



29 January 2024

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Dear 9(2)a

Thank you for your email of 9 December 2023 requesting further information on climate change science under the Official Information Act 1982 (the Act).

I have provided responses to your questions as outlined below.

...what independent research does MFE do to substantiate the reports for quote, "as acceptable? Who in NZ has done a "peer review" of the IPCC Sixth Assessment Report?

It is not the role of the Ministry for the Environment (the Ministry) to refute or advocate scientific papers. The Ministry accepts the knowledge of the global scientific consensus on climate change summarised by the International Panel on Climate Change (IPCC) and uses this knowledge to inform policy decision making.

The IPCC prepares reports that aim for the highest standards of scientific excellence, balance, and clarity. The IPCC review process is described in sections 4.2, 4.3.4, 4.4 and 4.6 of 'Appendix A to the Principles Governing IPCC Work: Procedures for the Preparation, Review, Acceptance, Adoption, Approval and Publication of IPCC Reports':
ipcc.ch/site/assets/uploads/2018/09/ipcc-principles-appendix-a-final.pdf.

The review process is also outlined in this factsheet:
ipcc.ch/site/assets/uploads/2018/02/FS_review_process.pdf

For the IPCC Sixth Assessment Report Cycle, hundreds of scientists and researchers from around the globe participate in the IPCC working groups as lead authors, contributing authors, and expert reviewers who review thousands of these papers. A number of these experts are from New Zealand, who directly contributed to the IPCC Sixth Assessment Report. An online tool to access the full list of authors is available at:
<https://apps.ipcc.ch/report/authors/>.

You say that "emissions from human activities are impacting the carbon cycle". Please state the 'human activities' as separate from non-human activities. Please also define the 'carbon cycle'.

A comprehensive explanation of human influence and activities can be found within the IPCC's Sixth Assessment Report on the Physical Basis of Climate Change Chapter 03 - Human Influence on the Climate System: ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter03.pdf

Another explanation of human activities can be found within the IPCC's Sixth Assessment Report on the Physical Basis of Climate Change Technical Summary, TS.1.2.4 - Understanding of Human Influence: [ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf)

A definition of the carbon cycle can also be found within the IPCC's Sixth Assessment Report on the Physical Basis of Climate Change Technical Summary, T.S.2.2 and Box TS.5 - The Carbon Cycle: [ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf)

Your claim that "current CO2 concentrations (117 ppm) have not been experienced for at least 2 millions years" is clearly not correct. Please note the black line on this graph shows concentrations form 7000 ppm down to the current levels. Why did the world survive and life adapt?

Regarding CO2 concentrations, there is high confidence that current concentrations have not been experienced for at least **2 million years** and several references can be found within the IPCC's Sixth Assessment Report on the Physical Basis of Climate Change Technical Summary. See TS.1 – A Changing Climate: [ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf)

You claim that (weather) "extremes do occur naturally" and are "the result of a complex mix of human and natural factors". I accept that weather changes are natural events. However your explanation does not confirm how humans are having an influence to the 'mix'. I refer you to the IPCC RCP2.6 pathway modeling scenario. Please confirm that MFE has accepted this scenario?

The IPCC published its Fifth Assessment Report (AR5) introduced a range of emission trajectories over the next century called representative concentration pathways (RCPs). These RCPs (including RCP2.6) were based on greenhouse gas emissions, aerosol emissions and changes in land-use patterns over time.

In New Zealand's first National Climate Change Risk Assessment, two RCPs were considered: RCP8.5 (a high concentration pathway) and RCP4.5 (a moderate concentration pathway). Please refer to this report here, specially Box 1 on page 23: environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-main-report.pdf

The more recent IPCC Sixth Assessment Report (AR6) uses Shared Socio-economic Pathways (SSPs) instead of RCPs. The Ministry's guidance provides information on Aotearoa New Zealand climate change projections, including the differences between AR5 and AR6 whereby SSP scenarios further refine the previous greenhouse gas concentration scenarios known as RCPs, see section 1.2 of the guidance: environment.govt.nz/publications/aotearoa-new-zealand-climate-change-projections-guidance/

More information on deciding which emissions scenario to use can be found in Aotearoa New Zealand's first national adaptation plan which recommends the middle-of-the-road emissions scenario (SSP2-4.5, RCP4.5): environment.govt.nz/assets/publications/climate-change/MFE-AoG-20664-GF-National-Adaptation-Plan-2022-WEB.pdf

You state that "climate change increases the intensity of weather extremes ". Surely the weather and the climate are the same? Both being natural events that occur on a continuous basis.

The National Institute of Water and Atmospheric Research (NIWA) provide a general explanation of the difference between 'weather' and 'climate' which can be accessed here: niwa.co.nz/climate/faq/whats-the-difference-between-weather-and-climate

For a more comprehensive understanding of the difference, please refer to the IPCC's Third Assessment Report on the Physical Basis of Climate Change Chapter 01 – The Climate System: an Overview: ipcc.ch/site/assets/uploads/2018/03/TAR-01.pdf

The frequently asked questions report for the IPCC's Fourth Assessment Report on the Physical Basis of Climate Change, may also be useful: ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-faqs-1.pdf

You say that "human influence is likely the main driver of global" retreat of glaciers since the 1990s. Then you add, that based on a IPCC finding, atmospheric warming is "very likely" the primary driver of global glacial recession.

MFE would also be wise to check the work of the International World Climate Declaration, that includes Dr Barry Brill as one of the ambassadors, living here in New Zealand.

A comprehensive explanation of glacial recession can be found within the IPCC's Sixth Assessment Report on the Physical Basis of Climate Change Chapter 09 - Ocean, Cryosphere and Sea Level Change, specifically section 9.5 - Glaciers, Permafrost and Seasonal Snow Cover: ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter09.pdf

Additionally, the Aotearoa New Zealand climate change projections outlines projections of glacier regression from the IPCC AR6 WG1 in a New Zealand specific context. See section 2.7: environment.govt.nz/publications/aotearoa-new-zealand-climate-change-projections-guidance/

You say the NZ Government "is approaching climate change using a scientific lens". Why has MFE not had the IPCC reports checked? Please also explain, what is a 'scientific lens'?

Using a scientific lens means that the Ministry for the Environment will continue to follow the latest science and show global leadership on what needs to be done to ensure a flourishing environment for future generations. Science is a critical foundation for the Ministry's work, it helps us understand where we are now, why, and what we can do about it. For more information you can refer to our science strategy: environment.govt.nz/assets/Publications/Files/our-science-strategy.pdf

Why has MFE not used the expertise of the 25 climate scientists available here in New Zealand, that have signed the World Climate Declaration... when will MFE and the Government make contact with this group and ask them to provide information to help make the correct decisions about emissions.

As mentioned above, the Ministry accepts the knowledge of the global scientific consensus on climate change summarised by the International Panel on Climate Change (IPCC) and uses this knowledge to inform policy decision making.

You have the right to seek an investigation and review by the Office of the Ombudsman relating to this request, in accordance with section 28(3) of the Act. The relevant details can be found on their website at: www.ombudsman.parliament.nz.

Please note that due to the public interest in our work the Ministry for the Environment publishes responses to requests for official information on our [OIA responses page](#) shortly after the response has been sent. If you have any queries about this, please feel free to contact our Ministerial Services team: ministerials@mfe.govt.nz.

Yours sincerely



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