



## SIGNIFICANT WEATHER – February 2004

### SUMMARY

Tropical cyclone *Fritz* crossed the Queensland tropical coast south of Cape Melville. As tropical cyclone *Fritz* weakened into a tropical low, it passed through the Top End of the Northern Territory and Western Australia bringing much needed rainfall.

Tropical cyclone *Monty* formed late on the 27th and crossed the Western Australian coast between Onslow and Dampier about 9pm on the 1st March bringing widespread rainfall and significant flooding.

Severe thunderstorms with heavy rain, flash flooding, hail and strong winds were reported in most states during the month damaging property and crops.

Bushfires were reported in New South Wales, Victoria and Tasmania with no loss of life or damage to property.

Several locations in New South Wales experienced their longest hot spell for maximum temperatures on record for any month, and many daily maximum temperature records for February were broken in Queensland, New South Wales, Victoria and South Australia.

### TROPICAL CYCLONES

#### Queensland

A low rapidly developed off the northeast tropical coast on the 10th and deepened into tropical cyclone *Fritz* that evening. It crossed the coast just south of Cape Melville, weakened briefly whilst overland before reforming into a cyclone in the southeast Gulf of Carpentaria on the 12th. It moved over Mornington Island and

went on to cross the southern Gulf coast that night but weakened again and continued into the Northern Territory. Wind damage was reported near the track and widespread rain fell across the north with very heavy rainfall at Weipa and along the northeast tropical coast between Cairns and Mackay.

#### Western Australia

On the 12th a monsoon low moved through the eastern Pilbara, Gascoyne and into the Goldfields causing heavy rain along its track. The worst affected community was Nullagine where 68mm of rain was recorded in three hours. Significant daily falls to 9am on 13th included 115mm at Moorarie (Murchison/Gascoyne), 109mm at Woodlands (Gascoyne), and 90mm at Newman. Laverton recorded 67mm from 7am until 10am on the 14th, causing flooding in the local hotel.

On the 15th ex-Tropical Cyclone *Fritz* that originated in the Coral Sea moved across the southern Kimberley, through the Pilbara and eventually off the Gascoyne coast. Nullagine was flooded for the second time in a matter of days. The system brought much needed rains to the drought affected regions of the Gascoyne. Yaringa, south of Carnarvon, recorded 150mm overnight to 9am on the 17th but falls through the Gascoyne were generally less than 50mm.

A low moved off the Kimberley coast near Broome and rapidly formed into a tropical cyclone late on the 27th. Tropical cyclone *Monty* moved roughly parallel with the Pilbara coast and developed to category 4 intensity before moving towards the west Pilbara coast on the 1st of March. After causing hurricane-force winds at offshore reporting sites, *Monty* crossed the coast as a category 3 system near Mardie station, between Onslow and Dampier, about 9pm on the 1st of March. Only minor property damage occurred although two vessels in Mermaid

Sound broke their moorings and ran aground causing significant damage.

Although rapidly weakening later on the 1st, *Monty* produced widespread rainfall over the Pilbara causing significant flooding. Two people were rescued from the roof of the Yarraloola homestead on the Robe River and the town of Pannawonica was cut-off. The bridge over the Maitland River on the Northwest coastal highway was destroyed.

### **Northern Territory**

Ex-tropical cyclone *Fritz* moved from the Northern Territory/Queensland border across the Gulf country, northern Barkly and Victoria River districts, producing heavy rain and flooding.

## **THUNDERSTORMS**

### **Queensland**

On the 16th a severe storm affected the Withcott/Toowoomba area. A hotel was unroofed and trees brought down. Blanchview (near Toowoomba) also received damage. Golf ball sized hail was reported from Withcott and 3cm hail from Toowoomba. Hail 2cm in diameter was reported from Nanango with some cars dented.

On the 17th severe storm struck Cunnamulla and 16 homes were unroofed. Trees were brought down, farm sheds flattened and windows smashed by flying debris.

On the 22nd a second severe storm struck Cunnamulla, unroofing at least one house. Trees were brought down by wind gusts on the Sunshine Coast.

