

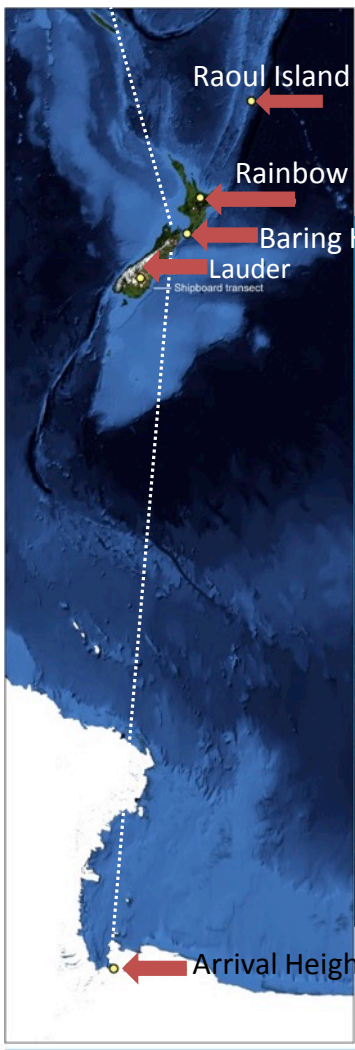
Carbon Monoxide Concentration and Isotope Measurements in New Zealand.



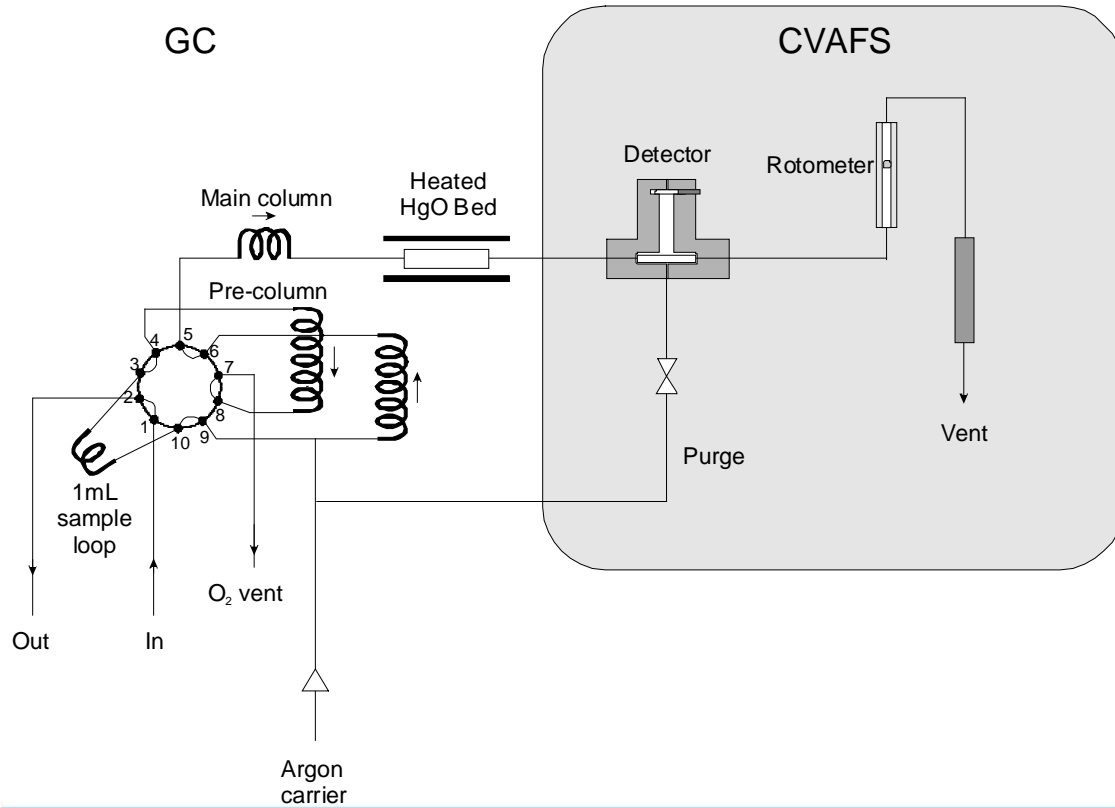
Rowena Moss, Gordon Brailsford, Martin Manning and Hinrich Schaefer.
National Institute of Water and Atmospheric Research.



