

**Senate Standing Committee on Environment and Communications  
Legislation Committee**

Answers to questions on notice

**Sustainability, Environment, Water, Population and Communities portfolio**

Additional Estimates, February 2011

**Program: Division or Agency:** 1: BOM **Question No:** 1  
**Broad Topic:** Staff hours during cyclone  
**Proof Hansard Page and Date** 100 (21/2/11)  
**or Written Question:**

**Senator Macdonald asked:**

Senator IAN MACDONALD—I have in the past asked questions about staffing at these regional stations on the basis that in times of calamity—unless you have got one, two or three people who are spare, and accepting that people can be away on holidays—staff are required to work far more than an eight-hour shift. Can you provide me with details of how long your staff at Townsville and Cairns were continuously on the job during the cyclone period?

Dr Canterford—I will take that on notice. We do have figures on staff hours of duty that we have been collecting post the event.

**Answer:**

Overtime was undertaken by forecasting, observing and technical staff located in Cairns and Townsville during the peak workload associated with Tropical Cyclone Yasi.

Depending on local roster arrangements, Bureau operational staff routinely work shifts spanning up to approximately 12 hours 45 minutes (including meal breaks). Peak demands may be covered by operational staff attending for additional duty on a rostered day off, or by the extension of shifts already rostered.

During Cyclone Yasi from 31 January to 3 February 2011 inclusive, staff at Cairns and Townsville generally worked shifts spanning between approximately 7 and 13 hours duration.

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**Program: Division or Agency:** 1: BOM **Question No:** 2  
**Broad Topic:** Modernisation and extension  
fund  
**Proof Hansard Page and Date** 107 (21/2/11)  
**or Written Question:**

**Senator Humphries asked:**

Senator HUMPHRIES—I have a few follow-up questions and I accept you might need to take some of these on notice. Dr Ayres, you mentioned that there was a multi-million dollar program, as you put it, to replace or upgrade our weather monitoring network. Can you tell us more about that program? How much exactly is that program and over what period?

Dr Ayers—It is a modernisation and extension fund. It is \$80 million over five years.

...

Senator HUMPHRIES—Five years. When did that five years start?

Dr Ayers—The budget is phased. Next year it will be \$10 million. Next year will be the last year. This is the fourth year.

Senator HUMPHRIES—So it is about halfway through at the moment.

Dr Ayers—A little over halfway through.

Senator HUMPHRIES—You can take those exact dates on notice of you want. ...

...

Senator HUMPHRIES—Could you take on notice the provision to the committee of how that first 2½- years worth of spending under this program has actually been outlaid—exactly what we have spent our \$40- odd million dollars on to date.

Dr Ayers—Yes, we can provide that information on notice.

**Answer:**

The Modernisation and Extension of Hydrologic Monitoring Systems Program is a five year \$80 million competitive grants program. The Program commenced in July 2007. Funds are made available on a financial year basis to organisations listed in the Regulations to the *Water Act 2007*.

The Program's objective is to: "assist water data collecting agencies to modernise and extend their streamflow, groundwater monitoring and water storage measurement networks, enhancing their accuracy and permitting real-time data transfer to the internet". A primary outcome is to provide and enhance water data to support the dissemination of water information to the community.

Proposals to enhance or build streamflow monitoring sites that are critical for streamflow prediction or flood-warning are considered where they serve other critical water resource monitoring and prediction purposes. The primary funding source for flood-warning investment remains the National Disaster Resilience Program.

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During the first four rounds of the Program, 397 projects with a total value of some \$68 million (GST exclusive) have been funded as follows.

<u>Round</u>	<u>Financial Year</u>	<u>No of Organisations Funded</u>	<u>No of Projects</u>	<u>Total Value \$M</u>
1	2007-08	20	55	\$8.3
2	2008-09	51	132	\$19.9
3	2009-10	48	118	\$19.9
4	2010-11	36	92	\$19.9
			<b><u>397</u></b>	<b><u>\$68</u></b>

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**Program: Division or Agency:** 1: BOM

**Question No:** 3

**Topic:** Monitoring of water levels

**Proof Hansard Page and Date** 107 (21/2/11)  
**or Written Question:**

**Senator Humphries asked:**

Senator HUMPHRIES—You mentioned before that there are committees at state level which determine where weather monitoring equipment ought to be placed. If a decision was made by a committee in, say, New South Wales that the Hunter valley needs more measuring equipment to ensure we have better ideas of the flow of water down it, who would supply the equipment needed to upgrade the level of information available about the Hunter valley river system?

Dr Ayers—I do not have enough knowledge of the detail to be able to answer that particular question. It is a hypothetical. I would be happy to take that on notice.

Senator HUMPHRIES—It is not hypothetical in the sense that I am asking who actually takes responsibility for monitoring water levels in Australia. You obviously deploy some equipment. State agencies deploy some equipment. Who actually determines what needs to be done in a particular catchment?