On the 23rd severe storms struck Coomera and Nanango/Kingaroy. Golf ball sized hail was reported from Nanango and some damage from Kingaroy. One house was unroofed in Coomera and four others were damaged. A house was unroofed in Wondai. The highest wind gusts were: Gatton 70km/h, Toowoomba 69km/h and Amberley 61km/h.

### **New South Wales**

On the afternoon of the 2nd storms cut power to 6,000 homes to the south, west and north of Sydney. At Tuggeranong (Southern Tablelands) hail 2cm in diameter was reported. At Shellharbour (Illawarra) hail up to 4cm in size damaged motor vehicles and broke windows. The Shellharbour Workers Club was evacuated after it was inundated with water. At Mt Warrigal (Illawarra) heavy rain and strong winds occurred with hail to 2 cm. At Moruya Heads (South Coast) hail 3cm in diameter damaged motor vehicles. The Moruya High School was closed for four days after severe hail damage. At Richmond golf ball sized hail occurred with heavy rain and local flooding. At Galston flash flooding and wind damage occurred.

On the 13th at Merriwa (Hunter) strong winds caused damage to 3 houses. At Uralla (Northern Tablelands) strong winds caused damage to trees and houses.

On the 15th thunderstorms from Condobolin to Young brought down trees and powerlines in Forbes, Cowra, Blayney and Bathurst. At Gungahlin (Hunter) strong winds uprooted large trees (near Merriwa). At Tenterfield (Northern Tablelands) strong winds damaged buildings. The verandah was torn from a home at Torrington, 18 kilometres from Cowra. At Gunnedah (North West Slopes) winds gusting to 128km/h uprooted trees and damaged houses. Damage was estimated at \$100,000 in the Gunnedah and Armidale districts.

### **Victoria**

On the 8th severe thunderstorms with strong wind gusts caused damage in Myrtleford, Corowa, Wangaratta, Shepparton and Bright. Trees and powerlines were brought down and a roof was lifted off a house during the late afternoon. Orchards in the Goulbourn Valley were damaged with estimates that 20% of the pear crop and a large amount of stone fruit were lost due to the strong winds.

At Gunbower, 40 kilometres west of Echuca, severe winds caused damage to trees and buildings and a 5 tonne truck was pushed 20 metres into a channel. The narrow damage path

suggests a possible tornado. Wind gusts to 98km/h were reported at Eildon AWS.

On the 11th roads flooded in Blairgowrie where 70mm of rain fell in 24 hours.

On the 15th severe thunderstorms occurred in the northeast of the state during the afternoon and resulted in tree damage at Violet Town and Wangaratta.

### **South Australia**

On the afternoon of the 12th, a thunderstorm with severe winds overturned caravans and blew roofs off shacks at an opal mining camp at Lambina, 70 kilometres northeast of Marla, in the Northwest Pastoral district. One sheet of iron was found embedded in a tree.

On the afternoon of the 17th, a thunderstorm at Coober Pedy in the Northwest Pastoral district, produced a southeasterly wind squall with a gust to 91km/h. No rain was recorded and there was no damage.

### **Western Australia**

On the 2nd at Paraburdoo in the Pilbara a wind gust of 107km/h was recorded during afternoon storms. There were no reports of damage.

On the 12th storms caused wind damage at Kambalda and Mukinbudin in the Central Wheat Belt.

On the 17th high levels of moisture associated with tropical lows from the previous week helped produce widespread thunderstorms through the Central Wheat Belt and Lower West districts. Minor flooding occurred in Fremantle where 62mm of rain was recorded at an unofficial site. Some notable rainfall totals to 9am included 63mm at Avondale Research Station (Beverley), 50mm at Lake Grace, 49mm at Naremben and 48mm at Newdegate of which 35.8mm fell in the 45 minutes to 7pm.

### **Northern Territory**

On the 2nd an evening thunderstorm produced 73mm of rainfall in one hour at

Victoria River Downs. The 24 hour rainfall total was 115mm.

On the 8th monsoonal wind squalls damaged a shade structure at Girraween School in the Darwin rural area. Heavy monsoonal rains produced local flooding in the Darwin-Daly and Arnhem districts. 24 hour totals included Leaders Creek 166mm, Douglas River 128mm, Port Keats 104mm and Ngayawili (Elcho Island) 94mm.

