



# NSW Sea Level Rise Policy Statement



New South Wales  
Government

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*Cover (clockwise from main photo):*

Bellinger River flooding at Myleston (Coffs Harbour Advocate);  
coastal erosion at Old Bar (P. Watson, DECCW);  
flooding from the Richmond River at Coraki, January 2008 (B. Eggins, Richmond Valley Council); coastal erosion at Belongil Beach, Byron Bay (P. Watson, DECCW).

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## Introduction

The NSW Government acknowledges that increased sea levels will have significant medium- to long-term social, economic and environmental impacts. As an integral part of the state's response to climate change, the Government is committed to supporting coastal communities in adapting to long-term rising sea levels in a manner that minimises the resulting social disruption, economic costs and environmental impacts. Sea level rise is a global problem that will impact locally on the NSW coastline and will require action by communities, the Government and local councils.

Coastal communities and environments are particularly vulnerable to climate change due to the potential for permanent coastal inundation and increasing coastal hazards associated with changing weather patterns and extreme weather events. This policy statement deals with sea level rise only, and represents an important component of the Government's response to climate change.

This policy statement outlines the Government's objectives and commitments in regards to sea level rise adaptation. It outlines the support that the Government will provide to coastal communities and local councils to prepare and adapt to rising sea levels.

## The impacts of rising sea levels

Over the period 1870–2001, global sea levels rose by 20 cm, with a current global average rate of increase approximately twice the historical average<sup>1</sup>. Sea levels are expected to continue rising throughout the twenty-first century and there is no scientific evidence to suggest that sea levels will stop rising beyond 2100 or that the current trends will be reversed.

Sea level rise is an incremental process and will have medium- to long-term impacts. The best national and international projections of sea level rise along the NSW coast are for a rise relative to 1990 mean sea levels of 40 cm by 2050 and 90 cm by 2100<sup>1</sup>. However, the Intergovernmental Panel on Climate Change (IPCC) in 2007 also acknowledged that higher rates of sea level rise are possible.

In simple terms, sea level rise will raise the average water level of oceans and estuaries. As the average water level rises, so too will high and low tide levels affecting the natural processes responsible for shaping the NSW coastline. Exactly how the coast and estuaries will respond is complex and often driven by local conditions but, in general, higher sea levels will lead to:

- increased or permanent tidal inundation of land by seawater
- recession of beach and dune systems and to a lesser extent cliffs and bluffs
- changes in the way that tides behave within estuaries
- saltwater extending further upstream in estuaries

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<sup>1</sup> Refer to the Department of Environment, Climate Change and Water 2009 *Technical note: Derivation of the NSW Government's sea level rise planning benchmarks* for further details

- higher saline water tables in coastal areas and
- increased coastal flood levels due to a reduced ability to effectively drain low-lying coastal areas.

These physical changes will have an impact on coastal ecosystems, access to and use of public and private lands, historical and cultural heritage values, arable land used for agriculture, freshwater access, public and private infrastructure, and low-lying areas of coastal land that are affected by flooding.

Sea level rise will also affect coastal hazards such as beach erosion during storms and coastal flooding. As the sea level rises, severe erosion of beaches during storms will affect areas further inland, while the depth of floodwaters and the areas affected by flooding will increase due to a reduced ability to effectively drain low-lying coastal areas. Climate change will also affect the frequency and intensity of storms, further exacerbating the effects of sea level rise. Such hazards will further impact coastal ecosystems, historical and cultural heritage values, agriculture and infrastructure, and residential and other urban land uses on land around beaches, estuaries, bays and harbours.

## **Related NSW Government initiatives**

The NSW Government currently has in place policies, programs and legislation that allow for ecologically sustainable growth in coastal areas, while reducing the risks to life and property from coastal hazards and flooding. These are also relevant to managing the projected increased risks from sea level rise.

The [NSW Coastal Policy 1997](#) sets the overall strategic direction for coastal management in NSW and is based on the principles of ecologically sustainable development. It aims to facilitate the development of the coastal zone in a way that protects and conserves its values. One of the policy's goals is to recognise and accommodate coastal processes and hazards, including a related objective to recognise and consider the potential effects of climate change in the planning and management of coastal development. The NSW Coastal Policy is given statutory effect through State Environmental Planning Policy 71 – Coastal Protection and through a Ministerial Direction to local councils under section 117 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The State Environmental Planning Policy 71 – Coastal Protection (SEPP 71) also requires that both land use planning and development assessment within the NSW Coastal Zone consider the likely impact of coastal processes and coastal hazards on development and any likely impacts of the development on coastal processes and coastal hazards.

