



**CMUG Deliverable**

**Number:** D6.2  
**Due date:** 31 May 2022  
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# Climate Modelling User Group

## Deliverable 6.2 v3

## Promotion Package Report

Centres providing input: MOHC

Version	Date	Comment
1.0 Draft	May 2022	Draft submitted to ESA
1.0 Final	June 2022	Final version accepted by ESA



Max-Planck-Institut  
für Meteorologie





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## CMUG D6.2 Promotion Package Report

### 1. Introduction

CMUG's mission is to place a climate perspective at the centre of ESA's Climate Change Initiative (CCI). This report documents how CMUG has promoted CCI datasets and CMUG results to the climate modelling and reanalysis community, international bodies and climate researchers. This version (v3) covers the period since the previous D6.2 Promotion Package Report v2 (June 2021) until May 2022. Material that has been prepared for promotion of CCI products have included:

- Presentations at conferences, workshops and meetings
- Website kept up-to-date and relevant, with results and material promoting the CCI
- Journal papers illustrating the use of some of the CCI datasets
- Horizon scanning for outreach opportunities
- Maintain within the project plan a section on communications and outreach
- Respond to ad-hoc requests for outreach activities

### 2. Promotion Package

#### 2.1 Meetings and Workshops

Between June 2021 and May 2022, CMUG has been involved in the following significant meetings and workshops. There has been one Climate Science Working Group (CSWG) meeting, two CMUG Progress Meetings, one Integration and Colocation meeting and several other meetings and workshops. In particular, there have been several meetings to discuss plans for the next phase of the project.

Date	Meeting/workshop	Location	CMUG role
<b>2021</b>			
5 Jul	CMUG Quarterly Progress Meeting	Online	Progress update meeting
4-5 Oct	CMUG Integration Meeting	Online	Discuss science highlights and plan for next phase
6-8 Oct	CCI Colocation	Online	Attend
23-25 Nov	2 <sup>nd</sup> Technical ESMValTool Workshop		Bring together the development community, discuss future strategies and provide progress updates

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29 Nov	CMUG Next Phase Meeting	Online	Discussions with ESA and partners on next phase planning
<b>2022</b>			
23 Jan	Next Phase Experiments Discussion	Online	Discussions with ESA and partners on next phase experiment ideas and potential proposals
10 Feb	CMUG Quarterly Progress Meeting	Online	Progress update meeting
4 Apr	CMUG CSWG Meeting	Online	Focus on Progress Updates since the last Integration Meeting (Oct 2021) and Next Phase Discussions
9-13 May	Met Office Climate Services Week Event	Met Office, UK	Host a stall with poster and leaflets to advertise CMUG and ESA CCI datasets
23-27 May	2022 Living Planet Symposium	Bonn, Germany	Attendance and presented an overview talk

**2.2 Website**

The [CMUG website](#), hosted on [ESA's web server](#), is fully functional and kept up-to-date. The website plays a key and central role to CMUG's Promotion Package. It will continue to be added to and updated to take further advantage of this key platform of promotion for CMUG. CMUG website consists of the following:

- A Home page with a brief introduction about the project and highlights of recent news and events.
- An 'About' tab with detailed information on the project, its structure, objectives, aims and main activities.
- A 'News' tab with news items relevant to CMUG.
- A 'Case Studies' tab with a showcase of recent CMUG case studies, such as ESMValTool, Obs4MIPs and several CCI ECV projects.
- A 'Deliverables & Documents' tab which lists all CMUG deliverables and documents.
- A 'Team' tab showcasing partner members and individual biographies.
- A 'Publications & Presentations' tab which lists and links to all publications (e.g., newsletters, posters, scientific papers) and presentations (e.g., presentations from each CMUG Integration meeting since March 2011).
- A 'Related Links' tab with links and short descriptions for Obs4MIPs, GCOS, WCRP and C3S webpages.
- A 'Contacts & FAQ' tab with information on how to contact CMUG for further information or with any questions, as well as a comprehensive FAQ section.



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### 2.3 CMUG Website Case Studies

CMUG Deliverable 2.2 was originally the 'CMUG Data Forum' which existed on the old CMUG website. Once the new website had been fully implemented, it was found that the information once showcased on the old CMUG Data Forum was a repeat or obsolete with respect to the new website content. The CMUG Data Forum as a separate webpage was removed and deliverable (D2.2) was redesigned to instead reflect the 'Case Studies' tab on the new website.

