

## Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change

Dr Shauna Sherker<sup>1</sup>, Barbara Brighton<sup>1</sup>, Dr Marcello Sano<sup>2</sup>, Dr Russell Richards<sup>2</sup>, Dr Oz Sahin<sup>2</sup>, Daniel Ware<sup>2</sup>, Prof Rodger Tomlinson<sup>2</sup> and Norman Farmer<sup>1</sup>  
Surf Life Saving Australia<sup>1</sup>, Griffith University<sup>2</sup>

### Background

This research project seeks to elicit the vulnerabilities, adaptation options and adaptive capacity (Smit & Wandel, 2006) of Surf Life Saving operations and vulnerable assets under extreme weather and climate change. At the same time it aims to understand the role of Surf Life Saving clubs in reducing coastal hazard risks to coastal communities.

Surf Life Saving Australia (SLSA) has assets and facilities exposed to extreme weather, including 310 separately incorporated local surf life saving clubs (SLSCs) and more than 150,000 trained volunteers delivering services on the coastline. SLSA recognizes that the challenge posed by climate change is significant and that individual clubs will bear the brunt of associated impacts. In response, SLSA has developed a high level strategy to help the organisation adapt to climate change (Elrick et al., 2010). The strategy reviewed the vulnerabilities of SLSA and of specific SLSC facilities and infrastructure around the Australian coast and also highlighted the need to act on climate change issues as an organisation.

### Approach

Drawing on the outcomes of Elrick et al., (2010) and using a case study approach, we apply advanced techniques for stakeholder consultation. Specifically, combine Systems Thinking (Sterman 2000; Ison 2010) and Bayesian Modelling techniques (Charniak 1991; Castelletti & Soncini-Sessa, 2007) to identify adaptive responses to climatic stresses and understand the determinants of adaptive capacity (Richards et al., 2011).

The project case studies are Currumbin SLSC, Gold Coast, Queensland; Cudgen Headland SLSC, Tweed Shire, New South Wales; Ulverstone SLSC, northern Tasmania; and SLSA (national level).

A series of participatory workshops, involving surf lifesavers, lifeguards, local council and community representatives will be run between April and October, 2012. These workshops will be focusing on asset management, lifesaving operations and the role of local clubs in increasing community resilience.

This presentation will focus on the implications of extreme weather and climate change on lifesaving operations to prevent drowning deaths. Preliminary results of the research are presented for discussion.

### Acknowledgement

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### References

- Castelletti, A., Soncini-Sessa, R. (2007). Coupling real-time control and socio-economic issues in participatory river basin planning. *Environmental Modelling & Software* 22, 1114–1128.
- Charniak, E. (1991). Bayesian Networks without Tears. *AI Magazine* 12, 50–63.
- Elrick, C., Dalton, L. and Kay, R.C. (2011). Impact of Extreme Weather Events and Climate Change on Surf Life Saving Services: A Road Map for Adaptive Action, report prepared for Surf Life Saving Australia
- Fussler, H.M. (2007). Adaptation planning for climate change: concepts, assessment approaches, and key lessons. *Sustainability Science* volume 2, Number 2, 265–275
- Ison, R. (2010) *Systems Practice: How to Act in a Climate Change World*. Springer.
- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. Doubleday/Currency, New York.
- Smit, B., Wandel, J. (2006) Adaptation, adaptive capacity and vulnerability. *Global Environmental Change*. 2006 16(3):282–292
- Sterman, J.D. (2000). *Systems Dynamics. Systems thinking and modeling for a complex world*. McGraw Hill, Boston
- Richards R., Sano M., Smith T. (2011). Participatory approaches to exploring the adaptive capacity of coastal settlements and ecosystems in South East Queensland. 2nd International Symposium on Integrated Coastal Zone Management, 3–7 July 2011, Arendal, Norway

### Corresponding Author

Barbara Brighton  
Surf Life Saving Australia  
Locked Bag 1010, Rosebery NSW 2018 AUSTRALIA  
Phone: + 61 2 9215 8000  
Email: bbrighton@slsa.asn.au