

THE IDEA

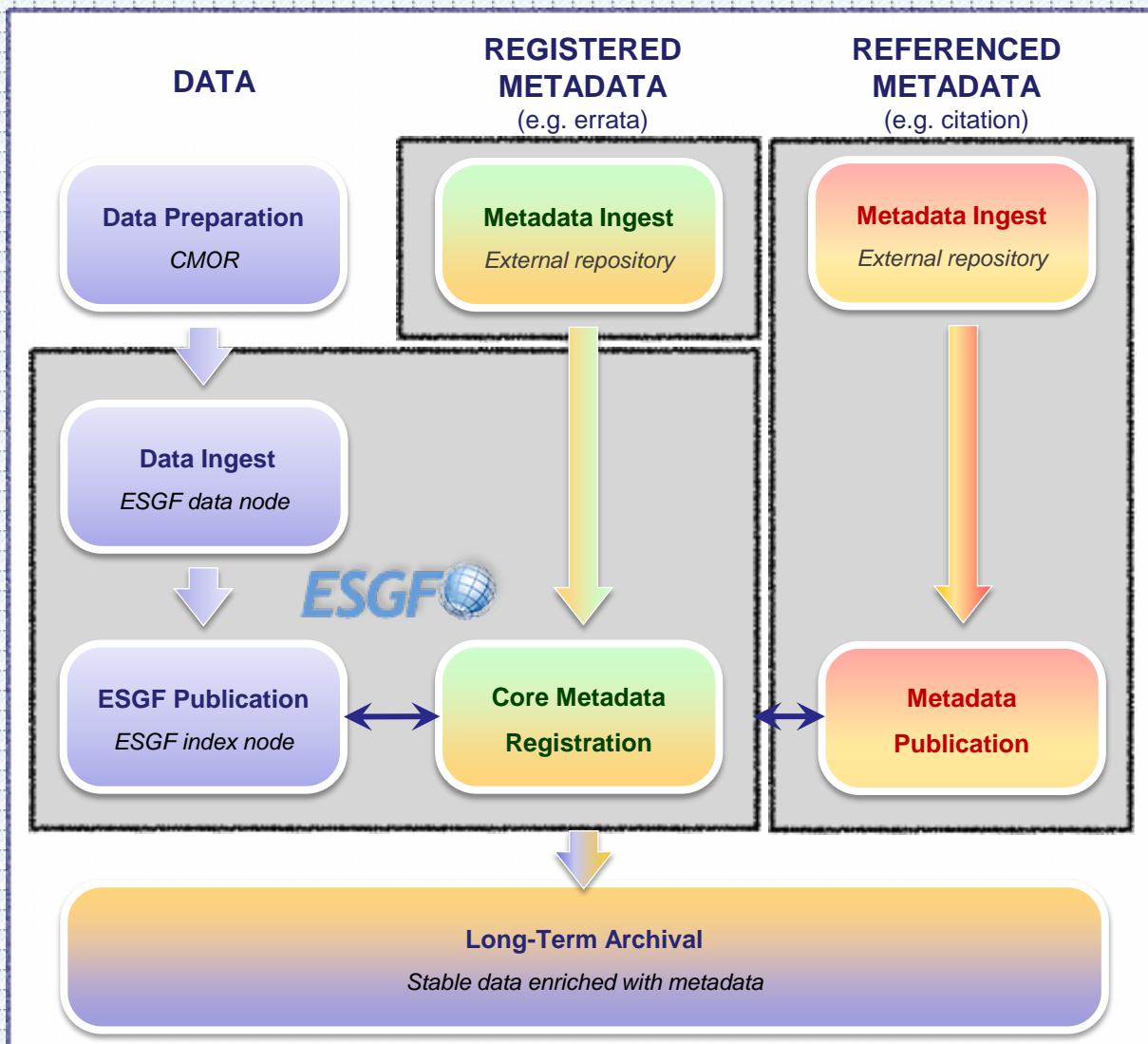
Integrate data-related information into the federated data infrastructure ESGF (Earth System Grid Federation).

THE PRESENT SITUATION

Data and different kinds of additional data-related information are collected in separate and poorly connected repositories.

Within climate research these are:

- ESGF for data and use metadata
- ES-DOC for metadata on experiments and simulations
- IPSL's Errata Module for errata and version information
- WDCC's Citation Service for data citation information
- CharmE's annotation module



EXTERNAL METADATA REFERENCED FROM ESGF

The development of the external component is in-dependent of the ESGF development.

An API is provided and referenced from the ESGF.

This approach is suitable for data-related information available on a different granularity and collected independent of the data.

EXTERNAL METADATA REGISTERED IN ESGF

Core Metadata is registered in ESGF, making the development of the external component dependent on the ESGF development..

Core metadata include a reference to detailed information (URL, PID).

This approach is suitable for data-related information available on file or dataset granularity and collected jointly with the data.

THE PRESENT SITUATION

Data and different kinds of metadata are collected separately.

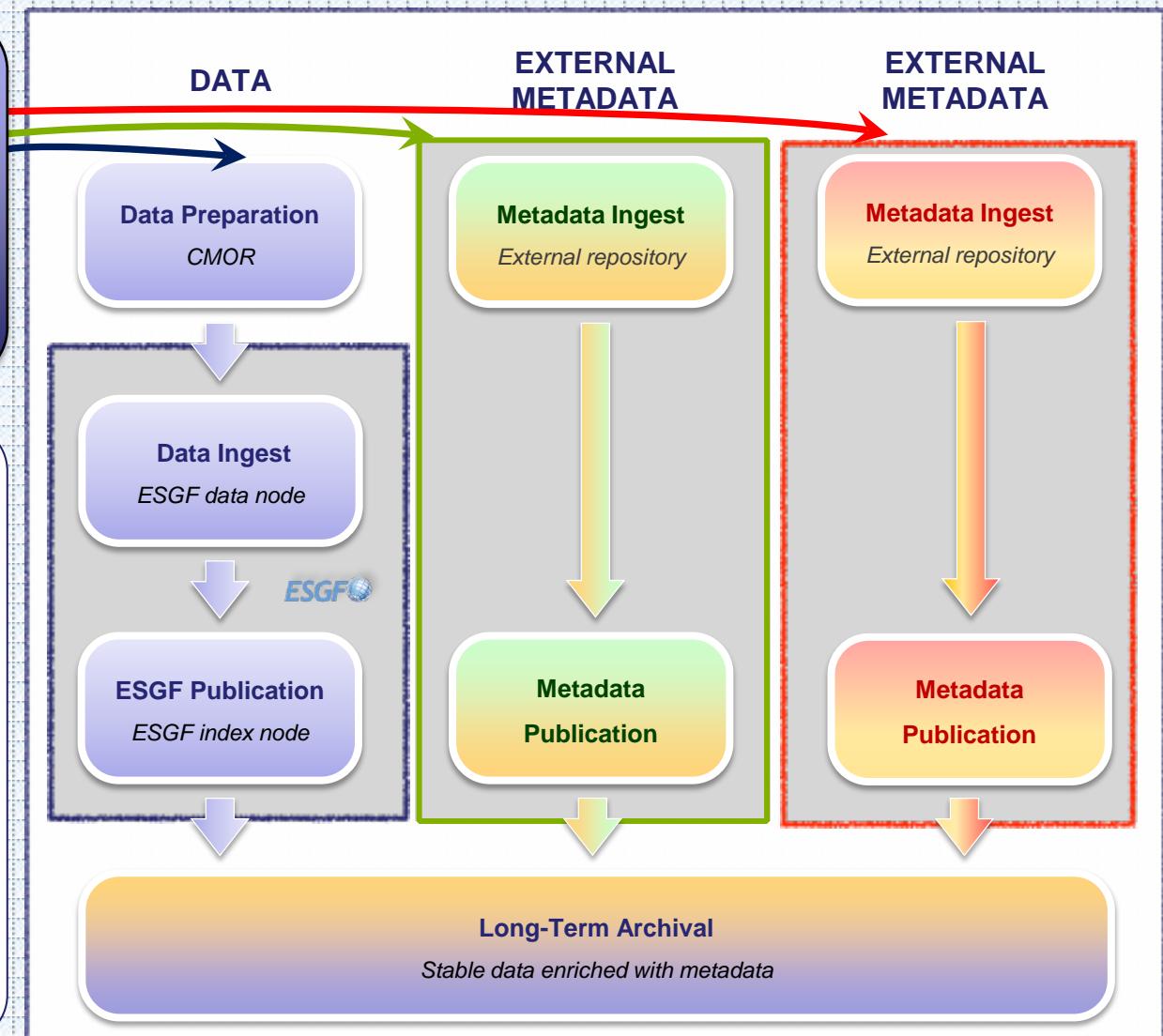
Users and archive managers have to use multiple interfaces to gather information.

THE PRESENT SITUATION

Data and different kinds of additional data-related information are collected in separate and poorly connected repositories.

