



CMUG Deliverable

Number: D8.0
Submission date: 08 January 2024
Version: 0.1

Climate Modelling User Group

CCI+ Phase 2 (Sept 2023 – Aug 2026)

Deliverable 8.0

Project Management Plan

CMUG centres providing input: Met Office, ECMWF, MétéoFrance, IPSL, SMHI, DLR, BSC, STFC-UKRI, DMI, CMCC, UoL, UoE

Version	Date	Status
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0.1	08/01/24	Updated contents table





CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

Contents

1 Introduction 3

2 Overview of Consortium..... 4

3 Management team and governance 7

 3.1 Management team7

 3.2 Governance7

 3.3 Tasks and responsibilities.....8

 3.4 Lines of reporting10

4 Project Management 10

 4.1 Milestones and deliverables10

 4.2 Actions database.....13

5 Reporting 14

 5.1 Monthly progress report.....14

 5.2 Quarterly status report15

 5.3 Final project report15

 6 Other reporting.....15

6 Tasks and Deliverables 15

7 Meetings 18

8 Communications and Outreach..... 19

9 Work packages..... 19

 WP1: Climate Community Requirements Collection and Analysis, lead by Amy Doherty (MOHC)19

 WP3: CMUG Support to the Future Evolution of obs4MIPs, lead by Amy Doherty (MOHC)20

 WP4: CCI Contributions to ESMValTool, lead by Axel Lauer (DLR).....21

 WP5.2: Impacts and evaluation of vegetation phenology changes on observed and modelled land-atmosphere processes, lead by Daniele Peano (CMCC).....24

 WP5.3: Impact of Integrating CCI LC in the ISBA an dCLM5 land surface models, lead by Jean-Christophe Calvet (Meteo-France)25

 WP5.4: Seasonal predictability of ocean biogeochemistry and potential benefits of ESA CCI data assimilation, lead by David Ford (MOHC).....26

 WP5.5: Aerosol and Cloud Analysis, lead by Jeronimo Escribano (BSC).....27

 WP5.6: Snow dynamics impact on temperate/high latitude climate, lead by Catherine Ottlé and Philippe Peylin (IPSL)28

 WP5.7: Atmospheric drivers and feedback processes affecting the Greenland and Antarctic ice-sheets in observations and regional climate models, lead by Ulrika Willén (SMHI)30



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

WP5.8: Using Machine-Learning to evaluate and understand our capability to model tropical wetland methane emissions, lead by Rob Parker (NCEO, UoL).....31
 WP6: Communications and Outreach, lead by Hannah Griffith (MOHC).....33
 WP7: CMUG Management, lead by Amy Doherty (MOHC)34

1 Introduction

The Climate Modelling User Group (CMUG) is a European Space Agency (ESA) Climate Change Initiative (CCI) project that works to ensure the relevance of the ESA CCI Essential Climate Variables (ECVs) for the climate research community and climate services and their uptake within those areas. CMUG for CCI+ phase 2 will run September 2023 to August 2026.

CCI+ CMUG phase 2 comprises the following work packages:

- WP1: Climate Community Requirements Collection and Analysis
- WP3: CMUG support to the future evolution of obs4MIPs
- WP4: CCI contributions to the ESMValTool
- WP5: Cross-ECV Climate Science Studies
 - WP5.1: Machine Learning to advance climate model evaluation and process understanding
 - WP5.2: Impacts and evaluation of vegetation phenology changes on observed and modelled land-atmosphere processes
 - WP5.3: Impact of integrating CCI LC data in the ISBA land surface models
 - WP5.4: Seasonal predictability of Ocean Biogeochemistry and potential benefits of ESA CCI data assimilation
 - WP5.5: Cloud and aerosol analysis study
 - WP5.6: Snow dynamics impacts on temperature/high latitude climate
 - WP5.7: Atmospheric drivers and feedback processes affecting the Greenland and Antarctic ice-sheets in observations and regional climate models
 - WP5.8: Using machine learning to evaluate and understand our capability to model tropical wetland methane emissions
- WP6: Coordination and outreach
- WP7: Project management



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

2 Overview of Consortium

The CCI+ phase 2 CMUG consortium consists of the UK Met Office Hadley Centre, Météo-France, the European Centre for Medium Range Weather Forecasting (ECMWF), the Swedish Meteorological and Hydrological Institute (SMHI), Deutsches Zentrum für Luft (DLR), the Barcelona Supercomputer Center (BSC), Institut Pierre-Simon Laplace (IPSL), the Science and Technology Facilities Council-UK Research Institute (STFC-UKRI) also known as the Centre for Environmental Data Analysis (CEDA), Danish Meteorological Institute (DMI), Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC), University of Leicester (UoL) and University of Edinburgh (UoE). The Met Office Hadley Centre leads and coordinates the project. Figure 1 illustrates the structure of CMUG. The roles of each of the partners and the individuals involved from each institute are summarised in Table 1.

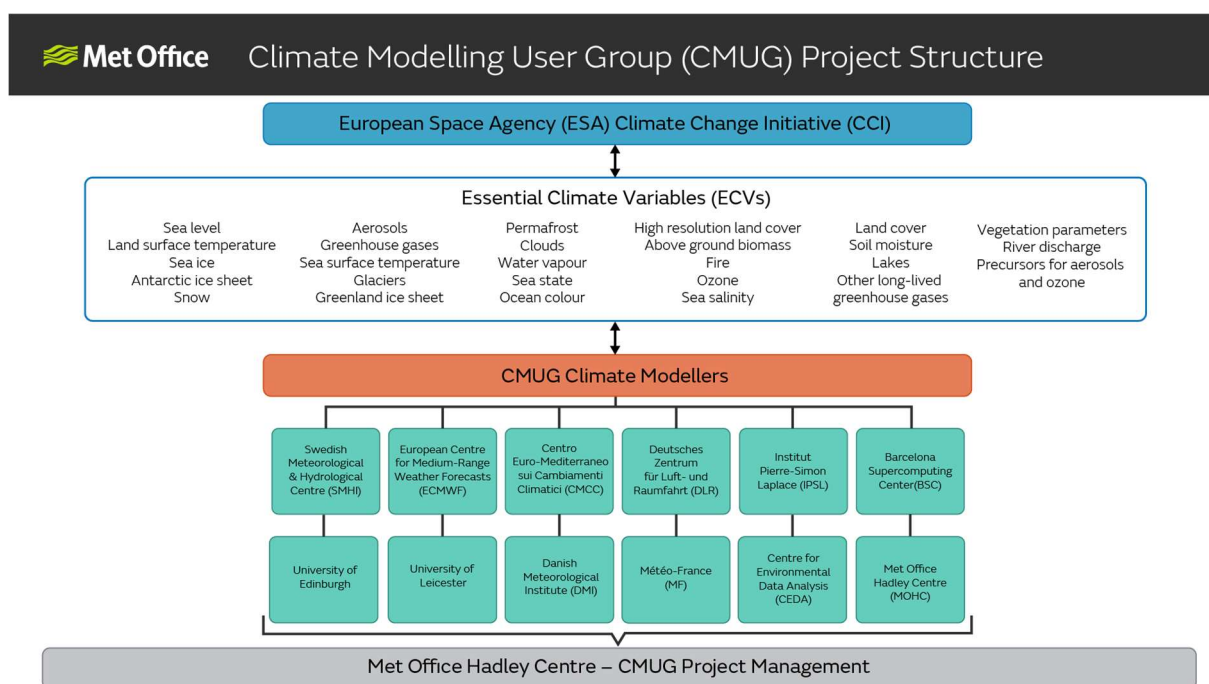


Figure 1: A table illustrating the structure of the CMUG project



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

Table 1: The institutions, individuals, roles and work package contributions for CCI+ CMUG Phase 1.

