



Injuries related to extreme weather

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Introduction

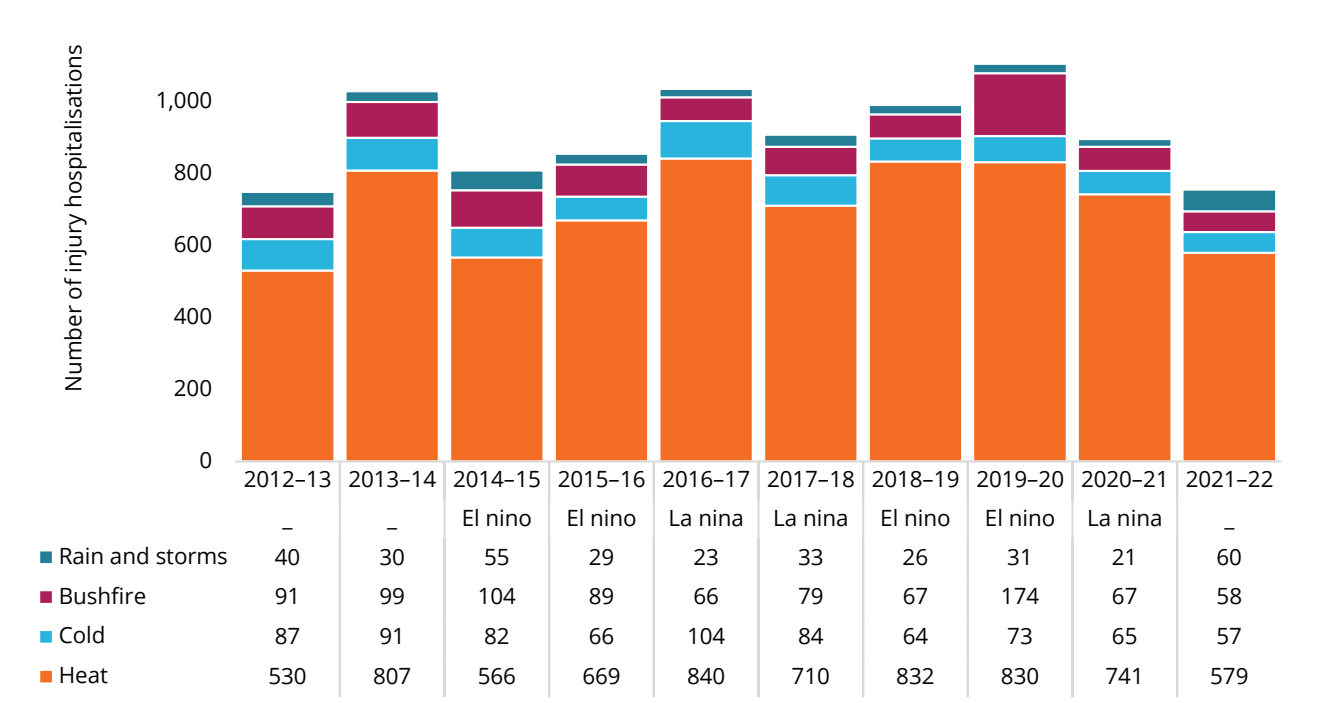
Over the past three decades, extreme weather events have increased in frequency and severity (IPCC 2014, BoM 2022). They can have catastrophic effects on people’s physical, emotional and mental wellbeing. Bushfires and floods cause significant property damage and, in many cases, destruction of homes, leading to displacement and homelessness. These weather conditions place substantial economic burdens on the community – from both the costs, at all levels of government, to repair damage to properties and infrastructure as well as rising insurance premiums. In Australia, extreme weather conditions – especially heatwaves and bushfires – can result in injuries that require hospitalisation (Coates et al. 2022; DAWE 2015). The number of hospitalised injury cases following extreme weather conditions has increased over the last decade, placing increasing demands on the health-care system.

