

CORDEX-Australasia update

28 November 2019

In 2019 a number of new simulations have been completed for the Australasia region including those completed as part of CORDEX-CORE. This is currently a 20 member ensemble for RCP8.5.

Table 1: GCM-RCM pairs that provided downscaled simulations for both the historical and future (RCP4.5, RCP8.5) scenarios for the CORDEX-AustralAsia domain.

GCM	RCM	WRFJ	WRFK	CCLM	REMO2015	RegCM4.7	CCAM v1
ACCESS1.0							
ACCESS1.3							
CanESM2							
EC-EARTH							
MPI-ESM-LR							
MPI-ESM-MR							
NORES1-M							
HadGEM2-CC							
CNRM-CM5							
NCAR-CCSM4							
GFDL-CM3							

Blue indicates that at least one of the future scenarios is still in the process of being published.

Other simulations have been run and will hopefully join the CORDEX ensemble in 2020

GCM	RCM	CCAM v2	CCAM C192QLD RCP8.5 1950-2099	CCAM C192 QLD RCP4.5 2005-2099	CCAM C288 stretched to 10 km Australian

				region RCP8.5 1970-2099
ACCESS1.0		R1312	R1312&r26 71M	
ACCESS1.3		R2671M	R2671M	R4588M
CanESM2				R4588M
CESM1-CAM5				R4588M
EC-EARTH				
MPI-ESM-LR		R1312	R1312&r26 71M	
MPI-ESM-MR				
NORES1-M		R1312	R1312&r26 71M	
HadGEM2-CC		R2671M	R2671M	
CNRM-CM5		R1312	R1312&r26 71M	
NCAR-CCSM4		R1312	R1312&r26 71M	
GFDL-CM3		R1312	R1312&r26 71M	
MIROC5		R2671M	R2671M	
CSIRO-Mk3.6		R2671M	R2671M	

GFDL-ESM2M		R2671M	R2671M	
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CCAM run user CCAM-QLD heading were completed by Jozef Syktus at Department of Environment and Science. Those completed for both RCP8.5 and RCP4.5 are denoted with +RCP4.5.

QLD C192 simulations are 1950-2099, data at 6 hrs interval; C288 stretched to 10 km over Australia are for 1970-2099 , data at 3 hrs interval

Currently there is a strategy being developed titled “Australia’s Next Generation Climate Projections: a report to the National Climate Science Advisory Committee”. This is an ongoing process that will complete mid-2020. CORDEX plays a role in this strategy.

Conference sessions

Conference sessions focused on regional climate modelling highlighting CORDEX were held at the Australian Meteorological and Oceanographic Society (AMOS) annual conference in Darwin Australia 11-14 June 2019; AOGS Singapore 28 Jul – 2 Aug 2019; 23rd International Congress on Modelling and Simulation (MODSIM2019) Canberra Australia 1-6 December 2019.

Published papers

Di Virgilio, G., **J.P. Evans**, A. Di Luca, R. Olson, D. Argüeso, J. Kala, J. Andrys, P. Hoffmann, J. Katzfey, B. Rockel (2019) Evaluating reanalysis-driven CORDEX regional climate models over Australia: model performance and errors. *Climate Dynamics*, doi: 10.1007/s00382-019-04672-w.

Plans for 2020

Conference session at AMOS 2020 Fremantle Australia 10-14 Feb 2020

This session include the paper

Jason Evans “CORDEX-Australasia” which covers the current state of simulations for this region and plans for CORDEX-CMIP6

A number of papers analysing the CORDEX-Australasia data are at various stages of preparation and review.