National Aeronautics and Space Administration

EARTH SYSTEM SCIENCE

Data and Services

ATMOSPHERE *Data Set Reference Sheet* *December 2016*

Physical Properties	Data Center	Selected Data Sets and Data Collections *Complete data set listings available through each individual data center. For more information about NASA's Earth Observing System Data and Information System (EOSDIS) data centers, see: https://earthdata.nasa.gov*
Aerosol Properties Stratospheric, tropospheric	**ASDC DAAC** https://eosweb.larc.nasa.gov	• CERES SYN1deg Products [from Terra and Aqua] • CLAMS (CLAMS_MODIS_L2_AEROSOL_PRODUCTS) • Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) Lidar Level 2 aerosol layer data (5 km) and aerosol profile data (5 km), and Lidar Level 2 Vertical Feature Mask data • Cloud-Aerosol Transport System (CATS) Level 2OP Operational Data Products • GTE data sets • MISR Level 2 Aerosol Parameters and Level 3 Component Global Aerosol (daily, monthly, quarterly, and yearly) and Level 3 Joint Aerosol (daily, monthly) Products • MISR Level 3 Plume Height Climatology Product • MISR_AEROSOL_CLIM - "Climatologically-Likely" global, monthly aerosol climatology derived from 'typical-year' aerosol transport model results • POAM II and III data sets • SAGE I and II data sets • SAGE III L2 Solar Event and Lunar Event Species Profiles
	GES DISC http://disc.sci.gsfc.nasa.gov	• Air Quality daily 1°x1° EPA AIRNOW surface PM2.5 concentrations over the continental U.S. and Daily MODIS and OMI aerosol data, through Giovanni tool • HIRDLS/Aura Level 2 vertical profiles of O3, HNO3, H2O, CFC-11, CFC-12, N2O, NO2, N2O5, ClONO2, temperature, geopotential height, and aerosol extinction at 12.1 and 8.3 microns, as well as cloud top pressure (HIRDLS2) • MODIS/Terra and MODIS Aqua Aerosol Cloud Water Vapor Ozone Daily, 8-Day, and Monthly L3 Global 1Deg CMG Products, through Giovanni tool • OMI/Aura Level 2 Daily Aerosol Optical Thickness and Aerosol Single Scattering Albedo at Instrument Resolution • OMI/Aura TOMS-Like Ozone Aerosol Index Reflectivity Daily L3 Global 1.0 x 1.25 deg Grid • OMI/Aura TOMS-Like Ozone, Aerosol Index, Radiative Cloud Fraction Daily L3 Global 0.25 x 0.25 deg Grid • OMI/Aura TOMS-Like Ozone, Aerosol Index, Radiative Cloud Fraction Daily L3 Global 1.0 x 1.0 deg Grid • TOMS Level 2 Aerosol Index at Instrument Resolution • TOMS Level 3 Aerosol Index Daily Gridded 1.25 x 1.0 Degree Data • UARS CLAES Level 3AL and Level 3AT Daily Data Products (aerosol profiles) • UARS HALOE Level 2 and Level 3AT Daily Products (aerosol extinction profiles) • UARS ISAMS Level 3AL and Level 3AT Daily Data Products (aerosol extinction profiles)
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• GRIP Langley Aerosol Research Group Experiment (LARGE)
	LAADS http://ladsweb.nascom.nasa.gov	• MERIS Reduced Resolution Geophysical Product for Ocean, Land and Atmosphere Product • MODIS/Terra and MODIS/Aqua Level 2 3km and 10km Aerosol Products • MODIS/Terra and MODIS/Aqua Level 2 Joint Atmospheric Product • MODIS/Terra and MODIS/Aqua Level 3 Daily, 8-day, and Monthly Joint Aerosol/Water vapor/ Cloud Products
	NSIDC DAAC http://nsidc.org/daac	• GLAS/ICESat L1B Global Backscatter Data • GLAS/ICESat L2 Global Aerosol Vertical Structure Data • GLAS/ICESat L2 Global Planetary Boundary Layer and Elevated Aerosol Layer Heights • GLAS/ICESat L2 Global Thin Cloud/Aerosol Optical Depths Data