On the 9th an early morning monsoonal squall line produced a wind gust of 85km/h at Charles Point, Cox Peninsula. Thunderstorms in a rainband near the monsoon trough produced a 24-hour rainfall total of 151mm at Port Keats, causing flash flooding in the Moyle river and Port Keats area.

On the 13th thunderstorms and overnight rain produced a 24 hour rainfall total of 120mm at Elliot (Barkly district) most of which fell in less than 3 hours, causing minor flooding.

On the 17th early morning thunderstorms in a coastal convergence line produced heavy rain and flash flooding at the Darwin suburbs of Parap, Fannie Bay, Ludmilla and Tipperary Waters. In a 2 hour period, 75mm was recorded at Ludmilla and 70mm at Casuarina.

Long lived squall lines affected large areas of the Alice Springs district from late afternoon on the 18th until early morning on the 19th causing flash flooding and severe wind gusts. A wind gust of 137km/h was recorded at Kulgera in the southern Alice Springs district. The Kulgera petrol station lost its roof, power supplies were interrupted and trees were felled at Kulgera Police Station. A shed was destroyed by violent winds at the nearby Umbearra pastoral station.

On the 21st a slow moving evening thunderstorm produced 91mm of rain in 1 hour at Tindal RAAF Base Katherine. 24 hour totals included Tindal 128mm and Larrimah 123mm.

On the 22nd a slow moving evening thunderstorm produced 60mm in 2 hours at Kulgera (Alice Springs district). The 24 hour total was 92mm. Flash flooding damaged buildings and fences and cut the Stuart Highway.

## WIND

### New South Wales

The following wind gusts were reported:

- 9th Williamtown 98km/h
- 12th Cobar 96km/h and Wilcannia 100km/h
- 15th Parkes 93km/h, Orange 91km/h, Khancoban 94km/h and Gunnedah 128km/h
- 19th Tuggeranong 94km/h.

### Victoria

On the 20th gusty winds occurred across the state ahead of a change. Wilsons Promontory recorded a maximum gust of 91km/h.

On the 23rd Wilson Promontory recorded a maximum gust of 98km/h.

### South Australia

Overnight on the 10th, strong and squally east to southeast downslope winds brought down numerous tree branches and caused scattered power outages across the eastern suburbs of Adelaide. No severe winds were recorded, but squalls in excess of 90km/h may have occurred in localised areas.

### Tasmania

Gales on the 20th brought down trees and powerlines with thousands of households experiencing interruptions to power supplies, particularly in the south of the state. Several structures in the south had their roofs blown off.

### Western Australia

A severe squall line moved through the northwestern Gascoyne region causing very strong winds. Winds moved two tug boats moored at Cape Cuvier where wind gusts were estimated at between 110 to 150km/h.

## FLOODING

### Queensland

Flooding continued in south western Queensland during February. Heavy monsoon rainfall also brought flooding to south east Queensland and the north tropical coast.

#### *Thomson and Barcoo Rivers and Cooper Creek*

January flood waters moved through the lower reaches of Cooper Creek during February, resulting in minor flooding at Nappa Merrie. Renewed rises occurred in the Thomson and Barcoo Rivers as a result of isolated storm activity. Renewed flood levels in the upper Barcoo River to Blackall in February exceeded those recorded in January.

#### *Diamantina River*

Moderate flooding continued throughout most of February in the Diamantina River as flood waters lingered around the Birdsville area.

#### *Georgina River and Eyre Creek*

Several flood peaks caused by storm activity moved through the Georgina system throughout the month. This ensured that river levels and moderate flooding at Monkira continued throughout the month. Flood waters from catchments in western Queensland moved across the border and into Lake Eyre in South Australia.

#### *Cherwell and Burrum Rivers*

Major flooding occurred in the Cherwell River in early February. Rapidly rising flood waters cut access roads and required some evacuations at Pacific Haven.

#### *Herbert River*

Moderate flooding occurred in the lower reaches of the Herbert River as a result of widespread heavy rainfall on the north tropical coast in early February.

