

Climate Yarn

Djarra Delaney

*I pay respects to Elders past and present and thank them for their guidance.
Sovereignty was never ceded.*

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About me

- Moved to Melbourne in 2014 for a graduate position at the Bureau of Meteorology.
- Began working in the communications and community engagement area at the Bureau.
- Worked on updating the Indigenous Weather Knowledge website.
- Worked with a few interested communities about hosting their seasonal calendars online.

Indigenous Weather Knowledge

Select a community to view their seasonal calendar



Aboriginal and Torres Strait Islander people have developed an intricate

Karuna Seasonal Calendar

- Predominantly built around the four prevailing winds
- Includes in the centre the primary indicators which include astronomical indicators
- The pictures represent the changes to community behaviours from living on the coast through summer to moving to the hills in the cold winters.



Masig Seasonal Calendar

- Also built around the prevailing winds, the two main being Sagerr (South-Easterly) and Kuki (North-Westerly)
- Much more in line with the monsoon and tropics.
- Includes a significant amount of 'bioindicators', plants and animals' availability and abundance which signal the start of seasons.





“Every Tribe in Australia has a resident Rainbow Serpent in their country that is responsible for them. When laws/lores are broken, Rainbow Serpents gather in the Sky Country and debate about the people of different tribes breaking the law/lore. Rainbow Serpents argue and fight, whipping their tails at each other, cracking and making Lightning that strikes the ground creating fire.

Rainbow Serpents depicted in the centre. Three concentric circles represent the three Tribes that live on Minjerribah—Ngugi, Nunakal and Gorenpul. Footprints represent Joint Management between QYAC Indigenous Rangers and QPWS colleagues working together, Treading Lightly on Country, looking after Country. Lightning throughout the painting is a Female Spirit of the Sky World known as BILLABIRA, which translates as Spear from Sky. Red semi-circle design represents the sand dunes that run south-east to north-west created by Mirragin, the South East Wind Spirit.”

Joshua Walker - 2020

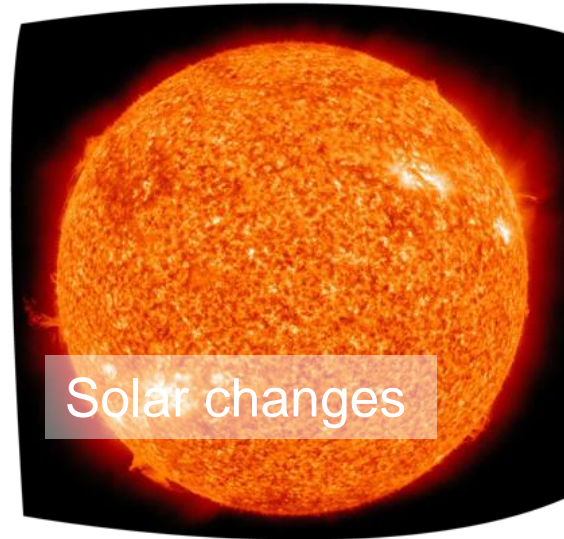
“At times, non-human members of this family have lessons to teach their human relations and at other times, humans must take an active role in enacting the lessons we have learned to provide assistance to non-humans. The reciprocal nature of such stewardship, care-taking and guardianship provides for a system connecting the members of this interrelated web where one member is not allowed to dominate, and where everyone—humans in particular—have lessons to learn and attitudes to enact regarding their responsibilities to listen and observe their relatives’ interactions.”

