

C-CORE 1.10 Tropical Storm/Tropical Cyclone Observations

Tropical Storm/Tropical Cyclone Observations

Challenge

Challenge ID	C-CORE_OFF1.10
Title	Tropical Storm/Tropical Cyclone Observations
Challenge originator:	
General Description	
What data/products do you use?	Near real-time warnings, that include the latest tropical cyclone positions, intensities, sizes and other quantitative measures, are readily available every six hours from multiple global agencies, including RSMC Tokyo (for South China Sea), RSMC Miami (for West of Ireland), and RSMC New Delhi (for Myanmar). Tropical cyclone satellite-derived positions and intensities are available more frequently.
When do you use this kind of dataset?	Real-time observations of tropical cyclones are used to assess the risk of impact of tropical storms in the area of interest. The data are used to assess the position, likely path and impact on the operations. Warnings are issued when thresholds are passed and procedures for safeguarding lives, equipment, assessed area put in place. Equally important is the possibility to conduct operations if the path is likely to stay away from the area of interest.
What are your actual limitations and do you have a work around?	The averaging periods of the reported maximum wind speeds in tropical cyclones varies among global agencies and must be reconciled across all record sets prior to analyses.
Needs and expectations on EO data	EO is used for this today in combination with modeled data. Need to know the exact position, strength and accurate extent of the storms and wind speeds is important to assess impact of these storms and assess the near future risks. Ground observations in the hardest hit areas are likely to be destroyed or miss the highest peaks, better knowledge of speeds and extents area important. Long time series of 10m wind speeds and directions, wave spectra data (e.g., heights, directions, and periods of wind waves and swell waves) and ocean current profiles in the offshore environment.
Challenge classification	
Pre license	2
Exp.	4
Dev.	3
Prod.	4
Decom.	3
Geographic context/ restrictions	Applies to South China Sea, West of Ireland, and Myanmar. Seasonality: South China Sea -- Applies to all seasons. West of Ireland -- Applies primarily to September. Myanmar. Bimodal. Applies primarily to April/May and October/November.

Topographic classification / Offshore classification	Ocean
Activity impacted /concerned	
Technology Urgency	Short term (2-5 years)
Information requirements	
Update frequency	Generally six times daily, and often more frequently. Position and intensity data may be available hourly in some cases.
Temporal resolution	Hourly. Available: Advisories/warnings: generally 6-hourly, but sometimes more or less frequently Center fixes/posits/intensity estimates: sometimes hourly
Spatial resolution	10-4 km Available: generally 0.1° for tropical cyclone center locations
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 or along track.
Example format	text
Timeliness	Hourly or more frequent. Forecasts are normally issued 2 to 4 times per day, warnings when thresholds are passed, continuous monitoring of conditions is required.
Existing standards	DNV-RP-C205, ISO-19001-1, and DNV-OS-J001 contain cautionary notes regarding the treatment of winds and waves in areas that experience tropical cyclones, such as South China Sea, West of Ireland, and Myanmar.

Relevant products

Content by label

There is no content with the specified labels