#### *Tully and Murray Rivers*

Major flooding occurred in both the Tully and Murray Rivers between the 5th and

15th of February. Rising flood waters cut the Bruce Highway at several locations in the Euramo area.

#### *Johnstone River*

Some minor to moderate flooding occurred in the lower reaches of the Johnstone River.

#### **New South Wales**

Minor to moderate flooding occurred in the Paroo, Narran and Barwon Rivers early in February due to heavy rain in the upper catchments during January. Minor to moderate flooding occurred in the Warrego River for most of the month.

Flash flooding and minor wind/hail damage was reported at Galston and Richmond (Metropolitan) due to a thunderstorm on the 2nd.

#### **Northern Territory**

During the month tropical cyclone Fritz affected the Roper-McArthur and Victoria River regions. Heavy rainfalls resulted in significant rises in river levels and caused flooding in many areas. The Carpentaria, Tablelands, Roper, Buntine and Victoria Highways and the Central Arnhem road were all cut for various periods.

#### *Victoria River*

The Victoria River at Dashwood Crossing reached moderate flood level on the 17th and peaked at 12.70 metres on the 17th. Further downstream, the Victoria River at the Victoria River Bridge reached minor flood level and overtopped the bridge on the 15th. It fell below minor flood level on the 23rd, before rising again on the 25th and was again below minor flood level by the 29th. On the 21st five people capsized a boat attempting to cross the flooded river.

#### *Daly River*

The Fergusson River had several rises during the month, reaching moderate flood level on the 5th, 23rd and 28th/29th when it reached a peak of 10.87 metres. Dorisvale Crossing reached minor flood level on the 4th, then above moderate flood level for the rest of the month.

The river reached a major flood peak of 18.40 metres on the 11th.

The river again reached major flood level on the 27th and continued to rise at month's end. Downstream, at Beeboom Crossing, the river reached Moderate flood level on the 8th and was between 14.0 - 16.0 metres for the rest of the month.

At the Daly River Police Station the river reached Minor flood level on the 7th and was between 11.0 - 13.0 metres for the rest of the month.

#### *Roper River*

The Waterhouse River at Beswick, reached moderate flood level on the 23rd and major flood level on the 27th, rising to a peak of 8.43 metres about midnight.

#### *McArthur River*

The McArthur River began rising quickly at McArthur River Mine and at Borroloola on the 12th. The McArthur River Mine was demanned and closed for safety reasons from the 13th to 16th. The river peaked at the Borroloola Crossing at about 14.8 metres on the 15th, before receding slowly.

<b>BUSHFIRES</b>
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#### **New South Wales**

A bushfire in Wollemi National Park (Central Tablelands) burnt out 2,100 hectares between the 5th and the 23rd. In Nymboi Binderay National Park (Northern Rivers) a bushfire burnt out 535 hectares between the 12th and the 16th. No lives or property were lost.

#### **Victoria**

A fire known as the Torbreck Complex, around 15 kilometres south of Eildon was started by lightning on the 9th. The fire lasted around 2 weeks and burnt 637 hectares of land.

#### **Tasmania**

Fire burnt about 600 hectares near Barren Plains on the Central Plateau around mid month.

A number of other fires were reported around the state.

## TEMPERATURE

### New South Wales

New South Wales experienced the longest hot spells for maximum temperatures on record for any month at:

**Dubbo:** 17 consecutive days above 35°C (previous record 11 days in 1983). 7 consecutive days above 40 °C (previous record 6 days in Jan 2004).

**Wilcannia:** 16 consecutive days above 40 °C (previous record 12 days in 1979).

**Cobar:** 13 consecutive days above 40 °C (previous record 8 days in Dec 2003 – Jan 2004).

**Nyngan:** 17 consecutive days above 38 °C (previous record 15 days in 1999).

**Wellington:** 17 consecutive days above 35 °C (previous record 12 days in 1979).

**Bathurst:** 7 consecutive days over 35 °C (previous record 6 days in 2001).

**Wyalong:** 7 consecutive days over 40 °C (previous record 5 days in 1979).

New South Wales experienced the longest hot spells for minimum temperatures on record at:

**Sydney:** 10 consecutive nights 22 °C or more (previous record 8 nights in 1998).

**Tibooburra:** 4 consecutive nights over 30 °C (previous record 3 nights in 1939).

### Victoria

On the 14th at Ouyen the highest ever maximum temperature of 46.7°C was recorded. The previous record was 45.6°C degrees in 1968.

