

Eemian insights and future Greenland ice core projects

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The NEEM deep ice project was completed in 2012, yielding new insights, both concerning the climate and evolution of the Greenland ice sheet during the Eemian (NEEM Members, 2013). This was accomplished by unfolding the Eemian layer in the core, using a gas match to Antarctic ice cores. However, plans are already being made for a new deep ice core project aiming to penetrate the North East Greenland Ice Stream (NEGIS). NEGIS is originating in central Greenland and flowing at speeds exceeding 100 m/year, in stark contrast to nearby ice sheet velocities of 5-10 m/year. The new drill site is to be named EGRIP (Eastern GREENland Ice core Project), and will be located centrally in the ice stream. Radar profiles show well preserved layering in the ice stream some 40,000 years back in time, so while the main purpose of EastGRIP is to study ice dynamics, an important secondary goal will be to retrieve a high quality Holocene record. Active cooling of the drill trench and core storage areas will likely be needed to facilitate this. Current planning schedules a traverse from NEEM to EastGRIP in late spring 2015, thus running in parallel with the May-June 2015 drilling of the Renland ice cap.

References

NEEM Community Members, Eemian interglacial reconstructed from a Greenland folded ice core, *Nature*, 493, 489-494, 2013.