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Comparing past interglacials to understand atmospheric CO_2 and carbon cycle dynamics using ice core $\delta^{13}CO_2$ data

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In view of the current global warming the short interglacial periods receive more and more attention within the paleoclimate community, especially focused on the Marine Isotope Stage 5.5, as a couple of terrestrial and marine archives indicate warmer than present conditions during this time period. Accordingly, MIS 5.5 is often regarded as a first order analogue for a warmer world in the future.

The stable carbon isotopic ratio measured on CO_2 from deep Antarctic ice cores bears crucial information to constrain changes in the global carbon cycle, and, thus, also coupled climate models and paleo reconstructions from marine or terrestrial archives.

We present a reconstruction of the stable carbon isotope changes of CO_2 during Marine Isotope Stage 5.5 measured on the EPICA Dome C core. A first hand interpretation is provided along with a comparison to the Holocene.