

## Sustainable coastal planning for urban growth and climate change

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## Planning for risk and uncertainty

- Coastal urban growth
- Projected impacts of climate change
- A more integrated approach to planning for coastal climate change
- Some implications for national policy
- An integrated regional response

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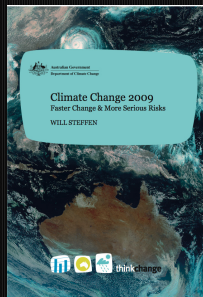
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## Coastal climate change risk

Planning for a range of projected impacts around Australia:

- Sea level rise
- More extreme weather events
  - Coastal storm surge
  - Recurring severe drought
  - Heat waves,
  - Floods
  - Bushfires
- A range of mitigation and adaptive planning responses will be required to respond to the projected climate science scenarios



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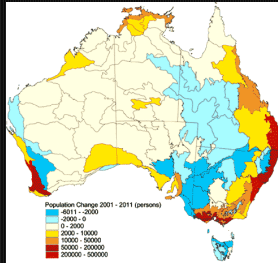
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## Urbanisation in Australia



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## Urban and regional planning involves all levels of government

- National
  - National planning criteria, climate change adaptation, major infrastructure investment, national disaster resilience, Regional Development Australia Committees
- State
  - State planning legislation, settlements strategies and infrastructure plans, climate change policies, metropolitan plans
- Regional
  - Regional planning strategies and climate vulnerability assessments
- Local
  - Integrated urban planning for climate change
  - Statutory and regulatory frameworks for adaptation
  - Emerging practices and processes for better linking emergency management and urban and regional planning

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## National strategic planning criteria

- Capital city strategic planning should:
  - Be integrated
  - Provide for near, medium and long term plans
  - Provide for nationally significant issues including economic infrastructure and major policy including climate change mitigation and adaptation
  - Strengthen networks between cities
  - Identify priorities for investment
  - Encourage world class design and architecture
  - Provide effective implementation arrangements.

(derived from COAG Communiqué Dec 2009)

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## The expanding urban edge



The Age 29 November 2007  
[www.theage.com.au/.../11/28/1196036975988.html](http://www.theage.com.au/.../11/28/1196036975988.html)

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## Byron Bay coastal erosion



Photos: Barbara Norman April 2010

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## Planning for sea level rise and storm surge: Lakes Entrance Vic 2009



Photo: David Tatnall

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## Increased exposure to risk



Gold Coast QLD Development in 1930 Gold Coast QLD Development in 2007

(Source: Insurance Council of Australia 2008, Improving Community Resilience to Extreme Weather Events, p.4)

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## The social considerations

- Social equity considerations for the most vulnerable
- Adaptive capacity variable
- Human behavior a powerful influence
- Urgent need to identify communities at most risk and most vulnerable

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## Australian coastal parliamentary report 2009: regional coastal planning

### Recommendation 44

The Australian Government, in cooperation with state, territory and local governments, and in consultation with coastal stakeholders, develop an Intergovernmental Agreement on the Coastal Zone to be endorsed by the Council of Australian Governments.

The intergovernmental agreement should: define the roles and responsibilities of the three tiers of government—federal, state and local—in coastal zone management; include a formal mechanism for community consultation; incorporate principles based on *strategic regional coastal planning* and landscape scale/ecosystem based coastal zone management; include an effective implementation plan with resources allocated to ensure that objectives are realised; be overseen by a new Coastal Zone Ministerial Council; be made public

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## Coasts and Climate Change Council

- National action is needed urgently and on a continuing basis to equip Australia to cope with the serious threats to the coast posed by climate change. The response effort should recognize the diversity of circumstances.
- Governments, businesses, professional bodies and communities all have key roles in forming and delivering an effective national response. Government leadership will be vital.
- Early key actions need to focus on building national awareness of the issue, improving understanding of what may be the most effective actions and clarifying the roles of different entities (Preliminary advice to the Minister Feb 2010)

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## US National Oceans Council 2010

- A response to a range of coastal pressures most recently being the gulf oil spill
- 'This order also provides for the development of coastal and marine spatial plans that build upon and improve existing Federal, State, tribal, local, and regional decision-making and planning processes.

These *regional plans* will enable a more integrated, comprehensive, ecosystem-based, flexible, and proactive approach to planning and managing sustainable multiple uses across sectors and improve the conservation of the ocean, our coasts, and the Great Lakes' (Obama July 19, 2010,1).

