UNITED STATES DEPARTMENT OF COMMERCE
**National Oceanic and Atmospheric Administration**
NATIONAL WEATHER SERVICE

NATIONAL CENTERS FOR ENVIRONMENTAL PREDICTION

# ENVIRONMENTAL MODELING CENTER

# External Review

June 6-8, 2023

# Glossary of Acronyms and Abbreviations

This table provides a reference to the acronyms and abbreviations used in the review material and presentations.

| Acronym | Definition |
|---|---|
| ABI | Advanced Baseline Imager |
| ADCIRC | ADvanced CIRCulation Model |
| ADP | Aerosol Detection Product |
| ADT | Absolute Dynamic Topography |
| AHI | Advanced Himawari Imager |
| AMDAR | Aircraft Meteorological DAta Relay |
| AMSU-A | Advanced Microwave Sounding Unit - A |
| AMV | Atmospheric Motion Vector |
| AOD | Aerosol optical depth |
| AOML | Atlantic Oceanographic and Meteorological Laboratory |
| API | Application Programming Interface |
| AQM | Air Quality Model |
| ARW | Advanced Research Weather research and forecasting model |
| ATMS | Advanced Technology Microwave Sounder |
| AVHRR | Advanced Very High Resolution Radiometer |
| AWS | Amazon Web Services |
| BEIS | Biogenic Emission Inventory System |
| BT | Brightness Temperature |
| BUFR | Binary Universal Form for the Representation of meteorological data |
| CA | Cellular Automaton |
| CAM | Convection-Allowing Model |
| CAM | NCAR's Community Atmospheric Model |
| CAM | Convection-Allowing Model |
| CAPE | Convective Available Potential Energy |
| CCPP | Common Community Physics Package |
| CDEPS | Community Data Models for Earth Prediction Systems |
| CEDS | Community Emissions Data System |

| | |
|---|---|
| CESM | NCAR's Community Earth System Model |
| CFS | Climate Forecasting System |
| CI/CD | Continous Integration / Continuous Delivery |
| CICE | Los Alamos Sea Ice Model |
| CICE6 | Community ICE model v6 |
| CIMSS | Cooperative Institute for Meteorological Satellite Studies |
| CISESS | Cooperative Institute for Satellite Earth System Studies |
| CLM | Community Land Model |
| CM1 | NCAR's Cloud Model 1 |
| CMAQ | Community Multiscale Air Quality model (US EPA) |
| CMD | Coupled Modeling Division |
| CMEPS | Community Mediator for Earth Prediction Systems |
| CONUS | CONtinental United States |
| CrIS | Cross-track Infrared Sounder |
| CRTM | Community Radiative Transfer Model |
| CSI | Critical Success Index |
| CSR | Clear Sky Radiance |
| DA | Data Assimilation |
| DATM | Data Atmosphere model |
| DBNet | Direct Broadcast Network |
| DFI | Digital Filter Initialization |
| DTC | Developmental Testbed Center |
| EMC | Environmental Modeling Center |
| EnKF | Ensemble Kalman Filter |
| EPIC | Earth Prediction Innovation Center |
| ESG | Extended Schmidt Gnomonic |
| ESM | Earth System Model |
| ESMF | Earth System Modeling Framework |
| EVS | EMC Verification System |
| FENGSHA | Dust model (English analog of the Mandarin term for wind-blown dust) |
| FFaIR | Flash Flood and Intense Rainfall experiment |

| | |
|---|---|
| FGAT | First Guess at Appropriate Time |
| FLake | Freshwater Lake model |
| FMS | Flexible Modeling System |
| FV3 | Finite-Volume Cubed-Sphere Dynamical Core |
| FV3GFS | Version of GFS using the FV3 dynamical core (obsolescent) |
| FV3HAFS | Version of HAFS using the FV3 dynamical core (obsolescent) |
| FVCOM | Finite Volume Community Ocean Model |
| FV3GFS | |
| GBBEPx | Blended Global Biomass Burning Emissions Product |
| GDAS | Global Data Assimilation System |
| GDEM | Generalized Digital Environment Model (Navy Ocean Climatology) |
| GEFS | Global Ensemble Forecast System |
| GEMPAK | GEneral Meteorology PAcKage |
| GF | Grell-Freitas |
| GFDL | Geophysical Fluid Dynamics Laboratory |
| GFS | Global Forecast System |
| GHCN | Global Historical Climatology Network |
| GLM | Geostationary Lightning Mapper |
| GLWU | Great Lakes Wave Unstructured |
| GMI | Global Precipitation Measurement Microwave Imager |
| GNSS-RO | Global Navigation Satellite System-Radio Occultation |
| GOCART | Goddard Chemistry Aerosol Radiation and Transport model |
| GOES | Geostationary Operational Environmental Satellites |
| GPM | Global Precipitation Mission |
| GPU | Graphics processing unit |
| GRIB | GRIdded Binary file format |
| GSI | Gridpoint Statistical Interpolation |
| GSL | Global Systems Laboratory |
| GSM | Global Spectral Model |
| GTS | Global Telecommunication System |
| GWD | Gravity-Wave Drag |

