Senate Standing Committee on Environment and Communications
Legislation Committee
Answers to questions on notice

Sustainability, Environment, Water, Population and Communities portfolio

Budget Estimates, May 2011

Program: Division or Agency:	1: BOM	**Question No:**	27
Topic:	Weather station reviews		
Proof Hansard Page and Date *or* Written Question:	18 and 19 (24/5/11)		

Senator Humphries asked:

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Senator HUMPHRIES: Fair enough. You said, Dr Smith, that a review is underway at the moment, arising from the recent flooding, to determine what shortfall or gaps might exist in BoM's network. Was a process previously underway to determine what areas of need BoM might have identified in its general network of weather stations around the nation?
Dr Smith: Yes, Senator. Almost annually, if not more often than that, we will go through our networks—particularly as we are going through our four-year plans, our strategic plans ...
Senator HUMPHRIES: Are any of those annual review outcomes available for public consumption? Can we see what you have produced by way of those reviews?
Dr Smith: The basic observing system study is public. The radar review, and our assessments of its status, is also a public document. In general, all those documents are public documents.
Senator HUMPHRIES: I assume it is on the website?
Dr Smith: I would say yes, but I would need to check. There is no reason why it should not be on our website.
Senator HUMPHRIES: If you could provide us with the links to the right area of the website or perhaps table the documents that demonstrate those annual reviews—say, for the last three years—that would be helpful. ...
...
(page 19)
Dr Smith: Perhaps I could clarify an answer I gave before about the reviews. The reviews I was referring to are ones we have done intermittently—say, three or four years apart. We do not review the whole network annually. So the publications I was referring you to were ones that are done sometimes every three years or something like that.
Senator HUMPHRIES: All right. Could I have the last of those reviews that you have conducted and any other interim reviews you have conducted in the last three years.
Dr Smith: Yes, Senator.

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Answer:

The Bureau's observing networks draw on many different ground-based, airborne and space-based platforms, which work together to provide coverage of Australia's land and ocean areas as well as of different routine and extreme weather and climate situations. There are two relevant documents.

The Bureau's latest comprehensive review of the general network of weather stations was published in May 2006 under the title "Basic Observing System Study 2005: Summary Report". A copy is provided with this response.

The Radar Network Review was completed in 2008. A copy is attached.

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Program: Division or Agency:	1: BOM	**Question No:**	28
Topic:	River level monitoring device		
Proof Hansard Page and Date *or* Written Question:	19 (24/5/11)		

Senator Humphries asked:

Senator HUMPHRIES: All right. What is the cost of, specifically, a river-level monitoring device?
Dr Canterford: I would not have an estimate. We do not have one.
Dr Smith: We will take that on notice, Senator.
Senator HUMPHRIES: Can you also take on notice what the ongoing operating costs of each of those devices would be, please.

Answer:

The cost of a river level monitoring station depends on the conditions of its location and the type of housing used, but is around $15-$30,000 or more if substantial vandal proof housing is required. A site used for flood warning only will have an annual maintenance cost of around $4,000. The cost of running a fully equipped station for water resources monitoring can be up to $10,000 per year.

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Program: Division or Agency:	1: BOM	**Question No:**	29
Topic:	Staff hours during Cyclone Yasi		
Proof Hansard Page and Date *or* Written Question:	20 (24/5/11)		

Senator Macdonald asked:

Senator IAN MACDONALD: ... What I really want to know is: in relation to Cyclone Yasi, what is the maximum number of hours any particular staff member worked nonstop? Perhaps you could get me that on notice.
Dr Canterford: Okay.
Senator IAN MACDONALD: They do a fabulous job, as I said to you before, and they are essential. I am just concerned that over the years there seems to have been a diminution in the number of staff in Townsville, Cairns and other more remote places that then has to be made up by asking existing staff to work unreasonable hours at times of crises.
Dr Canterford: Yes, I agree.
Senator IAN MACDONALD: That is the nature of my question. It is certainly not a criticism of the work that those great people do. If you can assure me yet again that there is no diminution in staff in these more remote areas, if you can assure me that staff are not being centralised in both Brisbane and Melbourne, I would be forever grateful. I will continue to seek those assurances for as long as I am here. ...

