



# 1.5 Degrees:

## Small changes, big consequences



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### Climate change and temperature rise

There is now international scientific consensus that the modifications in the earth's processes will have a considerable effect on the global economy, quality of life and the natural environment. One of the key changes is the gradual rise in temperature. Scientists have prediction that under a low emissions scenario, global temperature will rise by 1.5 degrees by 2100<sup>1</sup>. This is equivalent to less than 0.015 degrees per year.

### What is so significant about 1.5 degrees?

1.5 degrees doesn't seem like a significant amount but the fact is that a small change in temperature can lead to big consequences for human development, health and well being. The Intergovernmental Panel on Climate Change (IPCC) state that with a 1.5 degree increase in temperature will result in major changes in ecosystem structure, composition and function, as well as interspecific interactions<sup>1</sup>.

### What does this mean for the Pacific?

Global cyclone activity has a strong correlation to the high sea surface temperature. The warmer temperatures fuel low pressure systems which the form cyclones.

The Pacific is already at great risk from cyclones and experience high numbers of cyclones every year. Over the past 40 years the number of cyclones has increased by about 75%<sup>1</sup>. Extreme weather events, such as cyclones, are one of the largest contributors to death and disease in Pacific Island nations. Cyclones lead to risk of flooding, decline in food availability and will ultimately result in climate change refugees.

At the moment, the emissions scenarios are well above the B1 low emission scenario and are expected to follow the worst case scenario, A1F1<sup>2</sup>. Without a drastic reduction in fossil fuel use and global behavioural change, the Pacific Islands nations will ultimately become uninhabitable.

IPCC 2007, *Climate Change 2007: Synthesis Report*, Fourth Assessment Report

Jerichow, R. 2009, *IPCC Chairman to politicians: Respond to worst-case scenario*, UN Climate Change conference.