| | |
|---|---|
| H-EDMF | Hybrid Eddy Diffusivity Mass Flux PBL scheme |
| HAFS | Hurricane Analysis and Forecast System |
| HDF | Hierarchical Data Format |
| HIRESW | High Resolution Window |
| HMON | Hurricanes in a Multi-scale, Ocean coupled, Non-hydrostatic model |
| HMT | Hydrometeorological Testbed |
| HPC | High Performance Computing |
| HREF | High-Resolution Ensemble Forecast |
| HRRR | High-Resolution Rapid Refresh |
| HWRF | Hurricane Weather Research and Forecasting model |
| HWT | Hazardous Weather Testbed |
| HYCOM | HYbrid Coordinate Ocean Model |
| HYSPLIT | Hybrid Single-Particle Lagrangian Integrated Trajectory Model |
| I/O | Input/Output |
| IASI | Infrared Atmospheric Sounding Interferometer |
| IAU | Incremental Analysis Update |
| IC | Initial Conditions |
| ICAO | International Civil Aviation Organization |
| IDEA | Integrated Dynamics in the Earth's Atmosphere |
| IMS | Interactive Multisensor Snow and Ice Mapping System |
| IODA | Interface for Observation Data Access |
| JCSDA | Joint Center for Satellite Data Assimilation |
| JEDI | Joint Effort for Data assimilation Integration |
| KOMPSAT | KOrean Multi-Purpose SATellite |
| LAM | Limited Area Model |
| LBC | Lateral Boundary Conditions |
| LDM | Local Data Manager |
| LETKF | Local Ensemble Transform Kalman Filter |
| LH | Latent Heat |
| LSM | Land Surface Model |
| MADIS | Meteorological Assimilation Data Ingest System |

| | |
|---|---|
| MEG | Model Evaluation Group |
| MERRA2 | Modern-Era Retrospective analysis for Research and Applications, version 2 |
| Metop | Meteorological Operational Satellite |
| METplus | Model Evaluation Tools |
| MHS | Microwave Humidity Sounder |
| MJO | Madden-Julian Oscillation |
| MOM | Modular Ocean Model |
| MOM6 | Modular Ocean Model v6 |
| MP | Microphysics Parameterization |
| MPAS | Model for Prediction Across Scales |
| MPI | Message Passing Interface |
| MPIPOM | Message Passing Interface Princeton Ocean Model |
| MRMS | Multi-Radar/Multi-Sensor System |
| MW | MicroWave |
| MYNN-EDMF | Mellor–Yamada–Nakanishi–Niino Eddy Diffusivity Mass Flux PBL scheme |
| NA | North America |
| NAM | North American Mesoscale forecast system |
| NASA | National Aeronautics and Space Administration |
| NBM | National Blend of Models |
| NCAR | National Center for Atmospheric Research |
| NCEP | National Centers for Environmental Prediction |
| NCO | NCEP Central Operations |
| NCODA | Navy Coupled Ocean Data Assimilation |
| NEI | National Emissions Inventory |
| NEMS-NMMB | NOAA Environmental Modeling System-Nonhydrostatic Multiscale Model on B grid |
| NEPTUNE | Navy's Environmental Prediction System Using the NUMA Core |
| NESDIS | National Environmental Satellite, Data, and Information Service |
| NetCDF | Network Common Data Format |
| NEXRAD | Next Generation Radar |
| NOAA | National Oceanic and Atmospheric Administration |
| NOAH | Land surface model: (N)CEP, (O)SU, (A)ir Force, (H)ydrologic Research Lab, NWS |

