Prioritising Coastal Adaptation Development Options for Local Government

LAUNCH OUTCOMES REPORT

Australian Government
Department of Climate Change and Energy Efficiency

OAK RIDGE NATIONAL LABORATORY
MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

University of the Sunshine Coast
Sustainability Research Centre

SYDNEY COASTAL COUNCILS GROUP

Coastal Adaptation Decision Pathways Project **(CAP)**

REPORT ON THE LAUNCH OF THE SCCG COASTAL ADAPTATION DECISION PATHWAYS PROJECT *PRIORITISING COASTAL ADAPTATION DEVELOPMENT OPTIONS FOR LOCAL GOVERNMENT*

Launch date: 27 March 2014
Southern Function Room | Town Hall House, Sydney

ADAPTATION PATHWAYS - FROM IMPACTS TO ACTION

Launch of the SCCG Coastal Adaptation Decision Pathways project *Prioritising Coastal Adaptation Development Options for Local Government*

SUMMARY

On 27 March 2014 the Sydney Coastal Councils Group (SCCG) launched the outcomes from *Prioritising Coastal Adaptation Development Options for Local Government*. The project explores the many variables that shape responses to climate change, with a focus on adaptation options for coastal inundation and erosion. It integrates information on exposure and risk, feasible adaptation strategies and the multiple values that influence Local Government decision-making, including governance, economic, social and environmental values.

The key outputs from the project are:

1. A Multi-Criteria Analysis of Coastal Adaptation Options for Local Government (Final Project Report)
2. Literature Review of Adaptation to Climate Change in the Coastal Zone
3. Guide to Monitoring & Evaluating Coastal Adaptation

These resources are available on the project webpage:
http://www.sydneycoastalcouncils.com.au/projects/prioritising_coastal_adaptation

Fifty-two individuals attended the launch, representing 28 different organisations. The launch featured presentations from the principal researcher, Dr Ben Preston of Oak Ridge National Laboratory (USA), the Coastal & Marine Unit of the NSW Office of Environment & Heritage and the SCCG. Presentations examined three key elements of coastal adaptation - exposure assessment, decision-making tools and monitoring & evaluation. This was followed by a panel discussion and workshop, which provided an opportunity for attendees to explore issues further.

Feedback on the launch was overwhelmingly positive, with 94 per cent of respondents satisfied with the event. Eighty-six per cent agreed or strongly agreed that their skills and knowledge regarding coastal adaptation improved by attending and 94 per cent agreed it was a good networking opportunity.

The subject matter, structure, duration, high calibre of presenters and the contribution of participants ensured that the event was a success. Lessons learned and evaluation results will be applied to future activities to ensure continuous improvement of SCCG events.

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LAUNCH: Adaptation Pathways - From Impacts to Action

Project:	Prioritising Coastal Adaptation Development Options for Local Government
Date:	27 March 2014
Venue:	Southern Function Room, Town Hall House
Time:	9:00 a.m. - 1.00 p.m.

Event objectives:

	Achieved
Present recent research findings to coastal Sydney stakeholder sin local and state government, including the launch of the Coastal Adaptation Pathways project Prioritising Coastal Adaptation Options for local government	✓
Enhance awareness of emerging tools and approaches for evaluating coastal risk and prioritising management options for local government	✓
Elicit feedback from staff in local and state government regarding how research tools can be translated into management practice	✓

Attendance:

4	52	28	11	4
Speakers	**Participants**	**Organisations**	**SCCG Member Councils**	**Other councils**

SCCG Member Councils
Botany Bay City Council
City of Sydney
Hornsby Council
Manly Council
Mosman Council
North Sydney Council
Pittwater Council
Randwick City Council
Rockdale City Council
Waverley Council
Willoughby City Council

Other Councils
Bega Valley Shire Council
Gosford City Council
Lake Macquarie City Council
Shellharbour City Council

Other organisations
Cardno
Coastal Environment P/L
Coastal Zone Management and Planning
IPWEA
National Climate Change Adaptation Research Facility
NSW Office of Environment and Heritage
NSW Public Works, MHL
Office of the NSW Chief Scientist & Engineer
SCCG
Sydney University
UNSW
Whitehead and Associates
WorleyParsons

BACKGROUND

Managing the risks posed by climate change to coastal communities is a challenge faced internationally. While much of the literature relevant to coastal adaptation has focused on assessing the vulnerability of coastal communities, there is limited guidance for Local Government on the appraisal of specific adaptation options.

Prioritising Coastal Adaptation Development Options for Local Government addresses this need for guidance, via a participatory, multi-criteria analysis of adaptation options that considers the adaptation preferences and risk exposure of local government areas, with a focus on three case study regions – coastal Sydney, Bega Valley Shire Council and Sunshine Coast Council.

Overview of the project

Local Government staff across the three case study regions were surveyed for their views on different adaptation responses to coastal inundation and erosion. Multi-criteria analyses enabled assessment against multiple governance, economic, social and environmental criteria, across multiple time horizons.

The values captured through this survey phase where then input into a Bayesian Belief Network (BBN) in order to generate a series of decision rules to integrate staff perceptions with spatially explicit information regarding coastal hazards and assets.

