

**NORTHERN TERRITORY STORM SURGE MAPPING**  
**PALMERSTON AREA**  
**STORM SURGE**  
**INUNDATION for 2100**

Estimated HAT Primary Storm Secondary Storm Extreme Storm  
 Surge Extent (Highest Surge Zone) Surge Extent (Highest Surge Zone) Surge Extent (10,000 Year ARI) Surge Extent (10,000 Year ARI)  
 Astronomical Tide) (100 Year ARI) (1,000 Year ARI)



The technical information forming the basis of this storm surge inundation mapping is contained in the following reports prepared for the NT Government by Systems Engineering Australia Pty Ltd (SEA):

1. Darwin Storm Tide Mapping Study - 2006
2. High Resolution Storm Tide and Climate Change Impacts Study - 2010

Using the storm surge levels and estimates of Highest Astronomical Tide (HAT) from the above studies, the inundation and HAT extents for the projected mean sea level in 2100 were developed by GHD Pty Ltd in 2014 based on the latest topographic information (2009 and 2011). This map is produced by the NT Government for the Palmerston area based on the storm surge inundation and HAT extents.

The map shows the total storm surge (technical terminology is storm tide) hazard risk due to tropical cyclones in terms of the ocean water level comprising the combined effects of astronomical tide plus storm surge plus wave setup for two statistical Average Recurrence Intervals (ARI). It also shows the estimated HAT extent. The 'Primary Storm Surge Zone' shown on the map refers to the extent of inundation for a storm tide event of 100 year ARI (with approximately a 40% chance of exceedance within any 50 year period). The 'Secondary Storm Surge Zone' shown on the map refers to the further extent of inundation for a storm tide event of 1000 year ARI (with approximately a 5% chance of exceedance within any 50 year period). 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 tide event gives no indication of when a storm tide of that magnitude may occur.

Highest Astronomical Tide (HAT) is the highest ocean level expected due to any combination of astronomical conditions alone and has an equivalent ARI of approximately 18.6 years. The HAT extent is used in this map as the reference for storm surge inundation. It is based on estimates of HAT levels derived from numerical hydrodynamic modelling that has not been verified by long term in situ measurements.

For detailed interpretation of this map and further information contact:  
 Water Resources NT, Department of Land Resource Management  
 4th Floor Goyder Centre, 25 Chung Wah Terrace,  
 Palmerston, Northern Territory.  
 T: (08) 8999 4455 Email: waterresources@nt.gov.au  
 PO Box 496, Palmerston, NT, 0831

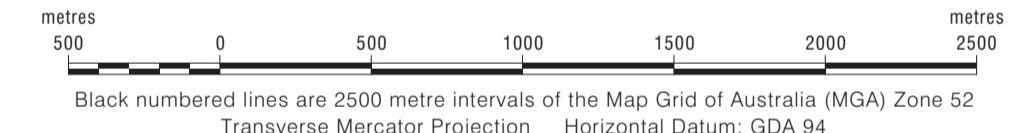
Storm surge reports and maps are available on [www.nt.gov.au/floods](http://www.nt.gov.au/floods)  
 This map produced **November 2014**, supersedes all previous versions.

**GENERAL FEATURES**

Local Government Area	LITCHFIELD
Property / Road Boundaries	STUART PARK
Suburbs / Localities	
Major Road	
Minor Road	
Park / Reserve	
Railway	
Gas pipeline	
Watercourse, Lake or Lagoon	
Mangroves	