– **Whyte et al 2016**

The climate changes



Changes in
Earth's orbit



Solar changes

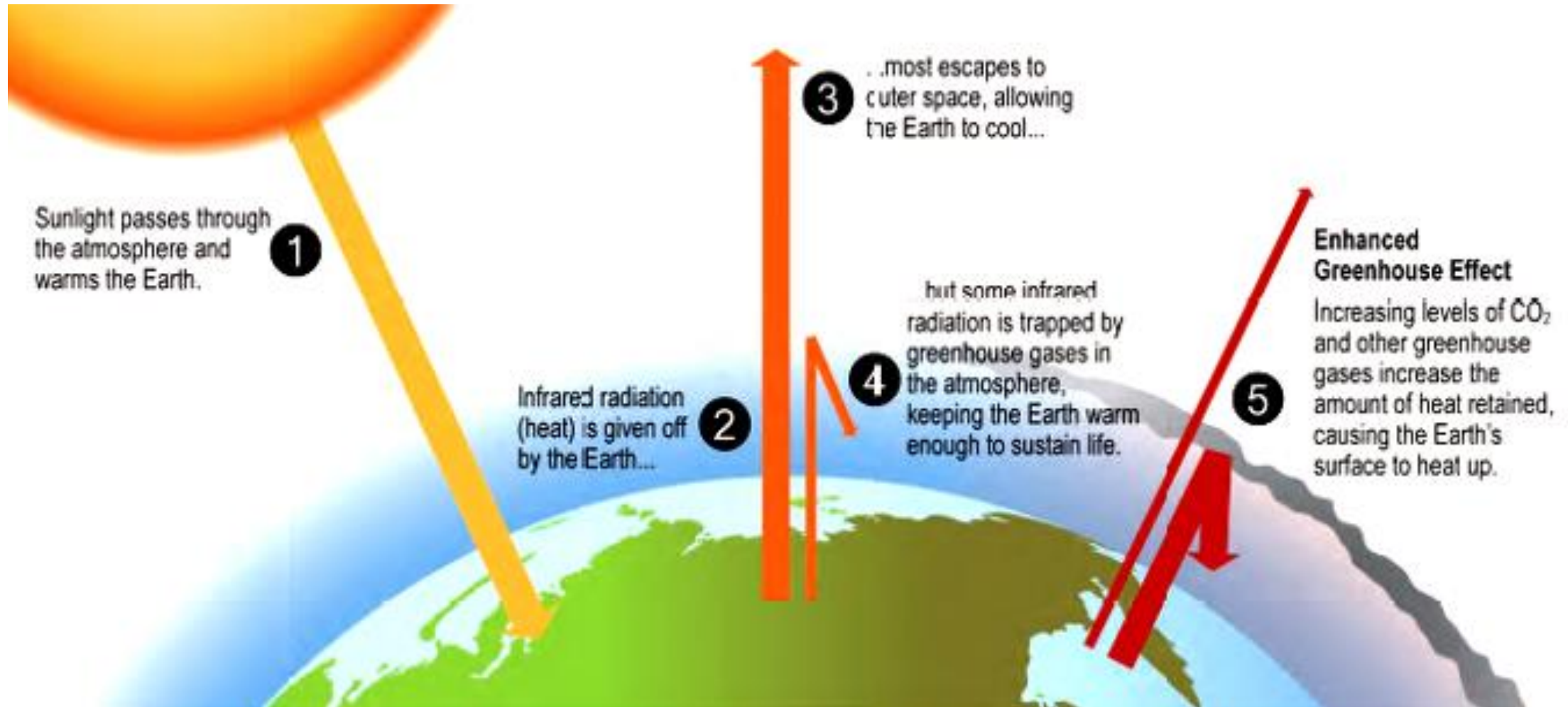