Outputs from the BBN, exported to a GIS environment, enabled information on hazards, assets, and the utility of different adaptation options to be readily visualised for any property in each study region. In this way, the project represents a first-generation adaptation information system that could be the basis for future development of practical decision support tools.

In addition to the use of such MCA methods for prioritising adaptation options, the project also developed a guide to monitoring and evaluation to assist Local Government in tracking progress toward adaptation goals and learning about best practice for coastal adaptation.

Deliverables

The key outputs from the project are:

- Prioritising Coastal Adaptation Development Options for Local Government: A Multi-Criteria Analysis for Local Government (Final Project Report)
- Literature Review of Adaptation to Climate Change in the Coastal Zone
- Guide to Monitoring & Evaluating Coastal Adaptation

These resources are available on the project webpage:
http://www.sydneycoastalcouncils.com.au/projects/prioritising_coastal_adaptation

Project partners

Sydney Coastal Councils Group led the project, assisted by researchers at Oak Ridge National Laboratory (USA) and the University of the Sunshine Coast. In addition, Sunshine Coast Regional Council and Bega Valley Shire Council joined as partners to expand the scope of the study to include three case study regions (Sydney, Bega and Sunshine Coast).

SYDNEY COASTAL COUNCILS GROUP

OAK RIDGE NATIONAL LABORATORY
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University of the Sunshine Coast
Sustainability Research Centre

Participating Councils

City of Botany Bay · City of Sydney · Hornsby Shire Council · Leichhardt Council · Manly Council · Mosman Council · North Sydney Council · Pittwater Council · Bega Valley Shire Council · Sunshine Coast Council Queensland | Australia · Randwick City Council a sense of community · Rockdale City Council On Historic Botany Bay · Sutherland Shire Council · Warringah Council · Waverley Council · Willoughby City Council City of Diversity · Woollahra Municipal Council

ADAPTATION PATHWAYS - FROM IMPACTS TO ACTION

AGENDA

9.00 WELCOME & INTRODUCTIONS	
Session 1	**Overview of SCCG Coastal Adaptation Pathway Projects** *Geoff Withycombe, Executive Officer, Sydney Coastal Councils Group*
	Mapping & Responding to Coastal Inundation: Exposure Assessment for the Sydney Region *Michael Kinsela, Environmental Scientist, NSW Office of Environment & Heritage*
	Prioritising Coastal Adaptation Options for Local Government: A Multi-Criteria Analysis for Local Government *Dr Ben Preston, Senior Research Scientist, Oak Ridge National Laboratory*
11.15 MORNING TEA	
Session 2	**Monitoring and Evaluation for Adaptation** *Emma Norrie, Coastal Projects Officer, Sydney Coastal Councils Group*
	Panel and Workshop Session *Panel Members: Ben Preston, Michael Kinsela, Dave Hanslow (OEH), Geoff Withycombe*
	Wrap Up and Closing *Geoff Withycombe, Executive Officer, Sydney Coastal Councils Group*

BIOGRAPHIES & SYNOPSES

In order of appearance

Geoff Withycombe | Executive Officer, SCCG

Geoff Withycombe has an Applied Science degree in coastal management and has been the Executive Officer of the Sydney Coastal Councils Group Inc. since 1998. In his role as Executive Officer, Geoff has responsibility to implement the Group's Strategic Plan and provides advice, policy development and decision making support for the 15 member councils. Geoff also holds other Director positions.

Geoff welcomed attendees and provided an overview of the role and history of the SCCG. He then described the three projects that SCCG undertook as part of the Australian Government's Coastal Adaptation Decision Pathways (CAP) program:

1. Assessment and Decision Frameworks for Seawall Structures
2. Demonstrating Climate Change Adaptation of Interconnected Water Infrastructure
3. Prioritising Coastal Adaptation Development Options for Local Government

The three projects address key barriers to adaptation and propose ways forward for Local Government to improve their understanding of, and response to, the potential impacts of climate change. Geoff reviewed the aims and outputs from each project and potential opportunities for further work.

The presentation slides are available at:
http://www.sydneycoastalcouncils.com.au/sites/default/files/GW_SCCG_CAP_Projects.pdf

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Michael Kinsela | Environmental Scientist (Coastal Risk), Coastal and Marine Unit, Science Division, OEH

Michael is a coastal geomorphologist who uses numerical modelling and spatial analysis techniques to study the long-term evolution of sandy coasts, and the potential impacts of coastal hazards associated with extreme weather events and projected climate change. Michael holds a Bachelor of Marine Science with First Class Honours from The University of Sydney and he is currently completing a PhD on coastline responses to sea level change. Michael has been employed as Coastal Risk Scientist at OEH for the past 2 years, where he has recently carried out a review of coastal erosion risk assessment practices in NSW.

Historical events and measurement records of waves and water levels suggest that the Sydney region could be exposed to significant impacts from coastal inundation due to severe storms. In particular, properties and infrastructure in low-lying terrain adjacent to coastal water bodies may experience significant temporary inundation during peak storm conditions. Whilst exposure to coastal inundation is expected to increase into the future, due to higher average and extreme sea levels associated with projected climate change, the amount of exposed assets for present and potential future conditions remains only loosely quantified.

