AVIII

Annex VIII: Acronyms

This annex should be cited as:

IPCC, 2021: Annex VIII: Acronyms. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 2257–2266.

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20CR	20th Century Reanalysis
A1B	Special Report on Emissions Scenarios A1B scenario
AABW	Antarctic bottom water
AAIW	Antarctic intermediate water
AAO	Antarctic Oscillation
abrupt4xCO2	Scenario with abrupt quadrupling of the atmospheric concentration of carbon dioxide
ACC	Antarctic Circumpolar Current
ACCESS	Australian Community Climate and Earth System Simulator
ACCMIP	Atmospheric Chemistry and Climate Model Intercomparison Project
ACE	Accumulated Cyclone Energy
AED	atmospheric evaporative demand
AerChemMIP	Aerosols and Chemistry Model Intercomparison Project
AeroCom	Aerosol Comparisons between Observations and Models project
AERONET	Aerosol Robotic Network
AEW	African Easterly Wave
AF	airborne fraction of CO_2
AFOLU	agriculture, forestry and other land use
AFR	Africa
AGAGE	Advanced Global Atmospheric Gases Experiment
AGCM	atmospheric global climate model
AGFP	absolute global forcing potential
AGR/ECOL	agriculture and ecological droughts
AGTP	absolute global temperature change potential
AGWP	absolute global warming potentials
AIRS	Atmospheric Infrared Sounder
AIS	Antarctic Ice Sheet
ALL	all forcings
ALT	active layer thickness
AMIP	Atmospheric Model Intercomparison Project
AMM	Atlantic Meridional Mode
AMMA	African Monsoon Multidisciplinary Analyses
AMO	Atlantic Multi-decadal Oscillation
AMOC	Atlantic Meridional Overturning Circulation
AMSU	Advanced Microwave Sounding Unit
AMV	Atlantic Multi-decadal Variability
AO	Arctic Oscillation
AOD	aerosol optical depth
AOGCM	atmosphere–ocean general circulation model
AP	Antarctic Peninsula
AQ	air quality
AR	atmospheric river
AR4	IPCC Fourth Assessment Report
AR5	IPCC Fifth Assessment Report
AR6	IPCC Sixth Assessment Report
ARO	Arctic Ocean
ARP	Arabian Peninsula
ARS	Arabian Sea
ASE	Amundsen Sea Embayment
AUS	Australasia
AusMCM	Australian–Maritime Continent monsoon
AVHRR	Advanced Very High Resolution Radiometer
AZM	Atlantic Zonal Modes
BC	black carbon
BCE	Before the Common Era
BCP	biological carbon pump
BE	Berkeley Earth
BECCS	bioenergy with carbon capture and storage
BOB	Bay of Bengal
BP	before the present
BrC	brown carbon
BSISO	boreal summer intra-seasonal oscillation
BU	bottom up
BVOC	biogenic volatile organic compound
C3S	Copernicus Climate Change Service
C4MIP	Coupled Climate Carbon Cycle Model Intercomparison Project
CAF	Central Africa
CAM	Central America
CAMS	Copernicus Atmosphere Monitoring Service
CanESM2	Canadian Earth System Model version 2
CanESM5	Canadian Earth System Model version 5
CAPE	convective available potential energy
CAR	Caribbean
CAU	Central Australia
CCM	chemistry–climate model

