

# Coastal Planning and Management In a Changing Climate

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# Sydney Coastal Councils Group Inc. (SCCG)



## A Regional Organisation of Councils

- Established in 1989 with 7 'ocean' councils addressing beach sewage pollution (pre ocean outfalls)
- SCCG has expanded to include estuarine councils and has a membership of 15 councils.

### Membership

Botany Bay, Hornsby Shire, Leichhardt, Manly, Mosman, Pittwater, Randwick City, Rockdale City, City of Sydney, North Sydney, Warringah, Waverley, Willoughby City and Woollahra Councils'

**SCCG represents over 1.3 million Sydney siders**



# SCCG Aim & Outcomes Statements

## AIM

To promote cooperation between, and coordination of actions by member councils in consultation with the broader community on issues of regional significance concerning the sustainable management of the urban coastal environment.

## SCCG OUTCOME STATEMENTS

- **Build the role and capacity** of member councils to sustainably manage the urban coastal environment.
- Coordinate and facilitate the **exchange of information** on integrated coastal and estuary management amongst member Councils.
- **Represent and advocate** member councils' interests on issues relating to regional, state and national coastal and estuarine management.
- **Facilitate sustainable and integrated planning and management** of natural and built coastal assets.
- **Identify and address emerging regional coastal and estuarine issues** through research and project development.
- Facilitate the **exchange and development of knowledge and tools** to enhance community awareness on sustainable coastal management.



# What Are We Adapting to ?



IPCC (2007)

- *“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.”*
- *“Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”*
- *“For the next two decades a warming of about 0.2°C per decade is projected for a range of SRES emission scenarios. Even if the concentrations of all greenhouse gases and aerosols had been kept constant at year 2000 levels, a further warming of about 0.1°C per decade would be expected.”*

# Key Climate Change Impacts / Pressures for Local Government

- **Changes to rainfall**
  - Regional uncertainty / Drought / Flooding
  - Infrastructure capacity (eg rainfall intensity)
- **Temperature (Southern Hemisphere 2.4-2.9°C by 2100 (IPCC-07))**
  - General Increase in temperature (both mean & peaks)
  - Increases in heat waves,
  - Issues of energy demand (eg air cond. requirements, > populations)
  - Heat island effects (urban) / Public health concerns (deaths X3 by 2050 – CSIRO)
- **Increases in Bushfire incidences**
- **Ecological changes** ecological functions & economic impacts  
(wetlands / intertidal areas – farming / industries)
- **Increase in Storm intensity**
  - Less storms (maybe) but more intense (*S.O.I. currently +25, same as Sept 1973 !*)
  - Wind speeds / wind directions / cyclones -> storm surges / inundation / erosion
- **Sea level rise (18-59cm by 2100 (IPCC-07) / 9-88cm by 100yrs (IPCC – 01))**
  - *No account of ice sheet decline (past: <2.7%±0.6 / decade, more recently: ~10% / decade)*
  - **AIG** – 700,000 properties at risk nationally / 200,000 in NSW
  - Coastal properties at risk (erosion or flooding) over the next century in NSW = \$1 Billion (2005)
  - NSW Govt. SLR Policy Statement = 40cm 2050 and 90cm 2100 (based on 1990)
- **Population growth in coastal areas**
  - (eg NSW - 60% increase in 25 years (DoP),
  - 1M nationally to regional areas in 15 yrs (SCT)