Institution	Names of individuals	Email	Role	Work packages (deliverables)	
				Lead	Contributor
Met Office	Richard Jones	Richard.jones@metoffice.gov.uk	Science Lead		All
	Amy Doherty	Amy.doherty@metoffice.gov.uk	Project manager (science)	WP1 WP3 WP7	
	Hannah Griffith	Hannah.griffith@metoffice.gov.uk	Communication and outreach	WP6	
	David Ford	David.ford@metoffice.gov.uk	Scientist	WP5.4	
	Debbie Hemming	Debbie.hemming@metoffice.gov.uk	Scientist		WP5.2
	Rob King	Rob.king@metoffice.gov.uk	Scientist		WP4 WP5.2
	Nic Gedney	Nicola.gedney@metoffice.gov.uk	Scientist		WP5.8
	Dom Lethem	Dom.lethem@metoffice.gov.uk	Admin/Finance		
	Richard Ozanne	Richard.ozanne@metoffice.gov.uk	Finance Manager		
	Phil Helmore	Philip.helmore@metoffice.gov.uk	Admin/Finance		
DLR	Veronika Eyring	Veronika.Eyring@dlr.de	Institution lead		WP4 WP5.1
	Axel Lauer	Axel.lauer@dlr.de	Institution co-lead	WP4	
	Lisa Bock	Lisa.bock@dlr.de	Scientist	WP5.1	
	Rolf Thiess	rolf.thiess@dlr.de	Admin/finance		
BSC	Pablo Ortega	Pablo.ortega@bsc.es	Institution lead		WP5.4 WP5.5
	Jeronimo Escribano	Jeronimo.escribano@bsc.es	Scientist	WP5.5	
	TBC		Scientist		WP5.4
	Mar Rodriguez	Mar.rodgiguez@bsc.es	Admin/Finance		
ECMWF	Angela Benedetti	Angela.benedetti@ecmwf.int	Institution Lead		WP5.5

**CMUG Deliverable****Number:** D8.0**Submission date:** 12 October 2023**Version:** 0.0

	Kirsti Salonen	Kirsti.salonen@ecmwf.int	Scientist		WP5.5
CMCC	Daniele Peano	Daniele.Peano@cmcc.it	Institution Lead	WP5.2	
	Ivana Losa	Ivana.losa@cmcc.it	Admin/Finance		
Meteo France	Jean-Christophe Calvet	Jean-christophe.calvet@meteo.fr	Institution Lead	WP5.3	
	Lydie Romet	ppr@meteo.fr	Admin/Finance		
SMHI	Ulrika Willén	Ulrika.Willen@smhi.se	Institution Lead	WP5.7	
	Madeleine Benderyd	Madeleine.benderyd@smhi.se	Admin/finance		
IPSL	Frédérique Cheruy	Frederique.cheruy@lmd.ipsl.fr	Institution Lead		WP5.6
	Catherine Ottele	Catherine.ottle@lsce.ipsl.fr	Scientist	WP5.6	
	Philippe Peylin	Philippe.peylin@lsce.ipsl.fr	Scientist	WP5.6	
	Maud Grenet	maud.grenet@cea.fr	Admin/Finance		
STFC-UKRI	Alison Waterfall	Alison.waterfall@stfc.ac.uk	Institution Lead		WP3
DMI	Shuting Yang	sy@dm.dk	Scientist		WP5.7
	Ruth Mottram	rum@dm.dk	Scientist		WP5.7
UoL	Robert Parker	Rjp23@leicester.ac.uk	Institution Lead	WP5.8	
	Cristina Ruiz Villena	Crv2@leicester.ac.uk	Scientist		WP5.8
UoE	Paul Palmer	pip@ed.ac.uk	Institution Lead		WP5.8

The institution and work package leads are noted in Table 1. Institution leads are the points of contact within each organisations and the direct reporting lines between the institutions in the project. This structure ensures that the work of the partners is carried out efficiently in an integrated way to effectively achieve the aims of the work packages and the goals of the project. The management structure which supports this work is also flexible enough to adapt to changes in the project should they arise.



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

3 Management team and governance

3.1 Management team

The Met Office Hadley Centre will be the **lead organisation** for the CMUG project and will work in close cooperation with the other members of the CMUG consortium. Governance of the project will continue from the previous phase as an inclusive process whereby the strengths and individual skills of the partners in the consortium can be used to their maximum benefit.

The **Science Leader** of the project, from the Met Office Hadley Centre, will provide the intellectual direction for the project. They will work in collaboration and cooperation with the science leaders of the other institutions in the consortium. All decisions will be made with full agreement of all the Science Leads and the Project Manager.

The **Project Manager** is responsible for ensuring that the project functions effectively, according to ESA's requirements, and conforms to relevant institutional directives and the consortium agreement. CMUG management will be conducted using industry standard best practice.

The Project Manager is supported by a **Finance Manager** who will work to support the financial functions of the project. Specialist communications directly between ESA's finance department and the Met Office Hadley Centre Finance Manager will take place for contractual financial matters. See the PSS forms submitted with the proposal for more information about project finances.

Contact between ESA officers and the Task Leads of the project will also take place as needed to cover scientific and technical issues in a direct way. The Project Manager will be kept informed of such communications. Section 3.4 in this document describes the lines of reporting.

3.2 Governance

The Science Leader, Project manager, WP leads and Institution leads named in Figure 1 will constitute the programme board and they will meet in person or by teleconference at least every quarter to ensure the project is run according to plan and is achieving its goals. Communications between consortium partners will be implemented through face-to-face meetings, teleconferences, email and web-based information sharing (web pages and online documents).

The Science Leader of the project from the Met Office Hadley Centre will provide the strategic direction for the project in collaboration with the WP Leads. All decisions will be made with full agreement of all the science partners and the project manager.

The project manager is responsible for ensuring that the programme board functions effectively and conforms to relevant institutional directives and the consortium agreement. The project



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

manager will be the main point of contact between the consortium and the Technical Officer nominated by ESA.

3.3 Tasks and responsibilities

3.3.1 Project Manager's key tasks and responsibilities

The Project Manager, Amy Doherty (Met Office), will support the Science Leader in the overall management of the project and ensure that all tasks are executed in a coherent, consistent and efficient manner. The Project Manager will provide the necessary administrative and scientific support to the Science Leader to ensure the project remains within schedule, within budget and achieves its objectives. The Project Manager will be supported by a Finance Manager, Richard Ozanne (Met Office).

The Project Manager's key tasks and responsibilities are as follows.

