

METAFOR and the role of standards

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National Centre for
Atmospheric Science
NATURAL ENVIRONMENT RESEARCH COUNCIL

NCAS, University of Reading, UK (Coordinator)



BRITISH ATMOSPHERIC
DATA CENTRE



BADC,
Science and Technology Facilities Council, UK



CERFACS, France



M & D
Modèle & Données

Models and Data,
Max Planck Institute for Meteorology, Germany



Sciences de
l'environnement

Institute Pierre-Simon Laplace, CNRS, France

MANCHESTER
1824

University of Manchester, UK



Met Office

Met Office, UK



Administratia Nationala de Meteorologie, Romania



climact

CLIMATE INFORMATION TECHNOLOGY



MÉTÉO
FRANCE

Météo France, CNRM, France

CLIMPACT, France



e-infrastructure

CICS, Princeton University, USA



CICS
COOPERATIVE INSTITUTE
FOR CLIMATE SCIENCE

METAFOR objectives

Common Metadata for Climate Modelling Digital Repositories

Creating an Information Model that is common for all stages of both production and the use of climate model data.

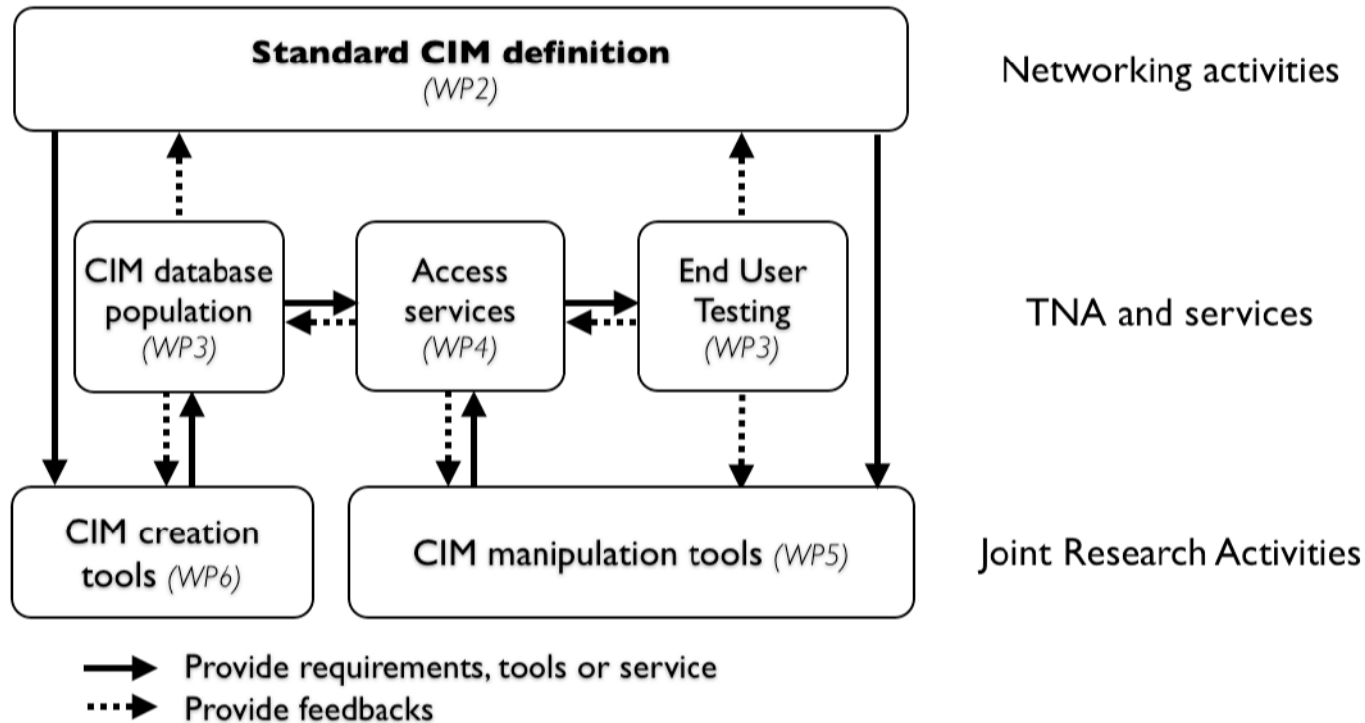
The open standard developed in *METAFOR* will play a catalytic role in the way next generation climate data repositories, such as IPCC AR5*, are organised, preserved and accessed.

Tools that populate, create, manipulate, convert and exploit the metadata in the Common Information Model (CIM) to allow climate models and climate model data to be inter-comparable and sharable.



**Intergovernmental Panel on Climate Change, 5th assessment report (~2012-13)*

METAFOR Work plan



METAFOR activities and work packages (WP) map onto the I3 structure. TNA is Trans-national access.



Project management, training and dissemination are organised in WP1 and WP7.

METAFOR Standards related work

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International

Emerging

Community

Discovery metadata

ISO 19139

ISO 19115

Climate Modelling

gridspec – *model discretisation*

Sensor ML – *observations*

NMM – *model description*

CERA2 – *data management*

Data

CF for netcdf

METAFOR will coordinate the filling of the metadata gaps, mapping to different standards, aggregating the metadata and, if necessary, creating new standards.



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METAFOR Standards related work

METAFOR AIM - metadata encompassing the entire modelling process

Guiding Principles for metadata

- integration of existing standards
- flexibility to support emerging standards both from within *METAFOR* as well as from the broad community
- maintaining the separation of concerns
- providing clear governance policies

METAFOR Standards related work

METAFOR AIM - tools to create, manipulate and exploit the CIM metadata

Guiding Principles for tools

- strict adherence to metadata standards through conformance checking
- modularity to promote maintainability
- compatibility between semantic, higher level metadata, based tools and lower level syntactic metadata tools
- mapping tools for interfaces between local and standard metadata