

A system for easy access to scientific information using DOIs

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Motivation

- **Publications are based on scientific data sets that can not be accessed.**
- **The URL for the data might change over time**
- **Therefore re-evaluation, or re-analysis of data is almost impossible.**
- **Open Access is crucial for all kinds of scientific content.**
- **Collecting data is not honoured with scientific reputation.**

We need ...

- **a persistent identifier that allows global access to the data sets and all relevant metadata**
- **the enabling of citations of data to encourage good scientific practice and acknowledgement of scientific work**

Primary data publication

- During her research for the *World Data Center Climate (WDCC)* the scientist Mrs. Weather gains primary data about the temperature in Hannover in the year 2003.
- As usual the primary data is tested, evaluated, stored and administrated at the *WDCC*.
- **In addition** Mrs. Weather registers the primary data at the TIB.

Registration of primary data

The World data center transmits to the TIB the URL where the data can be accessed, together with a XML-file containing all relevant bibliographic metadata

Including all information obligatory for the citing of electronic media (ISO 690-2)

- author
- title
- size
- edition
- language
- publisher
- publishing date
- publishing place

Identifier

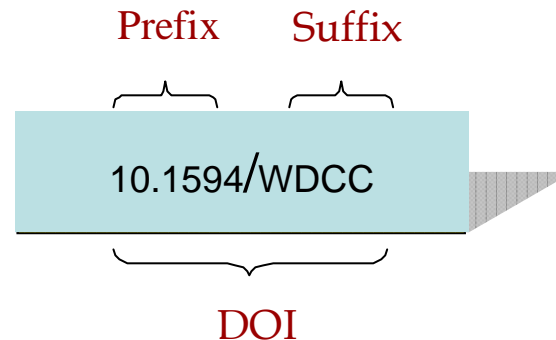
- > **The TIB is including the metadata about the primary data in her catalogue, and awards the primary data with a unique identifier for registration: a DOI**

In her publications, Mrs. Weather is now citing this primary data with its unique DOI:

**Weather, Hermione (2003): Temperature in Hannover for 2003.
[doi: 10.1594/WDCC/W_Han_2003_MMB_2]**

Digital Object Identifier (DOI)

- DOI is a worldwide system for persistent and actionable identification and interoperable exchange of intellectual property on digital networks;
- DOI is made up of two components, the prefix and the suffix;



- The value of the DOI system lies in its combination of Resolution, Metadata and Policy.

Resolving the DOI

This DOI can be resolved (and the data can be accessed) in every browser worldwide in different ways:

- http://dx.doi.org/10.1594/WDCC/W_Han_2003_MMB_2
- http://doi.tib-hannover.de:8000/10.1594/WDCC/W_Han_2003_MMB_2

Or by

[Doi://10.1594/WDCC/W_Han_2003_MMB_2](https://doi.org/10.1594/WDCC/W_Han_2003_MMB_2)
(after installing a browser plugin)

No resolution costs!

- > **The usage of the free Handle software for the resolution of DOIs means no additional costs:**
- > **Neither for user who resolve DOIs**
- > **Nor for a resolution infrastructure**

suchen [und] sortiert nach Nummer: | [Abmelden](#)

Titelliste

Titeldaten

Suchergebnis
sichern
Datenbankauswahl
Bestellung ohne
Recherche
Benutzerinfo
TIB Homepage

- **Ihre Aktion** suchen [und] [exk primärdaten and kor wdcc](#)



Titel: [IPCC-AR4 MPI-ECHAM5_T63L31 MPI-OM_GR1.5L40 PIcntrl\(pre-industrial control exp atmosphere 6 HOUR values MPImet/MaD Germany / World Data Center for Climate \(WDC\) .Erich@Roeckner](#)

Beteiligt: [Erich Roeckner](#) ; [Michael Lautenschlager](#) ; [Monika Esch](#)

Körperschaft: [World Data Center for Climate \(WDCC\)](#)

Erschienen: Hamburg : World Data Center for Climate (**WDCC**), 2006-06-29

Umfang: Online-Ressource (8310350578836 Bytes).