Answer:

Part 1
A number of long shifts were worked by Bureau staff in support of Tropical Cyclone Yasi operations. Examples of the longest shifts identified include

1) A forecaster / manager worked an operational shift in the Brisbane Tropical Cyclone Warning Centre which spanned 19 hours and 15 minutes between 8am on 2 February to 3.15am on 3 February. Some brief meal breaks were taken during the shift.
2) A radar technician was relocated to the Mt Stuart (Townsville) radar building during Yasi's approach to be available to effect repairs, should the equipment fail. He was located at the radar for 22 hours. Some meal and rest breaks were taken during the shift. (An equipment failure did occur during this time, and the outage was restricted to 3 minutes due to the technician's actions to effect repairs).

Part 2
Attachment 1 shows the number of staff located at the Bureau's Field Offices in North and Northwest Queensland over the 17 month period from January 2010 to May 2011. This indicates that staff levels have remained essentially the same during this period.

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ATTACHMENT 1

STAFF SUMMARY
As at May
2011

STATION	STAFF NUMBERS BY CATEGORY (as at January 2010)			STAFF NUMBERS BY CATEGORY (as at January 2011)			STAFF NUMBERS BY CATEGORY (as at 14 May2011)		
	Met	**Obs**	**Tech**	**Met**	**Obs**	**Tech**	**Met**	**Obs**	**Tech**
Cairns	6	5	2	6	4	2	6	4	2
Longreach	0	3	0	0	3	0	0	3	0
Mackay	0	3	0	0	3	0	0	3	0
Mount Isa	0	1	0	0	1	0	0	1	0
Rockhampton	1	3	1	1	4	1	1	4	1
Townsville	5	3	3	5	3	3	5	3	3
Weipa	0	1	0	0	1	0	0	2	0

Met – Meteorologist
Obs – Observer
Tech – Radar Technician

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Program: Division or Agency:	1: BOM	**Question No:**	30
Topic:	Willis Island		
Proof Hansard Page and Date *or* Written Question:	20 (24/5/11)		

Senator Macdonald asked:

Senator IAN MACDONALD: ... Can you give me an update on Willis Island, which was flattened by the cyclone? When is it expected to be operational again?
...
Dr Canterford: As you are aware, the work is progressing now on repairs to Willis Island. There has been a review of that recently and I will quote from it. It is progressing well. I am not too sure of the exact timing for the completion of that work, but I am told that it will be ready in time for the next season.
Senator IAN MACDONALD: So it will be ready by October?
Dr Canterford: I might have to take that on notice. I cannot quite see it in my notes here.
Dr Smith: I do not believe, for example, that the radar will be ready by then. Again, it is trying to get all of the logistics and the work done out on the site. Some parts, like the radar, may not be ready by October. But they have done all the survey and assessment of what needs to be done now and they are now agreeing on the work. So there is no real obstacle, other than logistics, in starting to get that done.
Senator IAN MACDONALD: How are you going to fund the reconstruction? Do you get special allocations?
Dr Smith: No. Willis Island is all covered under Comcover, so it is all insured. We have been through those discussions. I think they are now complete, so we have agreement on the replacement.
Senator IAN MACDONALD: Could you tell me, on notice: what is to be done and when do you expect it to be done, and are there are any hold-ups? You know better than I do that it is a very important part of the protection network across Northern Australia. I would appreciate that. ...

Answer:

The Bureau of Meteorology weather observations station at Willis Island, located approximately 450km east of Cairns in the Coral Sea, was evacuated prior to Cyclone Yasi crossing over the island on 2 February 2011. The passage of Cyclone Yasi resulted in damage to key observing systems and operational and life support infrastructure on the island. Following an inspection on 17 February, the island was declared uninhabitable, due to the damaged life support systems, and operational staff will not be redeployed to the island until repairs are completed.