Information on this new 'Case Studies' tab will continue to be updated and maintained and used to promote the CMUG project. Several new case studies have been added in the period of this report June 2021 – May 2022. For example, these include information regarding the following:

- ESMValTool
- Obs4MIPs
- Copernicus Climate Data Store Toolbox
- ESA CCI ECVs such as Aerosol, Snow, Land Surface Temperature, Soil Moisture, Sea Ice, Clouds, Sea Surface Temperatures, Ozone, and other marine ECVs

### 2.4 Publications and Papers

CMUG publishes papers on its verification and validation work and encourages others to publish the results of their research on CCI datasets. CMUG has had three new publications between June 2021 and May 2022, which are listed below as well as in Annex A1 where the number of citations from Google Scholar (as of May 2022) are also included.

1. Acosta Navarro, J.C., J. García-Serrano, V. Lapin, P. Ortega, Added value of assimilating springtime Arctic sea ice concentration in summer-fall climate predictions, *Environmental Research Letters*, Accepted, 2022.
2. Authors, Evaluating clouds using ESA CCI data, *J. Clim.* Submitted 2022.
3. Klose, M., Jorba, O., Gonçalves Ageitos, M., Escribano, J., Dawson, M. L., Obiso, V., Di Tomaso, E., Basart, S., Montané Pinto, G., Macchia, F., Ginoux, P., Guerschman, J., Prigent, C., Huang, Y., Kok, J. F., Miller, R. L., and Pérez García-Pando, C.: Mineral dust cycle in the Multiscale Online Nonhydrostatic Atmosphere Chemistry model (MONARCH) Version 2.0, *Geosci. Model Dev.*, 14, 6403–6444, <https://doi.org/10.5194/gmd-14-6403-2021>, 2021.

CMUG also works to bring to the fore any research in CMUG papers that is relevant for the IPCC assessment reports.



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## 2.5 Other Outreach and Promotion Activities

### *Newsletters*

Newsletters continue to be produced at regular intervals, coincident with CSWG or other significant meetings. There have been two newsletters produced and circulated between June 2021 and May 2022. One was circulated for the CMUG Integration Meeting in October 2021 and a second was circulated for the CSWG Meeting in April 2022. Each newsletter is produced and circulated to the meeting attendants a week or two ahead of the respective meeting. The purpose of the newsletter is to advertise the upcoming meeting, with details and agenda outlined, as well as to highlight any relevant CMUG news, scientific or otherwise. The newsletters can be found in Annex A2 (as well as at the associated webpage [here](#)).

### *External SharePoint Site*

CMUG has continued to use SharePoint as a centralised location for document storage and file sharing. This replaced the previous system which used a mixture of SharePoint and Google Docs which was inefficient. The new centralised approach to use SharePoint for everything has proven successful, with efficiency greatly improving and collaboration on documents, files, and reports etc. The site is continually maintained by CMUG, which includes adding new members where needed, solving any technical issues, and keeping the Home page calendar up-to-date with upcoming events.

### *Met Office Street Event May 2022*

CMUG participated in the Met Office Climate Services Week Event 9-13<sup>th</sup> May 2022. This event was held at the Met Office headquarters in Exeter, UK. The event was internal to the Met Office colleagues and was an opportunity for CMUG to advertise the project and its main outputs. A poster and leaflets were produced and displayed, with the leaflets given out to interested participants, which outlined the project and its main outputs.

See Annex A3 for the poster and leaflets that were showcased at the event.

### *Living Planet Symposium May 2022*

CMUG participated in ESA's [2022 Living Planet Symposium](#) (LPS) held on 23-27 May 2022 at the World Conference Centre Bonn, Germany. This symposium focused on "how Earth observation contributes to science and society, and how disruptive technologies and actors are changing the traditional Earth observation landscape, which is also creating new opportunities for public and private sector interactions." (quote taken from the LPS website [here](#)). At the LPS in May 2022, the CMUG project manager presented an overview talk in the



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session on “Exploring the interface of observations and modelling” which generated useful discussions and feedback. This was followed up by a meeting with the heads of the CMIP and CORDEX project offices about collaboration in the next phase of CMUG. The CMUG science lead also gave a presentation in the plenary session on “The global climate: a status update” entitled “Earth Observation contributions to the IPCC AR6 WGI”.



