Earth Systems and Climate Change Hub

National Environmental Science Programme

Project Details	
ESCC Project No. & Title(s)	2.5 Improving Australia's climate model (ACCESS)
Project Leader(s)	Harun Rashid (LCI), Christian Jakob (DCI) and Alain Protat (DCI)
Deliverable(s)	Milestone #6. Version 1 of an improved model
Data/software Manager	Refer LCI

Research Output data collection or software URLs if applicable
Version 1 of an improved model - the details about the changes in model physics and the associated improvement in model performance have been documented in a recent publication (Zhu et al. 2017; https://rmets.onlinelibrary.wiley.com/doi/full/10.1002/qj.3166) and in a blog post (http://nespclimate.com.au/improving-tropical-rainfall-simulations-in-our-national-climate-model/). The relevant model code may be obtained by contacting Dr. Hongyan Zhu (hongyan.zhu@bom.gov.au) and Prof. Christian Jakob (christian.jakob@monash.edu).

Description (complete for data and software)	
Title	Version 1 of an improved model (ACCESS)
Description	Version 1 of an improved model is a new model version implementing a suite of model improvements to address systematic errors found in recent versions of ACCESS. The details about the changes in model physics and the associated improvement in model performance have been documented in a recent publication (Zhu et al. 2017; https://rmets.onlinelibrary.wiley.com/doi/full/10.1002/qj.3166) and in a blog post (http://nespclimate.com.au/improving-tropical-rainfall-simulations-in-our-national-climate-model/). The relevant model code may be obtained by contacting Dr. Hongyan Zhu (hongyan.zhu@bom.gov.au) and Prof. Christian Jakob (christian.jakob@monash.edu).
Lineage	Independently derived.
Credit	Authors: Hongyan Zhu, Christian Jakob, and Rob Warren
Keywords	Model bias, rainfall, convection, atmospheric circulation
ABS Fields of Research Category / Subcategory*	04 Earth Sciences 0401 Atmospheric sciences

*These are listed in
http://www.abs.gov.au/ausstats/abs@.nsf/0/4AE1B46AE2048A28CA25741800044242?opendocument

Attribution/IP(complete for data and software)	
Owning Organisation	CSIRO, Bureau of Meteorology
Collaborating Organisations	Monash University
Primary contact for this data	Hongyan Zhu (hongyan.zhu@bom.gov.au) and Christian Jakob (christian.jakob@monash.edu
Lead Researcher	As above
Contributors	
Access	This software is suitable for simulation of global weather and climate. This is published via the Unified Model code repository at NCI and can be accessed by the ACCESS users using their NCI account login info.
Licencing	CSIRO, Bureau of Meteorology and the UK Met Office

Related Materials. Publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	**URL**
Zhu HY, Maloney E, Hendon H, Stratton R. 2017. Effects of the changing heating profile associated with melting layers in a climate model. *Quarterly Journal of the Royal Meteorological Society*, 143, 3110-3121, doi:10.1002/qj.3166	https://rmets.onlinelibrary.wiley.com/doi/full/10.1002/qj.3166

Technical Details	
For data: **Total Size of this data collection**	N/A
For data: **Total Number of Files**	N/A
Current location of files (data or software)	NCI code repository
Format(s)	Fortran programs and script files
Associated tool(s)/ **Dependencies**	N/A
Proposed publication host	N/A

Project Details	
ESCC Project No. & Title(s)	2.5 Improving Australia's climate model (ACCESS)
Project Leader(s)	Harun Rashid (LCI), Christian Jakob (DCI) and Alain Protat (DCI)
Deliverable(s)	Milestone #3. Version 1 of an improved model
Data/software Manager	Harun Rashid

Research Output data collection or software URLs if applicable
Configuration software for the ACCESS coupled model including basic high-resolution (N216, ~60 km) atmospheric component and the test simulation outputs Model code is available at the UM code repository: https://code.metoffice.gov.uk/svn/roses-u/a/r/1/7/9/trunk Output data is available on NCI mass data storage system at: pbd562/short/archive/ar179-pd-n216-crashed0409/history

Description (complete for data and software)	
Title	Configuration software of the ACCESS coupled model
Description	Configuration software for the ACCESS coupled model including basic high-resolution (N216, ~60 km) atmospheric component and the test simulation outputs
Lineage	Independently derived.
Credit	Authors: The ACCESS Team (contact: Peter Dobrohotoff)
Keywords	Climate model, simulations
ABS Fields of Research Category / Subcategory*	04 Earth Sciences 0401 Atmospheric sciences

*These are listed in
http://www.abs.gov.au/ausstats/abs@.nsf/0/4AE1B46AE2048A28CA25741800044242?opendocument

