Common Metadata for Climate Modelling Digital Repositories

Newsletter 10 – September 2011

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Life beyond Metafor

The Metafor project formally came to an end on the 31st August 2011. The project team would like to thank everyone involved in the project, and all those who provided feedback and inputs for the CIM, the controlled vocabularies and the CMIP5 questionnaire.

Unfortunately the Metafor joomla website at http://metaforclimate.eu was hacked recently, and so was taken down. The http://metaforclimate.eu domain has been redirected to the associated wiki and subversion directory, which will remain live for the forseeable future. Management information that was maintained on the joomla site is slowly being migrated to the wiki.

The CMIP5 questionnaire will also remain operational and will be supported by the BADC as part of their work as a CMIP5 data node.

The IS-ENES project (https://is.enes.org/) will have many of the tools and services handed over to them for further development, as many of their aims build on our work for the benefit of the wider community. Discussions are continuing to integrate Metafor next steps in an IS-ENES-2 proposal to further develop the CIM and the associated ecosystem of tools.

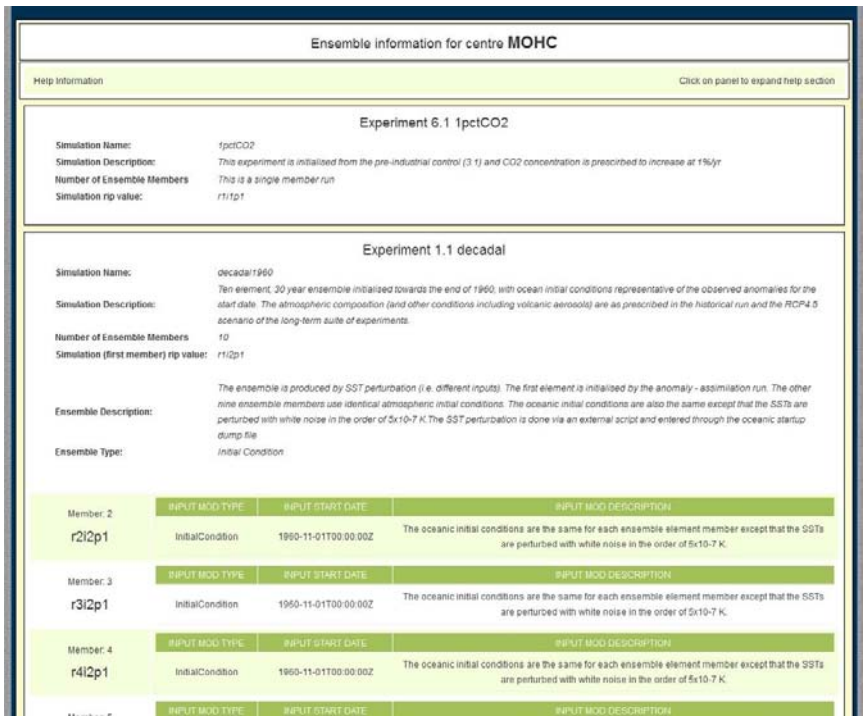
CIM update

Work has been completed to develop CIM version 1.9.2 for the Metafor project. Version 1.9.2 contains significant changes in some parts, relative to its predecessor, version 1.5. One of the main objectives of the move from Version 1.5 to 1.9.2 was to make the CIM standards compliant. Specifically, this refers to the ISO TC211 suite of standards that relate to geographic information. Particularly central among this suite are ISO 19156: Observations and Measurements, and ISO 19136, Geography Markup Language. The UML model for CIM v1.9.2 is checked into svn at http://proj.badc.rl.ac.uk/svn/metafor/CIM/branches/dev1.9.2.

CMIP5 Questionnaire update

A new addition to the CMIP5 questionnaire has been the introduction of the 'ensemble member' information page. This has been introduced to aid users who need access to this type of information upfront, as opposed to waiting for published cim documents. This new page, accessible through the front page of the questionnaire, gives an overview of ensemble member information for each simulation that a chosen centre has documented. In particular, it will give a breakdown of the rip values (DRS) for each ensemble member and what this rip value refers to in terms of simulation modification, e.g. an input modification or parameter change (See example below). An included dropdown help panel gives more detailed guidelines about the information shown.