Anmerkung: Mode: Abstract

StructuralType: Digital

CreationDate: 2005-02-08

Inhalt: The data represent 6 hourly values of pre-industrial climate simulation. Here, for the concentrations of well mixed greenhouse gases (CO₂, CH₄, N₂O) were prescribed. C (MPI-OM) are available within this experiment, they are stored in EXTRA FORMAT. D monthly mean values are also available.

As the boundary conditions are not time dependent, the time access is arbitrary.

Technical data to this experiment:

The experiment is using ECHAM5.2.02 coupled to MPI-OM Vers.1.0 GR1.5L40 and wa NEC-SX6(hurrikan).

The output from the model run: hurrikan.dkrz.de:/ut/3/m214002/EXP500/run520

Technische Angaben: Format: GRIB

Links: doi: [10.1594/WDCC/EH5-T63L31_OM-GR1.5L40_CTL_6H](https://doi.org/10.1594/WDCC/EH5-T63L31_OM-GR1.5L40_CTL_6H)

URN: [urn:nbn:de:tib-10.1594/WDCC/EH5-T63L31_OM-GR1.5L40_CTL_6H0](https://nbn-resolving.org/urn:nbn:de:tib-10.1594/WDCC/EH5-T63L31_OM-GR1.5L40_CTL_6H0)

Bestandsinfo: [Anzeigen](#) lizenzfrei!

Anmerkung: **Primaerdaten**

Always quote citation when using data!

DOI for Scientific and Technical Data

10.1594/WDCC/EH5-T63L31_OM-GR1.5L40_CTL_6H

Title

IPCC-AR4 MPI-ECHAM5_T63L31 MPI-OM_GR1.5L40 PIcntrl(pre-industrial control experiment): atmosphere 6 HOUR values MPImet/MaD Germany

Citation

Roeckner, Erich; Lautenschlager, Michael; Esch, Monika 2006; IPCC-AR4 MPI-ECHAM5_T63L31 MPI-OM_GR1.5L40 PIcntrl(pre-industrial control experiment): atmosphere 6 HOUR values MPImet/MaD Germany. [doi: 10.1594/WDCC/EH5-T63L31_OM-GR1.5L40_CTL_6H]

Publication Date

2006-06-29

Author(s)

Roeckner, Erich; Lautenschlager, Michael; Esch, Monika

Summary

The data represent 6 hourly values of pre-industrial climate simulation. Here, for the year 1860, concentrations of well mixed greenhouse gases (CO₂, CH₄, N₂O) were prescribed. Ocean data (MPI-OM) are available within this experiment, they are stored in EXTRA FORMAT. Datasets with monthly mean values are also available.

As the boundary conditions are not time dependent, the time access is arbitrary.

Technical data to this experiment:

The experiment is using ECHAM5.2.02 coupled to MPI-OM Vers.1.0 GR1.5L40 and was run on a NEC-SX6(hurrikan).

The output from the model run: hurrikan.dkrz.de:/ut/3/m214002/EXP500/run520

Location(s)

World; Latitude: -90.0 to 90.0; Longitude: 0.0 to 360.0

Spatial Coverage

Latitude: -90.0 to 90.0; Longitude: 0.0 to 360.0; Altitude: -6.98 m to 10.0 hPa

Temporal Coverage

1/1/2150 - 31/12/2655 (calendrical, arbitrary numbered years)

Data Format(s)

GRIB

Datasize

8310350578836 Bytes

Contact

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<http://www.mpimet.mpg.de/>

Project

IPCC-Hamburg Climate Model Simulation (IPCC_HH)

The Intergovernmental Panel on Climate Change (IPCC) has been established by WMO and UNEP to assess scientific, technical and socio-economic information, relevant for the understanding of climate change, its potential impacts and options for adaption and mitigation.

