

TWP-ICE Daily Synoptic Overview

16 January - 14 February 2006

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Weather Overview

- 13 January - 2 February 2006 Monsoon across north Australia;
 - 13-25 January – active “wet” monsoon;
 - 26 Jan – 2 Feb – “dry” monsoon over Top End;
- 3 -13 February - Break period, inland heat trough across north Australia

13 January - 2 February 2006

Monsoon across north Australia

- 16-19 Jan – westerly monsoon flow;
- 19-24 Jan - TC Daryl forms off WA coast and moves southwest, weakens over Indian ocean;
- 19-25 Jan - low forms in Solomon Sea and moves west, reactivates monsoon weather over Top End on 24th (overnight MCS) and 25th, potential tropical cyclone development in Timor Sea;
- 26-31 Jan – monsoon low moves inland and deepens (“landfoon”), 989 hPa on 31st near Rabbit Flat, 8 day total period of strong westerlies on Darwin, but little weather with strong unsheared flow and air of drier Indian Ocean origin;
- 27 Jan – 1 Feb - Monsoon focus switches to Coral Sea/West Pacific, TC Jim forms in Coral Sea and moves east of New Caledonia;
- 1-2 Feb – “landfoon” weakens; (shear – surface low pushed north, mid level pushed west, dry air?), brief increase in westerly showers near Darwin (shallow);

3 -13 February Break period

- Monsoon dissipates in Australian/ Indonesian region,
- Inland heat trough dominates across north Australia;
 - Afternoon evening storms on trough/seabreeze boundary;
 - Overnight squall lines in easterly steering;

Notes

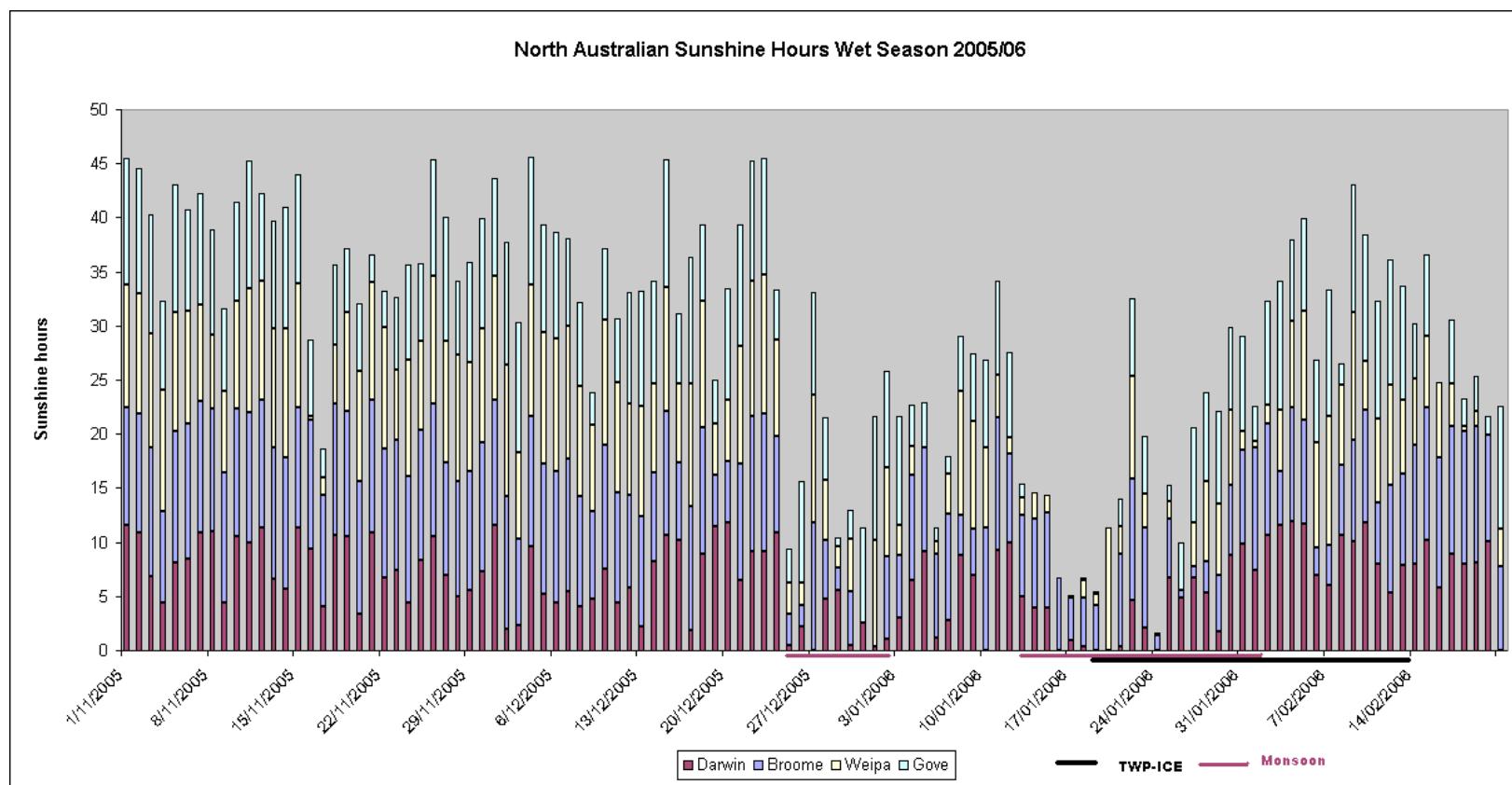
- Assessment of monsoon periods based on entire north Australian region using:
 - Assessment of broadscale satellite imagery (interpretation of Davidson et al 1983);
 - Combined assessment of sunshine hours and rainfall at four Bureau sites in north Australia (Broome, Darwin, Gove and Weipa);
 - Assessment of Darwin upper wind profile (though not sticking strickly to Drosdowsky's westerly wind definition when monsoon low changed winds to east for short periods);

Notes cont.

- In the following graphs
 - Extended period used prior to experiment to place the experiment's weather in context; (from 1 Nov)
 - TWP-ICE period 20 Jan - 13 Feb marked with black line above dates;
 - Australian monsoon periods marked with red line above dates (North Australian Monsoon periods 25 Dec - 1 Jan 2006, 13 Jan - 2 Feb 2006)

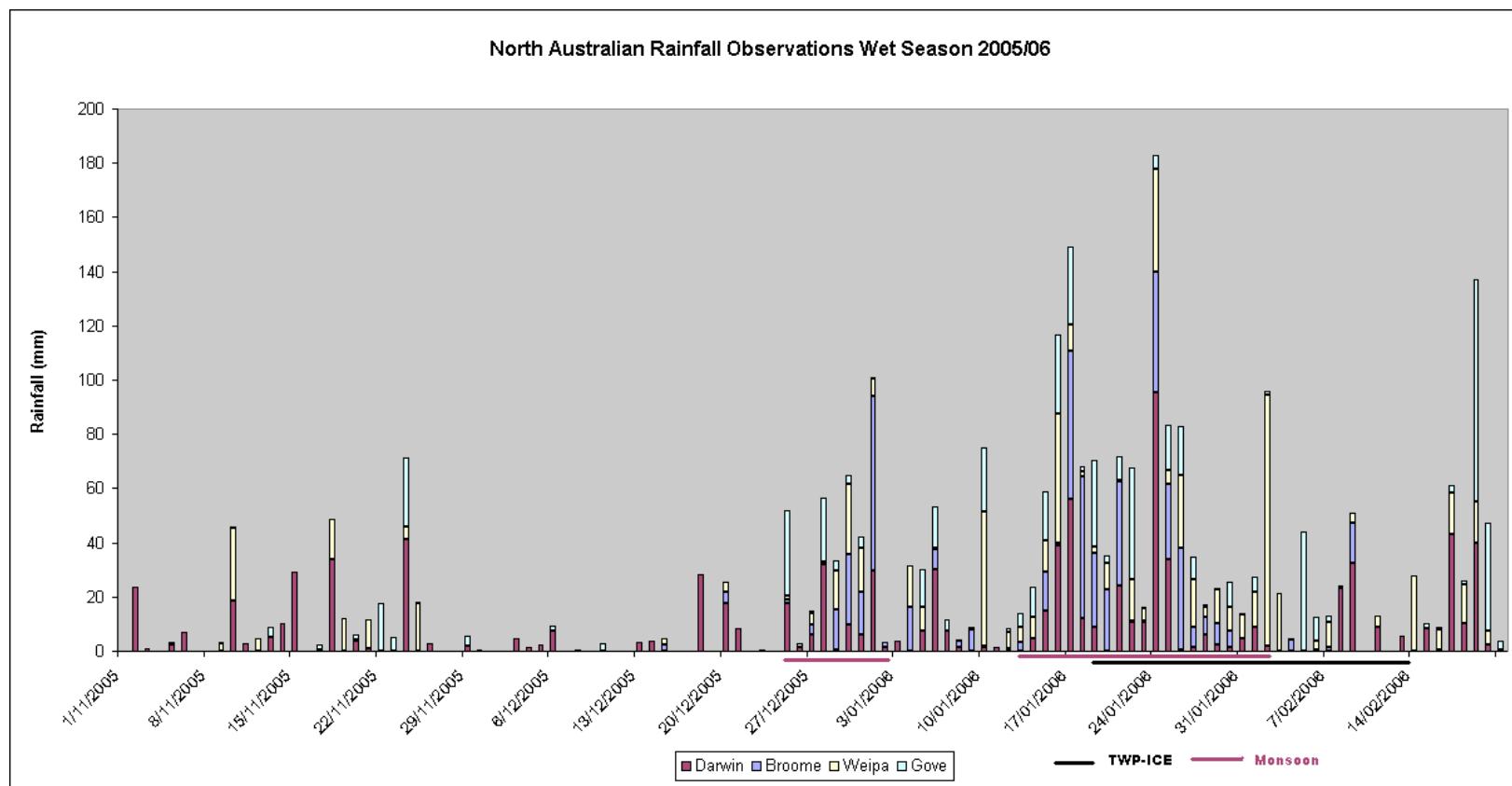
North Australian Monsoon periods

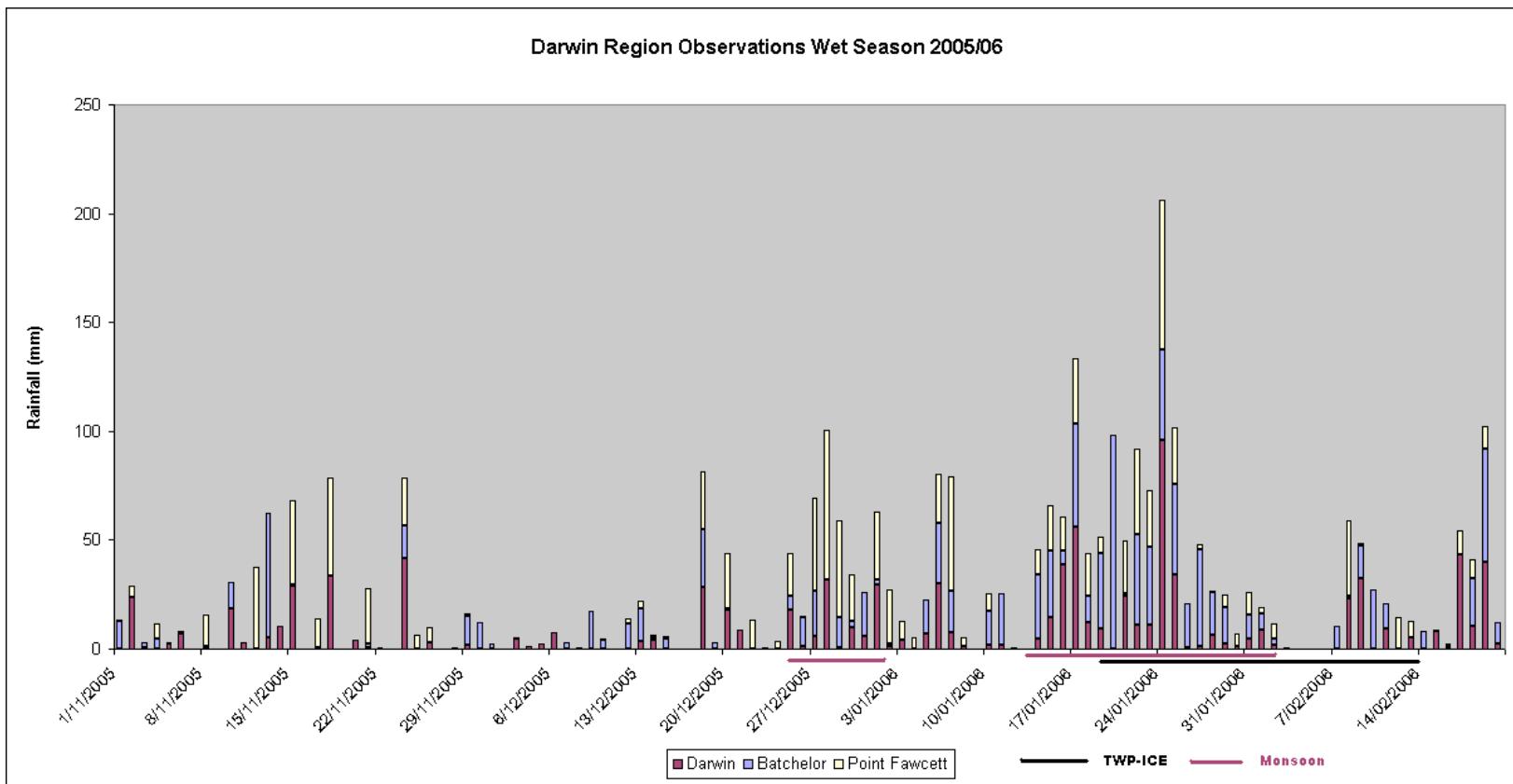
25 Dec - 1 Jan 2006, 13 Jan - 2 Feb 2006

