

KNOWN TROPICAL CYCLONE IMPACTS IN THE GULF OF CARPENTARIA

The date of the cyclone refers to the day of landfall or the day of the major impact.

The first number after the date is the SOI for that month followed by the three month running mean of the SOI centred on that month.

Cyclone	Impact
19 Jan 1885 -16.3(-9.1)	A Gale at Normanton; hospital unroofed@ from the 1914 Bureau publication <i>Results of Rainfall Observations made in Qld.</i>
Tropical Cyclone (TC) 5 Mar 1887 +10.0 (+10.1)	From all reports the storm surge from the disastrous 1887 cyclone flooded almost all of Burketown. Only the highest part of town near where the Council Office is currently located, escaped the waters from the Gulf. A copy of a 1918 report to the Queensland Parliament from the Department of Harbours and Rivers Engineer refers to the sea rising to 5.5 metres above the highest spring tide level at the Albert River Heads. This level is about 8 metres above Australian Height Datum (AHD). 7 people out of a population of 138 died in the cyclone. Storm winds commenced at 11 am from the SE and backed to the E and the NE increasing in violence until 10 pm when virtually the whole of Burketown was devastated. The storm surge arrived at 7pm.
28 Dec 1892 +3.7(+4.8)	AA terrific cyclone at Normanton did considerable damage to the town@ from the 1914 Bureau publication <i>Results of Rainfall Observations made in Qld.</i>
TC 4 Mar 1906 -5.2 (-7.1)	TC crossed the coast near Cairns and wrecked the town of Croydon. At 7am 4 th cyclonic winds began at 10 am there was a lull and then the winds resumed from the opposite quarter. Two churches were wrecked and another was blown off its stumps. The Post office lost part of its roof and the Court House was damaged. Three hotels were severely damaged and only portions of another two were left standing. Two houses were wrecked and all buildings more or less suffered with scores of people homeless. Severe damage also in surrounding towns. At Normanton the wind started Saturday night 3 rd and continued overnight though damage was slight with only portions of roofs dislodged. There were gales at Mackay on the 3 rd and the 5 th with the river in flood. A bridge was washed away at Cattle Creek.
<i>Normanton cyclone</i> 4 Feb 1909 -3.2(+2.0)	The track shows cyclone coming from the Gulf and passing over Normanton on the 4th. It then moved down through western Queensland. AFierce cyclonic storm passed about 4 miles south of Normanton at 4.30 pm on the 5th. The path was 400 metres in width; many trees blown down; six-

	roomed house blown off blocks and wrecked; kitchen of powder magazine blown away. @ from the 1914 Bureau publication <i>Results of Rainfall Observations made in Qld.</i> May have been a cyclone spawned tornado.
TC 12-13 Mar 1909 (not in data base) -0.3(-6.0)	Cyclonic weather at Borroloola and at mouth of McArthur River(From <i>Big Blow up North</i> K Murphy).
TC 3-5 Jan 1911 +3.2(+6.9)	TC crossed the coast near Mornington Island.
TC 21-22 Jan 1913 -3.5 (-5.5)	TC crossed the coast south of Weipa. Severe gales Torres St.
TC 1-3 Feb 1913 -5.0 (-2.4)	TC from Cairns area crossed the SE Gulf. Very heavy rain Carpentaria with train derailed between Selwyn and Duchess by washaway.
TC 1-2 Jan 1014	TC crossed the coast near Gove. Damage occurred at Thursday Island in late December and severe damage occurred at Roper River on 2 Jan with trees blown down and buildings unroofed at the Mission.
TC 6-11 Mar 1919 -12.8(-9.0)	TC tracked from Darwin towards SW Gulf. Hurricane force winds reported near Pellew Group.
TC 2-5 Feb 1920 -1.7(-1.3)	TC crossed the coast north of Cairns and moved into the SE Gulf Country. Major flooding with record flood at Normanton (water 20 feet over the railway line). Leichhardt River 16 feet over the rails.
TC 18-20 Dec 1920 +9.8 (+6.8)	TC tracked from Torres Strait to north of Gove.
TC 8-9 Jan 1921 +10.8 (+9.1)	TC crossed the coast near Groote Eylandt. Vanderlin Island reported 17 hours of hurricane force winds which demolished gardens, fences buildings and boats.
TC 2-4 Apr 1921 -7.1 (-1.3)	TC crossed the coast near Burketown. Major flooding in SE Gulf rivers.
<i>The Douglas</i>	This cyclone tracked directly from Coen towards Groote Eylandt at 5 to 6 knots. Large waves hit Karumba and a storm surge inundated the flats for

<p><i>Mawson Cyclone</i> Mar 1923 +8.9(+7.3)</p>	<p>miles on 30th and 31st. At Burketown at storm surge of 9 feet was reported and at Pt McArthur a storm surge of between 18 feet and 8 feet was reported. A more accurate storm surge height was obtained from the Mission house on Groote Island. At 9am 30th they recorded 6.4 inches (163 mm) of rain over the previous 24 hr. At 4pm the wind turned S=ly and increased to force 8 and reached hurricane force SW=ly at 6pm with torrential rain. At this time flooding combined with storm surge caused the water to reach the top of the river bank (12 feet above both the mean tide level and the predicted tide level). By 9 pm the roof and the front wall blew off and the rain gauge overflowed (more than 10 inches of rain). At 10 pm the east wall was blown out and the water reached up stairs (20 feet above mean tide level and 18.5 feet above predicted tide). At midnight the water level peaked at 23 feet above the mean and 21.5 feet above that predicted. The wind then turned W=ly with stronger gusts. At 4 am the building collapsed as the water receded. At 6am the wind was down to gale force and the water level was 15 feet above mean. The ground became visible at 10 am. Few trees were left standing. At Roper River roofs were blown off and trees felled. The abnormal sea conditions in the Gulf led to the loss of a well-found Gulf steamer, the Douglas Mawson, with the loss of 20 lives. The eastern islands of Torres Strait (usually cyclone free) were badly damaged. Darnley, Coconut, Mabuiag and Murray Islands suffered much damage - houses unroofed, trees down, gardens damaged, luggers dismasted and Darnley settlement was virtually destroyed and banks of living coral 4 to 5 feet high were dashed up by the waves .</p>
<p>TC 27-28 Feb 1929 +16.0 (+15.3)</p>	<p>TC crossed the Gulf from Gilbert River to Roper River. Gales and torrential rain at Groote Eylandt and Roper River. Ketch washed ashore at Groote.</p>
<p>TC 5-8 Jan 1930 +12.7 (+8.7)</p>	<p>TC crossed southern Gulf from Karumba to Pellew Group. Two luggers wrecked at Thursday Island. AStrong@ winds and heavy rain at Roper River and Astrong@ winds at Groote Eylandt (from <i>Big blow up North K. Murphy</i>).</p>
<p>TC 30-31 Jan 1931 +7.0 (-3.1)</p>	<p>TC made landfall near Edward River. Heavy Flooding Carpentaria. Rail line washouts on Mt Isa Line and rail traffic delays between Croydon and Georgetown.</p>
<p>TC 18 Jan 1932 +1.8 (+1.0)</p>	<p>TC made landfall near Edward River.</p>
<p>TC 18-19 Jan 1935</p>	<p>Made landfall west of Mornington Island with very heavy rain at Burketown (306 mm in 24hr). Major floods Burketown to Camooweal.</p>