The weather radar was damaged beyond repair and requires replacement. However, automated surface observing systems and communications were restored on 17 February and operational surface observations have been available since that date.

Restoration works at Willis Island will fully restore weather observing capability and life support systems and are planned to be completed before the next tropical wet season (October 2011).

Planned restoration works include; collection and removal of asbestos containing material exposed by the storm surge action of Yasi, replacement of the weather radar, replacement of the desalination potable water system, some structural repairs and replacement of other damaged observing and life support equipment. The works will also address some compliance and sustainability issues that have emerged since the station was rebuilt in 2006 and some lessons learnt through the impact of Cyclone Yasi on the station infrastructure. Where possible, additional improvements to the efficient operation of the station, such as food storage and energy usage, will also be addressed.

The remoteness of the island and logistic constraints have affected assessment and planning efforts. Staff will be redeployed to the station after life support systems have been reinstated and upper air observations will recommence. Full weather observing capability is planned to be restored by the upcoming tropical wet season, although weather, logistics and availability of contractor and relevant trade-skills are identified risks to achieving this schedule.

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Program: Division or Agency:	1: BOM	**Question No:**	31
Topic:	Weather prediction		
Proof Hansard Page and Date *or* Written Question:	22 (24/5/11)		

Senator Joyce asked:

Senator JOYCE: In the Bureau of Meteorology, what is the probability of your prediction for the weather tomorrow? When you put out a report, it has a variance in it. Are you 95 per cent or 99 per cent likely to be correct?
Dr Smith: I do not have that number in my head. But certainly, our daily forecasts are skilful—depending on where you are. If you are in Darwin, you will have one set of numbers and, if you are in Melbourne, you will get another, or in Canberra. A rough ballpark I often quote to people is that our five-day forecasts now are as skilful as our one-day forecasts were about 30 years ago. They are very skilful.
Senator JOYCE: I agree with you. Would it be 95 per cent correct? Do you have any idea of how you are going in your analysis? Are you within the 95 percentile, 90 percentile or 99 percentile bracket?
Dr Smith: Our skill scores are not done that way. Certainly, on notice, we could provide you with the skill scores of our models for all of the major regions. Every regional office keeps a table of its skill scores.

Answer:

Forecast temperatures for capital cities for the next day are accurate to within 3 degrees on average about 95% of the time. (Table 1 below provides more details).

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Verification Period	Element	Melbourne	Sydney	Brisbane	Darwin	Perth	Adelaide	Hobart	Canberra	Mean
2009-07-01 to 2010-06-30 Day+1	Max	90.63	93.96	97.80	98.90	95.62	94.79	92.88	94.52	94.89
	Min	95.67	98.62	98.08	98.08	93.15	95.07	96.71	90.93	95.79
2009-07-01 to 2010-06-30 Day+2	Max	84.25	91.48	96.15	98.08	92.88	90.68	88.49	94.78	92.10
	Min	95.30	98.07	96.71	97.81	87.95	88.22	93.70	84.30	92.76
2008-07-01 to 2009-06-30 Day+1	Max	92.60	93.70	93.41	98.36	94.79	96.15	93.97	95.62	94.83
	Min	93.97	98.80	97.25	98.63	91.23	94.51	96.99	90.68	95.26
2008-07-01 to 2009-06-30 Day+2	Max	83.84	90.14	91.48	97.53	93.70	92.03	89.04	92.88	91.33
	Min	92.60	96.44	95.59	97.26	87.12	87.91	93.70	84.66	91.91
2007-07-01 to 2008-06-30 Day+1	Max	89.62	93.99	96.99	97.81	94.26	94.54	87.98	94.54	93.72
	Min	97.00	97.54	96.70	97.54	89.34	89.59	96.16	86.61	93.81
2007-07-01 to 2008-06-30 Day+2	Max	85.25	92.33	94.26	98.09	90.71	87.98	83.33	89.62	90.20
	Min	92.35	95.62	93.72	96.17	85.26	81.64	93.17	80.87	89.85
2006-07-01 to 2007-06-30 Day+1	Max	91.21	92.03	95.88	98.35	95.33	93.96	90.11	92.03	93.61
	Min	94.51	99.18	94.78	98.63	89.29	89.84	95.60	87.64	93.68
2006-07-01 to 2007-06-30 Day+2	Max	82.42	90.93	95.33	97.81	90.66	89.56	86.26	89.01	90.25
	Min	92.03	97.53	91.21	98.36	83.52	81.59	87.36	79.40	88.87
2005-07-01 to 2006-06-30 Day+1	Max	89.50	90.00	94.70	97.80	94.70	93.90	92.20	94.70	93.44
	Min	96.10	98.60	95.00	97.50	91.30	93.10	95.30	84.00	93.86
2005-07-01 to 2006-06-30 Day+2	Max	87.50	86.10	91.90	95.62	92.20	83.60	85.30	86.40	88.58
	Min	90.90	95.60	93.60	95.07	85.50	85.30	89.20	73.40	88.57