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CCMI	Chemistry–Climate Modelling Initiative
CCN	cloud condensation nuclei
CCS	carbon dioxide capture and storage
CCT	cirrus cloud thinning
CD	cooling degree days
CDD	consecutive dry days
CDR	carbon dioxide removal
CDRMIP	Carbon Dioxide Removal Model Intercomparison Project
CDW	Circumpolar Deep Water
CE	Common Era
CEDS	Community Emissions Data System
CERES	Clouds and the Earth's Radiant Energy System
CESM	Community Earth System Model
CFCs	chlorofluorocarbons
CFMIP	Cloud Feedback Model Intercomparison Project
CFSR	Climate Forecast System Reanalysis
CGTP	combined global temperature change potential
CH_4	methane
CICERO	Center for International Climate and Environment Research
CID	climatic impact-driver
CISM2	Community Ice Sheet Model 2
CLLJ	Caribbean low-level jet
CLSAT	China Land Surface Air Temperature
CMAP	NOAA Climate Prediction Center Merged Analysis of Precipitation
CMIP	Coupled Model Intercomparison Project
CMIP3	Coupled Model Intercomparison Project Phase 3
CMIP5	Coupled Model Intercomparison Project Phase 5
CMIP6	Coupled Model Intercomparison Project Phase 6
CNA	Central North America
CNRM	Centre National de la Recherche Météorologique
CO	carbon monoxide
CO_2	carbon dioxide
CO_2-eq	carbon dioxide equivalent
COBE	Centennial in situ Observation-Based Estimates of Sea Surface Temperature
CORDEX	Coordinated Regional Climate Downscaling Experiment
COSMO	Consortium for Small-scale Modeling
COVID-19	coronavirus disease of 2019
CP	Central Pacific
CPM	convection-permitting model
CRA	climate risk and adaptation assessment
CRE	cloud radiative effect
CRM	cloud resolving model
CRU	Climate Research Unit
CRUTEM	Climatic Research Unit gridded global historical near-surface air temperature dataset
CRUTS	Climatic Research Unit gridded time-series dataset
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DACCS	direct air carbon capture with carbon storage
DAMIP	Detection and Attribution Model Intercomparison Project
DCPP	Decadal Climate Prediction Project
DECK	Diagnostic, Evaluation and Characterization of Klima
DeepMIP	Deep-Time Model Intercomparison Project
DF	drought frequency
DGVM	dynamic global vegetation model
DI	Drought Index
DIC	dissolved inorganic carbon
DJF	December–January–February
DJFM	December–January–February–March
DMS	dimethyl sulphide
DTR	diurnal temperature range
DU	Dobson Units
EAIS	East Antarctic Ice Sheet
EAN	East Antarctica
EAO	Equatorial Atlantic Ocean
EAS	East Asia
EAsiaM	East Asian monsoon
EASM	East Asian summer monsoon
EAU	Eastern Australia
EAWM	East Asian winter monsoon
EBAF	CERES Energy Balanced and Filled climate data record

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EBM	Energy Balance Model
EBUS	Eastern boundary upwelling systems
ECMWF	European Centre for Medium-Range Weather Forecasts
ECS	equilibrium climate sensitivity
ECV	Essential Climate Variable
ECWL	Extreme Coastal Water Level
EDW	elevation-dependent warming
EECO	Early Eocene Climatic Optimum
EEU	Eastern Europe
EgC	exagrams of carbon (1000 petagrams of carbon)
EIO	Equatorial Indian Ocean
EMIC	Earth models of intermediate complexity
ENA	Eastern North America
ENSO	El Niño–Southern Oscillation
EOF	empirical orthogonal function
EOV	Essential Ocean Variable
EP	Eastern Pacific
EPA	USA Environmental Protection Agency
EPO	Equatorial Pacific Ocean
EqAmer	equatorial America
ERA-Interim	ECMWF global reanalysis
ERA20C	ECMWF 20th century reanalysis
ERA20CM	ECMWF 20th century atmospheric model ensemble
ERA5	ECMWF global reanalysis (replaces ERA-Interim)
ERF	effective radiative forcing
ERFaci	effective radiative forcing due to aerosol–cloud interactions
ERFari	effective radiative forcing due to in aerosol–radiation interactions
ERSST	Extended Reconstructed Sea Surface Temperature
ESA	European Space Agency
ESA CCI	European Space Agency Climate Change Initiative
ESAF	East Southern Africa
ESB	East Siberia
ESGF	Earth System Grid Federation
ESL	extreme sea level
ESM	Earth system model
ESMValTool	Earth System Model Evaluation Tool
ESRL	NOAA Earth System Research Laboratory
ESWL	extreme still water levels
ET	evapotranspiration
ETC	extratropical cyclone
ETCCDI	Expert Team on Climate Change Detection and Indices
ETWL	Extreme Total Water Level
EU	European Union
FaIR	Finite Amplitude Impulse Response simple climate model
FAIR	Findable, Accessible, Interoperable and Reusable principles
FAPAR	fraction of absorbed photosynthetically active radiation
FAR	IPCC First Assessment Report
FD	frost days
FESOM	Finite Element Sea ice/Ice Shelf Ocean Model
FFDI	Forest Fire Danger Index
FOLU	forestry and other land use
fSST	fixed-sea surface temperature
GCM	general circulation model or global climate model
GCOS	Global Climate Observing System
GCP	Global Carbon Project
GDD	growing degree days
GDP	gross domestic product
GeoMIP	Geoengineering Model Intercomparison Project
GFCS	Global Framework for Climate Services
GFDL	NOAA Geophysical Fluid Dynamics Laboratory
GHCN	NOAA Global Historical Climatology Network
GHCNd	NOAA Global Historical Climatology Network daily database
GHCNv4	NOAA Global Historical Climatology Network monthly database version 4
GHG	greenhouse gas
GHM	global hydrological model
GIA	glacial isostatic adjustment
GIC	Greenland/Iceland
GISS	NASA Goddard Institute for Space Studies