METAFOR is funded by the EU 7th Framework Programme as an e-infrastructure (project # 211753)



Example 'ensemble member' information page

PIMMS funded by JISC

We are very pleased to announce that PIMMS: Portable Infrastructure for the Metafor Metadata System has been awarded funding by JISC and will be starting in October 2011, running for 18 months. PIMMS is a consortium project lead by the University of Reading with partners including the BADC and the University of Bristol. The aim of PIMMS is to package the prototype metadata infrastructure developed by Metafor for CMIP5 so that it can be implemented across multiple institutions and be extended to support other scientific domains. For further information, please email charlotte.pascoe@stfc.ac.uk .

CIM Web Portal & Services

The CIM web portal and services are nearing completion. Over the summer a beta-1 version was successfully released into a test environment. This release added a controlled vocabulary mind map validation tool in order to support the setting up of other metadata questionnaires along the lines of the CMIP5 questionnaire. This release also saw the first implementation of CIM web services designed to allow institutes to leverage the CIM within their operational workflows. These web services also permits 3rd party portals to search and display CIM metadata directly within their own portals. This latter scenario is being utilised by the University of Cantabria statistical downscaling portal. October will see a fully operational 1.0 release.

ESG-F Integration

Discussions have taken place within Earth System Grid Federation (ESGF) as to the feasibility of leveraging CIM web services, particualry search web services, from within ESG data-nodes. The idea of building an installing a CIM web service adapter at each ESG data-node was broached. Whilst it was agreed that ESGF has other priorities at present it was also agreed that having a united data & metadata infrastructure is a major strategic objective. Such an objective can only be reached by adhering to solid service orientated architectural principles.

Metafor at a glance:

Project title: Common Metadata for Climate Modelling Digital Repositories (Metafor)

Web site: http://metaforclimate.eu

Project coordinator: Prof Eric Guilyardi (University of Reading, UK and IPSL, France)
email: E.D.A.Guilyardi@reading.ac.uk

Project manager: Dr Sarah Callaghan (BADC- UK)
email:sarah.callaghan@stfc.ac.uk
tel.: +44 1235 445770
fax.: +44 1235 446140

Project participants:

UREAD	UK
BADC	UK
CERFACS	FR
MPG	DE
CNRS/IPSL	FR
UNIMAN	UK
UKMO	UK
NMA	RO
MeteoF	FR
CLIMPACT	FR
PrinceU	US
Univ.Cantabria	ES

The University of Cantabria downscaling portal

The University of Cantabria downscaling portal (UoCDP, https://www.meteo.unican.es/downscaling) allows users from the climate impact community to calibrate/downscale the model outputs in the region of interest using historical observed records. The portal includes public observation datasets (e.g. GSOD) and allows uploading new historical data (including private datasets, not available for other users). One of the major drawbacks from the user perspective is discover the climate model and simulations been performed. For this reason the UoCDP has integrated the different services developed by WP4. This integration allow to the portal user access the model Component and simulations metadata provided by modellers through CIM questionnaire.

As a first approach the linkage has been made with some CMIP5 CIM instances which corresponds to climate models simulations currently available in UoCDP. Because those model has been ingested into the portal from the DKRZ CERA database, all the effort made with TDS2CIM tool uploading dataObjects, can be accessed directly from the portal, which constitutes a valuable information about spatio-temporal coverage and climate fields outputs from models available in the CERA database. For example, the UoCDP is based on daily and subdaily at surface and upper-level fields datasets, therefore what is important for the user, is to know which datasets are available with these requirements.

This development constitutes a first prototype, providing and huge potential improvement of the metadata information available and the corresponding services. With the Life Beyond of Metafor where integration of the CIM with IS-ENES and ESGF initiatives, this will provide to the UoCDP almost immediately access to those metadata referring model simulations, which will be available to impact users from the UoCDP. This will provide end-to-end linkage from modellers to impact users, where historically a gap exists.

Thanks to All!

The Metafor project would like to thank all the many colleagues who have worked on and contributed to the project. We hope to have the chance to collaborate again soon!