Baring Head: 41.41°S, 174.87°W

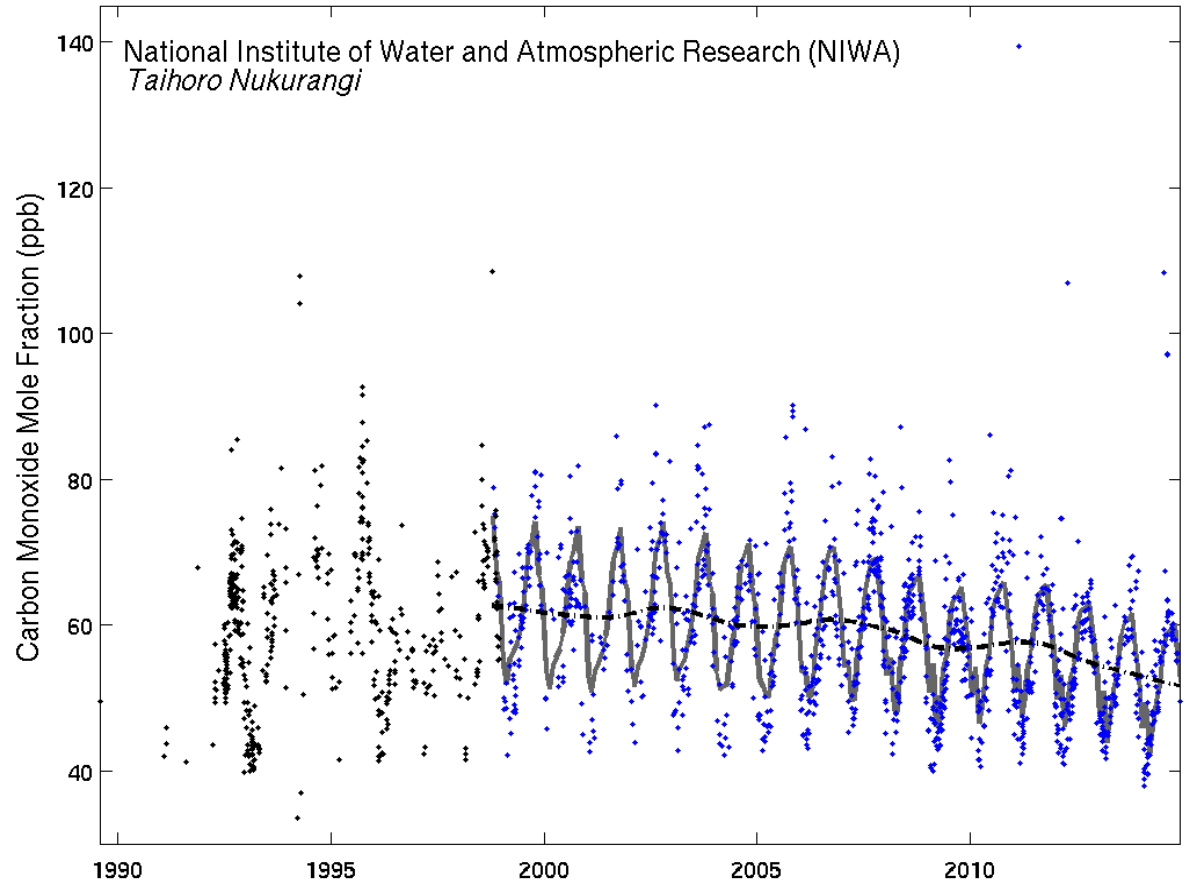


GC-CVAFS



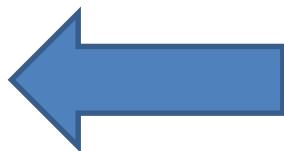
Atmospheric Carbon Monoxide at Baring Head

