



A new deep drill site in North Greenland – a search for pre-Eemian ice during the IPY

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Results from the new deep ice cores from Greenland and Antarctica contain a wealth of information on the history of our climate system and the atmospheric environment. We believe that we are close to a break-through concerning the understanding of the north/south teleconnection which was particularly manifest during the many rapid climate changes of the last glacial period.

While the Greenland ice cores have a very high resolution the ice cores available at present only reach 125.000 years back in time thus reaching into the last interglacial period, the Eemian. It is a very high wish in the ice core and climate community to obtain an ice core from Greenland reaching further back in time.

Based on the net of Radio Echo Sounding (RES) profiles over the Greenland ice sheet and the calibration of the age of the observed internal layers at the deep drill sites GRIP and NGRIP an inverse model has been developed to date the ice at locations where internal RES layers are detectable.

A location at (75.5N, 46W) has been selected as a good site. The ice thickness is 2550 m, present accumulation rate is 0.23 m ice equiv./yr and pre-Eemian ice is expected to be found in the basal 200 m of ice.

Besides from being a site with old basal ice the site is also selected as a promising site for studies of the present interglacial climate covering the last 10.000 years because the precipitation is more single sourced than that found at the other deep drilling sites

in Greenland. The isotopic signals are thus expected to be more directly related to temperatures changes during this period.