

1974 AND 2011: TWO ONCE-IN-A-HUNDRED-YEAR EVENTS!

1974

The banner headline of *The Courier Mail* on 29 January 1974 said it all: 'RESCUE DISASTER AS FLOODS HIT NEW TOP'. The front page went on, 'City is almost at standstill. The worst floods this century claimed more lives bringing the State death toll to eight dead and two missing'. The 1974 tragedy arrived unheralded and without apparent warning although the floods had their origin at least two months earlier. In December 1973, record rainfall had fallen over Queensland and many places received more than their average annual rainfall by the end of January and almost every river in Queensland was in flood. Then followed Tropical Cyclone Wanda. This was the main culprit responsible for the floods and made landfall near Double Island Point on 24 January. TC Wanda was no more than a Category 1 storm but in addition to saturating the Brisbane River catchment, it forced a trough of low pressure down to Brisbane itself. What resulted was the worst flooding of the 20th century over the Australia Day holiday weekend (25–29 January). At least 6,700 homes were flooded in the Brisbane metropolitan area and in Ipswich, more than 1,800 residential and commercial premises were flooded and 41 homes washed away. The damage was estimated at around \$200 million. Twelve people were drowned and others suffered fatal heart attacks subsequently.

Although the community as a whole responded magnificently to the emergency, people were unconvinced of the seriousness of the situation and so some residents went home early in the weekend to start cleaning up only to find themselves flooded out again soon after.¹ As an example of the amazing rainfall, the lush tropical rainforest of Mount Glorious received more than 1.3 metres over four days. Imagine this volume of water: 4 feet 4 inches in old money! Brisbane itself recorded two thirds of a metre of rain over the four days and the 314 millimetres which fell on 26 January was without doubt, a 'once-in-a-hundred-years' event. Only once since records began has this been exceeded: 21 January 1887 when 465 millimetres fell. However, the Bureau of Meteorology were at pains to explain that this sort of rainfall occurs *on average* once in 100 years and that the probability of it happening again was 10% by 1984 and 40% by 2024, a prophesy which was only too true!

Flooding began on the afternoon of Friday 25 January when Moggill Creek reached record levels. By 9.00 am on Saturday 26 January, flooding commenced in the Bremer and Upper Brisbane Rivers and Lockyer Creek. The Bremer River rose at an exceptionally fast rate and by 3.00 pm the next day, it peaked at nearly 20 metres.² The level stayed up for over a day as the incoming tide from the Brisbane River prevented the floods from falling. At its peak, the Bremer was discharging between 4000 and 5000 cubic metres of water per second. In the Brisbane CBD, signs of a major flood were not seen on Saturday but the enormous flood contribution from the Bremer River and continued heavy rain over the city, caused the river to rise rapidly and peak at high tide on Tuesday 29 January.

One of the most enduring sights is of course, the flooding of the Regatta Hotel where patrons on the top floor were able to put their feet into the water. Further west, a grain barge on the river had broken free from its moorings and crashed into the Centenary Bridge. This was threatening to dam up the fast-flowing river and intensify flooding in the area. The decision was taken to hole the barge with explosives so it would sink.



Above: Taken on 27 January 1974, spectators on the Centenary Bridge inspect the barge pushed against the bridge by the raging Brisbane River. Source: Kevgillet.net. Photographer unknown.

Left: Regatta Hotel patrons find something to smile about despite several metres of water inundating the building. Photo: Newspix/News Ltd.



Left: Wivenhoe and Somerset Dams create a visually impressive aerial spectacle. Small projections of land can be seen on either side of the dam gates (lower right). *Photo: © Seqwater.*

Below: The open gates of Wivenhoe Dam send a magnificent display of spume down the spillway. *Photo: Andrew J Musgrave (SEQ Water Grid)*

1983–2011

Following the 1974 disaster, the state government built Wivenhoe Dam as a ‘flood mitigation structure’. Completed in 1983, it is over two kilometres long and made of earth and rock. It holds 1.15 million megalitres of drinking water (when this is full, the dam is at 100% of its capacity). As well as this drinking water, Wivenhoe stores another 1.45 million megalitres in its ‘flood storage compartment’, so this means the maximum capacity is 225%.⁴ This flood storage compartment is 2.5 times the capacity of Sydney Harbour.⁵ The dam houses five steel gates 12 metres wide and 16 metres high, amongst the largest of their type in the world. The dam has played an important role in preventing flooding since 1974, however, as we shall see, the large amount of water stored in Wivenhoe and its release would be an important factor in the next major flood.

Like 1974, the 2011 floods were preceded by heavy rainfall late in 2010 caused by Tropical Cyclone Tasha. This rainfall was made worse by a low pressure trough and the strongest La Niña peak since 1973 (and second strongest since 1917–18). 2010 was Queensland’s wettest year on record with over 400 millimetres falling in Bellbowrie during December;⁶ more than a third of the total annual 2010 rainfall. The Brisbane CBD recorded the wettest year since 1974.



