

## 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

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 when mean wind speeds are in excess of 40 knots measured either at Maritime Safety Queensland's weather station at Gatcombe Head or from the GPC weather station at Port Alma or any other reliable source, such as [Bureau of Meteorology](#), vessel movements in the port of Port Alma will be suspended.

No shipping movements will be scheduled when there is a Strong Wind Warning for the Capricornia Coastal Waters Forecast Region: St Lawrence to Burnett Heads for wind directions from North (N) to South (S) as issued by BoM at: <http://www.bom.gov.au/qld/forecasts/capricornia-coast.shtml>

A pilot can cancel the proposed movement if the wind speed reading from the GPC weather station shows a steady wind speed of 20kts or greater and from a direction of 045° (NE) to 180° (S).

If a Strong Wind Warning is in force for the Capricornia Coastal Waters Forecast Region and the weather station ceases to operate, shipping will be suspended until either the weather station is back in operation or the strong wind warning is cancelled.

### 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/m<sup>3</sup> but will vary during the summer months after periods of heavy rain.