

# Flood Studies

## Background

NSW Public Works Manly Hydraulics Laboratory (MHL) staff have extensive experience investigating flood conditions along the NSW coast, including the many rivers, creeks and lagoons that drain into the ocean.

## Services Provided

Studies have included investigation of rainfall runoff flooding in fluvial environments, elevated ocean level and wave action flooding in coastal environments, and the combination of both these types of flooding in the estuarine environment.

Investigations are undertaken by highly trained staff experienced in physical and numerical modelling.

Physical models of floodplains have been very useful in the past to analyse complex flood behaviours. NSW Public Works MHL has at its disposal a range of leading edge numerical models to simulate the hydrologic and hydraulic processes. The models can estimate the flood hydrographs from urban and rural catchments (ILSAX, RORB and WBNM) and simulate the flood behaviour in one-, two- and three-dimensional situations depending on the circumstances (HEC-2, MIKE11, MIKE21, TUFLOW and RMA).

## Benefits

The results from the flood studies can be used to estimate flood levels, flood velocities and flood pathways on the floodplain. These factors are all needed for the management of flood conditions and allow options to be developed to minimise future flood hazards.

NSW Public Works MHL maintains a database of historical flood data and is capable of installing instrumentation to monitor flood behaviour. We also have the experience to harness multi-disciplinary teams for floodplain management studies.

