

Atmospheric CO₂ evolution over the Cenozoic

Bärbel Hönisch

and the



Research Coordination Network on
**Improving reconstructions of Cenozoic
pCO₂ change**

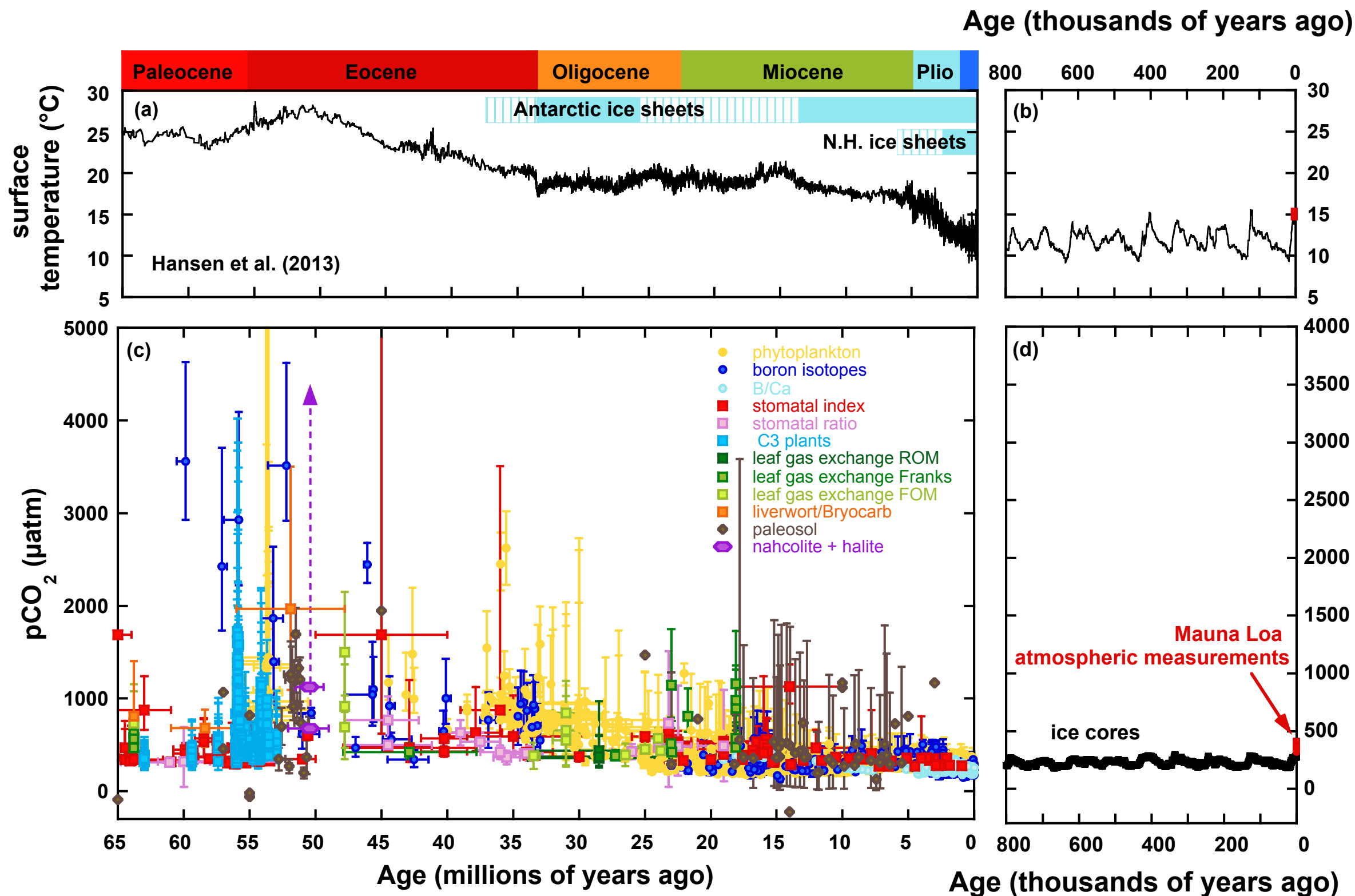
and