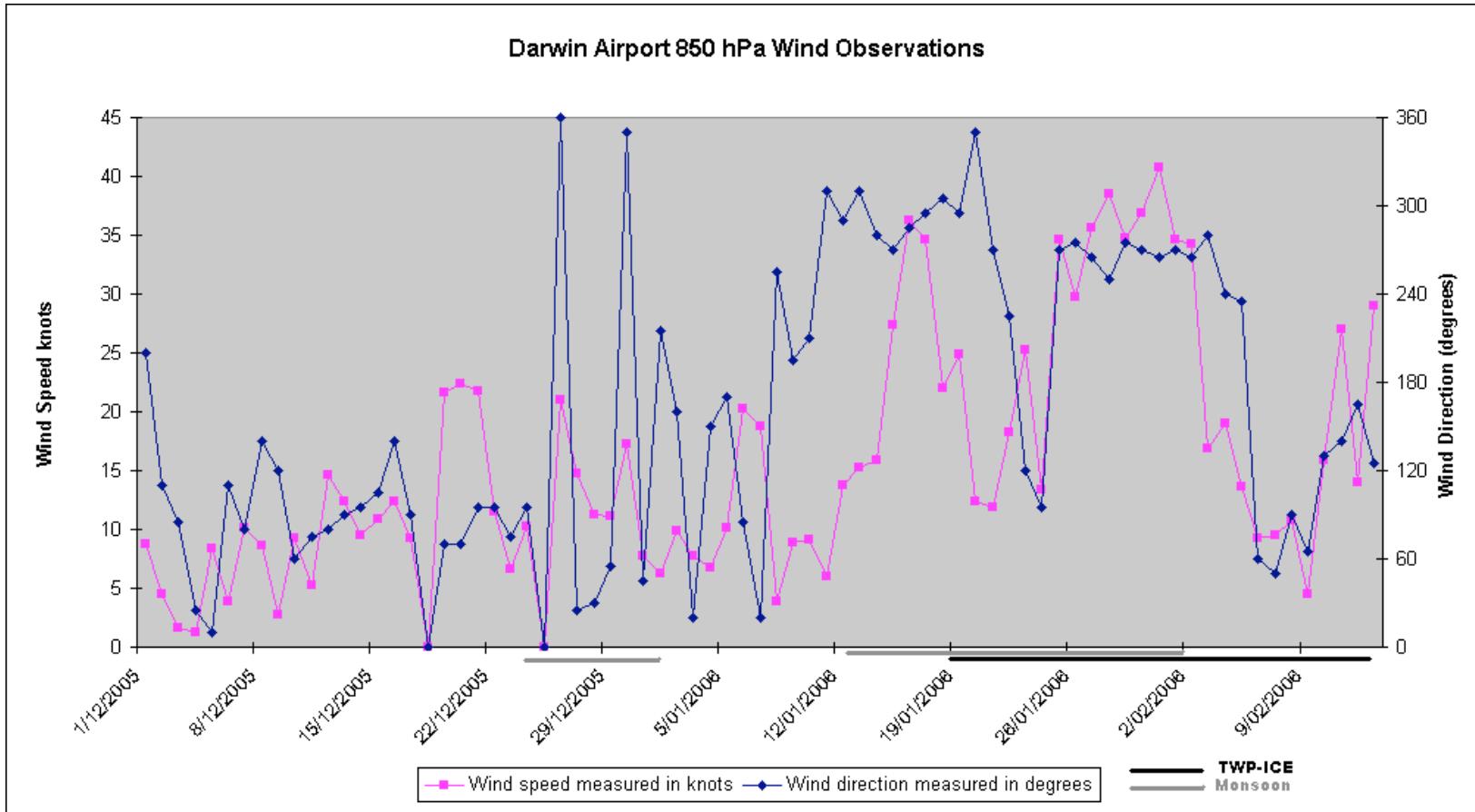


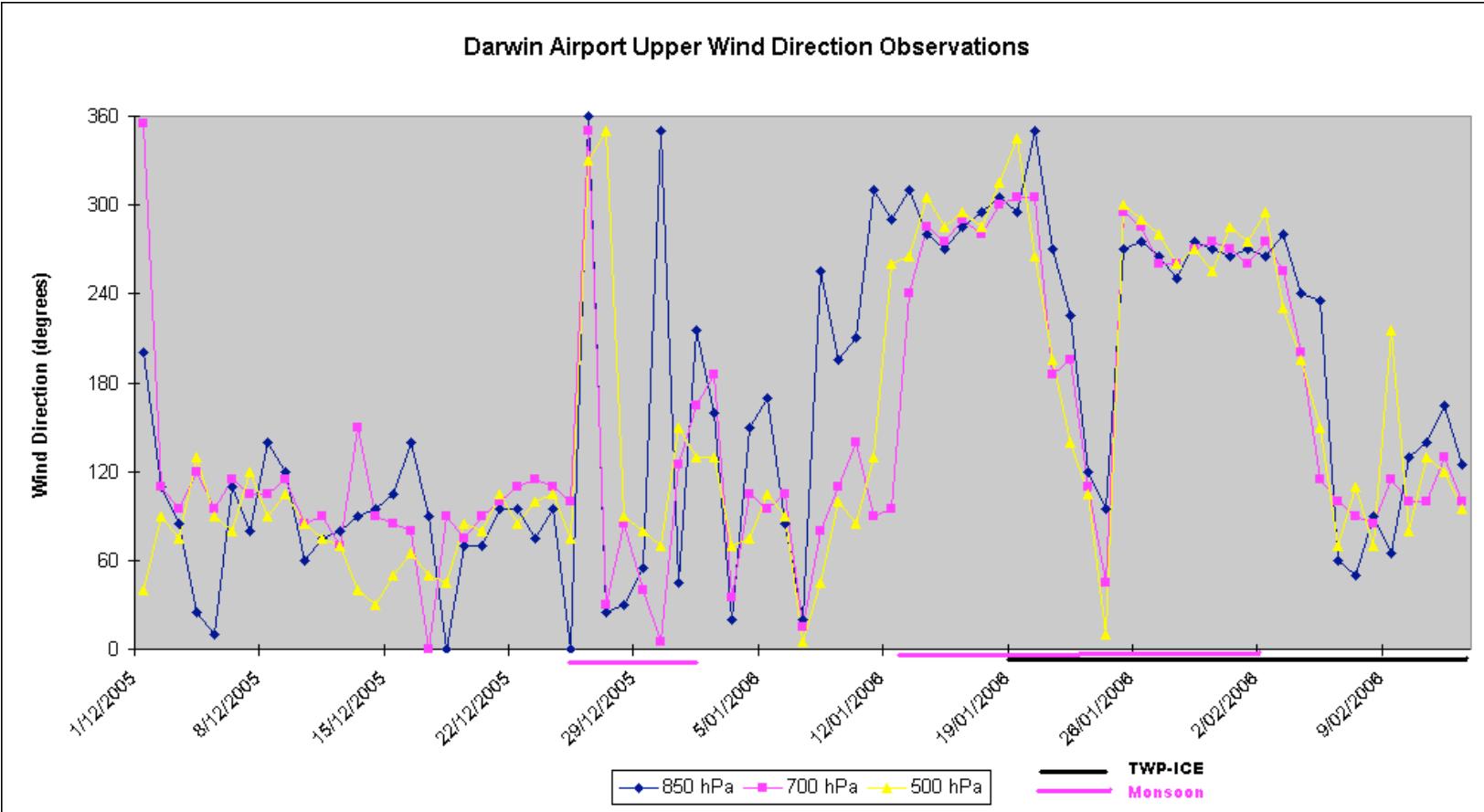
North Australian Monsoon periods

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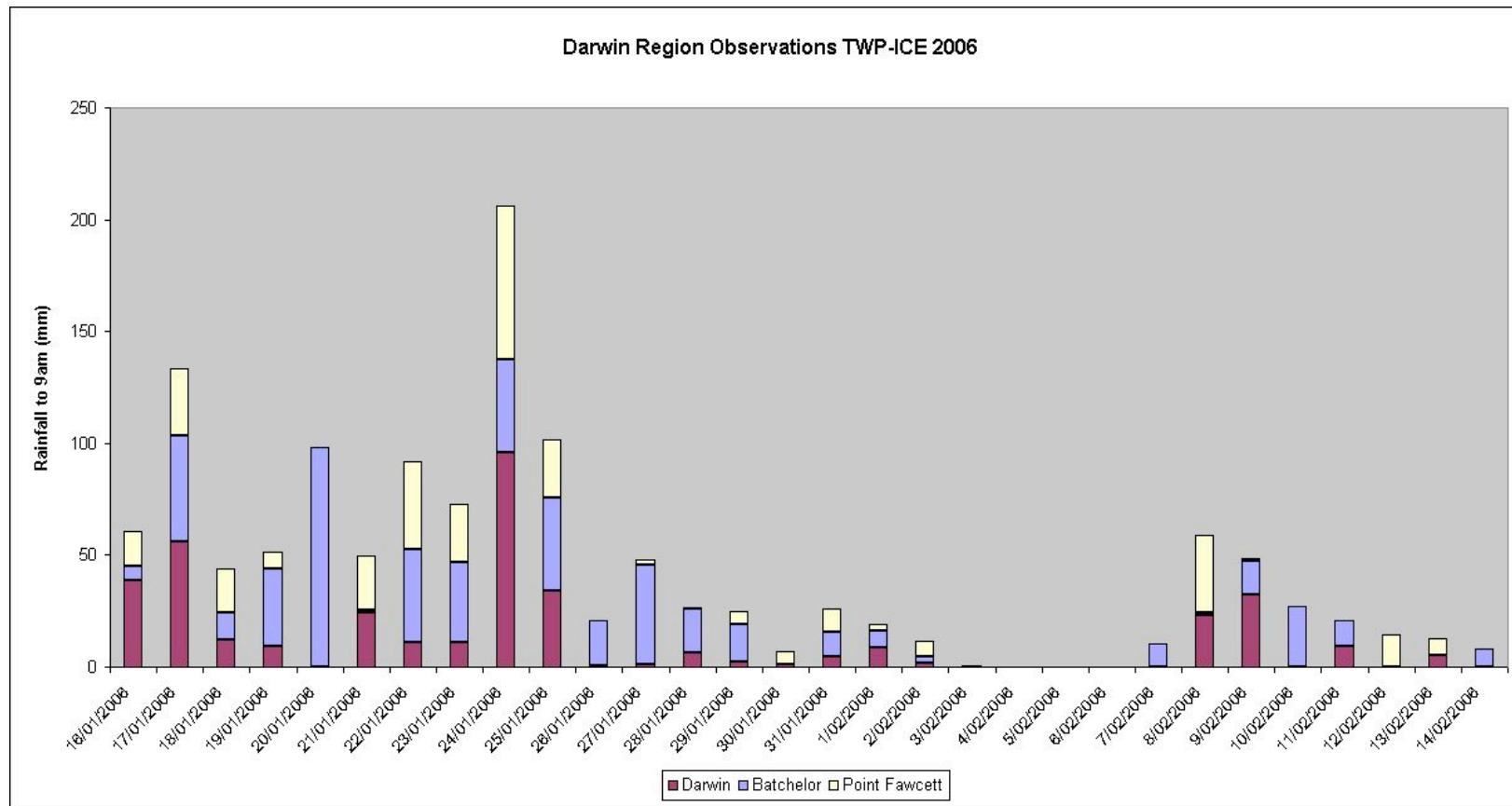






Daily Rainfall for TWP-ICE for

Darwin, Batchelor and Point Fawcett (W Tiwi Islands)

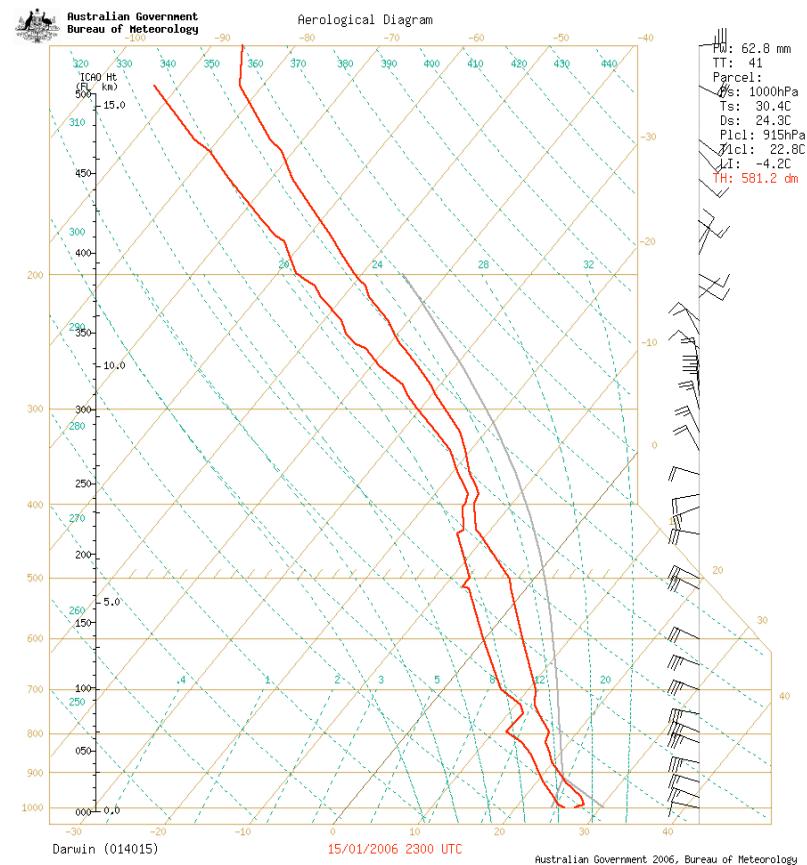
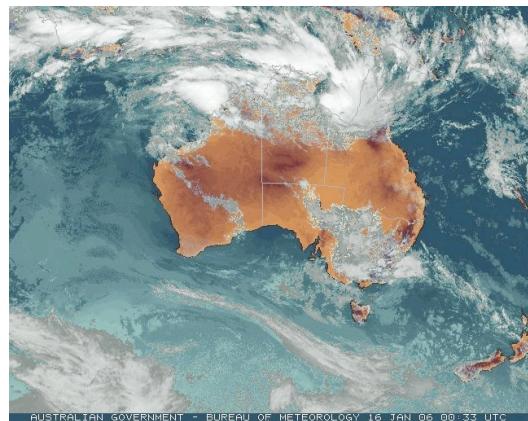
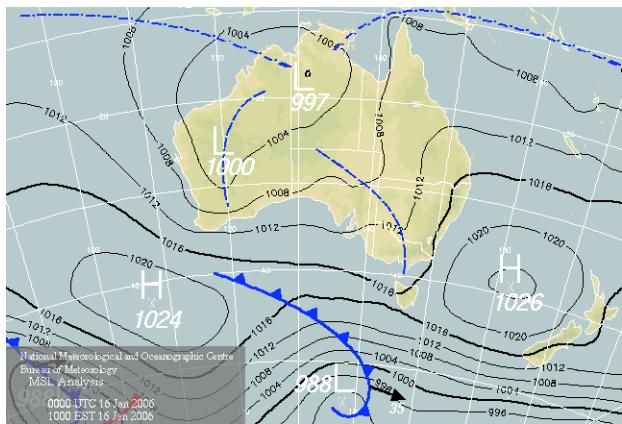


Daily Rainfall for TWP-ICE for

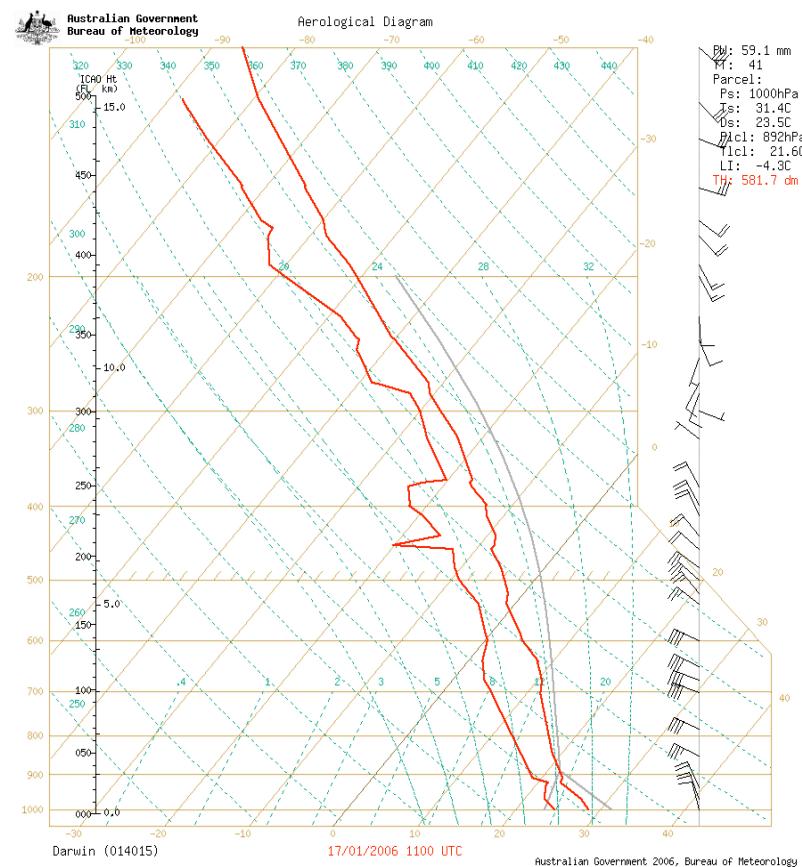
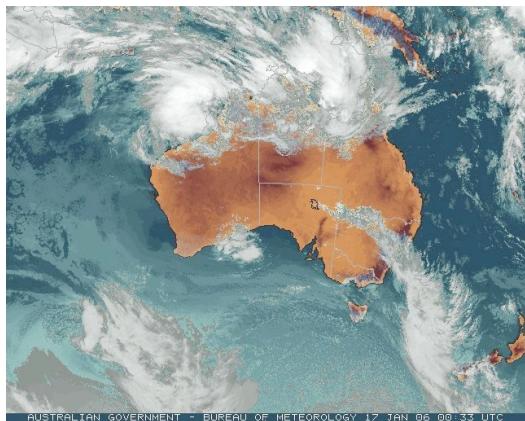
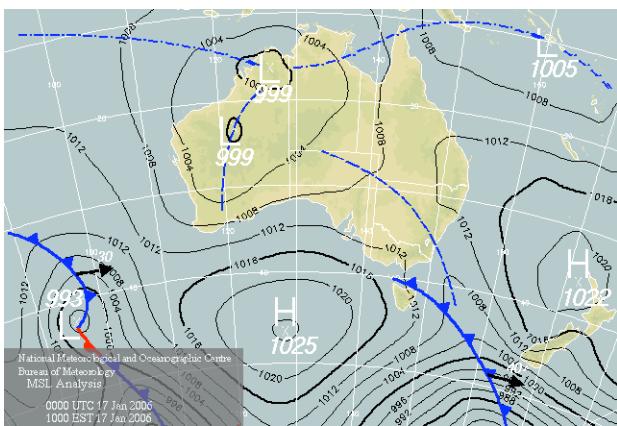
Darwin, Batchelor and Point Fawcett (W Tiwi Islands)

- occurring generally up till 9am 25 January;
- Restricted mostly to Batchelor (south of Darwin) 26 Jan to 2 Feb - (topography may be factor in strong westerly flow period with monsoon low inland);
- 31 Jan - 2 Feb Brief increase in general rainfall as monsoon low weakens and monsoon temporarily refocuses near Top end N coast and through Arafura Sea;
- Dry period 3-6 Feb in weak flow;
- 7-13 Feb rainfall increases as Easterly steering increases with deep continental storms/ squall lines;