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## **Annex A**

### **Contents**

- **A1 CMUG Publications with Citations June 2021 – May 2022**
- **A2 CMUG Newsletters June 2021 – May 2022**
- **A3 Met Office Street Event May 2022 Poster and Leaflet**





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## A1 CMUG Publications with Citations June 2021 – May 2022

Annex A1 is a table listing the three new CMUG peer-reviewed publications between June 2021 and May 2022. References are given and the number of citations (Google Scholar, May 2022).

Paper	Citations
<b>Acosta Navarro, J.C., J. García-Serrano, V. Lapin, P. Ortega,</b> Added value of assimilating springtime Arctic sea ice concentration in summer-fall climate predictions, Environmental Research Letters, Accepted, 2022.	-
<b>Authors</b> "Evaluating clouds using ESA CCI data" J. Clim. Submitted, 2022.	-
Klose, M., Jorba, O., Gonçalves Ageitos, M., Escribano, J., Dawson, M. L., Obiso, V., <b>Di Tomaso, E.</b> , Basart, S., Montané Pinto, G., Macchia, F., Ginoux, P., Guerschman, J., Prigent, C., Huang, Y., Kok, J. F., Miller, R. L., and <b>Pérez García-Pando, C.:</b> Mineral dust cycle in the Multiscale Online Nonhydrostatic Atmosphere Chemistry model (MONARCH) Version 2.0, Geosci. Model Dev., 14, 6403–6444, <a href="https://doi.org/10.5194/gmd-14-6403-2021">https://doi.org/10.5194/gmd-14-6403-2021</a> , 2021.	4

## A2 CMUG Newsletters June 2021 – May 2022

Annex A2 showcases the two CMUG newsletters between June 2021 and May 2022. All newsletters can also be found on the CMUG's website page [here](#).

### Newsletter for Integration October 2021

**CMUG**  
CCI

**climate change initiative**  
→ **CMUG NEWSLETTER**

**CMUG Recent News & Science Highlights**

- CMUG held its ninth Progress Meeting on 5<sup>th</sup> July 2021.
- A Masters Thesis based on CMUG work has been published at BSC: "Skill assessment of a set of retrospective decadal climate predictions with EC-Earth" by Jaume Ruiz de Merales.
- The ESMValTool version 2.3 has been released including updated ESA CCI CLOUD data. Diagnostics based on Ocean Colour, Land Surface Temperature, Sea Surface Salinity, Water Vapour and Methane CCI ECVs are under review and will be implemented into ESMValTool soon.
- A CMUG report on the suitability of CCI ECVs for Climate Science and Services was circulated to all CCI projects on 20<sup>th</sup> September 2021.
- Planning for the next phase of CMUG has begun. There will be further discussions on the next phase of CMUG at the upcoming Integration Meeting 4<sup>th</sup>–5<sup>th</sup> October 2021.
- CEDA take on the work of including the ESA CCI ECV datasets in the obs4MIPs database.

**In this issue:**

- Upcoming CMUG Integration Meeting 4<sup>th</sup>–5<sup>th</sup> Oct 2021
- CMUG Recent News
- Integration Meeting Oct 2021 Agenda
- CMUG ECV Data Use
- CMUG Key Contacts
- New CMUG Publications

**Upcoming: CMUG Integration Meeting, Oct 2021**

CMUG is organizing its tenth Integration Meeting on 4<sup>th</sup> – 5<sup>th</sup> October 2021. This Integration Meeting will include a session showcasing the science highlights since the last integration meeting and 2 sessions starting to look at ideas for CCI+ Stage 2.

CMUG looks forward to useful discussions and welcomes input from the CCI ECV projects into shaping the next phase. The agenda is presented on the following page and can also be directly accessed [here](#).

The previous and ninth CMUG Integration Meeting was held on 6–7<sup>th</sup> November 2019, at the Barcelona Supercomputing Center, Barcelona. The webpage for this meeting, including links to the meeting report, can be accessed [here](#).

