NSW GOVERNMENT Justice
Office of Emergency Management

2017 State Level Emergency Risk Assessment

Executive Summary

July 2017

Office of Emergency Management
GPO Box 5434
SYDNEY NSW 2001
(02) 9212 9200

Acknowledgements

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Justice
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What is this report about?

The need to effectively manage emergency risks is recognised by all levels of government and the private sector. A number of elements impact the way emergency management is undertaken throughout NSW and will continue to do so in the future. These include changes to legislation, increased privatisation of public infrastructure, longer term risks (climate change), budget and resource pressures, industry regulation, state policy and national direction.

This report presents the results of a state level emergency risk assessment – a collaborative effort across the emergency management sector over the period August 2016 to February 2017. It extends on previous work undertaken for the NSW Government 2011 State Natural Disaster Risk Assessment (SNDRA).

The information contained in this report can be used by stakeholders and practitioners within the emergency management sector to inform decision making and emergency management planning.

Who is this report for?

The principal audience for the 2017 NSW State Level Emergency Risk Assessment (SLERA) is the State Emergency Management Committee (SEMC) and the NSW Cabinet. The SEMC is the key emergency management body in NSW and is responsible for determining priorities at the state level in accordance with the *State Emergency and Rescue Management Act 1989.*

Other key stakeholders include government authorities, agencies and organisations with emergency management responsibilities within NSW, and communities that could be affected by emergencies.

The broader NSW community also plays an important role in building disaster resilience.

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What is the scope?

The 2017 SLERA examines a limited selection of hazards, identified through a consultative process. It is acknowledged that the range of hazards to which NSW is exposed is far greater than the scope defined for this risk assessment. The scope will be increased iteratively and expanded upon in future state level risk assessments.

Priority natural hazards for NSW captured in the SLERA are bush fire, earthquake, East Coast Low, flood, landslide, storm, and tsunami. Additional emerging or less explored hazards have also been incorporated, including biosecurity (foot and mouth disease), heatwave, coastal erosion, Human Infectious Disease Outbreak (pandemic influenza), and infrastructure failure (electricity).

Counter terrorism and cyber security risks were excluded from the SLERA given that state and national approaches already exist.

What is the risk?

The SLERA process has shown that the 12 hazards assessed pose a significant risk to NSW with each one receiving a risk rating of high to extreme for the identified state significant scenarios. This highlights the importance of continued mitigation, prevention, preparedness, response and recovery to these hazards by the emergency management sector and other stakeholders.

Hazard Scenario	Likelihood	Consequence	Risk Rating
Bush fire	Likely	Major	Extreme
Infrastructure Failure	Unlikely	Catastrophic	Extreme
Heatwave	Likely	Major	Extreme
Human Infectious Disease Outbreak	Likely	Major	Extreme
East Coast Low	Likely	Major	Extreme
Flood	Likely	Major	Extreme
Biosecurity	Unlikely	Catastrophic	Extreme
Tsunami	Rare	Catastrophic	High
Earthquake	Rare	Catastrophic	High
Landslide	Likely	Moderate	High
Coastal Erosion	Likely	Moderate	High
Storm	Unlikely	Major	High

What are the top priorities for NSW over the next 5 years?

The SLERA recognises that the community of NSW is exposed to a variety of natural and human-induced hazards, and responds to the need for a coordinated approach to emergency management. Top priorities have been identified that need addressing at a state level, with an emphasis on mitigation and preparation. These priorities have been informed by state and national strategic directions for emergency risk management and the following themes arising from the risk assessment:

- Land Use Planning
- Exposure and Vulnerability Modelling
- Climate Change
- Building Codes
- Infrastructure Resilience
- Business Continuity Planning
- Insurance
- Community Engagement
- Public Warnings.

The nine strategic themes reflect the importance of mitigation to increase the resilience of the NSW community, focusing on prevention and preparation.

The state level priorities and associated recommendations, to be implemented over the next five years, are as follows:

"State and local government play a vital role in planning for and managing the sustainable development of communities and increasing their resilience to emergencies through prevention and mitigation."

