## Physical Properties

### Data Center

**CDDIS**
http://cddis.gsfc.nasa.gov

- **Gravity Field Models, Measurements**
  - 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://podac.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
- TRMM Microwave Imager (TMI) Wentz Ocean Products (Cloud liquid water, atmospheric water vapor, precipitation rate, wind speeds, and SSTs)

**NSIDC DAAC**
http://nsidc.org/daac

- AMSR-E/Aqua L2B Global Swath Ocean Products derived from Wentz Algorithm
- GLAS/ICESat L2 Global Ocean Altimetry Data

### Ocean Circulation

**PO.DAAC**
http://podac.jpl.nasa.gov

- OSCAR - Ocean Surface Current (1 degree and 1/3 degree spatial resolution)

### Ocean Surface Topography

**ASDC DAAC**
https://eosweb.larc.nasa.gov

- First ISCCP Regional Experiment (FIRE) data sets

**NSIDC DAAC**
http://nsidc.org/daac

- GLAS/ICESat L2 Global Ocean Altimetry Data

### 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
<table>
<thead>
<tr>
<th>Phytoplankton &amp; Dissolved Organic Matter (continued)</th>
<th>OB.DAAC</th>
<th><a href="http://oceancolor.gsfc.nasa.gov">http://oceancolor.gsfc.nasa.gov</a></th>
</tr>
</thead>
</table>
| • 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] |

