

How to download IPCC-DDC AR5 data from WDCC

The following screenshots are intended for helping users accessing IPCC-DDC AR5 data in WDCC.

If you need more information on IPCC-DDC please refer to <http://www.ipcc-data.org/>, information on the WDCC background can be found on <http://wdc-climate.de/>. General usage information for data download from WDCC is available at <https://cera-www.dkrz.de/WDCC/ui/cersearch/docu>.

Most likely you will reach WDCC pages by clicking on the grey or green links on the IPCC-DDC AR5 Archive pages. The following screenshots guide you through the steps required starting from the DDC page until the download starts.

Please keep in mind that

1. you will need a valid CERA account in order to download data
2. in addition to the download using the GUI, a batch tool "jblob" is available (and recommended) for accessing data. More information on jblob can be found at <https://cera-www.dkrz.de/WDCC/ui/cersearch/info?site=jblob>.

If you have any questions or proposals, please contact WDCC support at data@dkrz.de.

Step-by-step instructions

Step 1: Choose experiment

Choose an experiment on http://www.ipcc-data.org/sim/gcm_monthly/AR5/WG1-Archive.html or http://www.ipcc-data.org/sim/gcm_monthly/AR5/Reference-Archive.html, this will lead you to the WDCC landing page for the selected experiment.

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Step 2: WDCC landing page

Clicking on the link "WDCC Data Access" will take you to a list of available variables/datasets.

The screenshot shows the WDCC landing page for the dataset 'cmip5 output1 BCC bcc-csm1-1 historical'. The page header includes logos for WCRP, PCMDI, British Atmospheric Data Centre, and WDC Climate. The main content area is titled 'DOI for Scientific and Technical Data' and provides citation elements such as Creator (Wu, Tongwen; Xin, Xiaoge), Publication Year (2015), Title (bcc-csm1-1 model output prepared for CMIP5 historical experiment, served by ESGF), DOI Publisher (WDCC at DKRZ), and Identifier (doi:10.1594/WDCC/CMIP5.BCB1hi). It also lists contact information and contributing/instituting institutions. A red box highlights the 'WDCC Data Access (CERA account)' link, with a red arrow pointing to it and the text 'Select „WDCC Data Access“'.

DOI for Scientific and Technical Data 'cmip5 output1 BCC bcc-csm1-1 historical'
doi:10.1594/WDCC/CMIP5.BCB1hi

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 historical experiment, served by ESGF

DOI Publisher
WDCC at DKRZ

Identifier
doi:10.1594/WDCC/CMIP5.BCB1hi

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

Contact
Tongwen Wu

Contributing Institute(s)
Beijing Climate Center (BCC)

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

Detailed Metadata
WDCC Metadata
<http://cera-www.dkrz.de/WDCC/ui/Entry.jsp?acronym=BCB1hi>

Data Access
Data access links are provided to the peer nodes of the Earth System Grid Federation (ESGF: <http://esgf.org>) and to the long-term data archive of the World Data Center for Climate (WDCC: <http://www.wdc-climate.de>). ESGF data access requires a valid openID and WDCC data access a CERA account (see <http://cera-www.dkrz.de/>).

ESGF Data Access (openID)
There is currently no directly linked data available, please take a look at the Earth System Grid Federation (ESGF) gateways, e.g. <http://esgf-data.dkrz.de/>.

WDCC Data Access (CERA account)
[Find related data in CERA...](#)

Summary

Step 3: Variable/Dataset list

On this page all available variables/datasets are listed, clicking on the disk symbol will take you to the chunk list for the corresponding variable. You can use the facets on the left area to filter the list.

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Search ...

Results

datasetX BCB1hiX 510 results found for "":"

cmip5 output1 BCC bcc-csm1-1 historical day seaIce day r2i1p1 v1 vsi

Project IPCC-AR5_CMIP5 (IPCC Assessment Report 5 and Coupled Model Intercomparison Project data sets)
Topic Name sea_ice_v_velocity
Aggregation day
Code Type IPCC_DDC_AR5
Creation Date 2014-03-03T16:08:03Z
Date range 1950-01 TO 2009-12
Bounding Box Longitude: -180.00, 180.00 Latitude: -82.00, 90.00
License For scientific use only
Progress completely archived
Datasize 6.82 GB (7321020504 byte)
Format NetCDF
Header netcdf BCB1hiDIDvsi211v1_1_1772570360801535172 {
dimensions:
time = UNLIMITED ; // (3650 currently)
rlat = 232 ;
rlon = 360 ;
bnds = 2 ;
variables:
double time(time) ;
time:bounds = "time_bnds" more ..

Click on the disk symbol to access a list of available chunks

Use facets to filter displayed variables/datasets

Access additional metadata

IPCC-AR5_CMIP5 BCB1 BCB1hi BCB1hiDIDvsi211v1
(project) (experiment) (dataset_group) (dataset)

cmip5 output1 BCC bcc-csm1-1 historical mon atmos Amon
r1i1p1 v1 hurs

cmip5 output1 BCC bcc-csm1-1 historical mon atmos Amon
r1i1p1 v1 co2mass

[Code list](#) for IPCC DDC AR5 data in the CERA database.

