



# Fear factor – Will Extreme Weather Change The Way We Live?

*Just a couple of months into 2009 and extreme weather has dominated the news around Australia with devastating heatwaves and bushfires, floods, cyclones, snow and drought.*

The year began with ferocious storms battering South East Queensland on New Years Day, with strong winds, hail and flash flooding leaving thousands of homes and businesses without power or destroyed.

Tropical cyclone Charlotte hit northern Queensland in January, followed by Ellie in February and Hamish in March, while tropical cyclones Freddy and Dominic threatened Western Australia. In the wake of Ellie, two thirds of Queensland was declared a disaster zone with floodwaters covering a million square kilometres. New South Wales also experienced flash flooding in February, particularly in the state's north.

In the other extreme, many parts of the country remain in severe drought, particularly in the Murray Darling Basin which covers much of Eastern Australia. The Bureau of Meteorology recorded serious to severe rainfall deficiencies in southern and western Victoria into south-eastern South Australia, northern and eastern Tasmania, and in areas of central Australia

Record temperatures caused havoc around the country, particularly in Adelaide where residents experienced six days in a row over 40 degrees in January, while Melbourne saw temperatures top 46.4 degrees.

Unfortunately, the heatwave, mixed with Victoria's drought and hurricane-force winds, led to devastating bushfires which killed at least 210 people and destroyed more than 2000 properties, leaving thousands homeless.

Finally, in an unexpected turn of events snow fell in some parts of Victoria in early March, within days of the State being on high bushfire alert.

Scientists believe the extreme weather conditions are the direct result of global warming and predict worse to come. CSIRO climate scientists have predicted temperature increases of up to 1 degree in the south-east and around 2 degrees in Western Australia and the Northern Territory by 2020, leading to a 5% - 65% increase in extreme fire weather days. Stronger tropical cyclones have also been predicted, with more frequency in the north-east of the country.

Whatever the cause, the question remains - will the

changing weather conditions force us to change the way we live?

According to the Insurance Council of Australia, homes are being put at risk by outdated and inadequate building codes and if this doesn't change, Australia will continue to produce "brittle buildings" and Australians will find it increasingly difficult to obtain insurance protection.

After Cyclone Tracy destroyed much of Darwin in 1974, strict building codes were introduced for new constructions in cyclone-prone areas of Australia, but with the prediction of moving conditions, it can be argued that these codes should be mandatory throughout the country, rather than just in the existing threat zones.

In the wake of the bushfires, the Victorian Government has acted fast, announcing the adoption of the Australian Standard for Design and Construction of Buildings in Bushfire Prone Areas, effective March 11, 2009. The new standard will see every new home built in Victoria undergo a Bushfire Attack Level assessment to determine the method of construction, based on six categories from low to extreme risk. The new standard will add around \$22,000 to the cost of a new home, but it will see homes in risk areas built with non-combustible or fire-resistant materials, and roofs and wall joints must be sealed to protect them from burning embers. The standard will be adopted by all states and territories in May 2010.

The installation of bunkers is another way in which people have begun to protect themselves against such disaster, however with no regulations controlling the structures, there are concerns some of these shelters could be death traps. Reinforced concrete water tanks and shipping containers have been used to protect against fire, but the Institute of Architects has called for an urgent review and testing of products being sold as fire bunkers, warning against temperatures that could be generated inside the containers and the possibility of running out of oxygen.

The extreme weather and rising temperatures also have an increasing impact on the degradation of building materials, providing new challenges for designers and manufacturers, as well as building owners and managers.

In just a few months, extreme weather patterns have created considerable devastation around the country, but now, the best we can do is to learn from it and to hope it leads to positive changes in building regulations to suit the changing environment.