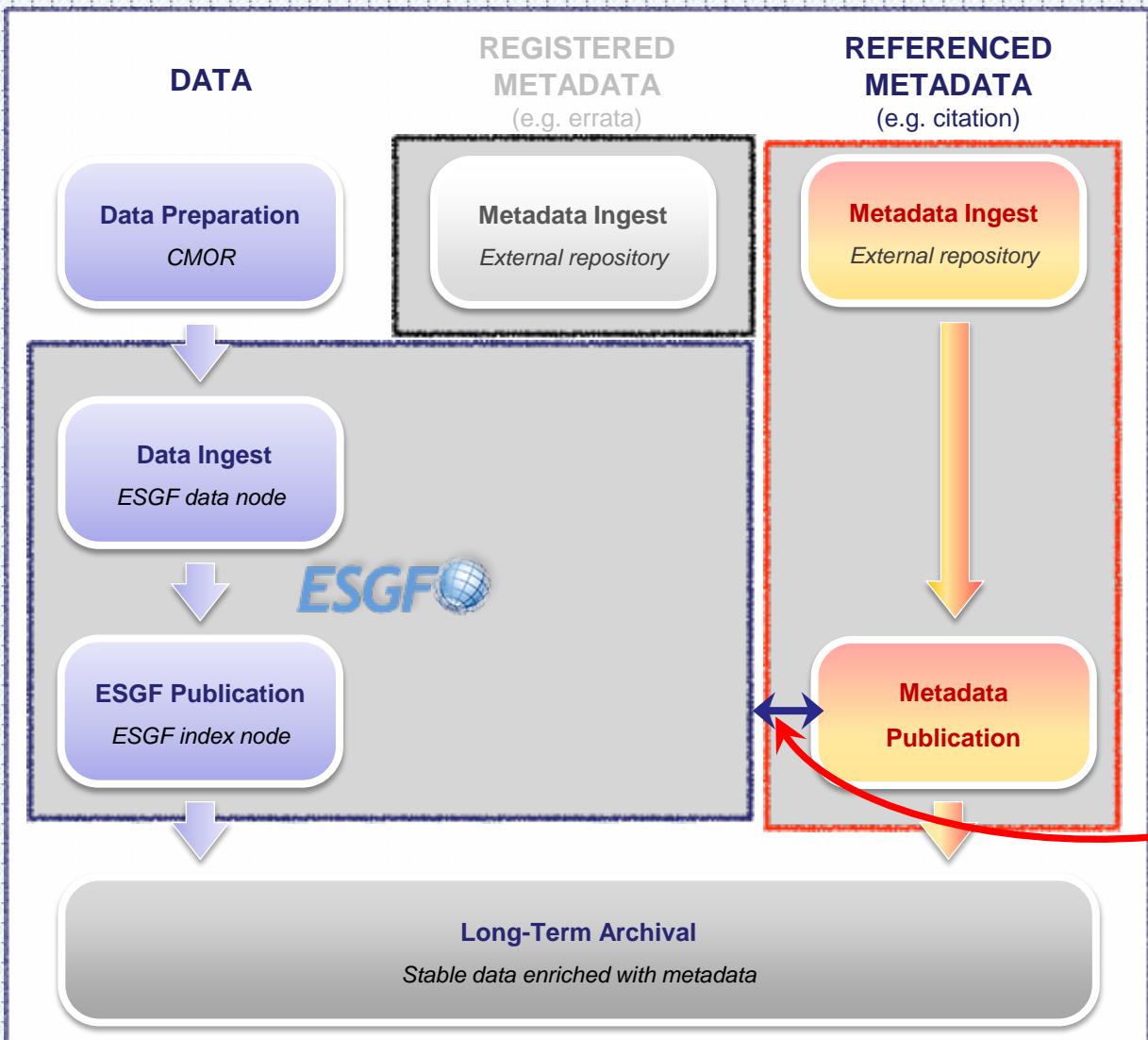
Within climate research these are:

- ESGF for data and use metadata
- ES-DOC for metadata on experiments and simulations
- IPSL's Errata Module for errata and version information
- WDCC's Citation Service for data citation information
- CharmE's annotation module



REFERENCED METADATA - CITATION TYPE -

Metadata repository collects
and publishes information
independent of ESGF.



EXTERNAL METADATA REFERENCED FROM ESGF

The development of the external component is independent of the ESGF development.

An API is provided and referenced from the ESGF.

This approach is suitable for data-related information available on a different granularity and collected independent of the data.

**API as CONNECTION
to ESGF provided by
metadata repository.**



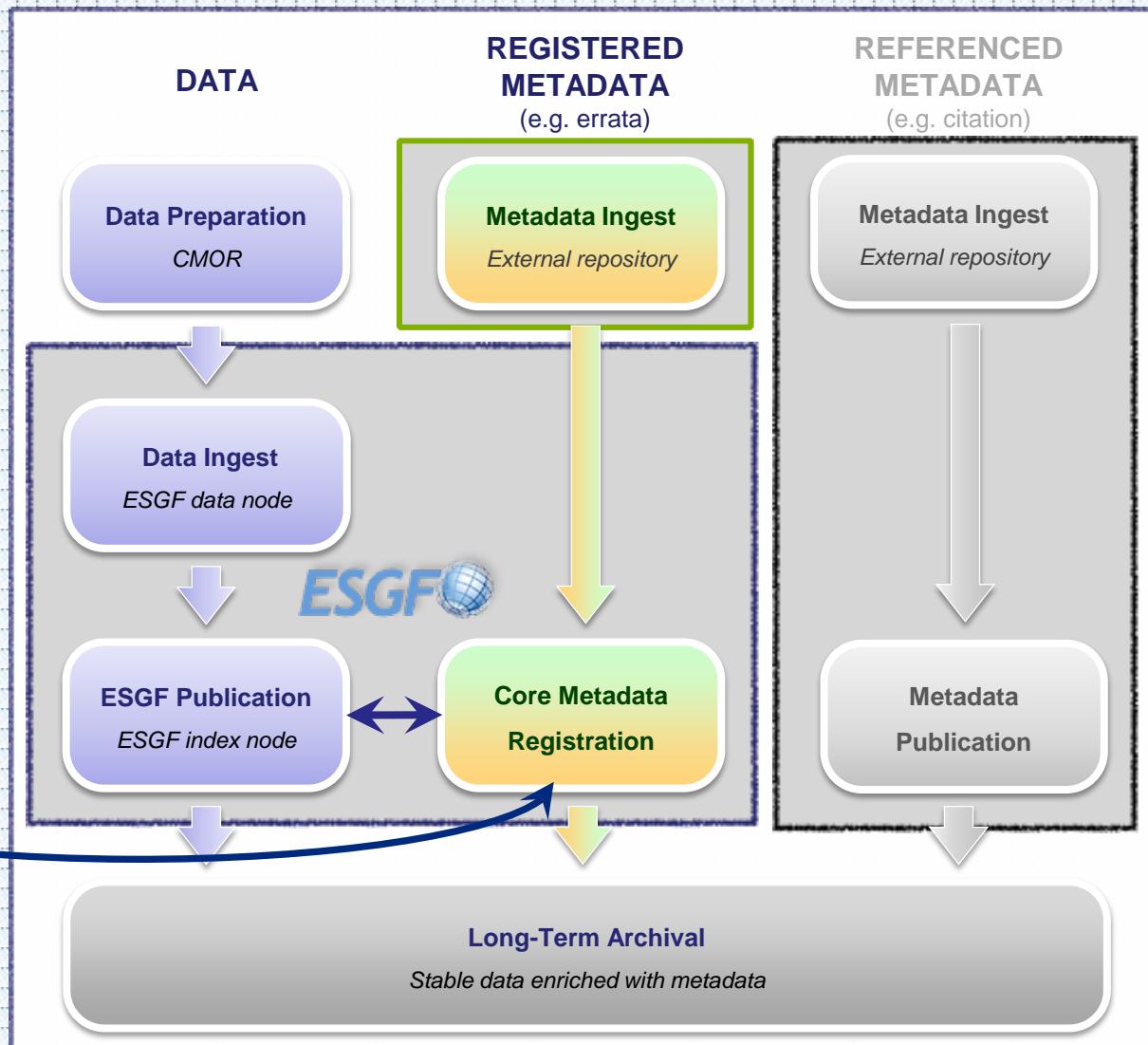
K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

¹German Climate Computing Center (DKRZ, stockhause@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

REGISTERED METADATA - ERRATA TYPE -

Metadata repository registers core information including links to detailed information in ESGF.

ESGF provides registration mechanism for core metadata of external repository.



EXTERNAL METADATA REGISTERED IN ESGF

Core Metadata is registered in ESGF, making the development of the external component dependent on the ESGF development..

Core metadata include a reference to detailed information (URL, PID).

This approach is suitable for data-related information available on file or dataset granularity and collected jointly with the data.

Integration of external metadata into the Earth System Grid Federation (ESGF)

K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

¹German Climate Computing Center (DKRZ, stockhause@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

FUTURE SITUATION

Data and metadata can be searched for, accessed and viewed together, hiding the infrastructure's complexity.

