PROGRAM A

ATMOSPHERIC STABILITY ENVIRONMENTS AND FIRE WEATHER (2) – A CASE STUDY OF THE HOVEA FIRE

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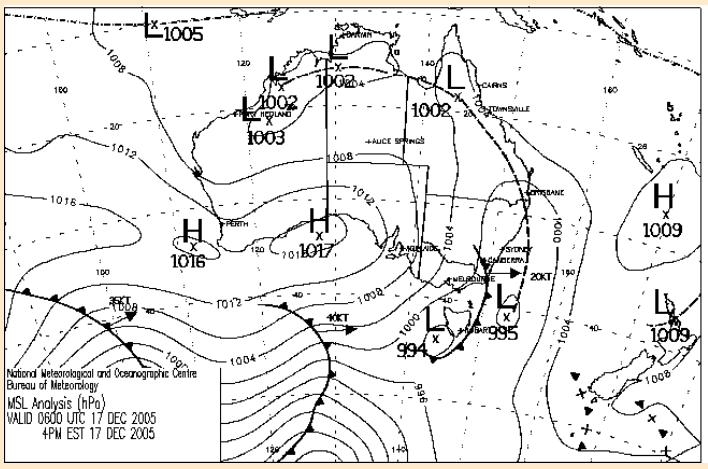
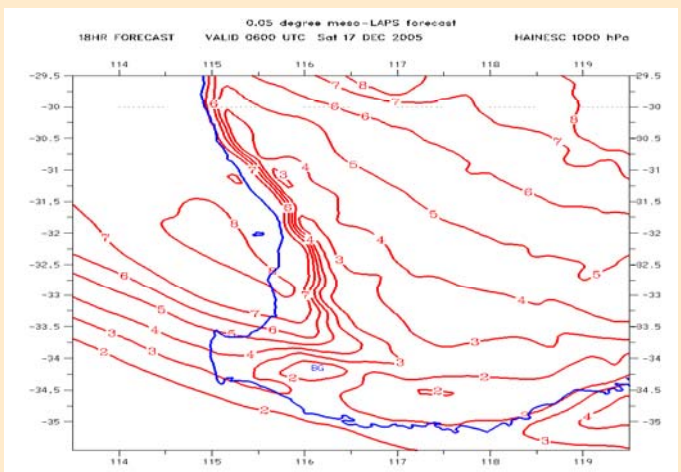
This was a prescribed burn on 17-18 December 2005 in the Greater Preston National Park, about 15km east of Donnybrook, WA (~25-30 km southwest of the nearest AWS at Collie East, and about 50 km north of Bridgetown). FFDI values were at best in the lower part of the Very High range, but extensive areas of crown scorch were noted in the mature jarrah forest, a result of the fire being more active than anticipated (Chandler 2005, unpublished CALM report).

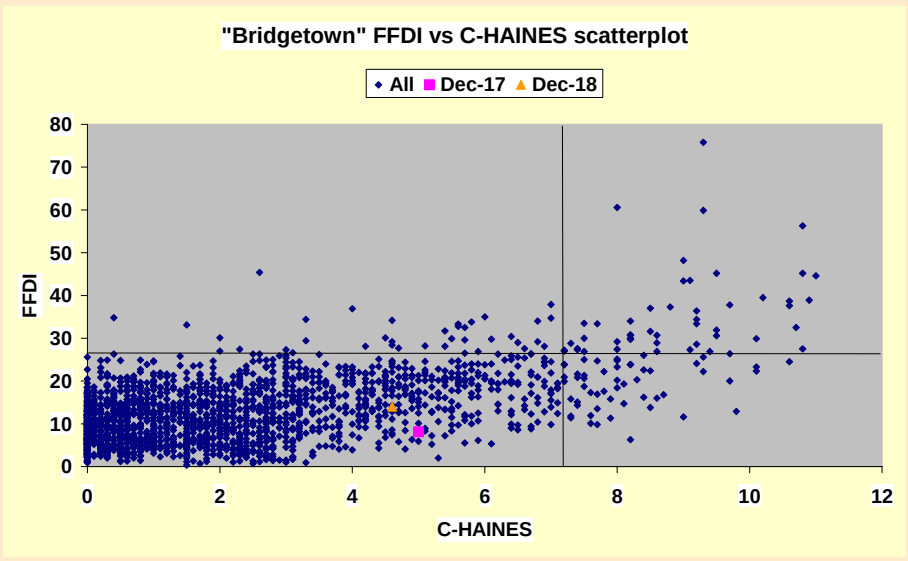
The MSLP analysis for that day shows a very benign surface pattern, with a ridge of high pressure across the southwest.