Methodology

This report counts a subset of injury hospitalisations (i.e. injury cases, from the National Hospitals Morbidity Database) and deaths (from the National Mortality Database) that are directly related to four extreme weather conditions between 2012 and 2022, namely **extreme heat, extreme cold, extreme rain or storms, and bushfires**. It excludes injuries treated in an emergency department (but not admitted to hospital) or treated elsewhere, such as by a general practitioner. The report excludes broader injuries associated with extreme weather conditions, for example, during clean-ups or traffic accidents, and effects on mental health. **The information presented is therefore a baseline estimate of extreme weather-related injuries.** Absolute counts are presented instead of rates of injury due to relatively small counts of identified injuries in this subset.

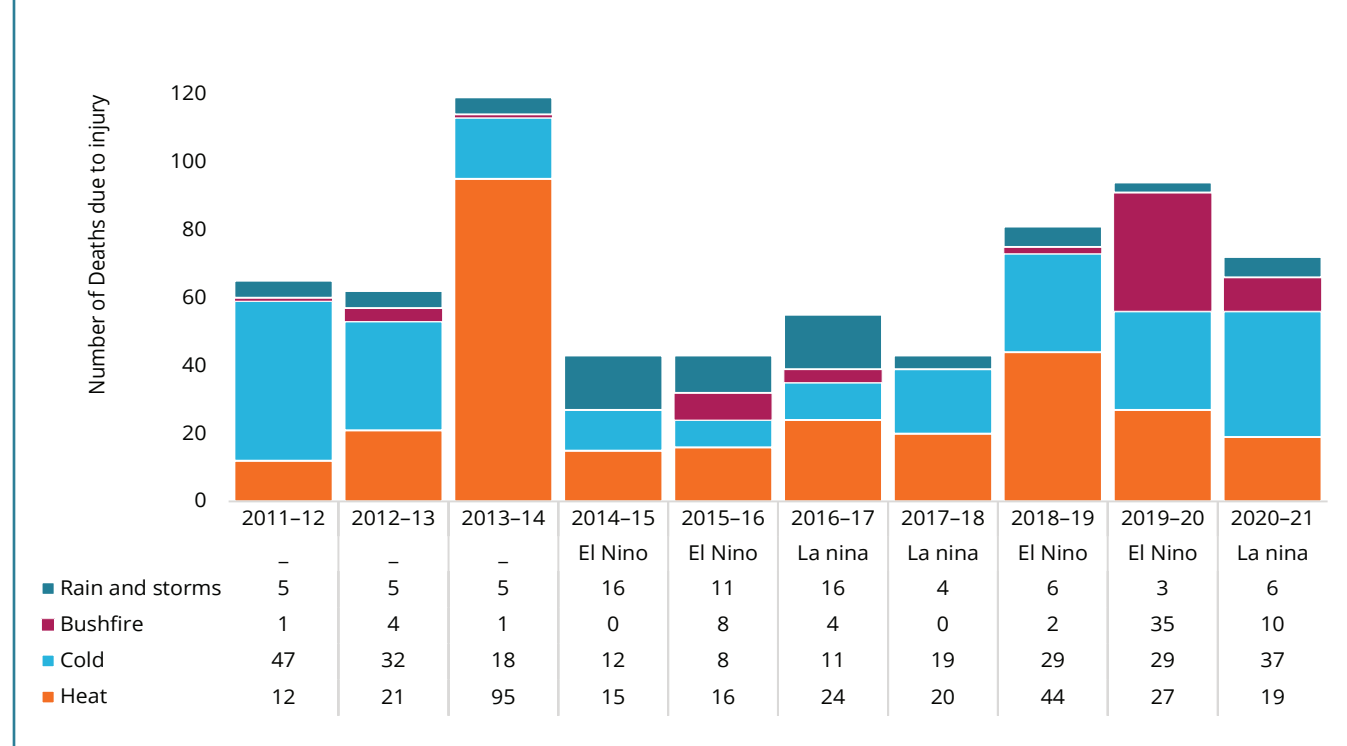
Source: [Our data collections - Australian Institute of Health and Welfare \(aihw.gov.au\)](#)

