

GSL Acronym List

Acronym	Definition
1-FAR	one minus False Alarm Rate
3DnVar	Three-Dimensional Ensemble Variational assimilation
ABL	Atmospheric boundary layer
ABO	Aircraft Based Observations
ACARS	Aircraft Communications Addressing and Reporting System
ACTRIS	Aerosol, Clouds and Trace Gases Research Infrastructure
AER	Atmospheric and Environmental Research (a private corporation)
AFIS	Advanced Fire Information System
AFS	Analyze, Forecast and Support
AFWA	Air Force Weather Agency
AGL	Above Ground Level (height above ground)
AGU	American Geophysical Union
AI	Artificial Intelligence
AISES	American Indian Science and Engineering Society
AMDAR	Aircraft Meteorological Data Report(s)
AMS	American Meteorological Society
AMTRAK	National Railroad Passenger Corporation
AOD	Aerosol Optical Depth
AOML	Atlantic Oceanographic and Meteorological Laboratory
AQPI	Advanced Quantitative Precipitation Information
AR	Atmospheric River
ARL	Air Resources Laboratory
ARM	Atmospheric Radiation Measurement - Dept. of Energy research program
ARW	Advanced Research WRF (dynamic core option in WRF)
ASNOW - HRRR	Total snowfall - High-Resolution Rapid Refresh model
ASRE	Atmospheric Science for Renewable Energy
ATD	Advanced Technology Division
AVID	Assimilation and Verification Innovation Division
AWC	Aviation Weather Center (an NCEP center)
AWIPS-II	Advanced Weather Interactive Processing System
AWRP	FAA's Advanced Weather Research Program
AWS	Amazon Web Services
AWT	Aviation Weather Testbed
Azure	Microsoft Cloud Platform
BAMS	Bulletin of the American Meteorological Society
BEC	Background Error Covariances
BL	Boundary Layer
BLDC	Boulder Laboratories Diversity Council
bs_T	temperature bias
BT	brightness temperatures
CA	California
CAM	Convection Allowing Model
CAPE	Convective Available Potential Energy
CAVE	Common AWIPS Visualization Environment
CBVT	CWSU Briefing and Verification Tool
CCPP	Common Community Physics Package
CDM	Continuous Diagnostics and Monitoring
CESM	Community Earth System Model
CI	Cooperative Institute
CIRA	Cooperative Institute for Research in the Atmosphere (CIRA at Colorado State Univ.)
CIRES	Cooperative Institute for Research in Environmental Sciences (CIRES at Univ. of CO)
CIs	Cooperative Institutes
CLARUS	Road weather observations database at the Federal Highways Administration

CLUE	Community-Leveraged Unified Ensemble
CMAQ	Community Multiscale Air Quality Modeling System
CONUS	Contiguous United States
CoSMoS	Coastal Storm Modeling System
COVID-19	Coronavirus disease 2019
CPC	Climate Prediction Center (an NCEP center)
CPM	Convection Parameterization Model
CPOL	C-BAND POLARIMETRIC
CPU	Central Processing Unit
CRADA	Cooperative Research and Development Agreement
CrIS	Cross-track Infrared Sounder
CRM	Convection Resolving Model
CRTM	Community Radiative Transfer Model
CSI	Critical Success Index
CSL	Chemical Sciences Laboratory
CSP	Cloud Service Provider
CSU	Colorado State University
CU	University of Colorado
CWB	Central Weather Bureau of Taiwan
CWSU	Center Weather Service Unit (NWS forecaster units at ARTCCs)
CWVS	Convective Weather Verification Service
D&I	Diversity and Inclusion
DA	Data Assimilation
DAB	Data Assimilation Branch
dask	Software package https://dask.org/
DB	database
dBZ	decibels of Z, a meteorological measure of equivalent reflectivity (Z) of a radar signal
DCEP	Data Center Energy Practitioner certification
DDRF	Director's Discretionary Research Funds
DMS	Dimethylsulfide
DMZ	Demilitarized Zone which protects an internal network from untrusted traffic
DOC	Department of Commerce
DOE	U.S. Department of Energy
DOT	Department of Transportation
DSRC	David Skaggs Research Center in Boulder, CO
DSS	Decision Support Services
DSUP	Disaster Supplemental
DTC	Developmental Testbed Center
DWR	California Department of Water Resources
Dycore	Dynamic core (for atmospheric model)
EBC	Energy balance closure
EC	Environment Canada
EC Fan	Electronically Commutated Fan
ECMWF	European Centre for Medium-Range Weather Forecasts
EDEX	Environmental Data Exchange
EDS	Evaluation and Decision Support Division
EEOAC	Equal Employment Opportunity Advisory Committee
EEERE	DOE's Energy Efficiency and Renewable Energy Office
EGU	European Geosciences Union
EI	Economic Impacts
EIA	Energy Information Administration
EMC	NWS Environmental Modeling Center
EMs	Emergency Managers
EnKF/4DVAR	Ensemble Kalman filter / four-dimensional variational
EnSRF	Ensemble Square Root Filter assimilation

