KEITH J. MURR
[redacted]

13 Feb 2011

Commissioner
Q'ld Floods Commission of Inquiry
GPO Box 1738
BRISBANE 4001

Dear Madam

This submission deals solely with the rain which fell when a severe weather event occurred over the Great Dividing Range at Toowoomba on 10 January, 2011 and the adequacy of forecasts and early warning systems, particularly as they relate to flooding events in Toowoomba and the Lockyer and Brisbane Valleys.

My background : In October, 1953 I was trained as a weather observer to report on phenomena occurring in country Queensland and this training covered all aspects of meteorology. These duties were undertaken by me at a variety of locations ranging from a mere rainfall recording station reporting once daily to a first order weather station reading and reporting a full range of observations at 3-hourly intervals. I had 9 years experience of this.

In 1965 I came to Toowoomba as a Postal Inspector and included in my duties then was to submit written reports to the Bureau of Meteorology (BoM) about the condition and adequacy of the various instruments and their appropriateness for the locations throughout a Postal District.

At no time was I involved in weather forecasting, but I do believe the data furnished by the observers assisted the BoM in their daily forecasts.

In times of heavy rainfall it was not uncommon for the BoM to order a one-hourly reading of rainfall in a particular area and I recall the 1954 floods where the Taroom PO, at the headwaters of the Dawson River, undertook this and the Police Sergeant read the river height and originated a FLOODWARN telegram to WHR Brisbane to allow the BoM to gauge the situation and act accordingly. It all boiled down to the people on the ground being able to note the rainfall, where the resultant floodwater was going and giving prompt advice so that warnings could be issued.

I am well aware that satellite technology has replaced the older methods but I do believe that, even though an image might indicate an area of heavy rainfall, without observers on the ground, the amount and direction of flow is unknown.

Toowoomba : In 1965 the weather observations were taken at the Fire Station in Kitchener Street, located on the banks of East Creek, just below the western edge of the Dividing Range. (The Post Office yard was too small, too cluttered with buildings to allow placement of instruments). Some time later the Fire Station weather recording station was closed and the instruments removed to the Toowoomba Airport on the far western edge of the City.

The topography of Toowoomba is that in the east there is the Great Dividing Range, rising to 662 metres on the extreme eastern edge of the City. This overlooks the Lockyer Valley to the east, with a very precipitous fall. Once the Range is traversed, the fall to the west is gradual and ultimately flattens to the Darling Downs. There are only minor waterways going down the steep eastern escarpment of the Range to the Lockyer Valley. On the western escarpment and in the City itself are East Creek and West Creek (which runs through the centre of the City) and they join in the north-west to form Gowrie Creek which wends its way westward to Oakey.

The accuracy of Toowoomba's recorded rainfall : For many years the citizens of Toowoomba have argued about how much rain falls ; or more accurately, how much is officially recorded.

I have experienced events like playing cricket at the Grammar School, in Margaret Street just below the summit of the Range, the game being totally washed out and me travelling to home near the Airport, only to find it hadn't rained there at all. Likewise, playing golf at Middle Ridge. Experiencing a thunder storm in the early afternoon followed by persistent rain, then giving up on the afternoon's sport, only to arrive home to find it hadn't rained there.

On those occasions when an official rainfall recording is made at the Airport recording station it is not uncommon for an unofficial recording on the eastern side of the City to be significantly higher than the official recording.

You don't have to be a scientist to know rain-bearing clouds produce rain when they rise over land. Clouds blowing in on the trade winds from the sea will rise significantly when they strike the Toowoomba Range. Resultant rain is more likely to fall heavier in the east of the City, rather than the west.

I am inclined to agree with those citizens who claim the rainfall recording instruments in Toowoomba are in the wrong place.

The event of 10 Jan 2011 : Whilst a satellite image might indicate where the heavy rain fell on this day, no-one will know precisely how much and the proportion which flowed down the eastern and western slopes respectively. For this reason no warnings could be given that flash flooding was occurring in East and West Creeks in Toowoomba nor could anyone know what was rushing down the eastern slope to Murphy's Creek, Postman's Ridge and Grantham. The result of this shortcoming was that many lives were lost.

I was at home at my residence near the Airport on this day and, whilst the rainfall was very heavy there (but not as heavy as I have experienced in Townsville and Ingham, for example), the two creeks on either side did not fill and run to the extent of, say, West Creek, as depicted on television.

What to do for the future ? : I am aware that this aspect of the Queensland flooding is included in your terms of reference. I also note that meteorology and the BoM is a Commonwealth responsibility. However, I did see on television the Regional Director BoM as a member of the Premier's advisory team, so I presume he has some sort of official role.

Should your Commission agree with the points raised in my submission, I see the following action as being necessary to prevent a repetition of the disastrous events of Monday, 10 January 2011 :-

* A review of the weather observation arrangements in Toowoomba to better cater for the phenomena which occurs ;

* An early-warning system to be implemented to at least try to give people in the path of floodwater an even chance of evacuating ;

* The terrain on the eastern slope of the Range does not lend itself to dam construction to regulate flow but there should be scope for better flow management in East and West Creeks, Toowoomba and further investigation should be undertaken.

I am of the opinion that there is too much reliance on satellite imagery and computer modelling to permit accurate forecasting and having people on the ground to advise the BoM is vital.

Yours faithfully

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N.B. : No objection to publication of this submission on the website.