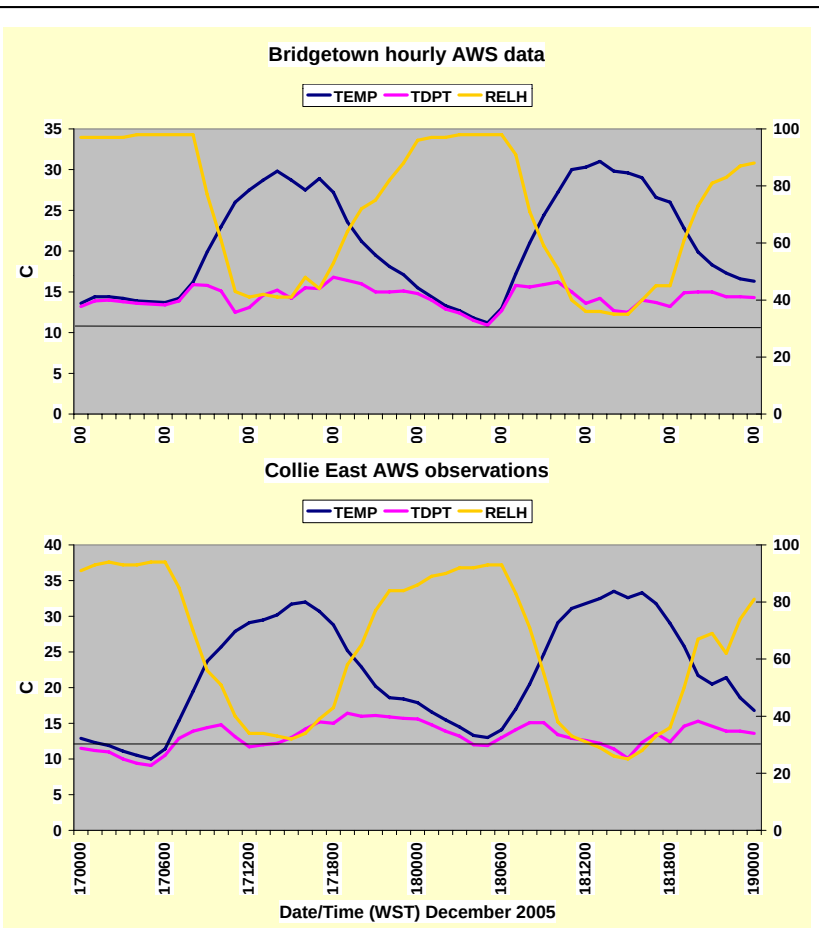


The C-HAINES forecast from the meso-LAPS operational NWP model shows a band of higher C-HAINES penetrating from the northwest, with its axis a little north of Bridgetown. This supports the arguments of Chandler (2005) that the lower humidity at the Hovea block may have been better represented by the observations at Collie East than the more humid conditions observed and forecast at Bridgetown (see right).



Using an 8-year climatology of 0600 UTC FFDI and C-HAINES, the representivity of the respective indices for any event can be easily displayed for a given gridpoint – in this case one near Bridgetown.
On the days of the fires neither index at this gridpoint was near its 95th percentile (black lines).





Other cases in report:

Bluegum Plantation	Randall Block	Lake Tay
Pickering Brook	Victoria 2006-7	Mt Cooke
Big Desert Fire (Dec 2002)	Berringa	Cobaw Ridge
Scamander/St Mary's	Denbarker Block	Billo Road