In this talk Michael presented a regional scale coastal inundation exposure assessment for the Sydney region, which follows previous work by Sydney Coastal Councils Group and CSIRO on modelling and mapping coastal inundation. The method provides an intermediate level assessment that fits between previous 'first pass' analyses and site-specific investigations. More specifically, spatial analysis (GIS) techniques are used with the GURAS address database and NSW infrastructure and land tenure datasets, to identify potentially exposed assets for a range of raised water level scenarios. The scenarios considered include 1-year and 100-year ARI storm surges, for both present sea level conditions and potential future sea level rise of 0.4 and 0.9 m, as modelled by CSIRO.

Exposure assessments were carried out for the wider Sydney region, four sub-regions that feature varying coastal geomorphology, and for each member council of the Sydney Coastal Councils Group. The distribution of exposure to coastal inundation was discussed in the context of regional-scale variation in development and coastal terrain.

The impact profile will be released following peer review and clearance from OEH.

Ben Preston | Senior Research Scientist, Oak Ridge National Laboratory (US)

Dr. Benjamin Preston is the Deputy Director of the Climate Change Science Institute at Oak Ridge National Laboratory (ORNL) in the United States. During the first quarter of 2014, he is on leave from Oak Ridge in order to work as a Visiting Fellow with the Victorian Centre for Climate Change Adaptation Research based at the University of Melbourne. For more than a decade, Dr. Preston's research has focused on the assessment of climate risk to human systems and the role of adaptation in managing that risk. Currently, he serves as a coordinating lead author of the Fifth Assessment Report of the

Intergovernmental Panel on Climate Change and he is a member of the editorial board of the journal Climate Risk Management. His prior appointments have included work with Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) and the Pew Center on Global Change in Washington, DC. Dr. Preston received a BSc in biology from the College of William and Mary (USA) and a PhD in environmental biology from the Georgia Institute of Technology (USA).

Managing coastal hazards, economic development, and conservation of natural resources in ways that account for the risks posed by climate change is a persistent policy challenge for local and state government. As traditional cost-benefit analyses techniques may be inappropriate for addressing such complex decision-making, analyses methods based on multiple criteria may be a useful alternative. The *Prioritising Coastal Adaptation Development Options for Local Government* project explored using multi-criteria analysis (MCA) techniques to prioritise coastal adaptation options for local governments along Australia's East Coast. Key elements of the MCA approach included:

a) understanding the hazards posed by climate change to the coast
b) understanding values at risk in the coastal zone, and
c) understanding the strengths and weaknesses of different adaptation options given multiple governance, financial, social, and environmental criteria.

By integrating these components, the project developed a prototype GIS system for the analysis of adaptation options for coastal properties. However, each of the different MCA components of the project also suggest useful pathways for enhancing the tools available to local government to manage climate risk in the coastal zone. This presentation therefore focused on discussing the three aforementioned MCA components used in the project and posing emerging questions that were explored in the subsequent workshop session.

The presentation slides are available at:
http://www.sydneycoastalcouncils.com.au/sites/default/files/BP_Prioritising_Adaptation_Options.pdf

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Emma Norrie | Coastal Projects Officer, SCCG

Emma Norrie is the Coastal Projects Officer at the Sydney Coastal Councils Group Inc. She has a Bachelor of International Studies and is currently undertaking a Master of Environmental Management at the University of New South Wales.

There are many benefits to monitoring and evaluation (M&E). When undertaken as part of a broader process of 'learning by doing', it can facilitate information-sharing, build institutional memory and serve as a basis for future decision-making. These benefits are particularly relevant in the context of adaptation for climate change. Adaptation is dynamic, uncertain and long-term, and effective M&E can ensure these characteristics are appropriately managed to facilitate successful adaptation.

Emma provided an overview of the *Guide to Monitoring & Evaluating Coastal Adaptation*, developed as part of the project. The Guide is designed to assist practitioners to develop sound adaptation plans and effectively monitor their outcomes. It contains three 'templates', which focus on adaptation planning, capacity and outcomes. Worked examples from three case studies in Queensland and New South Wales are also provided to demonstrate the Guide's utility. The SCCG, in partnership with the University of the Sunshine Coast, is currently road-testing the Guide with five coastal Councils (Bega Valley, Leichhardt, Rockdale, Sunshine Coast and Sutherland), to assess its utility and identify opportunities for improvement. Outcomes from this process will be published in the coming months.

The presentation slides are available at:
http://www.sydneycoastalcouncils.com.au/sites/default/files/EN_Monitoring_and_Evaluation.pdf

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Dave Hanslow | Senior Team Leader, Coastal and Marine Unit, Science Division, OEH

Dave is the Senior Team Leader, Coast and Marine Unit, Science Division, NSW Office of Environment and Heritage. He is a Coastal Geomorpholigist and has worked on a variety of coastal management problems including shoreface processes, wave setup and runup on beaches and in river entrances, as well as emergency management of coastal erosion, coastal monitoring and shoreline change detection. Dave's recent work has mainly been on focussed on coastal risk management with recent projects examining risk to communities in NSW associated with tsunamis and sea level rise. Between 2008 and 2010 Dave spent 2 years living in the Torres Strait, working on climate change, coastal erosion and inundation issues impacting island communities for the Torres Strait Regional Authority.