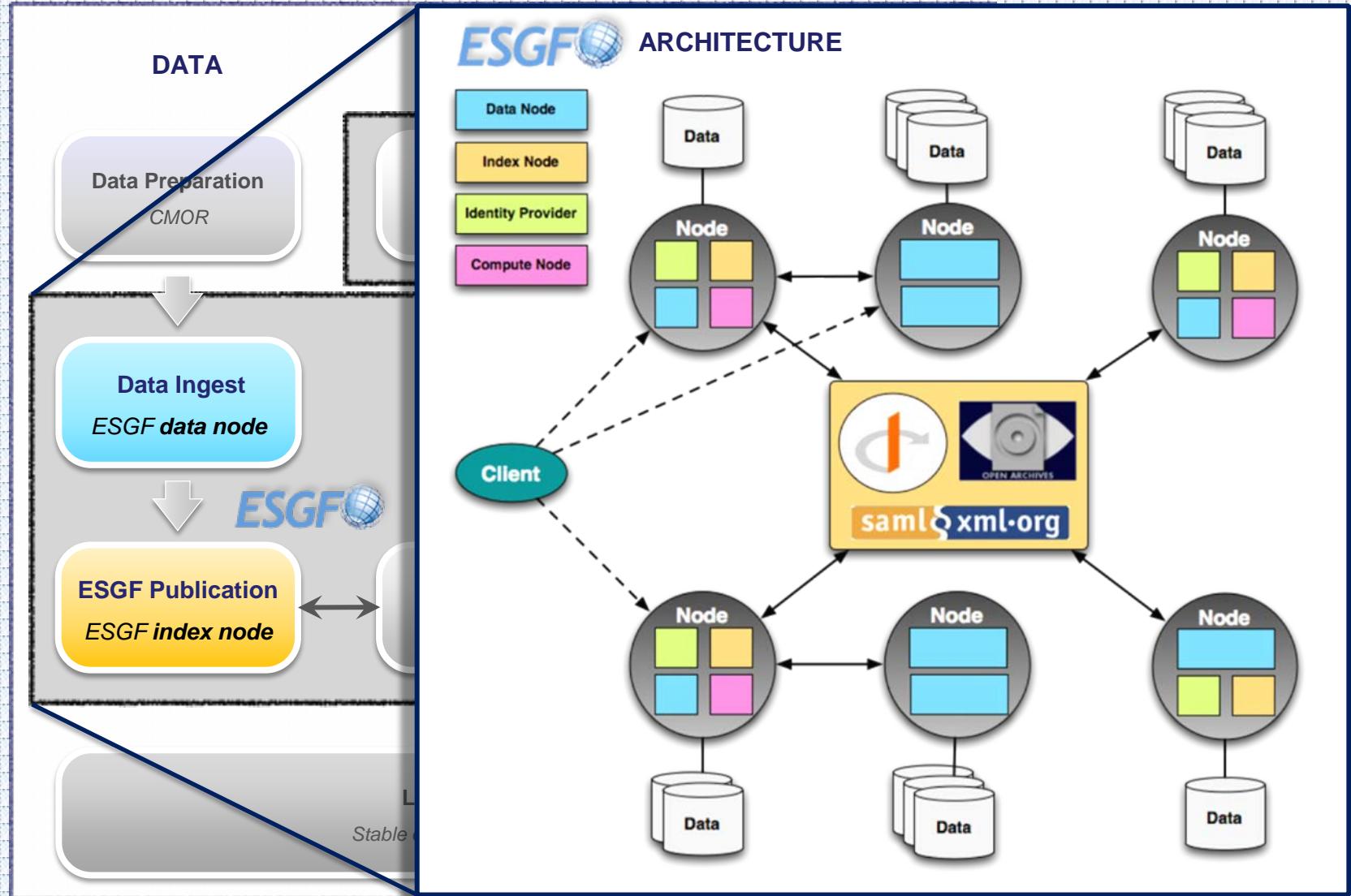


DATA INFRASTRUCTURE

ESGF is a system for the management, access and analysis of climate data.

ESGF's architecture is based on a system of autonomous and distributed nodes:

- Data is stored at multiple nodes, and served through local data and metadata services.
- Nodes exchange information about their data holdings and services.



K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

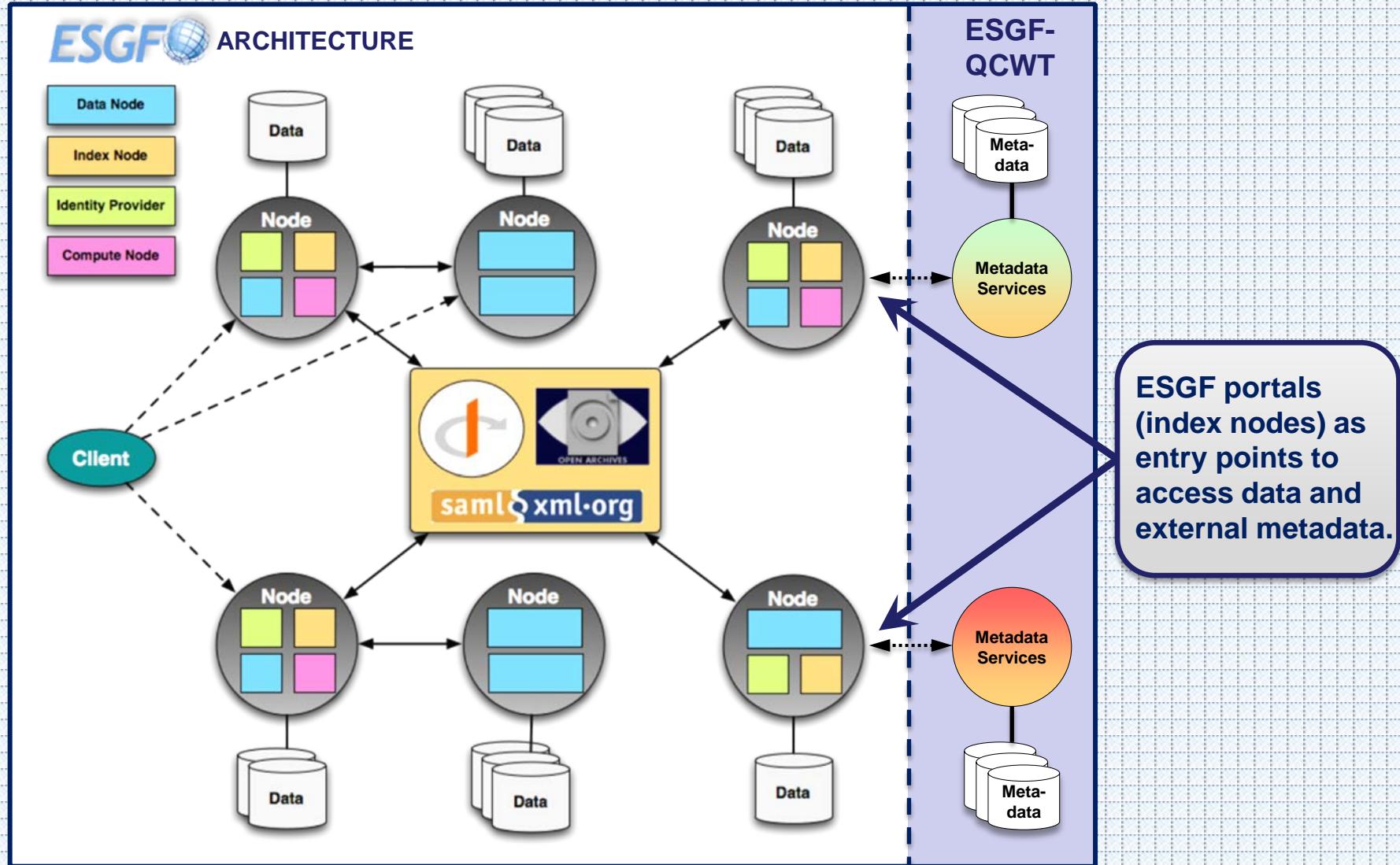
¹German Climate Computing Center (DKRZ, stockhause@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

ESGF Quality Control Working Team (ESGF-QCWT)

ESGF-QCWT aims to integrate valuable external information into the ESGF.

These additional documentations:

- are collected asynchronous and independent of the data, and
- are usually provided on different granularities.

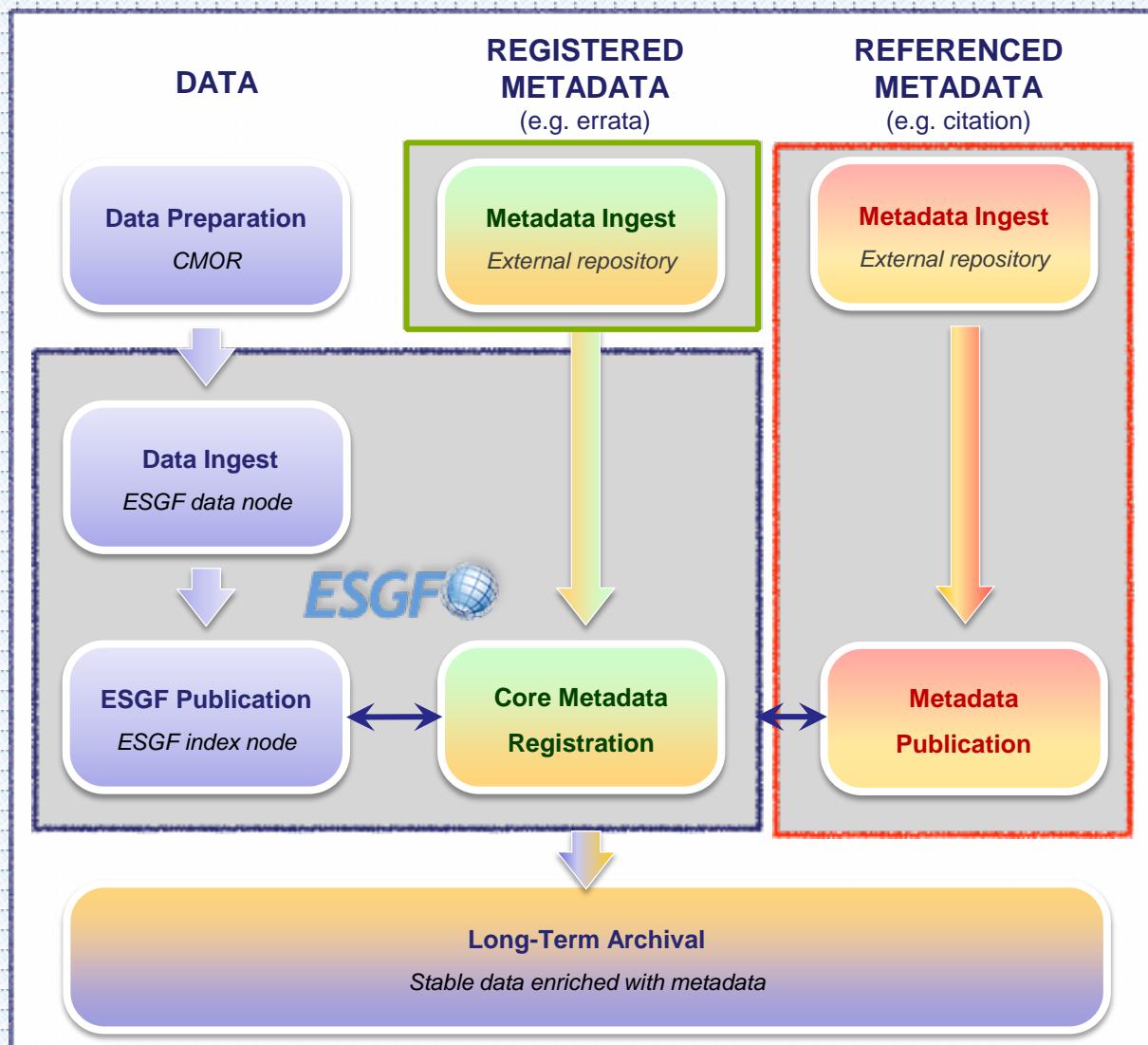


K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

¹German Climate Computing Center (DKRZ, stockhause@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