1. To provide at Kick-Off (KO) and implement the Project Management Plan (PMP) to achieve the objectives of the project.
2. To monitor progress of each task and identify, follow up and close out all problems or underperformance.
3. To set up and maintain a project Actions Database, review it on a monthly basis, and chase up any actions outstanding.
4. To monitor progress of each task, ensure timeliness and quality of all deliverables and organize and attend progress meetings.
5. To lead the organisation of workshops and dedicated meetings with the CCI Projects.
6. To support the organisation of the working groups and to provide coordinated input to them.
7. To organise internal quality review and to ensure timeliness in submission of all deliverables.
8. To compile monthly progress reports and minutes of meetings.
9. To compile quarterly progress reports for a technically literate but non-expert audience.
10. To organize and attend progress meetings and ensure attendance by all necessary project team members.
11. To support the coordination of project activities with other relevant ongoing national, EC-funded and international projects.
12. To support the Science Leader
13. To coordinate the CSWG

3.3.2 WP Leads' management responsibilities

The WP Leads management responsibilities are:

1. At least one representative of CMUG from each institution shall participate in the following types of meetings during the duration of the project: Contract Progress Meeting with ESA, Scientific Workshops; Integration Meetings.
2. Appropriate representation from CMUG for the colocation meetings of three days (including one day for communication to stakeholders) usually held in the Oxford area to meet with key personnel from all CCI projects.
3. To contribute to the overall integrated approach of the CCI by building appropriate two-way interfaces between CCI projects, the Climate Modelling Community, and other international initiatives (e.g. WCRP, CMIP, CORDEX, Copernicus and H2020 climate projects).



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

4. To provide feedback to ESA and CCI projects at various levels (e.g. via technical notes and progress meetings).
5. Design and implement mechanisms to link with the whole Climate Modelling Community, including organisations, networks, international modelling programmes like “Coupled Model Intercomparison Project Phase 7” (CMIP7), scientific bodies, European and other international initiatives and the “Intergovernmental Panel for Climate Change” (IPCC).
6. To provide input and direction, and to further the aims and objectives of the CSWG

The WP leads are as follows:

WP1	Climate community requirements collection and analysis	Amy Doherty	Met Office
WP3	CMUG support to the future evolution of obs4MIPs	Amy Doherty	Met Office
WP4	CCI contributions to the ESMValTool	Axel Lauer	DLR
WP5.1	Machine learning to advance climate model evaluation and process understanding	Lisa Bock	DLR
WP5.2	Impacts and evaluation of vegetation phenology changes on observed and modelled land-atmosphere processes	Daniele Peano	CMCC
WP5.3	Impact of integrating CCI LC data in the ISBA land surface models	Jean-Christophe Calvet	MeteoFrance
WP5.4	Seasonal predictability of Ocean Biogeochemistry and potential benefits of ESA CCI data assimilation	David Ford	Met Office
WP5.5	Cloud and aerosol analysis study	Jeronimo Escribano	BSC
WP5.6	Snow dynamics impacts on temperature/high latitude climate	Catherine Ottlé and Philippe Peylin	IPSL
WP5.7	Atmospheric drivers and feedback processes affecting the Greenland and Antarctic ice-sheets in observations and regional climate models	Ulrika Willén	SMHI
WP5.8	Using machine learning to evaluate and understand our capability to model tropical wetland methane emissions	Rob Parker	UoL
WP6	Coordination and Outreach	Hannah Griffith	Met Office
WP7	Project management	Amy Doherty	Met Office

3.3.3 Overview of internal coordination mechanism for CMUG

The main internal coordinating mechanism for CMUG management is the quarterly progress meeting (QPM) held remotely by Microsoft Teams. This will be chaired by the Project Manager and attended by representatives from each WP and CMUG partner as required. These meetings will cover CMUG activity (progress and results) against Deliverables, and Milestones and consideration will be given to the integration of work and results. The meetings will also cover



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

interactions with the CCI, interactions with the Climate Research Community and financial and contractual matters. There will be discussion of near-term plans to cover the period up to the next meeting. Meeting actions and decisions will be recorded in a shared online document and reviewed at the start of each meeting.

In addition to this full project meeting, monthly management meetings will be held internally at the Met Office and the management team will also meet regularly with the CMUG ESA Technical Officer.

3.4 Lines of reporting

Partner institutions report to the Met Office project management team who, in turn, report to ESA. All deliverables are submitted through the Met Office and approved by the Project Manager and Science Lead before submission to ESA. The Met Office gathers and collates material for monthly and quarterly reports (see section 5) and those deliverables for which a cross-project response is required.

CMUG science leaders and scientists working with each ECV are expected to contact relevant CCI ECV teams directly as required to keep them informed of progress and facilitate ongoing communication. In addition to ad hoc and informal communication, these CCI ECV project representatives will be present at the Kick-off (KO), Mid Term Review (MTR) and Final Review (FR) meetings for each Science Study. All contact will be reported to the Met Office project management team for inclusion in the monthly reports to ESA, which will contain a table of all interactions between CMUG and the ECV teams.

4 Project Management

4.1 Milestones and deliverables

Table 2 shows the schedule for milestones and payments with the deliverables associated with each milestone listed, as the science study timescales may shift the deliverables listed may shift to later milestones, with the agreement of the ESA Technical Officer.

Milestone	Due Date	WPs providing deliverables
1	March 2024	1, 3, 4, 5.1, 5.2, 5.3, 5.5, 5.6, 5.8, 6, 7
2	September 2024	3, 4, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 6, 7
3	March 2025	4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 6, 7
4	September 2025	4, 5.2, 5.4, 5.7, 5.8, 6, 7



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

5	March 2026	6, 7
6	September 2026	1, 4, 6, 7

Table 2: Milestone timing with WPs providing deliverables for each and due dates.

Table 3 shows a more detailed breakdown of deliverables and their due dates. For the science studies in WP5 these may be rescheduled with the agreement of the ESA Technical Officer.

Deliverable	WP	Month	Date
D8.2	WP6	M1	Sept 2023
D8.0	WP7	M1	Sept 2023
D8.5	WP7	M1	Sept 2023
D6.3	WP6	M2	Oct 2023
D6.1 v1	WP6	M4	Dec 2023
D8.2	WP6	M4	Dec 2023
D8.5	WP7	M4	Dec 2023
D6.2	WP6	M5	Jan 2024
D1.1 v3	WP1	M6	Feb 2024
D2.0e	WP5.5	M6	Feb 2024
D2.3c	WP5.3	M7	Mar 2024
D8.2	WP6	M7	Mar 2024
D8.5	WP7	M7	Mar 2024
D2.0c	WP5.3	M8	Apr 2024
D6.3	WP6	M8	Apr 2024
D2.0a	WP5.1	M9	May 2024
D2.0h	WP5.8	M9	May 2024
D8.5	WP7	M10	Jun 2024
D2.0b v1	WP5.2	M11	Jul 2024
D2.2e	WP5.5	M11	Jul 2024
D6.2	WP6	M11	Jul 2024
D8.2	WP6	M11	Jul 2024
D5.7f	WP3	M12	Aug 2024
D5.3 v1	WP4	M12	Aug 2024
D2.3e	WP5.5	M12	Aug 2024
D3.1e	WP5.5	M12	Aug 2024
D2.0f	WP5.6	M12	Aug 2024
D5.3 v2	WP4	M12	Aug 2024
D3.1c	WP5.3	M12	Aug 2024
D2.2c	WP5.3	M12	Aug 2024
D8.1	WP8	As requested by ESA climate office	
D8.5	WP7	M13	Sep 2024