Table 1. Capital city temperature forecast verification statistics showing percentage of Bureau maximum and minimum temperature forecasts accurate to within 3°C for 24 hours (Day+1) and 48 hours (Day+2) predictions.

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Program: Division or Agency:	1: BOM	**Question No:**	32
Topic:	National Plan for Environmental Information		
Proof Hansard Page and Date *or* Written Question:	26 (24/5/11)		

Senator Siewert asked:

Senator SIEWERT: Thank you. Finally, on the funding for this project, maybe if you can take it on notice or tell me where to find it in the papers, because I cannot actually find the funding specifically for this particular outcome.
Dr Vertessy: I will have to take that on notice, Senator.
Senator SIEWERT: Thank you.

Answer:

The funding provided to the Bureau of Meteorolog under this initiative is as per the Portfolio Budget Statement of 2010-2011 as follows:

Operational Funded Activity

Funding profile	2010-2011	2011-2012	2012-2013	2013-2014	Total
	$ 1,268,000	$ 2,255,000	$ 2,611,000	$ 2,973,000	$ 9,107,000

Capital Funded Activity

Funding profile	2010-2011	2011-2012	2012-2013	2013-2014	Total
	$ 1,941,000	$ 2,027,000	$ 2,258,000	$ 1,389,000	$ 7,615,000

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Program: Division or Agency:	1: BOM	**Question No:**	33
Topic:	Carbon emissions		
Proof Hansard Page and Date *or* Written Question:	27 - 28 (24/5/11)		

Senator Boswell asked:

Page 27- 28
Senator BOSWELL: ... 'If the world as a whole cut all emissions tomorrow the average temperature of the planet is not going to drop for several hundred years, perhaps as much as a thousand years.' Do you agree with that statement?

Dr Smith: It depends on what he is putting it relative to. I have not got the document in front of me. I could go back and look at the document. He is obviously saying that relative to some point in time. I do not recall offhand just what point in time he was referring to.
Senator BOSWELL: He was referring to tomorrow. That was the point in time, tomorrow. 'If the world as a cut all emissions tomorrow'—
Dr Smith: So if you take the global temperatures as we have them today, how long would it take? It will take very severe cutbacks in greenhouse warming to return the temperatures back to what they are today. If that is the message he has got in there, then I would agree with that.
Senator BOSWELL: How much would you say you would have to cut them back?
Dr Smith: That is getting outside the bureau's expertise. Again, this is something that is being debated in the international community. I think in the report they focused on a number of scenarios. There is a significant challenge there if we are going to return those temperatures back, even to keep it within that two-degree limit, which is the target that a lot of the international community is focused on.
Senator BOSWELL: You say that would take a hundred years or so to get there?
Dr Smith: I cannot quite understand what the content must have been for that hundred years.
Senator BOSWELL: It says 'several hundred years, perhaps as much as a thousand years'.
Dr Smith: I would have to take it on notice. I have not got the context of all of those statements sitting in front of me.
Senator BOSWELL: I will put it on notice.