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GISTEMP	NASA Goddard Institute for Space Studies Surface Temperature Analysis
GlacierMIP	Glacier Model Intercomparison Project
GLDAS	Global Land Data Assimilation System
GloGEM	Global Glacier Evolution Model
GM	Global monsoon
GMMIP	Global Monsoons Model Intercomparison Project
GMSL	global mean sea level
GMST	global mean surface temperature
GMTSL	global mean thermosteric sea level
GNSS	Global Navigation Satellite System
GOME	Global Ozone Monitoring Experiment
GOSAT	Greenhouse Gases Observing Satellite
GPCC	Global Precipitation Climatology Centre
GPCP	Global Precipitation Climatology Project
GPM	Global Precipitation Mission
GPS	Global Positioning System
GRACE	Gravity Recovery and Climate Experiment
GRD	gravitational, rotational and deformational
GrIS	Greenland Ice Sheet
GSAT	global surface air temperature
GSMaP	Global Satellite Mapping of Precipitation dataset
GtC	gigatonnes of carbon
$GtCO_2$	gigatonnes of carbon dioxide
GTP	global temperature change potential
GWL	global warming level
GWP	global warming potential
HadCRUT	Hadley Centre Climatic Research Unit gridded surface temperature dataset
HadEX3	Hadley Centre gridded land surface extremes indices
HadGEM	Hadley Centre Global Environment Model
HadISST	Hadley Centre Ice and Sea Surface Temperature dataset
HadSST	Hadley Centre Sea Surface Temperature dataset
HC	Hadley circulation
HCFC	hydrochlorofluorocarbon
HD	heating degree days
HFC	hydrofluorocarbon
HI	heat index
HighResMIP	High Resolution Model Intercomparison Project
HKH	Hindu Kush Himalaya
HNO_3	nitric acid
IAGOS	In-service Aircraft for a Global Observing System
IAM	integrated assessment model
ICE	initial condition ensemble
ICESat	Ice, Cloud and land Elevation Satellite
ICOADS	International Comprehensive Ocean–Atmosphere Data Set
IMBIE	Ice Sheet Mass Balance Intercomparison Exercise
INP	ice nucleating particle
IOB	Indian Ocean Basin
IOD	Indian Ocean Dipole
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPO	Inter-decadal Pacific Oscillation
IPSL	Institut Pierre-Simon Laplace
IRF	instantaneous radiative forcing
IRFaci	Instantaneous radiative forcing (or effect) due to aerosol-cloud interactions
IRFari	Instantaneous radiative forcing (or effect) due to aerosol–radiation interactions
ISIMIP	Inter-Sectoral Impact Model Intercomparison Project
ITCZ	Inter-tropical Convergence Zone
ITF	Indonesian throughflow
JAS	July–August–September
JAXA	Japan Aerospace Exploration Agency
JJA	June–July–August
JJAS	June–July–August–September
JMA	Japan Meteorological Agency
JRA-55	Japanese 55-year Reanalysis
LAI	leaf area index
LAP	light-absorbing particle
LARMIP	Linear Antarctic Response Model Intercomparison Project
LDT	Last deglacial transition