# Examples of Local Govt. Responsibilities in the Coastal Zone

Functions	Examples	Relevance to Climate Change
<b>Regulatory</b>	<ul style="list-style-type: none"> <li>• Making and determination of applications for approval (including applications by the Crown)</li> <li>• Accreditation of components, processes and designs</li> <li>• Giving of orders</li> <li>• Adoption of local policies concerning approvals and orders</li> </ul>	<ul style="list-style-type: none"> <li>• Approvals associated with development in areas vulnerable to current climate variability and/or future climate change</li> <li>• Potential land use re-zonings</li> </ul>
<b>Non-regulatory</b>	<ul style="list-style-type: none"> <li>• Classification and reclassification of public land,</li> <li>• Use and management of community land including environmental planning instruments (e.g., LEPs, DCPs)</li> <li>• Water supply, sewerage* and stormwater drainage works and facilities</li> <li>• Community services and facilities</li> <li>• Public health services and facilities</li> <li>• Cultural, educational and information services and facilities</li> <li>• Sporting, recreational and entertainment services and facilities</li> <li>• Environment conservation, protection and improvement services and facilities</li> <li>• Storm water drainage and flood prevention, protection and mitigation services and facilities</li> <li>• Fire prevention, protection and mitigation services and facilities</li> <li>• Land and property development</li> <li>• Tourism development and assistance</li> </ul>	<ul style="list-style-type: none"> <li>• Development and implementation of environmental planning instruments that reflect climate risks</li> <li>• Supply and maintenance of stormwater infrastructure</li> <li>• Public education and engagement on climate change and its risks</li> </ul>
<b>Revenue</b>	<ul style="list-style-type: none"> <li>• Raising of revenue from rates, charges, fees, grants, borrowings, and investments</li> </ul>	<ul style="list-style-type: none"> <li>• Sufficiency of financial capital resources to bear the costs of climate adaptation</li> </ul>
<b>Administrative</b>	<ul style="list-style-type: none"> <li>• Staffing of Councils</li> <li>• Council operations</li> <li>• Management plans</li> </ul>	<ul style="list-style-type: none"> <li>• Organisation of Council staff and operations to effectively respond to climate risks and adaptation</li> </ul>
<b>Enforcement</b>	<ul style="list-style-type: none"> <li>• Prosecution of offences</li> <li>• Recovery of rates and charges</li> </ul>	<ul style="list-style-type: none"> <li>• Liability of Councils for climate change damages and/or policy decisions</li> <li>• Prosecution of offences associated with violations of Local Government planning policies</li> </ul>
<b>Ancillary</b>	<ul style="list-style-type: none"> <li>• Acquisition of land</li> <li>• Entry on to land for inspections/investigations</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation and identification of at-risk assets</li> <li>• Acquisition of at-risk land and assets</li> </ul>

- Local Government Act, 1993
- EP&A Act, 1979
- Coastal Protection Act, 1979
- NSW Coastal Policy 1997,
- Sea Level Rise Policy, 2009
- NSW Coastline Hazard Policy
- Crown Lands Act, 1989
- POEO Act, 1997
- Threatened Species Act, 1995
- Native Vegetation Act, 2003
- Water Management Act, 2000
- SEPP (Infrastructure) 2007,
- SEPP 71 Coastal Protection
- SEPP14 Coastal Wetlands,
- SEPP 26 Littoral Rainforests,
- SEPP 50 Canal Estates,
- NSW Coastal Design Guidelines



# Limitations of Local Government

## 'Pressures'

### Capacity

- Capacity / expertise (technical / interpretation / staff turn over)
- Significant Skills Shortages in key areas for coastal management
  - Planners and Engineers - top professional storages in NSW (DEEWR, 2010)
- Current workloads of professional staff limiting willingness and ability to address (emerging) issues
- Willingness to push the agenda / innovation (by themselves)
- Costs of capital works / infrastructure refurbishment

### Planning

- Historical decisions (ie development decisions, land zonings, use rights)
- Historic practices, systems and management approaches (eg councils structures – (ie "silos")
- Developer pressures / legal uncertainty / legal challenges

### Others

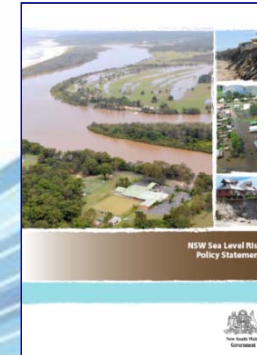
- Political will and lack of acknowledgement by some politicians and staff of issues generally
- General lack of support & directions from other Governments for effective implementation...



# New developments in coastal planning and management (NSW)

## NSW Sea Level Rise – Policy Statement (Oct'09)

- 40cm - 2050 and 90cm - 2100 (based on 1990 levels)
- Technical guidance (flood & coastal hazard assessment)



## NSW Coastal Planning Guideline (Aug'10)

- Assess and evaluate coastal risks (via NSW SLR benchmarks)
- Advise public of coastal risks to ensure informed land use planning development decision
- Avoid intensifying land use in coastal risk areas through strategic and land-use planning.
- Consider options to reduce land use intensity in coastal risk areas.
- Minimise the exposure to coastal risks from proposed development in coastal areas.
- Implement appropriate management responses and adaptation strategies (via TBL)



{some conflict and inconsistencies}

{Good for Green Field Developments – Brown Field / Infill ???}






# New developments in coastal planning and management (NSW cont.)

## Coastal Protection and other Legislation Bill, 2010

### Guidelines :

- Minister's Requirements under the Coastal Protection Act
- A Guide to the Statutory Requirements for Temporary Coastal Protection Works
- A Guide for authorised officers under the Coastal Protection Act
- Guidelines for preparing coastal erosion emergency subplans
- Guidelines for assessing and managing the impacts of seawalls
- Coastal Protection Service Charge Guidelines
- Guidelines for preparing coastal zone management plans