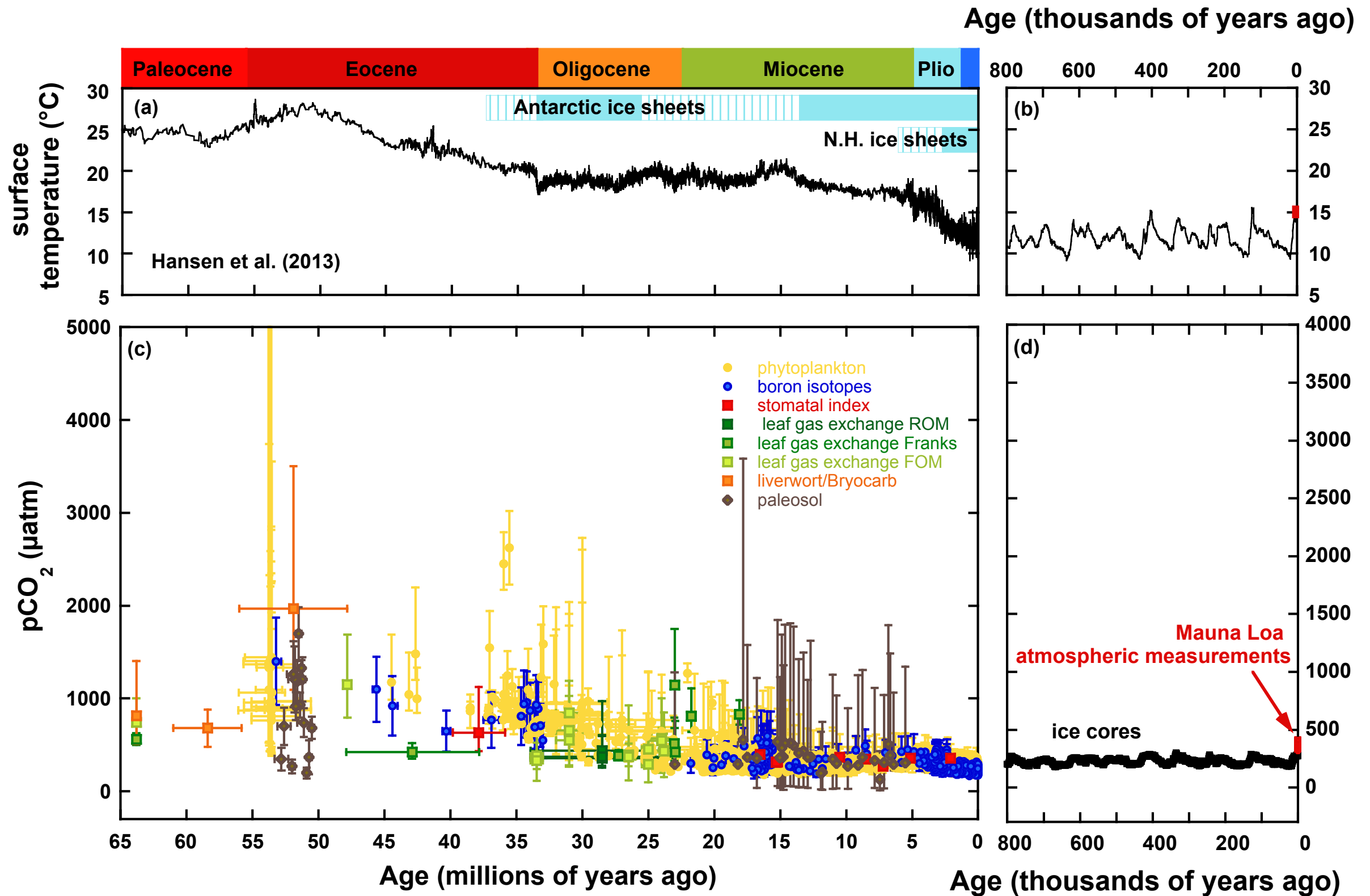
paleopCO₂.org

**A Scientifically Rigorous and Accessible
CO₂ 'Keeling Curve' for Geologic Time**

Paleo-pCO₂ database Archive

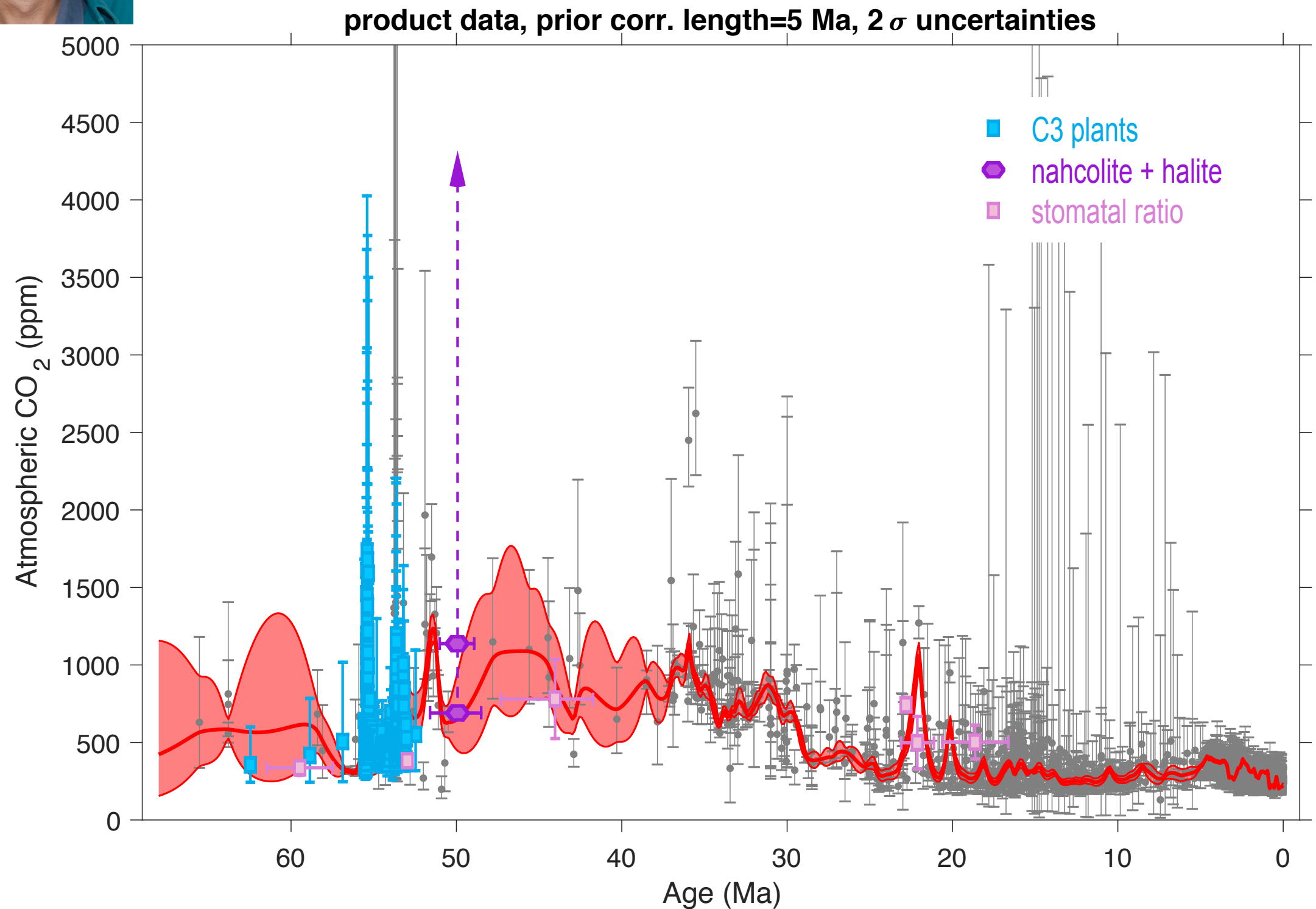


