

Central Coast Council

Draft Flood Policy

Date Adopted: XX/XX/20XX
Revision: 1



DRAFT

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1. Policy Objectives

- 1.1** The objective of this Policy is:
- 1.1.1 To clarify Council's approach to flood risk management in accordance with statutory responsibilities as defined by the NSW Government.
 - 1.1.2 To adopt a greenhouse gas emissions scenario for the sake of considering the impacts of climate change.
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2. Policy Scope

- 2.1** This Policy applies to:
- 2.1.1 Activities or development carried out on flood prone land, including land use planning, development control, infrastructure planning, and capital works.
 - 2.1.2 Advice about flood prone land provided by any Council staff member to any internal or external customer.
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3. Policy Statement

- 3.1** Council's statutory flood risk management responsibilities are defined by:
- 3.1.1 Section 733 Local Government Act 1993, which requires Council to act substantially in accordance with the NSW Flood Risk Management Manual: the management of flood liable land (2023), which itself includes the NSW Flood Prone Land Policy, along with the several accompanying Flood risk management guidelines.
 - 3.1.2 Central Coast Local Environment Plan 2022, Section 5.51 Flood Planning and Section 5.22 Special Flood Considerations.
 - 3.1.3 Current Local Planning Directions issued by the Minister for Planning to relevant planning authorities under section 9.1(2) of the Environmental Planning and Assessment Act 1979, which at the time of writing include:
 - a) *Direction 4.1 Flooding.*
 - 3.1.4 Current NSW Planning Circulars:
 - a) *PS 21-006 Considering flooding in land use planning: guidance and statutory requirements.*
 - b) *PS 24-001 Update on addressing flood risk in planning decisions.*
- 3.2** Types of flooding included in this policy include:
- a) *Riverine flooding: when a creek or river rises above its banks and spills onto surrounding land.*

- b) *Local overland flooding: inundation by local runoff on its way to a waterway caused by heavy rainfall.*
- c) *Coastal flooding: inundation in estuaries, lakes and lagoons caused by sea water from storm surges or high tides.*
- d) *Flash Flooding: a sudden rise in water levels caused by heavy rain, whereby the flood peaks within 6 hours of the start of the flood producing rainfall.*

3.3 Council shall consider climate change factors as part of flood risk management responsibilities as follows:

- 3.3.1 Consideration of climate change is mandatory as part of Council's statutory flood risk management responsibilities.
- 3.3.2 Planning horizons for consideration of climate change for different types of activities or development shall be as listed in Table 1.
- 3.3.3 The impacts of climate change shall be based on the IPCC¹ Assessment Report 6 median sea level rise values of the SSP2-4.5 emissions scenario². The sea level rise planning allowance based on this scenario are shown in Table 2.
- 3.3.4 Sea level rise flooding impacts must be considered as part of any activity or development within the flood planning area for all land at an elevation of up to 3mAHD.

3.4 Coastal hazard assessment³ must consider sea level rise in accordance with the [NSW Coastal management manual](#).

Table 1: Planning Horizons for consideration of Climate Change

Asset Class	Planning Horizon (years)
House, granny flat, townhouse, dual occupancy (up to 2 storey) ⁴ , local roads, shared pathways	35
Commercial, Industrial, mid-rise residential (3-6 storeys), stormwater infrastructure, seawalls	50
High-rise buildings, major roads, water & sewer infrastructure, sensitive and hazardous development ⁵	80+

Note: Determination of the appropriate asset class and planning horizon for any proposal will be assessed on merit and determined at Council's discretion. This may include asset classes that are not clearly identified in Table 1 whose planning horizons will be determined by Council as the assessing authority supported by information accompanying the proposal/ application.

Table 2: Sea Level Rise Planning Allowances

Year	Sea Level Rise (metres)
2030	0.093
2040	0.138
2050	0.197
2060	0.252
2070	0.320

2080	0.389
2090	0.454
2100	0.530
2110	0.606
2120	0.680
2130	0.752
2140	0.882
2150	0.891

Note: The planning allowances for sea level rise in Table 2 are based on the IPCC Assessment Report 6 Median sea level rise values of the SSP2-4.5 emissions scenario. For planning allowances for a year not specifically identified in Table 2, a linear interpolation within the appropriate decade is required.