Dave was a panellist on the Panel that followed the presentations.

LAUNCH OUTCOMES

Icebreaker - Loves, uses and risks to the coast

As an icebreaker exercise, attendees were asked to introduce themselves to their neighbour and describe in one word: (1) what they love about the coast, (2) what they use it for and (3) what they feel is most at risk. This provided a suitable primer for the presentations that were to follow, particularly as it highlighted the multiple values that individuals attribute to the coast. The results were displayed at the launch for attendees to reflect on, and are presented in the wordclouds below.

LOVES

USES

AT RISK

Panel and Workshop Session

Following the presentations, a panel and workshop session was conducted to allow attendees to raise questions and further scope issues raised.

The Panel was facilitated by Stephen Summerhayes, Manager Projects and Programs, SCCG. Panellists included Dr Ben Preston, Michael Kinsela, Dave Hanslow and Geoff Withycombe. Questions and subsequent discussion focused on the following areas:

- methodologies used, their strengths and limitations
- 'operationalising' the tools to make them accessible for Local Government staff
- responsiveness of the tools to developments in policy and practice over time
- adaptive management (use of triggers and thresholds vs. future projections)
- political barriers and the interaction between Local, State and Federal Governments.

Following the panel a workshop session was conducted, in which attendees were asked to identify opportunities and limitations associated with each of the three elements of coastal adaptation presented – exposure assessments, decision-making tools (MCA) and monitoring & evaluation. Results of this session have been transcribed into the table at Appendix A. Overall attendees were supportive of the tools canvassed and saw them as playing an increasingly important role in coastal management. While there were a number of limitations identified, there was a general sense that, with further development and investment, these tools would enable more consistent, evidence-based and participatory decision-making.

The SCCG is interested in extending this project to address the limitations and harness the opportunities identified during the panel and workshop sessions. The Secretariat will continue to scope funding and partnership opportunities to support further research in this field.



EVALUATION

To assess the success of the launch against the objectives, and to enable the SCCG to deliver informative, relevant and engaging events, a post event online survey was conducted. The SCCG is keen to keep doing the things it does well and to work on those that can be improved. The survey was specifically designed to obtain information and insight into participants' views of the event, including suggestions for enhancing future events. It utilised Likert-style rating questions and comment fields.

Sixty-seven percent of participants completed the online evaluation. Results were overwhelmingly positive:

- 94 per cent of respondents were satisfied with the event
- 86 per cent agreed or strongly agreed that their skills and knowledge regarding coastal adaptation improved by attending
- 94 per cent agreed it was a good networking opportunity
- all respondents agreed that the event was well-structured and well-organised
- 94 per cent would recommend SCCG events to others.

The full range of results and comments are presented at Appendix B. The SCCG Secretariat will consider the results in detail, particularly those comments in relation to the practical application of the tools and the timing of the panel and workshop sessions. The results also contribute to the SCCG's baseline data, against which future performance can be judged.

CONCLUSION

Prioritising Coastal Adaptation Development Options for Local Government was principally a demonstration project that explored opportunities for integrating multiple values into Local Government decision-making. The project utilised a range of tools, simple and complex, to analyse the strengths and weaknesses of different adaptation options given multiple governance, financial, social, and environmental criteria. Coupled with developments in exposure assessment and monitoring & evaluation, these tools have significant potential to aid Local Government decision-making for coastal adaptation. The SCCG is cognisant of the need to build upon this research and will continue to look for funding and partnership opportunities, with the ultimate aim of operationalising these tools for application in day-to-day Local Government decision-making.

Acknowledgements

This Coastal Adaptation Decision Pathways (CAP) Project was funded by the Australian Department of Climate Change and Energy Efficiency with additional support from the Sunshine Coast Council, Queensland.

The SCCG extends its thanks to presenters and participants for their contribution and feedback. The contribution of the City of Sydney Council in providing the launch venue is also gratefully acknowledged.

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NSW GOVERNMENT Environment & Heritage

