



APPENDIX A. GLOSSARY

Taken from the 2023 NSW Flood Risk Management Manual (Reference 1)

Afflux	Rise in water level in a waterway or flowpath caused by a structure, obstruction or impediment to flow.
Annual exceedance probability (AEP)	The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage
Astronomical tide	The variation in sea level caused by the gravitational effects of (principally) the moon and sun.
Australian height datum (AHD)	A common national surface level datum often used as a referenced level for ground, flood and flood levels
Australian Rainfall and Runoff (ARR)	A national guideline document, data and software suite that can be used for the estimation of design flood characteristics in Australia.
Average annual damage (AAD)	The average damage per year due to flooding that would occur in a nominated scenario in an area over a very long period of time.
Average recurrence interval (ARI)	The long-term average number of years between the occurrence of a flood equal to or larger in size than the selected event
Catchment	The area of land draining to a specific location
Backwater flooding	A mechanism by which upstream flooding is influenced by downstream conditions or controls.
Catchment flooding	Flooding due to prolonged or intense rainfall (e.g. severe thunderstorms, monsoonal rains in the tropics, tropical cyclones)
Chance	The likelihood of something happening that will have adverse or beneficial consequences
Coastal inundation	Inundation due to tidal or storm-driven coastal events, including storm surges in lower coastal waterways. This can be exacerbated by wind-wave generation from storm events
Consent authority	The authority or agency with the legislative power to determine the outcome of development and building applications
Consequence	The outcomes of an event or situation affecting objectives, expressed qualitatively or quantitatively
Continuing flood risk	Risk to existing and future development that may be reduced by EM measures
Defined flood event (DFE)	The flood event selected as a general standard for the management of flooding to development
Design flood	The flood selected as part of the FRM process that forms the basis for physical works to modify the impacts of flooding
Development	May be treated differently depending on the following categorisation:

	• infill development: the development of vacant blocks of land that are generally surrounded by developed properties and is permissible under current land zoning • new development: development of a completely different nature to that associated with the former land-use (e.g. the urban subdivision of a previously rural area) • redevelopment: rebuilding in an area (e.g. as urban areas age, it may become necessary to demolish and reconstruct buildings on a relatively large scale)
Development control plan (DCP)	See Environmental Planning and Assessment Act 1979
Ecologically sustainable development (ESD)	As outlined in the Local Government Act 1993.
Emergency management (EM)	A comprehensive approach to dealing with risks to the community arising from hazards. It is a systematic method for identifying, analysing, evaluating and managing these risks
Emergency management plan (EMPLAN)	The overarching EM arrangements for New South Wales, including the agreed roles and functions of various agencies. All NSW Government agencies with responsibilities and functions in disaster response and recovery contribute to this plan.
Emergency management response strategy (EM response strategy)	A strategy identified by the combat agency typically used to plan, prepare for and respond to a hazard.
Events per year (EY)	Number of events per year.
Existing flood risk	The risk an existing community is exposed to as a result of its location on the floodplain
Flash flood	Flood that is sudden and unexpected. It is often caused by sudden local or nearby heavy rainfall. Often defined as flooding that peaks within 6 hours of the causative rain.
Flood	A natural phenomenon that occurs when water covers land that is normally dry. It may result from coastal inundation (excluding tsunamis) or catchment flooding, or a combination of both
Flood classifications (used in flood warnings)	• Minor flooding – Causes inconvenience. Low-lying areas next to watercourses are inundated. Minor roads may be closed and low-level bridges submerged. Flooding is usually below the floor level of dwellings and may require removal of stock and equipment from low-lying areas. • Moderate flooding – In addition to the above, the area of inundation is more substantial. Main traffic routes may be affected. Some buildings may be affected above the floor level. Evacuation may be required. • Major flooding – In addition to the above, extensive rural areas and/or urban areas are inundated. Many buildings may be affected above the floor level. Properties and towns are likely to be isolated and major rail and traffic routes closed. Evacuation of flood affected areas may be required. Utility services may be impacted.
Flood affected land	Equivalent to flood prone land

