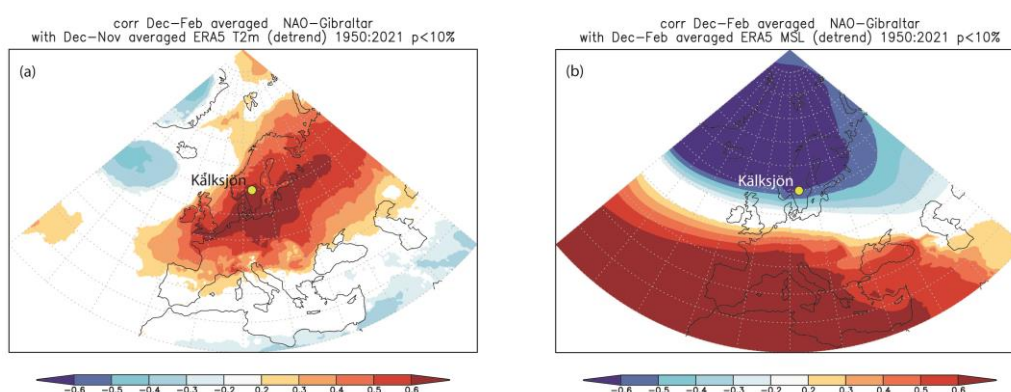**Explanation of changes (manuscript egusphere 2022-582 Czymzik):**
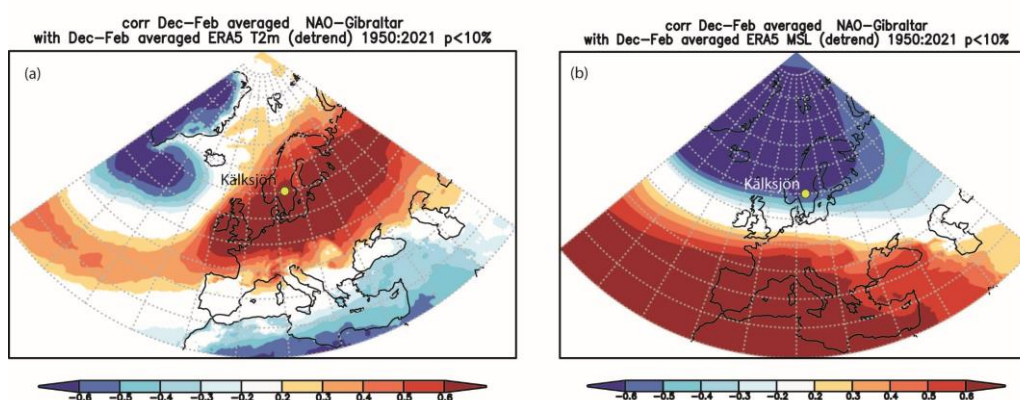
(1) Changed correlation coefficient:

The correlation coefficient between the S and TOC proxies was changed from r=0.74 to r=0.83. Reason for this change is an updated method used for calculating the correlation coefficient. Before the calculation of the new r= 0.83 value, the TOC time-series was transferred into the log domain, to be statistically better comparable to the log-transformed S XRF record. The elevated correlation coefficient slightly better supports the observed covariance between the TOC and S time-series from Lake Kälksjön sediments.

(2) Fig. 11a (correlation map of 2 m temperature from the ERA5 reanalysis and NAO record during winter).

In the previous version of Fig. 11a the winter NAO (DJF) was erroneously correlated with December to November temperature data. In the updated Fig 11 a, this error was corrected and the winter NAO (DJF) correlated with winter (DJF) surface temperatures. This correction led, as expectable, to an improved spatial correlation between NAO and temperatures data over northern Europe and Lake Kälksjön and slightly better visualizes the proposed connection between both variables.

Previous version of Fig. 11 a.

Corrected version of Fig. 11 a.