

NATURE REFUGES AND CLIMATE

REEF CATCHMENTS
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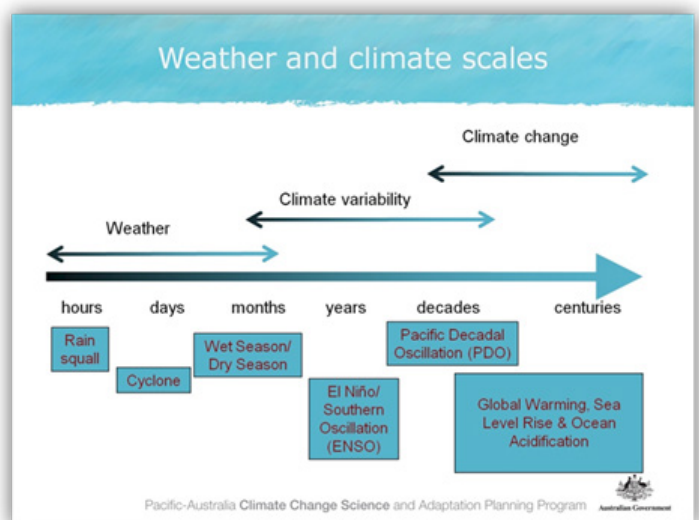
Nature refuges will become more important as temperatures continue to increase in the local region.

The world's climate is changing. The Intergovernmental Panel for Climate Change (IPCC) has stated that our natural systems are most vulnerable to the changing climate, while also impacted by other factors including weeds, pests and ongoing development. In Australia, pressure on our unique biodiversity is increasing and species under threat or facing extinction remain a key issue.

Nature refuges not only provide a refuge for wildlife but will also help in mitigation through carbon sequestration and adapting to a changing climate. Other services include improving infiltration of rainfall, erosion regulation and water quality improvement.

What is Climate Change?

Components of the Climate system occur on different timescales as shown by the diagram opposite.



Source: <http://www.pacificclimatefutures.net/en/help/climate-projections/understanding-climate-variability-and-change/>

For more information contact Reef Catchments
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Australian Government

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Climate variability is an expression of interactions between the ocean and atmosphere, and occurs from months to decades.

In contrast, weather reflects the state of the atmosphere at a particular time and place, and occurs on shorter timescales from hours to months. Weather terms include rain, sunshine and temperature.

Atmospheric and oceanic phenomena operating on varying time scales that influence climatic patterns in the local region include the Southern Annular Mode (SAM), El Nino Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), the Madden Julian Oscillation (MJO) and the Indian Ocean Dipole (IOD).

Climate change occurs over decades to centuries. Factors that contribute to climate change include:

- Changes in the Earth's orbit around the sun
- Changes in the sun that can affect the amount of solar radiation it produces
- Large volcanic eruptions that can produce large amounts of ash that stay in the atmosphere for long periods (and reflect solar radiation back into space)
- Changes in greenhouse gas concentrations in the atmosphere

Future Climate Change trends for the local region

- Sea level rise will continue
- Temperatures will continue to increase; including an increase in the number of hot days
- Intensity of wind speeds is expected to increase
- Annual rainfall is unlikely to change; however the intensity of extreme events is expected to increase

These ongoing trends will impact on the natural environment, local communities and the economy.

What is Australia doing about Climate Change?

The Emissions Reduction Fund is the centrepiece of the Australian Government's policy suite to reduce emissions. It will provide incentives across for emissions reduction activities across the Australian economy.

The Carbon Farming Initiative Amendment Bill 2014 was passed by the Senate on 31 October 2014 and the House of Representatives on 24 November 2014.

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