+6.5(-0.2)	Transport seriously affected and heavy stock losses.
TC 20 Feb 1936 +0.6 (+0.1)	TC passed directly over Mornington Island. Rev R.H. Wilson of the Mornington Island Mission reported that one barometer (an aneroid in the Mission=s lugger) dropped to 953.3 hPa . The other barometer (a household aneroid) registered 949.7 hPa . The household barometer usually sat on 1010 to 1012 hPa so it was not reading low. At 7am on the 20th the house bar dropped to 989 hPa. The bar then dropped rapidly and then interest was lost in monitoring the bar due to the ferocious wind. The barometer was not observed again until after a 1 2 hr lull when the 949.7 hPa reading was made. The renewed wind was worse than before. Most of the buildings were demolished and there was a storm surge estimated at 5 foot or so.
4 Feb 1938 (no TC in data base) +3.4(+2.4)	Cyclonic winds and torrential rain at Borroloola and Vanderlin Islands. 300 mm in 24 hr at Borroloola.
Rain Depression (not in data base) 4-8 Jan 1940 -0.1 (-4.3)	Gales and torrential rain Roper Valley. Roper Mission destroyed. Roper Police Station severely damaged, many homesteads marooned.
TC 23-24 Mar 1940 -10.6(-8.1)	TC crossed the Gulf from Edward River to Port Roper. Gales and heavy rain at Groote Eylandt with a measured gust of 57 knots.
TC 16-17 Dec 1943 -8.6(-4.3)	TC passed just south of Coen (where it caused heavy wind damage) and entered the SE Gulf, later making landfall near the NT border. The weather was described as cyclonic at Vanderlin Island on the 17th.
TC 10-12 Feb 1946 +4.4(0)	TC traversed westward across the southern Gulf making landfall near the Pellew Group.
TC 6 Jan 1948 -3.0(-0.2)	TC moved eastwards towards Thursday Island causing structural damage there. Possible devastating storm surge Saibai Island.
TC 12-13 Jan 1948 -3.0(-0.2)	TC made landfall in the SE corner of the Gulf bringing heavy local rain.
TC 23 Feb 1948	TC moved from the Groote Eylandt area and made landfall to the west of Mornington Island. Aborigines described a storm surge covering all but

-2.7(-3.3)	the highest parts of Bentinck Island. The water deeply covered places where they were accustomed to live and where they obtained their water. This caused wells and springs to go salty and eventually the inhabitants were forced to abandon the Island. It was later estimated that on Mornington Island the rise in sea water was 12 feet above the highest normal tide mark. On Mornington Island the surge caused large eucalypts to die and had caused a change in vegetation to salt loving species in some areas. It was assessed that the water on Bentinck Island also rose 12 feet above high water. After landfall, the town of Borroloola was badly damaged. The hotel was wrecked and a number of other buildings were destroyed.
TC 6 Mar 1948 Not in data base -4.1(-1.3)	TC flattened the Johnston homestead on Vanderlin Island. The storm raged for 4 hours with flying debris. Trees were uprooted or stripped of foliage and the sea rose 3.7 metres above normal and caused Vanderlin Island to be separated into three islets. (See P47 <i>Big Blow up North</i> by Kevin Murphy).
TC 15 Jan 1950 +5.1(+10.1)	TC made landfall near Mornington Island.
TC 10-11 Dec 1950 +23.0 (+17.3)	TC passed overland to the west of Groote Eylandt where hurricane force N=ly winds generated a storm surge which washed away the rain gauge at the north end of the Island. The gauge on the southern end overflowed but it was estimated that 250mm fell in 12 hr.
TC 19-21 Jan 1951 +16.5 (+16.5)	TC made landfall near Karumba. Major flooding Gulf Country.
TC 20 Jan 1952 -9.2(-6.7)	TC made landfall near Weipa and then turned and passed over Normanton. Thursday Island had wind gusts to 70 knots on 19th and 20th. Buildings were unroofed at Mt Isa and winds gusts at Alexandria Downs were estimated at nearly 80 knots. On the 19th, gales and high tides were reported from Groote Eylandt.
1-2 Dec 1952 -12.6 (-3.7)	Small TC (50miles wide) struck Thursday Island from the west just before midnight (1 st) damaging most buildings with roofing iron flying through the town. Power lines were blown down and four hotels were partly unroofed and two had verandas blown away. The pearling lugger <i>Naianga</i> was smashed and sunk and three other luggers were blown ashore. Several other vessels were damaged by the pounding they received.
TC 14 Jan 1953	TC crossed the coast near Mornington Island bringing floods to the Gulf Country. There was considerable structural damage on Mornington

+2.2 (-5.5)	Island with wind gusts estimated at 70 knots.
26-29 Mar 1953 -5.8(-4.1)	TC tracked southwards over Groote Eylandt which recorded 20 inches in 24 hours to 9am 28 th .
TC 15-17 Apr 1953 -0.5(-12.7)	TC tracked from Torres St to the North Coast of NT where it caused damage to gardens, crops and woodlands at Goulburn Island.
10-12 Jan 1955 -5.4(+7.5)	Tropical cyclone near Stationary Gulf Coast just to the north of Weipa. Heavy rain and gales. Thursday Island recorded a gust of 56 knots on the 11 th and a gust of 48 knots on 12 th .
TC 16-17 Jan 1956 +11.3 (+11.0)	TC crossed the coast in the SE corner of the Gulf and Burketown reported ESE winds averaging 45 knots. On the 17th flood rains from 100 mm to 275mm fell along the eastern Gulf Country resulting in widespread flooding.
TC 25 Mar 1956 +9.4(+11.0)	TC made landfall near Gove. Groote Eylandt reported gusts to 60 knots. Calvert Hills recorded 275mm of rain and Burketown 165mm. Major flooding with serious stock losses occurred from the Gulf Country to SW Queensland.
TC 16 Apr 1958 +1.2 (-2.8)	TC crossed the coast near Port Roper. As the centre passed over Groote Eylandt gusts to 66 knots were recorded before and after the passage of the centre. Rose River Mission reported gusts to 70 knots. The rain gauge was blown away at Groote Eylandt.
TC 16-19 Jan 1959 -8.7(-9/7)	TC entered the Gulf near Mornington Island, then looped up past Groote Eylandt before crossing the SE Gulf Coast near the Gilbert River. Winds damaged an orchard at Dunbar Station.
TC 25-26 Dec 1959 +8.2 (+6.5)	TC crossed the Gulf from Gove to Edward River Mission. At 9am 26th Thursday Island recorded wind gusts to 69 knots and 63 knots at 3pm. At Thursday Island fences were flattened, trees uprooted and 3 luggers crashed into a jetty. A number of pearl culture oyster beds were destroyed along the NE Gulf coast when large waves sank oyster pontoons. The <i>MV Windarra</i> in the Gulf reported injuries to the crew from large waves. Considerable flooding occurred in the Gulf Country when the cyclone crossed the Peninsula and water entered some homesteads.
TC 2-3 Mar 1961 -20.9 (-1.7)	TC crossed the coast near Weipa and there was slight wind damage to homesteads in the area and trees were uprooted.
<i>Audrey</i> 7- 11 Jan 1964	<i>Audrey</i> moved from Thursday Island (TI) and made landfall near Mornington Island. Wind gusts reached 53 knots at TI on the 7th, 57 knots on the 8th, 60 knots on the 9th and 55 knots on the 11th. Wind gusts