- Seasonal maximum in September (austral spring)
- Seasonal minimum in February (austral summer)
- Seasonal Amplitude decrease from 40ppb to 30ppb

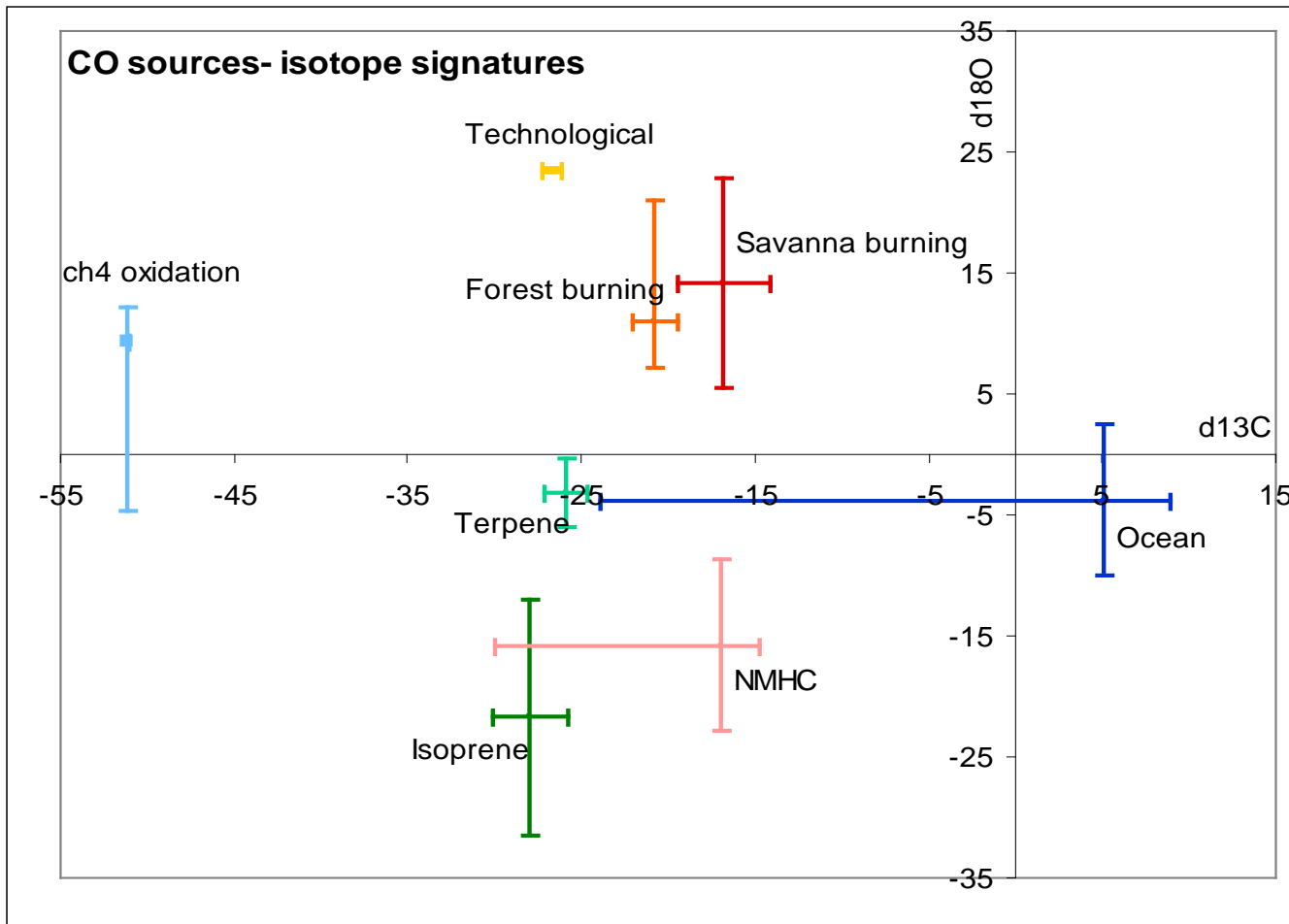




CO₂

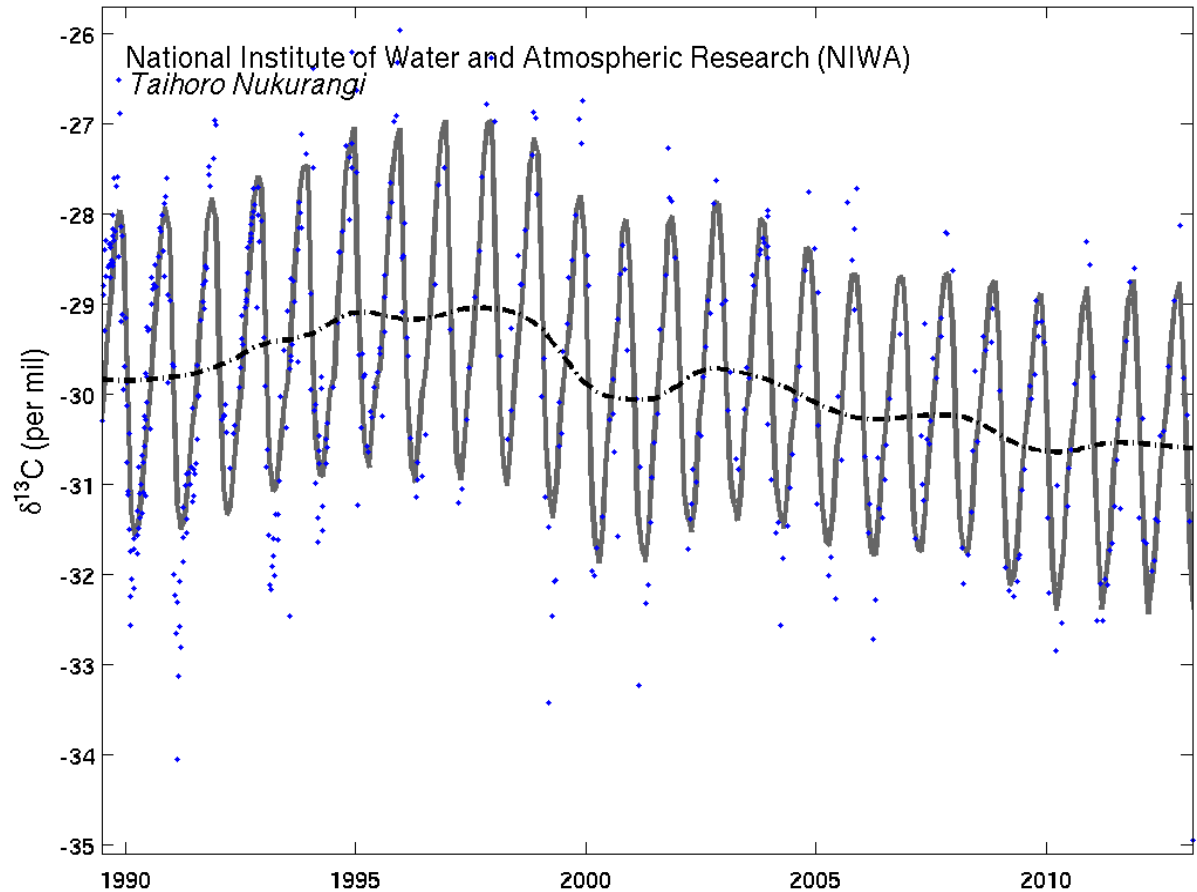


CO



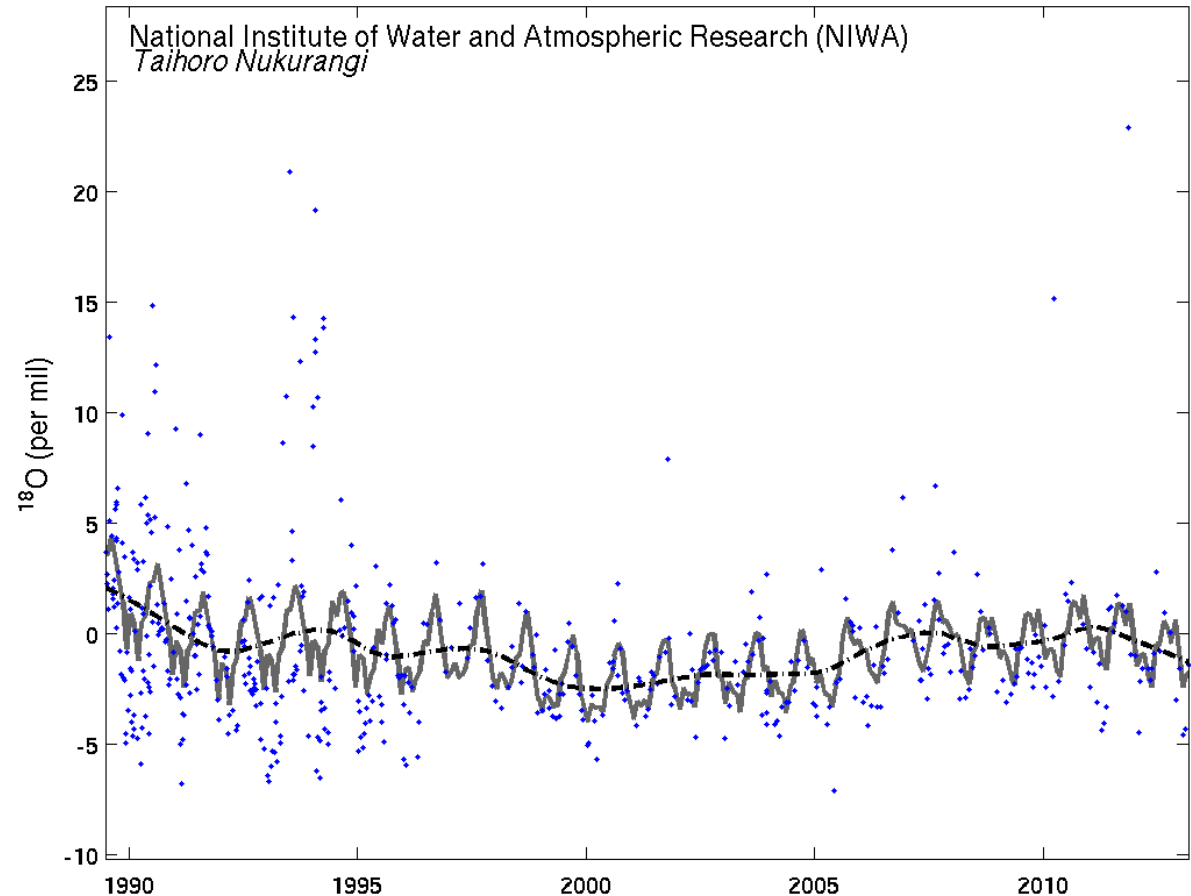
$^{13}\text{C}/^{12}\text{C}$ Isotopic Ratio in Carbon Monoxide ($\delta^{13}\text{C}$) at Baring Head

- Seasonal maximum in March
- Seasonal minimum in late November
- Seasonal Amplitude decrease from 6‰ to 4.5 ‰

