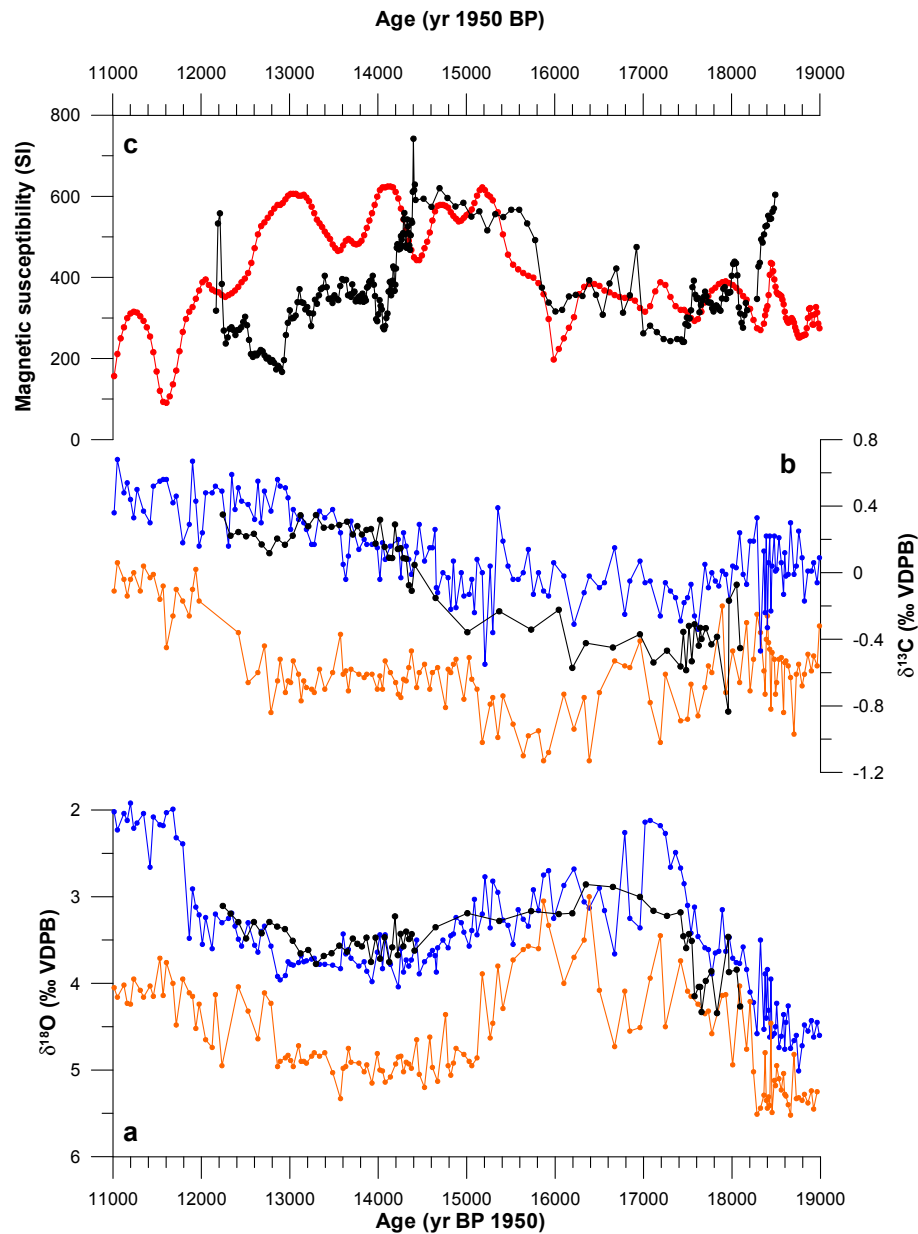
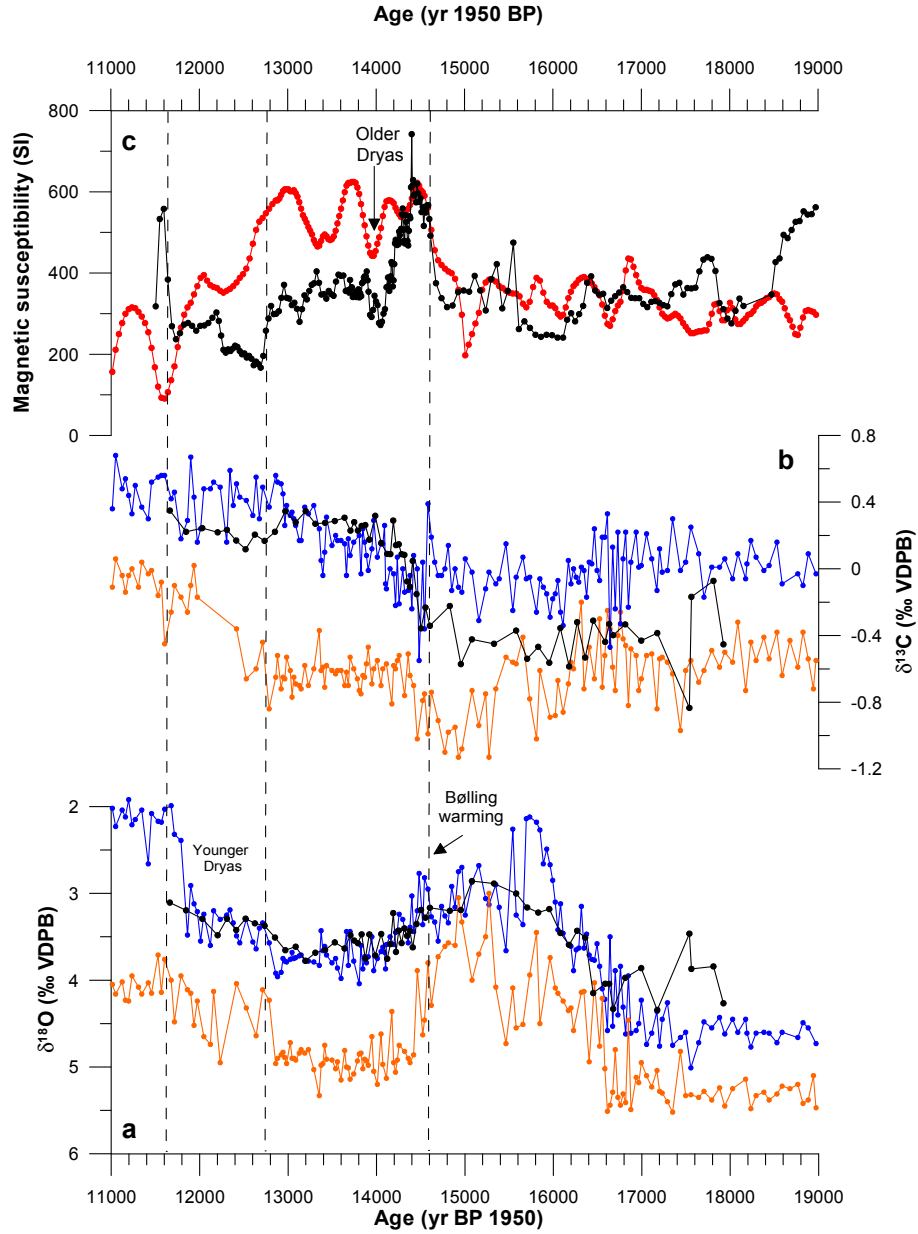


