Seasonal variability in a warming climate: Lessons from the Pliocene Warm Period and beyond

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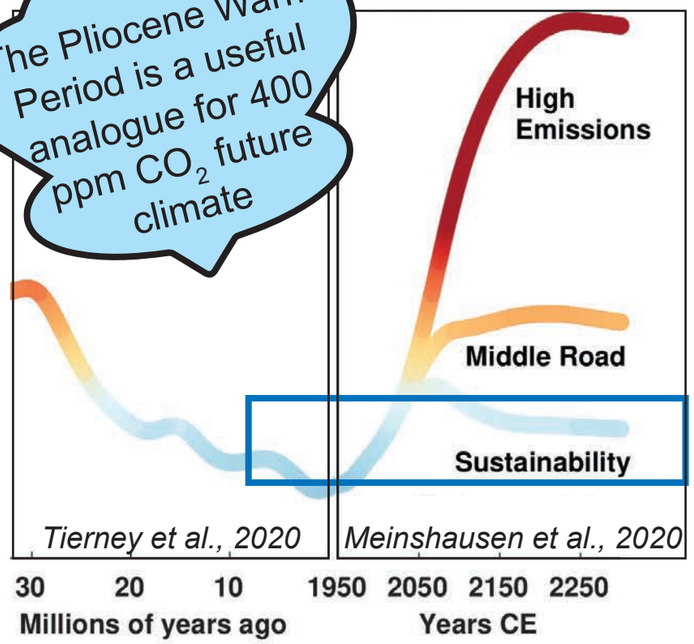
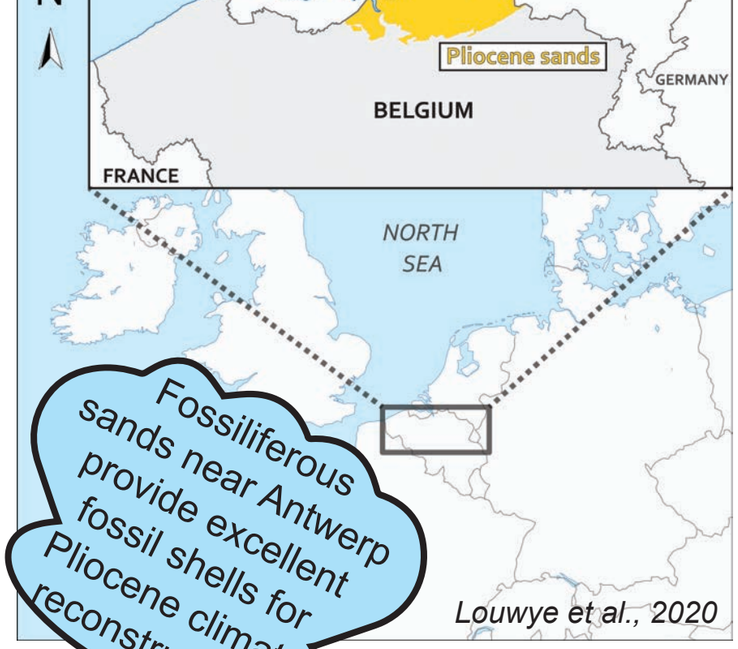
The Pliocene Warm Period is a useful analogue for 400 ppm CO_2 future climate

