Human Health and Social Impacts Node
Climate change and allergy in New South Wales: vulnerability and adaptation

The proposed project will assess the impacts of climate change on allergies in New South Wales, including analysis of vulnerability and recommendations for adaptation. It will identify the key climate and related environmental factors, clinically important aeroallergens (pollen grains and fungal spores), evidence for observed and projected future impacts, and the status of related allergic diseases such as asthma and allergic rhinitis (hay fever).

The project considers not only the impacts of changes in average climate, but also changes in climate extremes and severe events, including a focus on thunderstorm asthma. Thunderstorm asthma has previously occurred in rural NSW, such as the well-documented severe event in Wagga Wagga in 1997. This component of the project will conduct a review of what is known regarding thunderstorm asthma, quantify the current status of the separate components of thunderstorm asthma events (e.g. rye grass cover extent and distribution in New South Wales; thunderstorm seasonality, frequency, and distribution) and examine the State’s vulnerability to future impacts of climate change with regard to thunderstorm asthma with recommendations for adaptation to reduce or avoid such impacts.

Close collaboration with partners in NSW Office of Environment and Heritage, NSW Health, and the Australian Bureau of Meteorology will ensure the project has a policy basis.
Research outcomes

- The first assessment of the impacts of climate change on outdoor aeroallergens (pollens and fungal spores) in New South Wales.
- Identification of aeroallergen’s current impacts on allergic respiratory diseases (e.g. allergic asthma and rhinitis) to provide a baseline against which to accurately assess future impacts of climate change.
- Vulnerability assessment of the New South Wales population to the impacts of climate change on allergens.
- Development of recommendations for adaptive measures that could reduce population vulnerability to these impacts.
- Identification of the health impacts and environmental factors associated with a past thunderstorm asthma event in Sydney to help inform whether climate change projected for New South Wales (e.g. increasing temperature and changes to the distribution of rainfall and storms) may change the risk of future thunderstorm asthma events.

Who will use this information?

- Government (e.g. NSW Office of Environment and Heritage, NSW Health, NSW Office of Emergency Management).
- Existing networks (e.g. Australasian Society of Clinical Immunology and Allergy (ASCIA), Asthma Australia).
- Other relevant government and community organisations.

Human Health and Social Impacts Node

Building on current sources of health and climate change information, the Human Health and Social Impacts Node supports the NSW Government by:

1. delivering robust, sector-specific information targeting the health system, vulnerable communities and government agencies
2. establishing baselines for monitoring, evaluation and analysis of adaptation programs that seek to protect and promote health, and strengthen the delivery of health services, in the face of a changing climate
3. improving understanding of vulnerability in the context of exposure, sensitivity and adaptive capacity
4. providing practical information on building resilience in communities and in the health sector.

The work program of the Node is informed by eco-social understandings of relationships between climate change and health. The approach taken acknowledges the range of environmental, social and economic consequences of climate change, including regional variation in impacts and vulnerability.

The Node is a partnership between:

- Office of Environment and Heritage
- University of Sydney
- NSW Health
- Edge Environment

More information

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