FLOODS

Queensland flood observations

by Hubert Chanson

The Australian continent received some unprecedented rainfalls during the summer 2010/2011, causing some major flooding in the northwest of Western Australia, in northwest Victoria, northern Tasmania, New South Wales and especially Queensland. The floods in Queensland were very significant by the extents of the inundated surface area and the number of record water levels. Nearly 75% of Queensland was affected by some major flooding, representing a surface area of almost 1.3Mkm².

The floods in eastern Australia are sometimes linked with La Niña events during the El Niño Southern Oscillation (ENSO) cycle, as seen in 1916, 1917, 1950, 1954-1956, 1973-1975 and 2010-2011. In tropical and subtropical Queensland, major floods are a relatively common occurrence. For example, the city of Brisbane experienced four major floods for the 1893 year alone, the Mary River in Gympie had three major floods during the 1970s and the Bohle River in Townsville reached some major flood levels five times between 1991 and 2007.

The 2010/2011 floods in Queensland followed nearly four months of wet weather at the end of 2010. Further six major rain events took place from late November 2010 to mid-January 2011. While the Queensland floods were most notable by their extent and duration, a relatively small number of daily and three-day rainfall records were set. In southeast Queensland, a comparison of the three-day rainfall totals indicated that the peak rainfalls during the 2010/2011 event were significantly lower than during the 1893 event and generally lower than in 1974. But a large number of record water levels were observed.

Some major floods took place in several catchments, in particular in central, west, south and southeast Queensland. In January 2011, rainfall and flooding remained widespread throughout Queensland. The most destructive floods took place during the second week of January in southeast Queensland. Some flash floods occurred over the Toowoomba Range and the upper Lockyer Valley on 10 January late afternoon with tragic losses of life. Additionally some important rainfalls occurred in the catchments of the Brisbane River, Bremer River and



Brisbane River overtopping the Mount Crosby weir on 17 January 2011 when the water level was 16m. PHOTO: HUBERT CHANSON



Lockyer Creek, and caused some significant flooding in the upper and lower catchments. The city of Brisbane was inundated for a few days, and the peak water level reached 4.96m on 13 January 2011.

The extent and magnitude of the floods in Queensland were unprecedented in many places. As an illustration, this series of flood events contributed to the filling of Lake Eyre for the third year in succession – a rare event. Further the floods contributed to the filling of the water reserves across the state, both the surface reservoirs and the aquifers including the Great Artesian Basin.

In 1974 Sir Charles Barton, coordinator-general of Queensland, commented: "In Brisbane many people suffered from what I call the Somerset Dam Syndrome. They knew that the 1893 flood and the heights reached but [thought that] now that we have Somerset Dam it won't happen again." It is thought that many in southeast Queensland suffered from the Wivenhoe Dam Syndrome in January 2011. Importantly the floods are a common occurrence in tropical/subtropical Queensland and many cities and townships are built around rivers including in floodprone areas. Our society must learn to live with them.

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