

Unravelling the vegetation development after the Last Interglacial

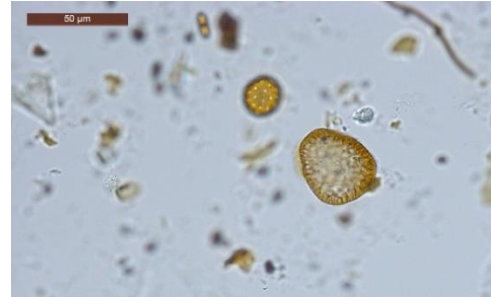
Pollen analysis on sediments from the North Sea

Department: Physical Geography

Research group: Quaternary Climate and Landscape

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Project description

This assistantship is part of an international collaborative project between the University of Utrecht, University of Leeds and TNO-Geological Survey of the Netherlands, focusing on sea level variations and landscape reconstruction of the Southern North Sea during the Early Weichselian (late MIS 5, ca. 110 to 70 ka BP). During the Early Weichselian period, climate cooled and warmed twice, which had a large effect on the vegetation in north-western Europe. During the cold stadials, only tundra vegetation remained, while in the warmer interstadials, forests covered the landscape. These climatic changes occurred after the Last Interglacial (the Eemian), which was a period with rather similar climatic conditions compared to the Holocene. As the Early Weichselian is the best-preserved post-interglacial period, it is critical for understanding climate change at the end of an interglacial, and could provide us with insights for the (near) future. Unfortunately, there is currently limited knowledge on the magnitudes and rates of climatic changes and associated sea-level and landscape responses during this time interval for the North Sea region.

In this project, we study at a core from the North Sea, which contains sediments of the Last Interglacial (Eemian) and Early Weichselian. To understand the age and depositional setting of the sedimentary units, we conduct pollen analysis and compare the data with existing pollen records of the Eemian and Early Weichselian. The different climatic conditions during this period can be identified via the changes in pollen, and thus vegetation.

We seek a motivated student who will help us with the pollen analysis. You will go through samples ranging from the Late Eemian to Early Weichselian in a relatively coarse resolution, and identify the different vegetation phases during this period. You will first be trained in pollen identification, and then work more independently in the microscope lab in the Earth Simulation Laboratory. In case of new Covid-restrictions, all microscope work is possible to conduct while social distancing 1.5 meters.

Job requirements

We seek a student with an affinity for and some experience with pollen analysis. Furthermore you must be interested in paleo-ecology and (Quaternary) climate change.