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| Variable | Product/Sensor | Grid resolution | Temporal coverage | Source | Data ID – to integrate with tracking data | Data ID – for monthly predictions | Notes |
| Sea surface temperature | AVHRR Pathfinder v. 5 (day and night) | 4.4 km  **(5.5km in Xtracto)** | [15-Sep-1994 13-Apr-2008] | NOAA/NESDIS | erdPHssta8day,  Temporal resolution: 8 day  Variable: sst |  | Used for tracks from 1994-2002, but not for prediction. |
|  | Reynolds Optimum Interpolation v.2  (AMSR, AVHRR, in situ) | 25 km  (0.25 deg) | [01-Sept-1981 - present] | NOAA/NCDC | ncdcOisst2Agg,  Temporal resolution: 1 day  Variable: sst |  | Used to fill in data gaps for tracks (lower spatial resolution, but covers entire time period). |
|  | MODIS/Aqua | 0.0125 deg on ERDDAP | [05-Jul-2002-present] | NASA/GSFC | erdMWsstd8day, Temporal resolution: 8 day  Variable: sst | erdMWsstdmday,  Temporal resolution: 1 month  Variable: sst | Used for tracks from 2002 and for prediction. When MODIS ends, use VIIRS or GHRSST (jplG1SST) for prediction. |
| Sea surface temperature variability |  |  |  |  | SD of SST derived from sources erdPHssta8day,  ncdcOisst2Agg,  erdMWsstd8day. | SD of SSH derived from erdMWsstdmday, | Derived from SST. Measure of mesoscale variability. |
| Chlorophyll-*a* concentration | SeaWiFS/Orbview-2 | 8.8 km | [9-Aug-1998 10-Apr-2008] | NASA/GSFC | erdSWchla8day,  Temporal resolution: 8 day  Variable: chlorophyll |  | Used for tracks from 1998 to when MODIS begins in 2002. |
|  | MODIS/Aqua | 4.4 km  (0.0125 deg on ERDDAP) | [5-Jul-2002 present] | NASA/GSFC | erdMWchla8day,  Temporal resolution: 8 day  Variable: chlorophyll | erdMWchlamday,  Temporal resolution: 1 month  Variable: chlorophyll | Used for tracks from 2002 and for prediction. When MODIS ends, use VIIRS. |

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| Sea surface height | Merged (Topex/Poseidon, ERS-1/-2, Geosat, GFO, Envisat, Jason-1/-2)  AVISO | 0.3333 deg  **(0.25 deg on ERDDAP)** | [14-Oct-1992-16-Jan-2010]  (on ERDDAP) | AVISO | erdTAsshd1day,  Temporal resolution: 1 day  Variable: **ssh or sshd?** | erdTAsshmday, Temporal resolution: 1 month  Variable: **ssh or sshd?** | ERDDAP version only updated to 2010. **Able to extract directly from AVISO?** |
| Sea surface height variability |  |  |  |  | SD of SSH derived from erdTAsshd1day | SD of SSH derived from erdTAsshmday | Derived from SSH. Measure of mesoscale variability. |
| Eddy kinetic energy |  |  |  | AVISO | Calculated from u and v geostrophic currents,  erdTAgeo1day  Temporal resolution: 1 day  Variables: u\_current and v\_current | Calculated from u and v geostrophic currents,  erdTAgeomday  Temporal resolution: 1 month  Variables: u\_current and v\_current | Calculated from u and v geostrophic currents derived from AVISO. |
| Ekman upwelling | SeaWnds/QuikSCAT | 12.5 km  (0.125 deg on ERDDAP) | [25-July-1999 - 18-Nov-2009] | NASA/JPL  Eumetsat and NOAA/NESDIS | erdQSstress8day  Temporal resolution: 8 day  Variable: upwelling |  | Used for tracks from 1999-2009, but not for prediction. |
|  | ASCAT | 25 km (0.25 deg) | [16-Oct-2009-16-Jun-2013]  (end date for monthly composite) | Eumetsat & NOAA/NESDIS | erdQAstress8day, Temporal resolution: 8 day  Variable: upwelling | erdQAstressmday, Temporal resolution: 1 month  Variable: upwelling | Used for tracks from Oct 2009 and for prediction. **Needs updating on ERDDAP.** |
| Wind velocity | SeaWnds/QuikSCAT | 12.5 km  (0.125 deg on ERDDAP) | [25-July-1999 - 18-Nov-2009] | NASA/JPL  Eumetsat and NOAA/NESDIS | erdQSwind8day  Temporal resolution: 8 day  Variables: x\_wind and y\_wind |  | Used for tracks from 1999-2009, but not for prediction. |
|  | ASCAT | 0.25 deg | [16-Oct-2009 - 16-Jun-13] | Eumetsat & NOAA/NESDIS | erdQAwind8day,  Temporal resolution: 8 day  Variables: x\_wind and y\_wind | erdQAwindmday,  Temporal resolution: 1 month  Variables: x\_wind and y\_wind | Used for tracks from Oct 2009 and for prediction. **Needs updating on ERDDAP.** |
| Bottom depth | SRTM30\_PLUS v.6.0 digital bathymetry | 0.0083 deg | Fixed | UCSD/SIO | usgsCeSrtm30v6  (SRTM30+ v6 on ERDDAP) | usgsCeSrtm30v6  (SRTM30+ v6 on ERDDAP) | Aimee’s script currently extract from UCSD. **Update code to extract from ERDDAP?** |
| Depth variability |  |  |  |  | SD of bottom depth derived from usgsCeSrtm30v6 | SD of bottom depth derived from usgsCeSrtm30v6 | Measure of slope/gradient. |
| Bottom slope | Derived from bottom depth | 0.0083 deg | Fixed | UCSD/SIO |  |  | **Need from Daniel?** |
| Bottom aspect (northness, eastness) | Derived from bottom depth | 0.0083 deg | Fixed | UCSD/SIO |  |  | **Need from Daniel?** |
| Distance to shelf break (200m isobath) | ETOPO2 v.2g | 0.0333 deg | Fixed | NOAA/NGDC |  |  | **Are we using this?** |