

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

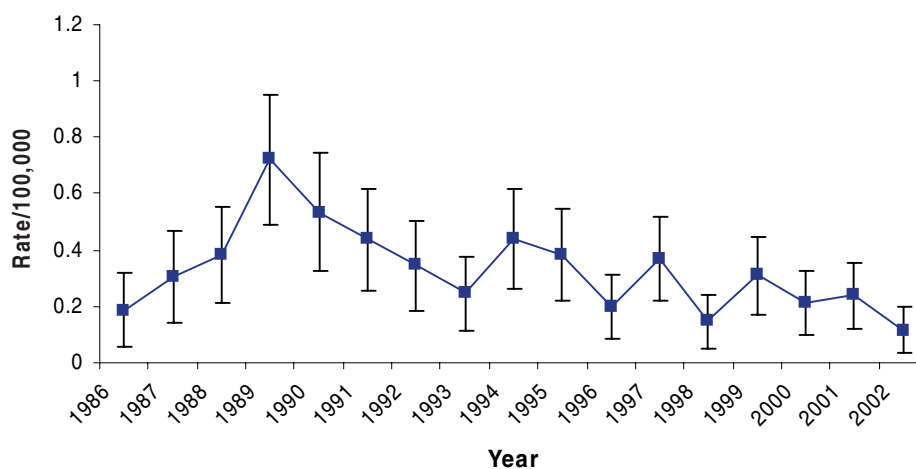


Figure 27 shows the age-specific death rates for natural/environmental factors between 1998 and 2002. People aged 60+ years and especially those aged 80+ years had the highest rates of death due to natural/environmental factors. Natural/environmental factor deaths in people aged 80+ years accounted for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

Figure 27. Age-specific death rates for natural/environmental factors: NSW, 1998–2002

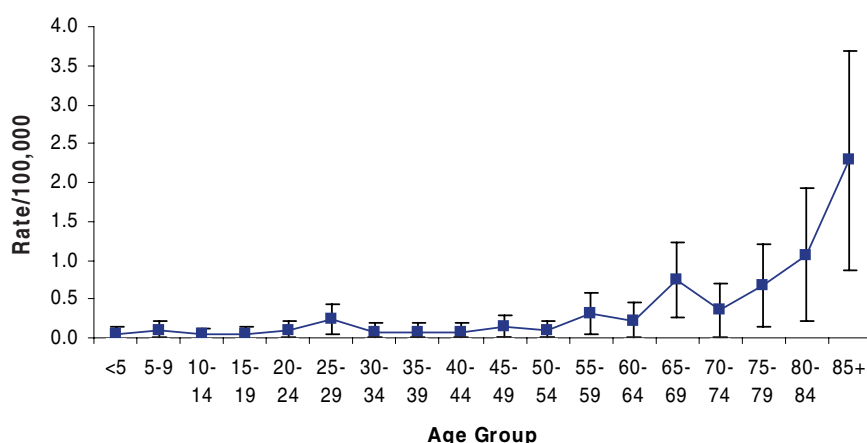


Table 25 shows the number of natural/environmental factors deaths and death rates by cause for all persons, males and females, during 1998–2002. *Excess temperatures* led to a natural/environmental factors death most often and accounted for 55% of all natural/environmental factors deaths. Males accounted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

Table 25. Number of natural/environmental factor deaths and death rates/100,000* by cause: NSW, 1998–2002

Cause	All persons		Males		Females		Ratio‡
	N	Rate†	N	Rate† (CI) ††	N	Rate† (CI)	
Excess temperatures	37	0.11	25	0.18 (0.11–0.25)	12	0.06 (0.03–0.10)	2.91
Other and unspecified	20	0.06	11**	0.07 (0.03–0.11)	11**	0.05 (0.02–0.09)	1.33
Natural events	10	0.03	8	0.05 (0.02–0.09)			–
All natural/environmental factors	67	0.20	44	0.30 (0.21–0.39)	23	0.13 (0.07–0.18)	2.36

* Death rates have been age-adjusted using the 2001 Australian census population. † Rate/100,000. ‡ Mortality ratio for male/female. **includes venomous plants/animals for males and females and natural events for females. †† 95% confidence interval

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.

Table 26. Natural and environmental factor deaths* by age group and cause†: NSW, 1998-2002

Rank	Age group										Total	
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+		
1		Excess temperatures #	Natural events #	Natural events #	Natural events #	Excess temperatures #	Excess temperatures #	Excess temperatures #	Other and unspecified #	Excess temperatures #	Excess temperatures #	Excess temperatures #
2			Other and unspecified #		Excess temperatures #	Natural events #	Natural events #	Natural events #	Excess temperatures #	Other and unspecified #	Other and unspecified #	Other and unspecified #
3					Venomous plants/animals #	Venomous plants/animals #	Venomous plants/animals #	Venomous plants/animals #	Natural events #	Venomous plants/animals #	Natural events #	Natural events #
4						Other and unspecified #	Other and unspecified #			Natural events #	Natural events #	Venomous plants/animals #

* Numbers represent the number of cases. † See Appendix 4 for natural/environmental factors cause codes. # Cell size less than five cases