An open data portal for ESA's Climate Change Initiative

Debbie Clifford ⁽¹⁾, Hannah Clarke⁽²⁾ and Victoria Bennett⁽³⁾

⁽¹⁾Department of Meteorology, University of Reading, UK, E-mail: d.j.clifford@reading.ac.uk ⁽²⁾ Telespazio VEGA UK, 350 Capability Green, Luton, LU1 3LU United Kingdom ⁽³⁾ Centre for Environmental Data Archival, STFC Rutherford Appleton Laboratory, Harwell, UK



Primary objective and key requirements

To develop an Open Data Portal providing a central point of harmonised access to mature Climate Change Initiative (CCI) Essential Climate Variable (ECV) datasets

- Complementary to the data access mechanisms provided by each CCI project lacksquare
- A "shop window" for the CCI programme (explore, discover and access data, request • support, share and collaborate through the on-line community...)
- Must be user-friendly and reliable, offering long-term availability and free and open ulletaccess to data
- An online user requirements survey is here: <u>http://tinyurl.com/portal-survey-0615</u> ۲

Who are the expected users?

International climate research community contributing to IPCC scientific assessments, including climate model development, verification and data assimilation, and scientists performing research on climate change monitoring, detection, attribution and mitigation.

Features of the portal

- The open data portal will provide **a simple** web-based interface as a single dedicated point-of-access for all CCI data products and for all ESA Climate Change enquiries .

























- Climate service developers and providers, ۲ to support in their development and provision of climate services.
- Earth system reanalysis community, for • use in reanalysis model development, verification and data assimilation.
- General public, for access to general • information about the CCI programme and success stories.
- It will feature search and data discovery tools for CCI data products and facilitate efficient and expedient data access. This will be based on a CCI Central Data Archive and Metadata Catalogue.
- The portal will provide a comprehensive repository for information on the CCI and a user forum for queries, discussion and feedback.
- The portal will be the host for a CCI **toolbox** dedicated to the discovery, interrogation and analysis of CCI data products.

Current ECV projects cover aerosol, cloud, fire, greenhouse gases, glaciers, ice sheets, land cover, ocean colour, ozone, sea ice, sea level, sea surface temperature and soil moisture.



Example CCI ocean colour data set. The CCI is realizing the potential of Earth Observation to provide stable, long-term, global ECV data products. Comprehensive information is also provided on uncertainties, calibration and validation, long term algorithm maintenance, data curation and reprocessing.



Example ESGF interface to CCI data. Climate modellers are already familiar with the Earth System Grid Federation as a host to climate model output, and integration with ESGF will be a significant step in improving access to ECVs for the modelling community.

First steps and project timeline

The project began in May 2015 with a duration of 3 years. The first steps are:

		Search	Clear search
(x) query:chlorophyll	Examples: <i>temperature</i> , <i>"surface temperature"</i> , <i>climate AND project:CMI</i> To download data: add datasets to your Data Cart, then click on <i>Expand</i>	P5 AND variable:hus. or wget.	constraints and datacart Search Help Search Controlle Vocabulary
Search Categories	Search All Sites 📋 Show All Replicas 📋 Show All Versions		
Project	< 1 <u>2</u> <u>3</u> <u>117</u> <u>118</u> <u>></u> displaying 1 to 10 of 1178 search results		
Institute	Display 10 Image: datasets per page Add All Displayed to Datacart Remove All Displayed from Datacart		
Model			
SubModel	Results Data Cart		
Instrument			
Experiment Family	experiment=historical, time_frequency=mon, modeling realm=ocnBgchem, ensemble=r1i1p1.		
Experiment	version=20120723		
SubExperiment	Data Node: esgdata1.nccs.nasa.gov Version: 20120723 Description: GISS-E2-H-CC model output prepared for CMIP5 historical Eurther options: Add To Cart, Visualize and Analyze, Model Documentation		
Time Frequency			
Product	House options <u>Aug to barry House of Augusta</u> moder boodmonad		

- Rapid deployment of portal FTP site offering key ECV datasets
- Quick integration of existing programme web site
- Portal baseline requirements analysis exercise

This will be followed by development of the central data archive, metadata catalogue, and interfaces, together with an improved programme web site with catalogue search interface, helpdesk function, ECV dashboard and document library.

The project will also support ECV teams in maintaining the individual project web sites, and submitting CCI data sets to the Obs4MIPs database, through training and assistance with data preparation.

For further information on the CCI data, portal and toolbox please see ESA Climate Office presentations from the ECMWF Climate Change Service workshops in 2015, e.g. http://tinyurl.com/ESA-CO-C3S









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