2 TYPES of INTEGRATION

- **REFERENCED METADATA**
 - **CITATION TYPE:**
completely independent development / loosely connected
- **REGISTERED METADATA**
 - **ERRATA TYPE:**
core metadata registered in ESGF



USAGE of INTEGRATION TYPES

REFERENCED METADATA:

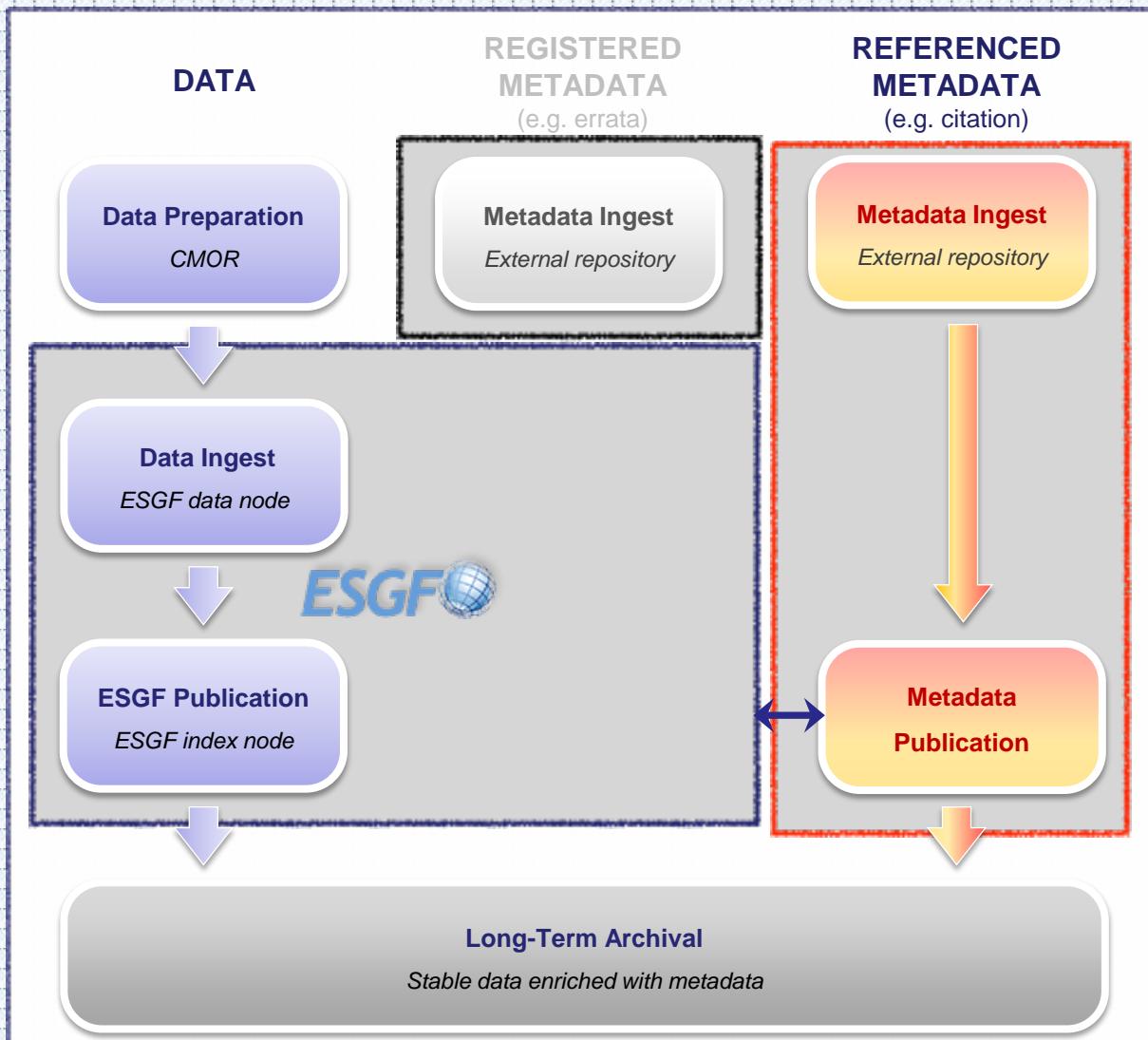
- central repository for referenced metadata
- workflow of metadata collection independent of data preparation
- independent development of external metadata repository → easy to implement in ESGF

REGISTERED METADATA:

- several decentralized repositories for registered metadata
- combined workflow for metadata and data preparation
- coordinated development of external repositories and ESGF → effort to implement in ESGF

REFERENCED METADATA - CITATION TYPE -

Metadata repository collects
and publishes information
independent of ESGF.



CITATION EXAMPLE

1. Citation information on simulation datasets collected in parallel to the data collection.
 2. Citation repository provides API as stable interface / ESGF include API call in portals
 3. LTA uses API to add citation information (or asks ESGF index for the link to citation information)

Integration of external metadata into the Earth System Grid Federation (ESGF)

K. Berger¹, G. Levavasseur², M. Stockhouse¹, and M. Lautenschlager¹

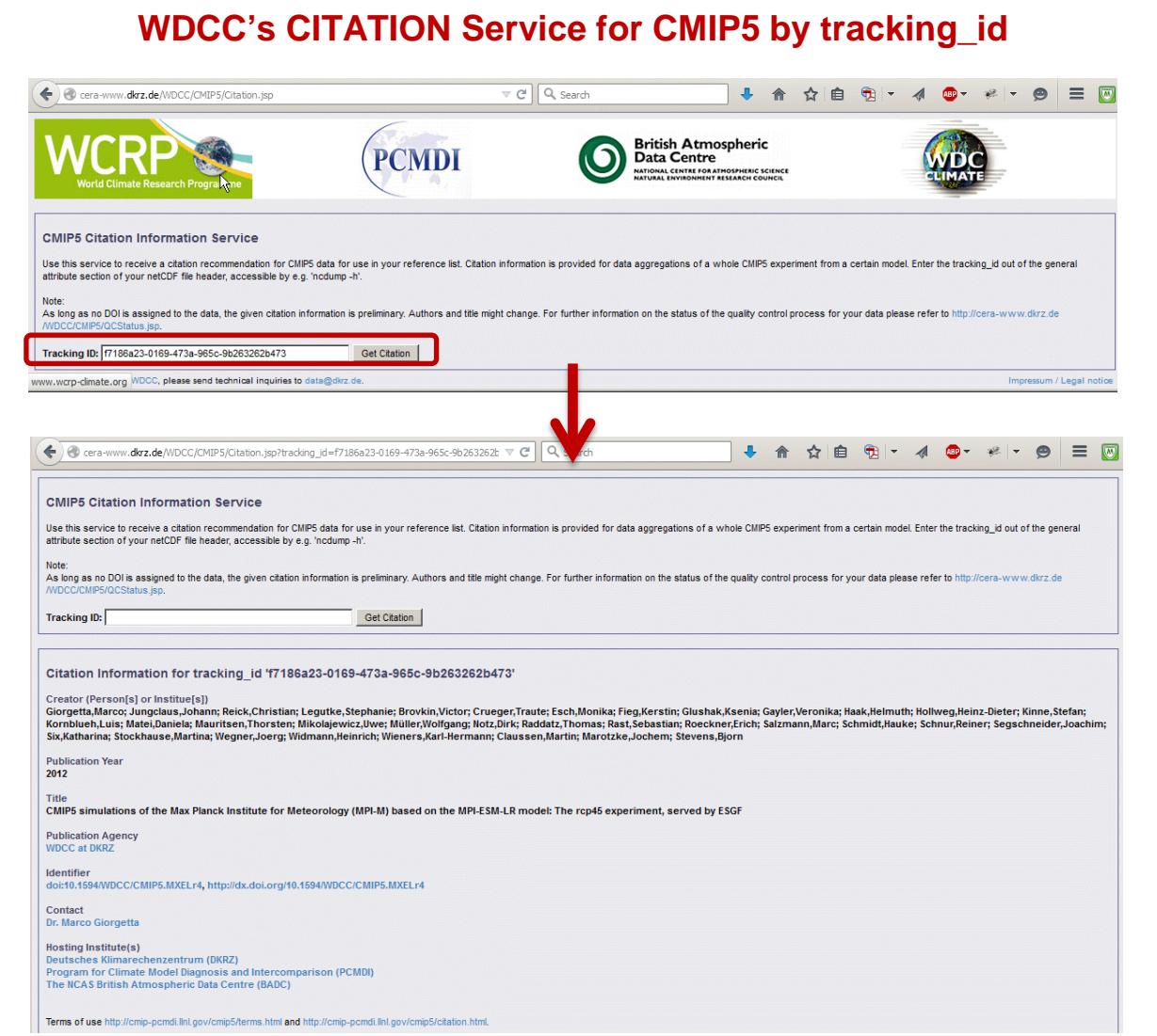
¹German Climate Computing Center (DKRZ, stockhouse@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

CITATION within CMIP5

DOI data publication is the final step in a 3 level Quality Control process. A data citation includes all datasets belonging to a simulation.

Data citation information is available at WDCC and IPCC DDC.

WDCC's CITATION Service for CMIP5 by tracking_id



WCRP World Climate Research Programme

PCMDI

British Atmospheric Data Centre NATIONAL CENTRE FOR ATMOSPHERIC SCIENCE NATURAL ENVIRONMENT RESEARCH COUNCIL

WDC CLIMATE

CMIP5 Citation Information Service

Use this service to receive a citation recommendation for CMIP5 data for use in your reference list. Citation information is provided for data aggregations of a whole CMIP5 experiment from a certain model. Enter the tracking_id out of the general attribute section of your netCDF file header, accessible by e.g. 'ncdump -h'.

