

ESA Climate Change Initiative

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ESA Climate Office

cci.esa.int | [@esaclimate](https://twitter.com/esaclimate)

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Harwell Science Campus, near Oxford



ECSAT – ESA's base in the UK....



Home of the **ESA Climate Office** – ESA's hub for climate research

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European Space Agency

ESA Climate Office



central point for coordinating all Earth
Observation work conducted by ESA relating
to climate and climate change




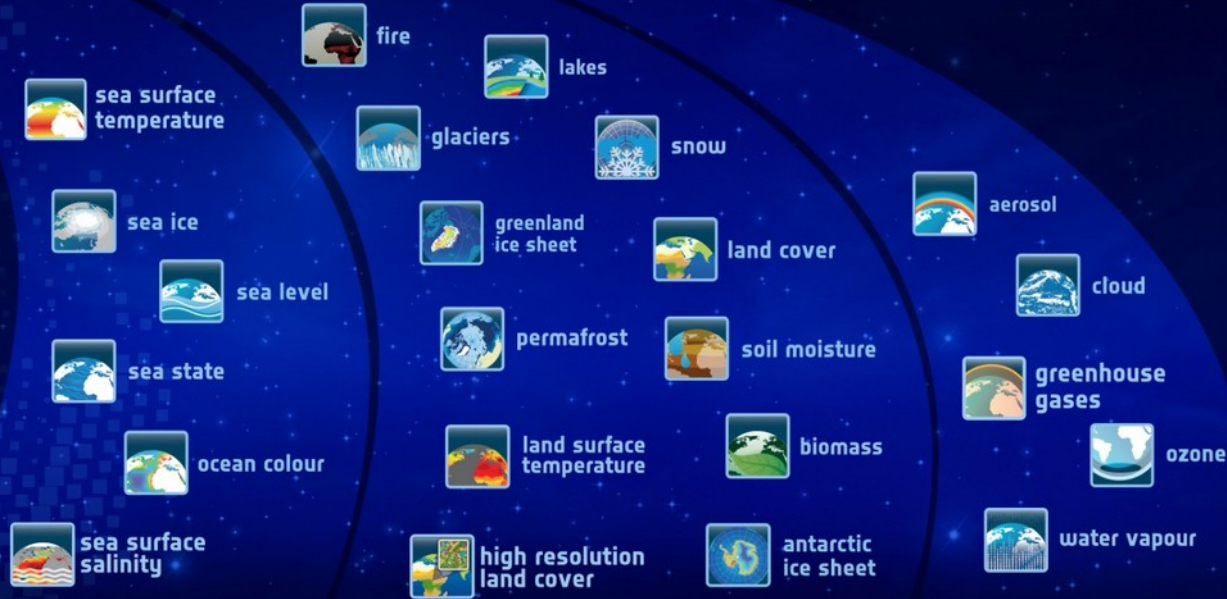
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European Space Agency