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LEO	low Earth orbit
LGM	Last Glacial Maximum
LIG	Last Interglacial
LLGHG	long-lived greenhouse gas
LLHI	Low-likelihood, high-impact
LNO_x	lightning NO_x
LR	lapse rate
LSAT	land surface air temperature
LUC	land-use change
LULUCF	land use, land-use change and forestry
LW	longwave
LWP	liquid water path
LWS	land-water storage
MAGICC	Model for the Assessment of Greenhouse Gas Induced Climate Change
MAM	March–April–May
MAT	marine air temperature
MCB	marine cloud brightening
MCO	Miocene Climatic Optimum
MCS	mesoscale convective system
MDG	Madagascar
MED	Mediterranean
MENA	Middle East North Africa
MERRA	Modern-Era Retrospective Analysis for Research and Applications
METACLIP	Metadata for climate products project
MH	mid-Holocene
MHW	marine heatwave
MICI	marine ice cliff instability
MIP	Model Intercomparison Project
MIROC	Model for Interdisciplinary Research on Climate
MIS	Marine Isotope Stage
MISI	marine ice sheet instability
MISMIP	Marine Ice Sheet Model Intercomparison Projects
MJO	Madden–Julian Oscillation
MLO	Mauna Loa Observatory
MME	multi-model ensemble
MOC	meridional overturning circulation
MODIS	Moderate Resolution Imaging Spectroradiometer
MPI	Max Planck Institute for Meteorology
MPWP	mid-Pliocene Warm Period
MRI	Meteorological Research Institute, Japan Meteorological Agency
MSD	midsummer drought
MTFR	maximum technically feasible reductions
N_2O	nitrous oxide
NADW	North Atlantic Deep Water
NAM	Northern Annular Mode
NAmerM	North American monsoon
NAO	North Atlantic Oscillation
NARCCAP	North American Regional Climate Change Assessment Program
NASA	USA National Aeronautics and Space Administration
NASH	North Atlantic Subtropical High
NAU	Northern Australia
NBP	Net Biome Productivity
NCA	Northern Central America
NCAR	National Center for Atmospheric Research
NCEI	NOAA National Centers for Environmental Information
NCEP	NOAA National Centers for Environmental Prediction
NDC	Nationally Determined Contribution
NDD	number of dry days
NDVI	Normalized Difference Vegetation Index
NEAF	North Eastern Africa
NEN	North-Eastern North America
NES	North-Eastern South America
NEU	Northern Europe
NH	Northern Hemisphere
NH_3	ammonia
NH_4	ammonium
NMAT	nighttime marine air temperature
NMVOC	non-methane volatile organic compound
NO_2	nitrogen dioxide
NO_3	nitrate
NOAA	USA National Oceanic and Atmospheric Administration

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NOAAGlobalTemp	NOAA Merged Land Ocean Global Surface Temperature Analysis
NorESM	Norwegian Earth System Model
NO_x	nitrogen oxides
NPO	North Pacific Ocean
NPP	net primary production
NSA	Northern South America
NWN	North-Western North America
NWS	North-Western South America
NZ	New Zealand
OA	organic aerosols
OC	organic carbon
ODS	ozone depleting substances
OECD	Organisation for Economic Co-operation and Development
OH	hydroxyl radical
OHC	ocean heat content
OLR	outgoing longwave radiation
OLS	ordinary least squares
OMI	Ozone Monitoring Instrument
OMIP	Ocean Model Intercomparison Project
PA	Paris Agreement
PAGES 2K	Past Global Changes 2k consortium
PC	principal component
pCO_2	partial pressure of CO_2
PDO	Pacific Decadal Oscillation
PDSI	Palmer Drought Severity Index
PDV	Pacific Decadal Variability
PERSIANN-CDR	Precipitation estimations from Remotely Sensed Information using Artificial Neural Networks Climate Data Record
PETM	Paleocene–Eocene Thermal Maximum
PgC	petagrams of carbon
PgCeq	petagrams of carbon equivalent
PlioMIP	Pliocene Model Intercomparison Project
PM	particulate matter
PM_{10}	particulate matter with diameter of less than 10 microns
$PM_{2.5}$	particulate matter with diameter of less than 2.5 microns
PMIP	Paleoclimate Modelling Intercomparison Project
POA	primary organic aerosols
PP	primary production
PSS-78	Practical Salinity Scale 1978
QBO	quasi-biennial oscillation
RAR	Russian Arctic Region
RCM	regional climate model
RCMIP	Reduced Complexity Model Intercomparison Project
RCP	Representative Concentration Pathway
RF	radiative forcing
RFC	Reasons for Concern
RFE	Russian Far East
RFMIP	Radiative Forcing Model Intercomparison Project
RH	relative humidity
RICH	Radiosonde Innovation Composite Homogenization
RKR	Representative Key Risk
RO	radio occultation
RSL	relative sea level
RSLR	relative sea level rise
SAH	Sahara
SAI	stratospheric aerosol injection
SAM	Southern Annular Mode
SAmerM	South American monsoon
SAO	South Atlantic Ocean
SAOD	stratospheric aerosol optical depth
SAR	IPCC Second Assessment Report
SARF	stratospheric-temperature-adjusted radiative forcing
SAS	South Asia
SAsiaM	South and South East Asian monsoon
SAT	surface air temperature
SAU	Southern Australia
SCA	Southern Central America
SCE	snow cover extent
ScenarioMIP	Scenario Model Intercomparison Project
SCM	simple climate model
SDG	Sustainable Development Goals
SEA	South East Asia
SEAF	South Eastern Africa