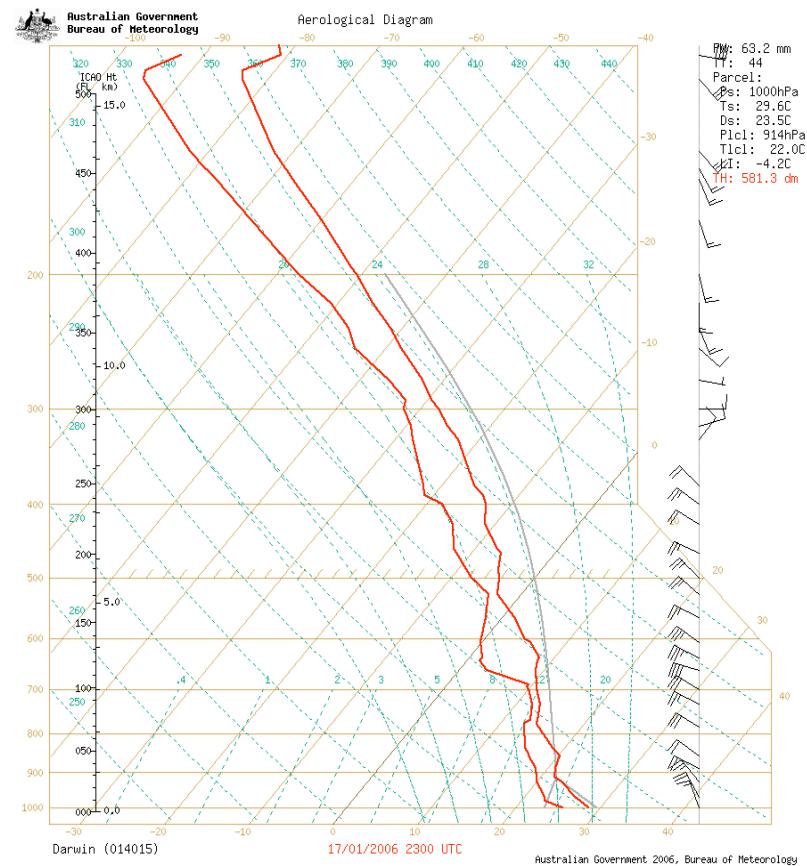
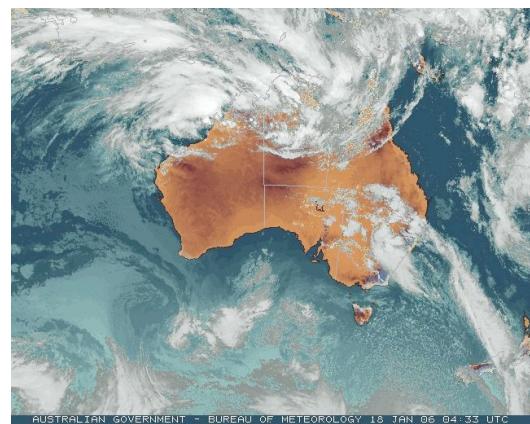
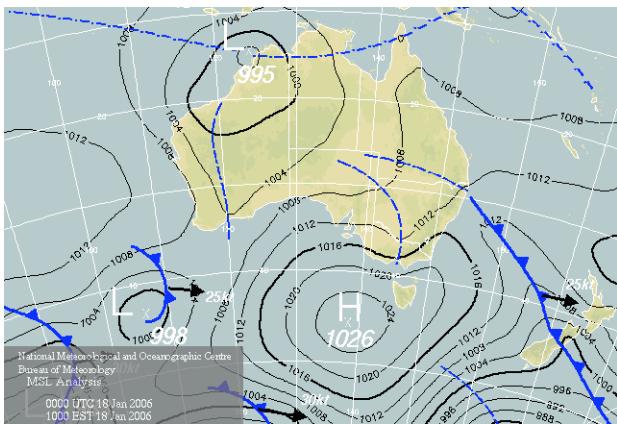
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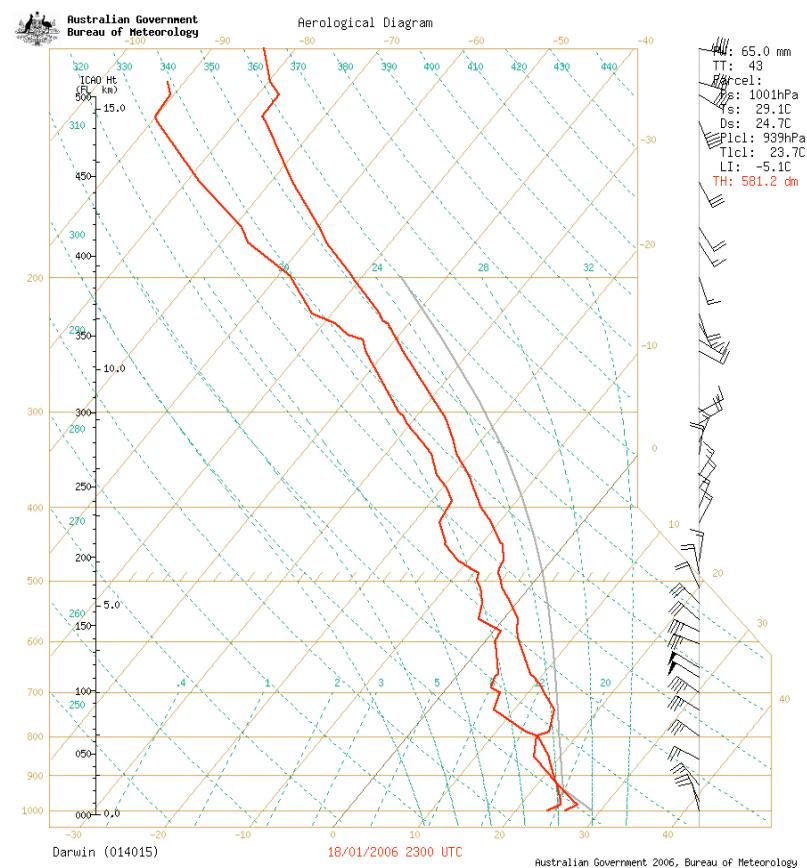
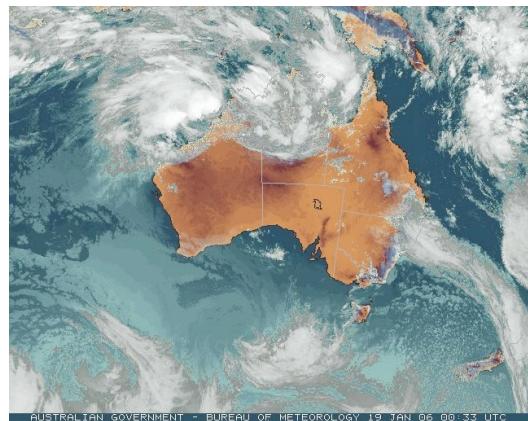
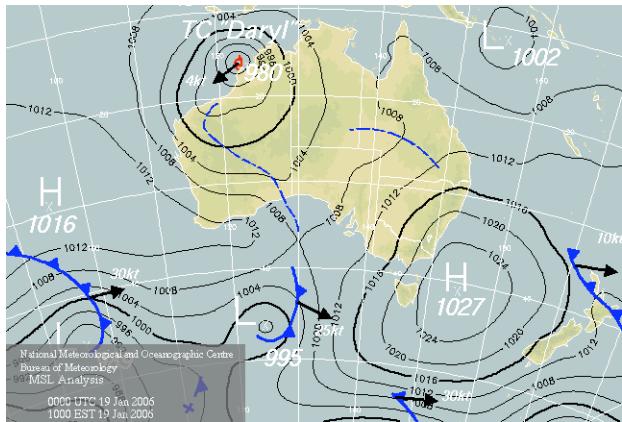
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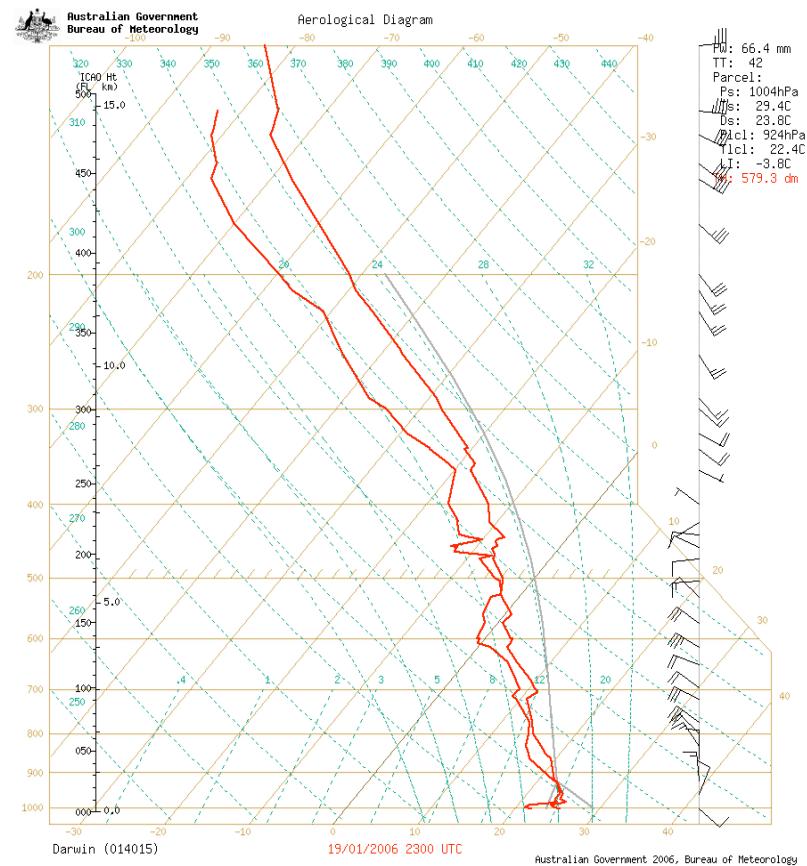
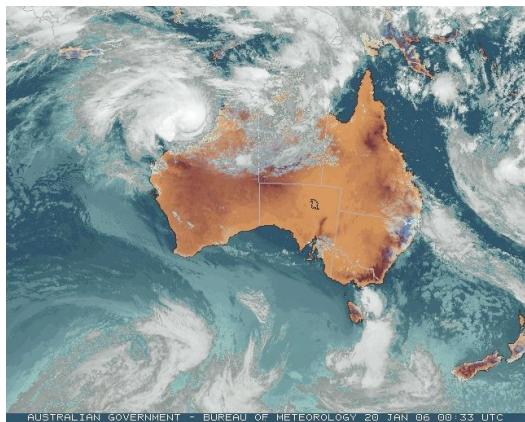
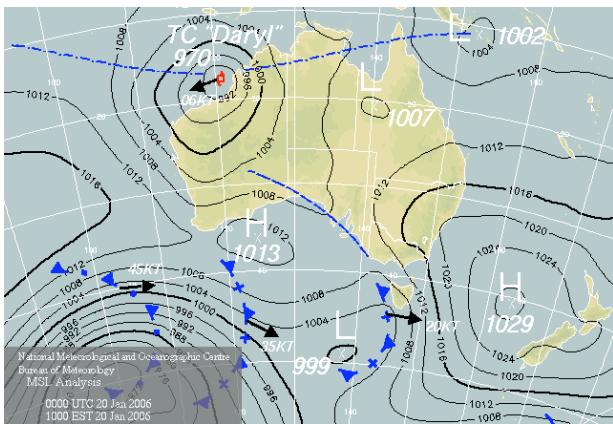
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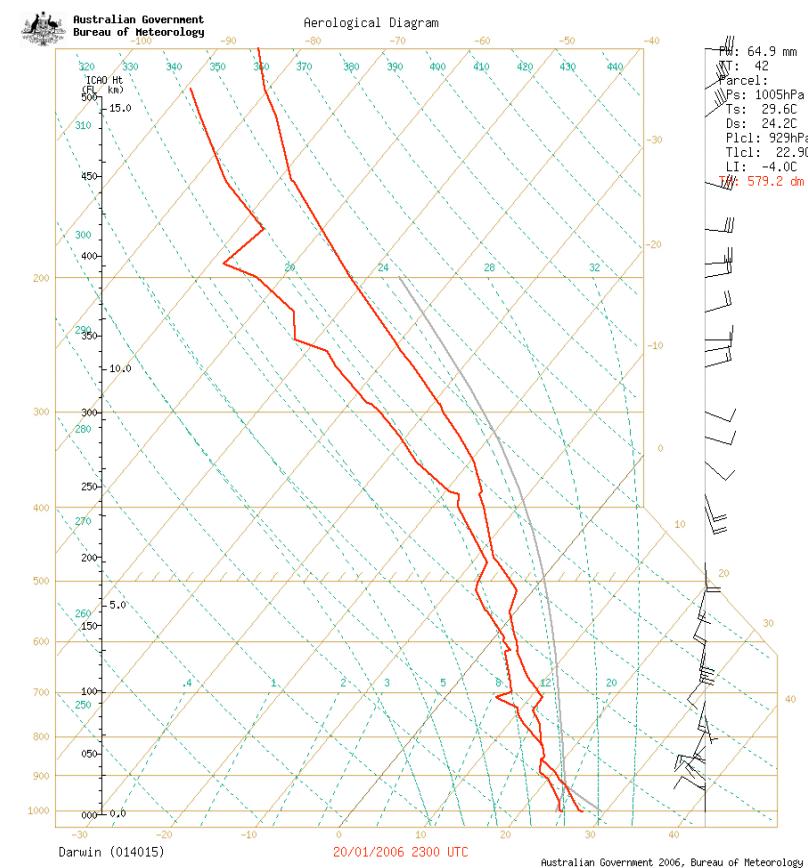
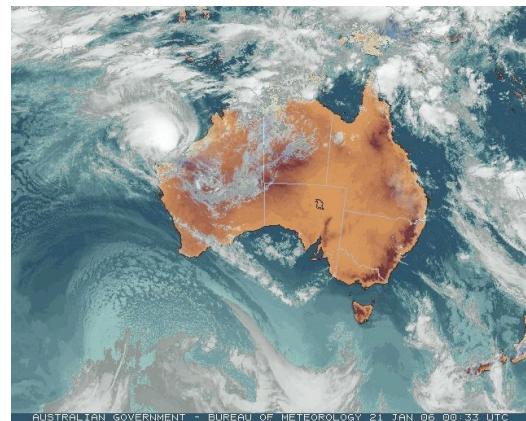
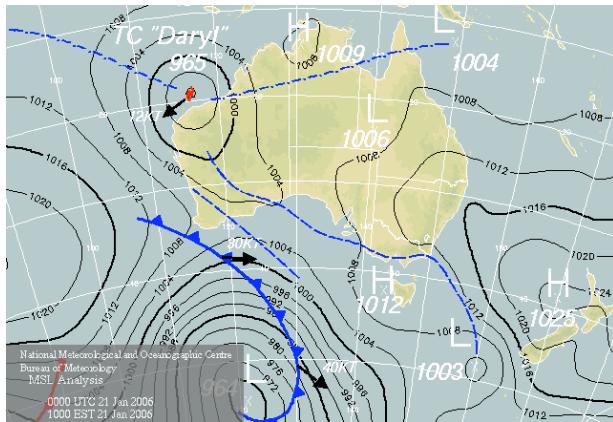
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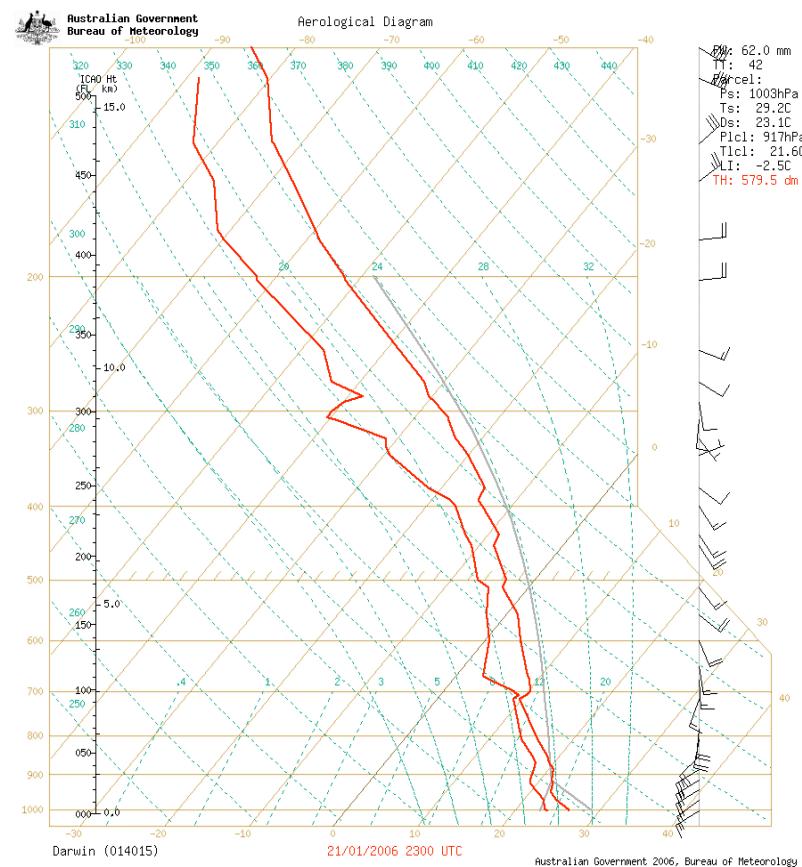
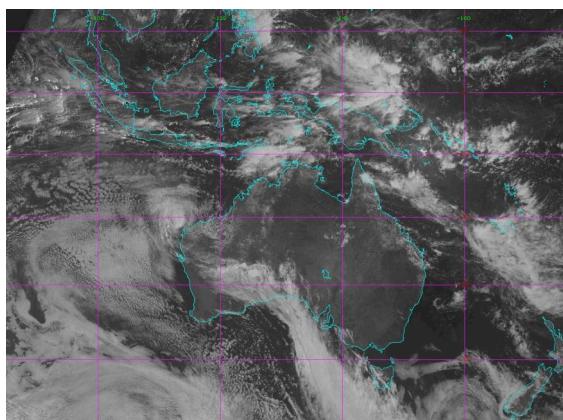
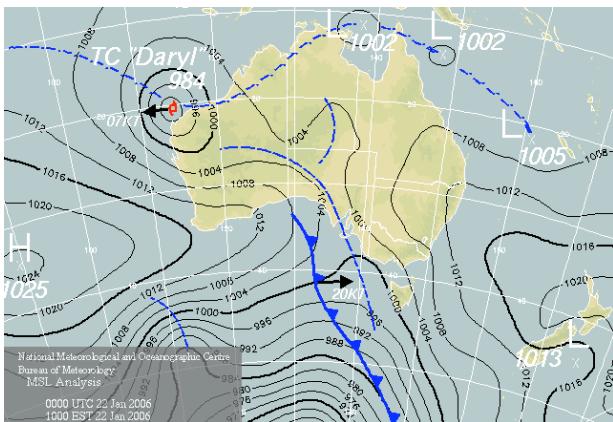
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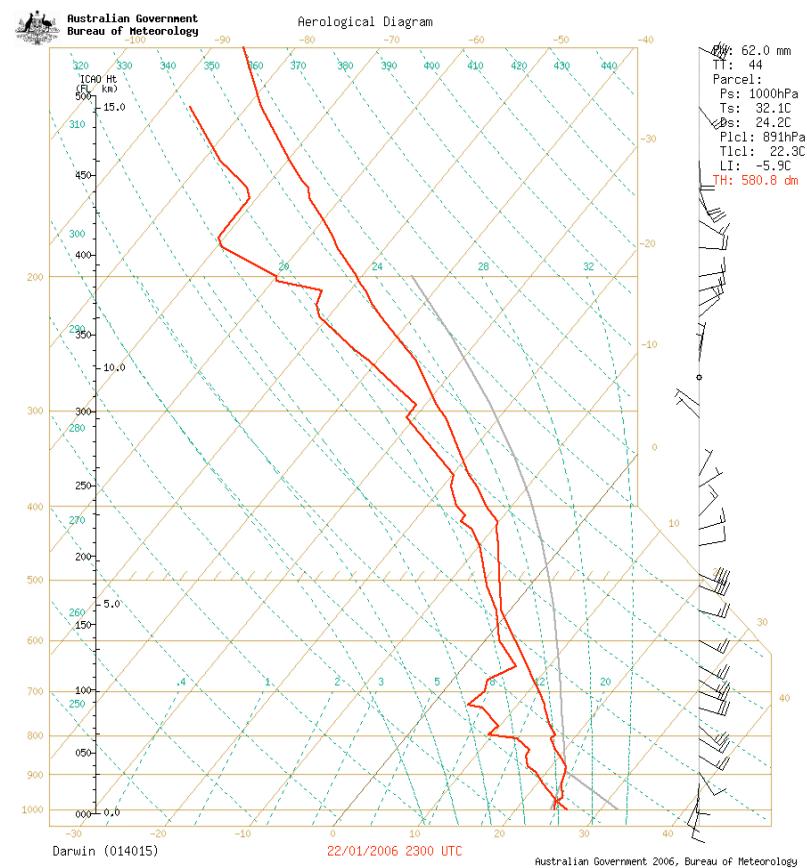
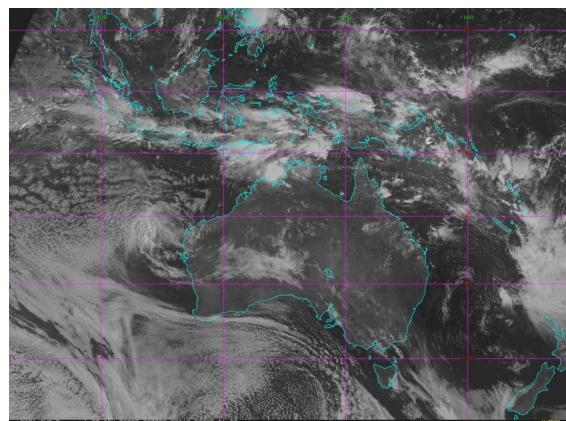
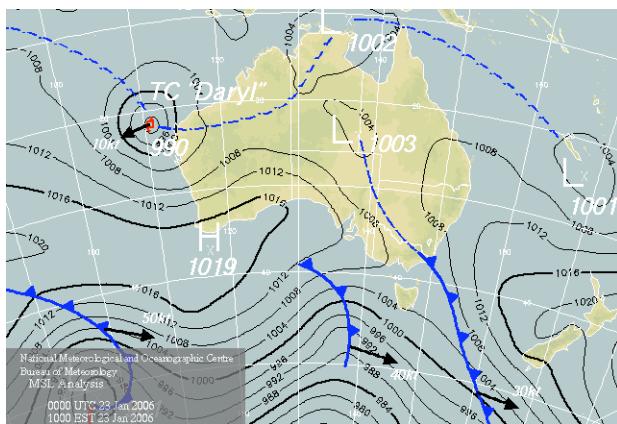
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22 January



