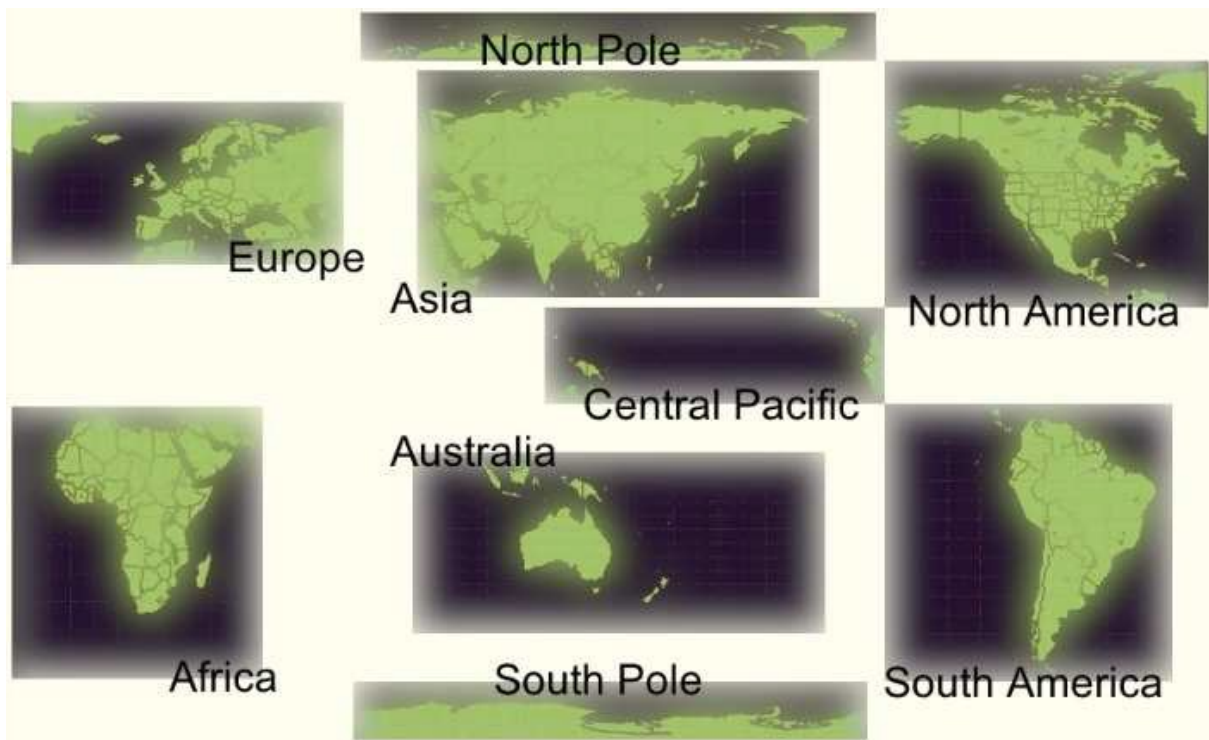


IPCC AR5 Data

Selected IPCC AR5 data is available on storage media. The data is a subset of the IPCC Working Group I AR5 snapshot of the 15th March 2013 (the cutoff date for literature to be included in the WGI AR5 report; http://www.ipcc-data.org/sim/gcm_monthly/AR5/WG1-Archive.html).

The data is distributed for 9 different regions (areas):



The area data is distributed on a USB flash drive each, except for “Australia” and “Central Pacific” which are distributed together on one USB flash drive.

Naming conventions

The file structure on storage media is:

<AREA>/<variable>/<experiment>/, e.g.
AFRICA/tas/rcp26

Files are zipped per variable and experiment.