Aerosol Properties Stratospheric, tropospheric (continued)	**ORNL DAAC** http://daac.ornl.gov	• AMAZE-08 Aerosol Characterization and Meteorological Data, Central Amazon Basin: 2008 • CARVE: Fire-Related Aerosol and Soil Elemental and Isotopic Composition, Alaska, 2013 • SAFARI 2000: Aerosol fatty acid and stable isotope data for Mongu
	SEDAC http://sedac.ciesin.columbia.edu	• Global Annual Average PM2.5 Grids from MODIS and MISR Aerosol Optical Depth (AOD), v1
Atmospheric Humidity	**ASDC DAAC** https://eosweb.larc.nasa.gov	• CERES Synoptic Radiative Fluxes and Clouds (SYN1deg) Products [from Terra, Aqua] (1deg Regional, Zonal, and Global Spatial; and 3 Hour, Monthly 3 Hour, and Monthly Temporal Resolutions) • NASA Water Vapor Project (NVAP) data sets • SAGE III L2 Solar Event and Lunar Event Species Profiles • SSE data set • TES L2 H2O Nadir and L2 H2O Nadir Special Observations data
	GES DISC http://disc.sci.gsfc.nasa.gov	• A Multi-year Global Analysis Employing the Goddard EOS (GEOS) Data Assimilation System • AIRS/Aqua Level 2 Products • AIRS/Aqua Level 3 Daily, Multiday, and Monthly Physical Retrieval Products • MLS/Aura Level 2 Daily Profiles of Water Vapor, Relative Humidity with respect to Ice, and Ice Water Content at 2-3 km Vertical Resolution • Modern Era Retrospective-analysis for Research and Applications (MERRA) • TOVS Pathfinder Path A and Path B Atmospheric and Surface Parameters, 5-Day Atmospheric Sounding Data from TOVS • UARS CLAES, ISAMS, and MLS Level 3A Daily Data (Level 3AT Time Ordered and Level 3AL Latitude Ordered), HALOE Level 3AT Time Ordered Data.
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• CAMEX-3 Data Sets (August-September, 1998) • CAMEX-4 Data Sets (August-September, 2001) • GOES Water Vapor Transport CD **Over Ocean Only** • NAMMA DC-8 Dropsonde • RSS SSMI/SSMIS Ocean Product Grids from DMSP F8, F10, F11, F13, F14, F15, F16, and F17 (integrated water vapor and cloud liquid water) • TRMM Microwave Imager (TMI) Wentz Ocean Products [integrated water vapor and cloud liquid water]
	LAADS http://ladsweb.nascom.nasa.gov	• MODIS/Terra and MODIS/Aqua Level 2 Joint Atmosphere Product of Profiles, Total Column Ozone, Water Vapor, and Stability Indices • MODIS/Terra and MODIS/Aqua Level 2 Joint Atmospheric Product • MODIS/Terra and MODIS/Aqua Level 2 Total Precipitable Water Vapor Test Results • MODIS/Terra and MODIS/Aqua Level 3 Daily, 8-day, and Monthly Joint Aerosol/Water vapor/ Cloud Products
	NSIDC DAAC http://nsidc.org/daac	• AMSR-E/Aqua Daily, Weekly, and Monthly L3 Ocean Products [integrated water vapor and cloud liquid water] • AMSR-E/Aqua L2B Global Swath Ocean Products derived from Wentz Algorithm [integrated water vapor and • cloud liquid water]
	ORNL DAAC http://daac.ornl.gov	• BOREAS Data Sets: BOREAS AFM-08 ECMWF Hourly Surface and Upper Air Data for the SSA and NSA • Climatological Data Set: Global 30-Year Mean Monthly Climatology 1961-1990 (New et al.) • Daymet: Daily Surface Weather Data on a 1-km Grid for North America, Version 3 • FIFE Data Sets: Atmospheric Profiles: TOVS-NOAA, Radiosonde–NCDC
Atmospheric Moisture (Oceanic Only)	**ASDC DAAC** https://eosweb.larc.nasa.gov	• Chesapeake Lighthouse and Aircraft Measurements for Satellites (CLAMS) (CLAMS_CERES_CHESLIGHT_SONDE) • First ISCCP Regional Experiment (FIRE) data sets • NASA Water Vapor Project (NVAP) data sets
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• RSS SSMI/SSMIS Ocean Product Grids Daily, 3-Day, Weekly, and Monthly netCDF from DMSP F8, F10, F11, F13, F14, F15, and F17
	NSIDC DAAC http://nsidc.org/daac	• AMSR-E/Aqua Daily, Weekly, and Monthly L3 Global Ascending/Descending .25 x .25 deg Ocean Grids • AMSR-E/Aqua L2B Global Swath Ocean Products derived from Wentz Algorithm
	PO.DAAC http://podaac.jpl.nasa.gov	• Nimbus-7 SMMR Water Vapor and Columnar Liquid Water • WindSat Level 3 Global Water Vapor, Columnar Liquid Water, and Rain Rate