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Answer:

The statement cited by Senator Boswell appears to be from a radio interview given by Professor Flannery around 29 March 2011.

The Bureau does not have access to the transcripts and so cannot critique the statement within its original context. The Department of Climate Change and Energy Efficiency advises that Professor Flannery has published a clarification of his statement on the Climate Commission website, noting that 'if humanity ceased emitting greenhouse gases tomorrow, it would take centuries for their concentrations in the atmosphere to return to pre-industrial (1800 AD) levels'.

The 2007 Fourth Assessment Report of the Intergovernmental Panel on Climate Change finds that:

> 'Carbon dioxide (CO_2) cycles between the atmosphere, oceans and land biosphere. Its removal from the atmosphere involves a range of processes with different time scales. About 50% of a CO_2 increase will be removed from the atmosphere within 30 years, and a further 30% will be removed within a few centuries. The remaining 20% may stay in the atmosphere for many thousands of years.'

Even if we stopped emitting greenhouse gas emissions tomorrow, it could take many thousands of years for atmospheric levels to return to pre-industrial levels. Similarly global average temperatures would only return to pre-industrial values over similar timeframes.

According to models assessed by the IPCC in its 2007 report, some greenhouse gas emission scenarios such as B1 do level out by 2100 at less than 2°C temperature rise, while fossil-fuel intensive scenarios such as A1F1 have reached 4°C and continue to rise steeply. A limit of 2°C above pre-industrial temperature levels is a "guardrail" referred to in the Copenhagen Accord and by the IPCC.

Article 2 of the UN Framework Convention on Climate Change includes an objective
" … to achieve … stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner".

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Program: Division or Agency:	1: BOM	**Question No:**	34
Topic:	Carbon dioxide levels		
Proof Hansard Page and Date *or* Written Question:	29 - 30 (24/5/11)		

Senators Joyce and Cameron asked:

Dr Smith: We know from the science over the last 30 years that the greenhouse effect does lead to warming of the planet. A lot of that heat is absorbed by the oceans. When the oceans warm, they expand. So it is a reasonably straightforward equation. Of course, there are lots of other variables like glaciers and melting of ice that have to be taken into account. Those are a little more difficult to both measure and to estimate in the future.
Senator JOYCE: How much of that CO2 comes from man-made, anthropogenic, causes as opposed to natural causes?
Dr Smith: Again, you are getting outside of the bureau. The bureau is not necessarily the right place to ask those questions. There are a lot of studies, including the IPCC reports, where they have gone into detailed attributions of the sources. Of course, there are very detailed techniques for tracing the source of carbon dioxide, whether it is anthropogenic or by natural causes.
Senator JOYCE: How much is anthropogenic?
Dr Smith: I would have to take that on notice because I do not have that sort of information—
Senator JOYCE: You are very certain about some of these other answers.
CHAIR: I am asking some questions; the senator has had plenty of time. Dr Smith, as a scientist, the issue you have raised is that the chemistry defines that there will be increasing sea levels. Senator Joyce earlier said that nobody serious has ever said that 99 per cent of scientists agree that the science is settled. That is not what the scientists are saying, is it? They are saying that the scientific consensus is that there is a 90 per cent degree of probability that the climate is changing, and that is quite an overwhelming scientific position to adopt.
Senator JOYCE: I will correct that: there is a 100 per cent chance that the climate is changing; it is definitely not staying the same.
CHAIR: We are talking about CO2 emissions. Dr Smith?
Dr Smith: Again, I will refer to the IPCC reports. In those reports they conclude—and if I can remember the words exactly right—that it is virtually certain that the planet is warming as a result of enhanced greenhouse gas levels. Again, if you want me to get the details, I can take it on notice, but they are all in the fourth assessment and the third assessment reports.

