

Developing a Decision Support System for Western Australia

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TWO DRIVING PRINCIPLES

Prevention is better than cure

"Better to build a fence at the top of a cliff, than park an ambulance at the bottom"

Helen Clark 2015 Sendai

Tomorrow's risk is built today

"Tomorrow's risk is being built today. We must therefore move away from risk assessments that show risk at a single point in the present and move instead towards risk assessments that can guide decision makers towards a resilient future."

Global Facility for Disaster Reduction and Recovery (2016)

DECISION SUPPORT SYSTEM - UNHARMED

UNHARMED (Unified Natural Hazard Risk Mitigation Exploratory Decision support system) is an interactive modelling platform helping to assist decision making, focussed on:

- Improving thinking about risk into the future;
- Better managing and reducing risk;
- Positioning organisations and communities to best achieve this.

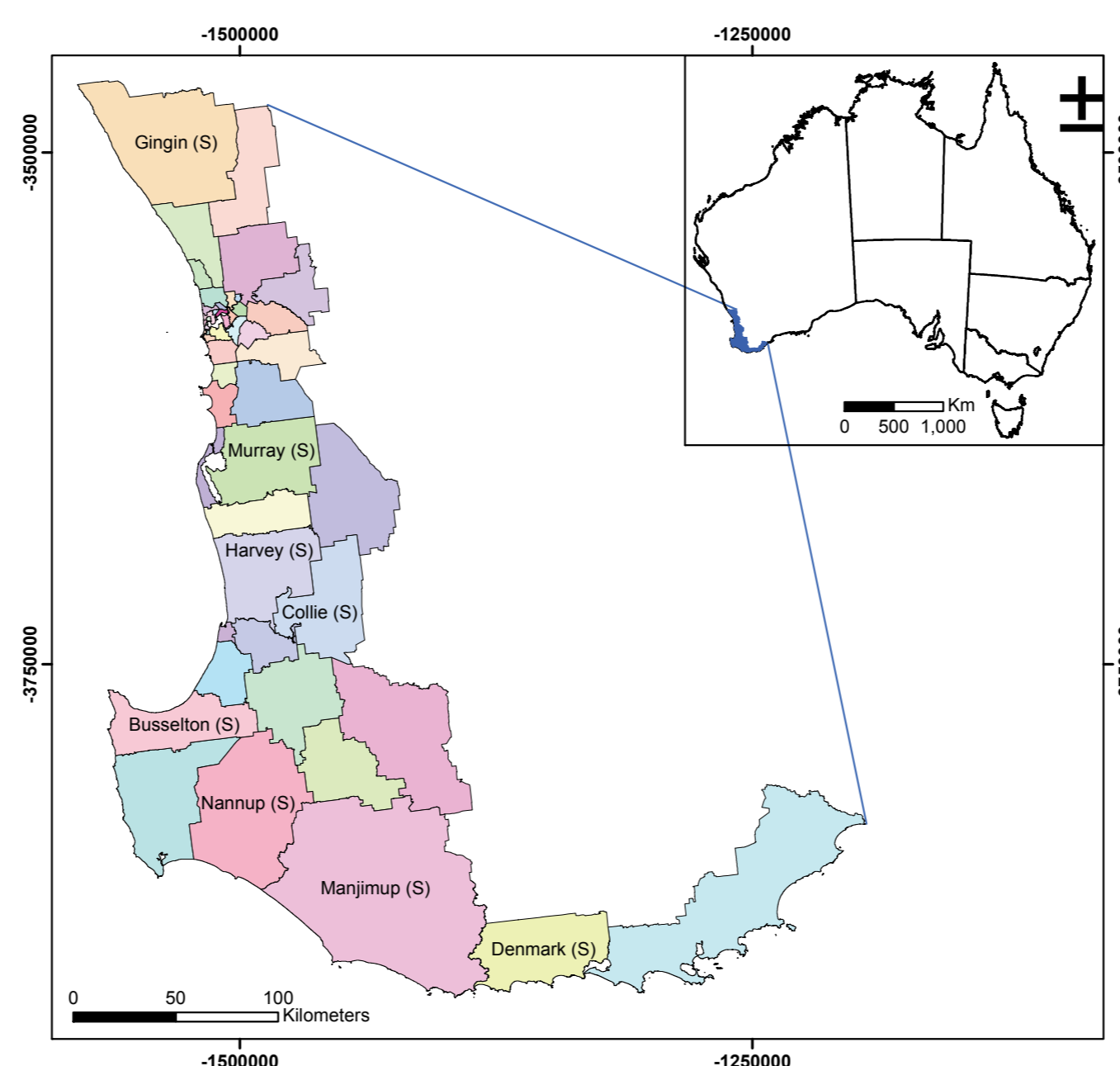
UNHARMED has been applied to three regions: Greater Adelaide, Greater and Peri-urban Melbourne and Tasmania.

It is now being further developed to support Western Australia's policy and planning decisions with a Western Australian application.

