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.

Weather charts, satellite images, warnings and reports may be polled by fax from 1800 630 100 and from the Bureau of Meteorology.

Coastwatch is a website with useful nautical information links

6.1.1 Extreme weather event contingency plan

Extreme Weather Event Contingency Plan (see MSQ Website)

6.2 Tidal information

Weipa is a standard port in the Queensland Tide Tables.

Weipa has a diurnal tide range, which is a tide which has a period or cycle of approximately one tidal day (about 25 hours). Diurnal tides usually have one high and one low tide each day. When the wind has been constantly blowing from the Southeast it is not uncommon for the tides to be 25 to 30 centimetres (cm) below prediction.

Tidal rise in the Embley River is, to a large degree, affected by the prevailing winds. The Winter tidal range is a maximum of 2 m, being nearly 0.6 m higher in Summer. During the monsoonal period from January to April the mean sea level is from 0.3 to 0.6 m higher, and in the river, the Spring rise during strong Westerly winds and heavy rain has been recorded as attaining a height of 3.96 to 4.27 m. From approximately mid-April to mid-December, when the prevailing South-Easterly winds tend to blow the water out of the Embley River, the tides are frequently 0.1 to 0.3 m below prediction; this is directly related to the strength of the wind.

Ships masters must take this factor into account when determining the load draft of the ship as ships with insufficient UKC will not be approved to sail.

There are no discharge facilities in Weipa for an overloaded ship to reduce its draft.

When tides are over prediction, export ships must determine load drafts based on predicted tides only.

6.2.1 Tidal streams

South-Easterly winds tend to decrease in strength from October to December. The flood tidal stream in Albatross Bay flows to the North-East, and the ebb to the South-West, attaining a maximum velocity in the middle of the bay of 1.5 knots. This velocity increases in the channels during the monsoonal period and off Urquhart Point may attain a rate of four knots at spring tide ebb.

Maximum velocities registered at Evans Landing and Lorim Point is 4.5 knots on the ebb to the West and two knots on the flood to the East. The direction of the tidal stream follows the direction of the channels except that, in the outer portion of the South Channel and between beacons 11/12 and 13/14, the flood tide flows North-Easterly diagonally across the channel.

Large vessels can experience a Southerly set on the bow and a Northerly set on the stern when clearing Gonbung Point.

6.2.2 Tide boards/gauges

Tide recorders are situated at Humbug Point which can be accessed by the harbour pilots via Weipa VTS and are used to supply data for the DUKC program.

The recorders refer to lowest astronomical tide and show the actual tide height above lowest astronomical tide. Maritime Safety Queensland provides tidal predictions for pilotage areas. The tidal times and heights for standard Queensland ports are available in the Queensland Tide Tables and may be accessed at the Bureau of Meteorology website.

Table 11 Tidal information

Tidal Information (in metres) – Humbug Point			
HAT	3·38	LAT	0·00
MHHW	2·9	MLLW	0·70
MLHW	2·2	MHLW	1·4
For tidal stream data refer to Australian pilot and hydrographic chart			

6.2.3 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 kilograms per cubic metre but will vary during the summer months after periods of heavy rain.