Changes in
greenhouse gases

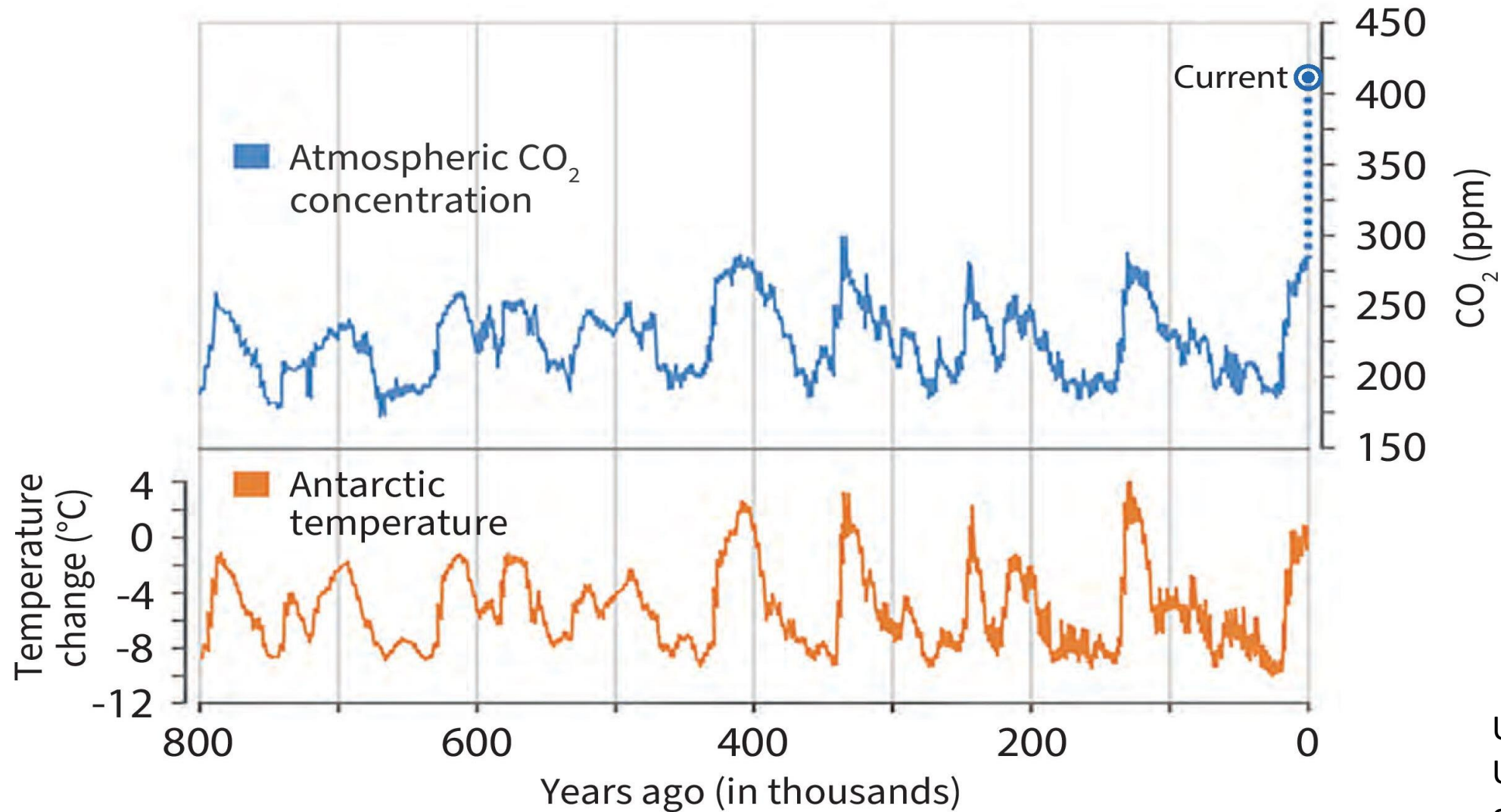


Volcanic eruptions