Atmospheric Temperature	**ASDC DAAC** https://eosweb.larc.nasa.gov	• Clouds and the Earth's Radiant Energy System (CERES) ISCCP-D2 like data • International Satellite Cloud Climatology Project (ISCCP) data sets • Stratospheric Aerosol and Gas Experiment (SAGE) III L2 Solar Event and Lunar Event Species Profiles • Surface meteorology and Solar Energy (SSE) data set • Tropospheric Emission Spectrometer (TES) L2 Atmospheric Temperatures Nadir and L2 Atmospheric Temperatures Nadir Special Observations data
	GES DISC http://disc.sci.gsfc.nasa.gov	• A Multi-year Global Analysis Employing the Goddard EOS (GEOS) Data Assimilation System • AIRS/Aqua Level 2 Products • AIRS/Aqua Level 3 Daily, Multiday, and Monthly Physical Retrieval Products • Atmospheric Dynamics Data - CPC/ACDB Analysis • HIRDLS/Aura Level 2 vertical profiles of O3, HNO3, H2O, CFC-11, CFC-12, N2O, NO2, N2O5, ClONO2, temperature, geopotential height, and aerosol extinction at 12.1 and 8.3 microns, as well as cloud top pressure (HIRDLS2) • MLS/Aura Level 2 Daily Profiles of Temperature at 2-3 km Vertical Resolution • Modern Era Retrospective-analysis for Research and Applications (MERRA) • MSU Limb93 Data Sets [e.g., MSU LIMB93 Daily Lower Tropospheric Temperature (along with Daily Upper Tropospheric and Lower Stratospheric Temperature Data Sets)] • TOVS Pathfinder Path A and Path B Atmospheric and Surface Parameters, 5-Day Atmospheric Sounding Data from TOVS • UARS CLAES, HRDI, ISAMS, MLS, and WINDII Level 3A Daily Data (Level 3AT Time Ordered and Level 3AL Latitude Ordered), HALOE Level 3AT Time Ordered Data
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• CAMEX-3 Data Sets [e.g., CAMEX-3 DC-8 Meteorological Measurement System MMS, CAMEX-3 Airborne Vertical Atmosphere Profiling System (AVAPS)] • CAMEX-4 Data Sets [e.g., CAMEX-4 Microwave Temperature Profiler, CAMEX-4 DC-8 Meteorological Measurement System (MMS)] • NAMMA DC-8 Meteorological Measurement System (MMS)
	LAADS http://ladsweb.nascom.nasa.gov	• MERIS Reduced Resolution Geophysical Product for Ocean, Land and Atmosphere Product • MODIS/Terra and MODIS/Aqua Level 2 Joint Atmosphere Product of Profiles, Total Column Ozone, Water Vapor, and Stability Indices • MODIS/Terra and MODIS/Aqua Level 3 Daily, 8-day, and Monthly Joint Aerosol/Water vapor/Cloud Products
	NSIDC DAAC http://nsidc.org/daac	• NCEP/NCAR Arctic Marine Rawinsonde Archive • TOVS Pathfinder Path-P Daily and Monthly Arctic Atmospheric Grids
	ORNL DAAC http://daac.ornl.gov	• BOREAS Data Sets: BOREAS AFM-06 Mean Temperature Profile Data, BOREAS AFM-08 ECMWF Hourly Surface and Upper Air Data for the SSA and NSA • CARVE-ARCSS: Methane Loss From Arctic- Fluxes From the Alaskan North Slope, 2012-2014 • Climatological Data Set: Global 30-Year Mean Monthly Climatology 1961-1990 (New et al.) • Daymet: Daily Surface Weather Data on a 1-km Grid for North America, Version 3 • FIFE Data Sets: Atmospheric Profiles: TOVS-NOAA, Radiosonde–NCDC • SAFARI 2000: AVHRR-derived land use surface temperature maps for Africa 1995-2000
Cloud Properties Amount, optical properties, height	**ASDC DAAC** https://eosweb.larc.nasa.gov	• CALIPSO Infrared Imaging Radiometer Level 2 swath and Level 2 track data • CALIPSO Lidar Level 2 cloud layer data (1/3 km, 1 km, and 5 km) and cloud profile data (5 km); and Lidar Level 2 Vertical Feature Mask data • CALIPSO Lidar Level 2 Polar Stratospheric Cloud (PSC) data • CERES Clouds and Radiative Swath (CRS), Monthly Gridded Single Satellite Fluxes and Clouds (SSF1deg), Monthly Gridded TOA/Surface Fluxes and Clouds (SFC), Monthly TOA/Surface Averages (SYN1deg), Single Scanner Footprint TOA/Surface Fluxes and Clouds (SSF), SYN1deg Products [from TRMM, Terra, Aqua] • CERES ISCCP-D2like data • CERES SSF TOA/Surface Fluxes and Clouds, and MISR Ellipsoid and Terrain Radiances data • CERES-NEWS (NASA Energy Water cycle Study) CCCM (CERES-MODIS-CALIPSO-CloudSat) data set • Cloud-Aerosol Transport System (CATS) Level 2OP Operational Data Products • International Satellite Cloud Climatology Project (ISCCP) DX, D1, and D2 data products • MISR Level 2 Cloud Data, Level 2 TOA/Cloud Stereo, Level 2 TOA/Cloud Albedo, Level 2 TOA/Cloud Classifier Parameters, and Level 3 Component Global Cloud and Level 3 Cloud Motion Vector (daily, monthly, quarterly, and yearly), and Level 3 Cloud Fraction by Altitude (monthly, quarterly, and yearly) and Level 3 Cloud Top Height – Optical Depth (monthly, quarterly, yearly) Products • SAGE III L2 Monthly Cloud Presence Data • SSE data set