<table>
<thead>
<tr>
<th>Precipitable Water</th>
<th>GHRC DAAC</th>
<th><a href="http://ghrc.nsstc.nasa.gov">http://ghrc.nsstc.nasa.gov</a></th>
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<tbody>
<tr>
<td>• RSS Monthly 1-deg Microwave Total Precipitable Water netCDF</td>
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<tr>
<th>Salinity</th>
<th>PO.DAAC</th>
<th><a href="http://podaac.jpl.nasa.gov">http://podaac.jpl.nasa.gov</a></th>
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<tr>
<td>Sea Surface Salinity (Global Ocean &amp; SPURS-1 N. Atlantic salinity maximum region)</td>
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<tr>
<td>• Aquarius Level 2 Sea Surface Salinity &amp; Wind Speed</td>
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<td>• Aquarius Level 3 Sea Surface Salinity, Density &amp; Wind Speed 7 Day and rolling-7 Day Mapped</td>
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<td>• Aquarius Level 3 Sea Surface Salinity, Density &amp; Wind Speed Annual Mapped</td>
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<td>• Aquarius Level 3 Sea Surface Salinity, Density &amp; Wind Speed Daily Mapped</td>
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<td>• Aquarius Level 3 Sea Surface Salinity, Density &amp; Wind Speed Monthly Mapped</td>
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<td>• Aquarius Level 3 Sea Surface Salinity, Density &amp; Wind Speed Seasonally Mapped</td>
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<td>• Aquarius Level 3 Sea Surface Salinity, Density &amp; Wind Speed Mission cumulative Mapped</td>
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<tr>
<td>• CAP Level 2 Sea Surface Salinity and Wind Speed</td>
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<td>• CAP Level 3 Sea Surface Salinity &amp; rain-corrected Sea Surface Salinity Monthly Mapped</td>
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<td>• CAP Level 3 Sea Surface Salinity &amp; rain-corrected Sea Surface Salinity rolling-7 Day Mapped</td>
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<td>• CAP Level 3 Wind Speed rolling 7 Day Mapped</td>
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<td>• CAP Level 3 Wind Speed rolling Monthly Mapped</td>
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<th>Sea Ice</th>
<th>ASDC DAAC</th>
<th><a href="https://eosweb.larc.nasa.gov">https://eosweb.larc.nasa.gov</a></th>
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<tr>
<td>See also the “Cryosphere Data Set Reference Sheet”</td>
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<tr>
<td>• First ISCCP Regional Experiment (FIRE) data sets</td>
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<tr>
<td>• International Satellite Cloud Climatology Project (ISCCP) D1, D2, and ICESNOW data products</td>
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<td>• Multi-angle Imaging SpectroRadiometer (MISR) Level 1B2 Ellipsoid Data</td>
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<tr>
<th>ASF DAAC</th>
<th><a href="http://www.asf.alaska.edu">http://www.asf.alaska.edu</a></th>
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<tbody>
<tr>
<td>• AMM-1 and MAMM SAR Image Mosaics of Antarctica 100m (RADARSAT-1)</td>
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<td>• Arctic MCAssUREs sea ice dynamics products (RADARSAT-1)</td>
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<tr>
<td>• ASF Data Pool of processed SAR data and images (Sentinel-1A, SMAP, Seasat, ALOS-1 PALSAR, JERS-1, RADARSAT-1, ERS-1, ERS-2, UAVSAR, AIRSAR, AirMOSS)</td>
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<tr>
<td>• International Polar Year SAR Datasets</td>
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<th>NSIDC DAAC</th>
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<tr>
<td>• AMSR-E/Aqua Daily L3 12.5 km Brightness Temperatures, Sea Ice Concentration, and Snow Depth Polar Grids</td>
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<tr>
<td>• AMSR-E/Aqua Daily L3 25 km Brightness Temperatures &amp; Sea Ice Concentration Polar Grids</td>
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<td>• AMSR-E/Aqua Daily L3 6.25 km Sea Ice Drift Polar Grids</td>
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<tr>
<td>• Bootstrap Sea Ice Concentrations from Nimbus-7 SMMR and DMSP SSM/I</td>
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<tr>
<td>• DMSP SSM/I Daily and Monthly Polar Gridded Sea Ice Concentrations</td>
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<tr>
<td>• GLAS/ICESat L2 Sea Ice Altimetry Data</td>
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<tr>
<td>• IceBridge Aircraft Data Sets (a large collection of data sets bridging the ICESat-1 and ICESat-2 missions)</td>
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<tr>
<td>• Icebridge Sea Ice Freeboard, Snow Depth and Thickness</td>
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<td>• MODIS/Aqua Sea Ice Extent 5-Min L2 Swath 1km Data</td>
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<tr>
<td>• MODIS/Aqua Sea Ice Extent and IST Daily L3 Global 1km &amp; 4km EASE-Grid Data for Day and Night</td>
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<td>• MODIS/Terra Sea Ice Extent 5-Min L2 Swath 1km Data</td>
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<tr>
<td>• Near Real-Time DMSP SSM/I Daily Polar Gridded Sea Ice Concentrations</td>
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<tr>
<td>• Near Real-Time SSM/I EASE-Grid Daily Global Ice Concentration and Snow Extent</td>
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</tbody>
</table>
| **Sea Ice** (continued) | **NSIDC DAAC** | • 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 Arctic Sea Ice from SMMR and SSM/I Brightness Temperatures  
**PO.DAAC** | • 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** | **ASDC DAAC** | • First ISCCP Regional Experiment (FIRE) data sets  
**GES DISC** | • Ocean Color Radiometry Visualization and Analysis through Giovanni tool  
**GHRC DAAC** | • 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** | • 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** | • 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** | • 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  
• MODIS Aqua and Terra Global Level 3 Mapped Thermal and Mid-IR SST  
• MeaSUREs/GHRSST Global 1 km Level 4 Multiscale Ultra-high Resolution (MUR) SST  
• AVHRR Oceans Pathfinder 4km Global SST  
• GOES L3 6km Near-Real-Time SST (NOAA/NESDIS)  
• NAVOCEANO AVHRR MCSST Level 2 9km Global Data  
• NAVOCEANO AVHRR MCSST Level 2 HRPT/LAC Data  
• NCEP Reynolds Extended Reconstructed Sea Surface Temperatures SST  
• NCEP Reynolds Optimally Interpolated SST  
**Surface Wind Fields** | **ASDC DAAC** | • First ISCCP Regional Experiment (FIRE) data sets  
• Surface meteorology and Solar Energy (SSE) data set  
**ASF DAAC** | • ASF Data Pool of processed SAR data and images (Sentinel-1A, SMAP, Seasat, ALOS-1 PALSAR, JERS-1, RADARSAT-1, ERS-1, ERS-2, UAVSAR, AIRSAR, AirMOSS)  
**GHRC DAAC** | • TRMM Microwave Imager (TMI) Wentz Ocean Products (with other atmospheric parameters plus SST under all cloud conditions)  
**NSIDC 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** | • 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 (OCSAT) Level 2B Wind Vectors at 12.5 km resolution  
• QuikSCAT Coastal High Resolution Wind Vectors for the U.S. West Coast Region  
• 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 |