FINAL	v1 (01.03.2011) FINAL	v1 (01.03.2011) FINAL
Fire	v3.3 (26.07.2011) FINAL	v1.7 (22.06.2011) FINAL	v2 (20.06.2011) FINAL
Glaciers	v1.1 (11.10.2011) FINAL	v1.0 (20.11.2011) FINAL	v1.0 (20.11.2011) FINAL
Landcover	v2.2 (22.02.2011) FINAL	v1.8 (21.12.2011 FINAL	v1.4 (27.08.2011) FINAL
Ocean colour	v1.11 (29.06.2011) FINAL	v1.5 (01.03.2011) FINAL	v1.4 (16.02.2011) FINAL
Ozone	v2.1 (22.12.2011) FINAL	v1.2 (31.05.2011) FINAL	v3.0 (22.12.2011) FINAL
Sea Level	v1.1 (04.03.2011) FINAL	v1.4 (15.08.2011) FINAL	v1.1 (11.10.2011) FINAL
SST	v2 (30.11.2010) FINAL	v2 (27.01.2012) FINAL	v2 (11.11.2011) FINAL

F: Reading for the meeting:

From observations to service delivery: Challenges and opportunities
Adrian Simmons, ECMWF. http://www.wmo.int/pages/publications/bulletin_en/60_2_simmons_en.html

Climate science and services: Providing climate information adaptation, sustainable development and risk management.
Asrar, G., Ryabinin, V., and Detemmerman, V., 2012: Current opinion in environmental sustainability, www.sciencedirect.com

The Obs4MIPs project at JPL-NASA. http://obs4mips.llnl.gov:8080/wiki/FrontPage
Providing gridded climate observations for:

- Directly comparable to a model output field defined as part of CMIP5
- Open to contributions from all data producers that meet the Obs4MIPs requirements
- Well documented, with traceability to track product version changes
- Served through the Earth System Grid Federation (ESGF)

Response by ESA to GCOS - Results of the Climate Change Initiative Requirements Analysis
ESA document: Reference DG-H/2011/3007/ECO/dms/kw. Date of Issue 16/05/2011.

G: Topics for Brain storming:

Group A – CCI science leads

1. inter-ECV collaboration in general (e.g. consistency, combined user requirements on: resolution, coverage/length of data record, accuracy, uncertainty)
   The marine projects as well as Glaciers and Ice Sheets have several interfaces that could be up for discussion:
   (1) Sea ice and Sea level use the same radar altimeter data for sea ice thickness retrievals and for Mean Dynamic Topography retrievals (sea level) in the Arctic Ocean.
   (2) Sea Ice and SST are interlinked in the marginal zones of the Arctic and Antarctic seas. Seasonal and long-term variability of sea ice extent has impact on SST and vice versa.
   (3) Sea ice and mass balance from ice sheets are interlinked through the freshwater budget of the Arctic and Antarctic seas
   (4) Ocean colour is linked to Sea ice primary production in the marginal ice zone.
2. exploitation opportunities for climate science (eg. using multi-variable CCI products)
3. high level strategy in Phase 2 (including on collaborations on computational side)
4. wider context with regards GMES and how to position the programme
5. specific collaborative actions for next colocation meeting
6. BAMS paper

Group B – Climate Research Group

1. discussion of key points from session 2 presentations in the context of climate modelling and reanalysis
2. uncertainty issues, how well does ECV data capture uncertainty? Best practice for uncertainty definition eg 3 way cross-checking between different datasets
3. high level strategy in Phase 2
4. consistency between ECVs – eg optimising use of masks, common retrievals etc
5. ECV data coordination and delivery
6. Providing ERA-interim in swathes

H: Meeting Outputs:

Internal Report for CCI and ESA on the CMUG integration meeting

This report will describe the actions agreed by ECV projects at the meeting whose aim is to achieve better integration of the CCI and better products for the climate modelling and reanalysis communities. The outline of the report will be finalised at the meeting and the content finished after the meeting with input from attendees and others as appropriate.

Material for the meeting report will include, inter alia:

1. Identifying key points from the precursor data assessment for the CCI teams to be aware of (e.g. in terms of data needs, methodology for data assessment / error characterisation)
2. Update of CMUG plan for assessing CCI datasets
3. Up to date view for achieving a climate perspective across the CCI projects.

Final draft of BAMS paper

I. Attendees

1. CMUG:

Roger Saunders, Met Office
Mark Ringer, Met Office
Paul van der Linden, Met Office
Alex Loew, MPI-M
Iryna Khlystova, MPI-M
Serge Planton, MétéoFrance / CNRM
Thierry Phulpin, CNES
Elodie Lamri, CNES
Paul Poli, ECMWF

2. ESA:

Mark Doherty
Pierre-Philippe Mathieu
Pascal Lecomte
Victoria Bennett
Cat Downey
Stephen Plummer

3. ECV projects:

CCI	Project Lead	CRG Representative
Fire	Emilio Chuvieco	Chao Yue
Glaciers	Frank Paul	Tony Payne
Landcover	Pierre Defourny	Benjamin Poulter
Aerosol	Thomas Holzer-Popp	Gerrit de Leeuw
Ozone	Michel van Roozendael	Martin Dameris (15+16)
Clouds	Rainer Hollmann	Claudia Stubenrauch
GHG	Michael Buchwitz	Frederic Chevallier (15+16)
SL	Michaël Ablain	Gilles Larnicol & Yannice Faugere
SST	Chris Merchant	Nick Rayner
OC	Shuba Sathyendranath	Ehouarn Simon
IS	Andy Shephard	Christine Hvidberg (15+16)
SI	Peter Wadhams & Stein Sandven	Stefan Kern
SM	Wolfgang Wagner	Heidi Mittelbach

4. Invited Experts

Sophie Belamari, MétéoFrance
Stephan Bojinski, WMO
Jean-Christophe Calvet, MétéoFrance
Matthieu Chevallier, MétéoFrance
Hervé Douville, MétéoFrance
Robert Ferraro, JPL
Johnny Johannessen, NERSC
Shaun Quegan, Sheffield University / NCEO
Philippe Ricaud, MétéoFrance
Patricia de Rosnay, ECMWF
Jerôme Servonnat, IPSL
Andy Shephard, Leeds University