

Simulation name	Model (reference)	Horizontal resolution	Vertical levels (model top)	Large-scale flow (free/nudging/CTM)	Convective parameterization
GEOS-CTM	NASA Global Modeling Initiative Chemical Transport Model Strahan et al. (2013)	2° × 2.5°	72 (0.01 hPa)	MERRA (CTM)	Moorthi and Suarez (1992) Bacmeister et al. (2006)
GEOS-C1SD	Goddard Earth Observing System version 5 GCM Reinecker et al. (2007), Molod et al. (2015)	'' ''	'' ''	MERRA (nudging)	'' ''
GEOS-C1	'' ''	'' ''	'' ''	Free-running	'' ''
WACCM-C1SDV1/V2	Whole Atmosphere Community Climate Model version 4 (WACCM-4) Marsh et al. (2013), Solomon et al. (2015), Garcia et al. (2017)	1.9° × 2.5°	88 (140 km)	MERRA (nudging)	Hack et al. (1994) (shallow) Zhang and McFarlane (1995) (deep)
WACCM-C1	'' ''	'' ''	'' ''	Free-running	
CAM-C1SD	Community Atmosphere Model version 4 (CAM4-Chem) Tilmes et al. (2015)	1.9° × 2.5°	56 (1 Pa)	MERRA (nudging)	
CAM-C1	'' ''	'' ''	'' ''	Free-running	'' ''
EMAC-L47-C1	ECHAM/Modular Earth Submodel System (MESSy) Atmospheric Chemistry (EMAC) Jöckel et al. (2010, 2016)	T42	47 (0.01 hPa)	Free-running	Tiedtke (1989), Nordeng (1994)
EMAC-L47-C1SD	'' ''	'' ''	'' ''	ERA-Interim (nudging)	
EMAC-L90-C1	'' ''	'' ''	90 (0.01 hPa)	Free-running	'' ''
EMAC-L90-C1SD	'' ''	'' ''	'' ''	ERA-Interim (nudging)	'' ''
MRI-C1SD	Earth system model MRI-ESM1r1 Yukimoto et al. (2012), Yukimoto (2011), Deushi and Shibata (2011)	TL159	80 (0.01 hPa)	JRA-55 (nudging)	Yoshimura et al. (2015)
MRI-C1	'' ''	'' ''	'' ''	'' ''	'' ''
CMAM-C1SD	Canadian Middle Atmosphere Model (CMAM) Jonsson et al. (2004), Scinocca et al. (2008)	T47	71 (0.0008 hPa)	ERA-Interim (nudging)	Zhang and McFarlane (1995)
CMAM-C1	'' ''	'' ''	'' ''	Free-running	'' ''
NIWA-C1	National Institute of Water and Atmospheric Research UK Chemistry and Aerosols (NIWA-UKCA) Morgenstern et al. (2009, 2013), Stone et al. (2016)	3.75° × 2.5°	60 (84 km)	Free-running	Hewitt et al. (2011)
SOCOL-C1	Solar–Climate–Ozone Links (SOCOL) v3 Stenke et al. (2013), Revell et al. (2015)	T42	39 (0.01 hPa)	Free-running	Nordeng (1994)
NIES-C1SD	CCSRNIES-MIROC3.2 Imai et al. (2013), Akiyoshi et al. (2016)	T42	34 (0.01 hPa)	ERA-Interim (nudging)	Arakawa and Schubert (1974)
NIES-C1	'' ''	'' ''	'' ''	Free-running	'' ''
MOCAGE-CTM	Modele de Chimie Atmosphérique de Grande Echelle (MOCAGE) Josse et al. (2004), Guth et al. (2016)	2° × 2°	47 (5 hPa)	ERA-Interim (CTM)	Bechtold et al. (2001)
ULAQ-C1	University of L’Aquila (ULAQ-CCM) Pitari et al. (2014)	T21	126 (0.04 hPa)	Free-running	Grewe et al. (2001)
ACCESS-C1	National Institute of Water and Atmospheric Research UK Chemistry and Aerosols (NIWA-UKCA) Morgenstern et al. (2009, 2013), Stone et al. (2016)	3.75° × 2.5°	60 (84 km)	Free-running	Hewitt et al. (2011)