Cloud Properties Amount, optical properties, height (continued)	**GES DISC** http://disc.sci.gsfc.nasa.gov	• AIRS/Aqua Level 2 Products • AIRS/Aqua Level 3 Daily, Multiday, and Monthly Physical Retrieval Products • Modern Era Retrospective-analysis for Research and Applications (MERRA) • MODIS/Terra and MODIS/Aqua Aerosol Cloud Water Vapor Ozone Daily, 8-Day, and Monthly L3 Global 1Deg CMG Products, through Giovanni tool • OMI/Aura Level 2 Daily Cloud Fraction and Pressure at Instrument Resolution (13 x 24 km at Nadir)
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• CAMEX-4 Data Sets [e.g., CAMEX-4 Cloud Microphysics, CAMEX-4 CVI Cloud Condensed Water Content, CAMEX-4 NOAA WP-3D Cloud Physics] • NAMMA Data Sets [e.g., NAMMA Cloud Microphysics (CAPS-PIP), NAMMA CVI Cloud Condensed Water Content] • TCSP Cloud Radar System (CRS)
	LAADS http://ladsweb.nascom.nasa.gov	• MERIS Reduced Resolution Geophysical Product for Ocean, Land and Atmosphere Product • MODIS/Terra and MODIS/Aqua Level 2 Cloud Mask and Spectral Test Results • MODIS/Terra and MODIS/Aqua Level 2 Cloud Product • MODIS/Terra and MODIS/Aqua Level 2 Joint Atmospheric Product • MODIS/Terra and MODIS/Aqua Level 3 Daily, 8-day, and Monthly Joint Aerosol/Water vapor/Cloud Products
	NSIDC DAAC http://nsidc.org/daac	• AMSR-E/Aqua Daily, Weekly, and Monthly L3 Global Ascending/Descending .25 x .25 deg Ocean Grids • AMSR-E/Aqua L2B Global Swath Ocean Products derived from Wentz Algorithm • Comprehensive Ocean - Atmosphere Data Set (COADS) LMRF Arctic Subset • Daily Arctic Ocean Rawinsonde Data from Soviet Drifting Ice Stations • GLAS/ICESat L1B Global Backscatter Data • GLAS/ICESat L2 Global Aerosol Vertical Structure Data • GLAS/ICESat L2 Global Cloud Heights for Multi-Layer Clouds • GLAS/ICESat L2 Global Thin Cloud/Aerosol Optical Depths Data
Lightning Events, area, flash structure	**GHRC DAAC** http://ghrc.nsstc.nasa.gov	• GRIP Lightning Instrument Package (LIP) • Lightning Detection and Ranging Raw Data and Browse Images • Lightning Imaging Sensor (LIS) Science Data • LIS 0.1 Degree Very High Resolution Gridded Lightning Climatology Data Collection • LIS/OTD Gridded Lightning Climatology Data sets (1995-2013) • Operational Linescan System (OLS) Analog and Digital Derived Lightning Products • Optical Transient Detector Lightning
Mesospheric and Thermospheric / Ionospheric Chemistry	**CDDIS** http://cddis.gsfc.nasa.gov	• Daily global ionosphere maps of vertical total electron content (VTEC) derived from GNSS and DORIS ground observations. Daily (1 and 2 day) predicted global ionosphere maps of vertical total electron content (VTEC) derived from GNSS ground observations
Precipitation	**ASDC DAAC** https://eosweb.larc.nasa.gov	• SSE data set
	GES DISC http://disc.sci.gsfc.nasa.gov	• Arkin & Janowiak GPI: IR Based Monthly Rainfall for the GPCP • Chang SSM/I Derived Monthly Rain Indices • Global Land Data Assimilation System Monthly and 3-Hour Data Products • Global Precipitation Mission (GPM) Level-1 orbital GPM Microwave Imager (GMI) and Partner Radiometer Data • GPCP Version 2 Combined Precipitation (Gauge and Satellite-Merged) and Intermediate Products • GPM Level 3 IMERG Half Hourly 0.1 x 0.1 Degree Precipitation • Modern Era Retrospective-analysis for Research and Applications (MERRA) • MSU Daily Oceanic Precipitation with Limb93 Correction • North American Land Data Assimilation System Hourly Data Products • TRMM Combined Precipitation Radar (PR) and TRMM Microwave Imager (TMI) Gridded Rainfall Product • TRMM Precipitation Radar (PR) Gridded Rainfall Product • TRMM Visible and Infrared Radiances (VIRS) • TRMM-based merged rainfall product
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• GPM Ground Validation Dual-frequency Dual-polarized Doppler Radar (D3R) IPHEx • GPM Ground Validation High Altitude Imaging Wind and Rain Airborne Profiler (HIWRAP) IPHEx • GPM Ground Validation Met One Rain Gauge Pairs IFloodS V2 • GPM Ground Validation Met One Rain Gauge Pairs IPHEx V2 • GPM Ground Validation Micro Rain Radar (MRR) NASA ACHIEVE IPHEx • GPM Ground Validation NASA Micro Rain Radar (MRR) GCPEx V2 • GPM Ground Validation NASA S-Band Dual Polarimetric (NPOL) Doppler Radar MC3E • GPM Ground Validation Pluvio Precipitation Gauge LPVEx