Dr Canterford—Can I just add that there is a difference between flood monitoring and water resources monitoring. The modernisation funding, as I am aware, is essentially for water resourcing monitoring, as Dr Ayers just mentioned. There is a different process for flood monitoring. They can overlap, obviously, but the flood warning consultative committees are mainly looking at real-time measurement of river heights in particular, whereas the modernisation fund is to assist in the water accounting—

Dr Ayers—This is about water accounting and water information.

Senator HUMPHRIES—Do you mean the measurement of the total volume of water in a dam or a river system or something like that—that kind of information?

Dr Ayers—It is to contribute information from which to build water accounts.

Senator HUMPHRIES—Okay. ...

**Answer:**

In general, monitoring of river levels (and flow) is performed by various state-based organisations including water agencies, owners and operators of storages and rural and urban water utilities. Each organisation takes responsibility to monitor water levels to meet its own need. However, data sharing and monitoring partnerships are in place to provide data for flood forecasting where appropriate.

Flood Warning Consultative Committees (FWCC) consider requirements for new and improved flood warning services in the context of state-wide flood risk considerations and the partnership arrangements between the Bureau of Meteorology and state/local government for the establishment and operation of flood forecasting networks. Using the example of the Hunter Valley Rivers, requests for improved services would normally come to the FWCC from either the State Emergency Service, local councils or other flood mitigation authorities in the area, and any need for improved water level monitoring would be discussed with the New South Wales Office of Water as the key agency involved with water resource monitoring for the State. This discussion would normally be

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initiated through the FWCC (of which the New South Wales Office of Water is a member) and then considered further by the New South Wales Office of Water within the context of their budget parameters.

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**Program: Division or Agency:** 1: BOM **Question No:** 4  
**Broad Topic:** Gauges damaged by floods  
**Proof Hansard Page and Date** 108 (21/2/11)  
**or Written Question:**

**Senator Humphries asked:**

Senator HUMPHRIES—How many water gauges of one sort or another were destroyed or damaged in the flooding we have seen in the last couple of months? I am talking about the ones that you operate.

Dr Ayers—I may take that on notice because there are a range of different things that happened that were not to do with damage but involved communications systems, and so the absence of reporting is not necessarily that gauges were damaged. The communications systems in the regions concerned were affected. I do not have a number that went out because they were damaged or because of communications; they are points of detail that I do not have with me.

Senator HUMPHRIES—Will you take on notice how many gauges were incapacitated for reasons to do with your control of those devices? I do not mean that you damaged them; I mean that the devices themselves were damaged or the communications systems that relate the information were, but you operate them. How much within your estate, as it were, was damaged or destroyed by the flood?

Dr Ayers—We will take that on notice.

**Answer:**

The flooding over the December to February period was most severe in Queensland, northern New South Wales and Victoria. The real-time data collection network on which the Bureau depended for flood forecasting operations during that period consisted of rainfall and water/river level gauges, operated under partnership arrangements established in the 1980s.

In Queensland, of the stations wholly owned by the Bureau, 25 were incapacitated. At least two failures have been due to communication problems, which since then have been rectified. Work is currently underway to either repair or replace some stations and field visits have been scheduled for the remainder.

In Victoria, New South Wales and Tasmania there were no failures of wholly owned Bureau equipment.

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**Program: Division or Agency:** 1: BOM

**Question No:** 5

**Broad Topic:** Storm warnings

**Proof Hansard Page and Date** 108 (21/2/11)  
**or Written Question:**

**Senator Fisher asked:**

Senator FISHER—When a storm warning is cancelled, on average, how long does it take for the warning to be removed from your website? You can answer that on notice, unless it is very quick.

Dr Ayers—I do not have that point of detail, unless Dr Canterford has.

Senator FISHER—An answer on notice is fine, Gentlemen.

**Answer:**

The Bureau of Meteorology issues numerous types of warnings to cover a wide range of meteorological and related conditions with different life cycles.

At the end of the period for which a warning is current, it will either be replaced by a further warning, or a cancellation message will be issued which will replace the final warning. The cancellation message will remain on the Bureau's website for a pre-designated period which is typically a few to several hours, but varies with the type of warning and with the typically different lifecycles of weather events that occur in different parts of Australia. Some examples are:

- The cancellation message for a Severe Thunderstorm Warning for Metropolitan Areas will stay on the website for a period of 2 hours (with the exception of Melbourne which is 4 hours);
- The cancellation message for a Severe Thunderstorm Warning for other areas will remain on the website for a period of 6 hours (with the exception of Victoria which is 8 hours).
- The cancellation message for a Severe Weather Warning in Tasmania will remain on the website for 12 hours.

