

Post Event Severe Thunderstorm Survey Report

Melbourne Thunderstorm, February 2, 2005¹

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Background

Victoria State Emergency Service (SES) volunteers responded to over 9000 calls for assistance due to severe weather which hit Victoria on Wednesday 2nd February 2005. The 9,000 emergency calls resulted in 5418 jobs. Every suburb of Melbourne, parts of eastern Victoria, and the Geelong/Bellarine Peninsula areas were affected by the storm.

Most of the calls received were for flash flooding with gutters unable to cope with the extensive rain, damage to roofs due to the strong winds and trees being blown onto houses and across roads.

This study evaluates the performance of the Bureau of Meteorology in terms of issuing effective and accurate weather warnings.

Research Objective

The objective for this research is to evaluate the performance of the Bureau of Meteorology in terms of issuing effective and accurate weather warnings for the severe weather conditions which hit Victoria on Wednesday 2nd February 2005.

In particular, the research is required to determine:

- ∴ How Victorians became aware of the approaching storm
- ∴ The effectiveness of weather warnings in terms of them being accurate, easy to understand and timely
- ∴ Whether Victorians experienced difficulties in accessing information on the approaching storm
- ∴ The extent to which Victorians were prepared to manage a severe storm

Summary of Key Findings

Storm Warnings

There was relatively low awareness of the approaching storm which hit Victoria on Wednesday 2nd February, 2005. The majority of respondents (63%) were unaware that a severe storm was approaching the region where they lived.

Television and radio were the main streams of media respondents referred to when sourcing information on the approaching storm. Just over a quarter of those aware of the impending storm (27%) heard the weather warning on television, and just over one in five (22%) heard the warning on radio. There were no respondents who referred to the newspaper for weather warnings.

Overall, respondents rated the weather warnings highly with at least seven in ten rating the accuracy of the weather warning; the timeliness in which the warning was issued; and the

¹ Reference: Sweeney Research, "SES User Research Study, Emergency Response", Study No. 14546, February 2005

language used in terms of it being easy to understand as either 'excellent' or 'very good'.

Whilst the weather warnings in general are considered to be of high quality, there is an opportunity to improve the accuracy in terms of the actual impact of the storm compared to what Victorians expect to experience. Just under half of respondents who heard a storm warning (42%) said the warning was inaccurate in terms of what they expected as a result of the storm to what they actually experienced.

Other suggestions put forward as to how storm warnings can be improved, included:

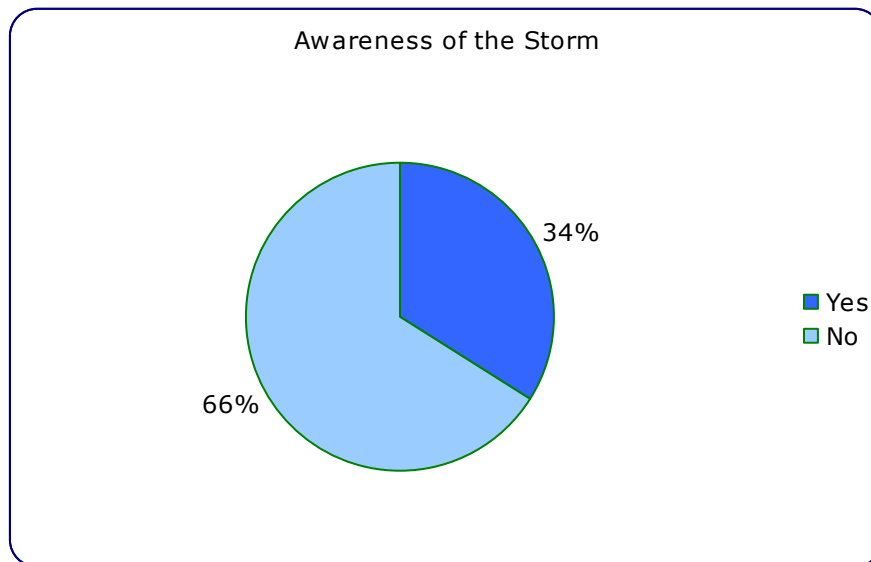
- ⌘ More information on the severity of the storm;
- ⌘ More information on the potential impact the storm could have in terms of what sort of things to expect;
- ⌘ Specifically what geographical areas the storm would be likely to hit;
- ⌘ Using simple language; and
- ⌘ Providing a description as to what 'severe' means.

Results In Detail

Awareness of the Storm

About a third of Victorians (34%) were aware that a severe storm was approaching the region where they lived.

Respondents residing in the Geelong region were slightly more likely to be aware of the approaching storm when compared to those living in Melbourne (38% and 34% respectively).