First print



New South Wales

Coastal Protection and Other Legislation Amendment Bill 2010

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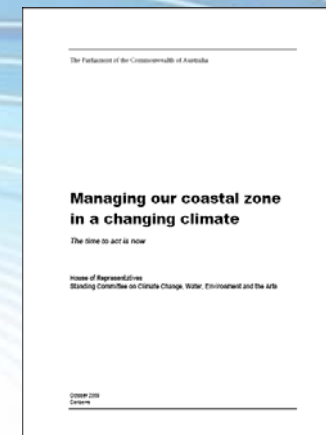
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2010 10/01/2010



# New developments in coastal planning and management (Commonwealth)

- **Federal inquiry "*Managing our Coastal Zone in a Changing Climate: the Time to Act is Now*"** report calls for new governance arrangements for Australia's coastal zone and makes 47 recommendations to improve management of climate change and environmental impacts on the coast.
1. Recommendation 3: Increased investment in climate change research.
  2. Recommendation 23: A clarification of liability issues.
  3. Recommendation 20: The development of state specific planning policies.
  4. Recommendation 39: Funding infrastructure maintenance.
  5. Recommendation 16: An assessment of vulnerable infrastructure.
  6. Recommendation 19: Clarification of insurance implications for public authorities and private landholders.
  7. Recommendation 21: A nationally consistent sea level rise benchmark.
  8. Recommendation 11: The collection and access to consistent and up-to-date information.
  9. Recommendation 26: An expansion of national priority areas identified under the Caring for our Country
  10. Recommendation 1: International coastal zone governance assessment.
  11. Recommendation 10: The human and resourcing needs of councils.

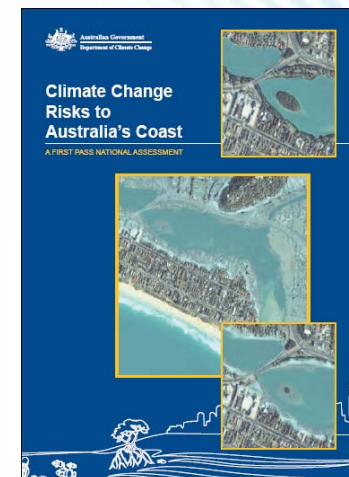


# New developments in coastal planning and management (cont. Commonwealth)

- **Federal report “Climate Change Risks to Australia’s Coast - A First Pass National Assessment**

Identified issues requiring further attention:

1. National standards and benchmarks for coastal development
2. Regional risk assessments
3. Demonstration strategies for areas exposed to high / extreme risk
4. Review and update Building Codes
5. National audit of critical infrastructure in the coastal zone
6. Provision of information and tools essential for decision-making
7. Research to reduce uncertainty about the magnitude of coastal risk from climate change
8. Risk allocation and insurance
9. Ecosystems review
10. Community engagement
11. Build capability of local government
12. Inter-jurisdictional cooperation



# New developments in coastal planning and management

## THE TOP DOWN APPROACH

- Current legislative, policy and guideline approaches are all top down
- Yet another 'Whole of Government' issue being pushed to Councils to attempt to implement and defend
  - Insufficient supporting technical, financial and advisory resources.

## The Result ?

- Inconsistent implementation (spatial and temporal)
- Lack of clarity and certainty
- Lack of trust and support (opposition to (NSW) reforms generally)
- Poor allocation of resources and potential mal-adaptation
- Difficulty for Councils to attempt to be proactive
- Limited to no monitoring or evaluation of implementation
- Limited communications & engagement = Confusion / mixed messages

