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-easterly winds.

A Tropical Cyclone Watch (Blue Alert) message is issued by the Bureau of Meteorology (BOM), when a cyclone or potential cyclone is expected to affect conditions in the area within the next 48 hours and is reviewed every six hours.

A Tropical Cyclone Warning (Yellow Alert) message is issued when a cyclone or potential cyclone is expected to affect conditions in the area within the next 24 hours and is reviewed every three hours or sooner depending on circumstances.

Cyclone warnings and reports may be obtained from the Australian Bureau of Meteorology (BOM) website.

Cyclone tracking chartlet – Eastern Australia

The Extreme Weather Contingency Plan for the Port of Gladstone contains the procedures to be followed for all vessels during extreme weather events, which includes cyclones.

6.1.1 Weather Restrictions for Pilotage

No shipping movements to be scheduled when there is a **Gale Wind Warning for the Capricornia Coastal Waters Forecast Region**: St Lawrence to Burnett Heads.

http://www.bom.gov.au/qld/forecasts/capricornia-coast.shtml

VTS will contact the Manager Gladstone Marine Pilot Services (MGMPS) as soon as possible and during business hours upon receiving notification of a **Strong Wind Warning for the Capricornia Coastal Waters Forecast Region**: St Lawrence to Burnett Heads. Any ships scheduled for the duration of the strong wind warning shall be considered for rescheduling to a suitable time based on advice from the MGMPS.

A pilot can cancel the proposed movement from Gladstone, without having to travel to Port Alma, if the wind speed reading from the GPC weather station shows a steady wind speed of 25kts or greater and from a direction of 045° (NE) to 180° (S).

If the wind speed reading from the GPC weather station shows a steady wind of between 20kts and 25kts and from a direction of 045° to 180°, the pilot will need to travel to Port Alma and judge the situation on a case-by-case basis.

Any other wind speed and direction will require the pilot to travel to Port Alma and assess the situation on a case-by-case basis.

6.2 Tidal information

The mean spring tidal range is four metres and the mean neap range is 1·9 metres. It should be noted that the tides set fairly strongly in and out of the Narrows past Sea Hill Point.

Tidal streams, both flood and ebb, set parallel to Port Alma Wharf.

Highest astronomical tide 5.98 metres	Mean high water spring tide 4.81 metres
Mean high water neap tide 3.76 metres	Mean sea level 2.90 metres
Australian height datum 2.85 metres	Mean low water neap tide 1.86 metres
Mean low water spring tide 0.81 metres	Lowest astronomical tide 0.00 metres

6.2.1 Tide boards/gauges

Port Alma is a standard port in the Queensland Tide Tables. Tide gauges are situated at the northern end of number 1 berth and the southern end of number two berth; storm surge can also be monitored.

The gauges 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.

Tidal stream predictions for standard Queensland ports are available upon request through the Regional Harbour Master's office.

6.2.2 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. Warnings are currently issued for the Pacific Ocean region by the Pacific Tsunami Warning Centre (PTWC) in Hawaii and for the Indian Ocean region by the Japan Meteorological Agency (JMA).

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

6.3 Water density

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