1. Enhance governance arrangements and land use planning provisions

The risk assessment process identified a need for improved governance arrangements and land use planning provisions for the mitigation, response and recovery of a number of hazards, including flood, earthquake, heatwave, and infrastructure failure.

State and local government play a vital role in planning for and managing the sustainable development of communities and increasing their resilience to emergencies through prevention and mitigation. This is achieved through policy and legislation governing land use planning and the built environment. However, combat agencies often have competing operational and functional work requirements that limit their ability to inform and influence regulations and policy for land use planning.

Recommendations

1. Planning and governance arrangements for risks that reside in private infrastructure are examined.
2. A scoping study of existing and proposed land use planning controls that improve resilience, and their application in NSW, is undertaken.
3. A forum to allow for a coordinated response by emergency management agencies to proposed amendments to land use planning and building controls is established.

2. Improve the capturing and communication of risk data and vulnerability modelling

Models that illustrate the spatial impacts and risks of hazards can improve emergency management arrangements and support targeted treatments that are localised and relevant. Currently there is a lack of consistent and meaningful modelling for many priority hazards. This was an identified gap during the assessment of the people, economic, public administration, social and environmental consequences of the scenarios with limited quantitative data readily available in a number of cases.

Recommendations

4. A coordinated review of existing exposure and vulnerability modelling across all-hazards at local, regional and state levels is undertaken.
5. Investigate the standardisation of risk data through common risk criteria for all-hazards.
6. A centralised team to manage spatial and related risk data and modelling is established.

3. Climate change impacts and adaptation mechanisms are integrated into emergency management arrangements

A collaborative approach across government is essential to ensure climate change impacts and adaptation mechanisms are integrated into emergency management and planning processes. The NSW Government can provide the tools and resources to provide for climate change adaption in emergency management and planning processes at a local and regional level.

Recommendations

7. Climate change impacts are integrated into emergency management strategies and planning processes. This includes actions from the NSW Climate Change Fund Strategic Plan that are relevant to emergency management.
8. Emergency management sector representation within the Adapt NSW initiative continues.
9. The consideration of climate change impacts is included within the Terms of Reference of the State Mitigation Sub-Committee.

4. Local emergency risk management is strengthened

To build on the success of the Local Emergency Management Plan (EMPLAN) enhancements, local emergency risk management should leverage the strengths of existing hazard specific approaches and respond to key risks at a local level. Local emergency risk management approaches should complement existing local government planning processes, and inform future state and regional emergency risk assessments.

Recommendations

10. A consistent local level emergency risk assessment approach is developed.
11. A guideline on emergency risk management for local government and communities is developed.

5. The resilience of critical infrastructure is understood and improved

Critical infrastructure underpins the functioning of society and the economy, and is integral to the prosperity of the state. A disruption to critical infrastructure could have a range of serious implications for business, governments and the community. An all-hazards approach to improving critical infrastructure resilience will benefit the state by identifying vulnerabilities, risks and inter-dependencies whilst ensuring possible treatments are considered in a coordinated manner.

Recommendations

12. A NSW Critical Infrastructure Strategy is developed that takes into account vulnerabilities, risks and inter-dependencies.
13. The NSW State Infrastructure Strategy and other initiatives are supported by combat agencies, functional areas and relevant stakeholders where relevant.
14. Emergency management and resilience continues to be embedded into state infrastructure strategies.

6. Business continuity planning is embedded in government, private sector and the community

Deficiencies occur in business continuity planning across government, the private sector, and the community. Business continuity planning refers to the proactive steps taken by an organisation to analyse and prepare for events that may disrupt its normal function. When undertaken effectively it can improve preparedness within organisations and the broader community, and increase resilience to emergencies.

Recommendations

15. A review of government (local and state) business continuity planning and the extent of testing/ exercising is undertaken.
16. A business continuity planning toolkit for business and community is developed.
17. Best practice business continuity planning is advocated across government and the private sector.

7. A Major Exercise Plan is implemented

Exercising is crucial to test preparedness and response plans for hazards, and further investigate emergency consequences. Heatwave and biosecurity (foot and mouth disease) are high risk hazards that have an identified need to test existing plans and procedures to determine their effectiveness. The less frequent Human Infectious Disease Outbreak (HIDO), tsunami and earthquake hazards also require exercising as a priority to test preparedness and response plans.