4. Policy Definitions

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. A 1% AEP flood has a 1% or 1 in 100 chance of being reached or exceeded in any given year.
Australian height datum (AHD)	A common national surface level datum often used for ground levels and flood levels. 0.0 m AHD corresponds approximately to mean sea level
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.
Climate Change factors	Climate change impacts may alter flood behaviour. The two main aspects of climate change relevant to flood risk management are sea level rise and the increase in flood-producing rainfall volume / rainfall intensity. Those floodplains above the current tidal limit will be impacted by an increase in flood-producing rainfall, while those in estuary or coastal areas and below the current tidal limit will be impacted by both an increase in flood-producing rainfall and sea level rise.
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. Flooding results from relatively high stream flow that overtops the natural or artificial banks in any part of a stream, river, estuary, lake, or dam, and/or local overland flow paths associated with major drainage, and/or oceanic inundation resulting from super-elevated ocean levels
Flood Prone Land	Land susceptible to flooding by the PMF event. Flood prone land is also known as the floodplain, flood liable land and flood affected land. The extent of the PMF is available on Council's online mapping.
Flood Planning Area (FPA)	The area of flood prone land that is subject to residential flood related development controls, under Central Coast Local Environment Plan 2022, Section 5.21. The FPA for each catchment is defined by the relevant flood study. This information is available on Council's online mapping.
Flood Planning Level (FPL)	The minimum habitable floor level for residential development, calculated from the combination of the flood level from the 1% AEP flood, plus a freeboard of 0.5m, plus relevant climate change planning allowances.

Flood study	A comprehensive technical investigation of flood behaviour that 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 the PMF. This information is available on Council's online mapping.
Freeboard	A factor of safety typically used in relation to the setting of minimum floor levels or levee crest levels. The freeboard used across Central Coast is 0.5m. Freeboard allows for uncertainties in the estimates of flood levels and local wave action associated with vehicles in flooded areas. Freeboard does not include an allowance for climate change, which is an additional planning allowance on top of freeboard that is relevant to the appropriate planning horizon.
Intergovernmental Panel on Climate Change (IPCC)	The IPCC is the United Nations body for assessing the science related to climate change. Its objective is to provide governments at all levels with scientific information that they can use to develop climate policies. It provides periodic scientific assessments concerning climate change, its implications, and risks, as well as adaptation and mitigation strategies.
Low Lying Land	Low Lying Land is land which is set around waterbodies including lakes, lagoons, estuaries, rivers and streams or the ocean. This land is often swampy and may be at risk of flooding during high tides, after heavy rainfall or during ocean storm surge events. This land is often susceptible to future sea level-rise risk.
Planning horizon	Planning horizon is the length of time into the future that consideration of the effects of flooding are considered relevant. This will vary depending on what is being considered. For example, the strategic planning for a new area or design of critical infrastructure that is intended to have a long design or service life requires a distant planning horizon. Conversely, a closer planning horizon can be appropriate for a temporary use or infrastructure with a short design or service life. Consideration of climate change factors for a particular proposal should be applied that are relevant to the planning horizon.
Probable maximum Flood (PMF)	The largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation, coupled with the worst flood-producing catchment conditions and ocean conditions. The extent of the PMF is available on Council's online mapping.

Sensitive and Hazardous Development	Development types as listed in LEP clause 5.22(5) , including hospitals, seniors housing, educational establishments, and many other land-use types.
Storm surge	The increases in coastal water levels above predicted astronomical tide level. Also known as a tidal anomaly. These factors causing these increases may include the inverted barometer effect, wind and wave setup, coastal trapped waves, together with any other factors that increase tidal water level.
Tidal Inundation	Tidal inundation is the process in which seawater is driven up stormwater drainage outlets, or over low-lying land, that is normally dry land. Tidal inundation events occur due to king tides, low-pressure cells, and rising sea levels. Large rainfall events and storm surges also impact drainage systems and can lead to worsened tidal inundation events and localised flooding. Climate change and rising sea levels are predicted to further increase the extent and duration of tidal inundation events. Tidal inundation can restrict access and cause damage to private and commercial property, major infrastructure and roads, drainage, motorists, and pedestrians. Tidal inundation also affects the natural environment with important ecosystems and areas of high biodiversity experiencing salt-water inundation. Extreme tidal inundation events have the potential to cut off major roads and inundate parked cars and properties. As sea levels rise, the frequency of tidal inundation events and the severity of impacts in low-lying areas will increase.

