

# The Younger Dryas cooling in NE-Germany

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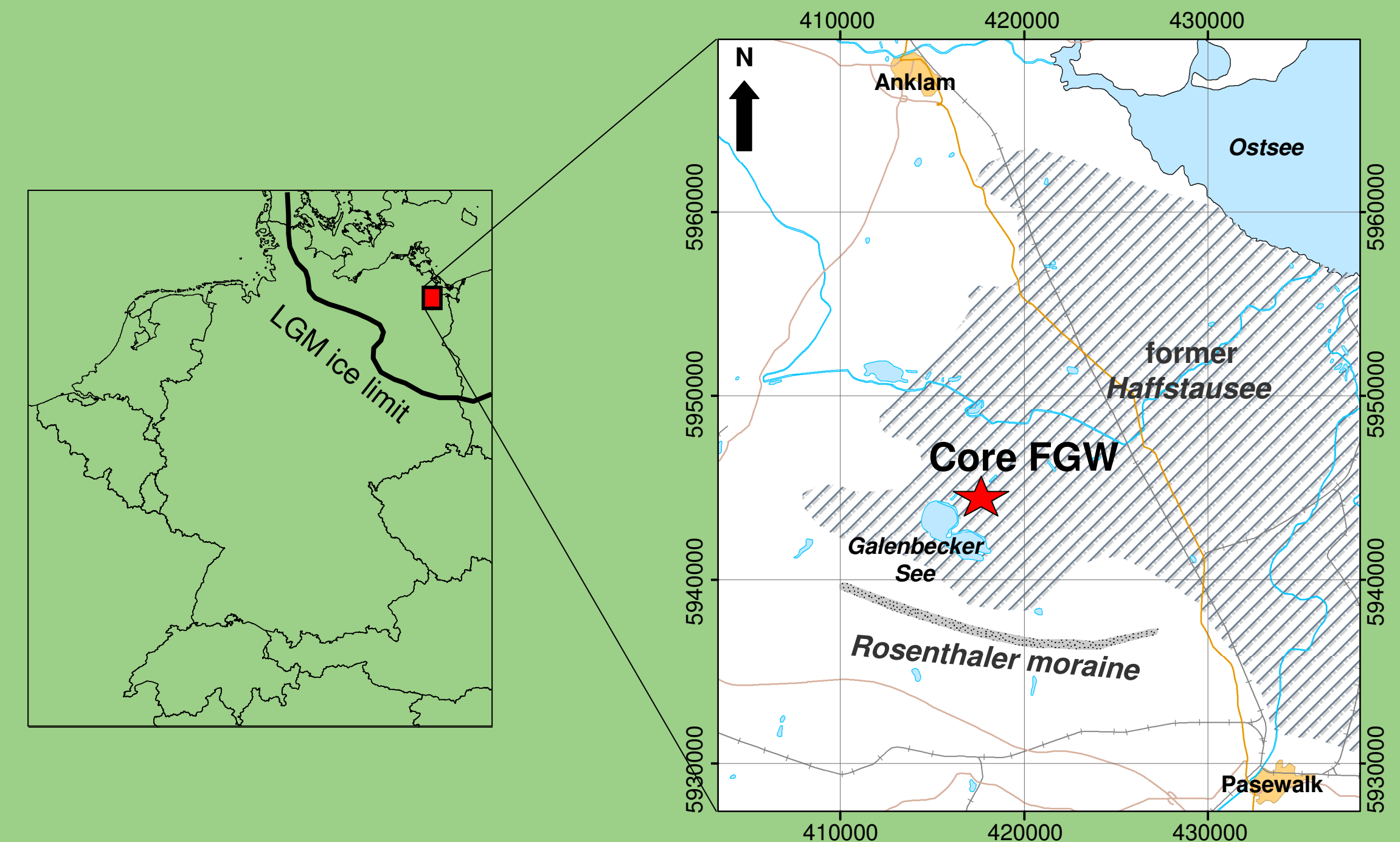
## BACKGROUND

After retreat of the ice-sheet from NE-Germany, vegetation could expand. This culminated in birch and later pine forests during the Lateglacial Interstadial (GI-1). Subsequently, the landscape became more open during the Younger Dryas Stadial (GS-1), although open pine forests persisted. At the transition to the Holocene, a more dense vegetation cover could develop again.