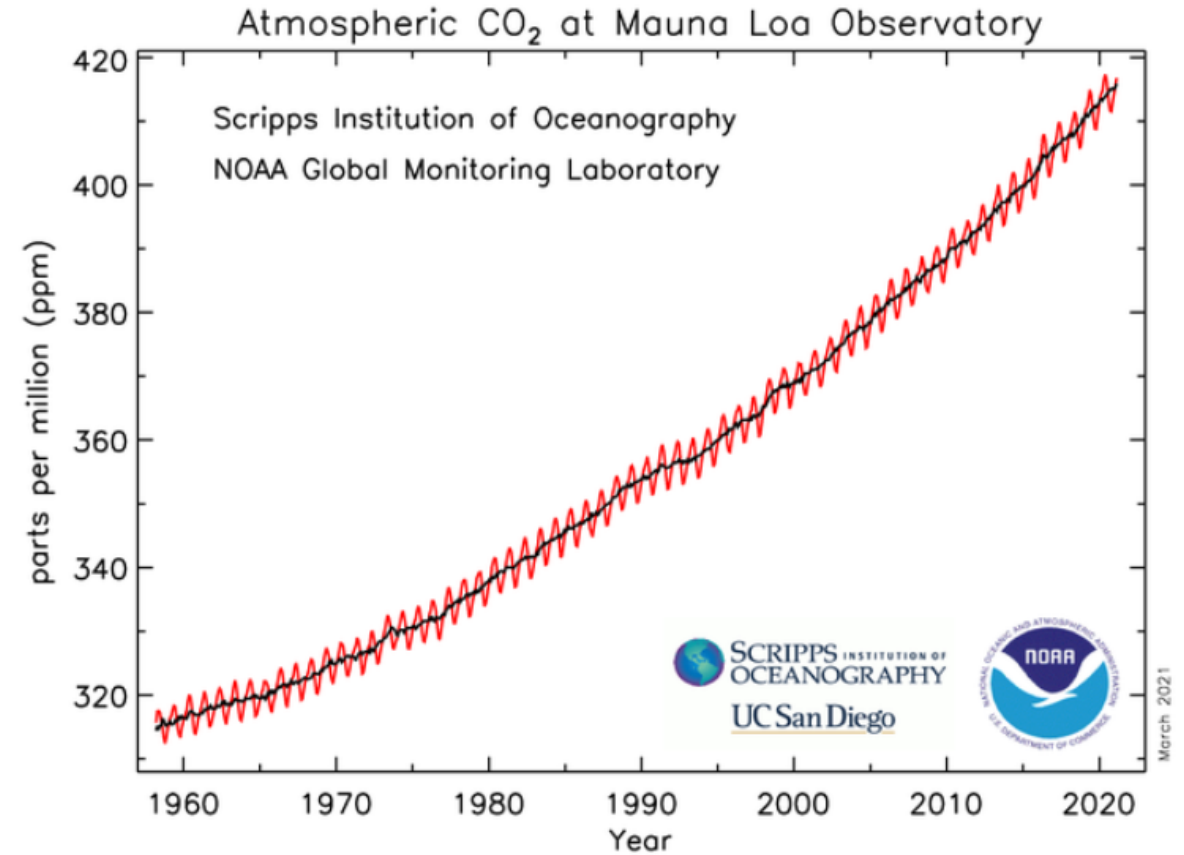
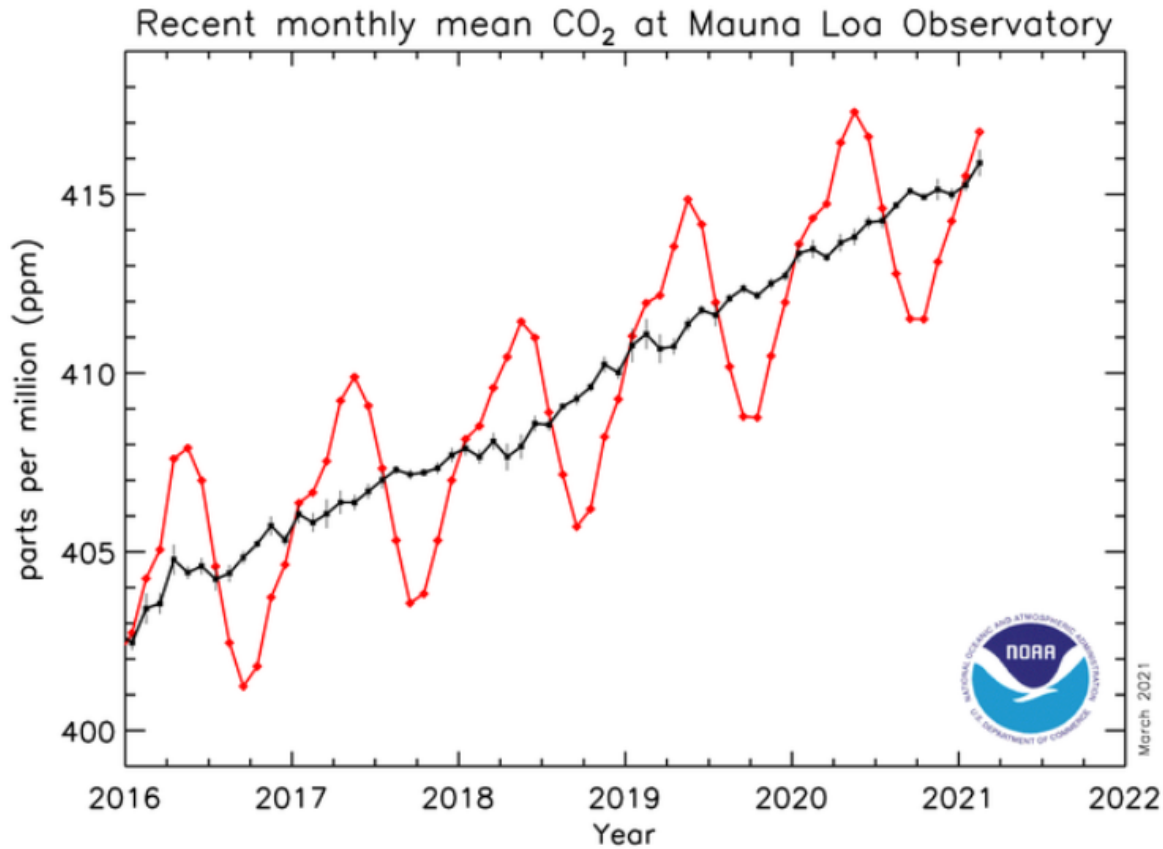
The greenhouse effect



