C-CORE 1.15 Sea Surface Temperatures

Sea Surface Temperatures

Challenge

Challenge ID	C-CORE_OFF1.15
Title	**Sea Surface Temperatures**
Challenge originator:	
General Description	
What data/products do you use?	The sea surface temperatures in the offshore environment are identified through a variety of surface-based observations and modeled reanalyses. Historical sea surface temperatures, observed from ships and buoys, are available via ICOADS, whereas modeled historical sea surface temperatures are available from NOAA (ESRL). Near real-time sea surface temperatures are available from many sources including NOAA (NWSTG), NOAA (MADIS), NOAA (NDBC), UCAR, and numerous other data distribution centers. Global Sea Surface temperature analysis based on observations from NCOF (via MyOcean) Global Sea Surface Temperature analysis based on satellite observations from NOAA
When do you use this kind of dataset?	Sea surface temperatures are important to assess corrosion on steel structures, to assess potential ice accretion from sea spray icing etc. It also has an impact on the behaviour of an oil spill. The data assist in (a) qualifying and quantifying the means and extremes of sea surface temperatures, and (b) managing risks related to sea surface temperatures, safeguarding lives, protecting assets, and conducting operations.
What are your actual limitations and do you have a work around?	Remotely-sensed sea-surface temperatures from geostationary and polar-orbiting satellites provide a healthy record set of historical and current sea surface temperatures. There are no significant limitations.
Needs and expectations on EO data	The needs related to sea-surface temperatures are generally met. Deep-water temperatures, however, require more observations for better analysis results.
Challenge classification	
Pre license	1
Exp.	1
Dev.	2
Prod.	2
Decom.	1
Geographic context/ restrictions	Applies to all six Areas of interest. Seasonality: Applies to all seasons.

Topographic classification / Offshore classification	Ocean
Activity impacted /concerned	
Technology Urgency	Short term (2-5 years)
Information requirements	
Update frequency	Daily
Temporal resolution	At least daily. Available: Daily and less frequently.
Spatial resolution	Surface-based: Observations are available based on the location of the ship /buoy observation, therefore the spatial resolution varies greatly. Remotely-sensed: Dependant on the IR resolution of the scanning platform, which varies. NOAA OI SST product has 0.25 grid cell resolution. OSTIA product has about 6 km grid cell resolution but is effective accuracy is coarser especially close the coast line.
Data quality	The selected sources in this document are selected because they are known to have sufficient quality (after some work arounds and adaptations). In general separate indepth verification studies has to be made for each source planned to be used for analysis, and the analysis has to be repeated for each geographical area (since sources might be of sufficient quality in one area but not another).
Data Coverage and extent	Regional
Example format	Surface-bases observation: text, CSV and/or netCDF Remotely-sensed satellite observation: CSV and/or netCDF
Timeliness	Daily
Existing standards	NA

Relevant products

Content by label

There is no content with the specified labels