-4.0 (-5.3)	reached 61 knots at Mornington Island. A storm surge of 5 ft (1.5m) was sustained at Karumba between 3 am and 1 pm on the 11 th. Very heavy rain was recorded at Bamaga (492 mm in 4 days).
<i>Dora</i> 2-9 Feb 1964 -0.3 (+1.4)	<p><i>Dora</i> made landfall on the eastern Gulf coast and devastated the Edward and Mitchell River missions on the 3rd. Trees over a wide area of western Cape York Peninsula were blown down or completely defoliated in winds of around 100 mph (87 knots). The eye passed directly over Rutland Plains which experienced a 3 hour calm and gave the eye diameter as 12 nm. The winds at Edward River Mission reached hurricane force E=lies at noon on the 3rd. These winds backed to the NW and maintained hurricane force before decreasing after midnight. At Mitchell River E=ly winds reached hurricane force at 3.30 pm on the 3rd thereafter veering to the SE and increasing in force. A near calm period was observed there between 8.30 pm and 10.30 pm after which the wind veered SW, then W, slackening in speed at 3.30 am on the 4th. Rutland Plains experienced destructive E=ly winds from 3pm to 10.30 pm on the 3rd with the strongest winds between 8pm and 10 pm. A complete calm then occurred until 1.30 am on the 4th after which W=ly winds of slightly less speed persisted until 6.30 am. Damage was reported as far north as Aurukun Mission, extending to Miranda Downs and Karumba in the south.- a strip almost 480 km in length. Maximum damage was a 130 km strip from near Edward River to the Nassua River. The Edward River Mission reported little damage 8km east of the mission- the strip was therefore very narrow in the north and widened to about 48 km in the south . In this maximum damage zone one quarter of the trees were blown down and those left standing were defoliated with major limb damage. At Wallaby Island at the mouth of the Mitchell River extensive and dense belts of Mangrove 10 metres high were completely destroyed and flattened like grass. The two mission stations and Rutland Plains all suffered severe damage. For the two mission stations the damage was estimated at 300,000 pounds(1964). <i>Dora</i> was accompanied by torrential rainfall over a long period. Example of large 24 hour totals were Yirrkala 248mm on the 1st, Edward River 197mm 4th, Croydon 368mm 5th, Mary Kathleen 228mm 7th, Disraeli 320mm 8th and Iffley 247 mm 9th. The Norman, Flinders, Leichhardt and Gregory experienced record floods with river levels in many instances breaking records. The total discharge was estimated at nearly double the average annual discharge of the Murray/Darling systems. The Norman River was 8 inches higher than the 1951 record at Normanton. A large storm surge came ashore with the cyclone - the Superintendent reported Athe sea came right over the beach ridge, a rise of approximately 18 feet. The beach was left strewn with many dead marine creatures like porpoises and sea snakes.</p>
<i>Flora</i> 5-6 Dec 1964	<i>Flora</i> crossed the southern Gulf passing to the north of Mornington Island and making landfall near Inkerman Station at 9pm. The station (7 km inland

-3.0 (-1.4)) felt the full effects and the native=s quarters, the butcher shop and a 2 room house were demolished. The northeast side of the homestead was lifted, 2-way radio aerials disappeared and rain penetrated all buildings. Large trees were snapped off or blown down . A surge of sea water accompanied the winds and AThe sea came up the creek with a terrific rush. The bridge weighing approximately 2 tons was lifted and carried upstream about 800 metres and dumped approximately 90 metres up a ridge. @ Further north and 95km inland, Dunbar Station was subjected to damaging winds between 6.30 pm and 7.25pm. Mango trees were blown over in a strip 200 metres wide, houses were flattened, while roofing iron was deposited 800 metres away and twisted beyond use. Vanrook Station (80 km inland) estimated hurricane ESE winds followed by a lull between 2.30 am and 3.30 am and then storm force SW winds. Buildings were unroofed and structures badly damaged and trees uprooted. At Miranda wireless aerials were blown down, roofing iron lifted, trees stripped of branches and many birds were found dead. There was heavy flooding and around Burketown about 100 stations were isolated.
Unnamed 14 Jan 1965 -4.0(-1.8)	Cyclone made landfall just south of Thursday Island who reported gale force winds. No damage reported.
<i>Judy</i> 28-29 Jan 1965 -4.0 (-1.8)	<i>Judy</i> crossed the SE Gulf coast between Vanrook Station and Miranda Downs early on the 29th. Extensive damage to trees and foliage occurred in the SE Gulf country. It passed very close to Delta Downs (NE of Karumba and 30 km inland from the Gulf) and an observer from the station gave the following report:- AMany trees were damaged. What were not blown over were severely damaged although the damage was not as noticeable, as the trees had very little on them after <i>Flora</i>. Quite a number were blown over @
<i>Cynthia</i> 15-18 Mar 1967 +7.8 (+5.9)	<i>Cynthia</i> passed over and looped around Groote Eylandt. The main area of damage due to sea and swell was about Groote Eylandt. Two steel barges and two coastal launches owned by the Groote Eylandt Mining Company were washed ashore, filled with sand and water and badly damaged. Three small boats at Angurugu were also beached and damaged. Very heavy rain fell over Groote Eylandt with the largest 24 hour total of 1675 points (425 mm) at Angurugu to 9am on the 15th. Flooding on Groote Eylandt resulted in the loss of a new steel and concrete bridge over the Angurugu River, leaving only 60 feet of a total length of 170 feet. Timber bridges over the rest of the Island were severely damaged.
<i>Dixie</i> 27- 28 Jan 1968 +4.1 (+2.7)	<i>Dixie</i> made landfall near Burketown where most of the buildings were damaged. The material replacement costs were estimated at \$(1968) 4000. Telephone and telegraph lines were cut and took a week to restore communications. Station properties in the vicinity had trees uprooted,

