

# C-CORE 1.14 Ice Accretion

## Ice Accretion

### Challenge

<b>Challenge ID</b>	C-CORE_OFF1.14
<b>Title</b>	<b>Ice Accretion</b>
<b>Challenge originator:</b>	
<b>General Description</b>	
<b>What data/products do you use?</b>	<p>The identification of historical ice accretion events is essentially limited to reports from surface based observations, as reported from ships and buoys. The historical records of events involving weather conditions that potentially resulted in ice accretion are available via ICOADS.</p> <p>Real-time and near real-time observations of weather conditions that could potentially result in ice accretion are available from many sources including NOAA (NWSTG), NOAA (MADIS), NOAA (NDBC), UCAR, and numerous other data distribution centers.</p>
<b>When do you use this kind of dataset?</b>	Ice accretion might affect and slow down operations on deck, as well as alter the load of structures (if heavy icing occurs). Data are used to (a) qualify and quantify the means and extremes of weather conditions that potentially resulted in ice accretion, and (b) manage risks related to weather conditions that could potentially result in ice accretion, safeguarding lives, protecting assets, and conducting operations.
<b>What are your actual limitations and do you have a work around?</b>	<p>Although surface-based observations report weather events that could result in ice accretion, the observations do not always quantify ice accretion events.</p> <p>The temporal and spatial resolutions of surface-based observations significantly limit the identification of ice accretion events. Unless ships or buoys measure and report ice accretion, the parameter is not readily available for analysis over vast areas of the ocean.</p>
<b>Needs and expectations on EO data</b>	Specific need: More surface-based observations that quantify and verify ice accretion.
<b>Challenge classification</b>	
<b>Pre license</b>	2
<b>Exp.</b>	3
<b>Dev.</b>	3
<b>Prod.</b>	4
<b>Decom.</b>	2
<b>Geographic context/ restrictions</b>	<p>Eastern Mediterranean, Falkland Islands and West of Ireland.</p> <p>Seasonality: Eastern Mediterranean, West of Ireland - applies to Northern Hemisphere's winter Falkland Islands - applies to Southern Hemisphere's winter</p>
<b>Topographic classification / Offshore classification</b>	Ocean

<b>Activity impacted /concerned</b>	
<b>Technology Urgency</b>	Short term (2-5 years)
<b>Information requirements</b>	
<b>Update frequency</b>	Real-time or near real-time observations are available sub-hourly and less frequently. Historical observations are generally updated once per month, for the previous month.
<b>Temporal resolution</b>	Sufficient. Sub-hourly and less frequently.
<b>Spatial resolution</b>	Observations are available based on the location of the ship observation, therefore the spatial resolution varies greatly.
<b>Data quality</b>	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).
<b>Data Coverage and extent</b>	Local
<b>Example format</b>	Surface-bases observation: text, CSV and/or netCDF
<b>Timeliness</b>	Daily or twice daily.
<b>Existing standards</b>	NA

## Relevant products

### Content by label

There is no content with the specified labels