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**Program: Division or Agency:** 1: BOM

**Question No:** 6

**Broad Topic:** Staff in Queensland

**Proof Hansard Page and Date** Written  
**or Written Question:**

**Senator Fisher asked:**

1. How many Bureau of Meteorology staff are employed across Queensland? What is the breakdown of Bureau staff across the State? Is there a dedicated field office in Toowoomba? If not, why not?
2. Were any additional Bureau staff transferred to Queensland in January to assist local staff in monitoring the severe weather which hit the state? If yes, when and how many?

**Answer:**

1. As at 28 February 2011 the breakdown of Bureau staff in Queensland was as follows:
  - Brisbane: 102
  - Regional Queensland: 48

The Bureau does not operate a field office in Toowoomba. The location of such field offices is mainly aimed at providing an acceptable geographic distribution of upper-air atmospheric observations across Australia, together with consideration of specific service requirements for the aviation industry and Defence. The upper-air station in Brisbane covers the Toowoomba area. There are also field offices at Amberley and Oakey for defence purposes.

2. Yes. 11 staff were transferred to Queensland to assist local staff in monitoring the severe weather which hit the state during January and into early February. This is in line with common practice during critical weather and flood events when short-term but cost-effective increases in staff are required. The nature of the support covered a range of functions including operational forecasting, communication and media enquiries, IT support and monitoring of systems during a critical event.

The peak of the additional support for weather forecasting occurred between 31 January and 3 February 2011 to assist with the approach and crossing of Severe Tropical Cyclone Yasi. Flood forecasting support was spread over a longer period during January.

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**Program: Division or Agency:** 1: BOM

**Question No:** 7

**Broad Topic:** Warning systems on BOM  
website

**Proof Hansard Page and Date** Written  
**or Written Question:**

**Senator Fisher asked:**

Has any community feedback been provided to the Bureau of Meteorology about the user friendliness of warning systems used by the Bureau on its website? If yes, how is the feedback being actioned?

**Answer:**

Feedback on the user friendliness of the Bureau of Meteorology's warning services on its website is obtained in a number of ways.

The Bureau has a Feedback webpage at: <http://www.bom.gov.au/other/feedback/>. Feedback from users is automatically directed to the appropriate part of the Bureau for response according to the subject as described by the sender. Responses may be sent via email or follow-up phone call.

Opportunities for direct stakeholder feedback are also provided on an opportunistic basis throughout the year, including at pre- and post-season severe weather meetings with stakeholders and the community; stakeholder consultative committees and groups; field day and airshow representation; media engagement; and direct stakeholder and public feedback via telephone.

A Public User Survey is conducted by telephone twice yearly in summer and winter. The overall objective of the surveys is to understand community needs, identify any gaps and trends in service and provide information to assist in strategic planning of future weather services.

In all cases, feedback provided on warning systems is considered and where appropriate, adjustments are made to Bureau services and systems in response.

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**Program: Division or Agency:** 1: BOM

**Question No:** 8

**Broad Topic:** Climate science

**Proof Hansard Page and Date** Written  
**or Written Question:**

**Senator Macdonald asked:**

[Extract <http://www.climate-science-watch.org/2011/02/19/house-votes-244-179-to-kill-u-s-funding-of-ipcc/>]

“Luetkemeyer: Scientists manipulated climate data, suppressed legitimate arguments in peer-reviewed journals, and researchers were asked to destroy emails, so that a small number of climate alarmists could continue to advance their environmental agenda.

“Since then, more than 700 acclaimed international scientists have challenged the claims made by the IPCC, in this comprehensive 740-page report. These 700 scientists represent some of the most respected institutions at home and around the world, including the U.S. Departments of Energy and Defense, U.S. Air Force and Navy, and even the Environmental Protection Agency.

“For example, famed Princeton University physicist Dr. Robert Austin, who has published 170 scientific papers and was elected a member of the U.S. National Academy of Sciences. Dr. Austin told a congressional committee that, unfortunately, climate has become a political science. It is tragic the some perhaps well-meaning but politically motivated scientists who should know better have whipped up a global frenzy about a phenomenon which is statistically questionable at best.”

Can you critique the above paragraphs?

**Answer:**

Independent critiques of malpractice claims can be found at:

- [www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/387/38702.htm](http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/387/38702.htm)
- [www.uea.ac.uk/mac/comm/media/press/CRUstatements/SAP](http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/SAP)
- [www.cce-review.org/pdf/FINAL REPORT.pdf](http://www.cce-review.org/pdf/FINAL%20REPORT.pdf)

Reviews of the claims regarding the IPCC can be found at:

- [reviewipcc.interacademycouncil.net/report/Climate Change Assessments, Review of the Processes & Procedures of the IPCC.pdf](http://reviewipcc.interacademycouncil.net/report/Climate%20Change%20Assessments,%20Review%20of%20the%20Processes%20&%20Procedures%20of%20the%20IPCC.pdf)
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