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

D6.3	WP6	M14	Oct 2024
D8.2	WP6	M14	Oct 2024
D2.0g	WP5.7	M15	Nov 2024
D6.1 v2	WP6	M16	Dec 2024
D2.0b v2	WP5.2	M17	Jan 2025
D2.0d	WP5.4	M17	Jan 2025
D2.2h	WP5.8	M17	Jan 2025
D6.2	WP6	M17	Jan 2025
D8.2	WP6	M17	Jan 2025
D8.5	WP7	M17	Jan 2025
D2.2a	WP5.1	M18	Feb 2025
D3.1a v1	WP5.1	M18	Feb 2025
D3.1a v2	WP5.1	M18	Feb 2025
D2.3a	WP5.1	M18	Feb 2025
D2.3f v1	WP5.6	M18	Feb 2025
D2.2f	WP5.6	M18	Feb 2025
D2.3f v2	WP5.6	M18	Feb 2025
D2.3h	WP5.8	M18	Feb 2025
D3.1h	WP5.8	M18	Feb 2025
D6.3	WP6	M20	Apr 2025
D8.2	WP6	M20	Apr 2025
D8.5	WP7	M20	Apr 2025
D2.2d	WP5.4	M21	May 2025
D2.3g	WP5.7	M21	May 2025
D2.3d	WP5.4	M22	Jun 2025
D3.1d	WP5.4	M23	Jul 2025
D2.2g	WP5.7	M23	Jul 2025
D6.2	WP6	M23	Jul 2025
D8.2	WP6	M23	Jul 2025
D8.5	WP7	M23	Jul 2025
D8.1	WP7	As requested by ESA climate office	
D3.1g	WP5.7	M24	Aug 2025
D2.3b	WP5.2	M24	Aug 2025
D2.2b	WP5.2	M24	Aug 2025
D3.1b	WP5.2	M24	Aug 2025
D6.3	WP6	M26	Oct 2025
D8.2	WP6	M26	Oct 2025
D8.5	WP7	M26	Oct 2025
D6.1 v3	WP6	M28	Dec 2025
D6.2	WP6	M29	Jan 2026
D8.2	WP6	M29	Jan 2026



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

D8.5	WP7	M29	Jan 2026
D8.2	WP6	M32	Apr 2026
D8.5	WP7	M32	Apr 2026
D8.2	WP6	M35	Jul 2026
D8.5	WP7	M35	Jul 2026
D1.1 v4	WP1	M36	Aug 2026
D5.3 v3	WP4	M36	Aug 2026
D8.3	WP7	M36	Aug 2026
D8.1	WP7	As requested by ESA climate office	

4.2 Actions database

The Actions Database records and track all actions associated with the wider project (not including purely management team issues), including those stemming out of meetings, and scientific-based issues. The Actions Database will include action reference numbers, a reference to the corresponding meetings (if relevant), actionee, action description, due date, status. The Actions Database will be shared in a Microsoft Excel format at management meetings. It is available at: [Actions Database.xlsx](https://metoffice.sharepoint.com/:x:/r/sites/CMUGExt/Working%20Documents/Actions%20Database.xlsx?d=wd60a639e927942fcb478be389d152766&csf=1&web=1&e=AsbLbq) (https://metoffice.sharepoint.com/:x:/r/sites/CMUGExt/Working%20Documents/Actions%20Database.xlsx?d=wd60a639e927942fcb478be389d152766&csf=1&web=1&e=AsbLbq)

A risk register is maintained and updated at the quarterly progress meetings. Vsn 2 is given in Table 3.

<i>Severity of impact</i>	<i>Likelihood of occurrence</i>	<i>Prevention</i>	<i>Mitigation</i>	<i>Owner</i>	<i>Date</i>
Risk 1: CCI ECV projects not delivering data on time or to the required standard					
High	Medium to high	Liaise closely with ECV teams to know when this is happening	Negotiate with ESA for either a change in the CMUG deliverable or more time for the ECV to deliver required data	CMUG consortium, Project Manager	13 August 2020
Risk 2: Loss of key team members					
High	Medium	Re-negotiation of CMUG role	Recruitment of replacement	CMUG consortium, Project Manager	13 August 2020
Risk 3: CMUG not engaging with international initiatives					
Medium	Low	Identify the correct lead(s) of international initiatives of interest to CMUG	Draw in new experts to CMUG to take on this engagement work	CMUG consortium, CMUG Science Lead, Project Manager	13 August 2020
Risk 4: CMUG not engaging with the climate research community					



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

Medium	Low	Identify new lead(s) within CMUG partners to do this activity. Find new channels for engagement	Would need to discuss with ESA what actions could best be taken to mitigate.	CMUG consortium, Project Manager	13 August 2020
Risk 5: CMUG not understanding user needs					
Medium	Low	Use Climate Services to understand user needs	Use Climate Services to understand user needs	CMUG consortium, Project Manager	13 August 2020
Risk 6: CMUG climate models not available					
Medium	Low	Ensure models are capable and ready	Use previous version	CMUG consortium, Project Manager	13 August 2020
Risk 7: Unforeseen impacts from Brexit (e.g. restrictions on computer sharing)					
Medium	Low	Have contingency resources in place	To be advised by CMUG management	CMUG consortium, Project Manager	13 August 2020
Risk 8: CMUG finances for non-Eurozone partners is reduced by exchange rate falls					
Low	Medium	Met Office to cover their shortfall in funding	To be advised by CMUG management	Met Office, SMHI, Project Manager	13 August 2020

Table 3. Risk register for the CMUG project, v2, 01-07-19)

5 Reporting

5.1 Monthly progress report

Monthly progress reports will be provided by the end of each calendar month for the full duration of the project. They will be communicated via e-mail to ESA and the CMUG consortium.

Monthly progress reports will summarise progress during the last calendar month as:

- Progress made for each Task (see Proposal), status of each deliverable, description of any difficulties, list of major events attended;
- A cumulative list of all publications (including conference presentations and posters);
- Actions from Actions Database raised, closed and outstanding;
- Report of problems and analysis of risk regarding slippage in the schedule (including planned actions to mitigate identified risks);
- List of past and upcoming project meetings
- Record of CMUG consortium meetings with CCI ECV project teams.

They will also include for the next calendar month:

- Summary of activities planned;
- Plan for communication activities, indicating events and conferences.

**CMUG Deliverable**

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

5.2 *Quarterly status report*

Quarterly status reports (QSRs) will be provided as required by ESA. The timing will depend on the schedule of the ESA Programme Board meetings, to which the CMUG quarterly report contributes. They will provide a 1-page summary of the following for a technically literate but non-expert audience:

- One key scientific highlight
- Overall project progress for the quarter
- Scientific outreach
- Publications for the month (papers, project reports, etc.)
- Major planned project activities for the next quarter

5.3 *Final project report*

A final report (D8.3) will be provided at the end of the project. It will describe the main achievements of the project as well as lessons learned (to be used to inform any continuation of CMUG activities). The Final Report will summarise CMUG activities, results and recommendations, and be 20-30 pages long including references and figures.