Long-term Observations

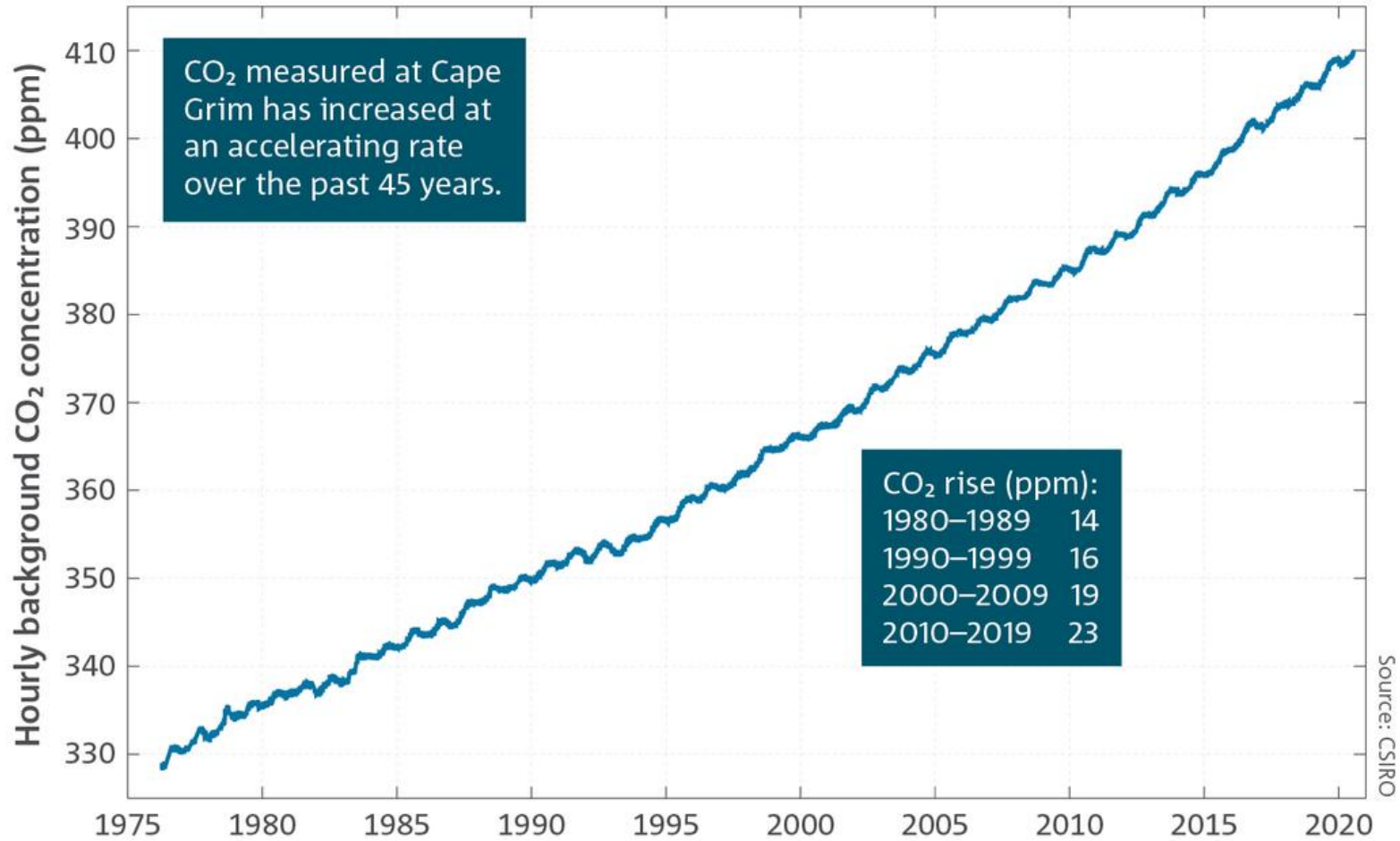