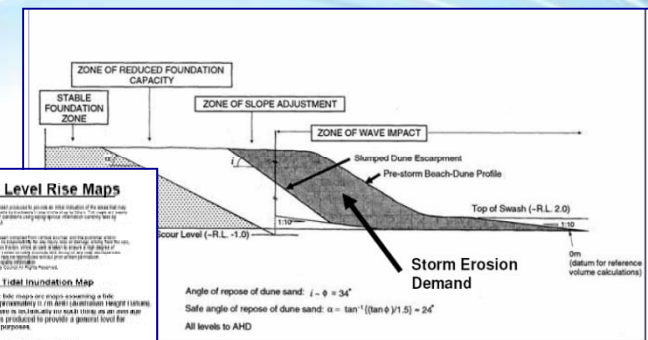
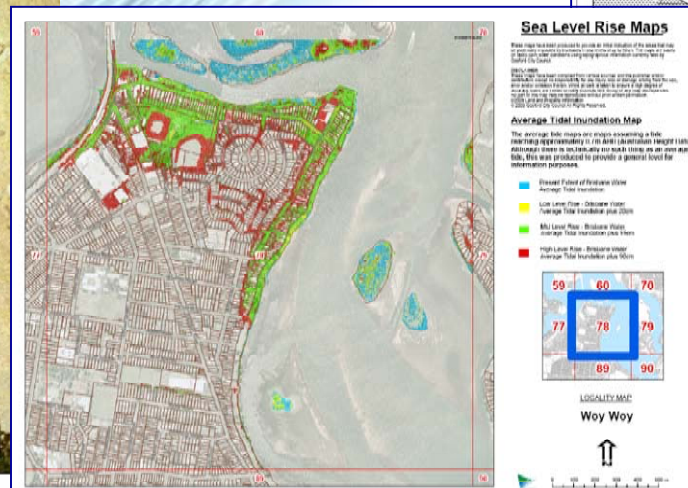
## The Conclusions

- Debate and media opinion therefore dominated by vested interests and miss-information
- **LEGAL ACTIVITY** (threats and / or action)



# What are Councils Doing

- Adopting Sea Level Rise benchmarks (s.117 is coming ...)
- Trying to keep up and understand all the implementation issues (?????????)
- Undertaking risk assessments
- Preparing Coastal and Flood Management Plans
- Revising strategic planning documents
- Reviewing current planning and management policies
- Attempting to undertake enforcement and compliance
- Initiating / continuing (limited) community education and engagement
- Continuing to determining DAs ....



# The Key Challenges

## Principles

- Acknowledgement that the coastal zone is a 'cauldron of vested interests' (*Prof Bruce Thom*)
- The community will always be somewhat divided on "solutions" and who pays
- That all "solutions" will cost money
- That its irresponsible and inappropriate to continue to allow Local Government's to be the 'canary in the mine' on these issues
- Current funding allocations to coastal management are completely inadequate

## Strategic Planning and Development Assessment

- Ensure we don't build liabilities for the future !
- Cant continue to encourage communities to attempt to fortify themselves into vulnerable locations (eg new Coastal Protection Bill)
- Standard zoning objectives for areas effected by inundation and coastal erosion
- Minimum information requirements for development applications
- Needs for consistent State and Local implementation and enforcement
- Allowances for referral processes and technical review of planning decisions (new Coastal Panel ?)
- Integration with population growth estimates & employment targets
- Needed to start considering large scale / long term solutions eg Thames barrier (London) or the Moses Projects (Venice)



# Needs for a National Approach (cont.)

## Resources (needs)

- Studies regarding costs for potential interventions (accommodate, protect and or retreat) and deal with issues of potential intergenerational liability
- 'border to border' hazard and risk assessments
- Greater technical and implementation support for Local Government
- Capacity building and professional development programs and activities
- Provisions of case studies of application of provision and guidelines and general coastal zone adaption options
- Needs for better, clearer and more responsible communications and engagement with regional and local communities



# What are the alternatives

- Protect ?
- Accommodate ?
- Limit and restrict development,
- Down zoning,
- Managed retreat:
  - via planning restrictions and
  - associated provision of relevant information
- Influence the market and inturn market prices for coastal assets
- New initiatives:
  - Time limited DAs,
  - Freehold to Leasing arrangements,
  - Trigger arrangements
  - Compensation (??)

B) Allow unfettered development and face exposure (at all levels) down the track



**ALL OPTIONS WILL COST**  
**NO SUCH THING AS INTEREST FREE !**  
**WE PAY NOW OR WE PAY LATER**





# IN SUMMARY

## EFFECTIVE SOLUTIONS

=

CLEAR LEGISLATION x GOOD POLICY x TECHNICAL SUPPORT x RESOURCES

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COMMUNITY SUPPORT AND ACCEPTANCE  
(via effective engagement & communications)



# “Quote of the Year’

## COASTAL PROTECTION AND OTHER LEGISLATION AMENDMENT BILL (NO. 2) 2010 Agreement in Principle

Mr ROB STOKES MP (Pittwater) [8.59 p.m.] 19 October 2010 (HANSARD)

“.. This bill reads like lawyer's pornography—  
lawyers will be salivating over the  
opportunities that this bill presents for legal  
challenges..”



# QUESTIONS / COMMENTS ?

For Further Information Contact

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