Appendix A – Workshop Outcomes - Tools for Adaptation Action

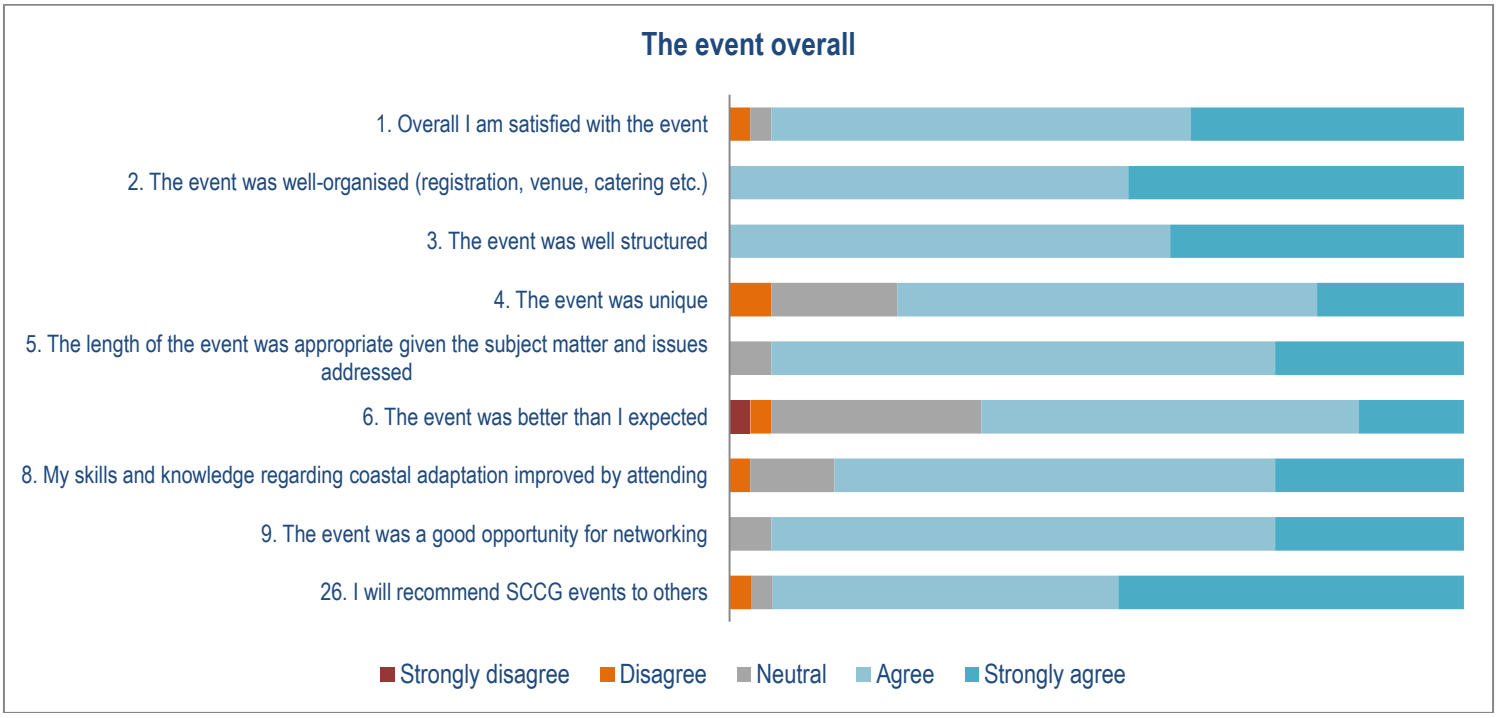
Attendees were asked to identify opportunities and limitations associated with each of the three elements of coastal adaptation presented at the launch – exposure assessments, decision-making tools (MCA) and monitoring & evaluation. Feedback has been transcribed into the table below.

tool	opportunities	limitations

Exposure assessments	- Refine model to take into account utilities and multiplier effects – inform planning processes
	- Community input into valuations
	- Different 'kinds' of knowledge
	- Check list for decision support – extracting data / defining limitations
	- Lots of detail in the tool (we must be aware of their limitations)
	- Make strategic decisions – evaluate negatives & positives – mitigate future problems
	- Enter into negotiations (assist)
	- Qualitative aspects / discussion
	- Won't ignore what's important
	- Informing individual property details (information)
	- Modelling limitations can be refined with data collection / research
	- Broad recommendations / policy development
	- Implementation on government land
	- NEHS data – increased accuracy
	- Starting point for community consultation
	- Link with LEP layers
	- Visual – easy for community to understand
	- Present it to provide realistic situation to community – clarify fears
	- Which area is worth further assessment, eg survey
	- Insurance – areas at risk – premium levels
	- Decision on area of growth
	- To create a model interdependency / cascading failure – Coffs Harbour (king tide) – essential transport infrastructure
	- Community consultation and engagement
	  ○ also issues of s733 indemnity problems
	  ○ good downscaled resolution to discuss issues at street level
		- Don't take into account dual inundation
		- Frequency of events
		- Not the number, what about utilities – on-site treatment – systems can have greater impacts - dramatic multiplier
		- Definition of limits (financial capacity (who will pay?), social & environmental, policy environment)
		- Quality of data
		- Value judgments / open to interpretation (could lead to different results)
		- Level of detail – exposure to council due to community expectation – legal challenges
		- Accuracy of model
		- Applicability
		- Risks / insurance
		- Data availability
		- Overland flow
		- Linkage with planning controls – eg floor levels
		- Wave run up – underestimate; bath tub – over estimate
		- Hydrodynamic
		- Coincident with other factors, eg rainfall, catchment flooding, drainage blockages (smaller catchment, higher probability of coincident)
		- Affects the tailwater level – hard to explain to community (backwater curve effect)
		- Emergency management? – trigger levels, can this assessment assist with this?
		- Duration of exposure
		- Danger of alarming community, if things don't eventuate then could undermine whole thing
		- Define actual exposure, eg electrical / services / infrastructure
		- Relationship between properties and infrastructure (access), road, emergency response
		- Capacity and ease of use for local councils