The UNHARMED DSS software considers

- Long term dynamics & uncertainties
- Asset exposure
- Hazard intensity and likelihood
- Building vulnerability
- Multi-hazard
 - Riverine flooding
 - Earthquake
 - Coastal inundation
 - Bushfire
- Risk reduction options
 - Land use planning
 - Structural measures
 - Land management
 - Education & awareness
 - Building codes

WA CASE STUDY AREA

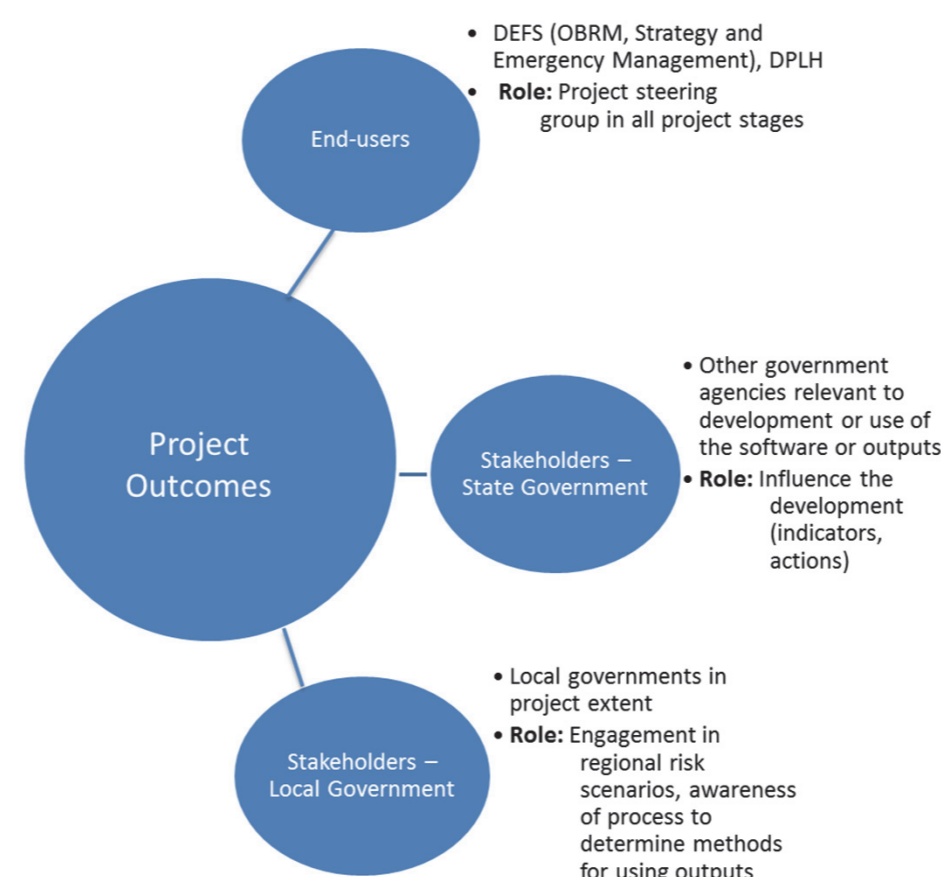


WA SCENARIOS

- Potential scenarios for WA could include :
- Earthquake impacts and risk mitigation strategies in the Shire of York;
 - Bushfire mitigation strategies on the peri-urban areas of metropolitan Perth and South West/Lower South West communities of WA
 - Coastal inundation retreat versus defence in Mandurah.

ENGAGEMENT

The processes are focussed on those engaged in risk reduction planning across the state (stakeholders)



LINKING WITH STATE & COMMONWEALTH PRIORITIES

Commonwealth priorities - National strategy for disaster resilience

Leading change and coordinating effort

- State agencies have a role to develop and implement policy and planning strategies to reduce impacts on WA communities. The DSS will assist in this and builds on the collaborative success of State Planning Policy 3.7 - Planning in Bushfire Prone Areas.

Understanding risk

- The fundamental concept underpinning the DSS is risk conceptualisation and how this will change into the future. This project supports a systematic and transparent approach to the understanding of risk and considers the impact of policy and planning options on risk

Partnering with those that effect change

- Collaboration underpins this project, so lead user agencies need to be involved. This allows further engagement with local governments and different departments considering long-term strategic risk challenges.

Reducing risks to the built environment

- Use of the DSS enables a more consistent and transparent investment decision process through consideration of multiple hazards, in respect to impacts on the built environment. This allows assessment of options/instruments to enable improved planning decisions, development standards, and other factors.

WA Priorities

Improvement of underlying research, data or systems to improve emergency risk management

- Utilisation of a breadth of data sources and integration with agency knowledge to improve understanding of decision context.
- Inform investment decisions and policies for land-use planning and the built environment that aim to reduce future exposure to Western Australian communities from multiple natural hazards.

OUTCOME

The expected outcomes are:

- Optimises investment options for natural hazard mitigation
- Provides a systematic and transparent approach to evaluate disaster and natural hazard risk reduction options