	outbuildings blown down and one windmill was twisted. The 50 foot trawler <i>Maroochy Star</i> valued at \$(1968)30,000 was driven ashore on Sth Bountiful Island on the 27th by high winds and heavy seas and was a write off. The crew were rescued 2 days later.
<i>Dawn</i> 11 Feb 1970 -10.7(-6.3)	<i>Dawn</i> crossed the coast near Weipa. Thursday Island reported a gust of 52 knots. There was minor vegetation damage and telephone lines were down. Weipa recorded 443 mm of rain over 6 days.
<i>Cindy</i> 17- 18 Mar 1970 +1.8 (- 13.5)	<i>Cindy</i> crossed the Gulf and made landfall near Port Roper. The wharf was damaged on Groote Eylandt. 24 hr rainfall totals reached 240 mm in the Burketown area. Unofficial 3 day totals reached 910mm. There was flooding about the Southern Gulf country and several evacuations were carried out.
<i>Aggie</i> 2-3 Feb 1971 +15.7 (+12.5)	<i>Aggie</i> was a short lived cyclone which made landfall near Vanderlin Island. In this sparsely populated area no damage was reported. The strongest recorded wind gust was 61 knots at Vanderlin Island and the strongest mean wind was 44 knots at Borroloola.
<i>Fiona</i> 19 Feb 1971 +15.7 (+12.5)	<i>Fiona</i> was a continuation of <i>Gertie</i> which crossed the east coast and Peninsula and entered the SE Gulf. It looped back and crossed the coast at the Nassua River mouth while rapidly intensifying. From the extensive defoliation and damage to the few buildings there, it was most likely accompanied by hurricane force winds . From satellite imagery before landfall the cyclone had a very clear well shaped eye with a small bright convective ring surrounding it and a bright overcast cloud canopy surrounding this three latitude degrees in diameter. An outstation of Inkerman Station is located at the Nassua River mouth and a brief calm was noted at 0930 UTC preceded by ESE winds and followed by WNW winds. Damaging winds lasted about 2 hours and flattened timber and demolished buildings. About 50 % of the trees were left standing and these were damaged, some stripped of bark. The wharf was destroyed and 4 four 55,000 litre fuel tanks lifted and scattered up to a mile away. Forty four gallon drums were scattered widely like confetti. The caretaker of the outstation observed AA tidal wave was seen to come up from the mouth of the Nassua River and split at Cattle Creek. The wave came over the flats and washed away 3m high walls. It was 4.6 m high and travelled inland for approximately 2 km. At Edward River Mission the sea washed out a road on one of the sand ridges 2.7 m above sea level. At Aurukun a tidal surge of 0.9 m was observed in the river about 5 miles from the Gulf.
<i>Bronwyn</i> 6 Jan 1972 +3.7 (+4.7)	<i>Bronwyn</i> crossed the coast near Mapoon and no wind damage was reported. This cyclone was a rain producer and 80 % of Queensland received more than 50 mm of rain during its life. Flooding was widespread.

<i>Faith</i> 13 Apr 1972 -5.5 (-6.4)	<i>Faith</i> crossed the coast just south of Weipa. Gales were reported from Aurukun and these caused some tree damage. Aurukun registered 256 mm of rain in 24 hrs.
<i>Adeline</i> 29 Jan 1973 -3.0 (-9.5)	<i>Adeline</i> rapidly intensified to central pressure 970 hPa as it crossed the coast near Vanderlin Island.
<i>Leah</i> 1 Mar 1973 +0.8 (-4.9)	<i>Leah</i> (lowest central pressure 994 hPa) crossed the coast near Groote Eylandt. Launch wrecked at Numbulwar.
<i>Madge</i> 5-6 Mar 1973 +0.8 (-4.9)	<i>Madge</i> crossed the Gulf from Edward River Mission to Groote Eylandt (lowest central pressure 985 hPa). Severe damage occurred at Angurugu and elsewhere on Groote Eylandt and also at Numbulwar. Buildings badly damaged, trees uprooted, a jetty washed away and a barge sunk.
<i>Bella</i> 25 Mar 1973 +0.8 (-4.9)	<i>Bella</i> (lowest central pressure 998 hPa) crossed the coast near the Sir Edward Pellew Group.
<i>Yvonne</i> 11-14 Feb 1974 +16.2 (+19.1)	<i>Yvonne</i> entered the Gulf near Karumba and made landfall near Centre Island and became slow moving near Borrooloola. The highest 24 hour rainfall was 160mm at Burketown while the cyclone was near stationary near Borrooloola. There were reports of damaging winds in the Borrooloola area.
<i>Jenny</i> 17 Mar 1974 +20.3 (+15.9)	<i>Jenny</i> crossed the coast at Gove with central pressure 995 hPa.
<i>Kim</i> 10 Dec 1975 +19.5 (+15.0)	<i>Kim</i> crossed the coast near Edward River Mission. There were reports of slight wind damage at Nhulunbuy.
<i>Ted</i> 19 Dec 1976 -3.0 (+0.9)	<i>Ted</i> crossed the coast near Mornington Island and passed directly over Burketown where a central pressure of 950 hPa was recorded . Damage in its path was almost total. Mornington Island=s 700 inhabitants were rendered homeless with 95% of its buildings damaged and Burketown was similarly affected . A large storm surge accompanied the cyclone and it extended 20 km inland near Burketown where logs were piled 2-3 m high and a small wharf was destroyed. Tides at Karumba were 2 metres above normal and badly damaged the wharf and prawn processing installations. Magowra Station (SW of Normanton) reported that the sea came 30 km inland . Extensive flooding and wind damage occurred in

	stations inland from Burketown. The hurricane force winds extended a long way inland, for example Cowan Downs near the Burke and Wills Roadhouse had out buildings unroofed, windows blown out of the main building, telephone posts bent to ground level and trees 4 feet in diameter snapped. Livestock losses caused by drowning and low temperatures were estimated to be 250,000.
<i>Otto</i> 7 Mar 1977 -9.5 (-3.8)	<i>Otto</i> crossed the coast between Aurukun and Weipa. The only damage reported was tree damage at Weipa. Messmate trees (shallow rooted) with girths to 6 ft were blown down
<i>Gwen</i> 27 Feb 1978 -24.4(- 11.1)	<i>Gwen</i> passed directly over Edward River Mission where wind gusts to 70 knots were reported. A house lost section of roofing iron and waves brought the sea over the first sand dunes. At Kowanyama strongest winds were from the ESE. Many trees there were blown over (girths to 2 metres). Quite a few blown over at ground level.
<i>Hal</i> 7 Apr 1978 -7.9 (+0.9)	<i>Hal</i> crossed the coast about 80 km S of Aurukun. No damage was reported.
<i>Peter</i> 32 Dec 1978 -0.9(-2.3)	<i>Peter</i> crossed the coast near Edward River Mission. There was little significant wind damage.
<i>Greta</i> 10 Jan 1979 -4.0 (+0.6)	<i>Greta</i> crossed the coast 20 km south of Weipa. Weipa recorded a maximum wind gust of 42 knots and a 30 min calm in the eye where a central pressure of 986 hPa was recorded. Little damage was experienced.
<i>Rosa</i> 26 Feb 1979 +6.7 (-0.1)	<i>Rosa</i> crossed the coast 30 km NNW of Bing Bong homestead (NT) at maximum intensity (central pressure estimated at 955 hPa). A NOAA research aircraft flew a single mission over the cyclone and at the point of closest approach at 0440 UTC 26th, the maximum wind encountered was 91 knots at 540m elevation and 37 km NE from the centre of the eye (eye diameter was 37km) . Coastal and riverside stations in the SW Gulf reported large tides. The water level at Bing Bong rose 2 metres above the spring high tide mark. A tide gauge on Groote Eylandt was washed away. There was thousand of dollars of structural damage to stations in the SW Gulf together with the felling of extensive tracts of forests . A light aircraft stranded on North Island was destroyed.
<i>Stan</i> 14 Apr 1979 -5.5 (-1.6)	<i>Stan</i> crossed the coast 40 km N of Weipa and no damage or significant flooding occurred. At no time was an eye discernable on satellite imagery. A 0.5 storm surge was reported at Weipa. 24 hour rainfall totals were 233mm Iron Range, 127 mm Moreton and 84 mm Weipa.
<i>Doris</i> 17 Mar 1980	<i>Doris</i> crossed the coast between Gove and Groote Eylandt. Extensive though minor damage occurred on the Gove Peninsula and Groote Eylandt.