6 *Other reporting*

Minutes of the meetings (progress, integration, review, etc) will be taken by the Communications Officer and circulated in draft no more than one week after the meeting. Comments on the minutes will be incorporated and a final agreed version circulated to ESA, project partners and other attendees as appropriate. The minutes will also be recorded on a private CMUG SharePoint site for access only by ESA or CMUG. Minutes will be used to document agreed actions required in the project which will be recorded in the Actions Database and followed up by the Project Manager.

6 **Tasks and Deliverables**

The tasks addressed in this phase are:

- Task 1: Climate Community Requirements Collection and Analysis*
- Task 3: CMUG support to the future of obs4MIPs*
- Task 4: CCI contributions to ESMValTool*
- Task 5: Cross-ECV Science Studies*
- Task 6: Coordination and Outreach*
- Task 7: Project Management*

These tasks will be met by a set of deliverables to ESA, listed below, for which a set of work packages (WPs) contribute to. A breakdown of the individual Deliverables is shown in Table 4 which summarises the tasks and partners contributing to each of them and the Gantt chart showing timings is in Table 5. For Tasks 3 and 4 a more detailed breakdown of the contributing WPs is given in Section 8 of this document. The deliverables are structured to match those in the Statement of Work and listed in the table below:



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

Deliverable	Description	Contributors	Type
Task 1			
D1.1 v3	Climate Community Requirements – addition of new ECVs	MOHC, All	Doc
D1.1 v4	Climate Community Requirements – full review	MOHC, All	Doc
Task 3			
D5.7f	Obs4MIPs requirements and analysis report User gap	MOHC, All	Doc
Task 4			
D5.3v1-3	Annual report on progress achieved in integrating CCI ECVs into ESMValTool and the development of associated tools and diagnostics	DLR, Office Met	Doc
Task 5			
D2.0 (a-h)	Interim progress report	DLR, CMCC, M-F, MO, BSC, IPSL, SMHI, NCEO, All except UKRI	Doc
D2.2 (a-h)	Study description published on the CMUG website	DLR, CMCC, M-F, MO, BSC, IPSL, SMHI, NCEO, All except UKRI	Web page
D3.1 (a-h)	Report or peer reviewed paper.	DLR, CMCC, M-F, MO, BSC, IPSL, SMHI, NCEO, All except UKRI	Doc
D2.3 (a-h)	Technical note providing feedback to the CCI ECV teams	DLR, CMCC, M-F, MO, BSC, IPSL, SMHI, NCEO, All except UKRI	Doc
Task 6			
D6.1	Integration meeting report	MOHC, All	Doc
D6.2	CMUG slide show and poster	MOHC, All	ppt
D6.3	CMUG newsletter	MOHC, All	doc
D8.2	CMUG website content	MOHC, All	Web page
Task 7			
D8.0	Project management plan	MOHC	Doc
D8.1	Quarterly status reports	MOHC with input from partners	Doc



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

Deliverable	Description	Contributors	Type
D8.4	Monthly progress reports	MOHC with input from other partners	Doc
D8.5	An actions database which will be updated after each QPM	MOHC	Excel
D8.3	Final Report	MOHC with input	Doc

Table 4. List of deliverables for CMUG, the partner who leads a deliverable is highlighted in bold.



CMUG Deliverable

Number: D8.0
 Submission date: 12 October 2023
 Version: 0.0

7 Meetings

CMUG will organise meetings related to the CMUG activities as described in *Table 5*.

In general meeting minutes will be taken by the Communications Officer and circulated in draft no more than one week after the meeting. Comments on the minutes will be incorporated and a final agreed and signed version circulated to ESA, CMUG consortium and other attendees as appropriate. The minutes will also be recorded on a protected website for private access only by ESA and CMUG. Actions associated with meetings will be recorded by the Project Manager in the Actions Database; reports of scientific workshops will be provided by the Project Manager and posted on the CMUG project website after approval by ESA.

The meetings will be as follows.

- **Quarterly Progress meetings:** quarterly meetings with ESA, to monitor progress, via teleconference, at ECSAT or at a CMUG partner institution. WP Leads, the Science Leader and the PM will participate, and CMUG partners as needed. PM will report on these.
- **Integration meetings:** annual meeting with key representatives of the CCI projects and Climate Research Groups, to discuss issues from a climate model perspective. CMUG partners to attend as needed. PM will report on these.
- **Monthly meetings between Met Office and ESA**
- **Meetings with CCI projects, including Kick off, mid term review and final review for all science studies:** meetings with CCI projects, science leaders, and relevant working groups of CCI. PM will report on these in the monthly reports.
- **International Science meetings (scientific workshops with the climate research community):** as described in table 6, the PM will coordinate or manage as needed.
- **CSWG meetings:** 3 per year, with a focus on a subset of ECVs relevant to work being carried out in the CMUG WPs at the time.

KO	Date	EVENT	Days	Location	Attendees
+0	Sep 2023	KO meeting	1	Teams	All partners
+2	Nov 2023	Integration meeting	2	ECSAT	All partners
+5	Feb 2024	Progress meeting	1/2	Teams	WP Leads
+6	Mar 2024	CSWG	1/3	Teams	Relevant CMUG and CCI
+8	May 2024	Progress meeting	1/2	Teams	WP Leads
+9	Jun 2024	CSWG	1/2	Teams	Relevant CMUG and CCI
+12	Sep 2024	Progress meeting	1/2	Teams	WP Leads
+13	Oct 2024	CSWG	1/2	Teams	Relevant CMUG and CCI
+14	Nov 2024	Integration meeting	2	TBC (in person/hybrid)	All partners
+17	Feb 2025	Progress meeting	1/2	Teams	WP Leads
+18	Mar 2025	CSWG	1/2	Teams	Relevant
+20	May 2025	Progress meeting	1/2	Teams	WP Leads



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

+23	Sep 2025	Progress meeting	1/2	Teams	WP Leads
+25	Nov 2025	Integration meeting	2	TBC (in person/hybrid)	All partners
+28	Feb 2026	Progress meeting	1/2	Teams	WP Leads
+29	Mar 2026	CSWG	1/2	Teams	Relevant
+31	May 2026	Progress meeting	1/2	Teams	WP Leads
+32	Jun 2026	CSWG	1/2	Teams	Relevant
+35	Sep 2026	Progress meeting	1/2	Teams	WP Leads
+37	Nov 2026	Integration meeting/End of project meeting	2	Teams	All partners

Date	Meeting	Days	Location	Attendees
2X	Obs4MIPs meetings	2	Teams	~2
3X	Science meetings (e.g. EGU, IS-ENES3, LPS, CSWG)	3	Teams	~2
15X	CCI team meetings	2	Teams	~1

Table 5. CMUG meetings plan for CMUG phase 2.

8 Communications and Outreach

The Communications and outreach activities are listed under the deliverables in Table 4. It is also recognised that there will be times when an unscheduled outreach activity is needed at short notice, and these will be met whenever possible. The CMUG website will record outreach activity, and where possible, effectiveness and reported in the Monthly Report.