Step 4: CERA database login

Login using your CERA account, if you don't have one please go to <https://cera-www.dkrz.de/WDCC/ui/ceraresearch/register>. (The registration is done manually, which can take a few days)

Contact: ulrike.hiltner@ufz.de

Please login to CERA database

This CERA account is now enabled. Username: ulrike.hiltner@ufz.de Password: BG6xSD1Xn

To log in please refer to <http://cera-www.dkrz.de/>

Please note that the terms of use at <https://cera-www.dkrz.de/WDCC/ui/cersearch/info?site=termsofuse> have to be followed.







All downloads of data from WDCC will be logged. These logging data will be kept in order to contact you in case of problems and given to the data providers on demand. Please feel free to contact data@dkrz.de in any case of problems.

Step 5: Chunk list

Download the chunk(s) you are interested in by clicking on the disk symbol.

Important: The download may not start immediately after clicking on the disk symbol because most of the datasets are stored on tapes and have to be copied to a disk cache before transfer. The download will be started after this process is finished!

CERA files for 'BCB1hiDIDvsi211v1'

Filename	Filesize
 ../vsi_day_bcc-csm1-1_historical_r2i1p1_19500101-19591231.nc	1.1 GiB
 ../vsi_day_bcc-csm1-1_historical_r2i1p1_19600101-19691231.nc	1.1 GiB
 ../vsi_day_bcc-csm1-1_historical_r2i1p1_19700101-19791231.nc	1.1 GiB
 ../vsi_day_bcc-csm1-1_historical_r2i1p1_19800101-19891231.nc	1.1 GiB
 ../vsi_day_bcc-csm1-1_historical_r2i1p1_19900101-19991231.nc	1.1 GiB
 ../vsi_day_bcc-csm1-1_historical_r2i1p1_20000101-20091231.nc	1.1 GiB

Click on a disk symbol to download the corresponding chunk

Software for Manipulating or Displaying NetCDF Data

This document provides references to software packages that may be used for manipulating or displaying [netCDF](#) data. We include information about both freely-available and licensed (commercial) software that can be used with netCDF data. We rely on developers to help keep this list up-to-date. If you know of corrections or additions, please [send them to us](#). Where practical, we would like to include WWW links to information about these packages in the HTML version of this document.

Other useful guides to utilities that can handle netCDF data include ARM's list of [ARM-tested netCDF data tools](#), which includes some downloadable binaries and the NOAA Geophysical Fluid Dynamics Laboratory [guide to netCDF utilities](#).

Link to list: <https://www.unidata.ucar.edu/software/netcdf/software.html>

For an R interface

The R Project for Statistical Computing has developed [R](#), a language and environment for statistical computing and graphics. It provides a wide variety of statistical and graphical techniques, including linear and nonlinear modelling, statistical tests, time series analysis, classification, and clustering.

David Pierce has contributed the [ncdf4 package](#) for reading netCDF data into R and for creating new netCDF dimensions, variables, and files, or manipulating existing netCDF files from R.

Pavel Michna has contributed another package, [RNetCDF](#), that also provides access to netCDF data and to udunits calendar functions from R.

Robert Hijmans (with additional contributors) has created the [R raster package](#) for geographic data analysis and modeling. The raster package can be used for reading, writing, manipulating, analyzing and modeling gridded spatial data. The package is especially useful for large datasets that don't fit into memory, because data is processed in chunks. See [Introduction to the 'raster' package](#) for more information.

Further reading and tutorials:

- Tutorial on 'ncdf' package: <https://www.image.ucar.edu/Software/Netcdf/#examples>
- netCDF in R - Tutorial for 'ncdf4' package: <http://geog.uoregon.edu/bartlein/courses/geog490/week04-netCDF.html>
- Documentation of 'ncdf4' package: <https://cran.r-project.org/web/packages/ncdf4/ncdf4.pdf>
- A "NetCDF 4 in R" cheatsheet: <https://www.r-bloggers.com/a-netcdf-4-in-r-cheatsheet/>
- How to take a subset from a netCDF file using latitude/longitude boundaries in R: <https://stackoverflow.com/questions/21280104/how-to-take-a-subset-from-a-netcdf-file-using-latitude-longitude-boundaries-in-r?rq=1>
- How to open and work with NetCDF data in R: <https://rpubs.com/boyerag/297592>

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- Automate the extraction of climate variable at different time depths from netcdf in R: <https://stat.ethz.ch/pipermail/r-sig-geo/2014-September/021676.html>
- Extract time series of a point from netCDF in R: https://stackoverflow.com/questions/20621200/extract-time-series-of-a-point-lon-lat-from-netcdf-in-r?utm_medium=organic&utm_source=google_rich_qa&utm_campaign=google_rich_qa

For Python interfaces

Python is an interpreter, object-oriented language that is supported on a wide range of hardware and operating systems. Python information and sources can be obtained from <http://www.python.org/>. There are now several netCDF interfaces for Python.