Figure 1: Extreme weather-related injury hospitalisations, 2012-13 to 2021-22



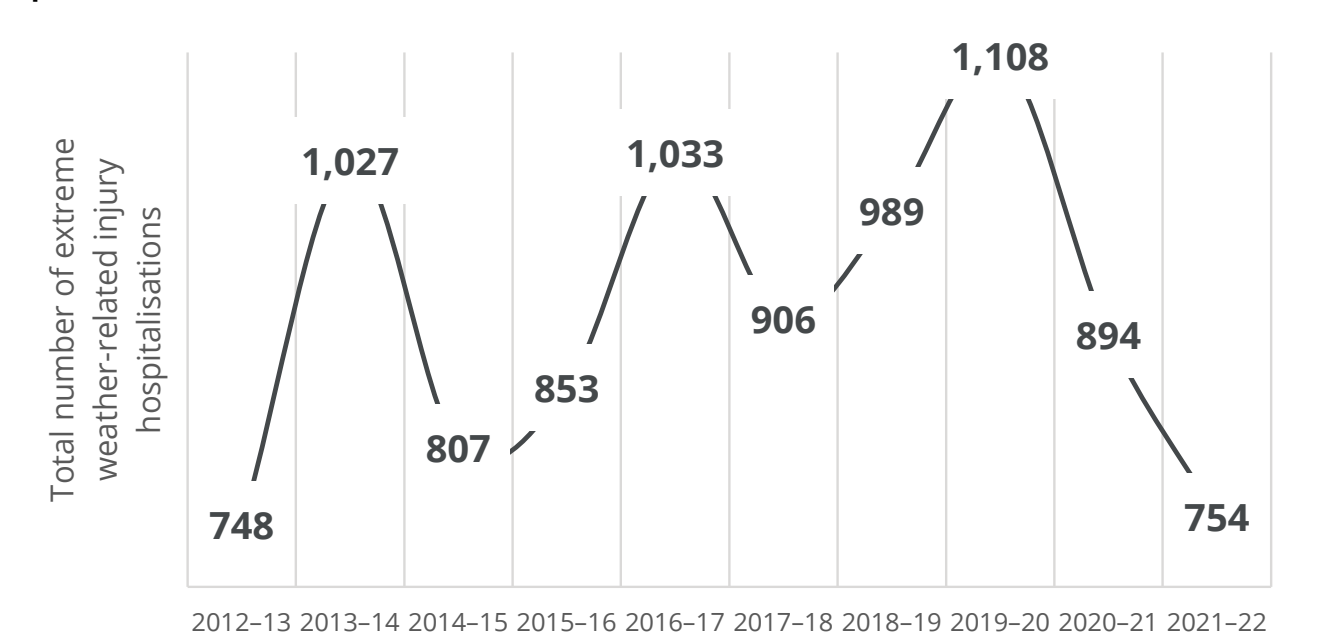
Source: National Hospital Morbidity Database (NHMD)

Figure 2: Extreme weather-related injury deaths, 2011-12 to 2020-21



Source: National Hospital Mortality database (NMD)

Figure 3: Extreme weather-related injury hospitalisations are increasing and rose above 1,000 cases in 3 out of ten years over the past decade



Source: National Hospital Morbidity Database (NHMD)

How do extreme weather conditions vary over time?

There are natural climate drivers that increase the risk of extreme weather conditions. As well as changes through the seasons, there are other cycles that can bring their own risks. The El Niño–Southern Oscillation (ENSO) is a cycle associated with periods of warming (El Niño) or cooling (La Niña) of the ocean surface (BoM 2021, BOM 2022). El Niño is characterised by reduced rainfall, warmer temperatures and a greater risk of bushfire. La Niña is associated with above-average rainfall, cooler daytime temperatures and a greater chance of tropical cyclones and flooding. Weather conditions leading to injury can occur under either phase of the ENSO cycle. However, on average, **bushfire injuries occur 1.6 times as often in El Niño years.**

Quick Facts In the 10 years to 2021-22, due to extreme weather conditions, there were:

9,119 hospitalisations and **677** deaths

Extreme heat accounted for **3 in 4** hospitalisations and **2 in 5** deaths on average

174 hospitalisations for bushfire-related injuries in 2019-20 – almost **3 times** as many hospitalisations than the previous year

2 bushfire related deaths in 2018-19 compared to **35** in 2019-20 – this is **17.5** times more compared to the previous year

Links to reports

[Injury Overview - Australian Institute of Health and Welfare \(aihw.gov.au\)](#)



Stronger evidence, better decisions, improved health and welfare