9 Work packages

WP1: Climate Community Requirements Collection and Analysis, lead by Amy Doherty (MOHC)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 1
WP Title: Climate Community Requirements Collection and Analysis		Sheet 1 of 1
Company: Met Office WP Manager: Amy Doherty		Issue Ref 2
Start Event: Phase start	Planned Date: KO	Issue Date
End Event: Phase end	Planned Date: KO+36	31/03/2023



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>Inputs:</p> <ul style="list-style-type: none"> • None <p>Tasks:</p> <p>Part 1:</p> <ul style="list-style-type: none"> • Identify expert users of new CCI ECV datasets • Interview users • Analyse results of interview • Incorporate updates to the GCOS implementation plan • Add user requirements to existing CMUG URD • Share analysis with relevant CCI projects <p>Part 2:</p> <ul style="list-style-type: none"> • Identify expert users • Carry out interviews • Analyse results • Incorporate updates to the GCOS implementation plan into analysis • Incorporate clarifications requested by ECV projects into analysis • Write up and update existing requirements document • Once approved circulate requirements document to all of ESA CCI <p>Outputs:</p> <ul style="list-style-type: none"> • D1.1v3: URD updated for new ECVs • D1.1v4: URD updated for all ECVs 	
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WP3: CMUG Support to the Future Evolution of obs4MIPs, lead by Amy Doherty (MOHC)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 3
WP Title: CMUG Support to the Future Evolution of obs4MIPs		Sheet 1 of 1
Company: Met Office WP Manager: Amy Doherty		Issue Ref 2
Start Event: Phase start	Planned Date: KO	Issue Date 31/03/23



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

End Event: D5.7f	Planned Date: KO+12	
Inputs: <ul style="list-style-type: none"> List of contacts to include key CMIP and CORDEX activities and at least 2 groups from less well resourced regions (e.g. South America or South East Asia) Tasks: <ul style="list-style-type: none"> Gather input from modelling and observation communities on the utility of obs4MIPs Carry out analysis and produce obs4MIPs User Requirements and Gap Analysis report (D5.7) Outputs: <ul style="list-style-type: none"> D5.7f: User Requirements and Gap Analysis report 		

WP4: CCI Contributions to ESMValTool, lead by Axel Lauer (DLR)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 4
WP Title: CCI contributions to ESMValTool Company: DLR WP Manager: Axel Lauer Start Event: Phase start End Event: Phase end		Sheet 1 of 1 Issue Ref 2 Issue Date 31/03/23
Planned Date: KO Planned Date: KO+36		
Inputs: CCI datasets: CLOUD <ul style="list-style-type: none"> cfc, iwp, lwp, toa_lwup, toa_lwup_clr, toa_sw_up, toa_swup_clr (ESACCI CLOUD, v3.0, AVHRR AM+PM, L3C (monthly) / L3U (daily)); CCI (L3C) already implemented into ESMValTool; will also add daily data (L3U) 		



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>LAND COVER</p> <ul style="list-style-type: none"> lccs_class (ESACCI-LC-L4-LCCS-Map-300m-P1Y-*-v2.0.7); v1.6 of CCI already implemented into ESMValTool – needs update to version v2.0.7/v2.1.1 (data available from Copernicus Climate Data Store) <p>LAND SURFACE TEMPERATURE</p> <ul style="list-style-type: none"> 1st (AQUA_MODIS_L3C_0.01, v3.00, MODIS EOS Aqua); CCI already implemented into ESMValTool (monthly values), daily values available from CEDA Archive <p>PERMAFROST</p> <ul style="list-style-type: none"> Permafrost extent (area fraction) (ESACCI-PERMAFROST-L4-PFR-MODISLST_CRYOGRIDAREA4_PP-fv03.0); data available on CEDA Archive Ground temperature, (ESACCI-PERMAFROST-L4-GTD-MODISLST_CRYOGRID-AREA4_PP-fv03.0); data available on CEDA Archive Active layer thickness (ESACCI-PERMAFROST-L4-ALT-MODISLST_CRYOGRID-AREA4_PP-fv03.0); data available on CEDA Archive <p>SEA SURFACE TEMPERATURE</p> <ul style="list-style-type: none"> sst (ESA SST CCI Analysis v2.0 (OSTIA-C3S-L4-GLOB-v2.0); v3.0 available soon); CCI already implemented into ESMValTool (monthly values), daily values available from Copernicus Climate Data Store; update to v3.0 once available <p>SNOW</p> <ul style="list-style-type: none"> Snow water equivalent (esacci.SNOW.day.L3C.SWE.multi-sensor.multiplatform.MERGED.2-0.r1); data available on CEDA Archive Snow cover fraction – snow on ground (esacci.SNOW.day.L3C.SCFG.multi-sensor.multiplatform.AVHRR_MERGED.2-0.r1); data available on CEDA Archive Snow cover fraction – snow on ground (esacci.SNOW.day.L3C.SCFG.MODIS.Terra.MODIS_TERRA.2-0.r1); data available on CEDA Archive <p>SOIL MOISTURE</p> <ul style="list-style-type: none"> sm (ESA CCI SM v07.1 COMBINED); v4.2 of CCI already implemented into ESMValTool – needs update to version v7.1 (data available via https://www.esa-soilmoisture-cci.org/) <p>WATER VAPOUR</p> <ul style="list-style-type: none"> tcwv (CM SAF / CCI TCWV-global (COMBI), v3.1 (CDR-2)); CCI already implemented into ESMValTool (monthly values); daily values available already downloaded <p>Model output:</p> <ul style="list-style-type: none"> CMIP5 and CMIP6 model ensembles CORDEX data 	
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CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>Tasks:</p> <ul style="list-style-type: none"> • WP4.1: Implementation of CCIs SNOW and PERMAFROST into ESMValTool and update of existing datasets • WP4.2: Implementation of uncertainty estimates into ESMValTool <p>Outputs:</p> <ul style="list-style-type: none"> • ESMValTool capacity to manipulate CCI SNOW and PERMAFROST • ESMValTool capacity to manipulate uncertainty information associated with CCI datasets • D5.3 (v1, v2, v3): Annual report on progress achieved in integrating CCI ECVs into ESMValTool and the development of associated tools and diagnostics. 	
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WP5.1: Machine Learning to advance climate model evaluation and process understanding, lead by Lisa Bock (DLR)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 5.1
WP Title: Machine learning to advance climate model evaluation and process understanding		Sheet 1 of 1
Company: DLR WP Manager: Lisa Bock and Veronica Eyring		Issue Ref 2
Start Event: Phase start Planned Date: KO End Event: Deliverable completion Planned Date: KO+18		Issue Date 31/03/23
Inputs: CCI datasets: <ul style="list-style-type: none"> • Clouds: cloud fraction (low, mid, high), liquid water path, ice water path, cloud optical depth, cloud top pressure/height, outgoing longwave radiation • Land cover: lccs_class • Land surface temperature: lst • Sea surface temperature: sst • Water vapour: water vapour column (tcwv) • Soil moisture: sm 		
Climate models:		



