

## **ASSESSING CLIMATE CHANGE AND HEALTH: THE EFFECT OF WIND, CHRISTCHURCH, NEW ZEALAND**

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**Background and Aims:** There is now widespread acceptance that human activities are causing climate change. In New Zealand a possible outcome of this will be a greater incidence of extreme heat events such as an increase in westerly windflow particularly hot, dry and turbulent wind colloquially known in New Zealand as the nor'wester. For epidemiologists, exposure to abnormally high ambient temperatures brought about through climatic conditions such as the nor'wester could potentially induce heat related conditions.

Few studies have specifically examined the link between climatic wind and heat-associated adverse health outcomes (morbidity) yet wind is undoubtedly an important environmental factor. The aim of this research was to retrospectively examine and identify the impacts of heat and wind on heat induced illnesses (e.g. cardiac, respiratory, renal disease, diabetes) on data collected from 1990 to 2010 in Christchurch, New Zealand.

**Methods:** The analysis was based on data collected for hospital admission and meteorological variables including temperature, wind speed and wind direction.

**Results:** Analysis of data revealed nine wind variables significantly related to heated induced illnesses. Further results will be presented to determine whether when compared with corresponding variables calculated over the 1990-2010 period, whether only the northerly wind on the day of admission has estimated associations with effect sign and size.

**Conclusions:** Research looking at relations between (natural) variation in meteorological variables, especially temperature and health effects has been extensive, encompassing several decades. Yet no material understanding the health risks from specific events such as climatic winds has been produced before in New Zealand. Knowledge of vulnerability allows an informed approach to the development and evaluation of strategies to lessen those health risks.