EPAD	Earth Prediction Advancement Division
EPIC	Earth Prediction Innovation Center
ESPC	Earth System Prediction Capability
ESRL	Earth System Research Laboratories
ESRL-FIMr1p1	Earth System Research Laboratories - Flow-Following Icosahedral Model
ETS	Equitable Threat Score
EVENT	Event-based Verification and Evaluation of NWS Gridded Products Tool
FAA	Federal Aviation Administration/U.S. Department of Transportation
FACETs	Forecasting a Continuum of Environmental Threats
FAR	FALSE Alarm Ratio
FEMA	US Federal Emergency Management Agency
FFATs	Functional Forecast Assessment Tests
FIM	Flow-following finite-volume Icosahedral Model (experimental global model)
FireEye	Cyber Security tool to combat Advanced Persistent Threats
FISMA	Federal Information Security Management Act
FRP	Fire radiative power
FSL	Forecast Systems Laboratory (predecessor of GSL)
FSOI/EFSOI	Forecast Sensitivity and Observation Impact/Ensemble Forecast Sensitivity and Observation Impact
FV3	Finite Volume Cubed Sphere model
FV3 LAM	Finite Volume Cubed Sphere - Limited Area Model
FV3-CMAQ	Finite Volume Cubed Sphere - Global Forecast System
FV3-GFS	Finite Volume Cubed Sphere - Community Multiscale Air Quality
Fx	Forecast
Gbps	1 Billion bits (of information) per second
GC	Grand Challenge
GCP	Google Cloud Platform
GDAS	Global Data Assimilation System
GDC	Global Data Center
GEFS	Global Ensemble Forecast System
GEFS - EMC	Global Ensemble Forecast System - Environmental Modeling Center
GEFS-Aerosols	Global Ensemble Forecast System - Aerosols
GEM-ECCC	Global Environmental Multiscale Model - Environment and Climate Change Canada
GeoFLOW	GeoFLuid Object Workbench
GEOS	Goddard Earth Observing System Model
GEOS-Chem	Goddard Earth Observing System - Chemistry
GEOSS	Global Earth Observation System of Systems
GF	Grell-Freitas convection scheme
GF/GFO	Grell-Freitas (convective scheme, or Grell-Freitas-Olson version)
GFDL	Geophysical Fluid Dynamics Laboratory
GFE	Graphical Forecast Editor
GFS	NCEP Global Forecast System model
GitHub	Code hosting platform for version control and collaboration
GLERL	Great Lakes Environmental Research Laboratory
GMAO-GEOS	Global Modeling and Assimilation Office - Goddard Earth Observing System Model
GML	Global Monitoring Laboratory
GOCART	Goddard Chemistry Aerosol Radiation and Transport model
GOES	Geostationary Operational Environmental Satellite
GPS-Met PW	Global Positioning System Meteorology system Precipital Water
GPU	Graphics Processing Unit
grdpts	gridpoints
GSI	Gridpoint Statistical Interpolation data assimilation system
GSL	Global Systems Laboratory
GTG	Graphical Turbulence Guidance
GUI	Graphical User Interface
GWD	Gravity Wave Drag