Decision-making tools (MCA)	- Build LG awareness of the application of the tool - Options definition / discussion vs. 'decisions' - Weighting needs to be clarified - Improved discussion (can't be avoided) (framing, scoping etc all important) - Sensitivity analysis - Valuations - All information needs to be available - Well informed decisions by weighing of positives and negatives - Management options based on broad considerations - Good engagement tool - Specific area analysis - Lots of useful tools / data contained within - Tool should be able to be tailored locally - 'Robust' options definition useful - Feed back into Federal Government as a funding mechanism - Need examples of implementation in case studies would be helpful - Lesson learnt from history and what decisions would make (does this tool help with the decision) – what has caused the community to make the decision they did – eg, 1974 storm, Katrina? - Aligns well with IPR requirements for local government – QBL - Expanding the analysis process to bring in councils and diverse communities (more workshopping)	- What to do with the 'black box' – will the community trust the outcomes? - Weightings opaque - Not good for a decision - Lack of community input - Valuations - Who you're talking to (by expanding you must get different results) - Efficiencies (finding optimal number of people to interview) - Subjective – weighting – depends on individuals working on analysis - Not always practical / attainable recommendations - Comes across as 'black box' – lack of transparency for LG decisions - potential legal risks - Too general: applies broad knowledge to specific areas - Model underpinned by a few subjective opinions - How does community make decision? Emotional rather than logical - Does it actually affect Council decision? - If a complex tool, people don't believe it is credible, especially with the community – simple tool better? - People always want more information before a decision can be made - Simple tool – more transparent with community – build more trust – this tool is too complex - Precedent and equity – important for Council - Can you fund it? - Need disaster before action is taken, otherwise no action and no money (emotional rather than rational) – eg, severe flooding - More sophisticated the tool, the less integrated the tool - Long term decision need to be more removed from the local level – federal level? - People who make decision could move on when it does not work – eg, Brisbane flooding event - Holding people who make decision responsible – how do you do it? - Purely based on professional input
Monitoring & evaluation	- Everything – use it! - Integrate into planning from the start - Scalable to leverage off it - Defining 'good' monitoring (vs. expensive) - Measure success / failure, milestone achievement - Help determine percentage realisation of outcome - Exchange of information at different levels - Community engagement / education - Tie reviews into LEP process - SCCG should run an implementation project – 'using the toolbox' - What has caused the community to make the decision they did – eg, 1974 storm, Katrina - Individual vs population measures - WSUD – before and after monitoring performance measuring – local vs. district monitoring - Site impact and understanding individual adaptation monitoring activities at broader scale	- Why will it be used? - Who will do it? - Who will use it? - The answer will vary based on who is asking? (level of asking questions) - Difficulty setting milestones - Political difficulties - Understanding of processes / outcomes - Lead time / occurrence of events - Communication / jargon / community embracement of policy - Funding - Decentralisation of M&E restricts individual councils to invest in comprehensive / regular / ongoing monitoring ○ eg, Sydney Ports – data set / monitoring provided to Councils

Appendix B – Post-Event Evaluation Results

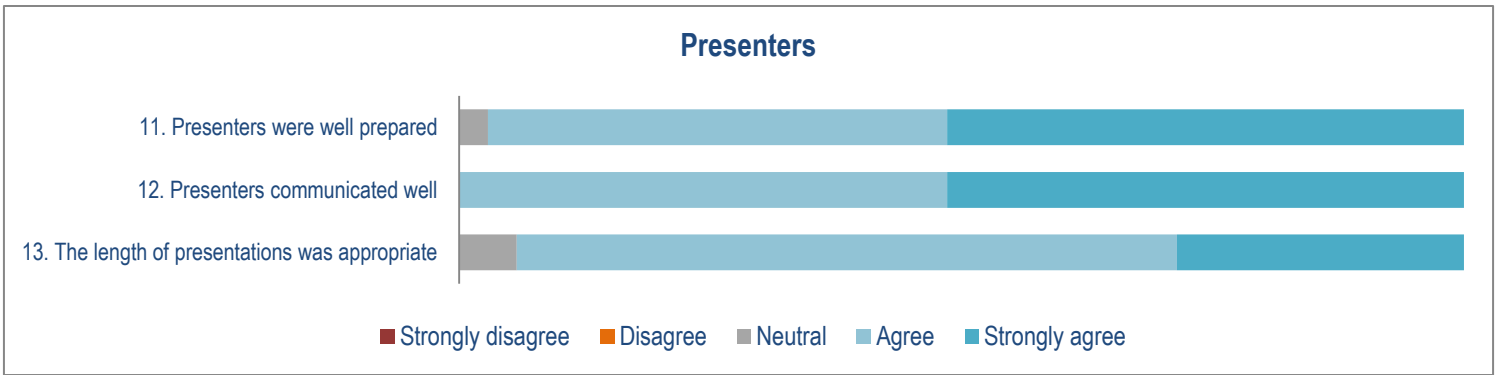


Q7: The most valuable part / highlight of the event:

- Very informative and great panel discussion.
- Discussion/round table
- First 2 presentations
- Risk assessment and coastal inundation mapping by OEH
- I did not find it valuable.
- Meeting different people and hearing their ideas / suggestions.
- Each session was excellent
- Understanding the linkages between the different pieces of work. It might be beneficial to provide the questions for the panel, to the panel in advance to allow them a few minutes to consider their responses.
- Learning about the latest CC studies and findings and knowing who to ask to get access to them.
- Presentations were very informative
- The OEH/Kinsela presentation was great
- Seeing the benefits of wider collaboration and input from international experts.
- Networking
- The case studies and the potential for future involvement in those launched projects
- Panel discussion
- The range of subject matter addressed.
- The discussion on multi-criteria analysis
- The mix of speakers and perspectives presented.
- Touching base with other people working on similar issues
- Learning about models/tools relevant to current work being undertaken by Council.
- Session 1 presentations were a particularly valuable contribution to scoping of Estuary Hazards Study for Clontarf/Bantry Bay and Manly Ocean Beach CZMP review, especially the focus on property level hazards and risks and discussion on limitations of available information.
- Presentation by Michael Kinsela on Mapping & Responding to Coastal Inundation.
- Presentation by Dr Ben Preston and the last group discussion session.
- Everything was great
- The discussion/workshop at the end of the session.
- Relevance to Councils. The idea that Councils are getting information that can be used at different levels is exciting.
- Bringing these major pieces of work together, better understanding their applicability and relevance. Bringing experts, academics and practitioners together to better understand the issues, needs, constraints and possibilities of the research and tools produced at a regional level.
- Presentation on the CAP project by the main researcher.
- Presentations.
- Mapping & Responding to Coastal Inundation
- OEH undertaking coastal hazard assessment research
- presentation from OEH
- Ben Preston's presentation

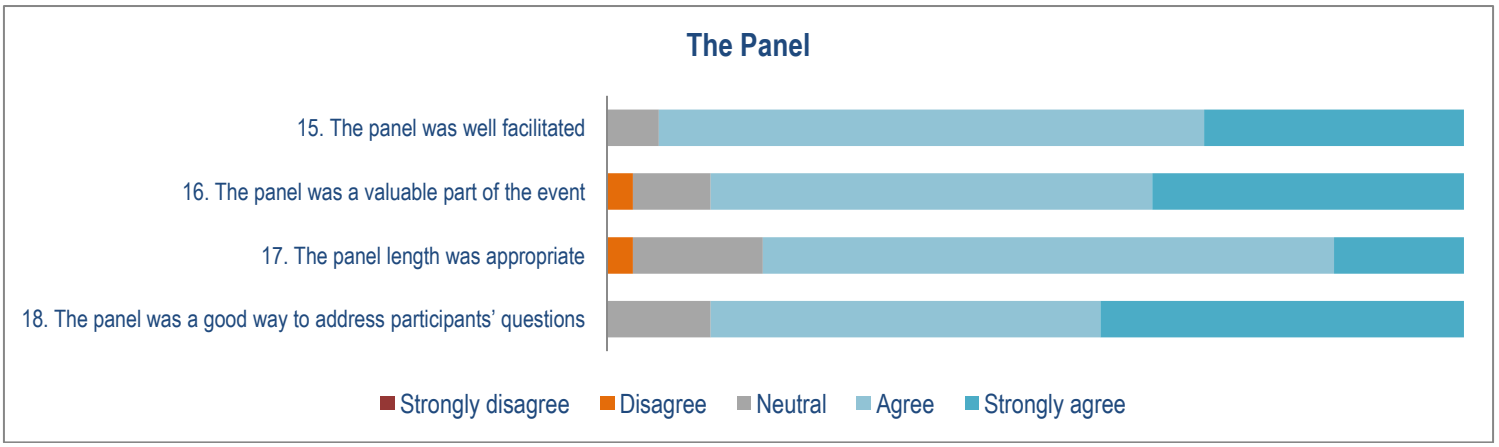
Q10. Networking opportunities could be enhanced by:

- Being teamed up with someone else.
- Very tight program so difficult to see how to do more.
- more workshop time
- Email contact list of all participants. There was currently only a hardcopy of those attended, much prefer a soft copy email.
- Having a session for introduction or networking activity within the tables will be helpful.
- Drinks afterwards
- Providing more time for networking
- Having more time for morning tea - for a full day event provision of lunch?
- Starting meetings later in the morning. A 9:00am start means many people are likely to be running late as morning peak hour in Sydney (by car or public transport) is far from reliable. Even a 10:00am start would make it easier to arrive on time and have a chance to meet others.
- Having a bit more time to mingle with the participants in order to network.
- Informal lunch following the event at a nearby venue - attendees to pay their own costs.
- Open forum session