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## NOAA coastal planning guidelines



Table of Contents	
2	Introduction
6	Element 1 Mitigates loss, including water-dependent uses
10	Element 2 The advantage of compact community design that enhances resilience, preserves, and provides access to waterfront resources
14	Element 3 Provides a range of housing opportunities and choices to meet the needs of both seasonal and permanent residents
18	Element 4 Creates walkable communities with physical and visual access to and along the waterfront for public use
22	Element 5 Enhances distinctive, attractive communities with strong sense of place that capitalizes on the waterfront's heritage
26	Element 6 Preserves open space, farmland, natural beauty, and the critical environmental areas that characterize and support coastal and waterfront communities
30	Element 7 Strengthens and directs development toward existing communities and encourages waterfront revitalization
34	Element 8 Provides a variety of land- and water-based transportation options
38	Element 9 Makes development decisions predictable, fair, and cost-effective through consistent policies and coordinated permitting processes
42	Element 10 Promotes community and stakeholder collaboration in development decisions, ensuring the public interest and the rights of access to the waterfront and coastal waters are upheld

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### State responses to sea level rise

- A policy of planning for sea level rise now in place in nearly every jurisdiction
- Victoria has been leading the way in implementation with mapping and planning policy and regulation
- A growing number of court cases in SA, NSW and Victoria
- NSW Sea Level Rise Policy Statement
- *Coastal Protection and Other Legislation Amendment Bill 2010* (beachfront landowners will be able to conditionally place sand or sandbags on beaches)

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### Regional initiatives

- Voluntary groupings of Councils
- Regional Australia- RDA's
- CURF: Canberra Urban and Regional Futures – a research hub for the Canberra region

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### Regional planning for urban growth and climate change

- South East Queensland regional planning
- Sydney coastal councils
- Geelong region coastal councils (G21)
- Southwest WA local councils collaborating

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## CURF

- Canberra Urban and Regional Futures
- A platform for information-sharing across institutions as well as as single, coherent portal for urban and regional research in the Canberra region in the context of sustainability and climate change
- To be launched in Canberra 19 November 2010- a joint initiative by UC and ANU

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## Possible barriers to change

- The absence of a national urban policy
- Risks and liabilities
- Financing and governing the transition
- An emerging field of expertise

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### Coasts, cities and climate change

- Planning for extreme weather events
  - Heat, fire, drought, storms, coastal inundation
  
- Similar processes emerging:
  - Understanding the science
  - Introducing the concept of buffers
  - Building in resilience
  - Applying a range of planning policy instruments including climate change mitigation and adaptation responses

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### Capacity building in integrated regional planning

- Skills shortage in regional planning, coastal planning, climate change adaptation and mitigation
  
- Need a significant investment nationally in training staff in regional approaches to complex or 'wicked' problems including coastal planning
  
- New Master of Urban and Regional Planning at University of Canberra 2011
  - Meeting a significant gap for southern NSW and eastern Victoria

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### Sustainable coastal planning

- An adaptive and systems approach to managing urban growth
  
- A framework for integrated regional coastal planning in the context of national policy outcomes
  
- Even greater importance on community engagement when planning for risk and uncertainty

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## A tripartite agreement of coastal planning

### Six principles

1. Agreed and shared outcomes for the coastal environment
2. Adaptive and systems approach to plan for climate change
3. Incorporation of the shared outcomes and an adaptive systems approach into the urban and regional planning
4. Regional governance arrangements for integration and community involvement
5. Capacity building for sustainable coastal planning
6. Long term monitoring and evaluation

(Norman, B , 2009, Integrated coastal management to sustainable coastal planning)

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## Conclusions

- Australian parliament must respond to the recommendations of the George report
- Strengthen the links between emergency management, land use planning and climate science at all levels of government
- Review the urban and regional planning system including the state Planning Acts to incorporate more adaptive planning to reduce risk to coastal communities
- Fund a regional approach to planning for coastal urban growth and climate change to allow for *regional variation* in climate scenarios, demographic change and patterns of urban growth
- Prepare a national policy statement on planning for urban settlement and climate change, to provide an overall strategic framework to support regional and local initiatives.

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Pablo Neruda, the Nobel Prize winning Chilean poet once said: "I need the sea because it teaches me"; I need the coast because it teaches me and you about our nation's future (Bruce Thom, 2010)



Burrewarra Point South Coast NSW

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