

From: David & Helen <holleyhill@bigpond.com>  
Date: 5 February 2009 4:51:15 AM  
To: jane.cowan@abc.net.au  
Subject: Fwd: Extreme fire threat Saturday7Feb

Hi Jane

For what it is worth this is how I see the coming weekend.  
With a lot of luck it may not happen.

Regards

David Packham

Begin forwarded message:

From: David & Helen <holleyhill@bigpond.com>  
Date: 5 February 2009 4:46:01 AM  
To: Athol Hodgson <atholjoy@optusnet.com.au>  
Cc: jmcribbes@bigpond.com, ralph@maxi.net.au, George Silberbauer <george.silberbauer@gmail.com>, andrew.helps@cff.net.au  
Subject: Extreme fire threat Saturday7Feb

Hi All

The Bureau of Met has issued its estimates for fire weather for Saturday 7 Feb. They are the worst that I have ever seen. A forest fire danger index of 100 is forecast for almost the whole state. We in Gippsland fare a little better with only 57 for East Sale airport.

Using Tullamarine as an indicator for the worst case for Victoria the estimates are as follows.

Temp 44, Dew point -5, RH 7%, Wind NNW 55 kph gusting to 85 Forest fire danger index (FFDI) 100, Grass fire danger Index (GFDI)100.

When you use McArthur meters this results in (assuming a fine fuel of 30 to/ha) in a forest rate of spread of 5.6 kph and a flame height of 77meters.

I have found (based of Hobart 1967) that McArthur underestimates in these extreme conditions and if the Drought factor is allowed to expand beyond 10 and an exponential average for wind speed + and - the gusting McArthur then works well.

I have recalculated the FFDI for Saturday using the expanded drought factor of 12 but only using the average wind speed as forecast and not the exponential average which would increase the FFDI some more.

My calculations yield

FFDI 186

Forest Rate of spread 6.7 kph

Flame height 90m

Spotting 20km

A westerly change of 35 kph i.e. strong but not as intense as Ash wednesday 1983 ( around 60 -70 kph) is forecast for late afternoon or into evening. That wind change of course greatly increases the area burnt as the east flank becomes the fire front for an hour or so and the fuels take 30 minutes or more to build their fuel moisture up again.

The fire intensity calculates at 100.5 megawatt per metre. The max for fire fighting is 2.5Mw/m, crown fires start at about 10Mw/m.

Assuming GFDI of 100, the grassland rate of spread is 13 kph but I would expect that it would reach the J.Noble max of 20 -25 kph.

These predictions are for the fire conditions experienced in Canberra 2003.

I doubt if the State has ever before faced such extreme conditions with fuel levels higher than ever, the prospects for Saturday are horrible.

Friday looks a little difficult and Sunday after the Saturday change is forecast to be very good although unfortunately no rain seems to be forecast.

The saving situation is that the extreme dry air does not encourage lightning and it is not mentioned on the forecasts for the next few days. Thus we are subject only to accidental and arson ignitions. Let us hope that neither of these occur although a realistic assessment would have to expect some. The high risk areas because of the terrible fuel situation are The Yarra catchment, the Otways and the remainder of the Strezleccies.

After checking on my analysis and if you deem it helpful could you let your networks know that this is the situation this fuelled up State is facing at least in my opinion.

You have no idea of how much I hope that I am wrong.

david Packham.