Attribution/IP(complete for data and software)	
Owning Organisation	CSIRO, Bureau of Meteorology
Collaborating Organisations	Monash University
Primary contact for this data	Peter Dobrohotoff (peter.dobrohotoff@csiro.au)
Lead Researcher	As above
Contributors	
Access	This software is suitable for simulation of global weather and climate. This is published via the Unified Model code repository at NCI and can be accessed by the ACCESS users using their NCI account login info.
Licencing	CSIRO, Bureau of Meteorology and the UK Met Office

Related Materials. Publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	**URL**
Model code is available at the UM code repository: Output data is available on NCI mass data storage system at:	https://code.metoffice.gov.uk/svn/roses-u/a/r/1/7/9/trunk pbd562/short/archive/ar179-pd-n216-crashed0409/history

Technical Details	
For data: **Total Size of this data collection**	N/A
For data: **Total Number of Files**	N/A
Current location of files (data or software)	https://code.metoffice.gov.uk/svn/roses-u/a/r/1/7/9/trunk pbd562/short/archive/ar179-pd-n216-crashed0409/history
Format(s)	Text (script files) and NetCDF (model outputs) format
Associated tool(s)/ **Dependencies**	The actual codes for the atmosphere, ocean and sea-ice models.
Proposed publication host	N/A

Project Details	
ESCC Project No. & Title(s)	2.5 Improving Australia's climate model (ACCESS)
Project Leader(s)	Harun Rashid (LCI), Christian Jakob (DCI) and Alain Protat (DCI)
Deliverable(s)	Milestone #2. Version 1 of the diagnostic toolkit
Data/software Manager	Harun Rashid (LCI),

Research Output data collection or software URLs if applicable
The Diagnostic Toolkit Version 1 consists of a collection of computer programs used to evaluate the GA7 version of the ACCESS atmospheric model (can be used for other model versions, as well) and the documentation of these programs. The programs are published via a code repository (can be accessed by ACCESS users with their NCI account login info) (https://trac.nci.org.au/svn/access_tools/NESP_diagnostics/trunk) and the documentation is published through a wiki page (publicly accessible) (https://accessdev.nci.org.au/trac/wiki/access/access_DiagnosticToolsV1).

Description (complete for data and software)	
Title	Diagnostic Toolkit Version 1
Description	The Diagnostic Toolkit Version 1 consists of a collection of computer programs used to evaluate the GA7 version of the ACCESS atmospheric model (can be used for other model versions, as well) and the documentation of these programs. The programs are published via a code repository (can be accessed by ACCESS users with their NCI account login info) (https://trac.nci.org.au/svn/access_tools/NESP_diagnostics/trunk) and the documentation is published through a wiki page (publicly accessible) (https://accessdev.nci.org.au/trac/wiki/access/access_DiagnosticToolsV1).
Lineage	Independently derived.
Credit	Authors: Harun Rashid and Hongyan Zhu
Keywords	Model bias, surface climate, rainfall, atmospheric circulation
ABS Fields of Research Category / Subcategory*	04 Earth Sciences 0401 Atmospheric sciences

*These are listed in http://www.abs.gov.au/ausstats/abs@.nsf/0/4AE1B46AE2048A28CA25741800044242?opendocument

Attribution/IP(complete for data and software)	
Owning Organisation	CSIRO, Bureau of Meteorology
Collaborating Organisations	Monash University
Primary contact for this data	Harun Rashid harun.rashid@csiro.au
Lead Researcher	As above
Contributors	
Access	This software is suitable for analysing ACCESS model outputs. This is published via the NCI code repository and can be accessed by the ACCESS users using their NCI account login info.
Licencing	CC BY-SA 4.0 Consult https://creativecommons.org/licenses/by-sa/4.0/ for terms of using the data and software provided, including proper acknowledgment.

Related Materials. Publications, tools, websites, related input data. Please provide full citations for publications, data and software.	
Details	**URL**
Harun Rashid, Hongyan Zhu and Zhian Sun, 2017: Initial documentation of key systematic errors in a high-resolution (60-km grid) version of the current ACCESS atmospheric model. Earth Systems and Climate Change Hub Technical Report No. 1, 13 pp.	http://nespclimate.com.au/wp-content/uploads/2017/07/ESCC-TR001-ACCESS-1705.pdf

Technical Details	
For data: Total Size of this data collection	N/A
For data: Total Number of Files	2
Current location of files (data or software)	NCI code repository
Format(s)	Fortran programs, NCL and GrADS scripts; netCDF data files
Associated tool(s)/ Dependencies	N/A
Proposed publication host	N/A