**CLIMATE CHANGE INITIATIVE** CMUG Newsletter | October 2021

**CMUG Integration Oct 2021, agenda Monday 4<sup>th</sup> – Tuesday 5<sup>th</sup> October 2021**

British Summer Time (BST): 4<sup>th</sup> Oct. 13:00 – 16:00 5<sup>th</sup> Oct. 09:00 – 16:00  
 Central European Time (CET): 4<sup>th</sup> Oct. 14:00 – 17:00 5<sup>th</sup> Oct. 10:00 – 17:00

**Agenda: (time given in BST)**

**Oct. 4, 2021**

- Opening and welcome (from ESA) (13:00 – 13:20)
- Session 1 CMUG: Introductions from CMUG, CMUG Contribution to Obs4MIPs (13:20 – 14:30)
- Afternoon break (14:30 – 15:00)
- Session 1 CMUG Continued: Maximizing CMUG Contribution to CCI in Future (breakout sessions) and report back plenary (15:00 – 16:00)

**Oct. 5, 2021**

- Session 2 CMUG: Science Highlights since last CMUG Integration Meeting: WP3, WP4 & WP5 (09:00 – 10:00)
- Morning break (10:00 – 10:30)
- Session 2 CMUG Continued: Science Highlights Discussion (breakout sessions) and report back plenary (10:30 – 12:00)
- Lunch break (12:00 – 13:00)
- Session 3 CMUG: Future CMUG Experiments (breakout sessions) (13:00 – 14:00)
- Afternoon break (14:00 – 14:30)
- Session 3 CMUG Continued: Report back from breakout sessions on CMUG Next Phase of Experiments and Documents (14:30 – 15:15)
- Session 3 CMUG Continued: Wrap up and Forward Look (15:15 – 16:00)

**CMUG ECV Data Use**

Follow this [link](#) to a document which shows which ECVs are used in which WPs.

**CMUG Key Contacts per CMUG Partner**

**Met Office**

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*Newsletter for CSWG April 2022*

ECV	Publication	Author	Institution
Aerosols	Angela Benedetti	ECMWF	www.ecmwf.int
	David Ford	Met Office	www.metoffice.gov.uk
Biome/Biosphere	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Clouds	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Fire/Burnt area	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Glaciers	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Greenhouse Gases	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Land cover	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
LST	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Ocean Colour	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Permafrost	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Sea level	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Sea State	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Sea surface salinity	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
SST	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Snow	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Soil Moisture	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk
Water Vapour	David Ford	Met Office	www.metoffice.gov.uk
	David Ford	Met Office	www.metoffice.gov.uk



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**A3 Met Office Street Event May 2022 Poster and Leaflet**

CMUG poster for the Met Office Street Event May 2022

**The ESA CCI Climate Modelling User Group**

Met Office, Exeter, U.K.; Barcelona Supercomputing Centre (BSC), Barcelona, Spain; Deutsches Zentrum für Luft- und Raumfahrt (DLR), Oberpfaffenhofen, Germany; European Centre for Medium-range Weather Forecasting (ECMWF), Reading, U.K.; Institut Pierre Simon Laplace (IPSL), Paris, France; Max-Planck Institute für Meteorologie (MPI-M), Hamburg, Germany; Météo France, Toulouse, France; Swedish Meteorological and Hydrological Institute (SMHI), Norrköping, Sweden; Science and Technology Facilities Council – UK Research Institute, Harwell, UK.

**What is CMUG?**

ESA has established the Climate Modelling User Group (CMUG) to place a climate system perspective at the centre of its Climate Change Initiative (CCI) programme.

CMUG provides a dedicated forum through which the Earth Observation (EO) data community and the climate science and services community can work closely together. CMUG works with the Essential Climate Variables (ECV) CCI projects to achieve this goal. Figure 1 to the right shows the structure of the CMUG project.

**What is CCI?**

The European Space Agency (ESA) set up the Climate Change Initiative (CCI) programme with the objective to realise the full potential of the long-term global EO archive that ESA, together with its Member states, has established over the past 30 years, as a significant and timely contribution to the ECV databases required by the Global Climate Observing System (GCOS).

The programme undertakes the activities necessary to meet its objective of supporting the UNFCCC through GCOS-defined ECVs. The CCI programme comprises 23 parallel projects geared to ECV data production.