## Tuning of the MD95-2010 ages to the TTR-451 chronology

In Figure S1 we show the  $\delta^{18}\text{O}_{\text{npl}}$  records from both cores, along with their  $\delta^{13}\text{C}_{\text{npl}}$  and magnetic susceptibility datasets on independent calibrated radiocarbon chronologies. This identifies common signals in all three datasets.



**Figure S1. a, b** Records of foraminiferal carbonate  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$ , respectively. The  $\delta^{18}\text{O}_{\text{npl}}$  and  $\delta^{13}\text{C}_{\text{npl}}$  record for core TTR-451 is shown in black and for core MD95-2010 these records are shown in blue. The  $\delta^{18}\text{O}_{\text{ct}}$  and  $\delta^{13}\text{C}_{\text{ct}}$  records for core MD95-2010 are additionally shown in orange. **c** Magnetic susceptibility records for cores TTR-451 (black) and MD95-2010 (red). The data is presented on independent calibrated radiocarbon chronologies.



**Figure S2. a, b** Records of foraminiferal carbonate  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$ , respectively. The  $\delta^{18}\text{O}_{\text{npl}}$  and  $\delta^{13}\text{C}_{\text{npl}}$  record for core TTR-451 is shown in black and for core MD95-2010 these records are shown in blue. The  $\delta^{18}\text{O}_{\text{ct}}$  and  $\delta^{13}\text{C}_{\text{ct}}$  records for core MD95-2010 are additionally shown in orange. **c** Magnetic susceptibility records for cores TTR-451 (black) and MD95-2010 (red). The data is presented on a tuned chronology, after correction for  $\Delta R$  values.

We use the  $\Delta R$  estimates from core TTR-451 (Table 1), to correct the radiocarbon ages for core MD95-2010. The same datasets presented in Figure S1 are shown on their tuned chronologies in Figure S2. Figure S2 identifies a much better agreement of the signal structures between the two cores. Note also the relative positioning of the Older Dryas and the Bølling warming in the magnetic susceptibility records, which have very close agreement on the  $\Delta R$  corrected age-frames (compare Figure S1, panel c with S2, panel c).