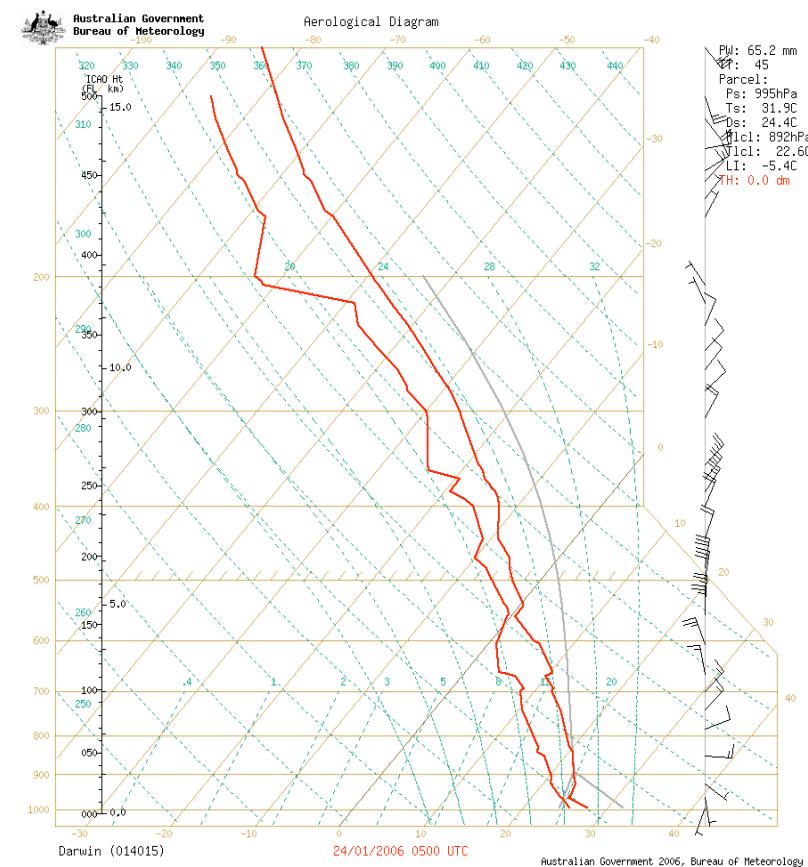
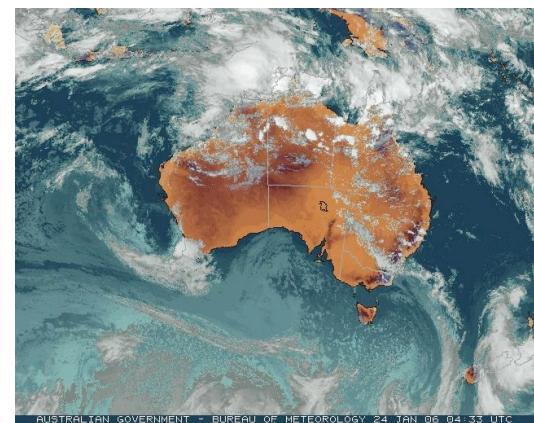
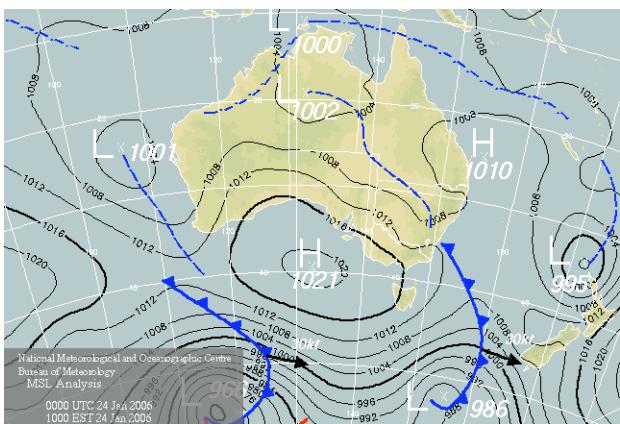
23 January



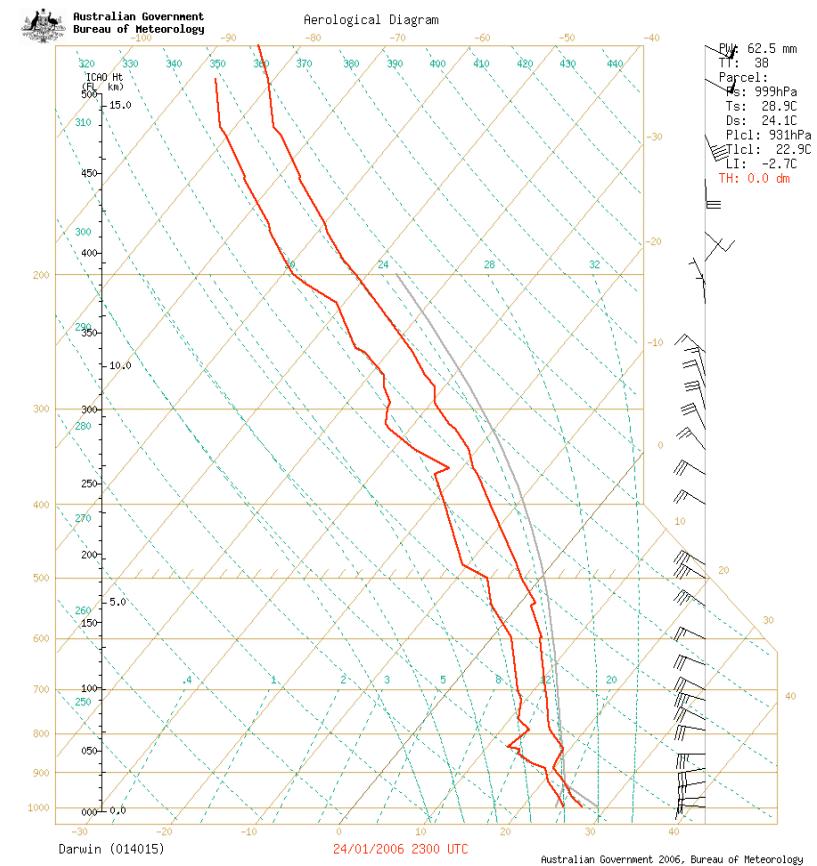
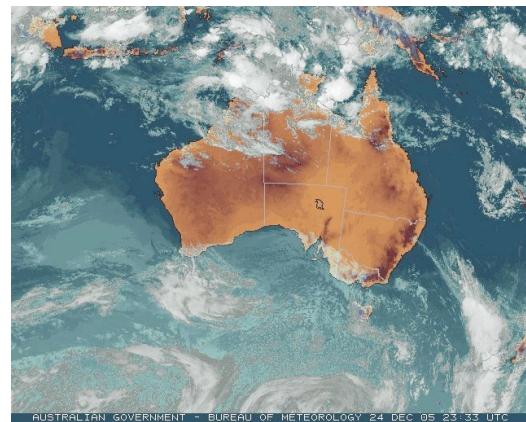
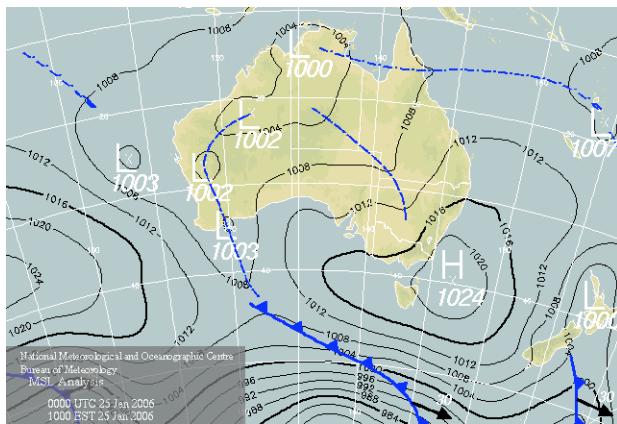
24 January -

MCS moved over NW Top End Overnight from squalline previous afternoon/evening;

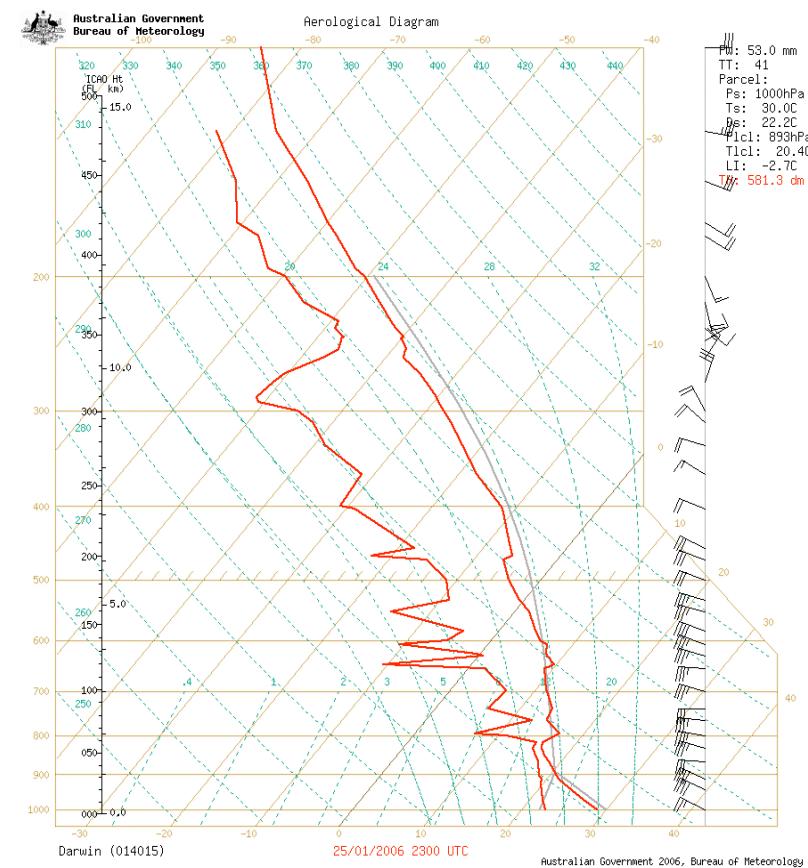
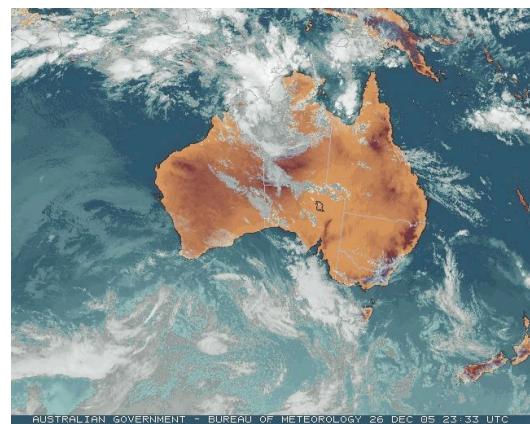
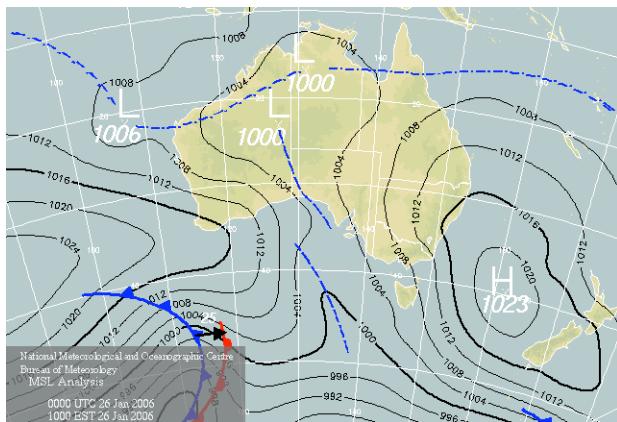
96mm to 9am at Darwin airport;