**Overview**

**Climate Modelling User Group (CMUG) Project Structure**

**ESMValTool**

The Earth System Model Evaluation Tool (ESMValTool) is a community diagnostics and performance metrics tool for the evaluation of Earth System Models (ESMs) that allows for routine comparison of single or multiple models, either against predecessor versions or against observations.

The priority of the CMUG effort so far has been to target specific scientific themes focusing on selected ECVs. The tool is being developed in such a way that additional analyses can easily be added. A set of standard recipes for each scientific topic reproduces specific sets of diagnostics or performance metrics that have demonstrated their importance in ESM evaluation in the peer-reviewed literature. CMUG continuing to add useful diagnostics related to the CCI ECVs, this is a work in progress.

The ESMValTool is a community effort open to both users and developers encouraging open exchange of diagnostic source code and evaluation results from the CMIP ensemble. This will facilitate and improve ESM evaluation beyond the state-of-the-art and aims at supporting such activities within the Coupled Model Intercomparison Project (CMIP) and at individual modeling centers.

**Obs4MIPs**

A wide variety of observationally-based datasets are used for climate model evaluation. Obs4MIPs (Observations for Model Intercomparison Project) refers to a limited collection of documented datasets that have been organised according to the Coupled Model Intercomparison Project (CMIP) model output requirements and made available on the Earth System Grid Federation (ESGF).

This effort was initiated with support from NASA and the U.S. Department of Energy (DOE) and has now expanded to include contributions from a broader community including ESA. Obs4MIPs underpins model evaluation in CMIP (and beyond) and thus makes a significant contribution to the assessment of and sustained improvement in model quality, e.g., as reported by IPCC. The CCI ECV projects contribute ECV data sets, which are decided to be of most interest to the CMIP community, to Obs4MIPs.

**C3S**

The Copernicus Climate Change Service (C3S) mission is to support adaptation and mitigation policies of the European Union by providing consistent and authoritative information about climate change. C3S offers free and open access to climate data and tools based on the best available science.

**CMF**

The Climate Monitoring Facility (CMF) is an interactive interface that facilitates the evaluation of the multi-year variability of various statistics computed from a variety of climate data records (CDRs). The tool is designed to evaluate the long-term homogeneity and perform a consistency analysis of the selected CDRs.

All data included in the C3S Climate Data Store can be accessed by the CMF and these include ESA CCI ECVs: Sea Surface Temperature, Ocean Colour, Sea Level, Sea Ice, Soil Moisture, Ozone, and Aerosols.

**Climate Services Interface**

CMUG would like to reach out to climate data users from the climate services sector to:

- better understand their requirements
- receive feedback on the usefulness of the existing products
- gather information on where improvements can be made to ESA CCI products

Please contact CMUG if you would be interested in giving feedback: <mailto:cmug@metoffice.gov.uk>

**How to access the ESA CCI ECV data: <https://climate.esa.int/en/explore/>**

ESA CCI data are available from a wide variety of platforms and organisations and are free at the point of use. Some services may require user registration.

- The Data Toolbox provides a simple platform for CCI data exploration and analysis: <https://data-toolbox.esa.int/>
- CCI data products are available to download at the Open Data Portal: <https://climate.esa.int/en/cci/open-data-portal/>
- The Copernicus Climate Change Service (C3S), many ESA CCI ECV datasets are processed and updated regularly to support and user applications. This service, led by the European Centre for Medium-Range Weather Forecasts (ECMWF), provides operational climate data records to support adaptation and mitigation policies in Europe in response to climate change. These data sets are available from the C3S Climate Data Store: <https://cds.climate.copernicus.eu/info> and C3S toolbox: <https://cds.climate.copernicus.eu/faq#openData>
- ESMValTool: <https://www.esmvaltool.org/>
- Obs4MIPs: <https://esgf-node.llnwd.net/projects/obs4mips/>

Met Office FitzRoy Road, Exeter, Devon, EX1 3PB United Kingdom <http://www.esa-cmug-cci.org>

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CMUG leaflet for the Met Office Street Event May 2022