Sources of Awareness of the Storm

Just over a quarter of those aware of the impending storm (27%) heard the weather warning on television. When asked whether they could recall the television station which broadcast the storm warning, about half (48%) could not remember. The warning was broadcast on the following television stations:

- ⌘ Channel 9 – 20%
- ⌘ Channel 7 – 13%
- ⌘ ABC / Channel 2 – 9%
- ⌘ Channel 10 – 9%

A quarter could visually see it coming over (25%).

Just over one in five respondents aware of the approaching storm (22%) heard the warning on radio:

- ⌘ 3AW – 25%
- ⌘ 774 / 3LO – 25%
- ⌘ 374 ABC – 14%
- ⌘ NOVA – 3%
- ⌘ TTFM / 101.1 – 3%
- ⌘ FOX FM – 3%

About one in five respondents (19%) could not recall the radio station.

Some 4% of respondents aware of the approaching storm became aware of the storm via the Internet through warnings posted on the Bureau of Meteorology website (www.bom.gov.au).

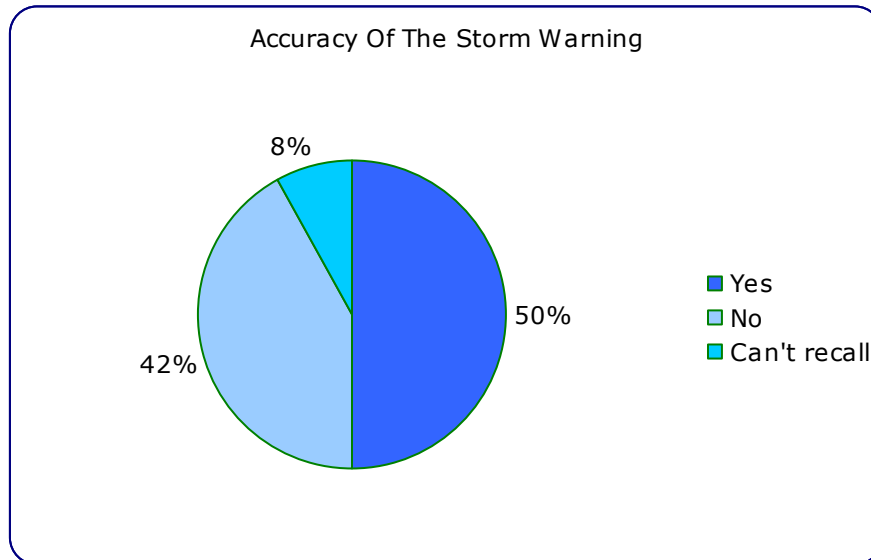
The table below summarises how respondents first became aware of the storm.

Source of Awareness of Storm	% (N=172)
Weather warnings on television	27
Visually could see it coming over	25
Weather warnings on radio	22
When it actually hit	10
Internet weather forecast	4
Word of mouth	3
Don't know	3

Accuracy of the Storm Warning

Respondents who were informed of the approaching storm via a broadcast storm warning were asked whether the storm warning was accurate in terms of the impact they experienced to what they had expected from the warning.

Half of the respondents (50%) said the warning was accurate. About four in ten (42%) felt the warning was inaccurate and 8% were unsure.



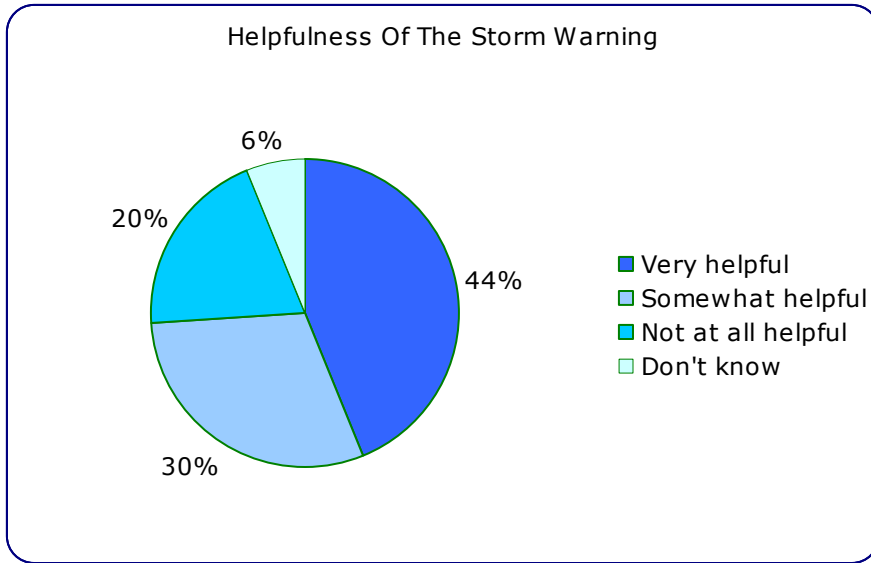
Helpfulness of the Storm Warning

Respondents were then asked to what extent did the warning help them to understand the potential risks from storms and prepare for those risks.