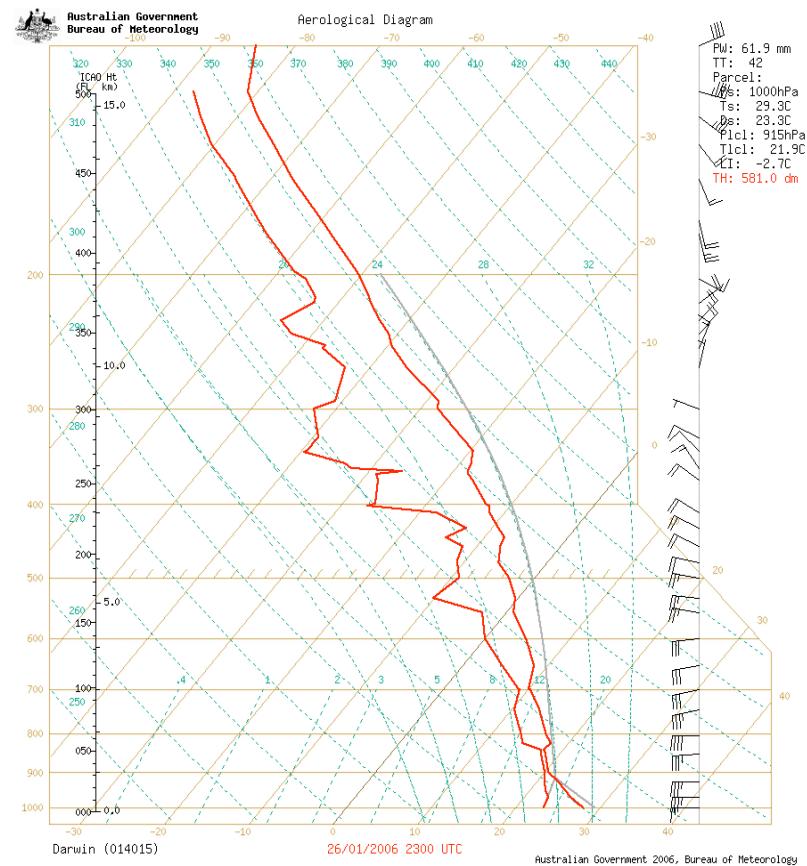
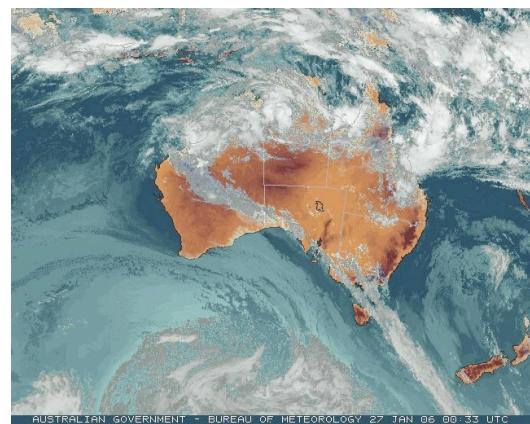
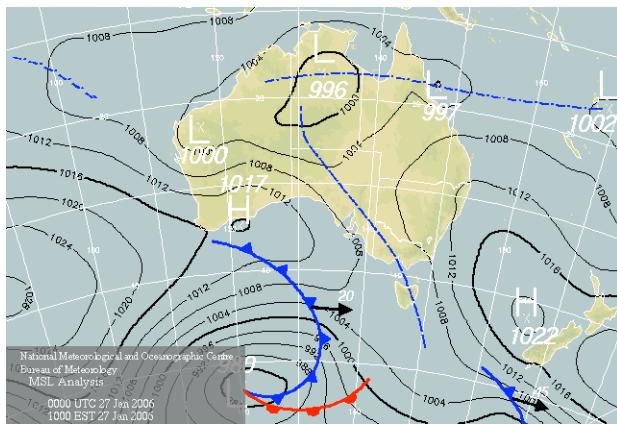
25 January



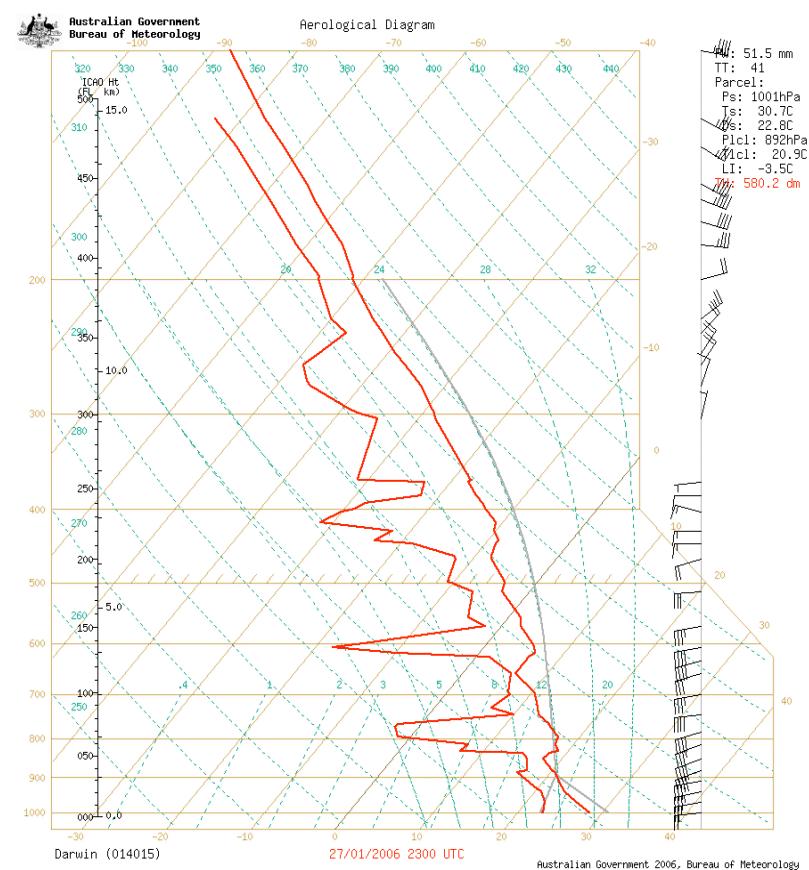
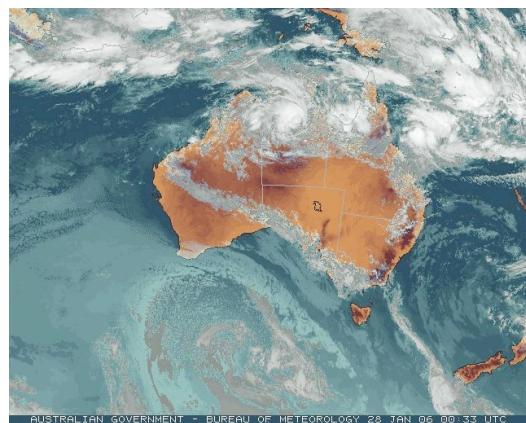
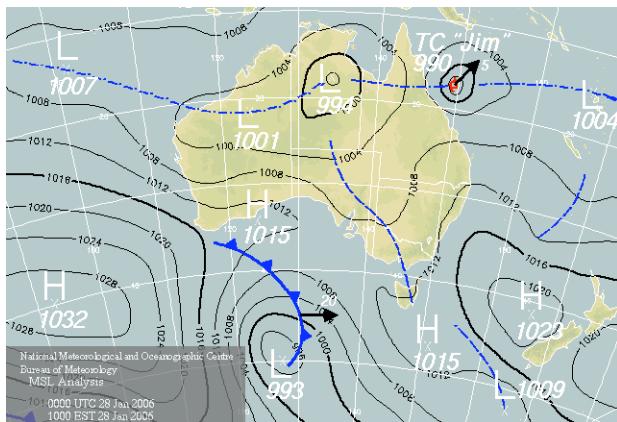
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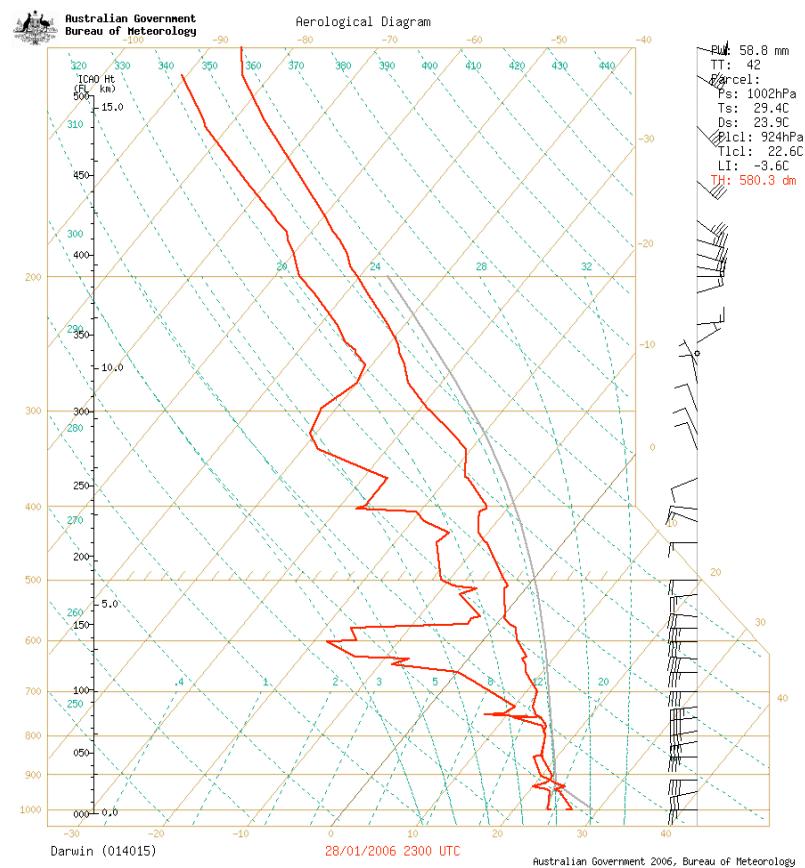
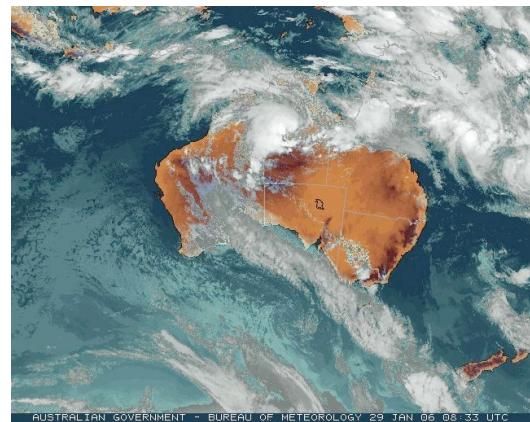
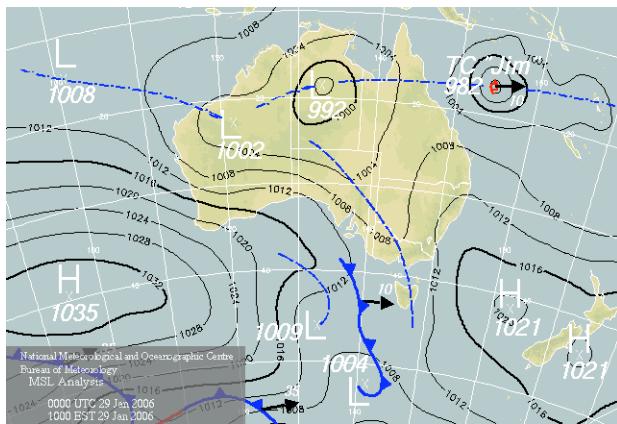
27 January



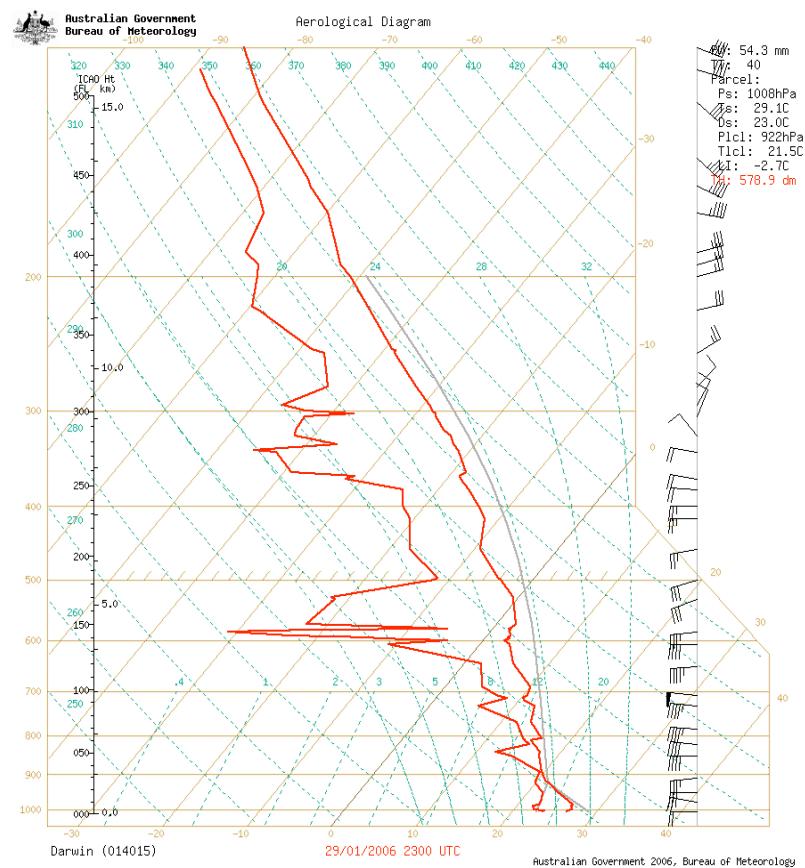
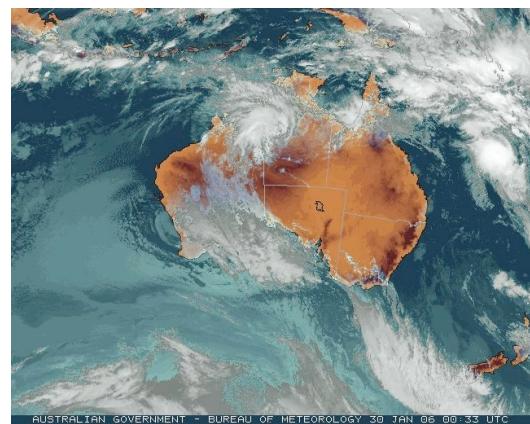
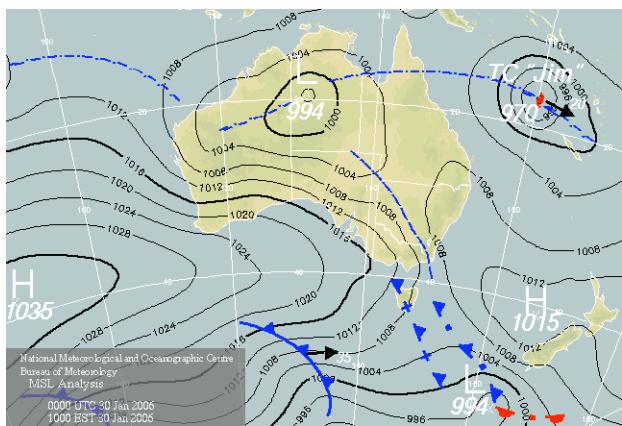
28 January



29 January

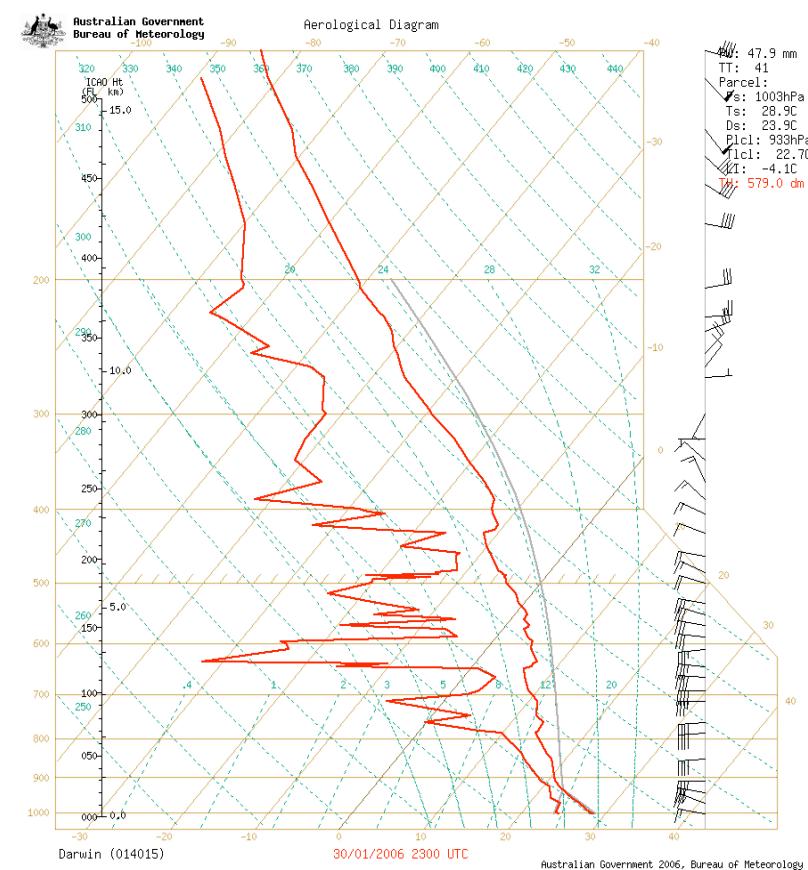
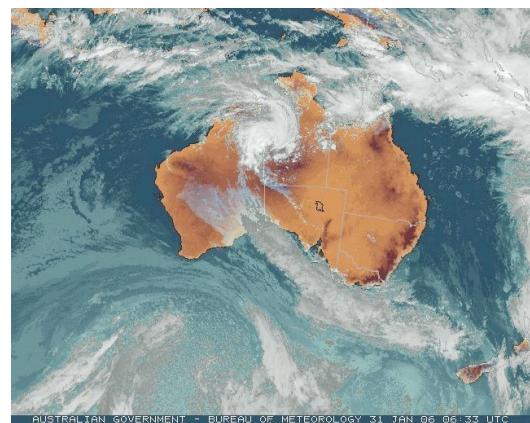
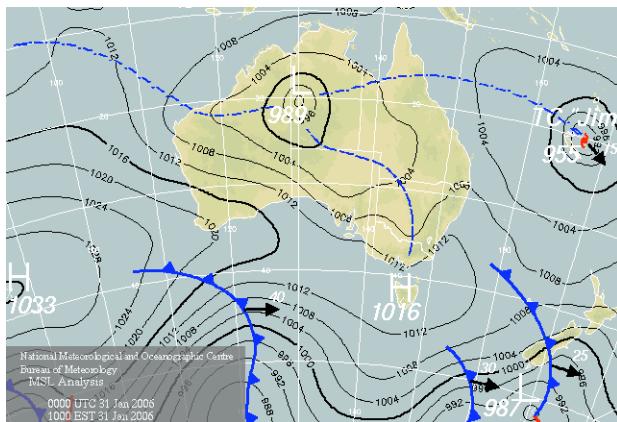