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Answer:

The 2007 Fourth Assessment Report of the IPCC stated "The atmospheric concentrations of CO_2 and CH_4 [carbon dioxide and methane] in 2005 exceed by far the natural range over the last 650,000 years. Global increases in CO_2 concentrations are due primarily to fossil fuel use, with land-use change providing another significant but smaller contribution."

The pre-industrial level of carbon dioxide was around 280 parts per million which can be equated with "natural causes". In April this year, the level of carbon dioxide at the Bureau of Meteorology monitoring site at Cape Grim in Tasmania was about 390 parts per million, which is an increase of about 60 parts per million since 1981, equal to an average increase each year of 2 parts per million over the past 30 years. Superimposed on this trend is an inter-annual variation of carbon dioxide with the magnitude dependent on geographic latitude. As examples, at the carbon dioxide monitoring site at Mauna Loa in the northern hemisphere, the seasonal and inter-annual variability is around 8 parts per million, while at Cape Grim variability is much smaller – around 3 parts per million. The IPCC report of 2007 states that the "global increases in carbon dioxide concentration are due primarily to fossil fuel use and land use change".

The IPCC in 2007 further concluded that "Global GHG emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004" and that "Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations."

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Program: Division or Agency:	1: BOM	**Question No:**	35
Topic:	IPCC reports on sea levels		
Proof Hansard Page and Date *or* Written Question:	31 (24/5/11)		

Senator Cameron asked:

CHAIR: Dr Smith, before I go back to the coalition, I think we should settle one issue. Can you take this on notice? A document has been tabled by Senator Boswell. Could you give us a detailed explanation—you do not have to do it now because the coalition are seeking to ask other questions—as to why that could be interpreted differently to the two most recent IPCC reports in 2001 and 2007? Could you also explain the last paragraph in the document? It says: "When interpreting the results it is important to consider the following information about the long-term sea level records, particularly issues relating to data quality, datum stability and land motion".
I am not sure what that means, because this qualification was not appended. Please take that on notice. It is an important point, I think, and we need to get some clarification on that...

Answer:

The document tabled by Senator Boswell is the summary page from an Australian Mean Sea Level Survey, produced by the Bureau of Meteorology under contract for Australian Ports, principally for de-trending tides at each port. The average trend over the 39 sites was 0.9 mm per year. Most of these 39 sites do not have high-quality gauges and in several cases there have been significant shifts in the gauges, leading to discontinuities. There has been no differentiation for sites subject to significant vertical land motion, so the 0.9 mm/year has little meaning in the context of climate change. The last paragraph in the document refers to these issues.

The Australian Baseline Sea Level network comprises 16 stations, 15 of which are in the list of 39. This network has high-quality instrumentation and the sites are generally referenced to "fixed" (primary benchmark) land points to take account of local platform movement. Though these records are shorter, they are distributed around Australia so that they are representative of Australian sea level climate. The relative sea level rise since the early 1990s is about 4.2 mm/year, but this will include significant interannual variability. The IPCC found an average rate of rise of global sea level from 1900 to 2000 of about 1.7 mm/year, and since 1993 of about 3.2 mm/year.

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Program: Division or Agency:	1: BOM	**Question No:**	36
Topic:	Monitoring of river levels		
Proof Hansard Page and Date *or* Written Question:	32 (24/5/11)		

Senator Humpries asked:

Senator HUMPHRIES: …I want to know about the process whereby the 6,000 or so cooperative rainfall observers are recruited into the network that BoM either runs or is involved with for monitoring flood levels. I want to know what is required of a cooperative rainfall observer in terms of qualifications or level of reporting—how that information is provided to BoM or to other networks into which BoM feeds—and whether there are any plans to upgrade either the number of observers or the means by which they contribute to BoM's monitoring of river levels particularly…

Answer:
Part 1
Of the 6,800 cooperative rainfall observers only some are part of the network monitoring flood levels. These observers are recruited through either word-of-mouth or proactively by staff within the appropriate Regional (or State) office of the Bureau of Meteorology.