HOW THE FLOODS SWEEPED THROUGH MOGGILL AND BELLBOWRIE

By 6 January, it was obvious that floods downstream of Wivenhoe were highly likely. The river was rising even before Wivenhoe Dam gates were opened and Greg Mole, master of the Moggill Ferry, suspended operations for 1½ hours at high tide.

The next day, the river had risen to 2.47 metres and Greg ceased ferry operations altogether at 11.31 am. River levels continued to rise quickly over the weekend and early on Tuesday 11 January, it was clear that major flooding was about to occur; by 7.00 am, the parkland at the end of Priors Pocket Road had flooded and the Bellbowrie Police Beat officer, Senior Constable Leesa Richardson and her partner, Bel Yates, began evacuating horses from this area.



Left: The Moggill Ferry is no longer running and water is well above the barriers: 12.04 pm on 10 January.

Photo: Jackie Preddy.

Top: Six hours later the water has risen by one metre and continues to obscure more of the road signs.

Photo: Jackie Preddy.

Above: Next day, 11 January at 7.36 am. The water has now reached 7.72 m above normal. *Photo: Sue Wallis.*

Below: One day later at the peak of the flood, 12 January at 9.48 am. The water has jumped ten metres and is now at 17.32 m. There is no trace of ferry signs.

Photo: Gwenda Durrington.



The CWA supplied the MudArmy and the myriads of volunteers with provisions and liaised with Lions and Rotary who sent out teams of volunteers to help with the clean-up. Morning teas, lunches and afternoon teas were supplied over a ten day period. It was hard work, in some cases CWA had to get through ankle-deep mud and water but they supplied clean-up crews in the shopping centre and at McIntyre. On one day alone they delivered 200 sandwich packs. Like so many clean-up workers, the CWA teams did their best to raise spirits; Jenny Stowell tells how one lady whose house was completely flooded, was asked what she needed and she replied, 'a big hug', so the CWA lady hugged her as they both stood knee deep in mud.

Centrelink arrived on Monday 17 January and trip leader Debbie Turner worked with her team assembled from all over Australia: Perth, Adelaide, Alice Springs, Victoria and New South Wales. Working in conjunction with Dave Ross, trip leader for the State Government Community Recovery Team, they were instrumental in providing immediate assistance to those affected. The Centrelink team processed Australian Government Disaster Recovery Payments of \$1000 per adult and \$400 per child for those adversely affected by the floods and the state government offered a range of grants and loans drawn from the Premier's Disaster Relief Appeal.

Crockery and kitchen equipment salvaged from a house is spread out to dry.
Photo: Lucinda Bartkaltis.



The Mud Army marches along the shopping centre car park ready for action.
Photo: Andrew Jarvie.



Rubbish from the Birkin Road area was piled up by the army and others at the Lions Park.
Photo: Neville Marsh.



Left: The Australian Defence Force worked long hours to help civilian volunteers with the clean-up.
Photo: Gwenda Durrington.

POSTSCRIPT – THE QUEENSLAND FLOODS COMMISSION OF ENQUIRY

At 1.00 pm on Monday 1 August, Justice Catherine Holmes handed down her Interim Report from the Queensland Floods Commission of Enquiry.¹ The 262-page report contained 175 recommendations ranging widely from the operation of Wivenhoe and other dams, through disaster preparation to the emergency response. The report covered a number of aspects in great detail and is well worth speed reading even if technical issues such as the 'very strong bursts of Madden-Julian Oscillation' and the 'review of the design hydrology using a stochastic or Monte Carlo or probabilistic approach' may deter all but the most avid reader. The report did not cover such things as insurance and land-use planning. These have been considered in the round of hearings in September and October 2011. The majority of recommendations urged action before the next wet (2011/2012) season and Premier Anna Bligh immediately pledged that all 104 tasks down to the state government would be fully implemented by Christmas 2011.

Of particular interest was the finding that in the lead up to the floods beginning in December 2010, there was confusion over the respective responsibilities of the various water authorities and that 'the Minister [for Energy and Water Utilities, Stephen Robertson] did nothing to resolve this confusion'. Further, 'the water agencies and Department of Environment and Resource Management seem incapable of agreeing their respective roles'. The report recommended absolute clarity over decision making and that 'the regulatory framework [for making those decisions] ... be simplified'. Equally important, it was made clear that if the Bureau of Meteorology forecasts a similar rainfall pattern to 2010/11 this coming summer, the dam levels should be lowered to 75%.

The Wivenhoe Dam spillway showing the dam gates in January 2011.
Photo: ©Seqwater.