-8.5(-6.8)	The mining companies incurred direct damage costs of \$(1981)150,000 while total community costs were \$500,000.
<i>Eddie</i> 10-11 Feb 1981 -3.2 (-5.7)	<i>Eddie</i> crossed the southern Gulf coast near the Qld/NT border. Wentworth Station reported a 1.5 metre storm surge and after it crossed the coast Elliot in the NT reported a gust to 77 knots.
Unnamed 20 Dec 1981 +4.7 (+5.6)	This cyclone made landfall at Gove at 11.30 pm (1400 UTC) with 10 minute average winds of 62 knots recorded with gusts to 88 knots at 1am (1530 UTC). Extensive tree damage occurred in the Gove area with some damage to ships berthed at the Nabalco Wharf.
<i>Dominic</i> 7 Apr 1982 -3.8 (-3.2)	<i>Dominic</i> crossed the coast near Cape Keerweer. Just prior to landfall satellite imagery showed a clear eye around 40 km in diameter surrounded by cloud tops colder than -70°C (7.0 on the Dvorak T scale). There was damage to buildings and power lines at Edward River Mission. At Aurukun damage was assessed at \$(1982)200,000. Tides were 1 m above normal at Weipa and 1.5 m above normal at Karumba. A detailed report of the damage in the remote Cape Keerweer area was provided by the log of The Round Australia Kayak expedition. Tree damage commenced at Wallaby Island (mouth of Archer R.) And extended south of Edward River Mission. The most extensive damage was from Love River To Holyrod River. There, all seashore Casuarinas were killed presumably due to salt water in root system. North of Cape Keerweer tree damage suggested onshore winds. One mile north of Cape Keerweer was an area devoid of all vegetation (no grass or trees) - the area appeared like a ploughed field for one mile inland.
<i>Jim</i> -10 Mar 1984 -5.8 (+0.7)	<i>Jim</i> crossed the coast near Port Roper . There was evidence of a storm surge south of the Roper River Mouth. A 15m fishing boat was beached an estimated 3 to 6 metres above the tide level and an observer at Alyangula reported an estimated storm surge of 1.5 metres. There was wind damage to trees at Roper River Mission.
<i>Kathy</i> 23 Mar 1984 -5.8 (+0.7)	<i>Kathy</i> crossed the coast near Borroloola and Centre Island on the morning of the 23rd. The cyclone was very small with a radius of maximum wind speed of 15 km and the eye radius 10 km . Gales extended out to 65km. The anemometer at Centre Island was blown away however before this it recorded a 10 minute average wind speed of 100 knots with gusts to 125 knots . The eye passed over Centre Island and a pressure of 940 hPa was recorded there. A nearby trawler recorded a verified 938 hPa . 20 prawn trawlers were sheltered in the Pellew Islands and one sunk, 3 ran aground and most of the others were scattered over a large area with some damage. One crewman from the sunken trawler drowned . The cyclone made landfall during a spring high tide and a 3 metre storm surge was estimated from debris lines on the eastern side of Vanderlin Island. Sea turtles were stranded up to 7km inland near the McArthur River mouth. The cyclone

	caused devastation to woodland vegetation in the Pellew Group and inland for 250 km. Several holiday camps in the islands were destroyed or badly damaged. At Borroloola, 45km inland, several buildings were wrecked and many others damaged.
<i>Rebecca</i> 22 Feb 1985 +6.7(+0.4)	<i>Rebecca</i> crossed the coast just to the north of Weipa. Tree damage at Weipa with trees with girths to 60 cm blown down.
<i>Sandy</i> 24 Mar 1985 -2.0 (+7.7)	<i>Sandy</i> passed to the north of the Sir Edward Pellew Group and Centre Island recorded a minimum pressure of 973 hPa, 10 min average winds to 92 knots (47 m/s) and gusts to 130 knots (67 m/s). Two trawlers, the <i>Hayman</i> and <i>Sea Fever</i>, were beached after experiencing gusts over 118 knots and swells (measured by their depth sounders) to 12 metres. A Bureau survey team measured a storm surge of 3 to 3.5 metre at Centre Island and a pilot whale was swept 1km inland. Flooding was extensive along the southern Gulf coast with 860 mm recorded at Centre island in 4 days. <i>Sandy</i> then made landfall near Roper bar. Trawlers sheltering in the Roper River suffered damage and reported a calm eye lasting 1 hour.
<i>Irma</i> 20 Jan 1987 -6.3 (-10.8)	<i>Irma</i> crossed the coast near Roper Bar where a pressure of 989.9 hPa was recorded. The maximum recorded wind was 60 knots (31m/s) from a ship west of Groote Eylandt just prior to landfall. There was only slight wind damage though a number of people were evacuated from Birrimba Station as floodwaters threatened the homestead.
<i>Jason</i> 9-13 Feb 1987 -12.6(- 11.9)	<i>Jason</i> crossed the NT coast near Groote Eylandt. It destroyed most of the buildings in the NT community of Baniyalla (100 km SW of Nhulunbuy). The 60 residents sheltered in the school as all houses were destroyed. Some houses lost roofs at Gapuwiyak (20 km W of Baniyalla). Gove radar showed an eye of around 20 km diameter on the 8th and 9th. It then moved back into the Gulf and crossed the Qld coast about 40 km ENE of Burketown. An anemometer at Burketown recorded a 10 min average wind of 64 knots with gusts to 84 knots (from the SSE). The cyclone was moving S at 17 km/hr (9 knots) so that winds on the eastern side of the cyclone were stronger. Lowest pressure at Burketown was 983 hPa at 3pm 13th (at the time of the strongest winds). The bar dropped to 981 hPa (10 min max wind 50 knots) at Mornington Island. There was structural damage at Burketown and Mornington Island and tree damage throughout the SE Gulf Country. A 2.04 metre storm surge was measured at Karumba at 0500 UTC 13th. The maximum storm tide was 4.7 metres (lowest astronomical tide datum) at 0700 UTC which was 0.11 metres above highest astronomical tide.
<i>Felicity</i> 15 Dec 1989 -5.0 (-2.7)	<i>Felicity</i> was very rapidly developing as it made landfall near the Gilbert River mouth in the SE Gulf. Infrared satellite imagery showed a clear eye had formed right at landfall surrounded by cold cloud tops (T5.5 on the