Current Observations: Mauna Loa

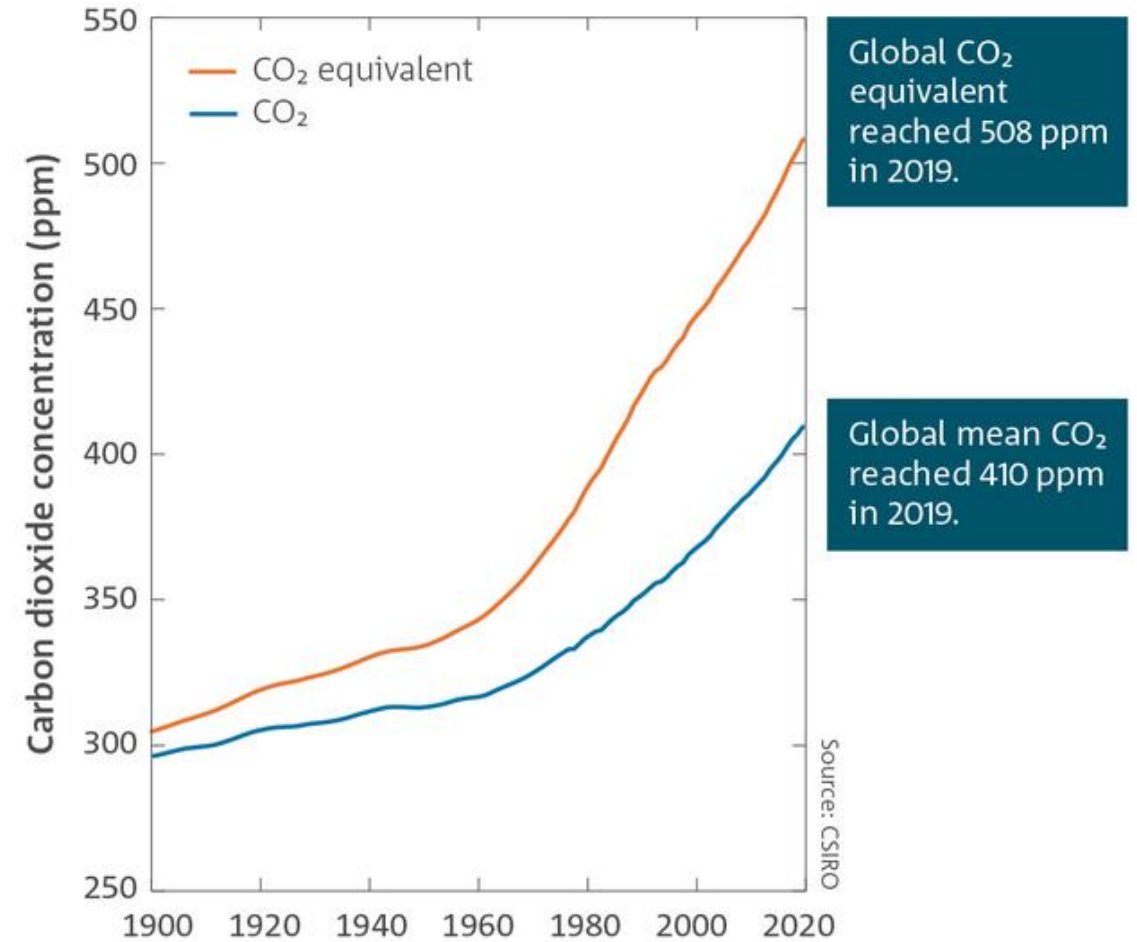