Continued description about the work of the IPCC will be found at the homepage (<http://www.ipcc.ch>) and (www.grida.no/climate/ipcc). As a further development the Special Report on Emission Scenarios (SRES) have been constructed, to explore future developments in the global environment with special reference to the production of greenhouse gases and aerosol precursor emissions.

A set of four scenarios families (A1, A2, B1, B2) have been developed (see also <http://www.grida.no/climate/ipcc/emission/index.htm>)

These data are available at the World Data Center for Climate, Hamburg.(wdc-climate.de).

Additional info

Additional information for this CERA experiment is available [here](#).

Available Datasets (Page 1 of 13)

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	Name	Progress
<input type="checkbox"/>	EH5_OM_CONST_ALAKE: lake fraction of grid box	complete
<input type="checkbox"/>	EH5_OM_CONST_ALB: surface background albedo	complete
<input type="checkbox"/>	EH5_OM_CONST_AZDL: roughness length over land	complete

Data and article

- > **The DOI offers an easy way to connect the article with the underlying data:**

The dataset:

G.Yancheva, . R Nowaczyk et al (2007)

Rock magnetism and X-ray fluorescence spectrometry analyses on sediment cores of the Lake Huguang Maar, Southeast China, PANGAEA

[doi:10.1594/PANGAEA.587840](https://doi.org/10.1594/PANGAEA.587840)

Is cited in the article:

G. Ycheva, N. R. Nowaczyk et al (2007)

Influence of the intertropical convergence zone on the East Asian monsoon
Nature 445, 74-77

[doi:10.1038/nature05431](https://doi.org/10.1038/nature05431)

Examples of DOIs for scientific content

- > [doi:10.1594/EURORAD/CASE.1113](https://doi.org/10.1594/EURORAD/CASE.1113) in cooperation with *European Congress for Radiology (ECR)* over 6.500 Case studies
- > [doi:10.2312/EGPGV/EGPGV06/027-034](https://doi.org/10.2312/EGPGV/EGPGV06/027-034) in cooperation with *European Association for Computer Graphics (Eurographics)* over 300 articles (Grey literature)
- > [doi:10.1594/ecrystals.chem.soton.ac.uk/145](https://doi.org/10.1594/ecrystals.chem.soton.ac.uk/145) Together with the project *eBank of UK Office for Library Networking* we assigned DOIs for crystal structures.
- > [doi:10.2314/CERN-THESIS-2007-001](https://doi.org/10.2314/CERN-THESIS-2007-001) DOIs for Cern theses
- > [doi:10.2314/511535090](https://doi.org/10.2314/511535090) DOIs for final reports of projects funded by the German government

Scope

The TIB will register primary data worldwide from a scientific, technical or medical background.

Furthermore any scientific or technical content that is a result of community funded research in Europe.

Depending on the number of DOIs the price per DOI varies from 0,5 to 0,005 Euro.

The storage, maintaining and evaluation of the contents lies with the content providers (institutions, data centers, ...) as so-called publication agents.

Publication agent

- > **Content providers, Data centers**
- > **Who are responsible for:**
 - > Quality assurance
 - > Storage of the content and accessibility
 - > Creation of metadata
- > **The DOI registration can be included into the Workflow of the publication agent**
- > **The TIB stores the metadata and keeps it searchable.**

Status

The TIB is now officially a non-commercial DOI Registration agency for scientific content.

The first 500,000 objects have been registered, over 350 datasets are furthermore accessible via the online catalogue of the TIB.

This year the TIB will establish a metadata catalogue for every scientific content registered with a DOI.

Every registered object will be accessible via a new catalogue at the library thus bridging the gap in dissemination of and access to information in a most dramatic and effective way.

Future

- > **Sharing the responsibility**
- > **Worldwide union of local technical libraries to establish a global non-commercial scientific DOI registration agency**

- > **Ready to join?**

Thank you! Any questions?

