

New climates for Melbourne, Sydney predicted

Environment National Date October 10, 2013 - 7:06AM

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World's climate changed by 2047: study

The climates of Australia's cities are changing faster than the world average according to a new study by the University of Hawaii.

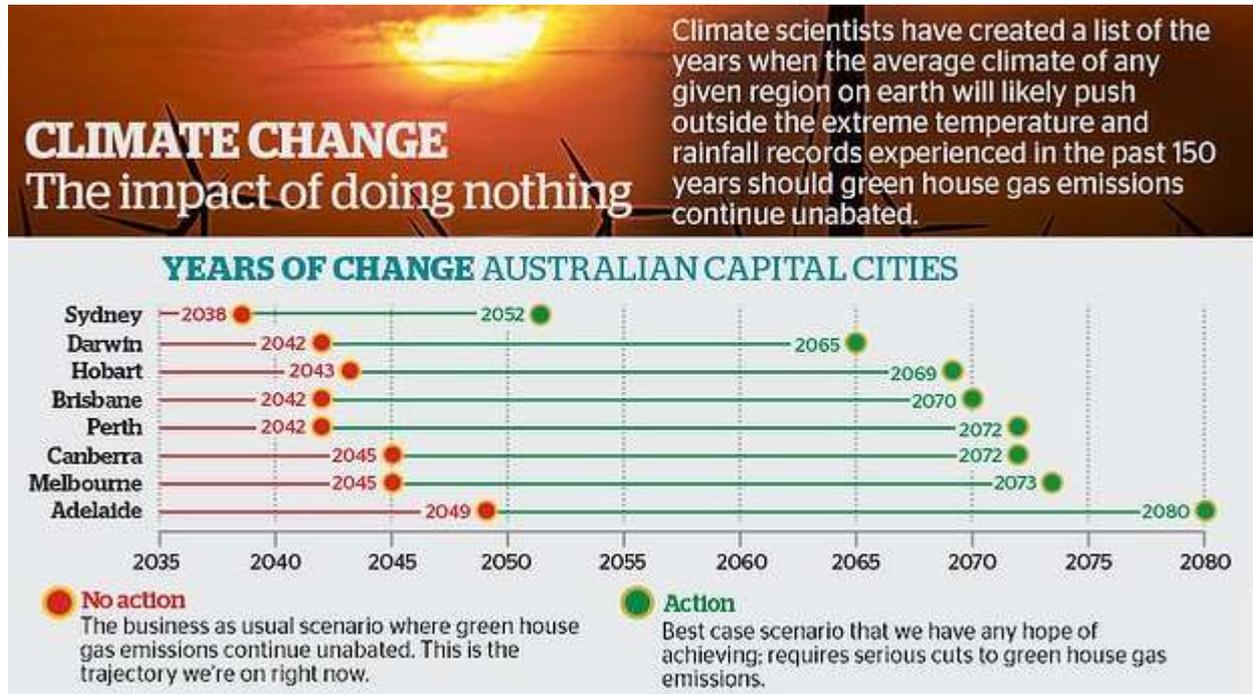
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Melbourne has just endured its hottest September on record. Sydney is predicted to set an October temperature record on Thursday.

But when do we stop talking about breaking [records](#) and admit we've got a radically different climate?

In Melbourne, a new study suggests, it will be 2045. In Sydney that time will come in 2038.



Climate change: the impact of doing nothing.

Climate scientists have created an index of the year when the average climate of any given region on earth will likely push outside the extreme [records](#) experienced in the past 150 years should greenhouse gas emissions continue unabated.

This means that regardless of the natural variation in the climate, the lowest monthly dips in temperature will still be hotter than the planet has experienced in the past century and a half.

And the heatwaves many countries have endured in recent years will be part of the new normal.

Research leader Camilo Mora, from the University of Hawaii, said while scientists had repeatedly warned about climate change and its likely effects on biodiversity and people, their study showed change was already upon us. "Within my generation, whatever climate we were used to will be a thing of the past," said Dr Mora.

The index, published in the journal *Nature*, found if emissions continued under a business as usual scenario, countries in the tropics would be the first to enter new climate territory, around 2038.

Parts of Indonesia would face such conditions by the end of the decade, while the average global temperature would depart from the climate variability of the last 150 years by 2047.

If emissions were stabilised in the coming decades the shift could be delayed until 2069.

The index projections, created from 39 global climate models from 12 countries, used the minimum and maximum temperatures between 1850 and 2005 to define the boundaries of historical variations in climate at any given location.

From climate projections of the next 100 years they calculated the year in which the average climate for a given location would shift outside the extremes of the past 150 years.

The shifts will have far-reaching effects on the environment and people, particularly food and water supply, the spread of infectious diseases and increase the incidence of heat stress, said the researchers.

Study co-author Ryan Longman said many of the first countries to be impacted had the least capacity to respond, but were, ironically, the countries least responsible for climate change in the first place.

Australian climate scientist Sarah Perkins, from the ARC Centre of Excellence for Climate System Science, said the study's results were in line with the latest global projections.

But she expressed reservations about the study's time frames, saying climate models were not designed to provide projections for such precise times and locations such as a year or a city.

Read more: <http://www.smh.com.au/environment/new-climates-for-melbourne-sydney-predicted-20131009-2v91j.html#ixzz2hGStQyl3>