Expert-vetted data compilation





Bayesian interpolation of uncertain data



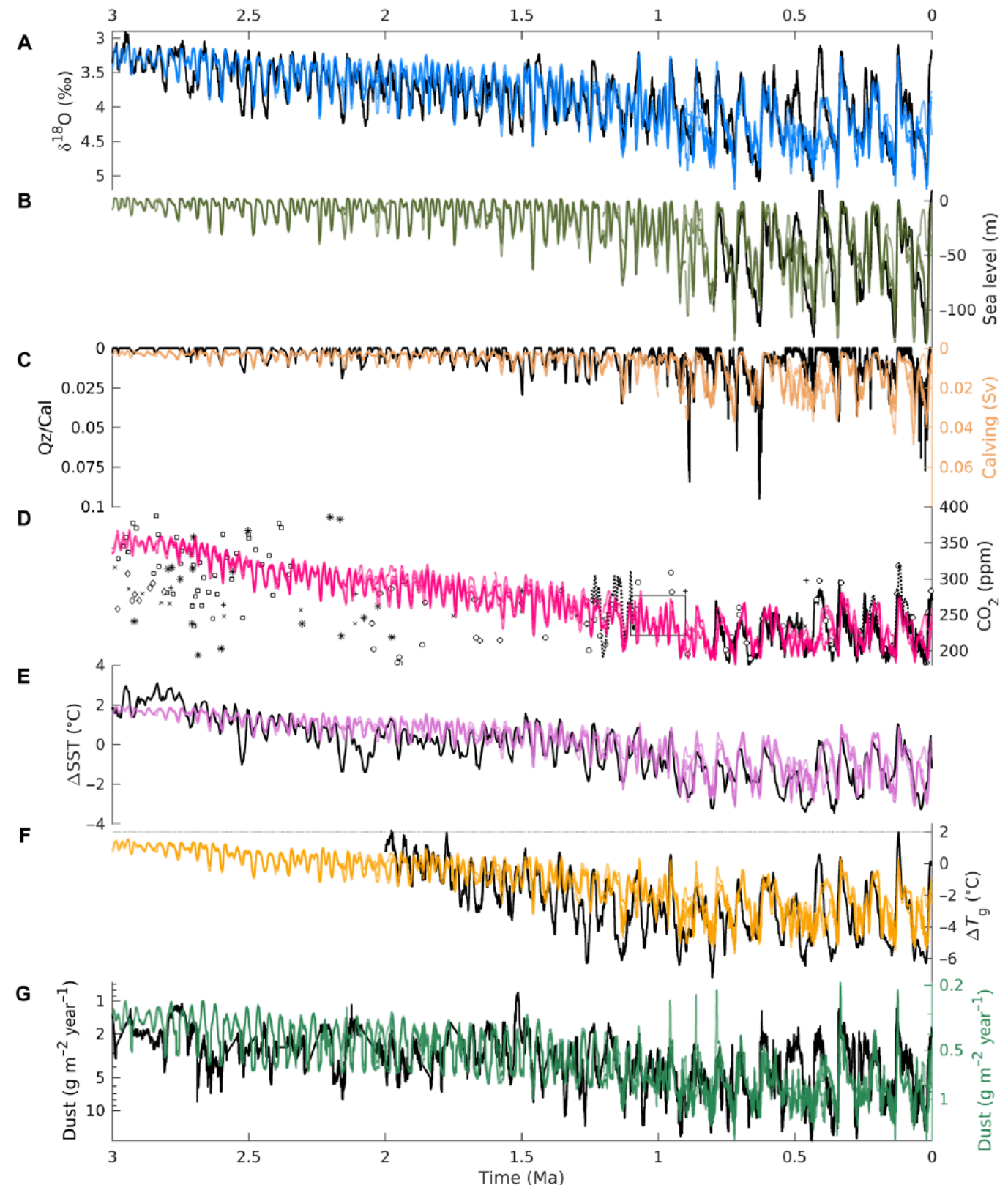
Mid-Pleistocene transition in glacial cycles explained by declining CO₂ and regolith removal

M. Willeit^{1*}, A. Ganopolski¹, R. Calov¹, V. Brovkin²

Sciences Advances, 2019

“We show that gradual lowering of atmospheric CO₂ and regolith removal are essential to reproduce the evolution of climate variability of the Quaternary.”