Note:
As long as no DOI is assigned to the data, the given citation information is preliminary. Authors and title might change. For further information on the status of the quality control process for your data please refer to <http://cera-www.dkrz.de/WDCC/CMIP5/QCStatus.jsp>.

Tracking ID: f7186a23-0169-473a-965c-9b263262b473

www.wcrp-climate.org WDCC, please send technical inquiries to data@dkrz.de.

Impressum / Legal notice

CMIP5 Citation Information Service

Use this service to receive a citation recommendation for CMIP5 data for use in your reference list. Citation information is provided for data aggregations of a whole CMIP5 experiment from a certain model. Enter the tracking_id out of the general attribute section of your netCDF file header, accessible by e.g. 'ncdump -h'.

Note:
As long as no DOI is assigned to the data, the given citation information is preliminary. Authors and title might change. For further information on the status of the quality control process for your data please refer to <http://cera-www.dkrz.de/WDCC/CMIP5/QCStatus.jsp>.

Tracking ID:

Search

Citation Information for tracking_id 'f7186a23-0169-473a-965c-9b263262b473'

Creator (Person(s) or Institute(s))
Giorgio,Marc; Jungclaus,John; Reich,Christian; Legutke,Stephanie; Brovkin,Victor; Crucifix,Traute; Esch,Monika; Fieg,Kerstin; Glushak,Ksenia; Gayler,Veronika; Haak,Heinz-Dieter; Kinne,Stefan; Kornblueh,Luis; Meier,Daniela; Mauritzen,Thorsten; Mikolajewicz,Uwe; Müller,Wolfgang; Notz,Birte; Redditz,Thomas; Rast,Sebastian; Roeckner,Erich; Salzmann,Marc; Schmidt,Hauke; Schnur,Reiner; Segschneider,Joachim; Six,Katharina; Stockhouse,Martina; Wegner,Joerg; Widmann,Heinrich; Wieners,Karl-Hermann; Claussen,Martin; Marotzke,Jochem; Stevens,Björn

Publication Year
2012

Title
CMIP5 simulations of the Max Planck Institute for Meteorology (MPI-M) based on the MPI-ESM-LR model: The rcp45 experiment, served by ESGF

Publication Agency
WDCC at DKRZ

Identifier
[doi:10.1594/WDCC/CMIP5.MXELr4](https://doi.org/10.1594/WDCC/CMIP5.MXELr4), <http://dx.doi.org/10.1594/WDCC/CMIP5.MXELr4>

Contact
Dr. Marco Giorgetta

Hosting Institute(s)
Deutsches Klimarechenzentrum (DKRZ)
Program for Climate Model Diagnosis and Intercomparison (PCMDI)
The NCAS British Atmospheric Data Centre (BADC)

Terms of use <http://cmip-pcmdi.llnl.gov/cmip5/terms.html> and <http://cmip-pcmdi.llnl.gov/cmip5/citation.html>.

More services of CMIP5 quality and citation repository available at:

[http://cera-www.dkrz.de/
WDCC/CMIP5/](http://cera-www.dkrz.de/WDCC/CMIP5/)

Integration of external metadata into the Earth System Grid Federation (ESGF)

K. Berger¹, G. Levavasseur², M. Stockhouse¹, and M. Lautenschlager¹

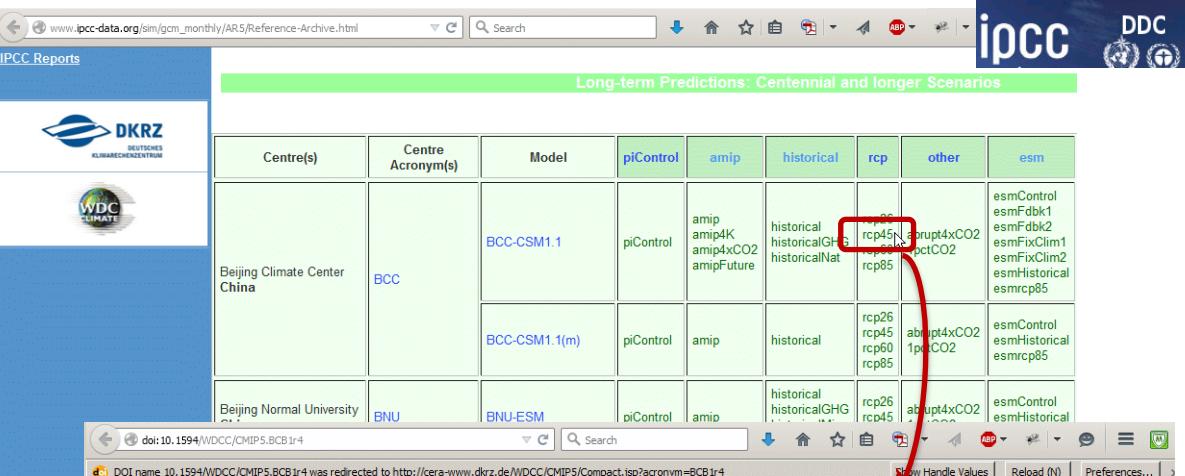
¹German Climate Computing Center (DKRZ, stockhouse@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

CITATION within CMIP5

DOI data publication as final step in a 3 level Quality Control process. A data citation includes all datasets belonging to a simulation.

Data citation information available at WDCC and IPCC DDC.

CITATIONS accessible from IPCC DDC by DOIs



| Centre(s) | Centre Acronym(s) | Model | piControl | amip | historical | rcp | other | esm |
|---------------------------------|-------------------|---------------|-----------|--|--|----------------------------------|------------------------|---|
| Beijing Climate Center China | BCC | BCC-CSM1.1 | piControl | amip amip4K amipxCO2 amipFuture | historical historicalGHG historicalNat | rcp45 rcp60 rcp85 | abrupt4xCO2 1pctCO2 | esmControl esmfdbk1 esmfdbk2 esmFixClim1 esmFixClim2 esmHistorical esmrpc85 |
| | | BCC-CSM1.1(m) | piControl | amip | historical | rcp26 rcp45 rcp60 rcp85 | abrupt4xCO2 1pctCO2 | esmControl esmhistorical esmrpc85 |
| Beijing Normal University | BNU | BNU-ESM | piControl | amip | historical historicalGHG | rcp26 rcp45 | abrupt4xCO2 1pctCO2 | esmControl esmhistorical |

DOI for Scientific and Technical Data 'cmip5 output1 BCC bcc-csm1-1 rcp45'
doi:10.1594/WDCC/CMIP5.BCB1r4

Citation elements

Creator
(person(s) or institute(s) responsible for this assemblage of data: e.g. author, data collector, editor...)
Wu,Tongwen; Xin,Xiaoge

Publication Year
2015

Title
bcc-csm1-1 model output prepared for CMIP5 rcp45 experiment, served by ESGF

DOI Publisher
WDCC at DKRZ

Identifier
doi:10.1594/WDCC/CMIP5.BCB1r4

The DataCite consortium proposes a citation format (Creator (PublicationYear): Title. DOI Publisher. Identifier) and also offers citation export in different formats.

Contact
Tongwen Wu

IPCC Data Distribution Centre pages for AR5:

[http://www.ipcc-data.org/
sim/gcm_monthly/AR5](http://www.ipcc-data.org/sim/gcm_monthly/AR5)

K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

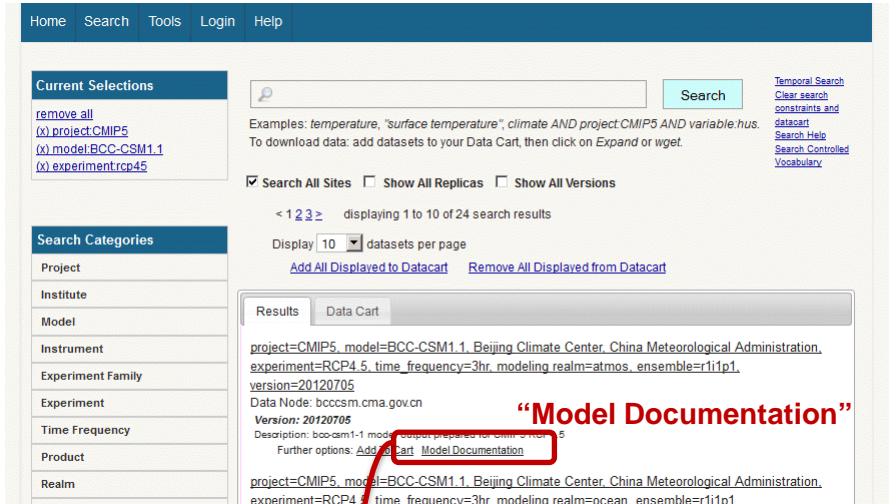
¹German Climate Computing Center (DKRZ, stockhouse@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

CITATION within CMIP5

Citations of CMIP5 data are hidden and nearly invisible in the ESGF data portal.

Moreover citations are partly wrong or outdated.

CITATIONS nearly invisible in ESGF data portal



“Model Documentation”

project=CMIP5, model=BCC-CSM1.1, Beijing Climate Center, China Meteorological Administration, experiment=RCP4.5, time_frequency=3hr, modelingrealm=ocean, ensemble=r1i1p1, version=20120705
Data Node: bcccsim.cma.gov.cn
Version: 20120705
Description: bcc-sm1-1 model output prepared for CMIP5
Further options: Add to Cart Model Documentation

project=CMIP5, model=BCC-CSM1.1, Beijing Climate Center, China Meteorological Administration, experiment=RCP4.5, time_frequency=3hr, modelingrealm=ocean, ensemble=r1i1p1,

es-doc Earth System Documentation

Documentation Viewer v0.9.1.0

Dataset QC

“Dataset QC”

“CMIP5 Quality Control Data Level 2”

Experiment

CMIP5 Dataset Quality Control Report

CMIP5 Quality Control Data Level 2

Measure CMIP5 Quality Control Data Level 2
Outcome The CMIP5/AR5 Model Data Quality Control
Evaluator stockhouse@dkrz.de
Evaluation Date 2013-11-25
Details The quality results for this ESG publication unit are part of the quality results for the related experiment. Control results are accessible at: <http://cera-www.dkrz.de/WDCC/CMIP5/QCResult.jsp?experiment=BCC/bcc-csm1-1/r1i1p1.nc>. These files are the QC result files for every variable, the log file summarizes the QC results for this experiment. If available, the pdf file visualizes the global timeseries for statistical analysis for every variable of the experiment, relying on the QC result files. Used version of the QC Tool in svn revision: 5256 by author: hdh on date: unknown". QC Level2 assigned at 2014-01-01.

