

REVIEWING PAST HAZARD EVENTS IN AUSTRALIA AND VICTORIA



Katie Potts¹

¹ Department of Infrastructure Engineering, The University of Melbourne, VIC

1. INTRODUCTION

In order to better understand the history of natural disasters in Australia as a whole, and also solely in the state of Victoria, a review of the past hazard events data was conducted. The data was obtained from the Australian government website www.emknowledge.gov.au and includes events from the years 1857 to 2014. The raw data contained a range of disaster events outside of the scope of this project so firstly the data was classified before analysis was carried out.

2. DATA CLASSIFICATION

The original dataset contained information on all disaster events for Australia. The events included were:

- ▶ Bushfire
- ▶ Chemical complex emergencies
- ▶ Criminal act
- ▶ Cyclone
- ▶ Earthquake
- ▶ Environmental
- ▶ Epidemic
- ▶ Flood
- ▶ Hail
- ▶ Industrial
- ▶ Landslide
- ▶ Severe storm
- ▶ Shipwreck
- ▶ Tornado
- ▶ Transport
- ▶ Tsunami
- ▶ Urban fire

The data was then reclassified using the EM-DAT International Disaster Database from the Centre for Research on the Epidemiology of Disasters (CRED), which placed the disaster events into the four groups of geophysical disasters, meteorological disasters, hydrological disasters, and climatological disasters. As the scope of this project relates only to natural hazard events, disaster events which were not included in this classification were removed. Figure 1 shows the disaster classifications with the subgroups, disaster main types and the disaster sub-types.

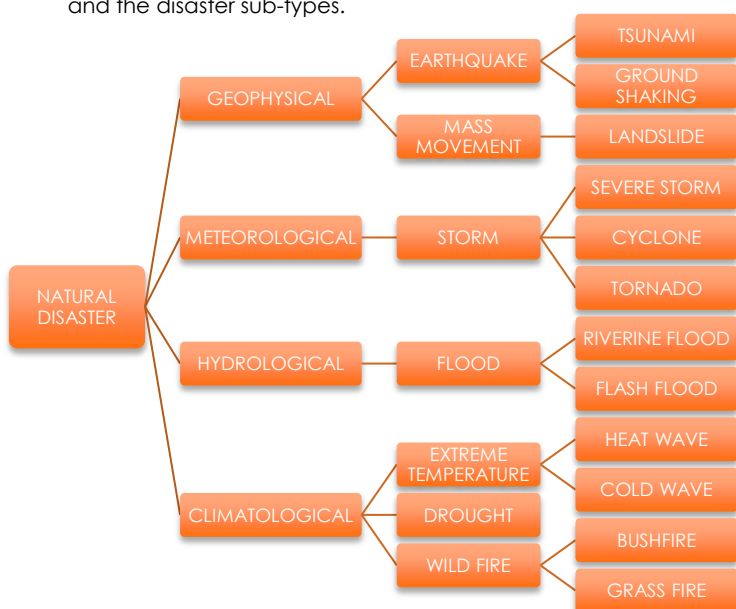


Figure 1: The disaster classifications

3. DISASTERS IN AUSTRALIA

Using this classification system for the natural disaster events for all of Australia reveals a total of 289 disaster events, and for Victoria a total of 67 disaster events, broken down into the categories shown in Table 1 below:

Table 1: Disaster events in Australia

Disaster Subgroup	Count – All Australia	Count – Victoria
Geophysical	14 in Total 10 Earthquake (9 Ground shaking; 1 Tsunami) 4 Mass Movement (4 Landslide)	0 in Total
Meteorological	109 in Total 109 Storm (38 Cyclone; 68 Severe Storm; 3 Tornado)	11 in Total 11 Storm (10 Severe Storm; 1 Tornado)
Hydrological	77 in Total 77 Flood (7 Flash Flood; 70 Riverine Flood)	10 in Total 10 Flood (10 Riverine Flood)
Climatological	89 in Total 12 Drought 20 Extreme Temperature (19 Heat Wave; 1 Cold Wave) 57 Wild Fire (56 Bushfire; 1 Grass Fire)	46 in Total 9 Drought 15 Extreme Temperatures (15 Heat Wave) 22 Wild Fire (21 Bushfire; 1 Grass Fire)
Total	289	67

4. DISASTERS IN VICTORIA

Using the data extrapolated for the state of Victoria, a number of statistics were generated, namely statistics on loss events, fatalities, injuries and insured losses. These results are summarized below in figure 2.

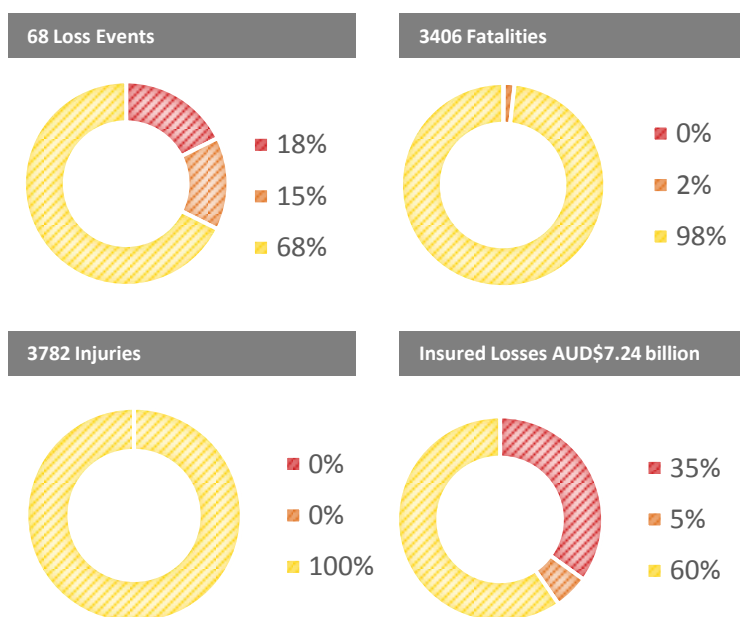


Figure 2: Loss events in Victoria (1851 to 2015)