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<ul style="list-style-type: none"> • CMIP6 Earth system models • ICON-atmosphere (ICON-A) model <p>Tasks:</p> <ul style="list-style-type: none"> • WP5.1.1: Enhancing observational products for model evaluation with machine learning • WP5.1.2: Causal model evaluation for cloud regimes and land cover types <p>Outputs:</p> <ul style="list-style-type: none"> • D2.0a: Interim progress report • D2.2a: Study description published on the CMUG website • D3.1a v1: Report or peer-reviewed paper on enhanced observational dataset on cloud classes and corresponding model evaluation • D3.1a v2: Report or peer-reviewed paper on causal networks for cloud properties and cloud controlling factors • D2.3a: Technical note providing feedback to the CCI ECV teams 	

WP5.2: Impacts and evaluation of vegetation phenology changes on observed and modelled land-atmosphere processes, lead by Daniele Peano (CMCC)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 5.2
WP Title: Impacts and evaluation of vegetation phenology changes on observed and modelled land-atmosphere processes Company: CMCC WP Manager: Daniele Peano		Sheet 1 of 1 Issue Ref 2
Start Event: Phase start End Event: Phase end	Planned Date: KO Planned Date: KO+36	Issue Date 31/03/23
Inputs: CCI datasets: <ul style="list-style-type: none"> - ECV Land Cover (MRLC and HRLC) – habitat type and seasonal dynamics (NDVI) - ECV Vegetation – Leaf Area Index (LAI) when available 		



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<ul style="list-style-type: none"> - ECV Biomass – Above Ground Biomass (AGB) to delineate forest habitats - ECV Soil Moisture – Surface Soil Moisture (SM) - ECV LST – Land Surface Temperature (LST) - ECV Water Vapour – Near surface Water Vapour (WV) - ECV Snow – Snow Cover Fraction (SCF) and Snow Water Equivalent (SWE) <p>Tasks: WP5.2: Data analyses, preliminary testing and assessment of relationships between phenology and land-atmosphere processes</p> <p>Outputs: D2.0bv1. Short report on testing of preliminary CCI Vegetation LAI datasets D2.0bv2. Interim progress report D2.3b. Technical note providing feedback to ECV projects on the useability and documentation of the data D2.2b. Update to study description on CMUG website to include results and conclusions D3.1b. Scientific manuscript</p>	
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WP5.3: Impact of Integrating CCI LC in the ISBA and dCLM5 land surface models, lead by Jean-Christophe Calvet (Meteo-France)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 5.3
WP Title: Impact of integrating CCI LC in the ISBA and CLM5 land surface models		Sheet 1 of 1
Company: Meteo France WP Manager: Jean-Christophe Calvet		Issue Ref 2
Start Event:	Planned Date: KO+1	Issue Date
End Event:	Planned Date: KO+13	31/03/23



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>Inputs: CCI datasets:</p> <ul style="list-style-type: none"> • LC: v.1.6.1 • SNOW: SWE L3c v2.0 • SNOW: snow cover L3c v2.0 • SM: COMBINED v6.1 • LST: AQUA_MODIS_L3C_0.05, TERRA_MODIS_L3C_0.05 <p>Models:</p> <ul style="list-style-type: none"> • The ISBA land surface model within the SURFEX modelling platform • The LDAS-Monde land data assimilation system within the SURFEX modelling platform <p>Tasks:</p> <ul style="list-style-type: none"> • WP5.3.1: Production of four numerical experiments. • WP5.3.2: Analysis of results and documentation through a scientific paper or a report. <p>Outputs: D2.3c: Technical Note providing feedback to the ECV-CCI projects on the usability and documentation of the data D2.0c: Interim progress report D3.1c: A scientific paper or a report on Eurasia cases D2.2c: Updated study description on website including results and discussion.</p>	
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WP5.4: Seasonal predictability of ocean biogeochemistry and potential benefits of ESA CCI data assimilation, lead by David Ford (MOHC)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 5.4
WP Title: Seasonal predictability of ocean biogeochemistry and potential benefits of ESA CCI data assimilation. Part 1: Production and evaluation of ocean reconstructions assimilating different ESA products		Sheet 1 of 1
Company: Met Office		Issue Ref 2



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>WP Title: Aerosol and Cloud analysis</p> <p>Company: BSC WP Manager: Enza Di Tomaso</p> <p>Start Event: Phase start Planned Date: KO End Event: Planned Date: KO+12</p>	<p>Sheet 1 of 1</p> <p>Issue Ref 2</p> <p>Issue Date 31/03/23</p>
<p>Inputs:</p> <p>CCI datasets:</p> <ul style="list-style-type: none"> • Aerosol ECVs (Aerosol Optical Depth, Fine mode Aerosol Optical Depth) • Cloud ECVs (Cloud Optical Depth) <p>Models:</p> <ul style="list-style-type: none"> • Integrated Forecast System • MONARCH <p>Tasks:</p> <p>WP5.5.1: Dust aerosol analysis with the BSC system WP5.5.2: Cloud/aerosol analysis with the ECMWF system</p> <p>Outputs:</p> <p>D2.0e Interim report on progress achieved in the activity D2.2e Briefing note on the study and description for the CMUG web site D2.3e Recommendations to CCI aerosol and cloud teams D3.1e Final report or draft paper</p>	

WP5.6: Snow dynamics impact on temperate/high latitude climate, lead by Catherine Ottlé and Philippe Peylin (IPSL)

<p>PROJECT: CCI+ CMUG PHASE: 2</p>	<p>WP: 5.6</p>
<p>WP Title: Snow dynamics impact on temperate/high latitude climate</p> <p>Company: IPSL WP Manager: Philippe Peylin and Catherine Ottlé</p> <p>Start Event: Phase start Planned Date: KO End Event: Planned Date: KO+14</p>	<p>Sheet 1 of 1</p> <p>Issue Ref 2</p> <p>Issue Date 31/03/23</p>



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>Inputs: CCI ECVs:</p> <ul style="list-style-type: none"> • ECV snow: Snow Cover Fraction (SCF) and Snow Water equivalent (SWE) • ECV Land Cover (MRLC and HRLC): Ecosystem type (tree / Shrub / herbaceous) and seasonal conditions (NDVI) • ECV Fire: Burnt areas and linked FRY database • ECV Biomass: forest Above Ground Biomass (AGB) • ECV Soil Moisture : Surface soil moisture • ECV LST: Land surface temperature • ECV Permafrost: Active layer depth/thickness (ALT) and permafrost temperature <p>Models:</p> <ul style="list-style-type: none"> • ORCHIDEE • Earth System Model <p>Tasks: WP5.6.1: Data analysis and consistency checks between snow/land cover/fire ECVs – role of land cover and fire in the snow dynamics</p> <p>WP5.6.2: Assimilation of SCF and SWE data to optimise parameters of the snow model (using the ORCHIDEE data assimilation tools)</p> <p>Outputs:</p> <ul style="list-style-type: none"> • D2.0f: Interim report on i) the analysis of the SCF and SWE historical evolution as a function of major Plant Functional Types, used in land surface models (trees (deciduous vs evergreen), shrubs, grassland, bare soil) and ii) the structural improvement of the snow model in ORCHIDEE. • D2.3fv1: Technical report on the optimisation of the ORCHIDEE snow model parameters with the CCI SCF and SWE. • D2.2f: Study description including results and conclusions uploaded to CMUG website • D2.3fv2: Technical note providing feedback to the CCI ECV projects on the use of their datasets. 	
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CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<ul style="list-style-type: none"> • D2.3g: Technical Note providing feedback to the ECV-CCI projects on the useability and documentation of the data • D2.2g: Study description published on the CMUG website • D3.1g: Draft paper or technical report outlining the results 	
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WP5.8: Using Machine-Learning to evaluate and understand our capability to model tropical wetland methane emissions, lead by Rob Parker (NCEO, UoL)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 5.8
WP Title: Using Machine-Learning to Evaluate and Understand our Capability to Model Tropical Wetland Methane Emissions Company: Met Office WP Manager: Amy Doherty Start Event: Phase start Planned Date: KO+2 End Event: Phase end Planned Date: KO+20		Sheet 1 of 1 Issue Ref 2 Issue Date 31/03/2023
Inputs: CCI ECVs: <ul style="list-style-type: none"> • GHG (CH₄ from both TROPOMI and GOSAT), • Land Surface Temperature, • Soil Moisture, • Land Cover • + potential for more (e.g. Vegetation). Models: <ul style="list-style-type: none"> • GEOS-Chem • Jules • UKESM Tasks: <ul style="list-style-type: none"> • WP 5.8.0 – Management and Reporting Duration: 18 months This work package will underpin the project, covering all management and reporting aspects as well as engagement with the wider CMUG programme. • WP 5.8.1 – Land Surface Model Simulations Duration: 3 months We will produce an ensemble of JULES wetland methane simulations, focused over tropical wetland regions. This ensemble 		