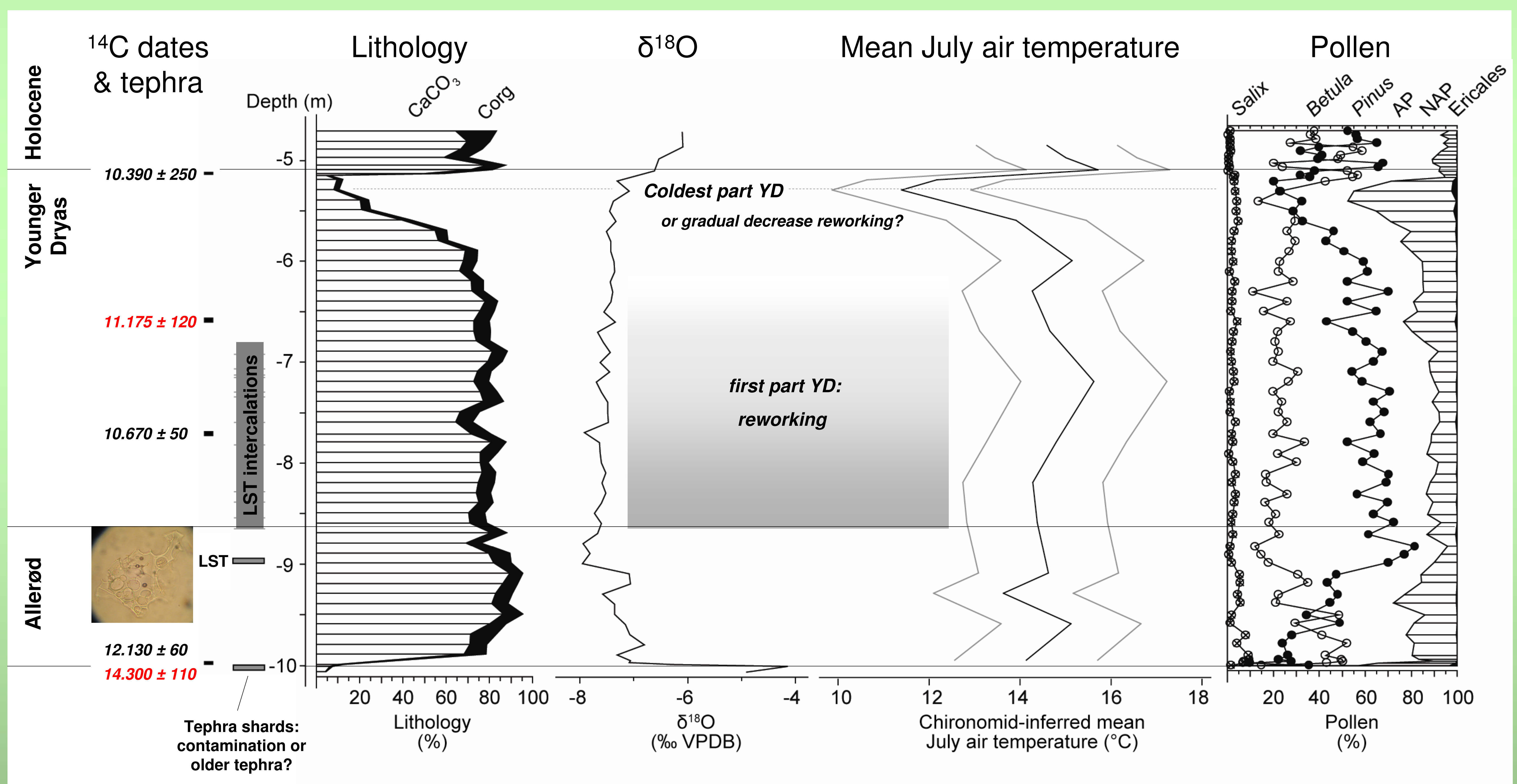
Temperature changes associated to the above changes have not yet been quantified for this region. Here, mean July air temperatures are presented, inferred from the assemblages of fossil chironomids ('non biting midges'), side by side with lithology, oxygen isotopes from bulk carbonates and pollen obtained from the same sediment record.

## RESEARCH SITE

The study site is located in the Friedländer Große Wiese (FGW) in Mecklenburg-Vorpommern, north of the Rosenthaler terminal moraine. The lacustrine basin was presumably formed by thawing of dead-ice. The Lateglacial and Holocene deposits reach a thickness of over 12 m.



## RESULTS



## DATA SUMMARY AND CONCLUSIONS

- Thawing of dead-ice led to formation of the FGW depression in the Allerød.
- Allerød mean July air temperatures of ~14-15 °C were inferred from the chironomid record, lake marl precipitated, while birch and later pine dominated forests developed in the area.
- The transition to from the Allerød to the Younger Dryas is masked by reworking and redeposition processes, as indicated by multiple LST intercalations.
- Minimum Younger Dryas mean July temperatures of ~11.4 °C are inferred from the chironomid record, which coincided with a decrease in carbonate precipitation and opening of the vegetation cover.

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