### Highest Mean Maximum Temperature for February

Station	Actual °C	Previous Highest °C	Year	Years of Record
<b>Queensland</b>				
Nambour Dpi	31.2	30.8	1998	46
Texas PO	35.4	35.3	1983	31
<b>New South Wales</b>				
Cobar	36.9	36.7	1991	41
Ivanhoe	38.4	37.7	1997	64
Peak Hill	36.0	35.8	1991	38
Tabulam	29.2	28.7	1983	33
Grafton	31.9	31.7	1998	37
Alstonville	29.2	28.9	1975	36
Murwillumbah	31.7	31.3	1983	31
Coffs Harbour	28.7	28.2	1998	52
Scone SCS	34.1	33.8	1983	51
Gulgong	34.4	33.3	1983	33
Dunedoo	34.8	33.9	1991	58
Wellington Research	35.5	33.5	1991	58
Goulburn	30.1	29.8	1998	32

### Highest Mean Minimum Temperature for February

Station	Actual °C	Previous Highest °C	Year	Years of Record
<b>New South Wales</b>				
Peak Hill	22.0	21.9	1991	38
Nyngan	22.2	21.8	1926	83

### Lowest Mean Maximum Temperature for February

Station	Actual °C	Previous Lowest °C	Year	Years of Record
<b>Northern Territory</b>				
Victoria River Downs	32.4	32.5	1993	37
<b>Western Australia</b>				
Wyndham	33.3	33.5	1974	34

### Highest Daily Maximum Temperature for Any Month

Station	Actual °C	Date	Previous Highest °C	Year	Years of Record
<b>Victoria</b>					
Ouyen P.O.	46.7	14	45.0	1968	47
Bendigo APT	42.1	15	40.7	1997	35

### Highest Daily Maximum Temperature for February

Station	Actual °C	Date	Previous Highest °C	Year	Years of Record
<b>Queensland</b>					
Brigalow Research Stn	43.0	22	40.7	1969	34
Double Island Point Lighthouse	35.9	21	35.2	1998	44



Jerrys Plains	18.0	24	18.1	1973	47
Lithgow	12.6	24	12.6	1982	38
Dunedoo	17.0	24	17.6	1996	39

#### Highest Daily Minimum Temperature for Any Month

Station	Actual °C	Date	Previous Highest °C	Year	Years of Record
<b>Queensland</b>					
Amberley AMO	27.4	22	26.9	2004	62
Double Island Pt Lighthouse	27.0	22	26.7	1996	44
Stanthorpe (Granite Belt Hrs)	23.0	21	22.0	2004	34

#### Highest Daily Minimum Temperature for February

Station	Actual °C	Date	Previous Highest °C	Year	Years of Record
<b>Queensland</b>					
Gayndah PO	27.0	22	26.4	1996	110
Amberley AMO	27.4	22	25.4	1979	62
Double Island Pt Lighthouse	27.0	22	26.7	1996	44
Gympie	25.3	22	24.9	1969	38
Maryborough	26.5	22	26.1	1991	47
Nambour Dpi	26.9	22	26.0	1996	39
Stanthorpe (Granite Belt Hrs)	23.0	21	21.5	1979	34
Oakey Aero	24.5	21	23.5	1997	30
<b>New South Wales</b>					
White Cliffs	31.0	16	30.5	1981	42
Wilcannia	31.1	15	31.1	1980	47
Broken Hill	32.4	15	31.0	1968	96
Lake Victoria	31.0	15	29.0	1993	39
Menindee	29.0	15	28.9	1968	45
Cobar	31.9	16	30.9	1981	41
Collarenebri	28.7	22	28.7	1973	39
Ivanhoe	33.2	15	32.5	1980	45
Peak Hill	30.3	12	28.2	1981	38
Coonamble	28.8	12	28.6	1981	39
Nyngan	31.0	12	30.0	1981	45
Trangie	29.3	12	28.8	1981	35
Gunnedah SCS	27.9	22	26.8	1973	56
Glen Innes PO	22.2	16	20.6	1966	42
Glen Innes Research Stn	21.0	16	20.0	1981	33
Tabulam (Muirne)	25.8	22	22.0	1997	33
Casino	28.9	22	25.7	1979	39
Alstonville	29.7	22	25.0	1996	36
Murwillumbah	25.5	22	25.0	1996	31
Cessnock	24.2	12	24.0	1981	30
Dunedoo	27.5	11	26.8	1981	39
Parkes	28.6	15	28.5	1983	47
Thredbo	20.0	15	19.6	1973	33
Hay	31.6	15	28.9	1967	47