Precipitation (continued)	**GHRC DAAC** http://ghrc.nsstc.nasa.gov (continued)	• GPM Ground Validation Rain Gauge Pairs MC3E V2 • GRIP Second Generation Airborne Precipitation Radar (APR2) • RSS SSMI/SSMIS Ocean Product Grids from DMSP F8, F10, F11, F13, F14, F15, F16, and F17 (rain rate) • TRMM Microwave Imager (TMI) Wentz Ocean Products [precipitation rate] • TRMM Tropical Cyclone Precipitation Feature (TCPF) Database - Level 1
	NSIDC DAAC http://nsidc.org/daac	• AMSR-E/Aqua L2B Global Swath Rain Rate/Type GSFC Algorithm • AMSR-E/Aqua Monthly L3 5x5 deg Rainfall Accumulations • APR-2 Dual-frequency Airborne Radar Observations, Wakasa Bay • CLPX-Ground: Ground Based Passive Microwave Radiometer (GBMR-7) Data • Double Rain Gauge Network, Iowa • Soil Moisture Experiment (SMEX) Data
	ORNL DAAC http://daac.ornl.gov	• BOREAS Rain Data Set: BOREAS 1996 HYD-09 Tipping Bucket Rain Data • Climatological Data Set: Global Monthly Precipitation 1900-1999 (Hulme) • Daymet: Daily Surface Weather Data on a 1-km Grid for North America, Version 3 • ISLSCP II Global Precipitation Climatology Project Version 2, Monthly Precipitation • SAFARI 2000 Data Sets: TRMM Monthly (1-Deg) • Spatio-temporal Characteristics of Rainfall in Africa, 0.25 degrees, from 1998-2012
Radiative Energy Fluxes Top of atmosphere, surface	**ASDC DAAC** https://eosweb.larc.nasa.gov	• CERES data sets [from TRMM, Terra, and Aqua] • CERES Energy Balanced and Filled (EBAF) • CERES-NEWS CCCM data set • Earth Radiation Budget Experiment (ERBE) Data Sets • Fast Longwave And SHortwave Radiative Fluxes (FLASHFlux) data set • MISR Level 1B2 Ellipsoid Data, Level 1B2 Terrain Data, Level 2 TOA/Cloud Albedo Parameters, Level 2 Surface Parameters, and Level 3 Component Global Albedo, Level 3 Component Global Land and Level 3 Component Global Radiance (daily, monthly, quarterly, and yearly) Products • SSE data set • Surface Radiation Budget (SRB) data sets (3-hourly, daily, monthly, and 3-hourly monthly)
	GES DISC http://disc.sci.gsfc.nasa.gov	• A Multi-year Global Analysis Employing the Goddard EOS (GEOS) Data Assimilation System • DAO 4D Assimilation Monthly Mean Subset Data (including outgoing longwave radiation, net upward longwave radiation at the ground, net downward shortwave radiation at the ground, and incident shortwave radiation at the top of the atmosphere) • International Satellite Land Surface Climatology Project (ISLSCP) Initiative I Data (Radiation and Clouds data include surface and TOA fluxes) • Modern Era Retrospective-analysis for Research and Applications (MERRA) • SORCE Level 3 and Level 4 Solar Irradiance products