Three in ten respondents (30%) said the warning was 'very helpful' in terms of assisting them to prepare for the storm. The majority (44%) found the warning 'somewhat helpful' and one in five (20%) said the warning was 'not at all helpful'.

Those who said the storm warning was 'not at all helpful' were asked what information would have been useful to help them understand the risks from storms and prepare for those risks.

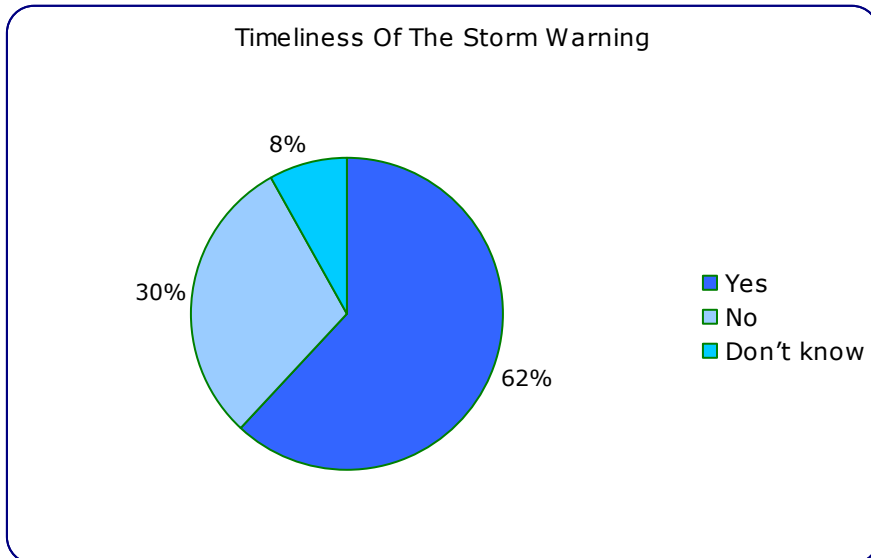
The majority (44%) said they would have liked information on the severity of the storm. At least one in ten said it would have been useful to receive information on the potential impact the storm could have in terms of what sort of things to expect; and specifically what areas the storm would be likely to hit (both 11%). One in ten respondents said you can't predict what's going to happen (11%). Over a quarter (28%) said there was no information that would have been useful.



Timeliness of the Storm Warning

Respondents who heard about the approaching storm via a storm warning were asked whether the broadcast allowed enough time for them to prepare for the potential risks from storms.

Nearly two thirds of respondents (62%) said the warning did give them enough time to prepare for the storm. Three in ten said there was limited time to prepare (30%) and 8% did not know.



Confirmation of the Storm Warning

Respondents were then asked after they first heard the storm warning did they check that a storm was approaching the region where they lived. The majority (60%) did not check to confirm that a storm was approaching the region where they lived.

Of the 39% of respondents who did confirm where the storm was likely to hit their local area, about a quarter checked on the Internet (26%) or via the radio (24%). A further 15% listened to weather reports on the television.

Those who checked the weather report were asked whether they experienced any difficulty accessing information on the approaching storm. Very few respondents (6%) experienced difficulties. The two respondents who experienced problems said the warning was difficult to assess and they did not know what was meant by 'severe'.

Awareness of Flood Warnings

Respondents who heard about the approaching storm via a storm warning were asked whether they were aware that flood warnings were issued.

Just over half (53%) were aware of the flood warnings.

Bureau of Meteorology Performance

Respondents who heard about the approaching storm via a storm warning were asked to rate the storm warning in terms of its accuracy; timeliness and language used.

Accuracy of the Weather Warning

Over three quarters of respondents (78%) rated the accuracy of the weather warning as either 'excellent' or 'good' – 25% rated it as 'excellent'. A mere 6% of respondents said the accuracy was either 'fair' or 'poor' because the storm was more severe than what was originally expected and because of the lack of detail regarding the storm.

Timeliness of the Weather Warning

Seven in ten respondents (70%) rated the timeliness in which the weather warning was issued as either 'excellent' or 'good' – 17% rated it as 'excellent'. A mere 2% of respondents rated timeliness of the weather warning as 'fair' because of the lack of detail regarding the storm. Some 17% of respondents said the timeliness was 'average'.

Language Used for the Weather Warning

A high 85% of respondents rated the language used for the weather warning as 'excellent' or 'good' in terms of it being easy to understand – 31% rated it as 'excellent'. Some 6% of respondents said the language used was either 'fair' or 'poor' because of the lack of detail regarding the storm; because the warnings are not broadcast in simple language and because the storm was more severe than expected.

Reference

Sweeney Research, "SES User Research Study, Emergency Response", Study No. 14546, February 2005