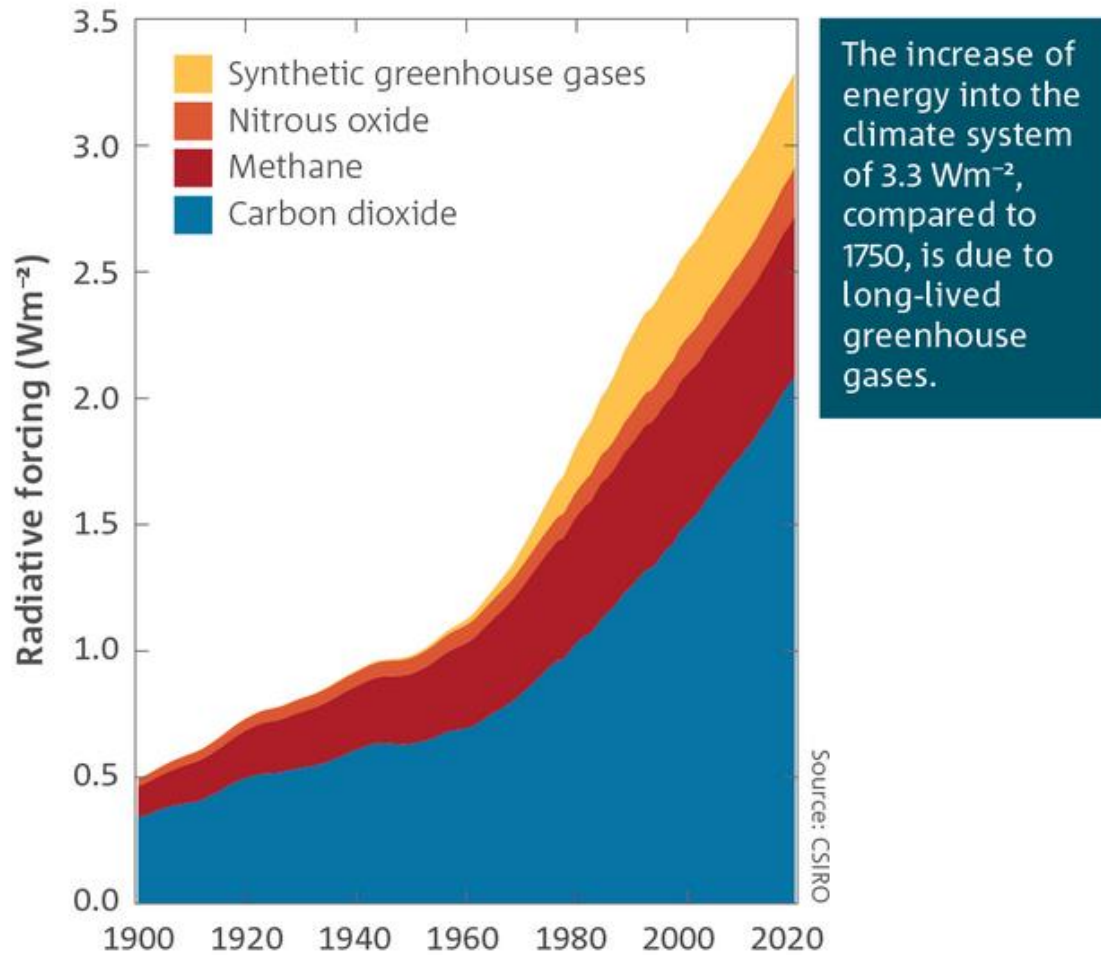


