[1]Niels Bohr Institute, Copenhagen, Denmark
[2]University of Tasmania, Hobart, Australia

Towards an understanding of CO_2 during Dansgaard-Oeschger events: everything counts.

M. Jochum[1], Z. Chase[2], R. Nuterman[1], J. Pedro[2], S. O. Rasmussen[1], and G. Vettoretti[1]

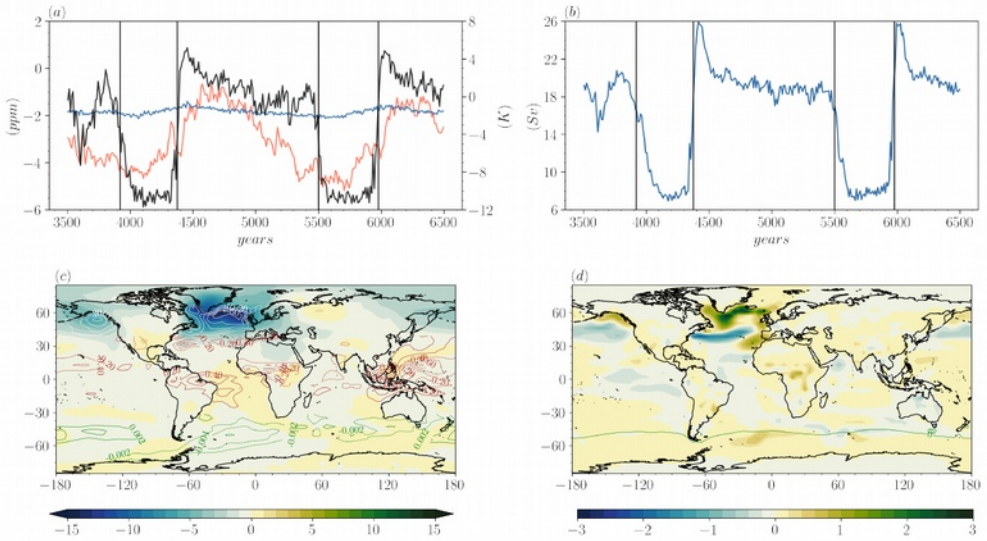

Figure 1. a) Greenland (black) and Antarctic (blue) temperature anomalies, and CO_2 (red) anomalies. b) subthermocline AMOC maximum. c) stadial anomalies of surface air temperature (colour), northern hemisphere sea ice concentration (white, in %), tropical precipitation (red, in mm/day), and SO wind stress (green, in N/m^2). d) stadial anomalies of air-sea/land flux of carbon (color) and the line of zero wind-stress curl in the SO, which separates upwelling and downwelling regions.

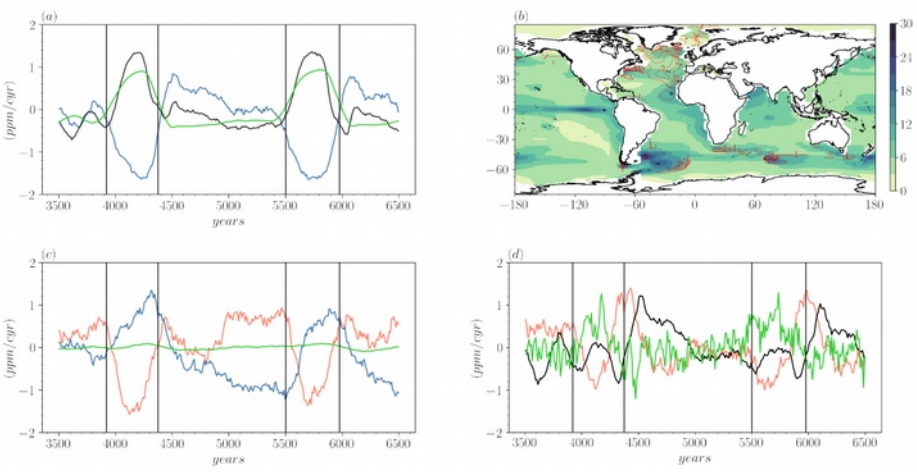

Figure 2. a) Stadial anomalies of NA (black), NP (blue) air-sea carbon flux and of NA export production across 700 m (green). b) Mean export production across 700 m (color) and stadial anomaly (both in $\mu molCm^{-2}s^{-1}$). c) Stadial anomalies of tropical (red), SO (blue) air-sea carbon flux and of SO export production across 700 m (green). d) stadial carbon flux anomalies of the directly AMOC forced processes (black), the indirectly wind-driven component (red) and from land (green).

A 7000 year integration of the T31x3/BGC CESM with spontaneous D-O events.