

Table S1. Global Climate Models used to create both the CMIP5 and LOCA ensembles.

Modeling Center or Group	Institute ID	Model Name
Commonwealth Scientific and Industrial Research Organization (CSIRO) and Bureau of Meteorology (BOM), Australia	CSIRO-BOM	ACCESS1-0
		ACCESS1-3
Beijing Climate Center, China Meteorological Administration	BCC	bcc-csm1-1-m
Canadian Centre for Climate Modelling and Analysis	CCCMA	CanESM2
National Center for Atmospheric Research	NCAR	CCSM4
Community Earth System Model Contributors	NSF-DOE-NCAR	CESM1-BGC CESM1-CAM5
Centro Euro-Mediterraneo per I Cambiamenti Climatici	CMCC	CMCC-CM CMCC-CMS
Commonwealth Scientific and Industrial Research Organization in collaboration with Queensland Climate Change Centre of Excellence	CSIRO-QCCCE	CSIRO-Mk3-6-0
EC-EARTH consortium	EC-EARTH	EC-EARTH
LASG, Institute of Atmospheric Physics, Chinese Academy of Sciences and CESS, Tsinghua University	LASG-CESS	FGOALS-g2
NOAA Geophysical Fluid Dynamics Laboratory	NOAA GFDL	GFDL-CM3
		GFDL-ESM2G GFDL-ESM2M
NASA Goddard Institute for Space Studies	NASS GISS	GISS-E2-H
		GISS-E2-R
Institut Pierre-Simon Laplace	IPSL	IPSL-CM5A-LR
		IPSL-CM5A-MR
Atmosphere and Ocean Research Institute (The University of Tokyo), National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology	MIROC	MIROC5
Japan Agency for Marine-Earth Science and Technology, Atmosphere and Ocean Institute	MIROC	MIROC-ESM-CHEM

(The University of Tokyo), and National
Institute for Environmental Studies

MIROC-ESM

Max Planck Institute for Meteorology

MPI-M

MPI-ESM-LR

MPI-ESM-MR

Meteorological Research Institute

MRI

MRI-CGCM3

Norwegian Climate Centre

NCC

NorESM1-M