GWES	Global Wave Ensemble System
GWM	Global Wave Model
H	humidity
HADS	Hydrometeorological Automated Data System
HAFS	Hurricane Analysis and Forecast System
Height ALS	Airborne laser scanning
HEMS	Helicopter Emergency Medical Services
Hera	Supercomputer located at the NESCC
HF-ASOS	high frequency-Automated Surface Observing System
HFIP	Hurricane Forecast Improvement Program
Hires Win	High RESolution window
HIWPP	High-Impact Weather Prediction Project (Sandy Supplemental funded project)
HMON	Hurricanes in a Multi-scale Ocean-coupled Non-hydrostatic model
HMT	Hydrometeorological Testbed
hPa	hecto-pascals
HPC	Hydrometeorological Prediction Center (within NCEP)
HPCS	High-Performance Computing System
HPSS	High Performance Storage System
HR	heating rate
HREF	High Resolution Ensemble Forecast
HRRR	High-Resolution Rapid Refresh model
HRRR CNT	HRRR Control
HRRR-AK	HRRR-Alaska
HRRR-smoke	HRRR Smoke model
HRRRDAS	HRRR Data Assimilation System
HRRRE	High-Resolution Rapid Refresh Model scaled to a small region or domain
HRRRNEST	High-Resolution Rapid Refresh Ensemble
HS-PHI	Hazard Services - Probabilistic Hazards Information
HWRF	Hurricane Weather Research and Forecasting model
HWT	Hazardous Weather Testbed
HWT	Hazardous Weather Testbed
ICICLE	In-Cloud ICing and Large-drop Experiment
IDP	NOAA's Integrated Dissemination Program
IDSS	Impact-based Decision Support Services
iHYCOM	Icosahedral-horizontal-coordinate version of HYCOM ocean model
IMET	Incident Meteorologist (NWS)
IMPACTS	Investigation of Microphysics and Precipitation for Atlantic Coast-Threatening Snowstorms
INCR	Increment
INSITE	Integrated Support for Impacted Air-Traffic Environments
Intel-MIC	Intel® Many Integrated Core Architecture
IT	Information Technology
JCSDA	Joint Center for Satellite Data Assimilation
JEDI	Joint Effort for Data assimilation Integration
Jet	Supercomputer located at GSL in Boulder and is made up of 6 separate supercomputing systems
JPSS	Joint Polar Satellite System Proving Ground
JTECH	The Journal of Atmospheric and Oceanic Technology
JTTI	Joint Technology Transfer Initiative
K	Kelvin
km	kilometer
kts	knots
LA system	Land Air system
LAI	land air interactions
LAM	Limited Area Model (formerly SAR)
LAMP	Local Aviation MOS Product
LASSO Study	Large-Eddy Simulation (LES) ARM Symbiotic Simulation and Observation

LCL	Local
LED	light emitting diode
LES	Large-Eddy Simulation
LLWS	Low-Level Wind Shear
LS GWD	large scale gridded weather data
LSM	Land-Surface Model (parameterization)
LW	longwave
MADIS	Meteorological Assimilation Data Ingest System
MAE Impr	Mean absolute error improvement
MATS	Model Analysis Tool Suite
MDL	Meteorological Development Laboratory (within NWS)
MDL	Meteorological Development Lab
MERRA2	Modern-Era Retrospective analysis for Research and Applications, Version 2
METAR	Aviation Routine Weather Report (translation from French)
METexpress	METexpress is a simplified data analysis visualization component of the enhanced Model Evaluation Tools (METplus) verification system.
METplus	The DTC Model Evaluation Tool set within a suite of Python wrappers
MIC	Intel® Many Integrated Core (HPCS architecture)
MIN	minimum
MIT/LL	Massachusetts Institute of Technology - Lincoln Laboratory
ML	Machine Learning
MME	North American Multi-Model Ensemble
MOA	Memorandum of Agreement
MOS	Model Output Statistics
MOU	Memorandum of Understanding
MPAS	Model for Prediction across Scales (NCAR global model)
MPI	Message Passing Interface -- HPC standard for distributed memory programming
MRMS	Multi-Radar/Multi-Sensor (national radar data merger system)
MRW	Medium Range Weather
MRW App	UFS medium-range weather application.
MSE	Mean Squared Error
MSU	Mississippi State University
MW	Megawatts
MYNN	Mellor–Yamada–Nakanishi–Nino (boundary-layer parameterization)
MYNN-EDMF	Mellor–Yamada–Nakanishi–Nino Eddy Diffusivity-Mass Flux
MySQL	an open source Structured Query Language
NAFTA	North American Free Trade Agreement
NAM	North American Mesoscale Forecast System
NARRE	North American Rapid Refresh Ensemble (with RAP and NAM members)
NASA	National Aeronautics and Space Administration
NASA GMAO	NASA Global Modeling and Assimilation Office
Navy-ESPC	US Navy - Earth System Prediction Capability
NCAR	National Center for Atmospheric Research
NCEI	NOAA National Centers for Environmental Information (part of NESDIS)
NCEP	NOAA's National Centers for Environmental Prediction
NCEP	National Centers for Environmental Prediction
NDFD	National Digital Forecast Database
NESCC	NOAA Environmental Super Computing Center in Fairmont, WV
NESDIS	National Environmental Satellite, Data & Information Services
NEVS	Network-Enabled Verification Service
NGAC	National Geospatial Advisory Committee
NGGPS	Next-Generation Global Prediction System
NHC	National Hurricane Center (an NCEP center)
NHX	Northern Hemisphere
Niagara	location where data can be securely copied to and from any location, by any authorized user.