	LP DAAC https://lpdaac.usgs.gov	• ASTER L1B Registered Radiance at the Sensor • ASTER On-Demand L2 Surface Radiance VNIR • ASTER On-Demand L2 Surface Reflectance VNIR • MODIS/Terra and MODIS/Aqua BRDF/Albedo Daily CMG Collection • MODIS/Terra and MODIS/Aqua Nadir BRDF-Adjusted Reflectance 16-Day L3 Global 0.05Deg CMG • MODIS/Terra and MODIS/Aqua Surface Reflectance 8-Day L3 Global 250m SIN Grid • MODIS/Terra and MODIS/Aqua Surface Reflectance 8-Day L3 Global 500m SIN Grid • MODIS/Terra+Aqua Nadir BRDF-Adjusted Reflectance 16-Day L3 Global 1km SIN Grid • MODIS/Terra+Aqua Nadir BRDF-Adjusted Reflectance 16-Day L3 Global 500m SIN Grid
Stratospheric Chemistry Ozone, ClO, BrO, OH, trace gases	**ASDC DAAC** https://eosweb.larc.nasa.gov	• Polar Ozone and Aerosol Measurement (POAM) II and III data sets • SAGE II data set • SAGE III L2 Solar Event and Lunar Event Species Profiles • Stratospheric Aerosol Measurement (SAM) II data set
	GES DISC http://disc.sci.gsfc.nasa.gov	• AIRS/Aqua Level 2 Product (Ozone Column and Profile) • AIRS/Aqua Level 3 Daily, Multiday, and Monthly Physical Retrieval Products (Ozone Column and Profile) • HIRDLS/Aura Level 2 vertical profiles of O3, HNO3, H2O, CFC-11, CFC-12, N2O, NO2, N2O5, ClONO2, temperature, geopotential height, and aerosol extinction at 12.1 and 8.3 microns, as well as cloud top pressure (HIRDLS2) • MLS/Aura Level 2 Daily Profiles of BrO, CH3CN, ClO, CO, H2O, HCL, HCN, HNO3, HO2, HOCl, N2O, O3, OH, and SO2 at 2-3 km Vertical Resolution • OMI/Aura DOAS Total Column Ozone Daily L3 Global 0.25 deg Lat/Lon Grid • OMI/Aura Level 2 Daily Total Column Ozone (O3) at Instrument Resolution (13 x 24 km at Nadir) • OMI/Aura Level 2 DOAS Total Column Ozone (O3) at Instrument Resolution • OMI/Aura Level 2 Total & Tropospheric.Column Nitrogen Dioxide (NO2) at Instrument Resolution • OMI/Aura Level 2 Total Column Bromine Monoxide (BrO) at Instrument Resolution • OMI/Aura Level 2 Total Column Formaldehyde (HCHO) at Instrument Resolution

