



Methane concentrations at Baring Head (1989–2013)

Title

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Description

Greenhouse gases (GHGS) in the atmosphere absorb heat radiating from Earth, warming the atmosphere. Emissions from human activities increase the concentrations of these gases. Increases in these gases increase ocean acidity and are extremely likely to contribute to increased global temperatures, sea levels, and glacier melt. Monitoring GHG concentrations allows us to infer long-term impacts on ocean acidity, temperature, sea level, and glaciers. Greenhouse gases are generally well mixed around the globe. We use 'clean air' observations from Baring Head, near Wellington, to estimate global concentrations of the greenhouse gases – carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and carbon monoxide (CO). These observations are made only when the air's trajectory is from the south and away from any likely local sources of gas emissions. This gives an estimate representative of the concentrations over the Southern Ocean. The observations tell us how the global atmosphere responds to increasing emissions of greenhouse gases, and are an internationally representative measure of global concentrations. However, the Southern Hemisphere has slightly less greenhouse gas concentrations than the Northern Hemisphere, as well as a smaller seasonal variation. Further information can be found in: Mikaloff Fletcher, SE, & Nichol, S (2014) Measurements of Trace Gases in Well-mixed Air at Baring Head: Trends in carbon dioxide, methane, nitrous oxide and carbon monoxide. Prepared for Ministry for the Environment. Available at <https://data.mfe.govt.nz/x/cZzREp> on the Ministry for the Environment dataservice (<https://data.mfe.govt.nz/>). Trend results can be found in the excel file "Greenhouse gas concentrations trend statistics" at <https://data.mfe.govt.nz/x/H776gZ>. This dataset relates to the "Greenhouse gas concentrations" measure on the Environmental Indicators, Te taiao Aotearoa website.

Source

National Institute for Water and Atmospheric Research

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Coverage

1989–2013; Baring Head

Identifier

<https://data.mfe.govt.nz/table/52570-methane-concentrations-at-baring-head-19892013/>

Type

Dataset

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New Zealand English

Subject

greenhouse gases, climate change