	Dvorak satellite cloud top temperature intensity scale). A Barramundi fisherman has his house 12 feet above the high tide level and the sea came up to within 4 feet of the house which is an 8 ft(2.5m) surge . The house remained in offshore winds so that the surge would have been greater to the north. The strongest winds were from the SE and 80% of the trees were blown down and all trees were stripped of leaves . The wind was of sufficient strength to blow over a heavy stove which took 4 men to lift .
<i>Greg</i> 5 Mar 1990 -8.5(-8.7)	<i>Greg</i> crossed the coast near Normanton. Sweers Island recorded a gust of 50 knots. Normanton recorded 80 mm of rain in 24 h.
<i>Mark</i> 10 Jan 1992 -25.4(- 17.1)	<i>Mark</i> crossed the coast near Weipa, Weipa suffered widespread minor damage with falling trees largely responsible for house damage and power line damage. Wave action caused \$3.5 (1994 million) damage to the Kaolin loading facility at the Port . The maximum wind gust at Weipa Met Office was 63 knots from the NW. A maximum gust of 75 knots was recorded from an anemometer located at Lorim Point.
<i>Nina</i> 25 Dec 1992 -5.5 (-7.3)	<i>Nina</i> crossed the coast near Cape Keerweer. Aurukun reported 4 houses structurally damaged, widespread tree damage and the VHF aerial lost from the Council roof. Archer River reported severe flooding with 4 people isolated at the Roadhouse. Severe tree damage , heavy rain and one house was unroofed at Porwmpuraaw.
<i>Sadie</i> 30 Jan 1994 -1.6 (+0.2)	<i>Sadie</i> crossed the SE Gulf coast near Inkerman Station and no injuries or damage was reported. It produced very heavy drought breaking rain to NE inland Qld.
<i>Warren</i> 6 Mar 1995 +3.5 (-5.1)	<i>Warren</i> crossed the coast near Mornington Island early on 6 March 1995. The barometer at Mornington Island Mission (Gununa) dropped to 966 hPa when the centre of the cyclone was 20 km away. The radius of the eye was around 20 km and at 2am the wind went calm at Gununa. In the band of maximum winds the hand anemometer there went off the scale at 125 km/hr . Seawater at this time (low tide) was dead level with the top of the jetty (2.5 m above normal) . 2 houses were badly damaged and another 32 had some damage. Many trees were uprooted and power lines were downed. A Cessna at the airport was blown over. Tides were 1.5 m above normal at Sweers Island. A 1.5 m surge was measured at Karumba. Karumba wave recording station recorded Hsig to 1.8m and Hmax to 3.5m. Westmoreland Station suffered minor roofing iron damage. Hells Gate suffered extensive flooding (\$1.6million damage to roads).
<i>Barry</i> 5 Jan 1996 +8.4 (+1.3)	Cyclone <i>Barry</i> made landfall around 1100 UTC 5 January 1996 between the mouths of the Staaten and Gilbert Rivers, a stretch of coastline that is sparsely inhabited. The eye of the cyclone was clearly visible on by combining data from weather watch radars located on Mornington Island

	and at Weipa. The eye passed directly over a professional fisherman's camp, said to be about 4 metres above high water mark, and it was wrecked by wind and storm surge. A field survey by helicopter indicated the occurrence of a storm surge which travelled up to 7 km inland , after topping the frontal dunes, in an area near and south of the Staatan River mouth. It was assessed as being a storm surge of at least 4 metres .
<i>Jacob</i> (unnamed while in the Gulf) 28 Jan 1996 +8.4 (+1.3)	The low rapidly developed while approaching the southwest coast of the Gulf of Carpentaria and produced wind gusts of 26ms ⁻¹ at Centre Island for a four hour period including a peak wind gust of 34 ms ⁻¹ . The lowest pressure recorded at Centre Island was 988.3 hPa and the central pressure at the time was estimated at 986 hPa. It made landfall near Bing Bong, an ore-loading port 50 km west northwest of Centre Island.
<i>Ethel</i> 9 Mar 1996 +6.2 (+4.7)	<i>Ethel</i> made landfall 13 km north of Duyfken Point and 33 km west northwest of Weipa. The time of landfall was at 1700 UTC 9 March 1996. The eye passed over the Ely Mining Camp and a central pressure of 980 hPa was recorded in the eye. Bark was stripped from trees and trees up to one metre in diameter were uprooted. Strips of up to 2 km wide were completely defoliated. The beach area about the point of landfall was completely changed exposing objects never seen before by the miners and was obviously affected by large waves and storm surge. The strongest wind gust of 28 ms ⁻¹ at Weipa Meteorological Office was recorded at 1030 UTC 9 March 1996 when an outer rainband passed through the station. This was at the time the peak storm surge of 1.18 metres was recorded at Weipa. The water level exceeded the highest astronomical tide at Weipa by .26 metres. Around this time a waverider buoy located 8 km west southwest of Weipa recorded a significant wave height of 3.76m and a peak wave height 6.69 m. The peak height reading is the largest wave observed at the Weipa wave recording station in 16 years of operation. At the time <i>Ethel</i> made landfall the winds at Weipa were offshore and a peak negative storm surge of 0.8 metres was recorded.
<i>Phil</i> 26 Dec 1996 +7.2 (+3.8)	<i>Phil</i> made landfall near Groote Eylandt causing moderate tree damage though no structural damage was reported. A ship reported a mean wind of 35 knots. There was no report of significant storm surge. Alyangula reported 116 mm of rain in 24 h.
<i>Sid</i> 27-28 Dec 1997 - 9.1 (-15.6)	<i>Sid</i> passed over the town of Nhulunbuy as it moved into the Gulf. Damage caused by gale force winds was limited to falling trees. Two craft dragged their moorings and one was washed against rocks at the Nhulunbuy Yacht club. A maximum wind gust of 46 knots (85 km/hr) and minimum MSL pressure of 989.5 hPa were recorded at Nhulunbuy Airport. As <i>Sid</i> passed Groote Eylandt, trees were uprooted there and powerlines damaged. It made landfall just to the west of Mornington Island on the 28th as a weak