30 January



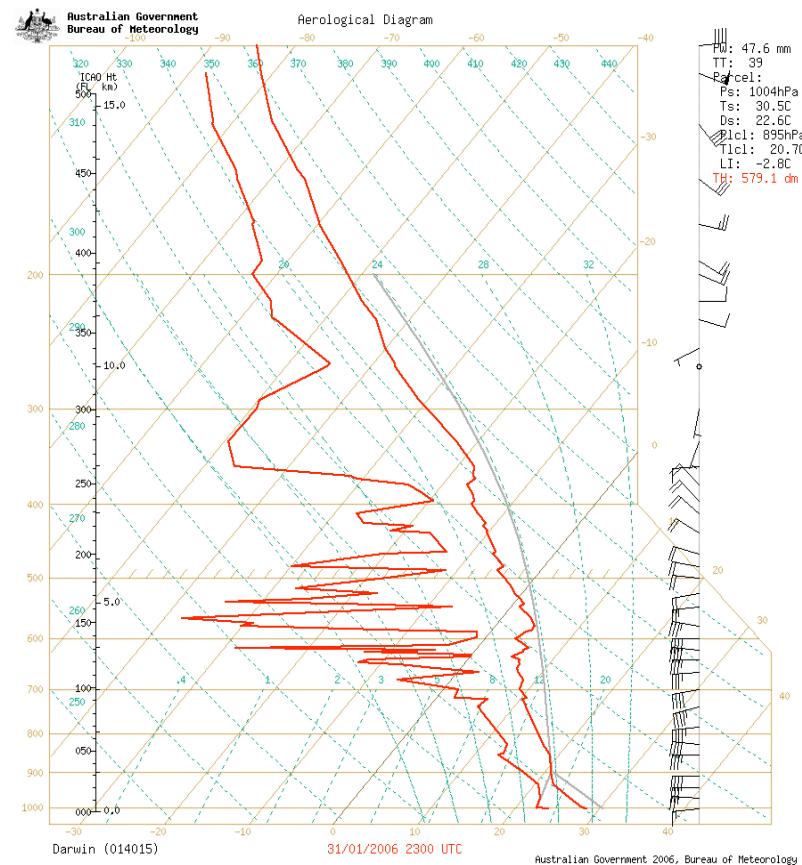
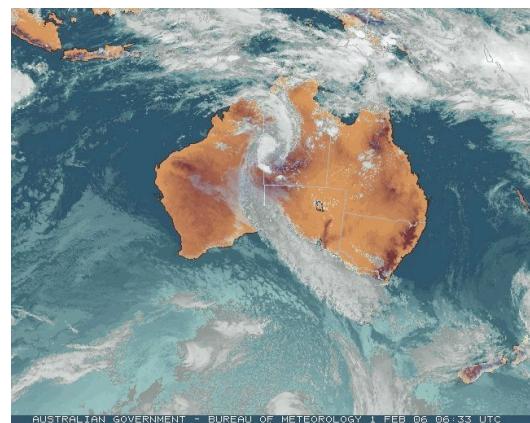
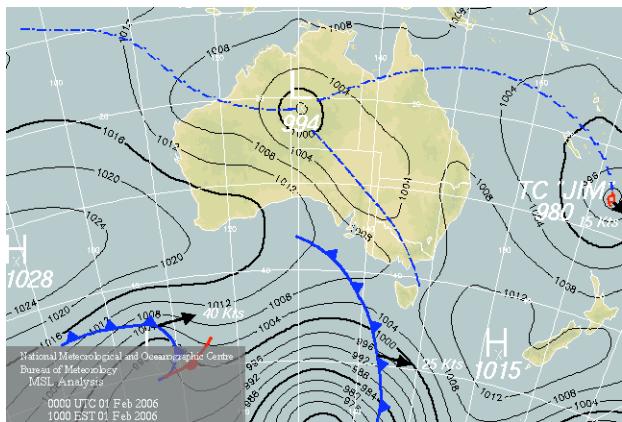
31 January

- monsoon low at peak intensity 989 hPa



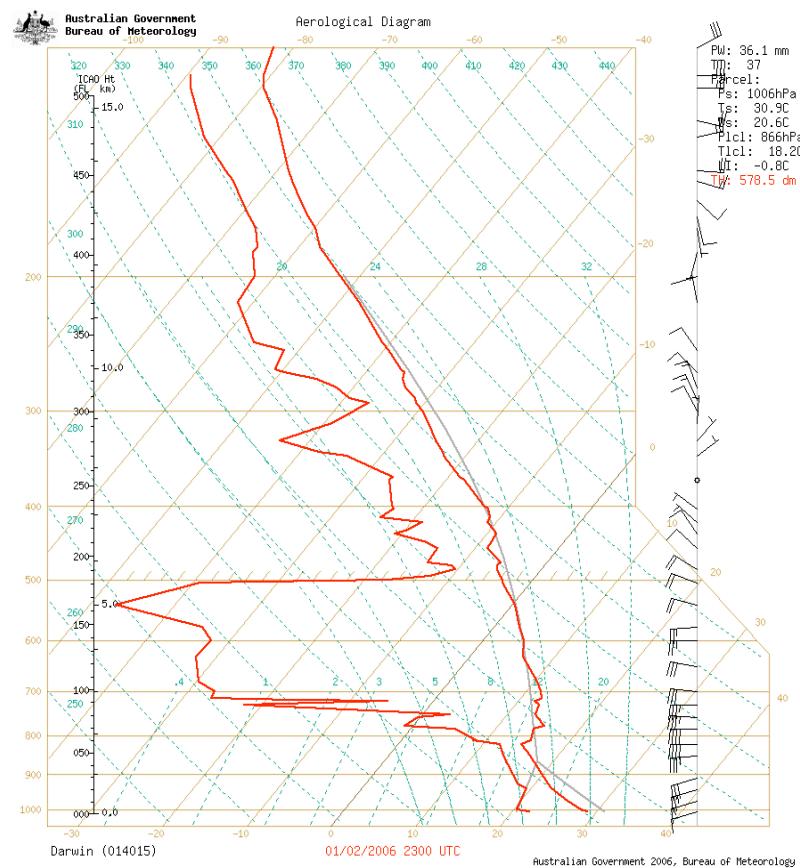
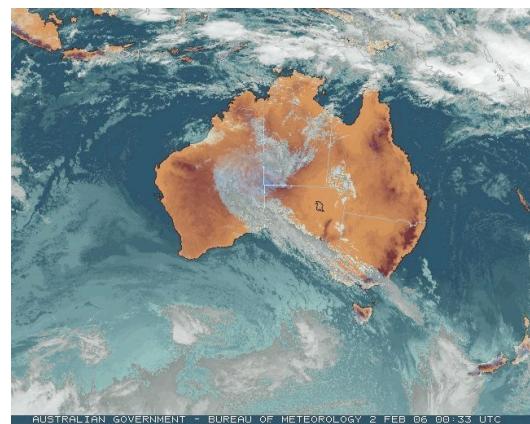
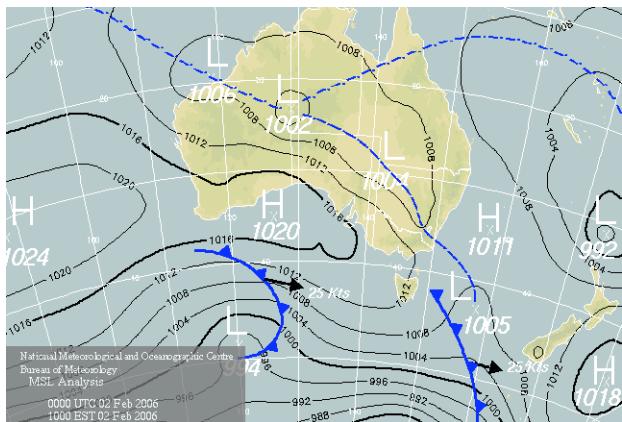
1 February

- severe monsoonal squall lines , 52 knots at Woolner, 46 knots at Cape Don , re-focus to monsoon as “landfoon” starts to weaken



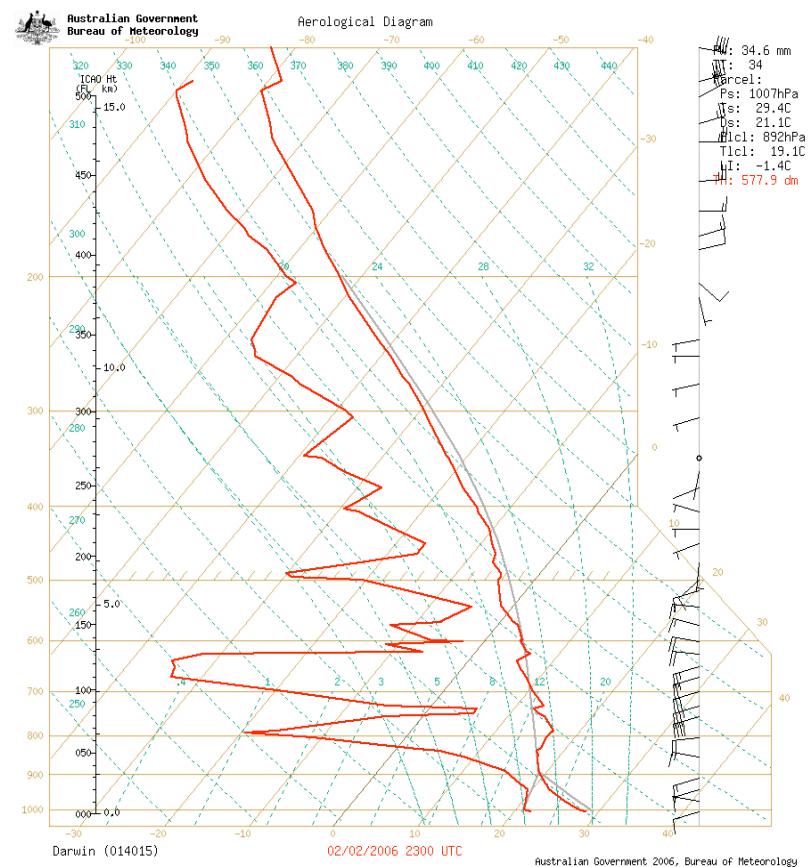
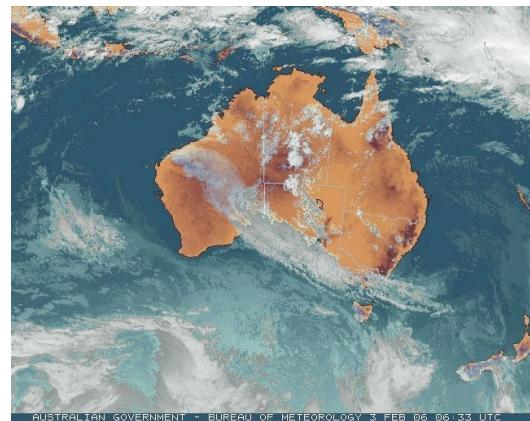
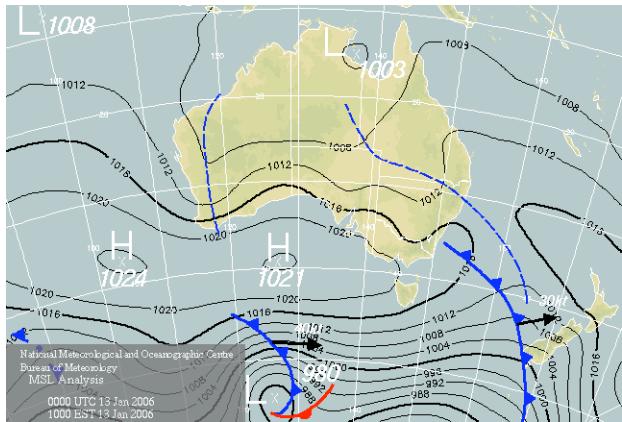
2 February

- monsoon squalls to north of Darwin (Tiwi islands)



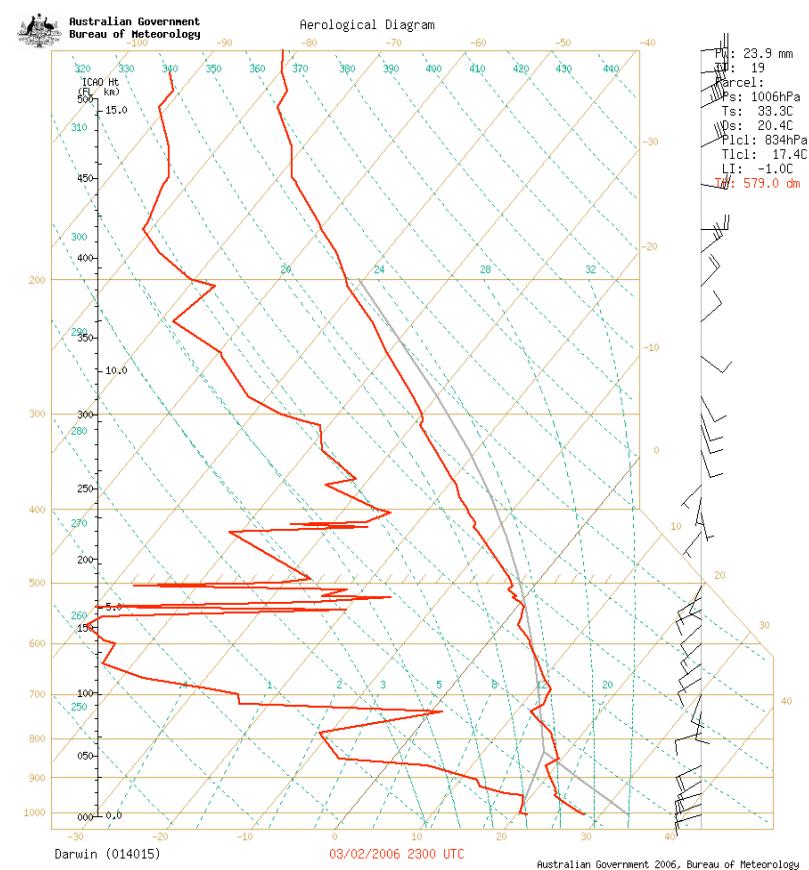
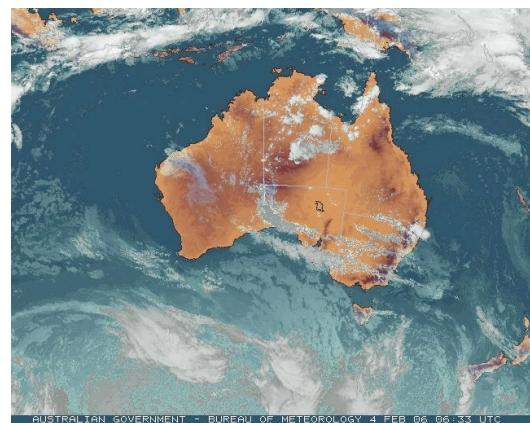
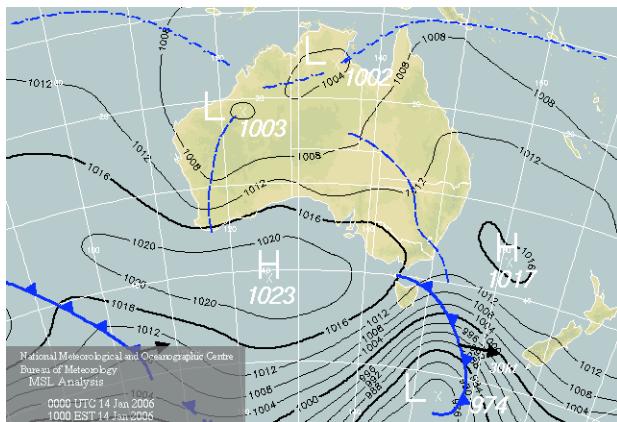
3 February