Stratospheric Chemistry Ozone, ClO, BrO, OH, trace gases (continued)	**GES DISC** http://disc.sci.gsfc.nasa.gov (continued)	• OMI/Aura Level 2 Total Column Sulphur Dioxide (SO2) at Instrument Resolution • OMI/Aura Slant Column Chlorine Dioxide (OClO) at Instrument Resolution • OMI/Aura TOMS-Like Ozone, Aerosol Index, Radiative Cloud Fraction Daily L3 Global 0.25 x 0.25 deg Grid • OMI/Aura TOMS-Like Ozone, Aerosol Index, Radiative Cloud Fraction Daily L3 Global 1.0 x 1.0 deg Grid • SBUV Level 2 Ozone Profiles from Nimbus-7 and NOAA-9, 11 and 16 (SBUV/2) • TOMS Level 2 Total Ozone at Instrument Resolution (50 x 50 km at Nadir) • TOMS Level 3 Total Ozone Daily Gridded 1.25 x 1.0 Degree Data • UARS CLAES Level 3AT and Level 3AL Daily Data Products (O3 CH4, N2O, NO, NO2, N2O5, HNO3, ClONO2, CFCl3, CF2Cl2, and H2O profiles) • UARS HALOE Level 2 and Level 3AT Daily Products (O3, HCl, HF, CH4, NO, NO2, and H2O profiles) • UARS ISAMS Level 3AT and Level 3AL Daily Data Products (CH4, CO, H2O, NO2, N2O, N2O5, and O3 profiles) • UARS MLS Level 3AT and Level 3AL Daily Data Products (CH3CN, ClO, H2O, HNO3, O3, and SO2 profiles)
Tropospheric Chemistry Ozone, precursor gases, carbon dioxide	**ASDC DAAC** https://eosweb.larc.nasa.gov	• Measurements Of Pollution In The Troposphere (MOPITT) Derived CO data (Level 2), and Gridded Daily and Monthly CO Retrievals (Level 3) • North American Research Strategy for Tropospheric Ozone (NARSTO) data sets • TES L2 Global Survey and Special Observation and L3 Global Survey Daily and Monthly data sets • TES/MLS Aura L2 Carbon Monoxide (CO) Nadir data
	CDDIS http://cddis.gsfc.nasa.gov	• Daily and weekly zenith tropospheric path delay estimates derived from GNSS ground observations
	GES DISC http://disc.sci.gsfc.nasa.gov	• ACOS L2 Standard Product (CO2) • AIRS L2 and L3 Mid-Troposphere CO2 Data Sets • Environmental Protection Agency AIRNow PM2.5 data from ground-based monitoring stations (through Giovanni tool) • OCO-2 Level 2 Geolocated XCO2 Retrievals Results, Physical Model, Retrospective Processing (OCO2_L2_Standard.7r) • OMI/Aura Total and Tropospheric Column NO2 Daily L3 Global 0.25 x 0.25 deg Grid
	NSIDC DAAC http://nsidc.org/daac	• IceBridge Atmospheric Chemistry L1B Data, Version 1
	ORNL DAAC http://daac.ornl.gov	• Annual Mean CO2 Flux Estimates from TransCom3 Atmospheric Inversion Experiments • CARVE-ARCSS: Methane Loss From Arctic- Fluxes From the Alaskan North Slope, 2012-2014 • CARVE: L2 Merged Atmospheric CO2, CO, O3 and CH4 Concentrations, Alaska, 2012-2015 • FLUXNET Atmospheric CO2 concentration and CO2 fluxes between atmosphere and land • FLUXNET Canada Research Network - Canadian Carbon Program Data Collection, 1993-2014 • Global Fire Emissions Database • Global N Cycle Fluxes and N20 Mixing Ratios Originating from Human Activity • ISLSCP II Edgar 3 Gridded Greenhouse and Ozone Precursor Gas Emissions • SAFARI 2000: Aerosols, Biomass, Biomass Emissions, Air Chemistry Measurements, and MOPITT Carbon Monoxide
Winds Wind speed, wind direction, vertical air motions, upper air winds	**ASDC DAAC** https://eosweb.larc.nasa.gov	**Cloud Winds (Global)** • MISR Level 2 TOA/Cloud Stereo Parameters, and Level 3 Component Global Cloud and Level 3 Cloud Motion Vector (daily, monthly, quarterly, and yearly) Products **Surface Winds (Global)** • SSE data set
	ASF DAAC http://www.asf.alaska.edu	• ASF Data Pool of processed SAR data and images (Seasat, ALOS-1 PALSAR, JERS-1, RADARSAT-1, ERS-1, ERS-2, UAVSAR, AIRSAR, AirMOSS, SMAP, Sentinel-1A)
	GES DISC http://disc.sci.gsfc.nasa.gov	**Assimilation Products** • A Multi-year Global Analysis Employing the Goddard EOS (GEOS) Data Assimilation System • DAO 4D Assimilation Monthly Mean Subset Data • Modern Era Retrospective-analysis for Research and Applications (MERRA) **Upper Air Winds (Global)** • UARS High Resolution Doppler Imager (HRDI) Level 3A Daily Data (Level 3AT Time Ordered and Level 3AL Latitude Ordered) • UARS Wind Imaging Interferometer (WINDII) Level 3A Daily Data (Level 3AT Time Ordered and Level 3AL Latitude Ordered)
	GHRC DAAC http://ghrc.nsstc.nasa.gov	**Surface Wind Fields (Global Ocean)** • RSS SSMI/SSMIS Ocean Product Grids from DMSP F8, F10, F11, F13, F14, F15, F16, and F17 (with other atmospheric parameters) • TRMM Microwave Imager (TMI) Wentz Ocean Products (with other atmospheric parameters plus SST under all cloud conditions)

