EARTH SYSTEM SCIENCE
Data and Services

OCEAN *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
Gravity **Gravity Field Models, Measurements**	**CDDIS** http://cddis.gsfc.nasa.gov	• Ground Network/Satellite Measurements: Daily, hourly, and sub-hourly code and phase observations from GNSS ground network; Daily and hourly files of round trip time of flight from satellite laser ranging (SLR) ground network; Time-tagged range-rate measurements from DORIS ground network • Daily and weekly precision satellite orbits derived from GNSS, SLR, and DORIS ground network observations. Note: Precise satellite orbits are required for higher level products. • Station positions and velocities from GNSS, SLR, VLBI and DORIS ground networks
	PO.DAAC http://podaac.jpl.nasa.gov	• GRACE Level 2 Monthly Gravity Field Estimates • Surface Mass Density Changes from GRACE (monthly mass grids of water equivalent thickness)
Heat Flux	**ASDC DAAC** https://eosweb.larc.nasa.gov	• First ISCCP Regional Experiment (FIRE) data sets
Multi-Parameter Data Collections	**ASDC DAAC** https://eosweb.larc.nasa.gov	• CLAMS data sets • First ISCCP Regional Experiment (FIRE) data sets • Global Tropospheric Experiment (GTE) data sets
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• Advanced Microwave Sounding Unit-A (AMSU-A) Swath from NOAA-15, NOAA-16, NOAA-17 • RSS SSMI/SSMIS Ocean Product Grids Daily, 3-Day, Weekly, and Monthly netCDF from DMSP F8, F10, F11, F13, F14, F15, F16, and F17 (wind speed, atmospheric water vapor, cloud liquid water, and rain rate) • TRMM Microwave Imager (TMI) Wentz Ocean Products (Cloud liquid water, atmospheric water vapor, rain rate, wind speeds, and SSTs)
	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 • GLAS/ICESat L2 Global Ocean Altimetry Data
Ocean Circulation	**PO.DAAC** http://podaac.jpl.nasa.gov	• OSCAR - Ocean Surface Current (1 degree and 1/3 degree spatial resolution)
Ocean Surface Topography Height, waves, sea level, tide models	**ASDC DAAC** https://eosweb.larc.nasa.gov	• First ISCCP Regional Experiment (FIRE) data sets
	ASF DAAC http://www.asf.alaska.edu	• Sentinel-1A, Sentinel-1B wave mode synthetic aperture radar (SAR) products from the ASF Data Pool
	NSIDC DAAC http://nsidc.org/daac	• GLAS/ICESat L2 Global Ocean Altimetry Data
	PO.DAAC http://podaac.jpl.nasa.gov	• Global Mean Sea Level Trend from Integrated Multi-Mission Ocean Altimeters TOPEX/Poseidon Jason-1 and OSTM/Jason-2 • GRACE Dynamic Ocean Topography • Integrated Multi-Mission Ocean Altimeter Data for Climate Research • Jason-1 Geophysical Data Record (GDR) • Jason-1 Sea Surface Height Anomaly Products • Jason-3 Near Real Time SSHA • OSTM/Jason-2 Near Real Time SSHA • Reconstructed Sea Level • SARAL NRT Value-added Operational GDR SSHA • TOPEX/POSEIDON Altimeter Merged Geophysical Data Record (MGDR) Generation B • TOPEX/POSEIDON Sea Surface Height Anomaly Products

Phytoplankton & Dissolved Organic Matter	**GES DISC** http://disc.sci.gsfc.nasa.gov	• 8-day Data Product Visualization, NOBM Assimilated Monthly and Daily Global Data, through Giovanni tool • Ocean Color Radiometry Visualization and Analysis, through Giovanni tool