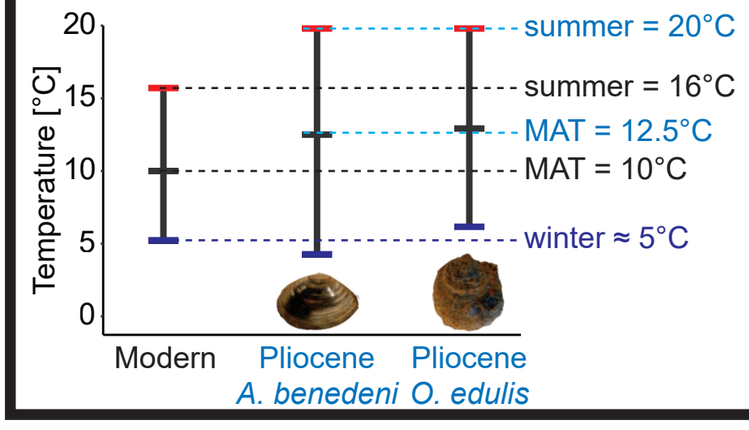


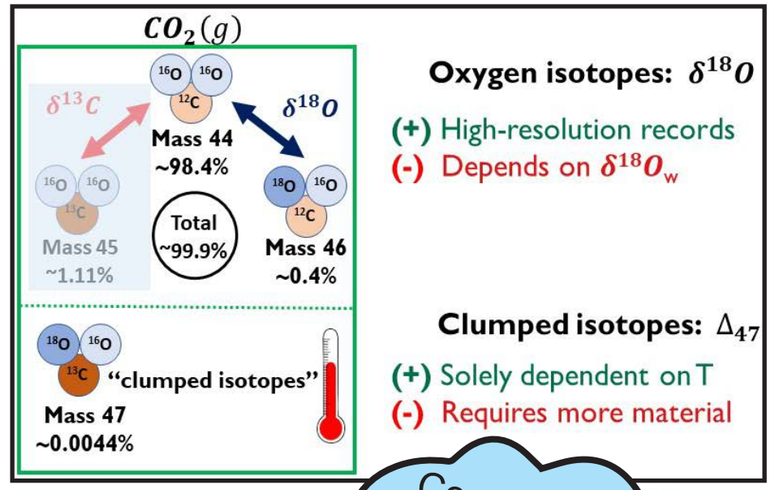


Fossiliferous sands near Antwerp provide excellent fossil shells for Pliocene climate reconstructions

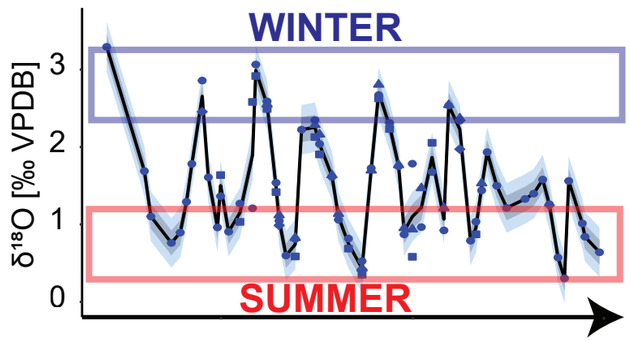
TAKE-HOME MESSAGE:

The North Sea was on average **2-3°C warmer** in the Pliocene with **~4°C hotter summers**





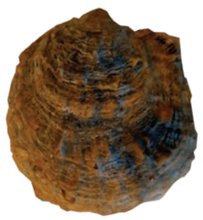
Combining samples from summers and winters based on $\delta^{18}O$ yields accurate clumped temperature seasonality



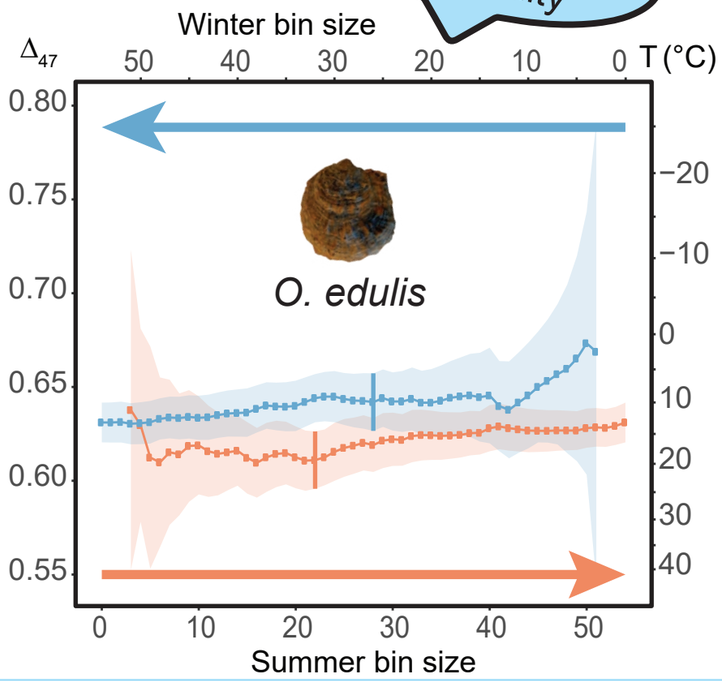
Angulus benedeni

Glycymeris radiolyrata
(work in progress)

Arctica islandica
(work in progress)



Ostrea edulis



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REFERENCES
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