5. Policy Administration

Business Group	Environment and Planning
Responsible Officer	Unit Manager Environmental Management
Associated Procedure	N/A
Policy Review Date	30 June 2030 (every five years)
Document Number	D16284379
Relevant Legislation (reference specific sections)	This Policy supports Council's compliance with the following legislation: ▪ Coastal Management Act 2016 ▪ Sections 5.21 and 5.22, Central Coast Local Environment Plan 2022 ▪ Section 733, Local Government Act 1993
Link to Community Strategic Plan	Theme 3: Green Goal F: Cherished and protected natural beauty G-F4: Address climate change and its impacts through collaborative strategic planning and responsible land management and consider targets and actions.
Related Policies / Protocols / Procedures / Documents (reference document numbers)	▪ Australian Institute for Disaster Resilience, Handbook 7, Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia (2017) ▪ Australian Rainfall & Runoff: A Guide to Flood Estimation (2019) ▪ Climate Change Policy ▪ Floodplain Risk Management Plans (several) ▪ NSW Coastal Management Manual (April 2018) ▪ NSW Flood Risk Management Manual: the management of flood liable land (June 2023) ▪ NSW Planning Circular PS 21-006 Considering flooding in land use planning: guidance and statutory requirements ▪ NSW Planning Circular PS 24-001 Update on addressing flood risk in planning decisions ▪ State Disaster Mitigation Plan 2024 - 2026

	▪ Understanding and managing flood risk: Flood risk management guideline FB01 (June 2023) ▪ NSW Coastal management manual
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6. Policy Authorisations

No.	Authorised Function	Authorised Business Unit / Role(s)
1	Flood information and advice	Environmental Management Unit, Bush Fire and Flood Risk Management Section.
2	Infrastructure planning and asset management	Facilities and Asset Management Unit, Roads and Drainage Infrastructure Unit, Assets and Projects Unit (Water & Sewer), Open Space and Recreation Unit.
3	Land-use planning	Strategic Planning Unit, Local Planning and Policy Section.
4	Development control	Development Assessment Unit, Development Engineering Section, Building Assessment and Certification Section.
5	Emergency Management	Emergency Management Coordinator, Local Emergency Management Officer
6	Flood risk management governance – statutory flood risk management committee	Governance Risk and Legal Unit, Governance Section.

7. Policy History

Revision	Date Approved / Authority	Description Of Changes
1	TBA	New Policy adopted

8. End Notes

¹ Refer definitions. The IPCC has categorised its projections for sea level rise based on various emissions, which are each based on a level of reduction in air pollutants and greenhouse gas emissions.

² This is the updated equivalent of what was adopted by the former Gosford City Council on 10 March 2015: to adopt planning allowances for the median sea level rise values from the Representative Concentration Pathway RCP8.5 emissions scenario from the IPCC 5th Assessment Report (AR5). Subsequently, the IPCC 6th Assessment Report (AR6) was released in August 2021. The concept of RCPs in AR5 has been re-cast as Shared Socio-Economic Pathway (SSP) scenarios in AR6.

³ Sea level rise is one of many factors affecting the gradual erosion of the open coast (where beaches will move further inland). Coastal erosion occurs in extreme weather events such as east coast lows; sea level rise will make these events more damaging over time. This risk is typically managed by establishing coastal hazard lines along the open coast for different planning horizons (in a horizontal direction). This is different to planning for flood risk, which focusses on raising floor levels (in a vertical direction).

⁴ Note the planning horizon for residential development from 2015 to 2024, as adopted by the former Gosford City Council, was 35 years.

⁵ Refer definition. These land-use types are intended to be located on land that is not flood prone, whereby flood related development do not apply. But if proposed on flood prone land then risk to life and evacuation in the PMF is to be considered, including consideration of climate change over a long planning horizon.