	OB.DAAC http://oceancolor.gsfc.nasa.gov	• CZCS Level-2 Standard Ocean Color Product [chlorophyll-a concentration, diffuse attenuation coefficient, aerosol optical thickness, and reflectance at four visible wavelengths] • MODIS/Aqua Level-2 Standard Ocean Color Product [chlorophyll-a concentration, diffuse attenuation coefficient plus parameters related to aerosol corrections] • MODIS/Aqua Merged Chlorophyll (Combined MODIS-SeaWiFS data daily, 8-day, monthly, seasonal, and yearly products, plus a rolling 32-day composite) • MODIS/Aqua, SeaWiFS, OCTS, and CZCS Level-3 Binned Ocean Color Products [All Level-2 parameters in daily, 8-day, monthly, monthly climatology, seasonal, and yearly products, plus seasonal climatology for MODIS/Aqua] • MODIS/Aqua, SeaWiFS, OCTS, and CZCS Level-3 Standard Mapped Image Ocean Color Products [chlorophyll-a, diffuse attenuation coefficient, aerosol optical thickness, and Ångstrom coefficient (except for CZCS), separately available for all temporal resolutions corresponding to the Level-3 Binned Products, plus 32-day rolling products for MODIS/Aqua and SeaWiFS] • MODIS/Terra Level-3 Ocean Color Products [A limited set starting from January 2007 of Level-3 Binned and Mapped Image Products] • OCTS Level-2 Standard Ocean Color Product [chlorophyll, gelbstoff, calcilte, and Particulate Organic Carbon concentrations; diffuse attenuation coefficient plus aerosol optical thickness, aerosol Ångstrom exponent and other parameters related to aerosol corrections] • SeaWiFS Level-2 Standard Ocean Color Product [remote-sensing reflectances, particulate inorganic carbon (PIC), particulate organic carbon (POC)] • SeaWiFS Level-3 PAR Binned and Mapped Image Products [Photosynthetically Active Radiation reaching the ocean surface, available in daily, 8-day, monthly, seasonal, and yearly files]
Precipitable Water	**GHRC DAAC** http://ghrc.nsstc.nasa.gov	• RSS Monthly 1-deg Microwave Total Precipitable Water netCDF
Salinity Remotely sensed salinity from Aquarius, SPURS-1 in situ data	**PO.DAAC** http://podaac.jpl.nasa.gov	**Sea Surface Salinity (Global Ocean & SPURS-1 N. Atlantic salinity maximum region)** • Aquarius Level 2 Sea Surface Salinity & Wind Speed • Aquarius Level 3 Sea Surface Salinity, Density & Wind Speed Mapped products: Daily, 7 Day and rolling-7 Day, rolling-28 Day, Monthly, Seasonal, Annual, Cumulative, Monthly and Seasonal Climatologies • CAP Level 2 Sea Surface Salinity and Wind Speed • CAP Level 3 Sea Surface Salinity, Wind Speed & rain-corrected Sea Surface Salinity Mapped products: Monthly, rolling-7 Day Mapped • SPURS-1 field campaign datasets: CTD, Underway-CTD, ADCP, Thermosalinograph, Underway Meteorology, Drifter, Argo, Neutrally Buoyant Float, SPURS Central Mooring, PICO moorings, Seaglider, Seasoar, Tenuse Glider, Wave Glider, Ecomapper. • IPRC/SOEST L4 Optimally Interpolated Sea Surface Salinity, 7-day product from Aquarius
Sea Ice See also the "Cryosphere Data Set Reference Sheet"	**ASDC DAAC** https://eosweb.larc.nasa.gov	• First ISCCP Regional Experiment (FIRE) data sets • International Satellite Cloud Climatology Project (ISCCP) D1, D2, and ICESNOW data products • Multi-angle Imaging SpectroRadiometer (MISR) Level 1B2 Ellipsoid Data
	ASF DAAC http://www.asf.alaska.edu	• AMM-1 and MAMM SAR Image Mosaics of Antarctica 100m (RADARSAT-1) • Arctic MEaSUREs sea ice dynamics products (RADARSAT-1) • ASF Data Pool of processed SAR data and images (Sentinel-1A, Sentinel-1B, SMAP, Seasat, ALOS PALSAR, JERS-1, RADARSAT-1, ERS-1, ERS-2, UAVSAR, AIRSAR) • International Polar Year SAR Datasets
	NSIDC DAAC http://nsidc.org/daac	• AMSR-E/Aqua Daily L3 12.5 km Brightness Temperatures, Sea Ice Concentration, and Snow Depth Polar Grids • AMSR-E/Aqua Daily L3 25 km Brightness Temperatures & Sea Ice Concentration Polar Grids • AMSR-E/Aqua Daily L3 6.25 km Sea Ice Drift Polar Grids • Bootstrap Sea Ice Concentrations from Nimbus-7 SMMR and DMSP SSM/I • GLAS/ICESat L2 Sea Ice Altimetry Data • IceBridge Aircraft Data Sets (a large collection of data sets bridging the ICESat-1 and ICESat-2 missions) • Icebridge Sea Ice Freeboard, Snow Depth and Thickness • MODIS/Aqua Sea Ice Extent 5-Min L2 Swath 1km Data • MODIS/Aqua Sea Ice Extent and IST Daily L3 Global 1km & 4km EASE-Grid Data for Day and Night • MODIS/Terra Sea Ice Extent 5-Min L2 Swath 1km Data • MODIS/Terra Sea Ice Extent and IST Daily L3 Global 1km & 4km EASE-Grid Data for Day and Night • Near Real-Time DMSP SSM/I Daily Polar Gridded Sea Ice Concentrations • Near Real-Time SSM/I EASE-Grid Daily Global Ice Concentration and Snow Extent

