



Data Source:
Cadastral, Road Centrelines and Topographic Information
Northern Territory Department of Infrastructure, Planning and Logistics.

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Storm surge reports and maps are available on www.nt.gov.au/emergency/cyclones/flood

GENERAL FEATURES

Building	Marine hazard
Road, track	Watercourse non-perennial
Tank, water/non-water	Watercourse perennial
Bore	Drain
Communication Tower	Coastline
Deformation areas	Clearing/mangrove/vegetation
Embankment	Coastal flat/swamp

The technical information forming the basis of this storm tide (commonly known as storm surge) inundation mapping is contained in the following report prepared by SEA Pty Ltd.

"Remote Communities Storm Tide study and Inundation mapping" July 2016.

Using the storm surge levels and estimates of the Highest Astronomical Tide (HAT) from the above study, the inundation and HAT digital extents for the projected mean sea level in 2100 were developed by GHD in 2016 using latest topographic information available. The Primary and Secondary Storm Tide Zones as well as 1 in 2000 year and Extreme Storm Tide extent lines on this map were developed by NT Government. These Storm Tide Zones and Lines are considered to be indicative only.

Storm Tide (tidal influence + storm surge + wave setup) levels for Pirlangimpi were estimated from the above study for the four distinct Average Recurrence Intervals (ARI). The estimated 100 year, 1000 year, 2000 year and 10000 year ARI Storm Tide levels are 2.74 metres AHD (Primary Tide), 3.52 metres AHD (Secondary Tide), 3.75 metres AHD and 4.44 metres AHD (Extreme Tide) respectively. These are open coast estimates based on an off-shore site at Latitude -11.40, longitude 130.41.

The map shows the total storm tide hazard risk due to tropical cyclones in terms of the inundation water level comprising the combined effects of the highest astronomical tide plus storm surge plus wave setup for four statistical ARI's. The "Primary Storm Tide Zone" refers to the extent of inundation for a storm event of 100 year ARI (with approximately a 40% chance of exceedance within any 50 year period). The "Secondary Storm Tide Zone" refers to the further extent of inundation for a storm event of 2000 year ARI (with approximately a 2.6% chance of exceedance within any 50 year period). The storm surge line for a storm event of 10,000 year ARI (with approximately a 0.5% chance of exceedance within any 50 year period) is shown in a light blue line. The "Extreme Storm Tide Line" refers to the further extent of inundation for a storm event of 10,000 year ARI (with approximately a 0.5% chance of exceedance within any 50 year period) as shown in a red line. The extents do not include the possible effects of very localised wave runup.

Average Recurrence Interval (ARI) is also called Return Period of the Risk and is defined as the "average" number of years between successive events of the same or greater magnitude. The ARI of a storm event gives no indication of when a storm tide of that magnitude may occur. Highest Astronomical Tide is the highest ocean level expected for any combination of astronomical conditions alone and has an equivalent ARI approximately 18.6 years.

Estimated HAT (Highest Astronomical Tide) + Storm Surge + Wave Setup for four statistical ARI's.

Estimated HAT (Highest Astronomical Tide)	Primary Storm Surge Zone (100 Year ARI)	Secondary Storm Surge Zone (2000 Year ARI)	2000 Year Storm Surge Extent (10,000 Year ARI)	Extreme Storm Surge Extent (10,000 Year ARI)
2.74 metres AHD	3.52 metres AHD	3.75 metres AHD	4.44 metres AHD	4.44 metres AHD

NORTHERN TERRITORY GOVERNMENT
GHD
SEA

NORTHERN TERRITORY STORM SURGE MAPPING
PIRLANGIMPI - MELVILLE ISLAND
STORM SURGE INUNDATION for 2100