



Submission No. 20

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To whom it may concern

Re: House Standing Committee on Industry, Science and Innovation Inquiry into long-term meteorological forecasting in Australia.

The Department for Environment and Heritage (DEH, South Australia), Fire Management Branch is entering this submission to the "*Inquiry into long-term meteorological forecasting in Australia*" on behalf of the South Australian 'Government Agencies Fire Liaison Committee' (GAFLC). Long-term meteorological forecasting plays a critical role in assisting land managers and emergency service agencies alike to meet the challenges of a changing environment.

The Bureau of Meteorology (hereafter referred to as the Bureau) provide good support to the GAFLC agencies during the Fire Danger Season (FDS), particularly in support of bushfire suppression activities. Whilst support for emergency response is somewhat covered, focus is changing and now needs to cover the entire Prevention, Preparedness, Response and Recovery (PPRR) model, as outlined in National Inquiry on Bushfire Mitigation (Ellis, et al, 2004) to ensure the impact of bushfires on communities is mitigated.

Without pre-empting any outcomes of the 2009 Victorian Bushfires Royal Commission, it is likely that prescribed burning will play an increasingly important role as a prevention strategy to reduce the impact of bushfires into the future.

As such it is critical the Bureau is adequately resourced into the future in support of these requirements with a sense of urgency.

TERMS OF REFERENCE

Terms of Reference 1: *The efficacy of current climate modelling methods and techniques and long-term meteorological prediction systems;*

Terms of Reference 2: *Innovation in long-term meteorological forecasting methods and technology;*

- Graphical Forecasting Environment (GFE) is a technology that has been in use numerous years in the United States and makes forecasting easier. The graphical displays are used for various elements of the weather as shown on the National Weather Service website (NOAA, 2009). The Bureau expected to be rolling this technology out in 2008, however the likelihood is now forecast for 2011, with the delay due to cutbacks in resources and funding. The Bureau should implement this updated technology for forecasting as soon as possible.

Terms of Reference 3: *The impact of accurate measurement of inter-seasonal climate variability on decision-making processes for agricultural production and other sectors such as tourism;*

- Data analysis of seasonal variation as it relates to both severe bushfire seasons (or the lack of) is critical to see those variations per site location. Analysis of seasonal variation as it relates to bushfire management and how links in to the expected fire behaviour, controllability and the managing of business in general is important.
- Data analysis of prescribed burning seasons (eg wet/dry, length of season, early/late start and finish) needs to be undertaken. This is particularly important as the window of opportunity can sometimes be quite narrow to implement any prescribed burns. This is important to get a good indication of what the expected window is likely so preparedness levels can be maximised. It is important to implement any hazard reduction burning for life and property protection, to reduce the impact of any bushfires in a given area. In terms of ecological burning, it is also very important analysis to provide to land managers so that the burn can be implemented at the most appropriate time for the species concerned.
- These data analyses are in their infancy in the Bushfire Cooperative Research Centre (CRC).

Terms of Reference 4: *Potential benefits and applications for emergency response to natural disasters, such as bushfire, flood, cyclone, hail, and tsunami, in Australia and in neighbouring countries;*

- Two key areas of fire management business for the GAFLC agencies are bushfire suppression and prescribed burning.
- **Prescribed burning** – The Bureau currently services the emergency response function of fire management. The focus is changing to include the Prevention, Preparedness, Response and Recovery (PPRR) model (Ellis, et al, 2004). Moving towards a PPRR model then includes other aspects of fire management such as prevention, preparedness and recovery. A review of the legislation that currently only reflects the

function of the Bureau supporting 'bushfires' as per Meteorology Act 1955, Section 6, 1 (c) should be conducted:

- The functions of [the Bureau](#) are:
- *1 (c) the issue of warnings of gales, storms and other weather conditions likely to endanger life or property, including weather conditions likely to give rise to floods or bush fires;*
- The Department for Environment and Heritage (DEH) has undertaken to increase its prescribed burning program as part of its response to increasing fire risks, and the Bureau has indicated they are not able to support this increase as part of its emergency response function. There is the potential for this to impact on the Department's ability to deliver on the prevention and preparedness side of fire management. If the Department is not able to adequately meet its prescribed burning targets then some areas are likely to have reduced protection from bushfires which may then impact on life, property or environmental values.
- **Nationwide standardisation** - Each of the States and Territories in Australia have different services and products delivered by the Bureau's Regional Centres. There would be some efficiencies and advantages in the national coordination and standardisation of the Bureau's products and services. If the products and services are standardised nationwide all states will have access to the latest products. This would also benefit personnel involved in incident management by being familiar with what the processes and the products are regardless of the state or territory they are operating within or responded to.
- **Severe Weather Forecaster** (Bureau resource) use at an Incident Management Team). The importance of having a severe weather forecaster on site (outposted) at an Incident Management Team (IMT) for major bushfires should not be underestimated. South Australia had the benefit of forecasters being on site for the first time during a period of the Kangaroo Island fires of December 2007 which was extremely useful in preparing Incident Action Plans. This proved most beneficial as they were able to provide additional on the spot information and interpretation of local weather data being recorded at different locations across the island which was critical for predicting changing fire behaviours and improved safety for fire-fighters. Having the forecaster on site also meant the briefings were more comprehensive in terms of the weather information being conveyed to the operators on the fire ground. It should be noted that other states have had this service available for 20 years. The fire management agencies should be able to request a forecaster to relocate to an Incident Control Centre (ICC) in the case of large bushfires.
- Forecasts of seasonal variation, as it relates to both severe bushfire seasons (or the lack of) are useful to assist agencies with levels of preparedness for bushfires depending on the prognosis.

- Forecasts of prescribed burning seasons (eg wet/dry, length of season, as well as approximate start and finish dates). The details of a forecasted prescribed burning season are critical as this will impact on whether agencies are likely to achieve the prescribed burning identified from season to season in order to mitigate against bushfires and therefore bushfire response.

Terms of Reference 5: *Strategies, systems and research overseas that could contribute to Australia's innovation in this area.*

- The US and Canadian meteorological organisations have a much larger (per capita) "fire weather" resource dedicated to both wildfire and prescribed burning needs. Fire weather specialists are allocated to nationwide Incident management Teams (IMTs) in order to respond where needed across the country.
- The US have a large range of forecasts, modelled data and other products specifically aimed at the "wildland fire" industry. Australia should undertake a review of these products and how they are delivered to assess their effectiveness for meeting Australian fire management objectives.
- In the US much closer collaboration occurs at a national level and greater resources are available under the Joint Fire Science Program (JFSP, 2009). The program is an interagency research, development and applications partnership that includes development of tools and delivery systems, as well as transfer of meteorological products to US agencies.

Summary of Recommendations

1. Bureau of Meteorology to introduce a Graphical Forecasting Environment (GFE) in as soon as possible.
2. More data analysis required for bushfire season and prescribed burning season.
3. Review the Meteorological Act 1955 to specifically include forecasting for fire prevention and response activities as part of the PPRR model of emergency management as it relates to bushfires. It would then be legislated that a similar level of servicing would be provided to the prescribed burning season as the Fire Danger Season (FDS) for both products and services.
4. The Bureau of Meteorology should look at standardising services and products nationwide.
5. Recommend the Bureau of Meteorology provide a service where a severe weather forecaster that can be called into Incident Management Teams during major bushfires.
6. Government /Bureau of Meteorology should look at United States for examples of what other models are in use for delivery of long-term forecasting services.

References

Ellis, S, Kanowski, P & Whelan, R (2004). *National Inquiry on Bushfire Mitigation and Management*, Commonwealth of Australia, Canberra. Accessed online 23 April 2009 from <http://www.coagbushfireenquiry.gov.au/findings.htm>

JSFP, (2009). *Joint Fire Science Program*. United States Government. Accessed online 23 April 2009. http://www.firescience.gov/JFSP_About_JFSP.cfm

NOAA (2009). *National Weather Service, Graphical Forecasts*. Accessed online 22 April 2009 at <http://www.weather.gov/forecasts/graphical/sectors/conusFireDay.php#tabs>

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Regards

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