In 2006, the State Government gazetted the new Standard Instrument – Principal Local Environmental Plan. Clause 5.5 of the Standard Instrument prevents the granting of development consent on land that is wholly or partly within the NSW Coastal Zone, unless consideration has been given to the effect of coastal processes and coastal hazards and potential impacts, including sea level rise on the proposed development, and arising from the proposed development.

Two additional NSW Government policies of relevance to sea level rise are the 1988 NSW Coastline Hazard Policy and the NSW Flood Prone Land Policy. This Sea Level Rise Policy Statement supersedes the 1988 NSW Coastline Hazard Policy. Most of the objectives from that policy were included in the NSW Coastal Policy 1997, which remains current. Other objectives from the NSW Coastline Hazard Policy are updated by this Sea Level Rise Policy Statement.

The NSW Flood Prone Land Policy remains in effect and has a primary objective to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods.

These policies are supported by the Government's Coastal, Estuary and Floodplain Management programs, which provide technical policy support and grants to local councils in order to identify and manage coastal hazards and flooding risks. The hazards associated with sea level rise have been incorporated into these programs from as early as 1990, and the benchmarks established under this policy statement will support the consistent consideration of sea level rise across these activities.

## **The NSW Government's objective and commitments for action on adapting to sea level rise**

The NSW Government has an objective to see coastal communities adapt to rising sea levels in a manner that minimises the resulting social disruption, economic costs and environmental impacts. To assist in meeting this objective, the Government will support local councils and the community in adapting to sea level rise by:

1. promoting an adaptive risk-based approach to managing the impacts of sea level rise
2. providing guidance to local councils to support their sea level rise adaptation planning
3. encouraging appropriate development on land projected to be at risk from sea level rise
4. continuing to provide emergency management support to coastal communities during times of floods and storms
5. continuing to provide up-to-date information to the public about sea level rise and its impacts.

Further details of these commitments are provided below.

### **1. Promoting adaptive risk-based management**

The NSW Government will promote an adaptive, risk-based approach to managing the impacts of sea level rise. The adaptive risk-based approach recognises that there are potentially significant risks from sea level rise and that the accuracy of sea level rise projections will improve over time.

Planning and investment decisions should therefore consider the sea level rise projections over timeframes that are consistent with the intended timeframes of the decision. For example, these decisions should consider likely sea levels over the expected life of an asset in order to decide on how the asset can be located or designed, thereby avoiding or minimising any associated impacts. This early consideration will minimise the initial costs of considering sea level rise and the future costs of adapting to sea level rise, such as through relocation of affected buildings or infrastructure.

The NSW Government has adopted sea level rise planning benchmarks to support this adaptive risk-based approach. These benchmarks will enable the consistent consideration of sea level rise within this adaptive risk-based management approach. The primary purpose of the benchmarks is to provide guidance supporting consistent considerations of sea level rise impacts, within applicable decision-making frameworks. This will include strategic planning and development assessment under the EP&A Act and infrastructure planning and renewal.

The use of the benchmarks will be required when undertaking coastal and flood hazard assessments in accordance with the Coastline Management and Floodplain Development Manuals. It is already a statutory requirement that the preparation of local environmental plans give effect to and be consistent with these manuals.

The NSW sea level rise planning benchmarks are an increase above 1990 mean sea levels of 40 cm by 2050 and 90 cm by 2100, with the two benchmarks allowing for consideration of sea level rise over different timeframes. The benchmarks were established by considering the most credible national and international projections of sea level rise<sup>2</sup> and take into consideration the uncertainty associated with sea level rise projections. The Government will continue to monitor sea level rise observations and projections and will periodically review these planning benchmarks, with the next review likely to coincide with the release of the fifth IPCC report, due in 2014.

The sea level rise planning benchmarks can be used for purposes such as:

- incorporating the projected impacts of sea level rise on predicted flood risks and coastal hazards
- designing and upgrading of public and private assets in low-lying coastal areas where appropriate, taking into account the design life of the asset and the projected sea level rise over this period
- assessing the influence of sea level rise on new development (see below for further details)
- considering the impact of sea level rise on coastal and estuarine habitats (such as salt marshes) and identifying valuable habitats at most risk from sea level rise
- assessing the impact of changed salinity levels in estuaries, including implications for access to fresh water.

## **2. Supporting local councils**

The NSW Government recognises that local councils are responsible for many of the land use planning and development assessment decisions made in coastal areas. Local councils prepare studies to identify areas at risk from coastal flooding and coastal hazards through the coastal, estuary and floodplain management programs, and the NSW Government will continue to provide assistance. Priority for funding assistance will be given to areas at greatest current and future risk from flooding and coastal hazards. These studies will provide information on the influence of sea level rise on coastal hazards and flood risk, which can be considered at the land use planning and development assessment stage.