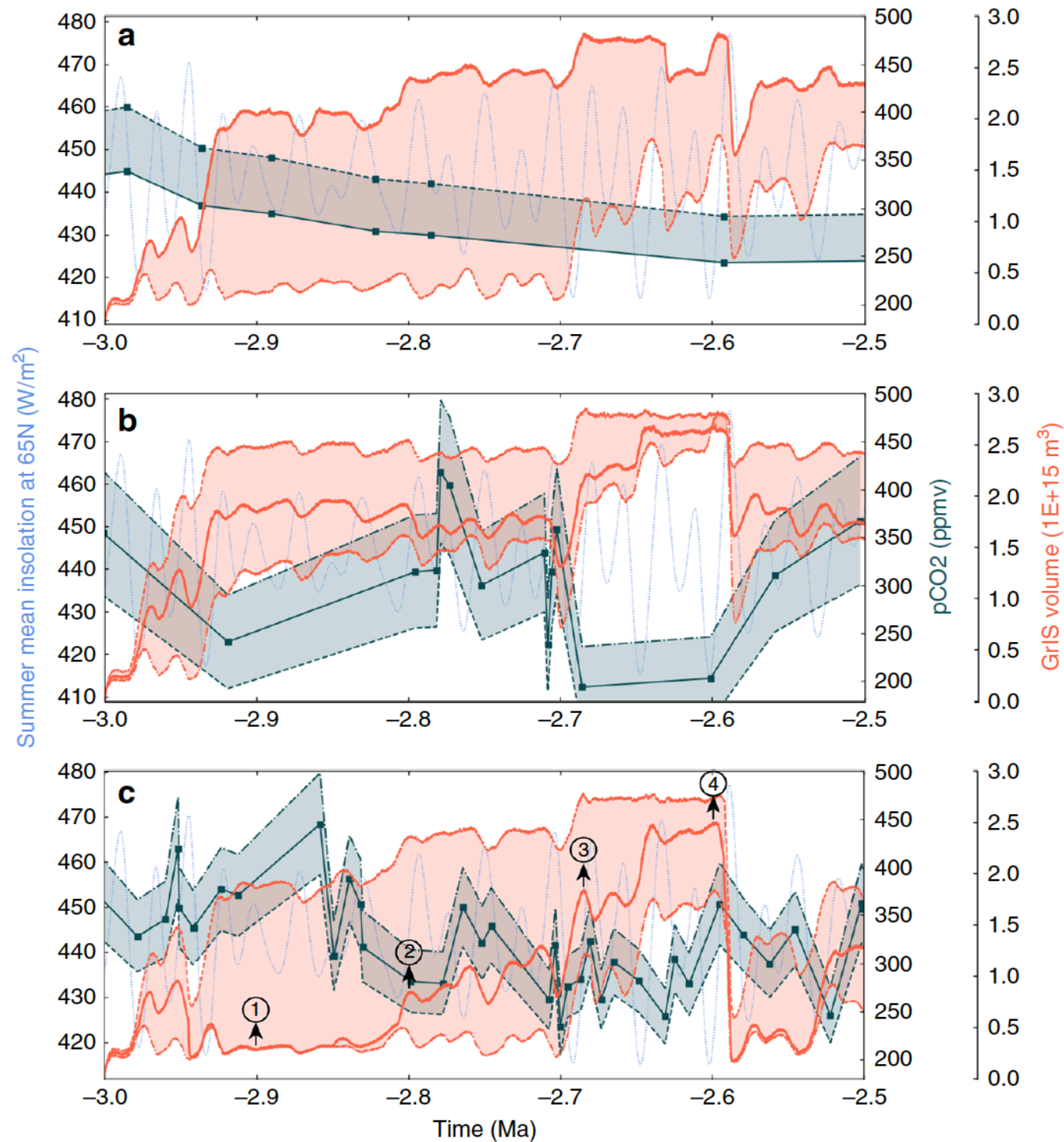
290 ppm, typical of the past 800 ka, at ~1 Ma ago (Fig. 2D). The amplitude of glacial-interglacial CO₂ variations increases from ~50 ppm at the beginning of the Quaternary to ~80 to 90 ppm during the 100-ka cycles of the past million years. This suggests that, for the early Quaternary, the large spreading between and within different CO₂ reconstructions markedly overestimates real CO₂ variability. In



Dynamic Greenland ice sheet driven by pCO₂ variations across the Pliocene Pleistocene transition

Nature Communications, 2018

Ning Tan^{1,2}, Jean-Baptiste Ladant^{1,3,4}, Gilles Ramstein¹, Christophe Dumas¹, Paul Bachem⁵ & Eystein Jansen⁶



paleopCO₂.org – A Scientifically Rigorous and Accessible CO₂ ‘Keeling Curve’ for Geologic Time

Figures of original paleo-pCO₂ records and vetted compilation, documentation of quarantined data

Data and reference downloads

Guidelines for data submission, data spreadsheets, error calculation routines

Videos, animations

FAQs