

MAPPING AND UNDERSTANDING BUSHFIRE AND NATURAL HAZARD VULNERABILITY AND RISKS AT THE INSTITUTIONAL SCALE



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PROJECT PROGRESS 2015–2016 THE PROJECT HAS MOVED ITS FOCUS FROM SPATIAL MAPPING TOWARDS INSTITUTIONAL MAPPING TO SUPPORT STRATEGIC DECISION MAKING SURROUNDING PREVENTION, PREPAREDNESS, RECOVERY AND RESILIENCE USING A MULTI-VALUE APPROACH

In the past twelve months the project has undertaken the following:

- ▶ Four workshops in Victoria, Tasmania, South Australia and New South Wales in August 2015.
- ▶ The workshops used event-based scenarios to explore values at risk, interactions between values, ownership of those values, ownership of risk and consequences, and then of actions.
- ▶ The workshop results and previous work has contributed to an institutional map of risk ownership, which shows some interesting patterns (see below).
- ▶ An economic geography of vulnerability to bushfire and flood in Victoria has been created. It describes the exposure of the economic output of 19 industry sectors to natural hazards at Statistical Local Scale.
- ▶ The multi-value mapping platform being produced by the project has been signed off in beta format. Its intended future use is as a research tool rather than a decision-making tool for organisations.

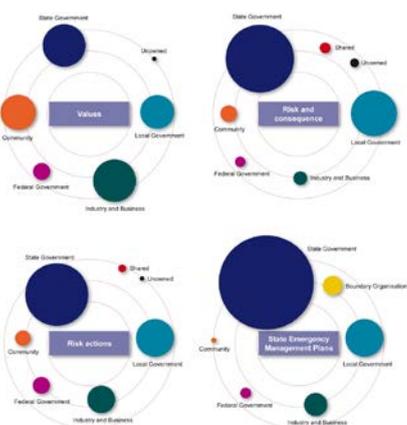


Figure 1: Institutional maps of allocated risk ownership.

WORKSHOP SYNTHESIS

The distribution of values at risk was fairly even between local and state government, industry and business and the community. When risk consequence and risk actions were considered, the allocation to state and local governments expanded while the others receded. For actions, the role of business and industry expanded slightly and the others were little changed. A substantial imbalance between public and private ownership was a notable feature.

The following points were important for allocating risk ownership:

- ▶ The need to understand who the owner is, what the allocation is for, how it is allocated, and whether the associated responsibilities can be fulfilled.
- ▶ Allocation needs to be supported by clear process structures, skilled facilitation and be given sufficient time for effective outcomes to be achieved.

MAPPING RISK OWNERSHIP AT THE INSTITUTIONAL SCALE

A survey of four State Emergency Management Plans logged allocations for prevention, preparedness, recovery and resilience, adding a fourth layer to the allocations found for the workshops. Another institution, boundary organisations, was also added. These play a critical role in bridging between different institutions and facilitating shared ownership (Figure 1, left).

REFERENCES

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Young C.K., Jones R.N., Symons J. (2016) Mapping and Understanding our Values at Risk and Risk Ownership: Workshop Synthesis Report. Working paper for publication to Bushfire and Natural Hazards CRC. VISES, Victoria University, Melbourne.

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ECONOMIC GEOGRAPHY

This report summarises the vulnerability to bushfire and flood of income from 19 sectors across Victoria at the Statistical Local Area scale.

Vulnerability is measured as the sensitivity and exposure to bushfire and riverine flood. Levels of exposure are proportional to how many bushfires and floods have occurred over the historical period.

Vulnerability ratings include high (2.9% of total output), moderate (5%) and low (11.7%) ratings, totalling over \$58 billion. The figures for flood are similar, with high (2.4%), moderate (3.6%) and low (7.5%) ratings state-wide totalling over \$40 billion in income.

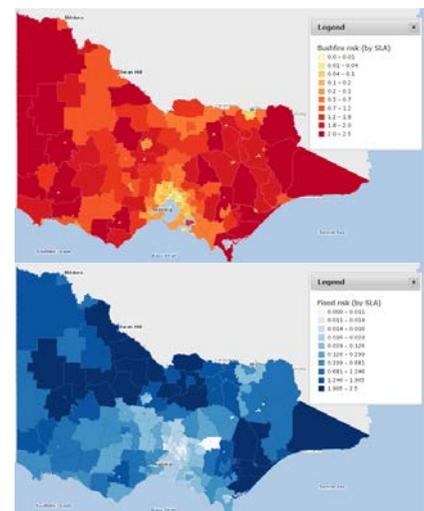


Figure 2: Vulnerability of industry output to fire (upper) and flood (lower) in Victoria.

IMPLEMENTATION

Plans have been submitted for two areas of implementation:

- ▶ Risk ownership utilisation
- ▶ Sense-making with information systems for strategic decision making

