Flooding in the Lower Hunter Valley

Floods occur frequently on the Hunter River, with over 200 floods recorded since European settlement. The history of the Aboriginal people reflects their land management practices in response to flood and drought regimes. Their stories explain the benefits of the natural cycles and how they adapted in flood times. One historical flood, in particular, referred to by Aboriginal people as the ‘big fellah,’ probably exceeded the level of the 1955 flood.

Figure 1. Lower Hunter Catchment, from Maitland to Hexham

Hunter River catchment area: 22 000 sq km
Mean annual runoff: 2 000 000 ML
Catchments contributing to runoff:
Goulburn River (15%), Upper Hunter (45%), Paterson & Williams (40%)
Lower Hunter catchment area: 380 sq km
Floods relate directly to weather patterns, and periods of droughts and floods in the Hunter Valley have been recorded since the early 1800s. A major flood occurred in 1820, estimated to have reached an equivalent height of 12 m (AHD*) at Maitland. At the time, dense rainforest covering the riverbanks and floodplains would have slowed the discharge of floodwaters throughout the Lower Hunter Valley. It is likely that the total flood volume was greater than the flood of 1955.

Between 1949 and 1955, there were a number of floods of great intensity and severity on the Hunter River. The record flood of 1955 reached 12.1 m (AHD) at Maitland, with a total volume of 2.1 million megalitres of floodwater—enough to fill Sydney Harbour over four times. This flood has become a benchmark for flooding in the Lower Hunter Valley.

Maitland floods are measured by the heights they reach at the Belmore Bridge gauge. Floods greater than 10.5 m (AHD) are classified as major. Floods have occurred frequently since 1955, but there have been only three major floods—in 1971 (11.14 m AHD), 1977 (10.81 m AHD) and 2007 (10.71 m AHD). The 1971 flood was the first to overtop the Oakhampton and Bolwarra spillways. There is a 5% chance of a flood of this height occurring in any given year.

While the question ‘When will the next major flood occur?’ cannot be answered, it is important to be aware of flood risks and to prepare for future flooding. As the records have shown, long droughts can be broken by sudden intense rainfall resulting in severe flooding. Flooding is inevitable, and floods greater than the record flood of 1955 will happen again.

* Australian Height Datum (AHD)—a datum used to measure vertical height based on mean sea level as zero.

References

For emergency help in floods, call the SES on 132 500
www.ses.nsw.gov.au