	<p>system. Wollogorang registered 341 mm of rain in the 24 hr to 9 am 29th.</p>
<p><i>Les</i> 25 Jan 1998 -23.5 (-17.3)</p>	<p><i>Les</i> crossed the southern part of Groote Eylandt early on the 25th. The MV <i>Sea Sparkle</i> anchored west of Groote Eylandt about 27 km west of Angurugu recorded a pressure of 979 hPa at 1930 UTC 24 January and a maximum gust of 92 knots (47.4 m/s) at 2030 UTC 24 January. A 10 minute mean wind of 43 knots was recorded on an AWS at Alyangula. A 55 knot gust was recorded at Centre Island at 0400 UTC 24 Jan. Gale force winds were recorded at the North East Island AWS for 6 hours from 1230 UTC 25 January. It was estimated that the radius of gales was 110 km, the radius of storm force winds 35 km and the radius of calm winds 7 km. <i>Les</i> passed directly over Numbulwar on the mainland coast where roofs were blown off houses and trees blown down. There were power outages there and at the communities on Groote Eylandt. There was a metre rise in the sea at the Groote Eylandt Port. After making landfall heavy rain brought major flooding to Katherine and Daly Rivers. Thousands of residents from the towns of Katherine, Mataranka, Daly Waters and Beswick were evacuated. Three people drowned, damage (excluding Government facilities and many insured properties) was 70 million dollars.</p>
<p><i>May</i> 26 Feb 1998</p>	<p><i>May</i> crossed the coast in the vicinity of Bayley Pt (south of Mornington Island). It had a central pressure of 990 hPa and a clear radar eye was visible. 44 buildings were damaged by the wind on Mornington Island and the costs of repairs was \$(1998) 375,745. The remnants of <i>May</i> remained about the Southern Gulf country until early March which resulted in extensive flooding. The highest rainfall was recorded at Burketown with 1065 mm recorded over the 7 day period commencing 26 February 1998. Severe flooding to major flood level occurred in the lower reaches of the Nicholson, Albert, Gregory, Leichhardt and lower Flinders Rivers.</p>
<p><i>Steve</i> 28 Feb- 1 March 2000</p>	<p>After making landfall near Cairns on 27 February 2000 tropical cyclone <i>Steve</i> crossed the base of Cape York Peninsula and <i>Steve</i> reformed in the southeastern Gulf of Carpentaria a day after crossing the Queensland east coast and almost as soon as it moved over water in the southeastern Gulf. <i>Steve</i> moved northwest along the southern Gulf of Carpentaria coast, crossing the coast north of Port McArthur on 1 March as a category 1. <i>Steve</i> passed over the uninhabited Sir Edward Pellew Group of islands prior to coastal crossing with gale force winds recorded by the Centre Island Automatic Weather Station. Crossing the islands weakened <i>Steve</i> and only a brief period of strong winds and a 45 minute calm were observed at Bing Bong Port on the mainland coast north of Port McArthur. No damage was reported from Bing Bong port near where the cyclone crossed the coast, and Borroloola township, about 60 km inland from Bing Bong reported some uprooting of small trees.</p>

	<p>Minimum mean sea level pressure recorded: 987 hPa 2252Z 29/2/00 Centre Island AWS. Maximum sustained (10 min average) wind speed recorded wind speed: 38 knots 2224 UTC 29/02/2000 at Centre Is AWS with gusts to 50 knots at 2145 UTC.</p>
<p><i>Winsome</i> 10/11 February 2001</p>	<p>The cyclone due to its large size generated large seas and storm surge across wide areas of the Gulf. A barge taking supplies from Karumba to Pormpurraw capsized at the Gilbert River Mouth at 4am (EST) 11 February 2001. The crew of 2 were rescued by a fishing boat. A fisherman was missing near Eagle Bay in the Northern Territory while trying to search for a missing punt.</p> <p>There were large areas of storm surge of between 1 to 2.5 metres at various locations about the southwest Gulf of Carpentaria. Coastal erosion and damage to shoreline facilities were reported from Groote Eylandt, Bickerton Island and along the mainland coast. At Nhulunbuy, the sea level rose 0.5 metres above highest astronomical tide (HAT), covering the Perkins Wharf and inundating areas not previously known to have been covered by the sea. At Alyangula the storm surge reached 1.3 m above highest astronomical tide (HAT). A small boat drifted from its moorings and was lifted ashore on to the Golf course. A car was washed off Shoreline Road and a lot of sand was deposited on the golf course.</p> <p>At Bickerton Island, the storm surge caused some beach and dune erosion, undermining Casuarina trees. At Numbulwar the majority of the estimated \$1 million damage bill was caused by the storm surge which was estimated at 2.5m (1 metre above HAT) with about another metre of wave action above that level. Workshops, roads, plant and equipment were damaged and inundated with seawater. Shipping containers and beached boats were shifted inland and the road to the barge landing was damaged. A 2 metre surge was also reported at Bing Bong Port (Port McArthur), raising the water level over the wharf at high tide.</p> <p>Observations The strongest 10 minute average winds of 130/41 knots were recorded at Centre Island AWS at 1207 UTC 10 February 2001. Gales were reported from Centre Island from 1100 UTC 10 February 2001 to 2023 UTC 10 February 2001. The maximum 10 minute average wind speed recorded at buoy 52625 (-14.6S 138.8E) was 050/30 knots (MSLP 994.4 hPa) at 1909 UTC 10 February 2001.</p>
<p><i>Wylva</i> 16 February 2001</p>	<p>Wylva was crossed the southern Gulf of Carpentaria coastline on the 16 February 2001 just west of the Northern Territory-Queensland border as a weak Category 1 cyclone. The cyclone decayed into a tropical LOW which moved steadily across the Northern Territory for the next few days, finally decaying over the Pilbara region of Western Australia on the 22nd. Like</p>

	<p>Winsome before it and Abigail afterwards, Wylva maintained its cloud structure quite well over the Australian continent.</p> <p>The strongest winds at Centre Island AWS were 0100 UTC 16th 260/30 knots QNH 998.6, 0200 UTC 16th 270/29 knots QNH 998. Lowest QNH 994.6 hPa 0700 UTC 16th.</p> <p>The strongest winds at the buoy 52625 moored near 14.6S 138.5 E were at 1851 UTC 15th and were 280/28 knots (10 min) with the lowest bar there 995.3 hPa from 1736 UTC to 1809 UTC on 15 February 2001.</p> <p>The lowest bar at Mornington Is was 997.1 at 1800 UTC 15th</p> <p>Quikscat satellite data showed 40 knot westerlies north of Centre Island near 15S at 2100 UTC 15th.</p> <p>Heavy rain from ex- <i>Wylva</i> produced a record flood in the upper Victoria River which inundated the Kalkarindji, Daguragu, Mistake Creek and Pigeon Hole communities. Around 700 people were evacuated to a tent city in Katherine for several weeks. Damage estimated at \$13 million was caused to infrastructure, including access roads and bridges, many houses and the power station, police station and health clinic at Kalkarindji. Many areas were isolated by the floods requiring food drops.</p>
<p><i>Abigail</i> 26 February 2001.</p>	<p>On 24 February 2001 Abigail crossed the coast near Cairns as a weak tropical cyclone. It then crossed the base of Cape York Peninsula and was upgraded once more to Tropical Cyclone Abigail at 1800 UTC on 25 February with the centre located about 60 nm northeast of Mornington Island. The eye passed over Mornington Island Township around 7.00 pm (EST) Monday 26 February 2001.</p> <p>Central Pressure</p> <p>A barograph (located about 2km west of the AWS) read the pressure in the eye at 968.5 hPa around 7.00 pm. The Mornington Island AWS (badly exposed for wind) read the lowest bar (MSL) at 0820 UTC 26 February 2001 of 973.7 hPa The strongest wind gust recorded by the AWS was 64 knots at 1020 UTC 26 February 2001. Estimated wind gusts exceeded 80 knots.</p> <p>At Mornington Island. The storm surge reached 0.5 m above Highest Astronomical Tide (HAT) and predicted high tide was 0.8m below HAT. Further east at Karumba there was a 1.2m storm surge.</p> <p>Description of Damage Sustained -Total Estimated cost -\$245,000 Estimated building damage -\$221,500 includes additional cost for transport to remote communities .Government Residences -15. Government Facilities -12 . Numerous trees were downed; . Severe roof damage to modular building -roof severely damaged and side walls blown out;. Solar panels and hot water storage unit lifted from roof of a residence which also damaged the roof and gutters; Various levels of damage to roofs -sheets blown off, sheets buckled, gutters blown off, roof flashings blown off or damaged, Repairs to ceilings due to water entry; Water tank blown off tank stand; Damaged electrical services due to water entry through roofs, Damaged</p>