Recommendations

18. A major exercise series to target complex hazards is developed and managed through the SEMC.

8. Funding schemes align with emergency risk management principles

The Australian Government provides financial support to the states and territories through the highly prescriptive Natural Disaster Relief and Recovery Arrangements (NDRRA) targeted at response and recovery functions. An opportunity exists through proposed reforms to the NDRRA, and reviews of other disaster funding and grant schemes, to place greater emphasis on mitigation measures. This will ultimately seek to reduce the effort and costs associated with response, when a disaster occurs.

Recommendations

19. Disaster funding is aligned with the Emergency Risk Management Framework, including the examination of existing emergency management funding and grant schemes to re-orientate towards risk reduction and options for increased spending on mitigation.

9. A coordinated approach to community engagement for emergency risks

A coordinated, all-hazards approach to emergency risk will increase engagement of the community and help build resilience through community actions. This includes facilitating consistent state and local approaches, and filling gaps for those hazards that do not currently have mature community engagement strategies or messages.

Recommendations

20. A State Community Engagement Consultative Committee is established, reporting to the SEMC.
21. A community engagement framework and strategy for NSW that considers an all-hazards approach is developed. This should include opportunities to investigate, propose and test the integration of an all-hazards campaign into current and future community engagement.

10. Hazard warnings and arrangements are consistent and relevant

Public warnings are a primary tool for emergency management. Inconsistencies in technology, language and message delivery may create confusion and misinterpretation within the community. Proactive review and alignment of warnings and messaging would enhance their effectiveness and increase the likelihood of converting suggested actions into actual behaviour and community response during emergencies.

Recommendations

22. A scoping study of options to improve hazard warning systems and arrangements in line with research and current best practice is undertaken. This includes a review of existing hazard warning systems, arrangements and messaging for all hazards.

Further recommendations

The availability and application of building codes and insurance to existing and new development in at risk areas were identified as a strategic themes.

Building codes

In an emergency, buildings (including homes, offices, factories, and community buildings) can either protect people, or they can contribute to injury or death. During a natural disaster it is not always the hazard itself that causes the most loss of life, but the failure of buildings and infrastructure that have not been designed and built to withstand the effects of the event (e.g. wind, rain, fire). An improved understanding of existing building standards that build resilience against disasters within NSW is required. Opportunities for funding, application pathways, prioritisation across government, and organisational business alignment may also be explored.

Insurance

Insurance helps protect items of value, like cars and homes, from the financial impact of risks. It is a risk management strategy that affects the residual risk only, and does not reduce the likelihood or consequence of a hazard. The intricacies of insurance policies are not always understood (e.g. during a flood event, storm damage and water damage may be captured but the impacts of rising flood waters may not). Common issues relating to insurance are lack of insurance and underinsurance.

Recommendations

23. A scoping study of existing building standards that improve resilience, and their application in NSW, is undertaken.
24. A scoping study on the availability and application of insurance policies for hazards is undertaken, with gaps and areas for improvement identified.

Who is responsible for treating risks?

Combat and lead agencies will be responsible for developing implementation plans for the proposed hazard specific treatments (and other treatments identified outside of the SLERA process) in conjunction with the relevant stakeholders. These plans should allow for new controls (treatments) to be applied and ongoing controls to be enhanced and modified.

Implementing hazard specific treatments, in conjunction with priority actions identified through the strategic themes and top priorities, is essential to ensuring existing and future risks are effectively mitigated and responded to.

What document underpins the SLERA?

The Emergency Risk Management (ERM) Framework underpins the identified priorities and recommendations within the SLERA and provides a common purpose, principles and outcomes for the state's emergency management sector and NSW Government.

The Framework builds systems, capacity and culture to continually identify, assess, analyse and manage emergency risks in a systematic and integrated manner, based on four guiding principles:

- Governance and Strategy
- Methodology and Standards
- Engagement and Communication
- Capability and Planning.

Importantly, the ERM Framework will build on and leverage the strengths of current risk management approaches for hazards to improve the understanding, prioritisation, effectiveness and efficiency of emergency risk management for all hazards in NSW.