14 Natural and environmental factors

Natural and environmental factors are an unintentional cause of injury death (WHO 1977, WHO 1996). WHO classifies the cause of natural/environmental factors deaths by the circumstances causing the death. These causes include excess temperatures (i.e., very hot and very cold), natural events (e.g., mudslides, floods) and venomous plants/animals.

Natural and environmental factors death data from 1986 to 2002 were used to describe the demographic profile of natural/environmental factors deaths in NSW. Death data during 1998–2002 were used for the majority of the analyses, but trend analyses used death data from 1986 to 2002.

Natural/environmental factors were the twelfth leading cause of injury death from 1998–2002 and accounted for less than 1% of all injury deaths (see Table 2). During these years, 67 people died from natural/environmental factors, at an overall rate of 0.2 people/100,000 and approximately 66% were male. Approximately 18 people died each year from 1986 to 2002 as the result of natural/environmental factors.

Figure 26 shows the yearly trend in death rates for natural/environmental factors from 1986 to 2002. There was a statistically significant decline in the natural/environmental factors death rate showed a statistically significant decline overall between 1986 and 2002.

Figure 26. Yearly trend in death rates for natural/environmental factors: NSW, 1986–2002
Figure 27 shows the age-specific death rates for natural/environmental factors between 1998 and 2002. People aged 60+ years and especially those aged 80+ years had the highest rates of death due to natural/environmental factors. Natural/environmental factor deaths in people aged 80+ years accounted for nearly 24% of all natural/environmental factors between 1998 and 2002.

Table 25 shows the number of natural/environmental factors deaths and death rates by cause for all persons, males and females, during 1998–2002. *Excess temperatures* led to a natural/environmental factors death most often and accounted for 55% of all natural/environmental factors deaths. Males accounted for 68% of all natural/environmental factors deaths due to *excess temperatures*.

For males, *excess temperatures* were responsible for the majority of natural/environmental factors deaths and accounted for 57% of all male natural/environmental factors deaths. The rates for male natural/environmental factors deaths exceeded the corresponding rates for females for all causes in Table 25. The male natural/environmental factors death rate was also significantly higher for all natural/environmental factors deaths due to excess temperatures. The male death rate was more than twice the corresponding female death rate for natural/environmental factors due to *excess temperatures*.

*Excess temperatures* were also responsible for the majority of female natural/environmental factors deaths during 1998–2002, accounting for 52% of all female natural/environmental factors deaths.

Table 26 shows natural/environmental factors deaths by age group and cause in NSW for 1998–2002. *Excess temperatures* were the leading cause of natural/environmental factors death in people aged 25–54 years and people aged 65+ years. *Excess temperatures* were the only cause of natural/environmental factors death in children aged 1–4 years but accounted for only a small number of deaths. *Other and unspecified causes* were responsible for the majority of natural/environmental factors deaths in people aged 54–64 years. *Natural events* were the leading cause of natural/environmental factors death in people aged five to 24 years, but again accounted for only a small number of deaths.
No comparison can be made with previous results as natural/environmental deaths were not examined from 1995 to 1999 by Schmertmann and Williamson (2002).

**SUMMARY**

Natural/environmental factors accounted for approximately 18 deaths each year from 1986 to 2002. Analysis of the trend for natural/environmental factors death rates showed a statistically significant decline was present between 1986 and 2002. People aged 80+ years had the highest rates of death due to natural/environmental factors. No comparison can be made with previous results for age-specific death rates as data for Natural/environmental factors were not examined from 1995 to 1999 by Schmertmann and Williamson (2002).

*Excess temperatures* and *other and unspecified causes* led to a natural/environmental factors death most often. Excess temperatures were the leading cause of natural/environmental factors death in people aged 25–54 years and people aged 65+ years. *Other and unspecified causes* were responsible for the majority of natural/environmental factors deaths in people aged 54–64 years. *Natural events* were the leading cause of natural/environmental factors death in people aged five to 24 years, but accounted for only a small number of deaths.

Males accounted for 66% of all natural/environmental factors deaths in NSW during 1998–2002. They also accounted for 68% of all natural/environmental factors deaths due to excess temperatures and 54% of all natural/environmental factors deaths due to other and unspecified causes. Males had higher death rates for all subcategories of natural/environmental factors deaths compared to females.

These results indicate that natural/environmental factors account for only a small proportion of deaths each year. Future research could focus on the factors that make older people more susceptible to excess temperatures.
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<th>15–24</th>
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<th>35–44</th>
<th>45–54</th>
<th>55–64</th>
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<td>Natural events #</td>
<td>Natural events #</td>
<td>Excess temperatures #</td>
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<td>Excess temperatures #</td>
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<td>Natural events #</td>
<td>Natural events #</td>
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* Numbers represent the number of cases. † See Appendix 4 for natural/environmental factors cause codes. # Cell size less than five cases.