Part 2
There is no formal qualification required by a rainfall observer, only a commitment to undertake a half day's training and to observe and report data as per a locally agreed schedule. Follow up training is given each time a Bureau staff member visits the rainfall observer. The schedule for reporting is normally each morning at 09:00 AM for a flood warning observer during a rainfall event at a prescribed time interval.

The level of recording varies with the type of station and the infrastructure installed. The frequency of observations can vary from 1 second (at sites equipped with data loggers) to once daily at manual rain gauge sites. Some stations take a three day reading to cover precipitation over the week-end.

Reporting from these sites also varies with the type of station and the infrastructure installed. It can range from real-time to on-event to daily to monthly. Data are used internally within the Bureau of Meteorology to produce forecasts and warnings and climatological records. Data are also available to the public through the Bureau's external web-site and available to other Agencies as registered users.

Part 3
The Bureau does recruit some additional voluntary rainfall readers where there is an identified need and when the resources required for monitoring the network allow. There are no plans to upgrade existing sites.

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Program: Division or Agency:	1: BOM	**Question No:**	37
Topic:	Freedom of Information request – Warwick Hughes		
Proof Hansard Page and Date *or* Written Question:	Written		

Senator Humphries asked:

I refer the Minister to the attached response (6/5/2011) from the Bureau of Meteorology to a Freedom of Information Request from Mr Warwick Hughes. I refer the Minister to documents 49-51 listed therein dated 8/10/2010 titled "Internal discussion regarding media coverage of NIWA court case leading to preparation of a senate estimates briefing" and subsequent attachments.

1. Can a copy of these documents be provided to the Committee? If not, why not?
2. What issues are canvassed in these documents?
3. Why did the Bureau think it necessary to produce a senate estimates briefing on these issues?
4. What arguments did the Bureau provide to the Minister in relation to the NIWA court case?

Answer:

1 Can a copy of these documents be provided to the Committee? If not, why not?

The documents concern a scientific peer review undertaken by the Bureau of Meteorology (the Bureau) of the methods used by National Institute of Water and Atmospheric Research (NIWA) in New Zealand in creating the temperature data set known as the Seven Station Record (SSR).

In commissioning the Bureau to undertake the work, NIWA stipulated that information regarding the peer review be kept confidential. It was also agreed that only the final report would be made publicly available. NIWA advised that in their view disclosure of documents concerning the confidential peer review process would damage the relationship between NIWA and the Bureau. NIWA expects that the Bureau will protect from disclosure to the public NIWA's documents and other documents generated during the confidential peer review process. The Bureau has therefore not released the documents publicly.

NIWA has provided the final reports and extensive documentation on its treatment of data and analysis of the SSR
(see http://www.niwa.co.nz/our-science/climate/news/all/7-station-series-review).

Senate Standing Committee on Environment and Communications
Legislation Committee
Answers to questions on notice

Sustainability, Environment, Water, Population and Communities portfolio

Budget Estimates, May 2011

2 What issues are canvassed in these documents?

Document 49 is a series of emails which includes discussion of the possibility of preparing internal briefing material.

Document 50 is an internal briefing document notifying the Executive that a scientific peer review of the NIWA SSR was being undertaken including some background on the original request from NIWA.

Document 51 is an internal draft that describes the scope of the peer review and clarifies what the Bureau means by the review. It also discusses some internal organisation for conducting the review and how the review will be presented.

3 Why did the Bureau think it necessary to produce a senate estimates briefing on these issues?

It is normal practice for the Bureau to canvass potential issues prior to senate estimates and for the Executive to be provided with a range of briefing material. In particular, briefing material is prepared on issues that have been raised at senate estimates in the past. Issues related to the climate record have been brought to the attention of the Bureau during previous senate estimates and hence this issue was considered worthy of a briefing.

4 What arguments did the Bureau provide to the Minister in relation to the NIWA court case?

The Bureau of Meteorology has not engaged the Minister on this matter.