NIM	Non-hydrostatic Icosahedral Model (global model developed in GSD)
NMFS	NOAA's National Marine Fisheries Service
No-SQL	a non-relational database
NOAA	National Oceanic and Atmospheric Administration
NOAA QOSAP	Quantitative Observing System Assessment Program
Noah	LSM Noah land-surface model (used widely in WRF and many NCEP models)
Noah-MP	LSM Noah multi-parameterization land surface model
NOHRSC	National Operational Hydrologic Remote Sensing Center
NOHRSC - HRRR	National Operational Hydrologic Remote Sensing Center - HRRR
NOS	NOAA's National Ocean Service
NRL	Naval Research Laboratory
NSF	National Science Foundation
NSSL	National Severe Storm Laboratory
NW	Northwest
NWC	National Water Center
NWM	National Water Model
NWP	Numerical Weather Prediction
NWS	National Weather Service (NOAA)
O	order of magnitude
O minus B	Observation minus Background
O2R	Operations to Research
OAR	Oceanic and Atmospheric Research (NOAA's research organization)
OBS	Observation
OCIO	NOAA's Office of the Chief Information Officer
ODIAC	OAR Diversity and Inclusion Advisory Council
OMAO	NOAA's Office of Marine and Aviation Operations
On Prem	Located on-premises
OPC	Offshore Precipitation Capability
OpenACC	Emerging standard for directive-based programming of multicore, many-core, and GPU architectures
ORION	Supercomputer located at Mississippi State University
OSE	Observing System Experiment or Observation Sensitivity Experiment
OSSE	Observing System Simulation Experiment
OU/CAPS	Center For Analysis and Prediction of Storms/ University of Oklahoma
OWP	Office of Water Prediction
PB	Petabyte is 1 million gigabytes
PBL	Planetary Boundary Layer
PBLH	Planetary Boundary Layer Height
PDF	Probability Density Function
PM2.5	Particulate Matter that is 2.5 micrometers and smaller
PMP	Project Management Professional certification
POD	probability of detection
pp10	unspecified unspecified particulate matter that is 10 micrometers and smaller
pp25	unspecified particulate matter that is 2.5 micrometers and smaller
ppb	parts per billion
prepbufr	a format used to process observational data for assimilation into the various NCEP analyses
PSA	Probabalistic Snow Accumulation
PSL	Physical Sciences Laboratory
PW	Precipitable Water
Q, R, P	Quality, Relevance, Performance
QCed	Quality Controlled
QOSAP	Quantitative Observing System Assessment Program
QPE	Quantitative Precipitation Estimation
QPF	Quantitative Precipitation Forecast
R&D	Research and Development
R2A	Research to Applications