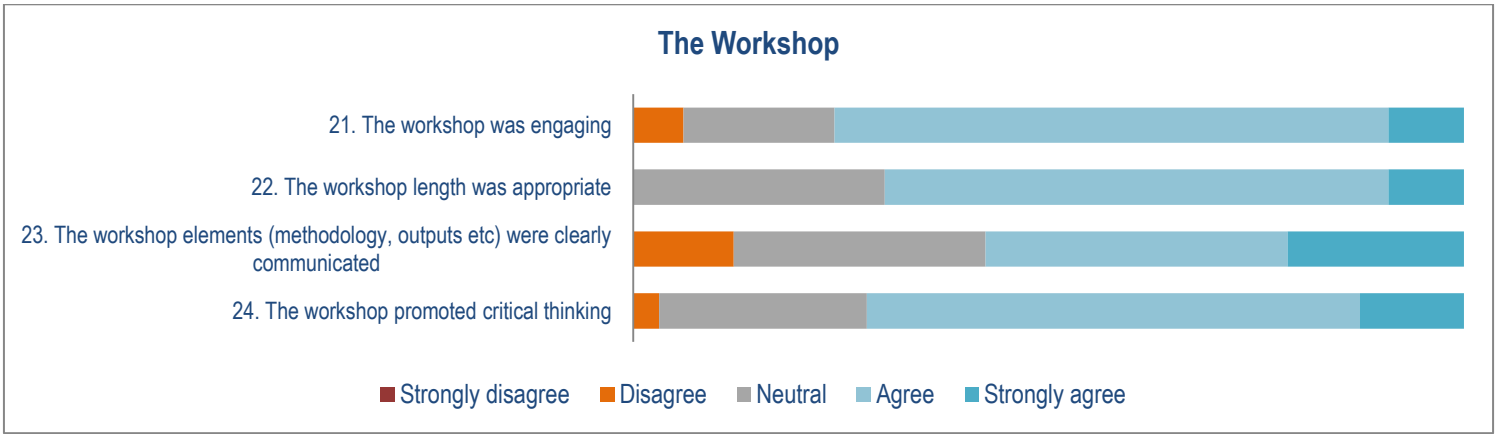
Q14: Comments in relation to the presentations:

- Well done team!
- Excellent work which should be promoted widely among the broader communities
- More info on case studies would have been great; and more practical demonstration on how it is to be used
- If we can grab copies of the presentations, that will be helpful.
- Presenters provide a summary of their slide info
- Length and content were appropriate
- The presentations were absolutely great!
- I thought the presentation by Michael Kinsela was the most useful practically. The one by Ben Preston was too complicated for most participates who were not up to his concepts.
- Fantastic speakers. Well prepared and pitched to the right level.
- Presentation from Ben Preston was long and hard to follow, although he is a good speaker. Probably too many technical details.
- As commented earlier, balance of presentation and workshop length for the time available.
- I thought the presentation by Ben Preston was too long and technical for those who were not up to speed with his topic.



Q19: Comments in relation to the Panel:

- I don't think it added much value.
- Fab way to end the event.
- Would be good to have more time to formulate questions to provide the panel
- Collecting and sorting Qs beforehand was valuable.
- Perhaps the putting of questions could have been a bit more structured and panel members answers a bit more succinct.
- More time for questions after each presentation would have been good as well.
- Perhaps a slightly longer time for panel presentation will be helpful.
- A slightly longer time that might have enabled more interaction among participants as well as by way of direct Qs to presenters
- The original 40 minutes would have been less rushed.



Q25: Comments in relation to the Workshop:

- There wasn't a clear product from any of the presentations. Ben Prestons work didn't show how the system might be used in a council environment. OEH was a bit too technical and didn't address consequences fully. The M&E is a work in progress.
- It felt like a bolt-on as a time filler.
- Would have been good to have had the time to discuss workshop output with the rest of the group at the end
- Difficult to get in-depth critical thinking in the time available - Needed more interactive time to stimulate that.
- The success of the workshops were dependent on the participation of the attendees at the table. This varied quite a bit with some attendees not participating at all and distracting others with conversation.
- Could have been longer
- Shorter or segmented time for discussions
- Slightly more time dedicated to the workshop will be helpful.
- Better if it had been 'on time' and had its full intended time, so that people didn't have to leave before it finished.
- Could have been 5-10 minutes longer (as was originally planned, I believe).

Q27. Suggestions on how the SCCG can enhance future events:

- Tighter presentations focusing on why we should know about it. More evaluations/discussions etc. Get good people there and encourage sharing of ideas. The talks are only the start?
- My problem was with the content of the study. The last SCCG that I attended on sea walls was very too, and really informative this was not.
- Promote via SCCG Facebook / LinkedIn Groups.
- Report back with case studies demonstrating evidence of SCCG research projects, workshops, reports and grants are applied to drive real world outcomes.
- Noon to 5pm then networking drinks
- Comment on how to use the model and how difficult is it to get up to speed with it and to maintain one's ability to effectively use it.
- Keep doing what you're doing. I like the interactive components that allow for networking and learning from each other and allow us to apply workshop concepts immediately before they fall out of our heads.

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