The directory names contain the following short names for experiments:

Experiment Short-Name	Experiment Description
historical	Simulation of recent past (1850 to 2005). Impose changing conditions (consistent with observations).
rcp26	Future projection (2006-2100) forced by RCP2.6. RCP2.6 is a representative concentration pathway which approximately results in a radiative forcing of 2.6 W m ⁻² at year 2100, relative to pre-industrial conditions.
rcp45	Future projection (2006-2100) forced by RCP4.5. RCP4.5 is a representative concentration pathway which approximately results in a radiative forcing of 4.5 W m ⁻² at year 2100, relative to pre-industrial conditions. RCPs are time-dependent, consistent projections of emissions and concentrations of radiatively active gases and particles.
rcp85	Future projection (2006-2100) forced by RCP8.5. RCP8.5 is a representative concentration pathway which approximately results in a radiative forcing of 8.5 W m ⁻² at year 2100, relative to pre-industrial conditions. RCPs are time-dependent, consistent projections of emissions and concentrations of radiatively active gases and particles.

and variables:

Variable Short-Name	Standard Name
orog	surface_altitude
sftlf	land_area_fraction
sftgif	land_ice_area_fraction
psl	air_pressure_at_sea_level
tas	air_temperature at 2m height
tasmin	minimum air_temperature at 2m height
tasmax	maximum air_temperature at 2m height
uas	eastward_wind at 10m height
vas	northward_wind at 10 m height
pr	precipitation_flux
rsds	surface_downwelling_shortwave_flux_in_air

File names are constructed as follows:

<variable>_<MIP table>_<model>_<experiment>_<ensemble member>_<temporal extent>.nc, e.g.
tas_Amon_IPSL-CM5A-LR_rcp26_r1i1p1_200601-230012.nc

All variables are provided as monthly means (MIP table Amon).

A list of the models with data on storage media is given in the Appendix: Models with data on storage media.

Data Format: NetCDF/CF

The Network Common Data Format (NetCDF; <http://www.unidata.ucar.edu/packages/netcdf>) has become a standard in Earth System Sciences together with the Climate and Forecast (CF; <http://cfconventions.org>) standard naming convention.

A collection of software packages for NetCDF data analyses is available at unidata (<http://www.unidata.ucar.edu/software/netcdf/software.html>).

WDCC at DKRZ recommends and has experiences with the following tool packages for NetCDF data analysis:

- **cdos (Climate Data Operators; <http://code.zmaw.de/projects/cdo>):**
Collection of operators to manipulate and analyze Climate Data files. Supported file formats include NetCDF and GRIB. Special information for the installation of cdo on windows is available at <http://code.zmaw.de/projects/cdo/wiki/Win32>.
- **ncos (NetCDF Operators; <http://nco.sourceforge.net/>):**
Package of command line operators that work on generic NetCDF files.
- **ncl (NCAR Command Language; <http://www.ncl.ucar.edu/>):**
Interpreted programming language for scientific data analysis and visualization. Examples for the use of ncl at DKRZ are available at <http://www.dkrz.de/Nutzerportal-en/doku/vis/sw/ncl>.

Cygwin or a Virtual Machine with a LINUX operating system enables Windows users to use LINUX command line tools.

Missing data is indicated by the value **1.e20** (single precision floating point).

Contact

In case of further questions or problems with the IPCC AR5 data on storage media, please contact us: data@dkrz.de.

Appendix: Models with data on storage media

On storage media data for the following models is included. Please note that not all models provided all variables:

Model	Institute	Link to model documentation
ACCESS1.0	Commonwealth Scientific and Industrial Research Organisation/Bureau of Meteorology (CSIRO-BOM) Australia	http://wiki.csiro.au/confluence/display/ACCESS/ACCESS+Publications
ACCESS1.3	Commonwealth Scientific and Industrial Research Organisation /Bureau of Meteorology (CSIRO-BOM) Australia	http://wiki.csiro.au/confluence/display/ACCESS/ACCESS+Publications
BCC-CSM1.1	Beijing Climate Center (BCC) China	http://forecast.bccsm.cma.gov.cn/web/channel-34.htm
BCC-CSM1.1(m)	Beijing Climate Center (BCC) China	http://forecast.bccsm.cma.gov.cn/web/channel-34.htm
BNU-ESM	Beijing Normal University (BNU) China	-
CanAM4	Canadian Centre for Climate Modelling and Analysis (CCCma) Canada	http://www.cccma.ec.gc.ca/models
CanCM4	Canadian Centre for Climate Modelling and Analysis (CCCma) Canada	http://www.cccma.ec.gc.ca/models
CanESM2	Canadian Centre for Climate Modelling and Analysis (CCCma) Canada	http://www.cccma.ec.gc.ca/models
CCSM4	National Center for Atmospheric Research (NCAR) USA	http://www2.cesm.ucar.edu/
CESM1 (BGC)	National Center for Atmospheric Research (NCAR) USA	http://www2.cesm.ucar.edu/
CESM1 (CAM5)	National Center for Atmospheric Research (NCAR) USA	http://www2.cesm.ucar.edu/
CESM1 (CAM5.1,FV2)	National Center for Atmospheric Research (NCAR) USA	http://www2.cesm.ucar.edu/
CESM1 (FASTCHEM)	National Center for Atmospheric Research (NCAR) USA	http://www2.cesm.ucar.edu/
CESM1 (WACCM)	National Center for Atmospheric Research (NCAR) USA	http://www2.cesm.ucar.edu/errata
CFSv2-2011	National Centers for Environmental Prediction (NCEP) USA	http://www.nco.ncep.noaa.gov/pmb/products/cfs/

CMCC-CM	Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) Italy	http://www.cmcc.it/models/cmcc-cm
CMCC-CESM	Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) Italy	http://www.cmcc.it/models/cmcc-cm
CMCC-CMS	Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) Italy	http://www.cmcc.it/models/cmcc-cm
CNRM-CM5	Centre National de Recherches Météorologiques (CNRM-CERFACS) France	http://www.cnrm.meteo.fr/cmip5
CSIRO-Mk3.6.0	Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia	http://dx.doi.org/10.1002/joc.1952
EC-EARTH	EC-EARTH consortium published at Irish Centre for High-End Computing (ICHEC) Netherlands/Ireland	http://eearth.knmi.nl/
FGOALS-g2	Institute of Atmospheric Physics, Chinese Academy of Sciences (LSAG-CESS) China	http://www.lasg.ac.cn/fgoals/index2.asp
FGOALS-g1	Institute of Atmospheric Physics, Chinese Academy of Sciences (LSAG-IAP) China	http://www.lasg.ac.cn/fgoals/index2.asp
FGOALS-s2	Institute of Atmospheric Physics, Chinese Academy of Sciences (LSAG-IAP) China	http://www.lasg.ac.cn/fgoals/index2.asp
FIO-ESM	The First Institute of Oceanography, SOA (FIO) China	-
GEOS-5	NASA Global Modeling & Assimilation Office (NASA-GMAO) USA	http://geos5.org http://geos5.org/wiki/index.php?title=GEOS-5_Configuration_for_AR5
GFDL-CM2.1	Geophysical Fluid Dynamics Laboratory (GFDL) USA	http://www.gfdl.noaa.gov/cmip
GFDL-CM3	Geophysical Fluid Dynamics Laboratory (GFDL) USA	http://www.gfdl.noaa.gov/cmip
GFDL-ESM2G	Geophysical Fluid Dynamics Laboratory (GFDL) USA	http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-11-00560.1
GFDL-ESM2M	Geophysical Fluid Dynamics Laboratory (GFDL) USA	http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-11-00560.1
GFDL-HIRAM-C180	Geophysical Fluid Dynamics Laboratory (GFDL) USA	http://www.gfdl.noaa.gov/cmip
GFDL-HIRAM-C360	Geophysical Fluid Dynamics Laboratory (GFDL) USA	http://www.gfdl.noaa.gov/cmip