## RAINFALL

#### Highest Monthly Rainfall on Record for Any Month

Station	Actual mm	Previous Highest mm	Year	Years of Record
<b>Queensland</b>				
Bamaga	949.2	893.4	2001	31

#### Highest Monthly Rainfall on Record for February

Station	Actual mm	Previous Highest mm	Year	Years of Record
<b>Queensland</b>				
Bamaga	949.2	893.4	2001	31
<b>Western Australia</b>				
Bimbijy	59.0	13.0	1922	50
Yaringa Station	176.0	141.4	1970	78
<b>Northern Territory</b>				
Victoria River Downs	579.0	540.4	1991	116
Daly Waters	524.7	488.2	1875	112
Mataranka	592.0	552.7	2002	66
<b>Homestead Resort</b>				
Daly Waters AWS	575.2	516.9	1967	31
Gove Airport	600.0	554.6	1987	27
Mataranka Station	609.3	532.6	2002	24
Scott Creek	494.6	392.6	1991	23

#### Lowest Monthly Rainfall on Record for February

Station	Actual mm	Previous Lowest mm	Year	Years of Record
<b>New South Wales</b>				
Lake Victoria (Nulla)	0.0	0.0	Numerous	73
Wolseley Park	0.0	0.0	1944	67
Tooma	0.0	0.0	Numerous	37
Urana (Butherwah)	0.0	0.0	Numerous	134
Rennie (Broad Meadows)	0.0	0.0	Numerous	118
Conargo PO	0.0	0.0	Numerous	109
Boorooban	0.0	0.0	Numerous	81
Wanganella	0.0	0.0	Numerous	136
Wanganella (Zara)	0.0	0.0	Numerous	136

**Highest Daily Rainfall on Record for February**

<i>Station</i>	<i>Actual</i>	<i>Date</i>	<i>Previous</i>	<i>Year</i>	<i>Years of</i>
	<i>mm</i>		<i>Highest</i>		<i>Record</i>
			<i>mm</i>		
<b>Western Australia</b>					
<i>Moorarie</i>	<i>114.5</i>	<i>13</i>	<i>77.7</i>	<i>1971</i>	<i>97</i>
<i>Tamaru</i>	<i>49.2</i>	<i>17</i>	<i>43.8</i>	<i>1979</i>	<i>37</i>
<i>Woodlands</i>	<i>109.0</i>	<i>13</i>	<i>97.1</i>	<i>1961</i>	<i>47</i>
<i>Yaringa Station</i>	<i>150.0</i>	<i>17</i>	<i>94.7</i>	<i>1970</i>	<i>78</i>
<b>Northern Territory</b>					
<i>Daly Waters AWS</i>	<i>132.0</i>	<i>03</i>	<i>130.0</i>	<i>2001</i>	<i>34</i>
<i>Kulgera</i>	<i>92.4</i>	<i>23</i>	<i>88.7</i>	<i>2000</i>	<i>30</i>
<i>Redbank Mine</i>	<i>169.0</i>	<i>13</i>	<i>135.5</i>	<i>2001</i>	<i>26</i>
<i>Tindal RAAF</i>	<i>128.2</i>	<i>22</i>	<i>107.7</i>	<i>1970</i>	<i>20</i>

*Note: Some statistical records mentioned in this report are based on data that have yet to be fully validated*