Sea Ice (continued)	**NSIDC DAAC** http://nsidc.org/daac (continued)	• Polar Pathfinder Daily 25 km EASE-Grid Sea Ice Motion Vectors • Sea Ice Concentrations from Nimbus-7 SMMR and DMSP SSM/I Passive Microwave Data • Sea Ice Trends and Climatologies from SMMR and SSM/I • Snow Melt Onset Over Arctic Sea Ice from SMMR and SSM/I Brightness Temperatures
	PO.DAAC http://podaac.jpl.nasa.gov	• BYU Daily and Local-Time-of-Day Browse Images of SeaWinds on QuikSCAT and ADEOS-II Sigma-0 Measurements • BYU Daily Browse Images of NSCAT Sigma-0 Measurements • BYU Enhanced Resolution Images of ERS, NSCAT, and Seasat Sigma-0 Measurements • BYU Enhanced Resolution Images of SeaWinds on QuikSCAT and ADEOS-II Sigma-0 Measurements • SeaWinds on QuikSCAT Arctic Sea Ice Age Classification (BYU/SCP)
Sea Surface Temperature SST	**ASDC DAAC** https://eosweb.larc.nasa.gov	• First ISCCP Regional Experiment (FIRE) data sets
	GES DISC http://disc.sci.gsfc.nasa.gov	• Ocean Color Radiometry Visualization and Analysis through Giovanni tool
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• Advanced Microwave Sounding Unit-A (AMSU-A) Swath from NOAA-15, NOAA-16, NOAA-17 • TRMM Microwave Imager (TMI) Wentz Ocean Products (SST under all cloud conditions, plus surface wind speed and other atmospheric parameters)
	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 • IPAB Antarctic Drifting Buoy Data
	OB.DAAC http://oceancolor.gsfc.nasa.gov	• MODIS/Terra and MODIS/Aqua Level-2 Standard SST Product • MODIS/Terra and MODIS/Aqua Level-3 Binned SST Products [daily, 8-day, monthly, monthly climatology, seasonal, seasonal climatology, and yearly files] • MODIS/Terra and MODIS/Aqua Level-3 Standard Mapped SST Products [daily, 8-day, monthly, monthly climatology, seasonal, seasonal climatology, and yearly files]
	PO.DAAC http://podaac.jpl.nasa.gov	• AVHRR Oceans Pathfinder 4km Global SST (NOAA NCEI) • GOES L3 6km Near-Real-Time SST (NOAA NESDIS) • Group for High Resolution Sea Surface Temperature (GHRSST) L2P, L3 and L4 SST datasets from VIIRS, AMSR-E, AMSR2, MODIS, AVHRR, AATSR, IASI, TMI, GOES, SEVIRI, MTSAT-1R, MTSAT-2 and WindSat • MEaSUREs/GHRSST Global 1 km Level 4 Multiscale Ultrahigh Resolution (MUR) SST • MODIS Aqua and Terra Global Level 3 Mapped Thermal and Mid-IR SST • Extended Reconstructed SST and Optimum Interpolation SST (NOAA NCEI)
Surface Wind Fields	**ASDC DAAC** https://eosweb.larc.nasa.gov	• First ISCCP Regional Experiment (FIRE) data sets • Surface meteorology and Solar Energy (SSE) data set
	ASF DAAC http://www.asf.alaska.edu	• ASF Data Pool of processed SAR data and images (Sentinel-1A, Sentinel-1B, SMAP, Seasat, ALOS PALSAR, JERS-1, RADARSAT-1, ERS-1, ERS-2, UAVSAR, AIRSAR)
	GHRC DAAC http://ghrc.nsstc.nasa.gov	• RSS Monthly 1-deg Merged Wind Climatology • TRMM Microwave Imager (TMI) Wentz Ocean Products (with other atmospheric parameters plus SST under all cloud conditions)
	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 • Polar Pathfinder Daily 25 km EASE-Grid Sea Ice Motion Vectors
	PO.DAAC http://podaac.jpl.nasa.gov	• Advanced Scatterometer (ASCAT) on MetOp-A and MetOp-B Level 2 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
NSIDC DAAC	National Snow and Ice Data Center DAAC
OB.DAAC	Ocean Biology DAAC
PO.DAAC	Physical Oceanography DAAC