Supplement Information for

Glacial-interglacial seawater isotope change near the Chilean Margin as reflected by δ2H values of C37 alkenones.

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**Content of this file**

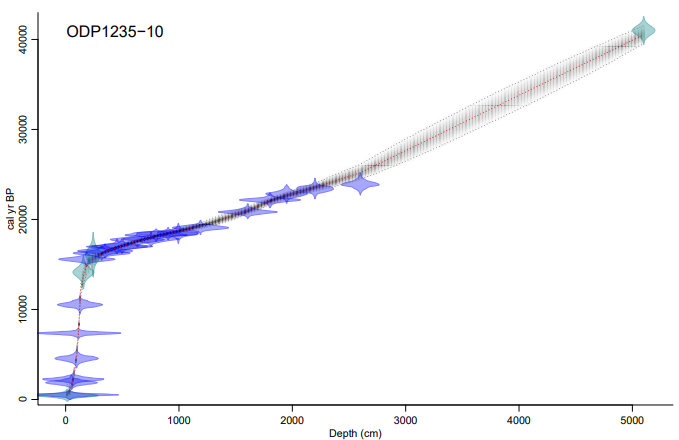
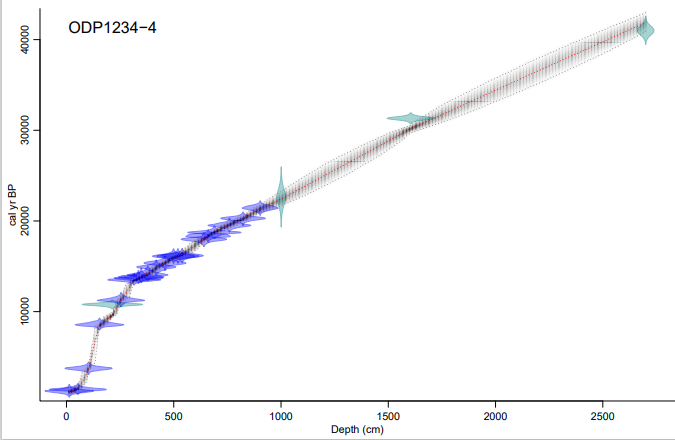
Figure S1-S3

Table S1

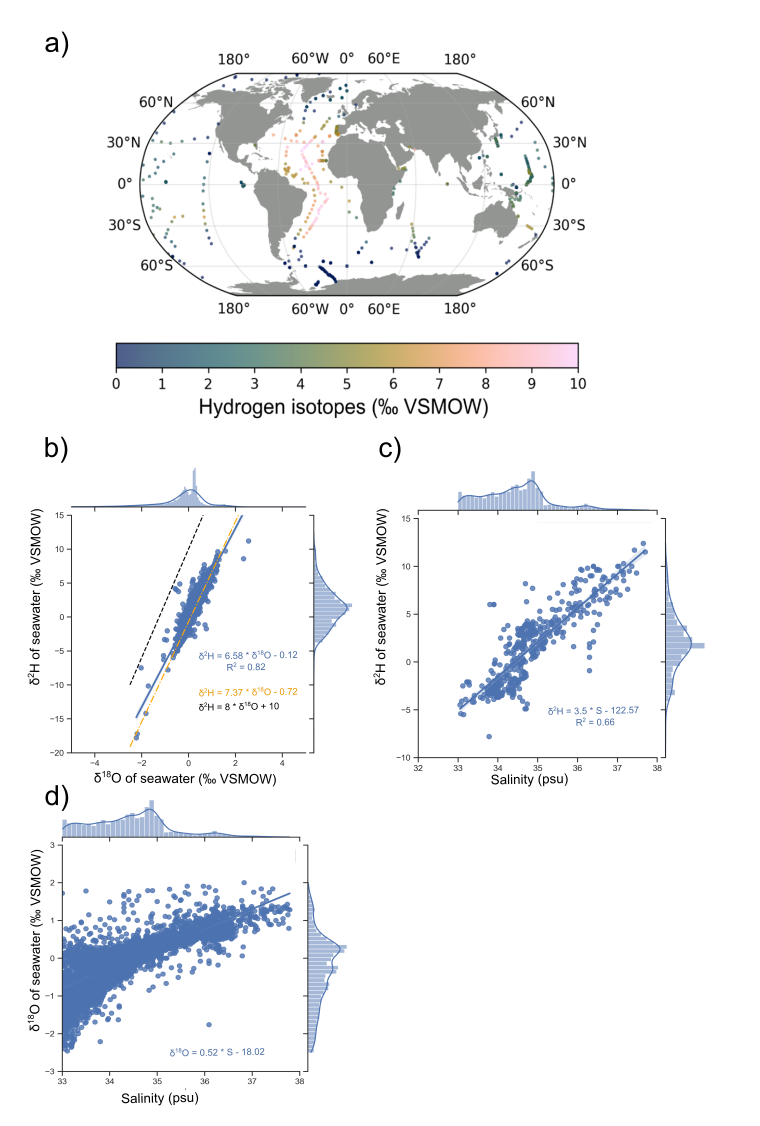
**Age model**

**Table S1.** Age tie points added to the 14C record from Muratil et al., 2010. The Laschamp Event at 41 ka is defined for ODP 1234 and 1235 based on the magnetic susceptibility (Mix et al. 2003). For ODP 1235 three additional radiocarbon measurements of benthic foraminifera Uvigerina were added (as outlined by Varma et al., 2023).

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| --- | --- | --- |
| **Age tie point** | **ODP1235** | **ODP1234** |
| 41 ka Laschamp Event | 51 m | 27 m |
| 21.323 ± 192 14C age | 26 m |  |
| 20.866 ± 198 14C age | 22 m |  |
| 20.354 ± 215 14C age | 195 m |  |



**Figure S1** Age-depth model for ODP core 1234 and ODP 1235 compiled with rbacon.



**Figure S2.** Distributions and correlations of salinity, oxygen and hydrogen isotope composition of open**–**ocean water (Rohling et al., 2007; Schmidt et al., 1999; Waterisotope Database 2022 managed by Bowen; Gould et al., 2019; Weiss et al., 2019; Srivastava et al., 2010). **a)** Global Map showing the datapoints of open**–**ocean hydrogen isotopes of seawater used to constrain the modern open-ocean waterline (MOOWL). **b)** Linearregression of hydrogen and oxygen isotopes of seawater (all depths), in blue the extended dataset used in this study, orange displays the relationship described by Rohling et al., 2007, black dashed line represents the Meteoric Waterline according to Craig et al., 1961, 1965. **c)** Linear regression of salinity and hydrogen isotopes of seawater (top 300 m). **d)** Linear regression of salinity and oxygen isotopes of seawater (top 300 m).