- monsoon weakened over north Australia - break period commences



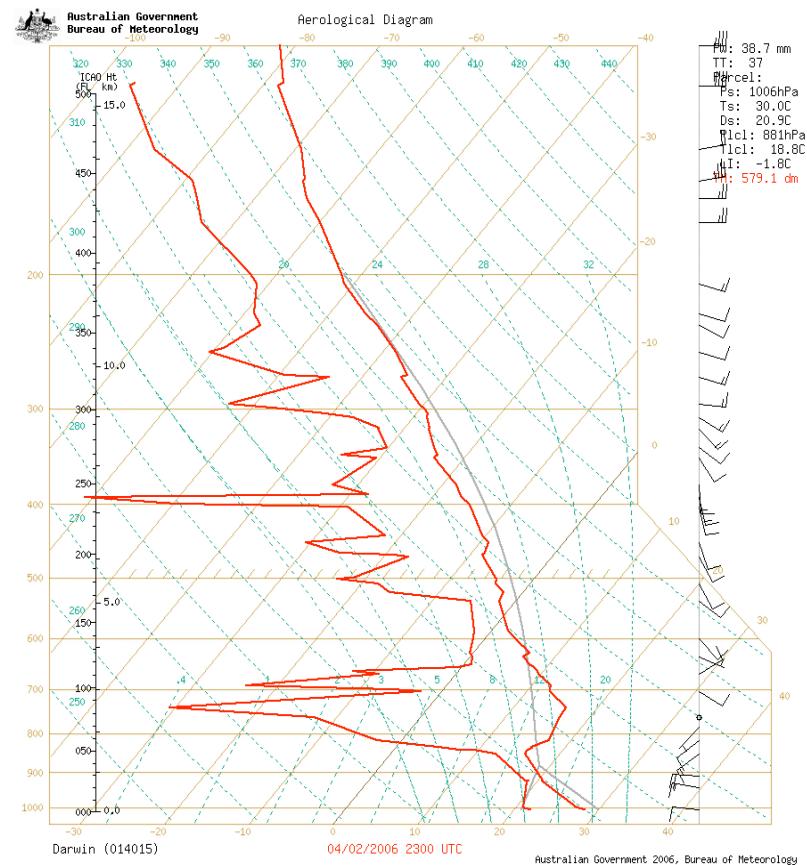
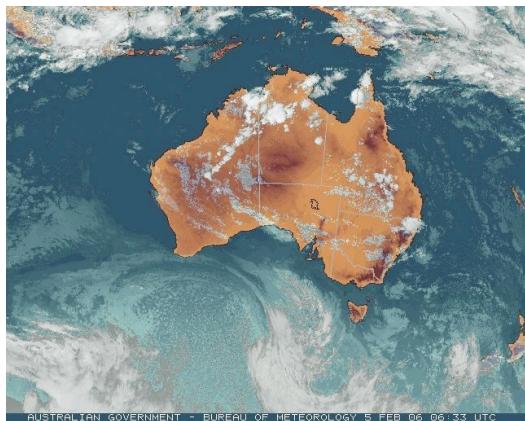
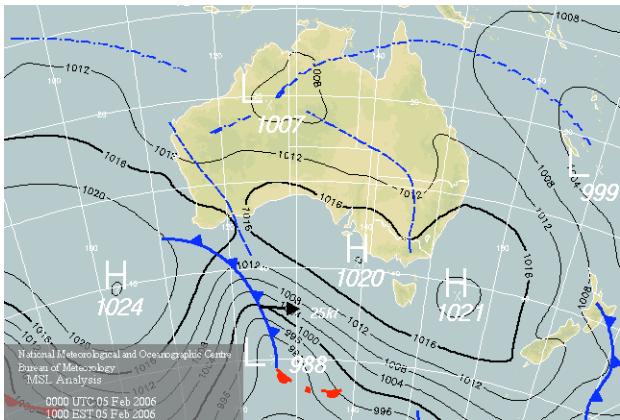
4 February

- Fine and sunny in Darwin;
Dry air and subsidence inversion near 5-10000 feet;



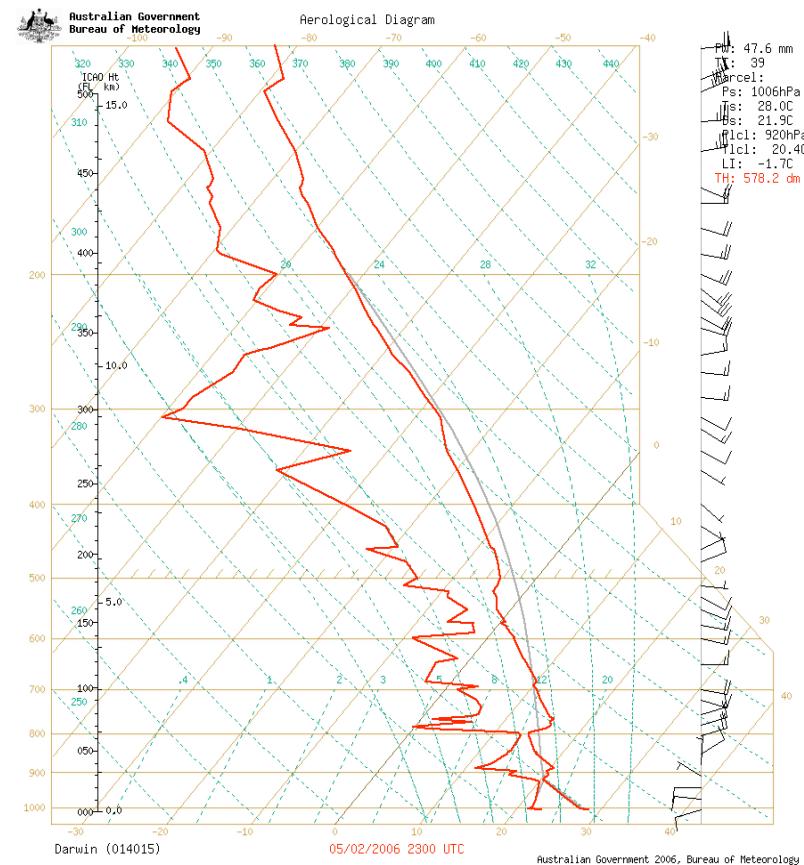
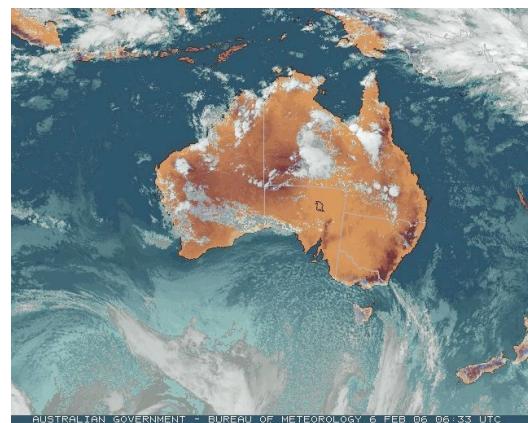
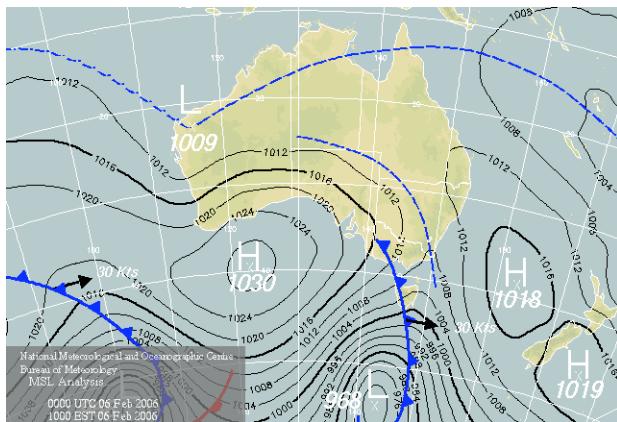
5 February-

Trough near Katherine, convection near trough, squall line continued across Kimberley overnight; Fine and sunny in Darwin

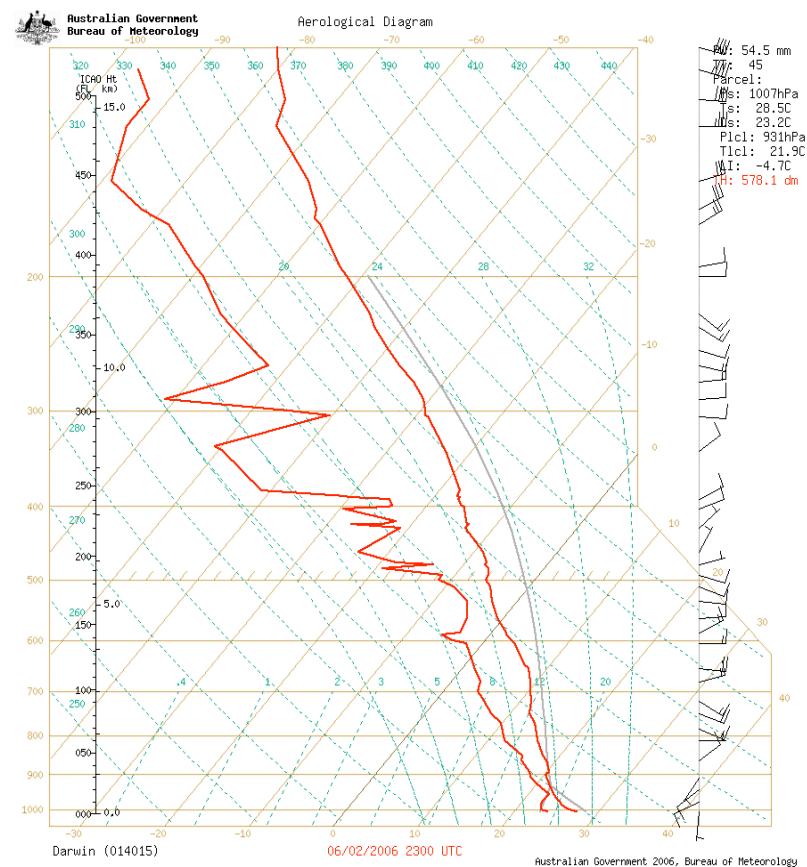
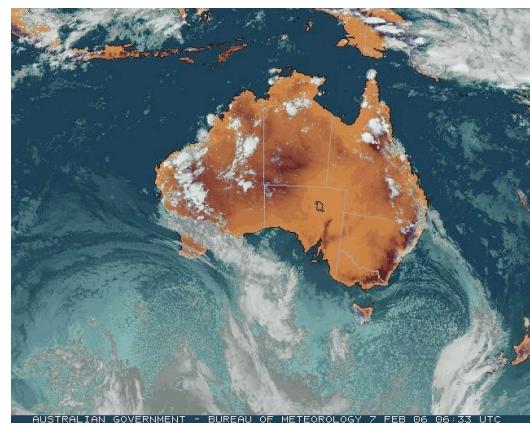
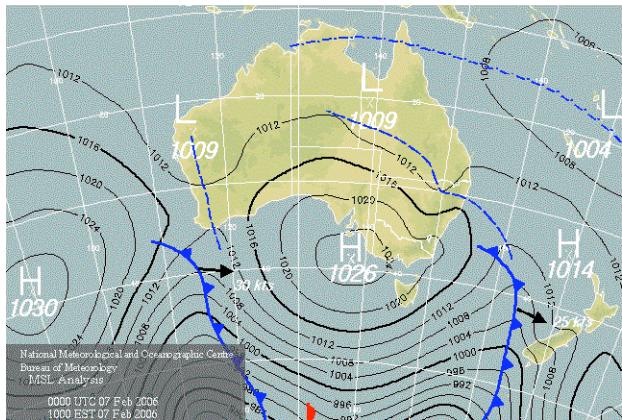


6 February-

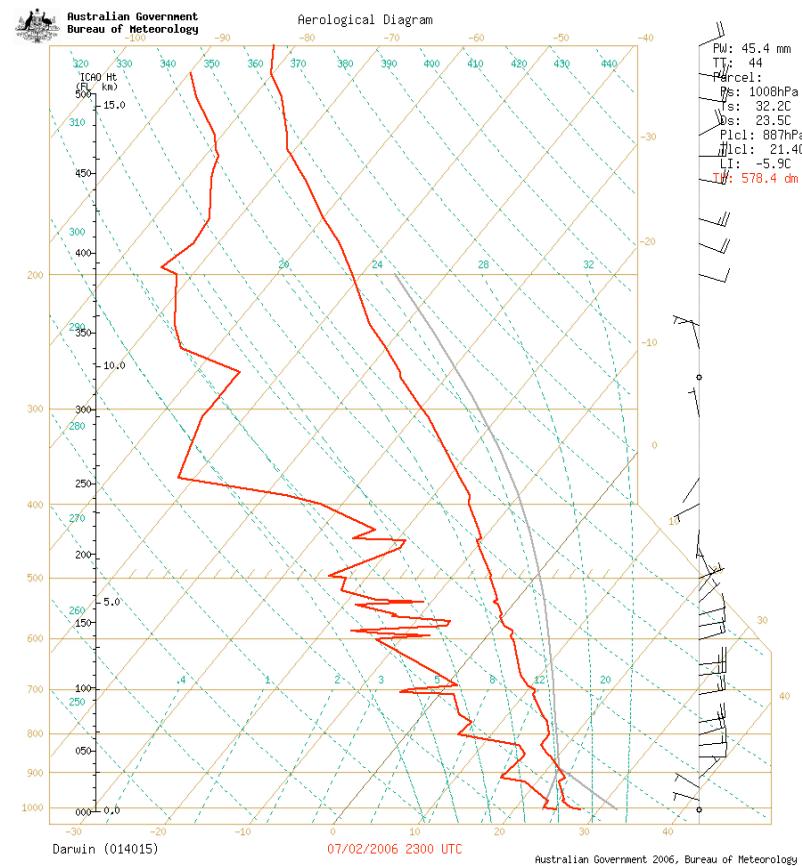
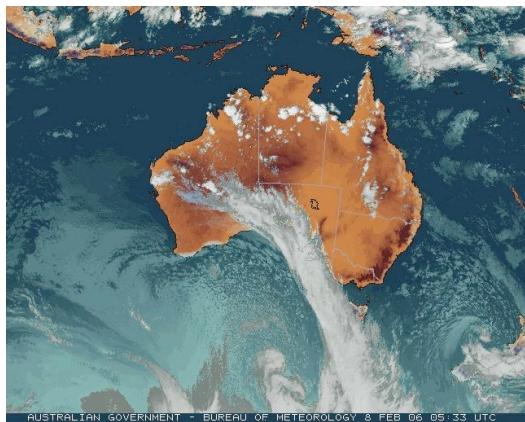
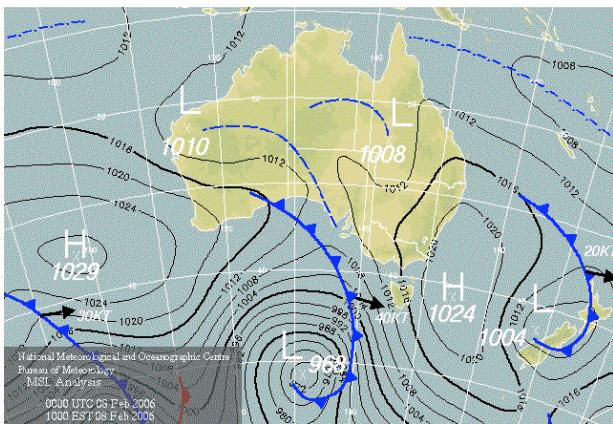
Northward moving trough, south of Darwin, active convection on trough in afternoon and Tiwi island.