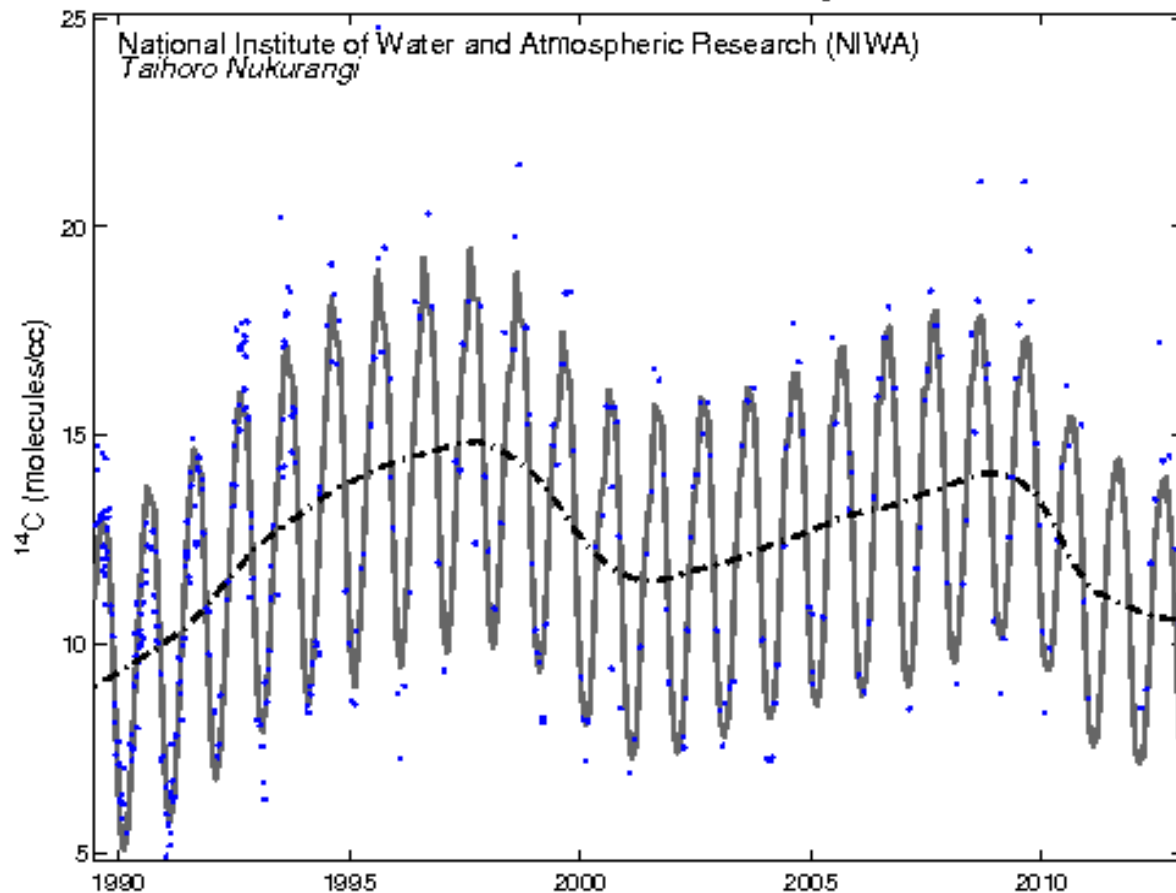


$^{18}\text{O}/^{16}\text{O}$ Isotopic Ratio in Carbon Monoxide ($\delta^{18}\text{O}$) at Baring Head

- Seasonal maximum in March
- Seasonal minimum in September
- Seasonal Amplitude decrease from 8‰ to 5 ‰



^{14}C in Carbon Monoxide at Baring Head



- Seasonal maximum in September
- Seasonal minimum in March

Summary

- Observed decrease in CO concentrations in the Southern Hemisphere
- Changes in sources such as savanna and forest burning and CH₄ oxidation can be observed in $\delta^{13}\text{CO}$
- ¹⁴CO can be used to infer variations in OH



NIWA TROPAC team



Mike Harvey



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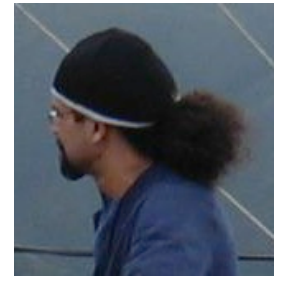
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Sara Mikaloff- Fletcher



Peter Sperlich



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John McGregor



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