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SED	Structured Expert Dialogue
SEJ	Structured Expert Judgement
SES	South-Eastern South America
SF_6	sulphur hexaflouride
SH	Southern Hemisphere
SIA	sea ice area
SIDS	Small Island Developing States
SIE	sea ice extent
SLCF	short-lived climate forcer
SLE	sea level equivalent
SLP	sea level pressure
SLR	sea level rise
SMAP	Soil Moisture Active Passive
SMB	surface mass balance
SMILE	single-model initial-condition large ensemble
SO_2	sulphur dioxide
SO_4^{2-}	sulphate
SOA	secondary organic aerosols
SOI	Southern Oscillation Index
SON	September–October–November
SOO	Southern Ocean
SO_x	sulphur oxides
SPCZ	South Pacific Convergence Zone
SPEI	Standardized Precipitation Evapotranspiration Index
SPI	Standardized Precipitation Index
SPM	Summary for Policymakers
SPO	South Pacific Ocean or South Pole Observatory
SR1.5	IPCC Special Report on Global Warming of 1.5°C
SRCCL	IPCC Special Report on Climate Change and Land
SRES	IPCC Special Report on Emissions Scenarios
SREX	IPCC Special Report on Managing the Risk of Extreme Events and Disasters to Advance Climate Change Adaptation
SRI	Standardized Runoff Index
SRM	solar radiation modification
SROCC	IPCC Special Report on the Ocean and Cryosphere in a Changing Climate
SSA	Southern South America
SSP	Shared Socio-economic Pathways
SST	sea surface temperature
SSW	sudden stratospheric warming
STE	stratosphere–troposphere exchange
SW	shortwave
SWE	snow water equivalent
SWS	South-Western South America
SWV	stratospheric water vapour
TAR	IPCC Third Assessment Report
TAV	Tropical Atlantic Variability
TC	tropical cyclone
TCR	transient climate response
TCRE	transient climate response to cumulative CO_2 emissions
TCWV	total column water vapour
Tg	teragrams
ThSL	thermosteric sea level
TIB	Tibetan Plateau
TNn	annual minimum daily minimum temperature
TNx	annual maximum daily minimum temperature
TOA	the net top-of-the-atmosphere
ToE	time of emergence
TPI	tripole Index
TRMM	Tropical Rainfall Measuring Mission
TS	Technical Summary
TSI	total solar irradiance
UAH	University of Alabama in Huntsville
UHI	urban heat island
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UTLS	upper troposphere and lower stratosphere
UV	ultraviolet
UVic ESCM	University of Victoria Earth System Climate Model
VLM	vertical land motion
VOC	volatile organic compounds
VPD	vapour pressure deficit
VSLS	very short-lived halogenated species

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WAF	Western Africa
WAfriM	West African monsoon
WAIS	West Antarctic Ice Sheet
WAN	West Antarctica
WBC	western boundary current
WBGT	wet bulb globe temperature
WC	Walker circulation
WCA	West Central Asia
WCE	Western and Central Europe
WCRP	World Climate Research Programme
WG	IPCC Working Group
WHO	World Health Organization
WMGHG	well-mixed greenhouse gas
WMO	World Meteorological Organization
WNA	Western North America
WNP	Western North Pacific
WOA18	World Ocean Atlas 2018
WSAF	West Southern Africa
WSB	Wilkes Subglacial Basin
WUE	water-use efficiency
YJ	yottajoule, 10^{24} joules
ZEC	zero emissions commitment
ZJ	zettajoule, 10^{21} joules

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