

Abstract:

Climate Change: The Scientific Basis, Impacts and Adaptation

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Recent years have seen an explosion in the scientific literature on climate change. The Fourth Assessment of the Intergovernmental Panel on Climate Change, completed and published last year, assesses and summarizes significant findings from this literature.

This presentation will outline key policy-relevant findings from the Fourth Assessment, along with some of the research results which support these findings. Our discussion will include regional material, including some for the region including Malaysia. We will first cover findings from Working Group I, on the Physical Science Basis. This includes observations of climate variability and change to date, causes of change, and projections for the future. We will then consider results from Working Group 2 on impacts, adaptation and vulnerability, and from Working Group 3 about mitigation (reduction of greenhouse gas emissions and enhancement of sinks).

The presentation will conclude with discussion of greenhouse gas emissions pathways projected to lead to long-term stabilisation at various amounts of temperature increase. Considering such stabilization pathways, together with the Working Group 2 information on vulnerability of systems to various levels of temperature increase, provides a framework for developing policy targets for greenhouse gas emission reductions.

Biodata:**Dr David Wratt**

Dr Wratt is Chief Scientist (Climate) with the National Institute of Water and Atmospheric Research (NIWA) in Wellington, New Zealand. He coordinates NIWA's research and services related to climate and climate change. He is also Director of the New Zealand Climate Change Centre, which was recently established by several New Zealand Research Institutes and Universities, and Chair of the Royal Society of New Zealand's Climate Committee. Dr Wratt is a Vice Chair of Working Group I of the Intergovernmental Panel on Climate Change. He holds this position as one of the three representatives on the IPCC Bureau from the SW Pacific region (which includes Malaysia).

Dr Wratt participated in the planning and preparation of the IPCC's Fourth Assessment Report, as a WG1 Bureau member and chapter Review Editor. For the previous (Third) IPCC Assessment he was a Coordinating Lead Author of the Australia and New Zealand Chapter of the Working Group II volume (impacts, vulnerability and adaptation). He graduated in ionospheric physics, and then worked on air quality meteorology, mountain meteorology, and applied climatology. Recent collaborative work in New Zealand includes mapping present climate and soil characteristics as a guide to sustainable land use, preparing regional climate change projections and scenarios through model downscaling, research on implications of climate change for agriculture and urban infrastructure, and preparing guidance for local government on identifying likely climate change impacts and adapting to them.