Integration of external metadata into the Earth System Grid Federation (ESGF)

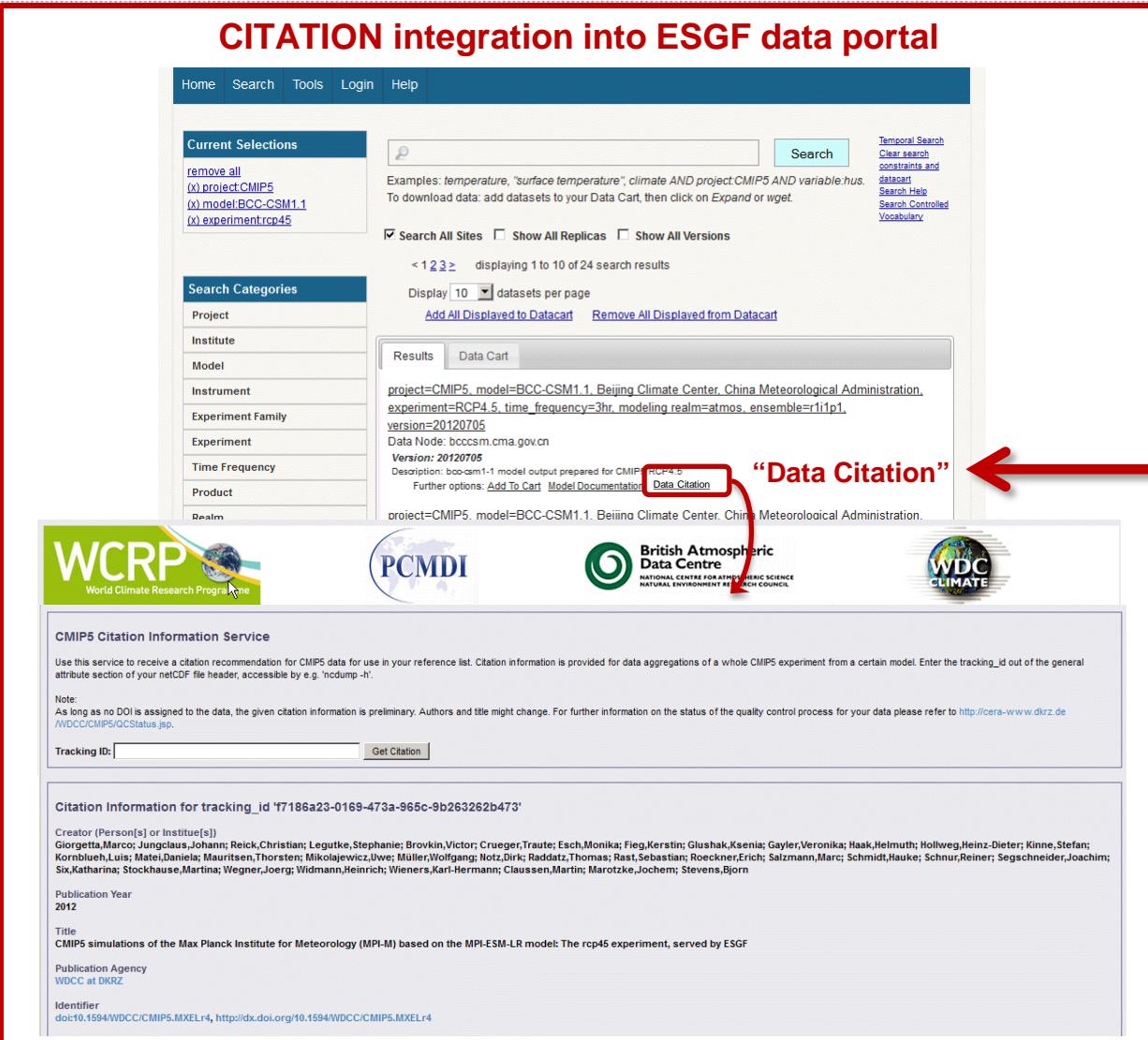
K. Berger¹, G. Levavasseur², M. Stockhouse¹, and M. Lautenschlager¹

¹German Climate Computing Center (DKRZ, stockhouse@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

CITATION within CMIP5

Citation services available are at quality and citation repository WDCC, but are not integrated into ESGF portals.

CITATION integration into ESGF data portal



The screenshot shows the ESGF Data Portal interface. In the search results, there is a link labeled "Data Citation" which is highlighted with a red box and an arrow pointing to the callout box on the right. The search results also show details about the experiment, including project, model, and version information.

CMIP5 Citation Information Service

Use this service to receive a citation recommendation for CMIP5 data for use in your reference list. Citation information is provided for data aggregations of a whole CMIP5 experiment from a certain model. Enter the tracking_id out of the general attribute section of your netCDF file header, accessible by e.g. 'ncdump -h'.

Note:
As long as no DOI is assigned to the data, the given citation information is preliminary. Authors and title might change. For further information on the status of the quality control process for your data please refer to <http://cera-www.dkrz.de/WDCC/CMIP5/QCStatus.jsp>.

Tracking ID: Get Citation

Citation Information for tracking_id 'f7186a23-0169-473a-965c-9b263262b473'

Creator (Person(s) or Institute(s))
Giorgi,Marcos; Jungclaus,Johann; Reich,Christian; Legutke,Stephanie; Brovkin,Victor; Crucifix,Traute; Esch,Monika; Fied,Kerstin; Glushak,Ksenia; Gayler,Veronica; Haak,Heinz-Dieter; Kinne,Stefan; Kornblueh,Luis; Matei,Daniel; Mauritzen,Thorsten; Mikolajewicz,Uwe; Müller,Wolfgang; Nofz,Dirk; Radatz,Thomas; Rast,Sebastian; Roeckner,Erich; Salzmann,Marc; Schmidt,Hauke; Schnur,Reiner; Segschneider,Joachim; Six,Katharina; Stockhouse,Martina; Wegner,Joerg; Widmann,Heinrich; Wieners,Karl-Hermann; Claussen,Martin; Marotzke,Jochem; Stevens,Björn

Publication Year
2012

Title
CMIP5 simulations of the Max Planck Institute for Meteorology (MPI-M) based on the MPI-ESM-LR model: The rcp45 experiment, served by ESGF

Publication Agency
WDCC at DKRZ

Identifier
[doi:10.1594/WDCC/CMIP5.MXELr4](http://dx.doi.org/10.1594/WDCC/CMIP5.MXELr4), <http://dx.doi.org/10.1594/WDCC/CMIP5.MXELr4>

CITATION for CMIP6

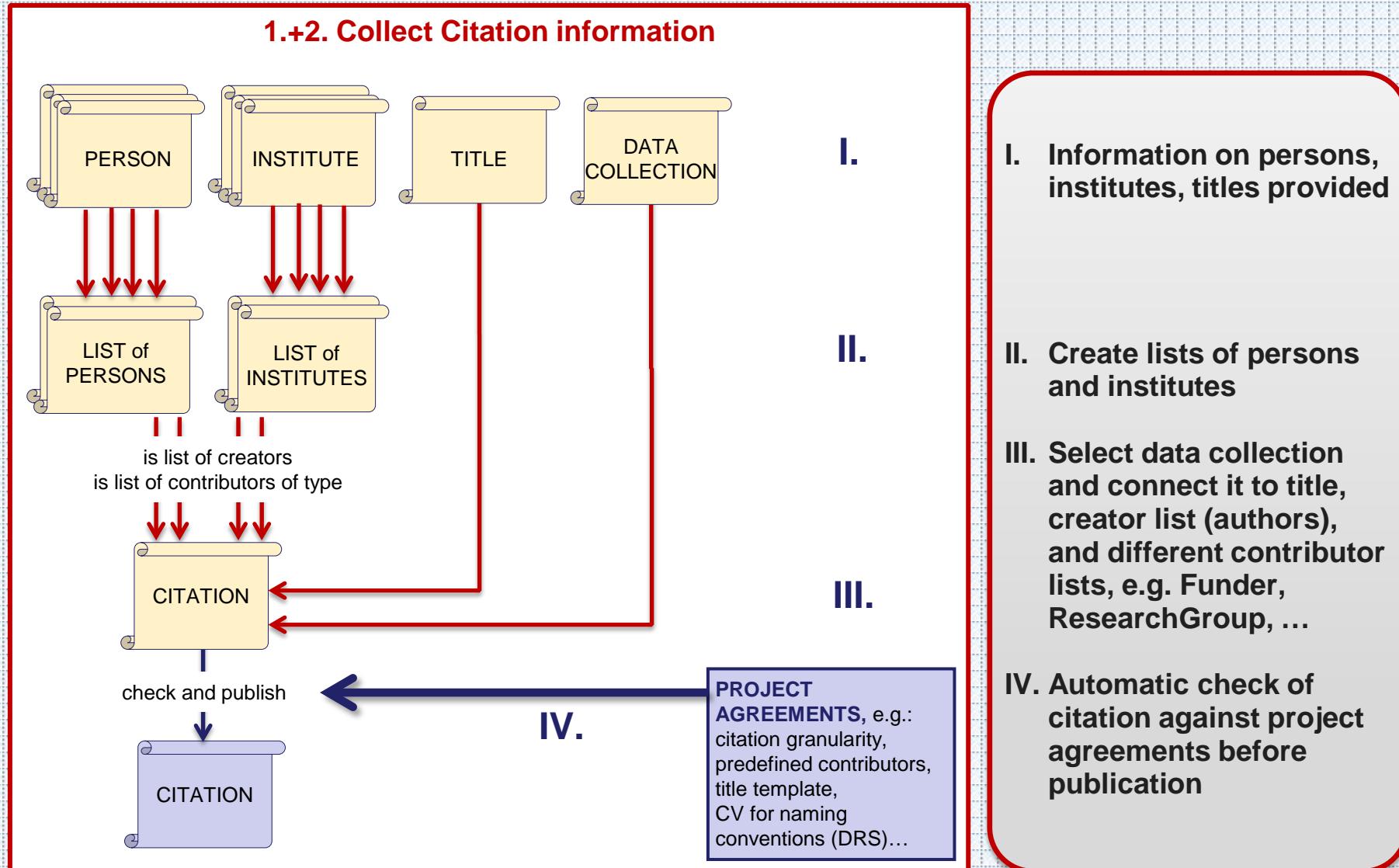
Citations for CMIP6 data will be accessible in ESGF data portals.