 climate modelling
 user group
 cci



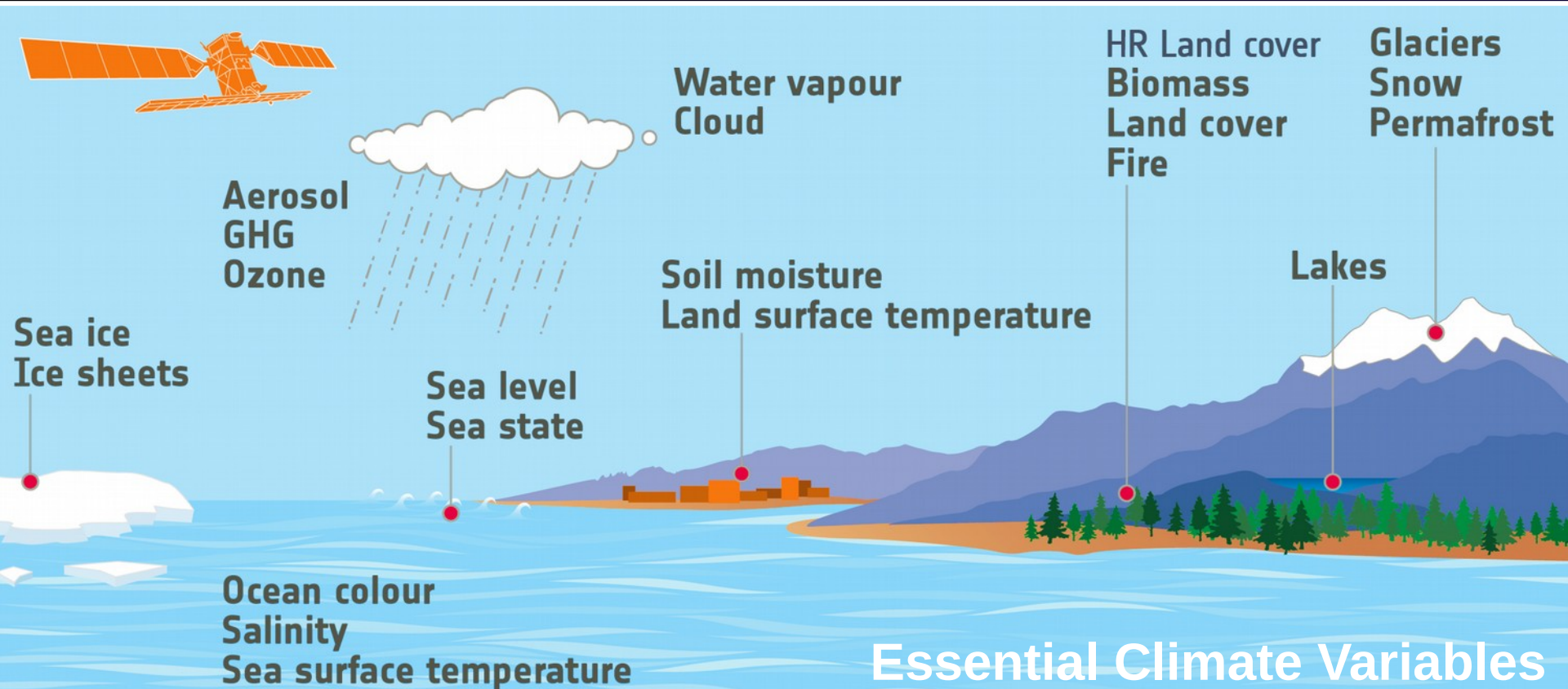
climate change initiative

Oceanic  sea level
 budget closure
 cci

Terrestrial  reccap-2
 cci

Atmospheric

Plus two budget closure projects, climate modelling user group, open data portal, toolbox for data analysis and outreach activities.



Essential Climate Variables

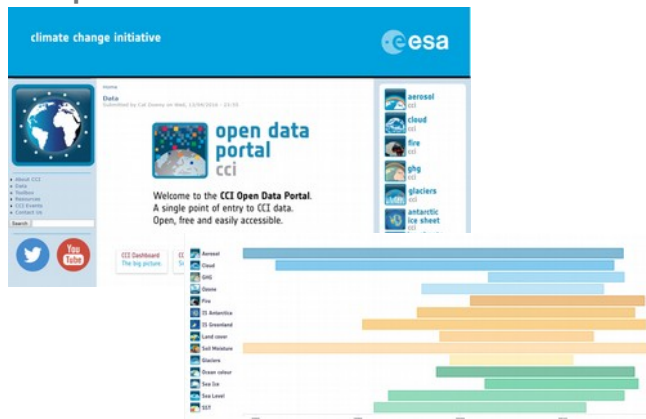
data for 9 more
ECVs coming
soon



CCI ECV data specifications and information



<http://cci.esa.int/data>



<https://climatetoolbox.io>

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- ✓ Gridded (at a usable resolution e.g. $\frac{1}{4}$ degree)
- ✓ Global coverage (where applicable)
- ✓ Long time series (20-30 years)
- ✓ Useful temporal resolution (daily, monthly...)
- ✓ Validated (by *in situ* observations) and tested by users
- ✓ Bias corrected (e.g. between different satellites)
- ✓ Uncertainty characterisation (per pixel, correlated...)
- ✓ Consistency between CCI_ECV datasets (e.g. SST and Sea Ice)
- ✓ Fully documented (CCI documentation) and version controlled
- ✓ Peer reviewed publications
- ✓ Available on CCI Data Portal, and Copernicus Services
- ✓ Can be sourced back to algorithm choice
- ✓ Level 1, 2 or 3
- ✓ Supporting information, e.g. cloud masks
- ✓ Data produced for specific audiences (e.g. Randolph Glacier Index)
- ✓ Data on Obs4MIPS

ESA | Slide 7



CCI toolbox - climatetoolbox.io



open data portal



local file system



The screenshot displays the CCI toolbox interface with a central globe view of Europe. The interface is divided into several panels:

- Data Sources:** A list of local data sources with a search bar. A red box highlights this panel with the label "Data sources".
- Operations:** A list of operations such as "adjust_spatial_attrs", "animate_map", and "compute_data_frame". A red box highlights this panel with the label "Operations".
- Workspace:** A workflow editor showing a sequence of steps like "ds_4 Dataset" and "animation_1 HTML". A red box highlights this panel with the label "Workspace".
- Variables:** A table of attributes for the selected dataset. A red box highlights this panel with the label "Variables".

Name	Value
title	ESA SST CCI OS...
references	http://www.esa-...
resource	ESACCI
history	Created using O...
license	GHRSSST protoc...
naming_authority	org.ghrsst
uuid	19b1f7a4-d8d1-...
tracking_id	19b1f7a4-d8d1-...
gds_version_id	2.0
netcdf_version_id	4.1.3
file_quality_level	3
time_coverage_start	2006-01-01T12:...
stop_time	2006-01-01T12:30:00Z



CCI achievements to date



450
European
scientists

178
Institutions



21
ECVs

13 ECVs transferred
to Copernicus



Open data



134
terabytes

150+
datasets

4.2
million
files

610
Peer-reviewed
articles



IPCC AR5
28 Contributing
authors

15 Papers,
cited 60 times



climate change initiative

→ **CLIMATE MODELLING USER GROUP**



cmug
cci

Climate Modelling User Group (CMUG)



- The Climate Modelling User Group and provides **places a climate system perspective at the centre of the CCI programme**, a forum through which the Earth Observation Data Community and Climate Modelling and Reanalysis Community can work closely together.
- CMUG conducts **modelling and reanalysis experiments** on CCI datasets to understand their usability in a research context.
- CMUG results are fed back to the CCI_ECV teams in the way of **Quality Assessment Reports**, giving the teams insight in to how the data may be improved for users.
- CMUG is using CCI data with community assessment tools in climate research. This is mostly with developing **ESMValTool** components to use CCI data as provided through **Obs4MIPs**.



CCI Colocation Meetings – every year in March



Thank you

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