	<p>floor coverings due to water entry; Numerous TV aerials blown away; . Numerous aluminium louvred sun shades ripped from nearly all buildings; . A number of garage doors were blown in; Damage caused by flying debris - punctured fibro cement sheets, ceveats, fascias; A number of cloths hoists were damaged.</p>
<p><i>Bernie</i> +2.7(+0.4)</p>	<p><i>Bernie</i> tracked southward throughout its lifetime and crossed the coast near the NT border at 11 pm on 4 January 2002 by which time it had weakened to a category 1 cyclone. The remaining low then straddled the coast for a following 12 hours before dissipating. The buoy 52627 in the Gulf of Carpentaria near 15.0S 139.0E recorded maximum 10 minute mean winds 260/43 knots at 1451UTC 3 January 2002 and the lowest mean sea level pressure of 985.1 hPa at 1813UTC 3 January 2002 when the wind was 280/35knots. At 6:37 pm on 3 January 2002, Quikscat data indicated SE to SW winds 40 to 55 knots on the western side of the storm 70 to 140 kilometres from the centre. Maximum Storm Surge Height (m) 0.4m at 6:33pm on 3 January 2002 at Weipa and 0.3m at 11:47pm on 5 January 2002 at Karumba. Maximum 24 Hour Rainfall (mm) 335mm at Mornington Island to 9am on 4 January 2002.</p> <p>Beachfront washaways and sand loss occurred around Karumba. The boat ramp sustained some damage as a result of wave action. All roads around Burketown and Doomadgee were closed due to flooding. Some environmental damage occurred but no structural damage was reported. Some environmental damage occurred on Mornington Island and Sweers Islands but no structural damage was reported.</p>
<p>Tropical low 4-16 Jan 2003</p>	<p>A long-lived monsoon low formed in the Arafura Sea on 4 January. The system moved southward and inland along the Top End of the Northern Territory on the 5th and by the 11th was located in the Gulf south-southeast of Groote Eylandt. The low never reached tropical cyclone intensity in the Gulf however gales and sustained winds to 52 knots were recorded as the low approached Elcho Island where a minimum MSLP reading of 989.8 hPa occurred at 1040UTC 5 January 2003. Extensive tree damage occurred at Elcho Island.</p> <p>In and around the Gulf of Carpentaria the monsoon low caused wind gusts to 52 knots at Sweers Island on 16 January. Centre Island (15.7S, 136.8E) recorded a peak gust of 47 kts on the 14th.</p> <p>Moderate to major flooding occurred in the Nicholson River catchment. Rainfall rates in or near the catchment over the period 2300UTC 7 January 2003 to 2300UTC 22 January 2003 were:-Redbank Mine 1103mm, Woollogorang 880mm and Westmorland 889mm.</p> <p>Maximum 24 h rainfall totals were 298 mm at Mornington Island (470mm in 48h), 162mm at Sweers Island, 159mm at Centre Island, 140mm at Groote Eylandt and 179mm at Boroloola</p> <p>Sweers Island reported tides of 60 to 90cm above astronomical levels.</p>
<p><i>Craig</i> 7-12 March</p>	<p>Tropical cyclone Craig was able to sustain tropical cyclone intensity as it tracked along the northcoast of the Northern Territory until it moved into</p>

2003	<p>the Gulf of Carpentaria near Gove at 2000 UTC on 11 March. Craig accelerated and ultimately moved at 22 knots toward the southeast and finally south-southeast whilst crossing the Gulf. It developed an asymmetric wind and rain structure and satellite data showed that strong winds under the rainband were restricted mostly to the western flank with a 70-knot south-southeast wind indicated near 15.5S, 140.7E. As the cyclone approached the eastern coast of the Gulf of Carpentaria, the apparent centre visible on radar continued moving towards the southeast. However, the low-level centre came to a halt and remained virtually stationary over the next 12 hours. This asymmetry near the centre in all likelihood gave the low-level circulation a northwesterly component of motion. At Nhulunbuy the peak gust of 46 kts along with a 33-kt sustained wind was recorded at 11/2134 UTC. The minimum SLP of 992.2 hPa occurred earlier at 2000 UTC. A marine pilot from Brisbane was guiding vessel C6OZ3, anchored 130 nm west of Booby Island (10.6S/141.9E) from 11/1400 through 12/0700 UTC. The pilot stated that he experienced sustained winds of 55 kts with gusts over 60 kts and a 10-metre swell. The vessel was apparently located under a rain band well east of Craig's centre. Some minor damage was also reported to small craft in the northwestern Gulf of Carpentaria and to the Alcan Plant at Nhulunbuy. On the Queensland coast, Craig's effects were restricted to widespread but minor damage to native vegetation and moderate to locally heavy rainfalls. At Kowanyama an uprooted tree damaged one house, and numerous trees and branches fell in Kowanyama and Pormuraaw. Roads were cut throughout the region. Weipa, which was well to the north of the cyclone's centre, recorded a storm surge of 1.1 metres, significant wave heights of 3 metres, and peak wave heights of 5 metres.</p>
<i>Monsoon low 10-17 Jan 2004</i>	<p>A significant monsoon LOW formed over land in the Arnhem Land district of the Northern Territory on 10/11 January 2004. By 12 January 2004, the LOW had generated heavy rain with Limmen River, near the southwest corner of the Gulf of Carpentaria, recording 187.2 mm in the 24 hours ending at 9 AM. Nearby on the north coast, Jabiru recorded 101.2 mm and Oenpelli 94.8 mm. The LOW gave general falls of between 100 mm to 300 mm to the northern parts of the Territory, with moderate flooding in the middle reaches of the Daly River in the Territory's northwest. The monsoon LOW deepened to 998 hPa and by 13/0600 UTC was tracking inland close to the southeastern Gulf of Carpentaria on a south-southeasterly path. By 15/0600 UTC the LOW had moved slowly through the northwestern and inland central regions of Queensland maintaining intensity at 996 hPa. On 15 January Mount Isa, Queensland, reported its highest daily rainfall record of 198 mm in the 24 hours to 9 AM since observations commenced in 1926 (previous record was 157.5 mm on 14 January 1957). The highest 24-hour report was 246 mm at Moondarra.</p>
<i>Fritz</i>	Fritz moved across Cape York Peninsula and reformed in the southeast

12 Feb 2004	corner of the Gulf. At Mornington Island trees were uprooted but there was no structural damage. The lowest barometer reading at Mornington Island was 993.3 hPa at 0330 UTC, 12 February. Sweers Island (17.2S/139.6E) estimated 10-minute mean winds of 45 knots in a special report at 2330 UTC, 11 February 2004, when a rainband south of the centre passed over the Island. <i>Fritz</i> , after crossing the mainland coast near Mornington Island maintained a clear satellite signature as it travelled across inland Northern Territory and Western Australia.
----------------	--