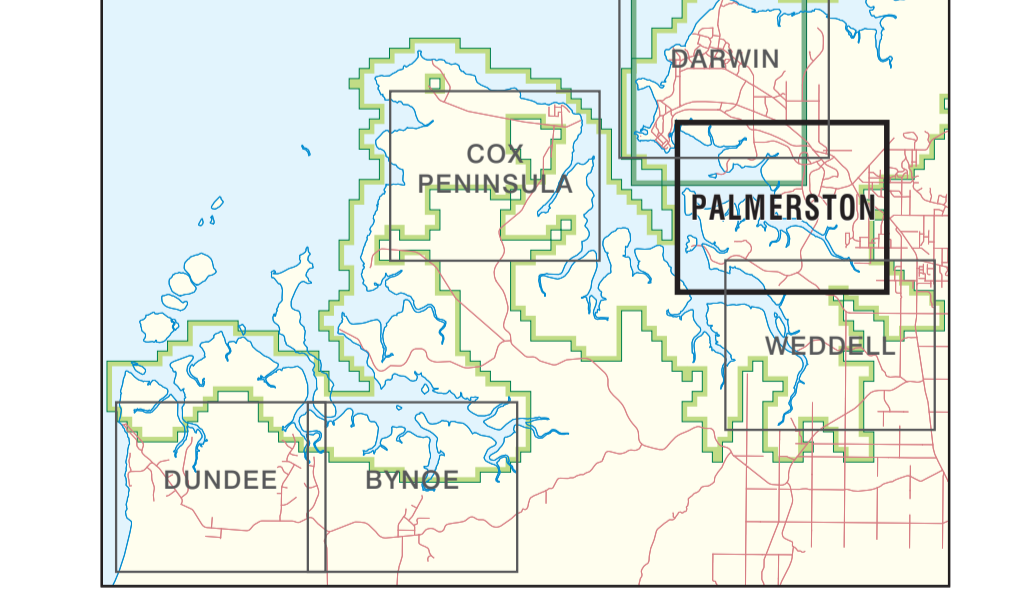
**Data Source:**  
 Cadastre, road centrelines and administrative information  
 Northern Territory Department of Lands, Planning and the Environment.

**Map prepared by:**  
 Spatial Data and Mapping, Water Resources NT,  
 Department of Land Resource Management,  
 Goyder Centre, Chung Wah Terrace, Palmerston,  
 Northern Territory of Australia.

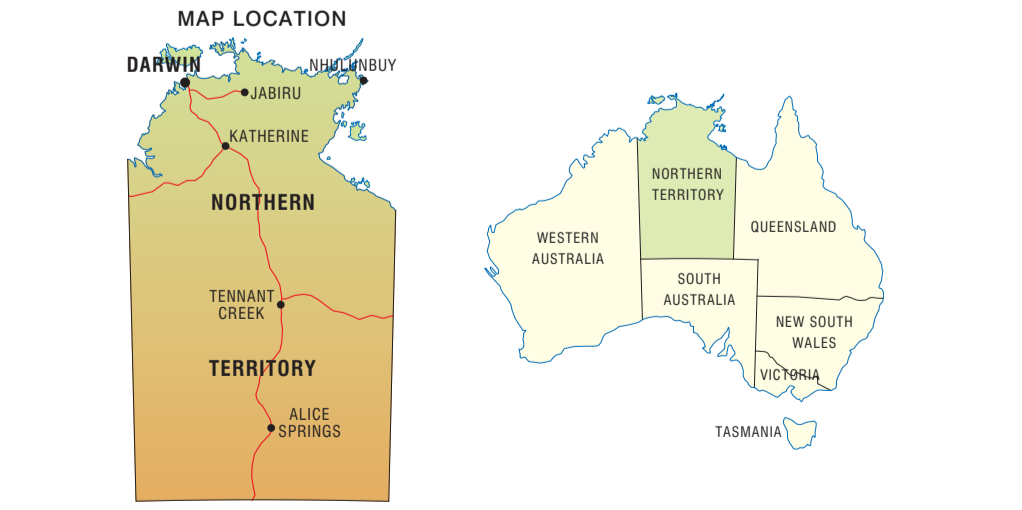


Black numbered lines are 2500 metre intervals of the Map Grid of Australia (MGA) Zone 52  
 Transverse Mercator Projection Horizontal Datum: GDA 94

This map was produced on the Geocentric Datum of Australia 1994 (GDA 94)



Extent of topographic information 2009 2011



© Northern Territory of Australia  
 The product and all material forming part of it is copyright belonging to the Northern Territory of Australia. You may use this material for your personal, non-commercial use or use it within your organisation for non-commercial purposes, provided that an appropriate acknowledgement is made and the material is not altered in any way. Subject to the fair dealing provisions of the Copyright Act 1968, you must not make any other use of this product (including copying or reproducing it or part of it in any way) unless you have the written permission of the Northern Territory of Australia to do so.

The Northern Territory of Australia does not warrant that the product or any part of it is correct or complete and will not be liable for any loss damage or injury suffered by any person as a result of its inaccuracy or incompleteness.