Flood awareness	An appreciation of the likely effects of flooding, and a knowledge of the relevant flood warning, response and evacuation procedures facilitating prompt and effective community response to a flood threat
Flood constraints	Key constraints that flooding place on land
Flood damage	The tangible (direct and indirect) and intangible costs (financial, opportunity costs, clean-up) of flooding
Flood education	Seeks to provide information to raise community awareness of flooding so as to enable individuals to understand how to manage themselves and their property in response to flood warnings
Flood emergency response classification of communities (FERCC)	Classification of the floodplain in consideration of the EM constraints and consequences.
Flood evacuation	The movement of people from a place of danger to a place of relative safety, and their eventual return
Flood evacuation capability	The ability to safely evacuate to an area of relative safety within the effective warning time, having regard to the suitability and capacity of the route and the possible prevailing environmental conditions.
Flood fringe areas	That part of the flood extents for the event remaining after the flood function areas of floodway and flood storage areas have been defined
Flood function	The flood related functions of floodways, flood storage and flood fringe within the floodplain
Flood hazard	A flood that has the potential to cause harm or conditions with the potential to result in loss of life, injury and economic loss
Flood hazard categorisation	Categorisation of flood affected areas based on the degree of hazard that the flood conditions may present to people, vehicles and structures.
Flood impact and risk assessment (FIRA)	A study to assess flood behaviour, constraints and risk, understand offsite flood impacts on property and the community resulting from the development, and flood risk to the development and its users
Flood liable land	Equivalent to flood prone land
Flood mitigation standard	The design flood selected as part of the FRM process that forms the basis for physical works to modify the impacts of flooding.
Flood (hydrologic and hydraulic) modelling	Hydrologic and hydraulic computer models to simulate catchment processes of rainfall, run-off, stream flow and distribution of flows across the floodplain or similar
Flood plan (local or state)	A sub-plan of an EM plan that deals specifically with flooding; they can exist at state, zone and local levels
Flood planning area (FPA)	The area of land below the FPL
Flood planning constraint categories (FPCCs)	Categorisation of the floodplain into areas of different degrees and types of flood related constraints.

Flood planning level (FPL)	The combination of the flood level from the DFE and freeboard selected for FRM purposes
Flood prone land	Land susceptible to flooding by the PMF event
Flood proofing	Measures incorporated in the design, construction or alteration of individual buildings or structures that are subject to flooding, to reduce structural damage and potentially, in some cases, reduce contents damage.
Flood risk	Risk is based on the consideration of the consequences of the full range of flood behaviour on communities and their social settings, and the natural and built environment
Flood risk management (FRM)	The management of flood risk to communities
Flood storage areas	Areas of the floodplain that are outside floodways which generally provide for temporary storage of floodwaters during the passage of a flood and where flood behaviour is sensitive to changes that impact on temporary storage of water during a flood
Flood study	A comprehensive technical investigation of flood behaviour undertaken in accordance with the principles in this manual and consistent with associated guidelines A flood study defines the nature of flood behaviour and hazard across the floodplain by providing information on the extent, level and velocity of floodwaters, and on the distribution of flood flows considering the full range of flood events up to and including extreme events, such as the PMF
Flood warnings	Warnings issued when there is more certainty that flooding is expected, are more targeted and are issued for specific catchments
Flood watches	Provide the community with early advice of a developing situation that may lead to flooding.
Floodplain	Equivalent to flood prone land
Floodways	Areas of the floodplain which generally convey a significant discharge of water during floods and are sensitive to changes that impact flow conveyance. They often align with naturally defined channels or form elsewhere in the floodplain
Flow	The rate of flow of water measured in volume per unit time, for example, cubic metres per second (m^3/s)
Freeboard	A factor of safety typically used in relation to the setting of minimum floor levels or levee crest levels
Frequency	The measure of likelihood expressed as the number of occurrences of a specified event in a given time
FRM measures	Measures that can reduce flood risk
FRM options	The FRM measures that might be feasible for the management of a particular area of the floodplain
FRM plan	A management plan developed in accordance with the principles in this manual and its supporting guidelines

FRM study	A management study developed in accordance with the principles in this manual and its supporting guidelines
Future flood risk	The risk future development and its users are exposed to as a result of its location on the floodplain
Gauge height	The height of a flood level at a particular water level gauge site related to a specified datum
Habitable room	In a residential development – a room used for normal domestic activities that: - includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom - includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom In an industrial or commercial situation – an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.
Hazard	A source of potential harm or conditions that may result in loss of life, injury and economic loss due to flooding
Hydraulics	The study of water flow in waterways and flowpaths; in particular, the evaluation of flow parameters such as water level and velocity
Hydrograph	A graph that shows how the discharge or stage/flood level at any location varies with time during a flood.
Hydrology	The study of the rainfall and run-off process; in particular, the evaluation of peak flows, flow volumes and the derivation of hydrographs for a range of floods
Integrated planning and reporting framework (IP&R framework)	The IP&R framework includes a suite of integrated plans that set out a vision and goals and strategic actions to achieve them. It involves a reporting structure to communicate progress to council and the community as well as a structured timeline for review to ensure the goals and actions are still relevant
Lifecycle costing	All of the costs associated with the project. This usually includes investigation, design, construction, operation, monitoring, maintenance, asset and performance management and, in some cases, renewal, upgrade, decommissioning and disposal of a management measure.
Likelihood	A qualitative description of probability and frequency
Likelihood of occurrence	The likelihood that a specified event will occur
Local environmental plan (LEP)	See Environmental Planning and Assessment Act 1979
Local government area (LGA)	The area serviced by the local government council
Local overland flooding (LOF)	Inundation by local run-off on its way to a waterway, rather than overbank flow from a waterway
Local strategic planning statement (LSPS)	Local strategic planning statements assist councils to implement the priorities set out in their community strategic plan and actions in regional and district plans

