

climate change initiative

→ CLIMATE MODELLING USER GROUP

Summary of CMUG Integration Meeting

October 2021

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“ESA has established CMUG to place a climate system perspective at the centre of its Climate Change Initiative (CCI) programme, and to provide a dedicated forum through which the Earth observation data community and the climate modelling and reanalysis community can work closely together. CMUG will work with the Essential Climate Variable CCI projects to achieve this goal.”

CMUG activities:

- Gather user requirements for ECV data sets
- Quality assessments
- Use of ECVs in experiments
- Use of ECVs for model evaluation
- Outreach (e.g. newsletters)
- Coordinate forums for communication (like CSWG)
- Publicity for the ECV datasets to the climate research and monitoring communities
- ECV inclusion in databases such as obs4MIPs and the Climate Data Store



CMUG consists of 9 partners plus ESA:

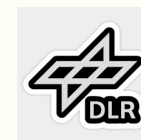
- Met Office
- DLR
- MPI-M
- Meteo-France
- ECMWF
- SMHI
- IPSL
- BSC
- CEDA/UKRI-STFC



Max-Planck-Institut für Meteorologie



Science and Technology Facilities Council



RAL Space





- **Discuss achievements** (CMUG science highlights)
- **Feedback from CCI projects** on CMUG output
- **Plans for next phase**
 - An improved set of deliverables
 - Early ideas for experiments
- **To kick off an ongoing conversation with the ECV projects to shape, and increase the relevance of, the next phase of CMUG**

<https://climate.esa.int/en/projects/cmug/publications/cmug-integration-meeting-10/>



Highlights

WP3: Quality assessment of the ECVs

https://climate.esa.int/documents/1352/WP_3_HIGHLIGHTS.pdf

WP4: MIP type experiments

https://climate.esa.int/documents/1351/GMUG_WP4_highlights_v2.pdf

WP5: Climate Evaluation Tools

https://climate.esa.int/documents/1353/CMUG_WP5_poster_2021-10-05.pdf

WP6: Communication and Outreach

https://climate.esa.int/documents/1347/WP6_Poster_Integration.pdf



Questions on the future CMUG contribution to CCI



- What experiments could be carried out in the next phase?
 - Focus on underrepresented ECVs from this phase
 - Focus on cross-ECV experiments
- How useful are
 - The User requirements document?
 - The Foresight report?
 - The reviews of ECV project documentation?
 - The newsletter?
 - The web pages (CDF)?
 - CSWG meetings?
 - CMUG efforts to include ECVs in ESMValTool and obs4MIPs?
- What improvements would you like to see?
- What other activities would it be useful for CMUG to engage with or report on?
- What other suggestions do you have for CMUG to support the CCI projects?



- ESA CCI brings together an amazing range of expertise within the Earth Sciences
- This unique expertise allows us to address some of the really big questions in climate research
- Many of these questions are not directly accessible to climate-model simulations.
- We suggest to change the name and purpose of CMUG from being tool-driven (“climate model”) to being purpose driven (understanding/projecting/predicting/assessing the climate system) - Maybe something like a Joint Climate Research Group, bringing previous CMUG and ECV together more directly (across spheres)?



Outlook and future plans



- Immediate priority: improve communication and interaction with ECV projects and their CRGs
- Digest the huge amount of feedback gathered during the meeting
- Consider change in approach for next phase, based on Dirk's suggestions

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