<p><b>The ESA CCI Climate Modelling User Group (CMUG)</b></p> <p>Met Office, Exeter, U.K., Barcelona          Supercomputing Centre (BSC), Barcelona, Spain,          Deutsches Zentrum für Luft- und Raumfahrt (DLR), Oberpfaffenhofen, Germany, European Centre for Medium-range Weather Forecasting (ECMWF), Reading, U.K., Institut Pierre Simon Laplace (IPSL), Paris, France, Max-Planck Institute für Meteorologie (MPI-M), Hamburg, Germany, Météo France, Toulouse, France, Swedish Meteorological and Hydrological Institute (SMHI), Norrköping, Sweden, and Science and Technology Facilities Council – UK Research Institute, Harwell, UK</p>	<p><b>Contact Info:</b></p>		<p><b>Climate Modelling User Group (CMUG)</b></p>	<p><b>What is CMUG?</b></p>	<p><b>Tools for using CCI data</b></p>	<p><b>CMUG Key Links</b></p>
	<p>Project office email: <a href="mailto:CMUG@metoffice.gov.uk">CMUG@metoffice.gov.uk</a>                  Project manager email: <a href="mailto:amy.doherty@metoffice.gov.uk">amy.doherty@metoffice.gov.uk</a>                  Project science lead email: <a href="mailto:richard.kines@metoffice.gov.uk">richard.kines@metoffice.gov.uk</a>                  Project comms email: <a href="mailto:hannah.grimm@metoffice.gov.uk">hannah.grimm@metoffice.gov.uk</a></p>	<p>Linking the climate modelling and services community and satellite Earth observation (EO) experts across the CCI programme.</p>		<p><b>What is CCI?</b></p>	<p><b>Obs4MIPs</b>                  Observations for Model Intercomparison Project (Obs4MIPs) refers to a collection of documented datasets that have been organised according to the Coupled Model Intercomparison Project (CMIP) model output requirements and made available on the Earth System Grid Federation (ESGF).</p> <p><b>ESMValTool</b>                  The Earth System Model Evaluation Tool (ESMValTool) is a community diagnostics and performance metrics tool for the evaluation of Earth System Models (ESMs) that allows for routine comparison of single or multiple models, either against predecessor versions or against observations.</p> <p><b>ESMValTool</b> <a href="http://www.esmvaltool.org">www.esmvaltool.org</a></p> <p><b>Climate from space web app</b>  <a href="https://chs.climate.esa.int/index.html">https://chs.climate.esa.int/index.html</a></p> <p><b>Climate videos and animations</b>  <a href="https://climate.esa.int/en/explains/videos/">https://climate.esa.int/en/explains/videos/</a></p>	<p><b>C3S</b>                  The Copernicus Climate Change Service (C3S) mission is to support adaptation and mitigation policies of the European Union by providing consistent and authoritative information about climate change. C3S offer free and open access to climate data and tools based on the best available science.</p> <p>CCI EOV datasets are operationalized by C3S when they are in a mature form.</p> <p>C3S <a href="https://climate.copernicus.eu/">climate.copernicus.eu/</a>                  C3S Climate Data Store: <a href="https://ods.climate.copernicus.eu/#/home">https://ods.climate.copernicus.eu/#/home</a>                  C3S toolbox: <a href="https://ods.climate.copernicus.eu/odsapp/#/tool-box">https://ods.climate.copernicus.eu/odsapp/#/tool-box</a></p> <p><b>CMF</b>                  The Climate Monitoring Facility (CMF) is an interactive interface that facilitates the evaluation of the multi-year variability of various statistics computed from a variety of climate data records (CDRs).</p> <p>CMF: <a href="https://apps.ecmwf.int/climate-monitoring/">apps.ecmwf.int/climate-monitoring/</a></p>
	<p><b>Website links:</b></p>					
	<p>ESA CCI website: <a href="http://climate.esa.int/en/">climate.esa.int/en/</a>                  CMUG website: <a href="http://climate.esa.int/en/projects/cmug/">climate.esa.int/en/projects/cmug/</a></p>					
	<p><b>Accessing data:</b></p> <p>Main page: <a href="https://climate.esa.int/en/explore/">https://climate.esa.int/en/explore/</a>                  The Cate Toolbox, a simple platform for CCI data exploration and analysis: <a href="https://cci-tools.github.io">https://cci-tools.github.io</a>                  Open Data Portal: <a href="https://climate.esa.int/en/odp/#/dashboard">https://climate.esa.int/en/odp/#/dashboard</a></p>					