

Appendix A

Major Acronyms and Abbreviations

AGCM – Atmospheric General Circulation Model
AM2-LM2 – Atmosphere and Land Model 2
AMIP II – Atmospheric Model Intercomparison Project II
AMTRAC3 – Atmospheric Model with Transport and Chemistry 3
AOGCM – atmosphere-ocean general circulation model
ARPEGE -- (French climate model)
AR – Assessment Round (of IPCC)
ASAP – Assessment of Stratospheric Aerosol Properties
ATTILA -- Atmospheric Tracer Transport In a LAgrangian model
BC – black carbon

BDC – Brewer-Dobson Circulation
CAM3.5 – Community Atmosphere Model 3.5
CCM – chemistry-climate model
CCM2 --- Community Climate Model 2
CCCma – Canadian Centre for Climate Modelling and Analysis
CCMVal – Chemistry-Climate Model Validation (CCMVal) Activity for WCRP’s SPARC
CCSRNIES – Center for Climate-Systems Research – National Institute of Environmental Studies
CFC – chloro-fluoro-carbon
CGCM – Coupled General Circulation Model
CGER – Center for Global Environmental Research
CLASS – Canadian Land Surface Scheme
CLM – Community Land Model
CLSM – Catchment Land Surface Model
CMAM – Canadian Middle Atmosphere Model
CNRM-ACM – Centre National de Recherches Météorologiques – ARPEGE Climat coupled MOCAGE
CNRS -- Centre National de la Recherche Scientifique
CTM – chemistry-transport model
DLR – Deutsches Zentrum für Luft- und Raumfahrt / German Aerospace Center
DMS – dimethyl sulfide
DOM – Discrete Ordinate Method
E39CA – ECHAM4.L39(DLR)/CHEM/-ATTILA
ECMWF – European Centre for Medium-range Weather Forecasts
ECHAM – European Centre Hamburg Model
EMAC – ECHAM5 Middle-Atmosphere with Chemistry
ENSO – El Nino / Southern Oscillation
GAME -- Groupe d’étude de l’Atmosphère Météorologique
GCM – general circulation model
GWD – gravity-wave drag
GEOSCCM – Goddard Earth Observing System – Chemistry-Climate Model
GFDL – Geophysical Fluid Dynamics Laboratory
GHG – greenhouse gas
GISS – Goddard Institute for Space Studies
GSFC – Goddard Space Flight Center
HadAM3 – Hadley Centre Atmosphere Model 3
HadGEM1 – Hadley Centre Global Environment Model 1
HadISST – Hadley Centre Ice and Sea-Surface Temperature dataset

HCFC – hydro-chloro-fluoro-carbon
IAC – Institute for Atmosphere and Climate
IFS – Integrated Forecast System
IIASA -- International Institute for Applied Systems Analysis
IPCC – Intergovernmental Panel on Climate Change
IUPAC -- International Union of Pure and Applied Chemistry
JPL – Jet Propulsion Laboratory
LBC – lower-boundary condition
LMDZrepro – Laboratoire de Météorologie Dynamique Zoom – REPROBUS
LTE – local thermodynamic equilibrium
MECCA -- Module Efficiently Calculating the Chemistry of the Atmosphere
MESSy – Modular Earth Submodel System
METO – Met Office
MEZON – Model for Evaluation of oZoNe trends
MIROC -- Model for Interdisciplinary Research On Climate
MOCAGE – (CTM developed by MétéoFrance)
MOSES – MetOffice Surface Exchange Scheme
MOZART -- Model for OZone And Related chemical Tracers
MPI-C – Max-Planck-Institute for Chemistry
MRI – Meteorological Research Institute
NASA – National Aeronautics and Space Administration
NAT – nitric acid trihydrate
NCAR – National Center for Atmospheric Research
NCOM – Naval Coastal Ocean Model
NIWA – National Institute of Water and Atmospheric Research
NMHC – non-methane hydrocarbon
ODS – ozone-depleting substance
OGCM – ocean general circulation model
ORCHIDEE – (French Global Land Surface Model)
PBL – planetary boundary layer
PMOD/WRC – Physical-Meteorological Observatory Davos / World Radiation Center
PSC – polar stratospheric cloud
PRM – piecewise rational method
QBO – quasi-biennial oscillation
REF1 – historical reference simulation in CCMVal-1
REF2 – future reference simulation in CCMVal-1

REF-B1 – historical reference simulation in CCMVal-2
REF-B2 – future reference simulation in CCMVal-2
RETRO – REanalysis of the TROpospheric chemical composition over the past 40 years
RRTM – Rapid Radiative Transfer Model
SAD – surface area density of sulphuric acid dihydrate
SAGE – Stratospheric Aerosol and Gas Experiment
SOCOL – Solar-Climate-Ozone Links
SPARC – Stratospheric Processes and their Role in Climate
SPE – solar proton event
SRES – Special Report on Emission Scenarios
SS – sea salt
SST – sea-surface temperature
SSW – sudden stratospheric warming
STS – supercooled ternary solution
SZA – solar zenith angle
UCAM – University of Cambridge
UIUC – University of Illinois at Urbana-Champaign
ULAQ – Università degli Studi L'Aquila
UMETRAC – Unified Model with Eulerian Transport and Atmospheric Chemistry
UMSLIMCAT – Unified Model – SLIMCAT
UMUKCA – Unified Model / U. K. Chemistry and Aerosols Module
UTLS – Upper Troposphere / Lower Stratosphere
UV – ultra-violet
VOC – volatile organic compound
WACCM – Whole-Atmosphere Chemistry-Climate Model
WCRP – World Climate Research Program
WMGHG – well-mixed greenhouse gas
WMO – World Meteorological Organization