Add “Data Citation” link in ESGF portals to access external citation service at WDCC.

CITATION for CMIP6

At the citation repository the following components have to be developed:

1. Database schema to store preliminary citation information prior to LTA
2. GUI to insert / update citation information
3. API to access citation information for an ESGF dataset
4. Display citation information on html page



K. Berger¹, G. Levavasseur², M. Stockhouse¹, and M. Lautenschlager¹

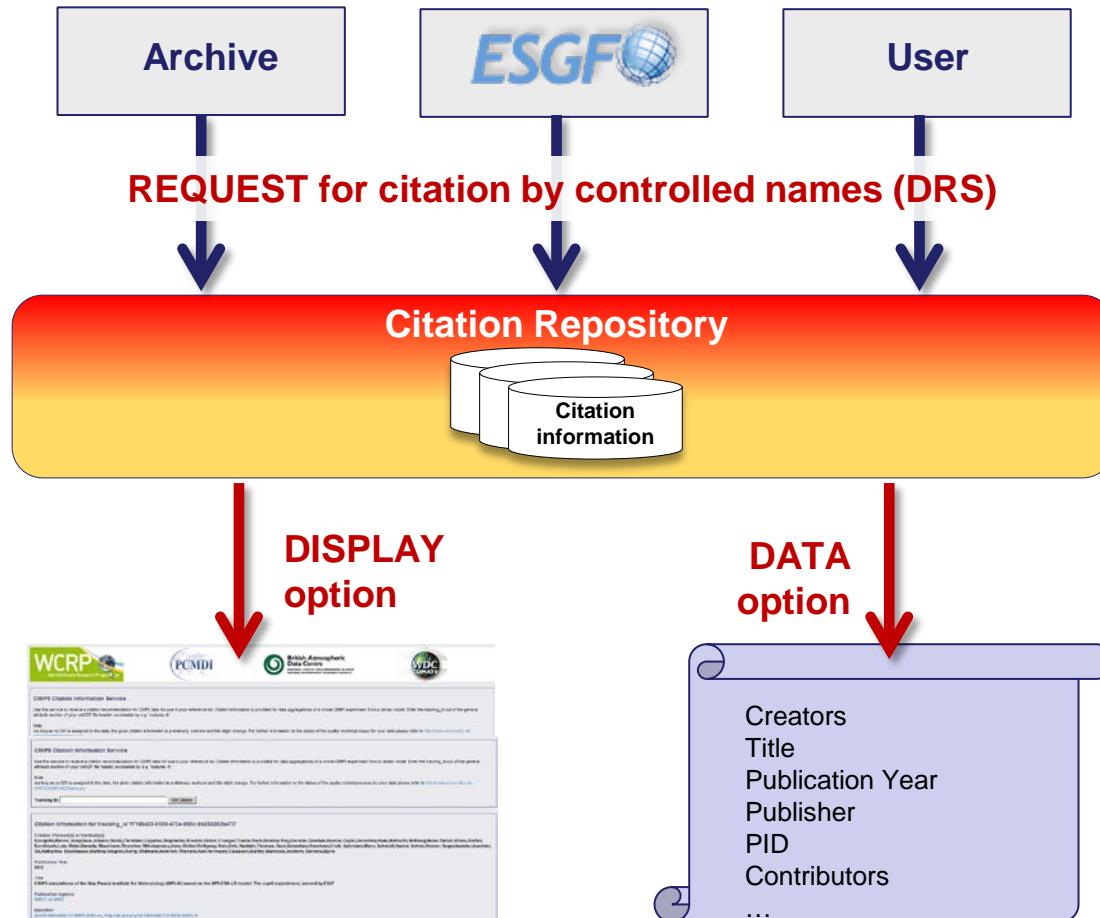
¹German Climate Computing Center (DKRZ, stockhouse@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

CITATION for CMIP6

At the citation repository the following components have to be developed:

1. Database schema to store preliminary citation information prior to LTA
2. GUI to insert / update citation information
3. API to access citation information for an ESGF dataset
4. Display citation information on html page

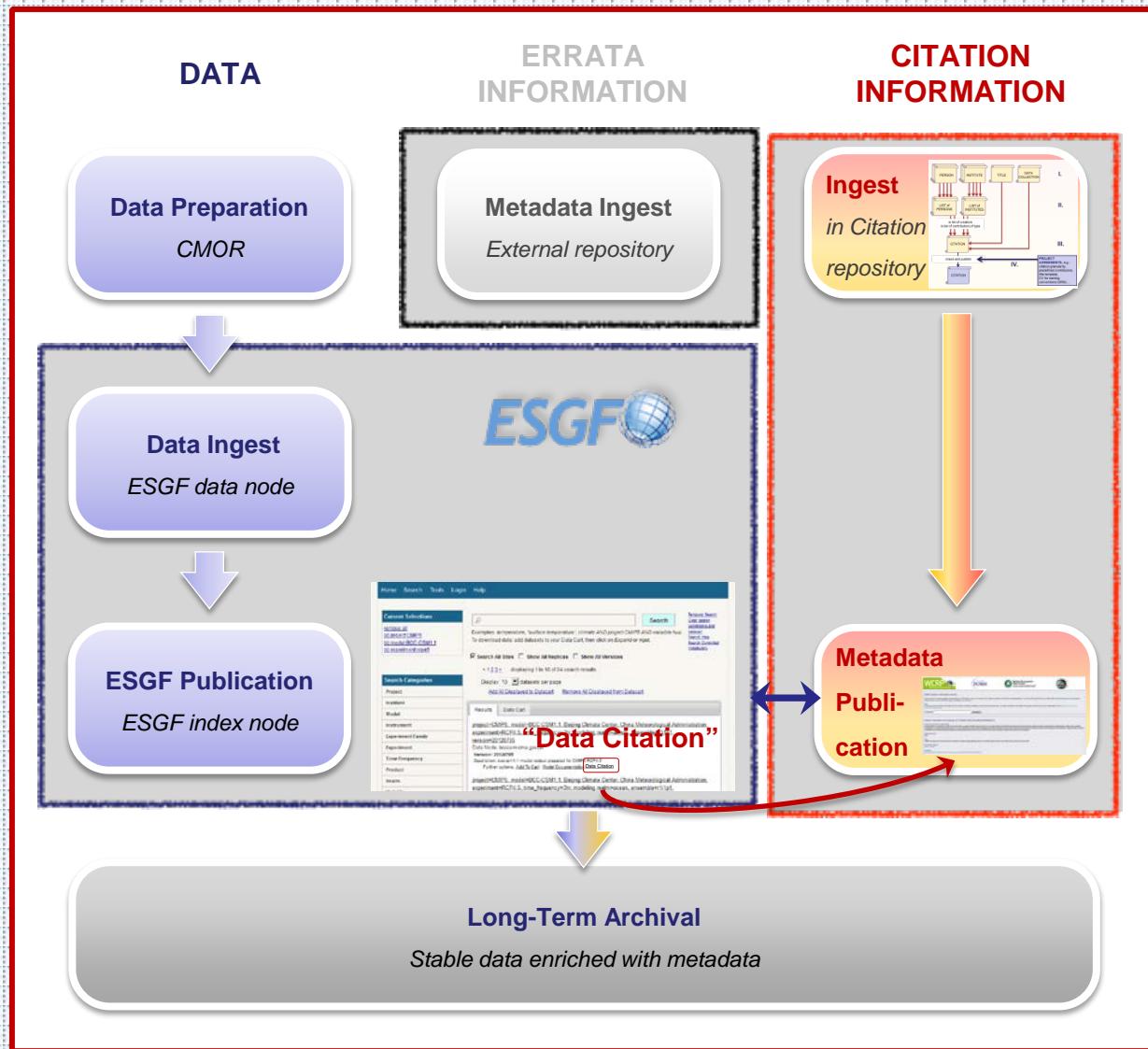
3.+4. Access Citation information



CITATION for CMIP6

Citations for CMIP6 data are directly accessible in ESGF data portals.

Additional data options for machine access are provided.