* Similar increases seen in CH₄ (Methane) and N₂O (Nitrous Oxide)

Current Observations: Cape Grim



Measuring CO2 Equivalent



Sources



What does this mean for us?

- Sea level rise and erosion
- Changes to rainfall
- Heatwaves
- Increased intensity of storms
- Changes to plant and animal systems
- Increased risk of bushfires over hotter months

What is 'adaptation'?

- Adaptation is a process of adjusting to the impacts of climate change.
- It occurs at different scales; national through to personal.
- There are different areas of potential 'adjustment':
 - Behavioral (Personal)
 - Physical (Environment)
 - Community (Social and Culture)
- It is an issue that is highly 'intersectional', a lot of issues compound to make adapting easier or harder.

Vulnerability

- Vulnerability is the intersection of social, cultural and physical circumstances.
 - Poorer community groups living in more impact prone areas
 - Indigenous peoples forcibly moved to less hospitable locations
 - Marginalised populations having poorer overall health and economic outcomes
- All this leads to less potential to respond to impacts... but;
- I also consider vulnerability to be an inability to change or make necessary systemic changes to better address climate impacts.



Main Beach, Minjerribah



Mothers Well Nursery, Masig
Island

Indigenous Resilience

- Often-times described in relation to our knowledges.
- Localised, doesn't recognise our traditional networks.
- But Indigenous people are expert adapters from an Indigenous lens!
 - Experience with climate extremes
 - We are still here despite the a most profound environmental catastrophe... colonisation.
 - Our epistemologies (ways of knowing) and our ontologies (ways of being) with our Country is special, there is deep and resilient knowledge held by our Elders, passed from our ancestors.



One Mile Foreshore,
Minjerribah

How can we adapt?

- Adaptation has always and will always occur at the local level
- Larger adaptation initiatives are predominantly top-down
- Lack of trust in community decision making capacity and knowledge
- Effective adaptation will require community knowledge and expertise to be supported by external expertise.
- Ultimately system change will be a requirement for successful long-term adaptation.
- This is sometimes referred to as 'transformation'.



Masig Island



Self-determination in adaptation matters

“The land is the mother, and we are of the land; we do not own the land rather the land owns us. The land is our food, our culture, our spirit and our identity.”

Dennis Foley for [Common Ground](#)

Tidal River, Wilsons Promontory

My research

- I am investigating experiences of climate change in Indigenous communities and aspirations for the future
- I have so far done field work on Masig (Yorke) Island in the Torres Strait learning about the climate impacts faced by the Masigalgal people.
- They are struggling with the amount of erosion occurring on the southern side of the Island and sacred sites, grave sites and homes are at risk. The community is very small and trying to manage climate change is a struggle.
- On Masig, I yarned with approximately a dozen community members in depth about the impacts of climate change on Masig Island. These interviews went from one hour to over two hours.







- Spoke with Elders, Rangers and other community members about how the environment has changed over time, what the concerns are regarding climate change and what the priorities might be for the future.
- Ultimately my PhD research project is looking to challenge current ways of researching climate change in Indigenous communities.
- This allows space for the discussion of different types of challenges; environment, social and cultural, that may be impacted by climate change.
- All data will be provided back to community to ensure that it can inform projects on Country.
- Copies of the completed thesis and any published work will be sent to community organisations to hold, and additional can be provided to participants.



Thank You

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