The Government will also continue to provide guidance and assistance to local councils on reducing the risks to private and public property from coastal hazards. The risks from coastal hazards are significant and are projected to increase with sea level rise. Government financial assistance to local councils is unlikely to extend to protecting or purchasing all properties at risk from coastal hazards and sea level rise.

When allocating funding assistance to local councils for coastal protection works, the

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<sup>2</sup> Refer to the Department of Environment, Climate Change and Water *Technical Note: Derivation of the NSW Government sea level rise planning benchmarks*

Government will give priority to public safety and protecting valuable publicly-owned assets, and then to private land. The criteria that the Government will use to allocate any funds to local councils to protect or voluntarily purchase private property will include the:

- magnitude of current and future hazards
- cost-effectiveness of management actions
- contribution to the project's costs from the local council and benefiting landowners, taking into consideration genuine hardship for affected coastal residents
- effectiveness of the proposed arrangements for maintaining any proposed works
- ability of the project to accommodate sea level rise.

Where assistance is provided to reduce the impacts of coastal hazards, the Government does not assume any responsibility for these hazards. The Government will continue to provide funding assistance to local councils for coastal hazard studies and management planning.

These criteria will not affect the NSW Coastal Lands Protection Scheme, where the criteria for land purchase under the scheme does not include coastal hazard reduction.<sup>3</sup>

### **3. Supporting appropriate coastal development**

Provisions under the EP&A Act require consent authorities to consider coastal and flooding hazards in their planning and development approval decisions. The NSW Coastal Policy and coastal regional strategies also require consideration of sea level rise, as does the Standard Instrument for Local Environmental Plans where relevant.

The sea level rise planning benchmarks will support consistent consideration of the influence of sea level rise on any coastal hazards and flooding risks that may influence a development or redevelopment site. The benchmarks are not intended to be used to preclude development of land that is projected to be affected by sea level rise. The goal is to ensure that such development recognises and can appropriately accommodate the projected impacts of sea level rise on coastal hazards and flooding over time, through appropriate site planning, design and development control.

Department of Planning guidelines will describe how sea level rise should be considered in land use planning and development assessment. These guidelines will provide assistance to local councils, landowners, infrastructure providers and developers.

Coastal hazards and flooding are natural processes and the Government considers that the risks to properties from these processes appropriately rest with the property owners, whether they be public or private. This will continue where these risks are increased by sea level rise. Under both statute and common law, the Government does not have nor does it accept

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<sup>3</sup> The Coastal Lands Protection Scheme is used to bring significant coastal lands into public ownership. The criteria for acquisition under the Scheme are to promote public access to the coastal foreshore, to maintain the scenic quality of the NSW coast, and to protect ecological sites of regional, state and/or national significance.

specific future obligations to reduce the impacts of coastal hazards and flooding caused by sea level rise on private property.

Landowners affected by current and future coastal hazards may seek approval from their local council to construct works on their land to protect their property. These works may be approved under the EP&A Act where they do not cause adverse impacts on coastal processes beyond the property boundary or on public amenity or the environment. Private landowners will not normally be permitted to construct works on State-owned land to protect their property. All required approvals must be obtained before any works commence and unauthorised works may be removed at the landowner's cost.

#### **4. Community support during emergencies**

The Government currently provides emergency management support to coastal communities during and following floods and major storms. This support is normally coordinated by the State Emergency Service, operating under the *State Emergency and Rescue Management Act 1989*. The Government will continue to provide this support to coastal communities likely to be affected by sea level rise.

The Government's direct community support will be focused on emergency management. The Government currently does not provide compensation to the owners or potential developers of land affected by coastal hazards or flood risks, except for some compensation and other payments that may be made in relation to an emergency or disaster. This arrangement will continue and will include land where these hazards or risks are increased by sea level rise. Compensation will not be provided for any impact on property titles due to erosion or sea level rise.

#### **5. Information availability**

The Government has provided information to the community on sea level rise projections and the likely impacts of sea level rise on low-lying coastal areas. The Government will continue to provide up-to-date information on sea level rise and its impacts, and will continue to work with local councils to provide information on the impacts of sea level rise on local flooding and coastal hazards.

Continuing public access to current and credible information on sea level rise is important for various reasons, including:

- supporting community adaptation to sea level rise
- supporting the community and the private sector to make appropriate investment decisions in coastal areas
- assisting the insurance industry to price risks from sea level rise in their insurance policies.