Winds Wind speed, wind direction, vertical air motions, upper air winds (continued)	**GHRC DAAC** http://ghrc.nsstc.nasa.gov (continued)	**Field Experiments (Regional)** • CAMEX-3 Multi-center Airborne Coherent Atmospheric Wind Sensor (MACAWS) • CAMEX-4 MIPS 915 MHz Doppler Wind Profiler • GOES Water Vapor Transport • GPM Ground Validation High Altitude Imaging Wind and Rain Airborne Profiler (HIWRAP) MC3E
	NSIDC DAAC http://nsidc.org/daac	• AMSR-E/Aqua Daily, Weekly, and Monthly L3 Global Ascending/Descending .25 x .25 deg Ocean Grids • AMSR-E/Aqua L2B Global Swath Ocean Products derived from Wentz Algorithm • IceBridge NCAR Navigation, State Parameter, and Microphysics LRT Data • Polar Pathfinder Daily 25 km EASE-Grid Sea Ice Motion Vectors
	ORNL DAAC http://daac.ornl.gov	• AES Data Sets: BOREAS/AES Campbell Scientific 15-Minute Surface Meteorological Data: 1993, 1994, 1995, and 1996 • FIFE Data Sets: Wind Profile Data: LIDAR - NOAA; Atmospheric Profile: STD. PRESS. LEVEL
	PO.DAAC http://podaac.jpl.nasa.gov	• Advanced Scatterometer (ASCAT) on MetOp-A and MetOp-B Near-Real-Time Ocean Vector Winds (at 12.5 and 25 km pixel resolution) • AMSR-E, SSM/I, and TMI Derived Global Ocean Wind Vectors • BYU Daily Browse Images of NSCAT, QuikSCAT, and SeaWinds Sigma-0 Measurements • Cross-Calibrated Multi-Platform (CCMP) Ocean Surface Wind Vector Analyses • ISS-RapidScat Level 2B Wind Vectors at 12.5 km pixel resolution • NSCAT Global 25km Sigma-0 and Ocean Winds • NSCAT Science Product, Levels 1.7, 2, 3 • Oceansat-2 Scatterometer (OSCAT) Level 2B Wind Vectors at 12.5 km resolution • QuikSCAT Coastal High Resolution Wind Vectors for the U.S. West Coast Region • QuikSCAT Level 1C Averaged Sigma-0 and Winds from Non-spinning Antenna • Rapidscat Level 2B Data • Rapidscat Level 2B Climate Ocean Wind Vectors • Seasat Scatterometer Products • SeaWinds on ADEOS-II and QuikSCAT Level 2B Wind Vectors (at 12.5 and 25 km pixel resolution) • SeaWinds on ADEOS-II and QuikSCAT Level 3 Wind Vectors • WindSat Level 3 Global Ocean Wind Vectors

ASDC DAAC Atmospheric Science Data Center DAAC (ASDC DAAC) at NASA Langley Research Center

ASF DAAC Alaska Satellite Facility DAAC

CDDIS Crustal Dynamics Data Information System

GES DISC Goddard Earth Sciences Data and Information Services Center

GHRC DAAC Global Hydrology Resource Center DAAC

LAADS Level 1 and Atmosphere Archive and Distribution System

LP DAAC Land Processes DAAC

NSIDC DAAC National Snow and Ice Data Center DAAC

ORNL DAAC Oak Ridge National Laboratory DAAC

PO.DAAC Physical Oceanography DAAC

SEDAC Socioeconomic Data and Applications Data Center

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