Jeff Whitaker of the NOAA Earth System Research Lab has developed a netCDF-4 module for python: <http://code.google.com/p/netcdf4-python/>. Most new features of netCDF-4 are implemented, such as multiple unlimited dimensions, groups and zlib data compression. All the new numeric data types (such as 64-bit and unsigned integer types) are implemented. Compound and variable length (vlen) data types are supported, but the enum and opaque data types are not. Mixtures of compound and vlen data types (compound types containing vlens, and vlens containing compound types) are not supported.

[xray](#) is a higher-level interface that uses netcdf4-python internally to implement a pandas-like package for N-D labelled arrays for scientific data.

André Gosselin of the Institut Maurice-Lamontagne, Pêches & Océans Canada, has implemented pycdf, a new Python interface to the netCDF library. It is available from <http://pysclint.sourceforge.net/pycdf/>, where you will find the install files, installation instructions, extensive documentation in text and html format, and examples. pycdf requires the Numeric python package, and installs through the simple "python setyp.py install" command.

Bill Noon (noon@snow.cit.cornell.edu) has implemented another netCDF Python module that allows easy creation, access, and browsing of netCDF data. The bindings also use the [udunits library](#) to do unit conversions. More information and source for Noon's Python netCDF module are available from <http://snow.cit.cornell.edu/noon/ncmodule.html>.

The package from Konrad Hinsén has been integrated into his [ScientificPython](#) package.

Dave Brown of NCAR's Computational and Information Systems Laboratory has developed [PyNIO](#), a Python package that allows read and/or write access to a variety of data formats using an interface modelled on netCDF. Currently supported formats include netCDF, HDF4, GRIB1 and GRIB2 (read only), and HDF-EOS 2 Grid and Swath data (read only).

Vicente Galiano of Miguel Hernandez University has developed a Python interface to PnetCDF. This Python's package called "PyPnetCDF" allows access to NetCDF files using MPI and the library pnetCDF developed by <http://www.mcs.anl.gov/parallel-netcdf/>. The tools are very

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similar to Konrad Hinsens's NetCDF package to Python but can read and write in a parallel way. For more information, see: <http://www.pyacts.org/pypnetcdf>.

Pupynere (PUre PYthon NEtCDF REader) Roberto De Almeida has developed [pupynere](#), a PUre PYthon NEtCDF REader that allows read-access to netCDF files using the same syntax as the Scientific.IO.NetCDF Python module. Even though it's written in Python, the module is up to 40% faster than Scientific.IO.NetCDF and pynetcdf.

The RCP database on emissions

A short tutorial on the use of the database

<https://tntcat.iiasa.ac.at/RcpDb/dsd?Action=htmlpage&page=about>

Click on the tabs on the top of the page (red text fields) to enter the database. The “**Compare**” tab includes the data of all RCPs, and permits data comparisons at the global as well as the level of 5 regions.

The “**Spatial**” tab lists the spatial data of all RCPs, and permits online browsing and downloading the gridded data sets.

The “**Download**” tab lists the available bulk downloads (regional as well as spatial data) on a per RCP basis. Please note that before downloading from the RCP database you have to register by providing your email address. We kindly ask you to (optionally) provide your name, country and organization as well.

After entering the database the following selections can be made in order to visualize the data on the screen, or to download the data to Excel:

(1) Regions: In the upper left area of the screen is a field named “Regions”. You may select one or multiple regions for which the data is shown on the screen

(2) Scenarios: This field includes the list of scenarios (RCPs) from which one or more scenarios can be selected.

(3) Variables: In this field the variables can be selected for which the data is shown on the screen. Note that while it is possible to select multiple regions or scenarios, just one variable at a time can be shown on the screen. Each time a new variable is selected the screen is updated automatically..

The Chart Preview on the right shows the graph of the selected data (variable + scenarios + regions). In addition, the window “**Query Results**” shows the data in tabular format.

It is possible to export the data either into Excel or two different graphical formats. In order to do so, select one of the options in the “**Output Options**” window.

The field titled “**Notes**” shows additional information or explanatory text for the selected variables.

Region definitions

The consolidated results in the database are shown at regional aggregations of 5 regions. The regions are defined as:

Aggregation on the 5 region level

OECD90 = Includes the OECD 90 countries, therefore encompassing the countries included in the regions **Western Europe** (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom), **Northern America** (Canada, United States of America) and **Pacific OECD** (Australia, Fiji, French Polynesia, Guam, Japan, New Caledonia, New Zealand, Samoa, Solomon Islands, Vanuatu) .

REF = Countries from the **Reforming Economies** region (Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Malta, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Slovenia, Tajikistan, TFYR Macedonia, Turkmenistan, Ukraine, Uzbekistan, Yugoslavia).

ASIA = The countries included in the regions **China** + (China, China Hong Kong SAR, China Macao SAR, Mongolia, Taiwan) , **India** + (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka) and **Rest of Asia** (Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, East Timor, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Papua New Guinea, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam) are aggregated into this region.

MAF = This region includes the **Middle East** (Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen) and **African** (Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cote d'Ivoire, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Western Sahara, Zambia, Zimbabwe) countries.

LAM = This region includes the **Latin American** countries (Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Suriname, Trinidad and Tobago, Uruguay, Venezuela).