7 February

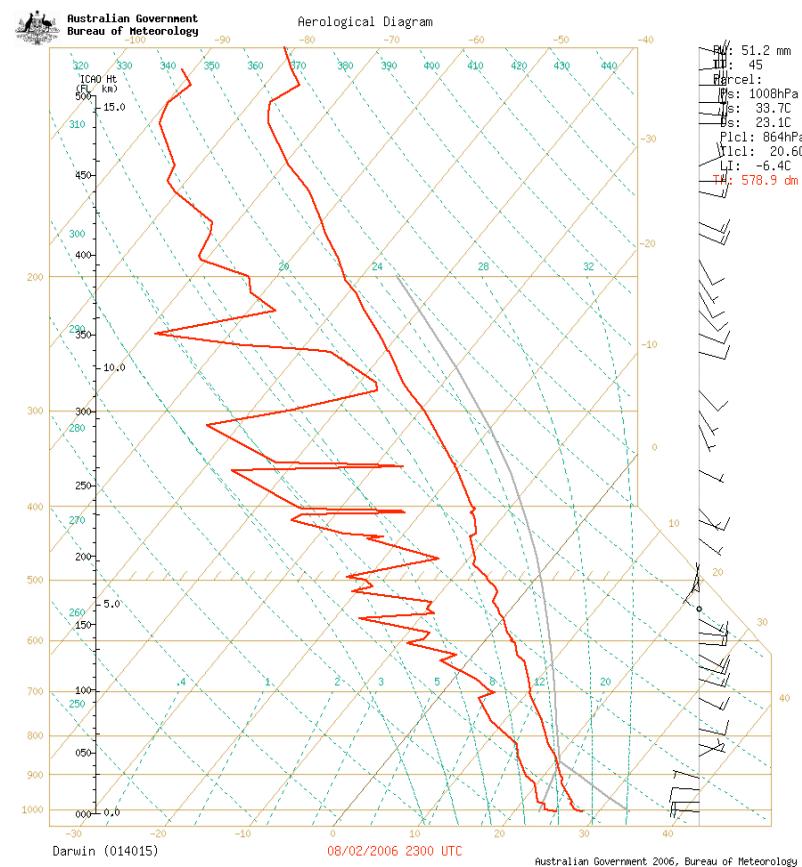
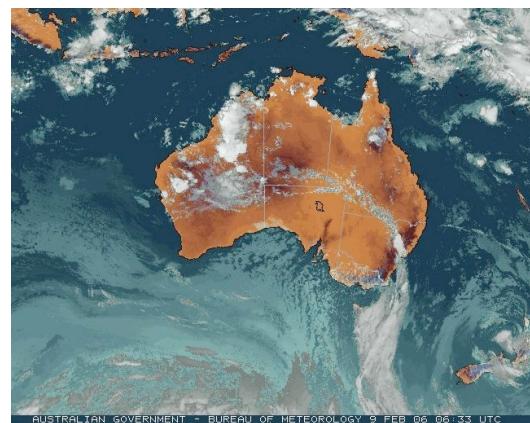
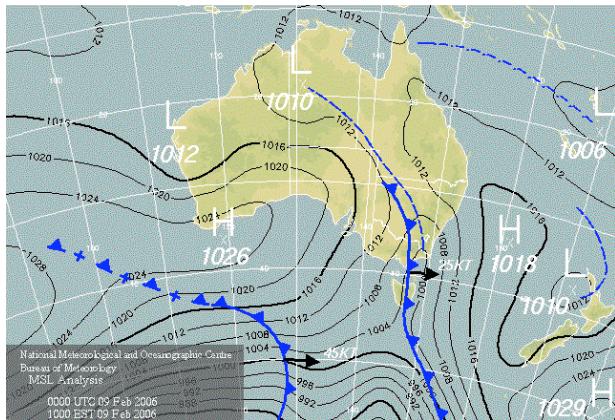


8 February



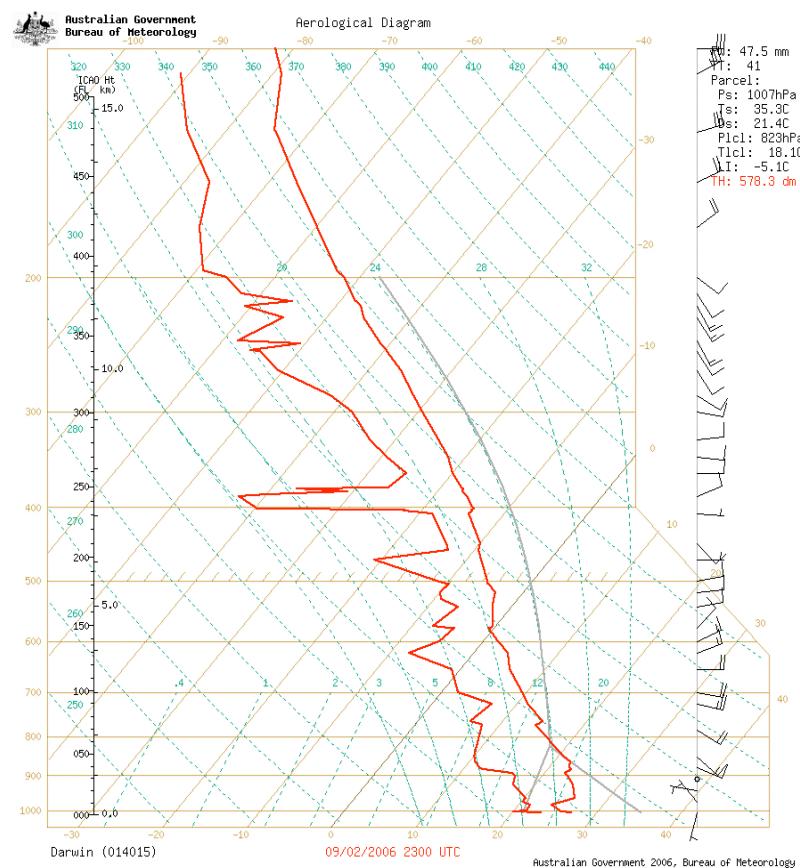
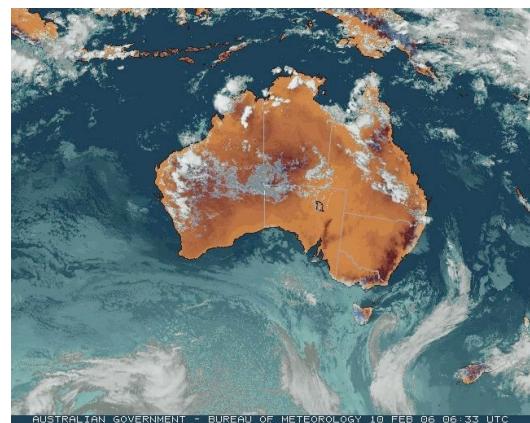
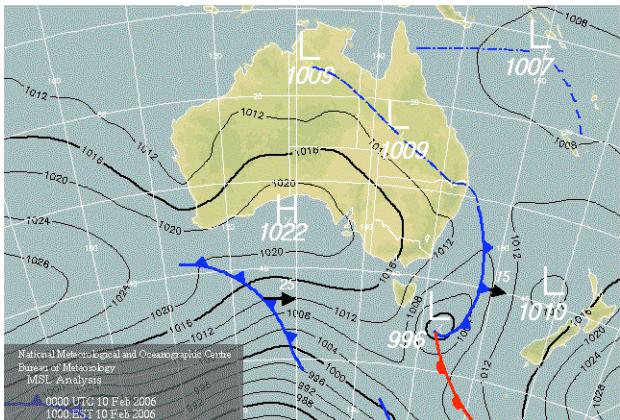
9 February

- Storms tops to 20 km on Tiwi Islands and south of Darwin;

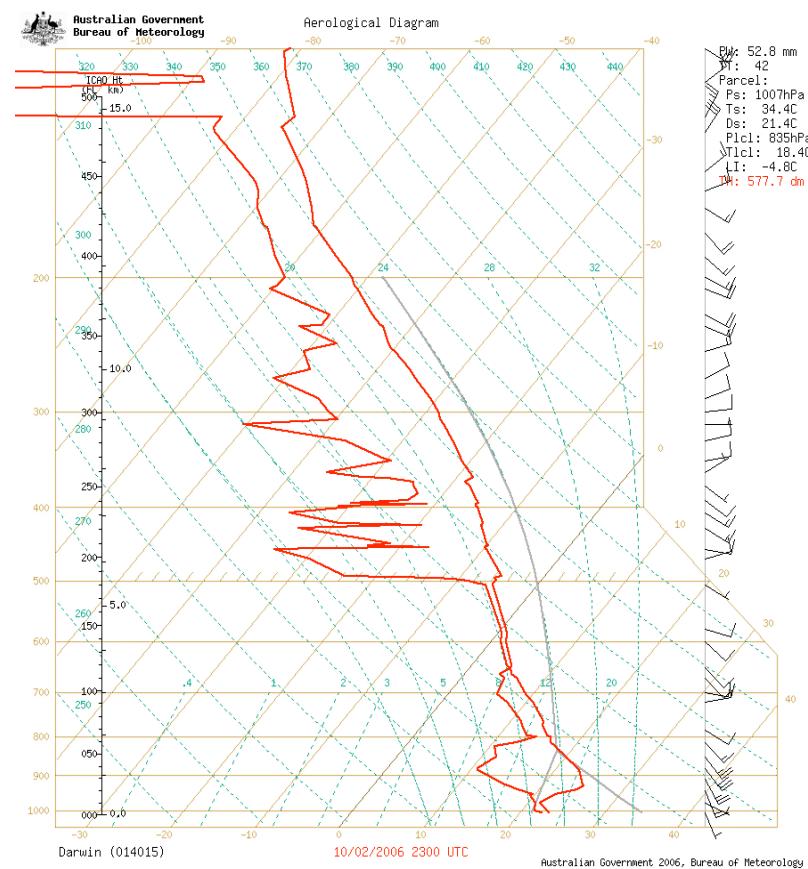
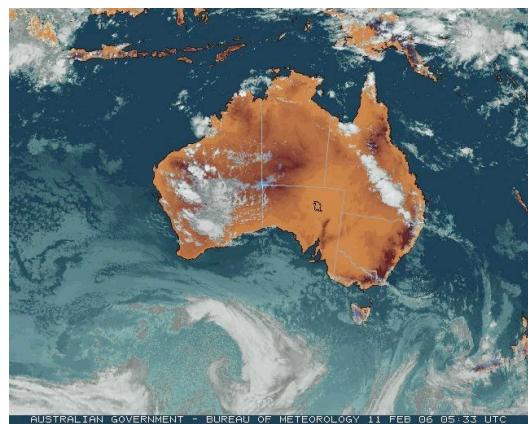
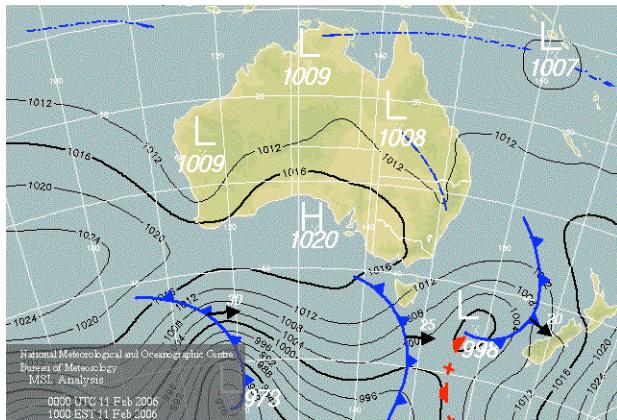


10 February -

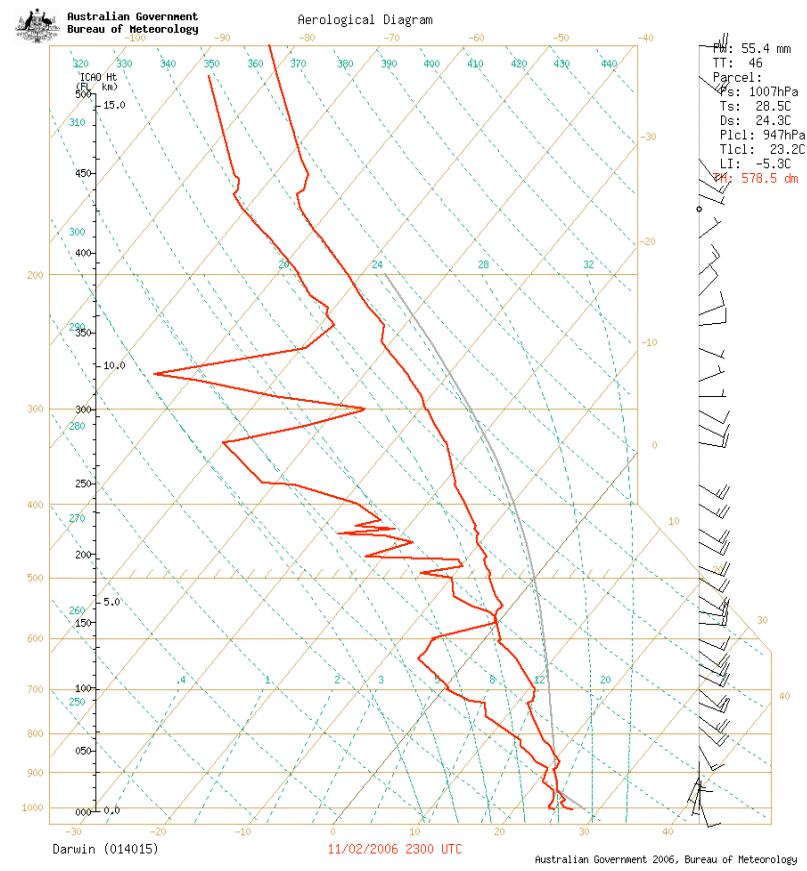
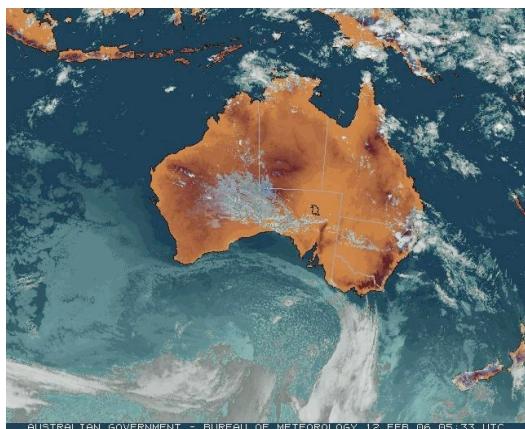
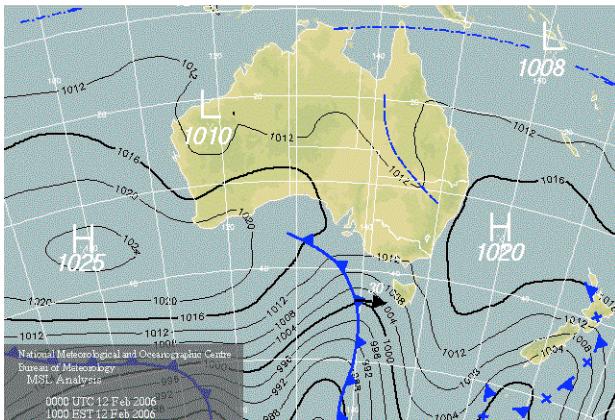
Overnight squall line through Darwin and south, suppressed daytime environ;



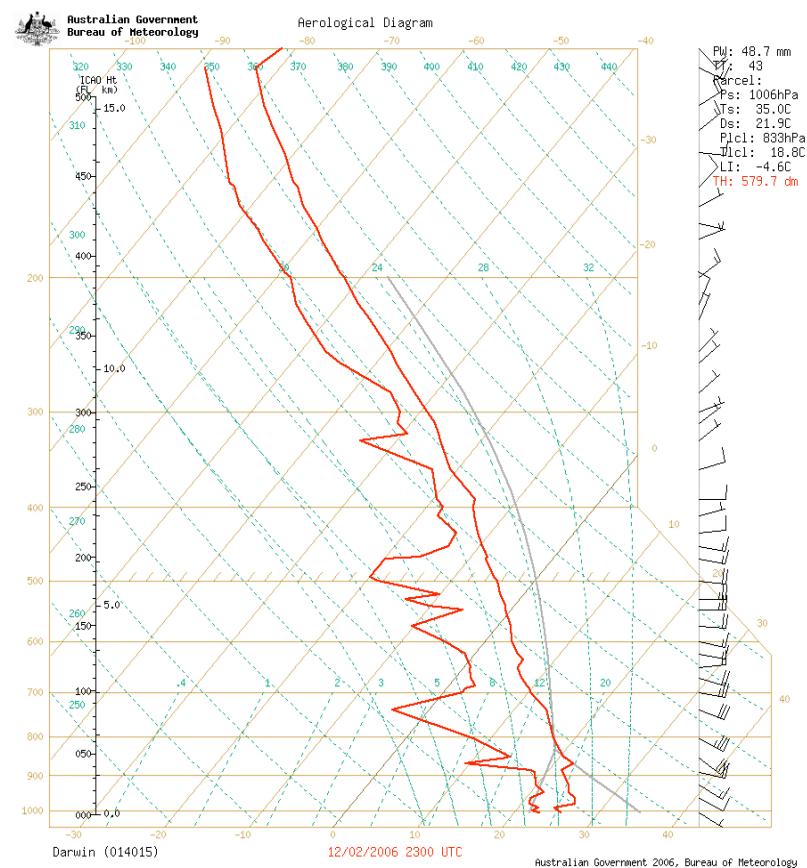
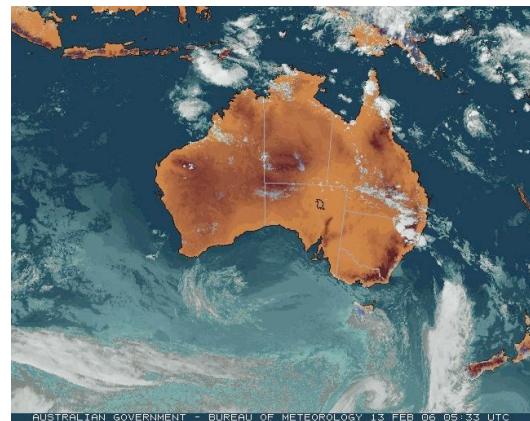
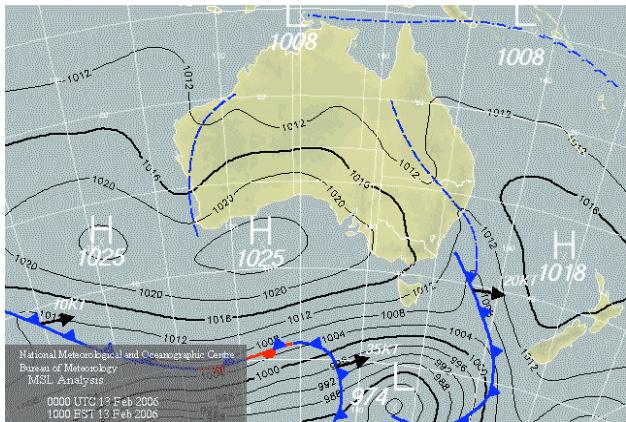
11 February



12 February



13 February



14 February