GISS-E2-H	NASA Goddard Institute for Space Studies (NASA-GISS) USA	http://data.giss.nasa.gov/modelE/ar5
GISS-E2-H-CC	NASA Goddard Institute for Space Studies (NASA-GISS) USA	http://data.giss.nasa.gov/modelE/ar5
GISS-E2-R	NASA Goddard Institute for Space Studies (NASA-GISS) USA	http://data.giss.nasa.gov/modelE/ar5
GISS-E2-R-CC	NASA Goddard Institute for Space Studies (NASA-GISS) USA	http://data.giss.nasa.gov/modelE/ar5
HadCM3	Met Office Hadley Centre (MOHC) UK	http://dx.doi.org/10.1038/ngeo1004
HadGEM2-A	Met Office Hadley Centre (MOHC) UK	http://dx.doi.org/10.1175/JCLI3712.1
HadGEM2-AO	National Institute of Meteorological Research, Korea Meteorological Administration (NIMR-KMA) South Korea	http://dx.doi.org/10.1175/JCLI3712.1
HadGEM2-CC	Met Office Hadley Centre (MOHC) UK	http://dx.doi.org/10.1175/JCLI3712.1
HadGEM2-ES	Met Office Hadley Centre (MOHC) UK	http://dx.doi.org/10.1175/JCLI3712.1
INM-CM4	Russian Academy of Sciences, Institute of Numerical Mathematics (INM) Russia	http://dx.doi.org/10.1134/S000143381004002X
IPSL-CM5A-LR	Institut Pierre Simon Laplace (IPSL) France	http://link.springer.com/journal/382/40/9/page/1
IPSL-CM5A-MR	Institut Pierre Simon Laplace (IPSL) France	http://link.springer.com/journal/382/40/9/page/1
IPSL-CM5B-LR	Institut Pierre Simon Laplace (IPSL) France	http://link.springer.com/journal/382/40/9/page/1
MIROC-ESM	Atmosphere and Ocean Research Institute (The University of Tokyo), National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology (MIROC) Japan	http://amaterasu.ees.hokudai.ac.jp/~fswiki/pub/wiki.cgi?page=CMIP5
MIROC-ESM-CHEM	Atmosphere and Ocean Research Institute (The University of Tokyo), National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology (MIROC) Japan	http://amaterasu.ees.hokudai.ac.jp/~fswiki/pub/wiki.cgi?page=CMIP5
MIROC4h	Atmosphere and Ocean Research Institute (The University of Tokyo), National Institute for Environmental	http://amaterasu.ees.hokudai.ac.jp/~fswiki/pub/wiki.cgi?page=CMIP5

	Studies, and Japan Agency for Marine-Earth Science and Technology (MIROC) Japan	
MIROC5	Atmosphere and Ocean Research Institute (The University of Tokyo), National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology (MIROC) Japan	http://amaterasu.ees.hokudai.ac.jp/~fswiki/pub/wiki.cgi?page=CMIP5
MPI-ESM-LR	Max Planck Institute for Meteorology (MPI-M) Germany	http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291942-2466/specialsection/MPIESM1
MPI-ESM-MR	Max Planck Institute for Meteorology (MPI-M) Germany	http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291942-2466/specialsection/MPIESM1
MPI-ESM-P	Max Planck Institute for Meteorology (MPI-M) Germany	http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291942-2466/specialsection/MPIESM1
MRI-AGCM3.2H	Meteorological Research Institute (MRI) Japan	http://www.mri-jma.go.jp/Publish/Technical/DATA/VOL_64/index_en.html
MRI-AGCM3.2S	Meteorological Research Institute (MRI) Japan	http://www.mri-jma.go.jp/Publish/Technical/DATA/VOL_64/index_en.html
MRI-CGCM3	Meteorological Research Institute (MRI) Japan	http://www.mri-jma.go.jp/Publish/Technical/DATA/VOL_64/index_en.html
MRI-ESM1	Meteorological Research Institute (MRI) Japan	http://www.mri-jma.go.jp/Publish/Technical/DATA/VOL_64/index_en.html
NorESM1-M	Bjerknes Centre for Climate Research, Norwegian Meteorological Institute (NCC) Norway	http://www.geosci-model-dev.net/special_issue20.html
NorESM1-ME	Bjerknes Centre for Climate Research, Norwegian Meteorological Institute (NCC) Norway	http://www.geosci-model-dev.net/special_issue20.html