

Managing climate risks—solutions to your business needs

Walker Institute for Climate System Research

The risks to business from a changing climate

Climate change is not just a problem for the end of the century — it is a problem that we are experiencing here and now.

To date, business response and regulations have focussed on reducing greenhouse gas emissions. However, there is a growing realisation that the risks from weather and climate are changing and can have a direct effect on business. Extreme weather events, such

as floods, can affect assets and supply chains, while gradual shifts in climate, such as increasing water scarcity, can limit operations and increase costs.

Pro-actively assessing the risks and adapting your business to make it more resilient to climate, could prove not just cost effective, but could allow you to capitalize on market and reputational opportunities.

We can no longer rely on the past to predict the future

Many businesses, such as the insurance sector, for example, currently use historical event sets to predict climatic conditions in the future. However, this assumes that the climate of the future will closely resemble the climate of the past. With climate change, this is unlikely to be a sound working assumption. Observations show that there have been

changes in the mean climate and also in the frequency of some extreme events, such as heavy precipitation. Climate projections indicate that these trends are likely to continue in the future.

Businesses need to find new ways to assess their exposure and to adapt and manage climate risk.

Helping you manage climate risks

At the Walker Institute we are at the forefront of research to improve predictions of climate and its impacts.

How might rainfall and temperature change in the future? How are the risks from tropical storms changing? How is this affecting the built environment, food crops and water resources?

Our knowledge and expertise can help you gain the latest research insights into such questions.

We work in partnership with business to understand your needs and apply our expertise to maximize the benefits to your business.



"It is time to bring planning for climate change into the mainstream of business life."

Association of British Insurers.

"There's strong evidence from the recent IPCC extremes report that risks from heat waves and heavy rainfall are set to rise through the 21st century. Whatever your business, you can't manage the risks from climate effectively without factoring in the effect that people are having."

Professor Nigel Arnell, Walker Institute Director, November 2011

Climate information—meeting business needs

What are the time and spatial scales relevant for business to plan and make decisions when taking into account climate risks?

Information on time scales from one to ten years are probably more useful for many business applications than predictions of climate for the end of the century. Forecasting the climate over the next year to decade is a rapidly developing area of research at the Walker Institute.

Climate information on local and regional scales is what most industries require to be able to adapt their business. For example, there is a need for more details on extreme events, such as hurricanes or heavy precipitation.

The Walker Institute is working with the Met Office and the National Centre for Atmospheric Science to develop higher resolution climate models which can better simulate local details and extreme events.



Assessing impacts and consequences

We have some of the world's leading experts in weather and climate working with agricultural scientists, hydrologists, engineers, geographers and biologists.

The Walker Institute team is improving the understanding of climate and its implications for agriculture, biodiversity, water resources, and for our towns and cities.

Our approach links climate modelling with research to understand impacts across a range of sectors. Our unique research approach integrates knowledge across disciplines and gives you a unique portfolio of expertise and information.

Working with business—a need for dialogue

Communicating our latest research to business, government and the general public is a priority for the Walker Institute.

The most effective way of achieving understanding is by two-way communication and long-term relationships. We need to understand in greater detail the information needs of our customers and similarly, our customers need to understand the nature and limitations of the information that science can provide.

As an example of our contribution to this dialogue, the Walker Institute is a partner in the Willis Research Network. This network is a major initiative which unites leading academic institutions to tackle the key catastrophe risk issues that the insurance industry faces, particularly in a world of climate change and associated uncertainty.

Other partners in our portfolio include Deloitte and the Queensland Government.

Our research:

- **Understanding** climate
- **Improving predictions** of climate
- **Assessing the impacts** and consequences of climate for water, agriculture, cities and biodiversity

What does the Walker Institute do?

- **Research**
World-class research to understand and predict our changing climate and its impacts.
- **Advice**
Work with partners to inform policy and practice.
- **Training**
Provide state-of-the art training in integrated climate science.

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