| | |
|---|---|
| NOAH-LSM | The Community NOAH Land Surface Model |
| NOAH-MP | NOAH land surface model with MultiParameterization options |
| NOAH-MP LSM | Noah-Multiparameterization Land Surface Model |
| NRL | Naval Research Laboratory |
| NSSL | National Severe Storms Laboratory |
| NSST | Near Sea Surface Temperature |
| NUOPC | National Unified Operational Prediction Capability |
| NWP | Numerical Weather Prediction |
| NWPS | Nearshore Wave Prediction System |
| NWS | National Weather Service |
| O&M | Operations & Maintenance |
| OAR | Oceanic and Atmospheric Research |
| ObsProc | Observation processing |
| OI | Optimal Interpolation |
| OMI | Ozone Monitoring Instrument |
| OMPS-TC | Ozone Mapping and Profiler Suite-Total Column |
| OPAC | Optical Properties of Aerosols and Clouds |
| OSTI | Office of Science and Technology Integration |
| OSTIA | Operational Sea Surface Temperature and Ice Analysis |
| P-SURGE | Probabilistic Tropical Storm Surge |
| PBL | Planetary Boundary Layer |
| PM2.5 | Particulate Matter, consisting of fine particles with diameters up to 2.5 micrometers |
| PSL | Physical Sciences Laboratory |
| QC | Quality Control |
| R2O/R2O2R | Research-to-Operation, Research-to-Operation-to-Research |
| RAP | Rapid Refresh model |
| RAP | Rapid Refresh |
| RAVE | Regional hourly ABI and VIIRS Emissions |
| RDHPCS | NOAA's Research and Development High Performance Computing Systems |
| RRFS | Rapid Refresh Forecast System |
| RRTMG | Rapid Radiative Transfer Model for General circulation models |

| | |
|---|---|
| RTMA | Real Time Mesoscale Analysis |
| RTOFS | Real Time Ocean Forecasting System |
| RUC | Rapid Update Cycle |
| RWPS | Regional Wave Prediction System |
| sa-SAS | Scale-aware Simplied Arakawa-Shubert convection parameterization |
| SCHISM | Semi-implicit Cross-scale Hydroscience Integrated System Model |
| SDL | Scale-Dependent Localization |
| SEVIRI | Spinning Enhanced Visible Infra-Red Imager |
| SFE | Spring Forecasting Experiment |
| SFS | Seasonal Forecasting System |
| SH | Sensible Heat |
| SKEB | Stochastic Kinetic Energy Backscatter |
| SL | Surface Layer |
| SOCA | Sea-ice Ocean Copuled Analysis |
| SOCA | Sea-Ice Ocean and Coupled Analysis |
| SPP | Stochastically Perturbed Parameterization |
| SPPT | Stochastically Perturbed Parametrization Tendencies |
| SREF | Short-Range Ensemble Forecast |
| SSH | Sea Surface Height |
| SSMIS | Special Sensor Microwave - Imager/Sounder |
| SSS | Sea Surface Salinity |
| SST | Sea Surface Temperature |
| SSU | Sea Surface Zonal Current |
| SSV | Sea Surface Meridional Current |
| STOFS | Surge and Tide Operational Forecast System |
| STTP | Stochastic Total Tendency Perturbation |
| SWAN | Simulating WAves Nearshore |
| SWOT | Surface Water and Ocean Topography |
| SWPC | Space Weather Prediction Center |
| TAC | Traditional Alphanumeric Codes |
| TAMDAR | Tropospheric Airborne Meteorological Data Reporting |

| | |
|---|---|
| TDR | Tail Doppler Radar |
| TKE-EDMF | Turbulence Kinetic Energy - Eddy Diffusivity Mass Flux PBL scheme |
| TLNMC | Tangent Linear Normal Mode Constraint |
| TOA | Top of the Atmosphere |
| UCACN | UCAR Community Advisory Committee for NCEP |
| UCAR | University Corporation for Atmospheric Research |
| UFO | Unified Forward Operator |
| UFS | Unified Forecast System |
| UGW | Unified Gravity Wave |
| URMA | Unrestricted Real-time Mesoscale Analysis |
| VAD | Vertical Azimuth Display |
| VarBC | Variational Bias Correction |
| VDL | Variable-Dependent Localization |
| VGF | Vegetation Fraction |
| VIIRS | Visible/Infrared Imager Radiometer Suite |
| VPD | Verification and Products Division |
| WAFS | World Area Forecast System |
| WAM | Whole Atmosphere Model |
| WCDA | Weakly-Coupled Data Assimilation |
| WCOSS | Weather and Climate Operational Supercomputing System (NOAA) |
| WFO | Weather Forecast Office |
| WGC | Write Grid Component |
| WMO | World Meteorological Organization |
| WOA | World Ocean Atlas (climatology products) |
| WPO | Weather Program Office |
| WRF-ARW | Weather Research and Forecasting Model - Advanced Research WRF |
| WW3 | WAVEWATCH III wave model (WAVE-height, WATer depth and Current Hindcasting) |
| WWE | Winter Weather Experiment |