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<p>will cover a range of JULES configurations and a range of choice of input data. The intention is that we follow the Global Carbon Project methane simulation protocol so that any results from this study are more widely applicable to ongoing activities. Expected outcomes: Model ensemble suitable for training emulator</p> <ul style="list-style-type: none"> • WP 5.8.2 – Emulator Development Duration: 5 months We will develop a machine-learning based emulator for JULES wetland methane emissions, building on previous successful emulation of JULES soil moisture and gross primary productivity. Further, once developed, we will use explainable AI capabilities of the emulator (e.g., feature importance) to explore how the input data drives the resulting model output and how the specific model configuration affects this behaviour. Expected outcomes: Trained machine-learning based emulator for JULES wetland CH₄ emissions and subsequent analysis of emulator explainability • WP 5.8.3 – CCI Data-Driven Emulation Duration: 9 months This work package will use the emulator developed in WP2 and drive it using ESA-CCI data as input in order to produce a wetland methane emission dataset consistent with input data from multiple ECVs (e.g., land surface temperature) along with an associated characterisation of the uncertainty, as propagated through the emulator. Depending on the results of this work package, we expect to explore the potential for using different resolutions of LST-CCI data (e.g., large-scale gridded data such as that produced for Obs4MIP vs high-resolution Sentinel 3 data). Expected outcomes: Dataset for wetland methane emissions • WP 5.8.4 – Atmospheric Inversions and Evaluation Duration: 7 months In this work package, UoE would perform dedicated atmospheric flux inversions of the GHG-CCI data at 0.25° x 0.3125° resolution over an African domain that incorporates major tropical African wetland areas such as the Sudd, Congo and Zambezi. The results (estimates of methane emissions) will be used to evaluate the original JULES simulations (from WP1) and assessed for consistency with the CCI data-driven estimates produced by the emulator (from WP3). Expected outcomes: Wetland methane emission estimates based on GHG-CCI data <p>Outputs:</p> <ul style="list-style-type: none"> • D2.0h: Interim Progress Report • D2.2h: Study Description on CMUG Website 	
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CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

<ul style="list-style-type: none"> • D2.3h: Technical Note providing feedback to the ECV-CCI projects in the useability and documentation of the data • D3.1h: A draft paper (or technical note) outlining the project results 	
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WP6: Communications and Outreach, lead by Hannah Griffith (MOHC)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 6
WP Title: Communications and outreach Company: Met Office WP Manager: Hannah Griffith Start Event: Phase start Planned Date: KO End Event: Phase end Planned Date: KO+36		Sheet 1 of 1 Issue Ref 2 Issue Date 31/03/23
Inputs: None Tasks: <ul style="list-style-type: none"> • Organisation of annual CMUG Integration meetings • Bi-annual CMUG newsletter • Participation in annual CCI colocation meetings • Organisation of CSWG meetings (3 per year) • Liaise with KE • Participate in relevant external events (in 2023: WCRP Open Science Conference and ICRC-CORDEX) • Promotion of CCI ECV datasets • Maintenance of an up to date set of powerpoint slides and a poster • Web site maintenance 		
Outputs: D6.1: CMUG Integration meeting report D6.2: CMUG slide show and poster D6.3: CMUG newsletter D8.2: CMUG website content		



CMUG Deliverable

Number: D8.0
Submission date: 12 October 2023
Version: 0.0

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WP7: CMUG Management, lead by Amy Doherty (MOHC)

PROJECT: CCI+ CMUG	PHASE: 2	WP: 7
WP Title: CMUG Management Company: Met Office WP Manager: Amy Doherty Start Event: Phase start Planned Date: KO End Event: Phase end Planned Date: KO+36		Sheet 1 of 1 Issue Ref 2 Issue Date 31/03/23
Inputs: None Tasks: The Science Leader will: <ul style="list-style-type: none"> • Lead the consortium. • Be responsible for setting-up the project in a manner that facilitates interaction, exchange and coordination. • Participate in activities carried out by the CMUG partners and CCI teams. • Manage the science interface with key groups. • Actively link to and interact with the CCI projects and CCI working groups. • Build interfaces and linkages with relevant actors and ensure efficient coordination and collaboration with all relevant partners and external activities of the wider community. • Ensure feedback mechanisms with the wider climate science and modelling community. • Establish coordination and efficient cooperation with relevant on-going external activities and projects inside and outside Europe. Work closely with the project manager to achieve all milestones and ensure the timely delivery and quality of all documents and data sets.		
The project manager will: <ul style="list-style-type: none"> • Provide at kick-off and implement the Project Management Plan (PMP) to achieve the objectives of the project. 		



CMUG Deliverable

Number: D8.0

Submission date: 12 October 2023

Version: 0.0

- Monitor progress of each task and identify, follow-up and close-out all problems or under-performance.
- Maintain a list of all CCI programme contacts, including ESA TOs, ECV project SLs, PMs and CRG participants.
- Set up and maintain a project actions database, review the actions on a monthly basis, and chase-up any actions outstanding.
- Monitor the progress of each task, ensure timeliness and quality of all deliverables, and organize and participate in all project meetings.
- Compile monthly progress reports (MPR) and minutes of meetings.
- Compile quarterly status reports (QSR) for a technically literate but non-expert audience.
- Support the coordination of project activities with other relevant on-going national, EC funded and international projects,
- Ensure the project web site is kept up to date.
- Nominate CMUG point of liaison for each ECV project.

Outputs:

- D8.0: Project management plan (PMP)
- D8.1: Quarterly status reports (QSR)
- D8.4: Monthly progress reports to the ESA CMUG TO (MR)
- Monthly management meetings with the ESA CMUG TO (MM)
- Quarterly progress meetings with the whole consortium and the ESA CMUG TO, all other CCI TOs will be invited to these meetings (QPM)
- D8.5: An actions database which will be updated after each QPM
- D8.3: Final report (FR)