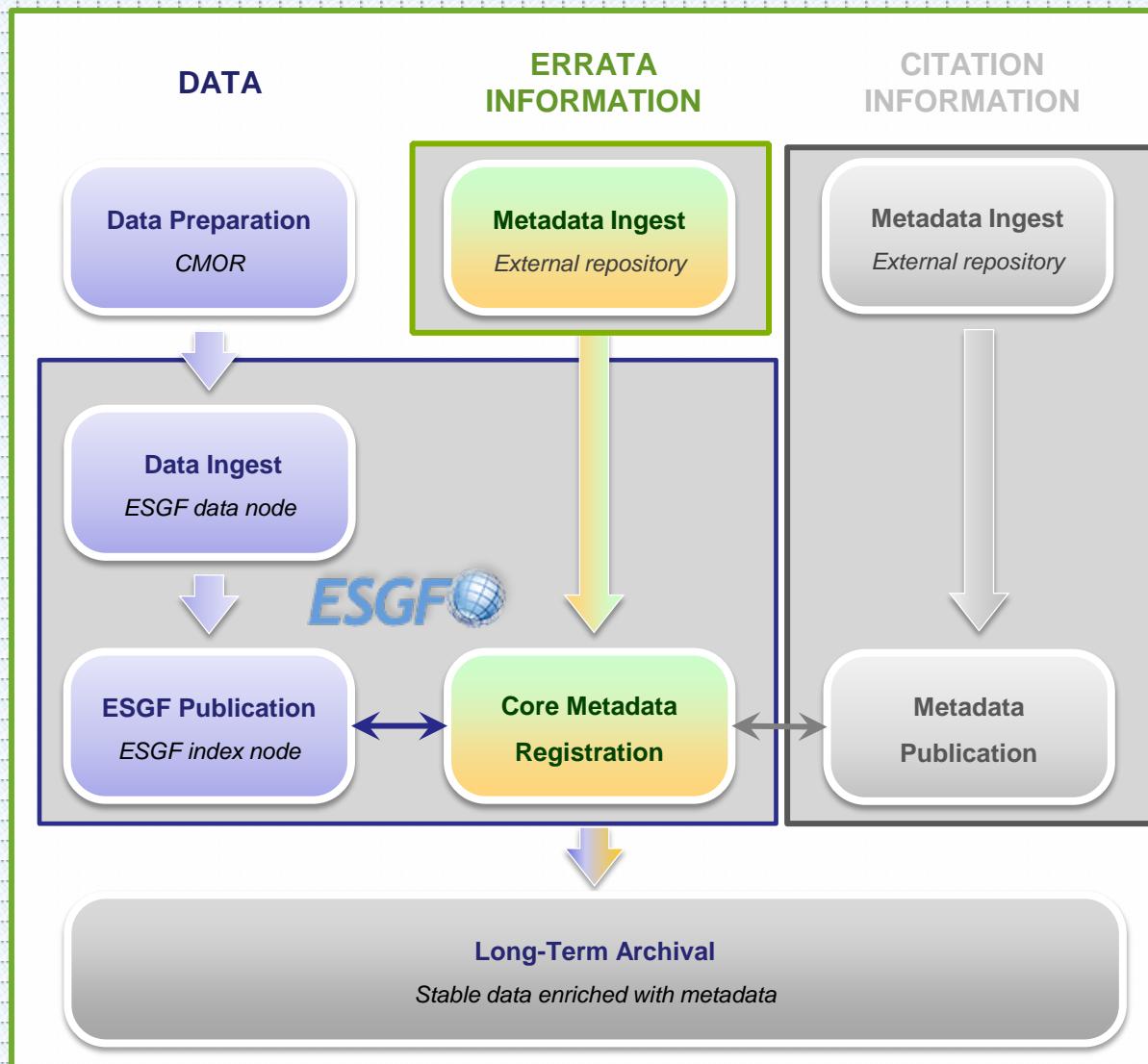
K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

¹German Climate Computing Center (DKRZ, stockhause@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

REFERENCED METADATA

- ERRATA TYPE -

Data publishers use errata to summarize production errors and their corrections.



SCATTERED ERRATA

General CMIP5 issues:

<http://cmip-pcmdi.llnl.gov/cmip5/errata/cmip5errata.html>

IPSL-CM5 issues:

<http://icmc.ipsl.fr/index.php/icmc-projects/icmc-international-projects/international-project-cmip5/icmc-ipsl-cm5-contribution-sim/icmc-ipsl-cm5-errata>

CESM1 and CCSM4 issues:

<http://www.cesm.ucar.edu/CMIP5/errata/>

CNRM-CM issues:

<http://www.cnrm.meteo.fr/cmip5/spip.php?article24>

...etc.

REFERENCED METADATA

– ERRATA TYPE –

Proof-of-concept:
IPSL errata module for CMIP5 data

USER



REQUEST:
filename(s) + version(s)
or
tracking ID(s)

PHP MODULE + DATABASE



ANSWER:
Modifications/corrections history
+
Links to corresponding issues

IPSL-CM5 Errata

The IPSL database counts 140630 files and 23932 files have been modified/corrected (i.e., 17%).

Please upload a text file (see [template](#)) giving the tracking ID(s) or the filename and the version of the NetCDF file(s) for which you want information (i.e., versions, hierarchical modifications or corrections). This interface will only deal with [original CMIP5 files](#) from IPSL-CM5.

Text file: Choisissez un fichier Aucun fichier choisi (Max size = 2Mo)

- (i) **Search by tracking ID(s) is recommended.** Tracking ID(s) can be found in global attributes of your file(s) using the NCO commands (e.g., "ncdump -h").
- (ii) **Search by filename requires the dataset version.** The version corresponds to the publication date and can be found in dataset properties from [ESGF portal](#).

Please click on an errata number in the following table to get more details about the issues raised in the IPSL database (see color legend below).

| | Short description | Affected file(s) | New version(s) |
|----|--|-------------------|----------------|
| #1 | Wrong soil depth axis from ORCHIDEE | tsl_*_*_*-*_.nc | 20120430 |
| #2 | Wrong pH computing | ph_*_*_*-*_.nc | 20120430 |
| #3 | Duplicated grid-cells on the edges of ocean grid | stfot_*_*_*-*_.nc | 20120430 |

- List and document all known errors and file versions in IPSL data,
- Simplify the search of annotations for one or a set of files.

K. Berger¹, G. Levavasseur², M. Stockhause¹, and M. Lautenschlager¹

¹German Climate Computing Center (DKRZ, stockhouse@dkrz.de), ²Institute Pierre Laplace (IPSL, gipsl@ipsl.jussieu.fr)

REFERENCED METADATA

- ERRATA TYPE -

Implementation to ESGF for a CMIP6 centralized errata



Home Search Tools Login Help

Current Selections

- [remove all](#)
- (x) project:CMIP5
- (x) model:IPSL-CM5A-LR



Examples: temperature, "surface temperature", climate AND project:CMIP5 AND variable:hus.

To download data: add datasets to your Data Cart, then click on Expand or wget.

Search

Temporal Search
[Clear search constraints](#)
[and dataset](#)
[Search Help](#)
[Search Controlled Vocabulary](#)

P2P

Search All Sites

Show All Replicas

Show All Versions

< 1 > displaying 1 to 1 of 1 search results

Display 10 datasets per page

[Add All Displayed to Datacart](#) [Remove All Displayed from Datacart](#)

Search Categories

Project

Institute

Model

Instrument

Experiment Family

Experiment

Time Frequency

Product

Realm

Results Data Cart

project=CMIP5 / IPCC Fifth Assessment Report, model=IPSL-CM5A-LR, Institut Pierre-Simon Laplace, experiment=ESM feedback 2, time_frequency=mon, modeling_realm=land, ensemble=r1i1p1, version=20120430

Data Node: esgf-p2p-test.dkrz.de

Version: 20120430

Description: IPSL-CM5A-LR model output prepared for CMIP5 ESM feedback 2

Further options: Remove From Cart Visualize and Analyze Model Documentation Errata

“Errata”



EGU2015-8404

Your query counts 1 dataset and 49 files.

N.B.: Versions in bold letters are current versions of your files.

Dataset:

PID:

[cmip5.output1.IPSL.IPSL-CM5A-LR.esmFdbk2.mon.land.Lmon.r1i1p1](#)

Current version:

[10876/ESGF-cmip5.output1.IPSL.IPSL-CM5A-LR.esmFdbk2.mon.land.Lmon.r1i1p1.20120430](#)

20120430 IS the latest.

Data citation:

Identifier: <http://cera-www.dkrz.de/WDCC/ui/Entry.jsp?acronym=IPLe2>

Title: IPSL-CM5A-LR model output prepared for CMIP5 esmFdbk2 experiment, served by ESGF

Author: Institut Pierre Simon Laplace (IPSL)

Publication Year: 2011

Publisher: World Data Center for Climate (WDCC) at DKRZ

Versioning history:

20110726 is the original/first version.

[20120430](#) corrects issues #1 #8 #18

Dataset

Filename:

[baresoilFrac_Lmon_IPSL-CM5A-LR_esmFdbk2_r1i1p1_185001-210012.nc](#)

Dataset:

[cmip5.output1.IPSL.IPSL-CM5A-LR.esmFdbk2.mon.land.Lmon.r1i1p1.v20120430](#)

[10876/ESGF-69a43a39-b519-4895-aaf9-bae12abb27d](#)

[ef276ab18a329913c8b007719f7585b1](#) (MD5)

20120430 IS the latest.

Checksum:

Current version:

Versioning history:

20110726 is the original/first version.

[20120430](#) is a symbolic link to previous version.

File 1

Filename:

[c3PftFrac_Lmon_IPSL-CM5A-LR_esmFdbk2_r1i1p1_185001-210012.nc](#)

Dataset:

[cmip5.output1.IPSL.IPSL-CM5A-LR.esmFdbk2.mon.land.Lmon.r1i1p1.v20120430](#)

[10876/ESGF-2757e310-08cb-45cc-8144-06b1fc2cbef](#)

[cdaedae11aeb1ac44a95ae40bb0dc72f](#) (MD5)

20120430 IS the latest.

Checksum:

Current version:

Versioning history:

20110726 is the original/first version.

[20120430](#) is a symbolic link to previous version.

File 2

Filename:

[c4PftFrac_Lmon_IPSL-CM5A-LR_esmFdbk2_r1i1p1_185001-210012.nc](#)

Dataset:

[cmip5.output1.IPSL.IPSL-CM5A-LR.esmFdbk2.mon.land.Lmon.r1i1p1.v20120430](#)

[10876/ESGF-dec3b7a4-9cb4-4eda-9a06-89cb9630f304](#)

[42b4fc1cd272bcc7dab9ffed3e32df](#) (MD5)

20120430 IS the latest.

Checksum:

Current version:

[cmip5.output1.IPSL.IPSL-CM5A-LR.esmFdbk2.mon.land.Lmon.r1i1p1.20120430](#)

[10876/ESGF-dec3b7a4-9cb4-4eda-9a06-89cb9630f304](#)

20120430 IS the latest.

↑

↑