R2O	Research to Operations
raobs	Radiosonde observations
RAP	Rapid Refresh model
RAP domain	Rapid Refresh models geographic coverage area
RAP-Chem	Rapid Refresh model - coupled to chemistry
RAP-smoke	Rapid Refresh model - coupled to chemistry
RASS	Radio Acoustic Sounding System
RDHPCS	Research & Development High Performance Computing System
RE	Renewable Energy
RH	Relative Humidity
RL	Research Level
RMS	Root Mean Square Error
RMS/RMSE	Root-Mean-Square Error
RRFS	Rapid Refresh Forecast System
RRFS R/T	one minus False Alarm Rate
RRTM	Rapid Radiative Transfer Model
RRTMG	Rapid Radiative Transfer Model for GCMs
RSMAS-CCSM4	Rosenstiel School of Marine and Atmospheric Science -Community Climate System Model version 4.0
RTMA	Real-Time Mesoscale Analysis
RTMA-3D	Three-Dimensional Real-Time Mesoscale Analysis
RTVS	Real-time Verification System
RUA	Rapid Updating Analysis
RUC	Rapid Update Cycle model
RUC LSM	RUC Land-Surface Model
RWIS	Road Weather Information System
S2S	Subseasonal to seasonal (global model applications, usually atmos-ocean coupled)
SAS	Simplified Arakawa–Schubert Convection Scheme
sat AMVs	satellite Atmospheric Motion Vectors
SBES	Social and Behavioral Sciences
SCADA	Supervisory Control and Data Acquisition
SCM	single-column model
Sfc	surface
SFIP	Solar Forecast Improvement Project
SFO	San Francisco Airport
SGS	Subgrid-scale
SHX	Southern hemisphere
Slack	A channel-based messaging platform
SLW	Supercooled Liquid Water
SMAP	Soil Moisture Active Passive
SNOD - HRRR	Snow Depth - High-Resolution Rapid Refresh
SOA	secondary organic aerosols
SOO	Science and Operations Officer (in NWS)
SOS	Science On a Sphere®
SOSX	SOS Explorer™
SPC	Storm Prediction Center (within NCEP)
SPP	Stochastically Perturbed PARameterizations
SPPT	Stochastically Perturbed Physical Tendancies
SREF	Short Range Ensemble Forecast
SRW App/SWR	UFS Short-Range Weather Application
SS GWD	small scale gridded weather data
STEM	Science, Technology, Engineering, and Math
STI	Science, Technology, and Infusion
SubX FIM	Subseasonal Experiment Flow-following finite-volume Icosahedral Model (experimental global model)
SW	shortwave
T&E	Test and Evaluation

TFVT	TRACON Gate Forecast Verification Tool
TiM	Threats in Motion
TKE	Turbulent Kinetic Energy
TPW	Total Precipitable Water
TRACON	Terminal Radar Approach CONtrol
TWh	terrawatt hours
TWP-ICE	Tropical Western Pacific – International Cloud Experiment
UAS	Unmanned Aircraft System
UCAR	University Corporation for Atmospheric Research
UCLA	University of California - Los Angeles
UFOs	Unified Forward Operators
UFS	Unified Forecast System
UFS MRW	Unified Forecast System - Medium-Range Weather
UFS R2O	Unified Forecast System - Research to Operations
UFS SWR	Unified Forecast System - Short-Range Weather
UK Met Office/UKmet	United Kingdom's national weather service
UPP	Unified Post Processor
USAF	U.S. Air Force
USFS	U.S. Forest Service
UTC	Coordinated Universal Time
UX	User Experience
V1, V2, V3, V4	HRRR versions used in economic impacts analysis
VAD winds	Velocity Azimuth Display
VIIRS	Visible Infrared Imaging Radiometer Suite
VIP Level	Video Integrator and Processor level
VORTEX-SE	Verification of the Origins of Rotation in Tornadoes EXperiment-Southeast
VPN	Virtual Private Network
VRMC	Verification Requirements and Monitoring Capability
VSE	VORTEX South East
Vx	Verification
W	watts
WAVE	Weather Archive and Visualization Environment
WCOSS	Weather and Climate Operational Supercomputing System
WCRP	World Climate Research Program
WETO	Wind Energy Forecast Improvement Projects
WFIP	Wind Forecast Improvement Project
WFO	Weather Forecast Office
WGs	working groups
WMO	World Meteorological Organization
WoF/WoFS	Warn-On Forecast/Warn-on-Forecast System – OAR research project
WPC	NOAA NCEP's Weather Prediction Center
WPO	Weather Program Office
WRaDS	Weather Risks and Decisions in Society
WRF	Weather Research and Forecasting model (community model system)
WRF-Chem	Extended version of WRF model including inline chemistry (two-way interaction)
WRF-GSI	Weather Research and Forecasting Model - Gridpoint Statistical Interpolation
WV	West Virginia
Wx	weather
xarray	Software package http://xarray.pydata.org/en/stable/