Loss	Any negative consequence or adverse effect, financial or otherwise
Mainstream flooding	Inundation resulting from overbank flow from a waterway rather than by local run-off.
Merit-based approach	Weights social, economic, ecological and cultural impacts of land-use options for different flood prone areas together with flood damage, hazard and behaviour implications, and environmental protection and wellbeing of the state's rivers and floodplains
NSW Floodplain Management Program	The NSW Government's program of technical support and financial assistance to local councils to enable them to understand and manage their flood risk
NSW Flood prone land policy	The NSW Flood prone land policy included in the NSW Flood Risk Management Manual (2023)
Peak flow	The maximum flow occurring during a flood of a given annual exceedance probability.
Prevention, preparedness, response and recovery (PPRR)	Involves: • prevention: to eliminate or reduce the level of the risk or severity of emergencies • preparedness: enhances the capacity of agencies and communities to cope with the consequences of emergencies • response: to ensure the immediate consequences of emergencies to communities are minimized • recovery: measures that support individuals and communities affected by emergencies in the reconstruction of physical infrastructure and restoration of physical, emotional, environmental and economic wellbeing
Probability	A statistical measure of the expected chance of a flood
Probable maximum flood (PMF)	The largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation (PMP), and where applicable, snow melt, coupled with the worst flood-producing catchment conditions
Probable maximum precipitation (PMP)	The greatest depth of precipitation for a given duration meteorologically possible over a given size storm area at a particular location at a particular time of the year, with no allowance made for long- term climatic trends (World Meteorological Organization 1986)
Rainfall intensity	The rate at which rain falls, typically measured in millimetres per hour (mm/h)
Residual flood risk	The risk to the existing and future community that remains with FRM, EM and land-use planning measures in place to address flood risk
Risk	'The effect of uncertainty on objectives' (ISO 2018)
Risk analysis	The systematic use of available information to determine how often specified (flood) events occur and the magnitude of their likely consequences
Run-off	The amount of rainfall that ends up as streamflow, also known as rainfall excess
Severe thunderstorm warnings	Warnings provided to communities of the threat of dangerous thunderstorms. They are issued when a severe thunderstorm is occurring or likely to occur.

Severe weather warnings	Warnings provided for potentially hazardous or dangerous weather that is not solely related to severe thunderstorms, tropical cyclones or bushfires. They are issued whenever severe weather is occurring in an area or is expected to develop or move into an area.
State environmental planning policy	See Environmental Planning and Assessment Act 1979
Scenario	A scenario may relate to current, historical or assumed future floodplain, catchment and climate conditions
Stage	Equivalent to water level; measured with reference to a specified datum
Stage hydrograph	A graph that shows how the water levels at a particular location change with time during a flood. It must be referenced to a particular datum.
Storm surge	The increases in coastal water levels above predicted astronomical tide level (i.e. tidal anomaly) resulting from a range of location-dependent factors
Survey plan	A plan prepared by a registered surveyor.
Temporal pattern	The variation of rainfall intensity with time during a rainfall event.
Tidal anomaly	The difference between recorded storm surge levels and predicted astronomical tide level.
Tipping point	The critical point in a situation, process or system beyond which a significant and often unstoppable effect or change takes place.
Total warning system (TWS)	A total warning system describes a means of collecting information about an impending emergency, understanding the nature of the threat, communicating that information to those likely to be affected by it, and facilitating protective action and timely response.
Total warning system for flood (TWSF)	An integrated system defining the level of flooding at which a warning will be initiated, the physical means by which it will be relayed, and the persons to whom it will be given. The system includes all necessary hardware such as water level actuators, and radio transmitting and receiving equipment.
Velocity	The speed of floodwaters, measured in metres per second (m/s)
Vulnerability	The degree of susceptibility and resilience of a community, its social setting, and the built environment to flooding
Water surface profile	A graph showing the flood stage at any given location along a watercourse at a particular time.
Wave set-up	The increase in water levels in coastal waters (within the breaker zone) caused by waves transporting water shoreward. The zone of wave set-up against the shore is balanced by a zone of wave 'set-down' (i.e. reduced water levels) seawards of the breaker zone.
Wind fetch	The horizontal distance in the direction of wind over which wind waves are generated.
Wind set-up	The increase in water levels in coastal and inland waterways caused by the wind driving the water shoreward and 'piling it up' against the shore.