6. Weather information

6.1 General

The prevailing winds tend to be easterly to south-easterly. Although calmer conditions occur during the winter months, they may become very difficult during the summer months when the sea breeze augments the prevailing south easterlies. As a general rule high windage vessels will not be moved when the wind speed exceeds 25 knots.

Weather charts, satellite images, warnings and reports may be obtained from the Bureau of Meteorology.

6.1.1 Extreme weather event contingency plan

Below is a link to the Extreme Weather Event Contingency Plan for Karumba:

https://publications.qld.gov.au/dataset/maritime-safety-extreme-weather-contingency-plans/resource/df4ff327-9c91-45ec-8ccd-39d002236bd1

6.2 Tidal information

Karumba is a standard port in the Queensland Tide Tables.

An examination of tides in Karumba since the dredging of the channel in October 1996 has indicated that the predicted tides may no longer reflect the recorded tides. In particular, the tidal range is larger and the time of the tides has changed. An allowance needs to be made for the non-tidal component (wind) of the tidal heights at Karumba. This is a natural and unpredictable feature of the tides on the southern part of the Gulf of Carpentaria.

6.2.1 Tide boards/gauges

The tide board refers to lowest astronomical tide and gives the actual tide height above lowest astronomical tide. The tidal times and heights for standard Queensland ports are available in the Queensland Tide Tables and also are available on the Bureau of Meteorology website. Actual tide heights are promulgated on the Department of Environment and Resource Management website.

Corrected published heights with adequate allowance for the non-tidal components should be used for UKC purposes.

Data recording stations that monitor tide height, wind direction and speed, barometric pressure, temperature and humidity have been established on beacon 4 and at the Raptis Wharf. The information from these weather stations is fed directly to the VTS centre in Cairns.

During the wet season and associated flooding of the Norman River, tidal heights may be unpredictable and very strong currents within the river may be experienced due to the outflow of freshwater.

6.2.2 Tidal flow Karumba Entrance Channel:

Tidal flow across the Karumba Channel can be quite strong during spring tides. Tidal flow occurs between beacons number 1 and 2 and beacons number 9 and 10 and is generally as follows:

- on the flood tide the set is generally to the south-south-west (SSW) across the channel
- on the ebb tide the set is generally in a northerly direction.

6.2.3 During periods of prolonged south-easterly winds:

The times of high and low water may be different to prediction and not achieve the corrected predicted height. Tides have been recorded up to 1.2 metres under prediction.

6.2.4 During periods of prolonged north-westerly winds:

The times of high and low water may be different to prediction and can be higher than the corrected prediction. Tides have been recorded up to 0.7 metres above prediction.

6.2.5 Tidal Information – tsunami effects

The north-west and east coasts of Australia are bordered by active tectonic plates which are capable of generating a tsunami that could reach the coastline within two to four hours. The resultant change in swell height could have an adverse effect on a vessel with a minimum under keel clearance navigating within or close to port areas.

The Joint Australian Tsunami Warning Centre (JATWC) has been established to monitor earthquake activity that may lead to a tsunami forming.

Mariners are advised to take heed of such warnings, plan their bar crossings and tend their mooring or anchorages accordingly.

6.3 Water density

Sea water is usually 1025 kg/m³ but will vary during the summer months after periods of heavy rain.