

Report from UCPH

Ice and Climate Research Group

Physics of Ice, Climate and Earth Section

Niels Bohr Institute

University of Copenhagen

Report from Copenhagen 2019

Participants: Dorthe Dahl-Jensen and Christine Hvidberg

1. EGRIP deep ice core drilling
2. Müllers Ice Cap planning (application to the Danish Research Council for joint PhD with UM)
3. Planning of BEOI - oldest ice from Antarctica
4. Waiting for a YES/NO for a new Centre of Excellence on MyCE (Centre for Million Year Climate Evolution (Leader Thomas Blunier)
5. Moving to Tagensvej 16
6. Moving all ice cores to new freezer
7. Hosting IGS 8th International Ice Drill Symposium and Oldest ice workshop

Report from Copenhagen 2019

1. EGRIP deep ice core drilling

Periode: 30 April – 16 August

Camp size: 30 persons

Activities:

1. Deep drilling 1750 – 2120 m
2. Shallow ice core from Bern
3. MAGPIE
4. Radar programs
5. Surface monitoring
6. AWI Polar 6 program
7. Neem borehole logging



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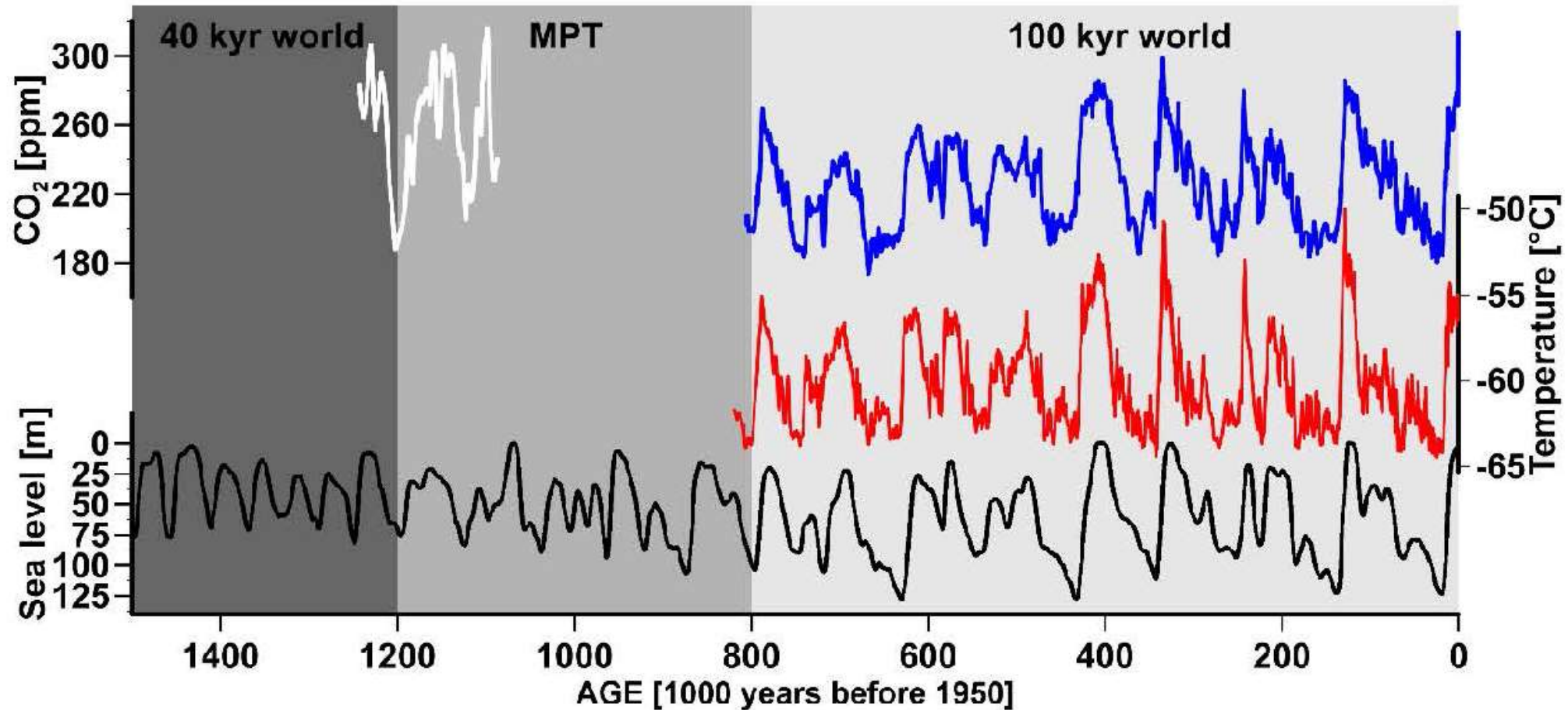
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For the last few million years, Earth's climate went through glacial and interglacial periods, forced by insolation changes resulting from modulations in Earth's orbit [1, 2]. There is no consensus on how these relatively small and regular insolation changes led to dramatic and irregular glacial-interglacial shifts. Researchers further disagree on why the pace of glacial-interglacial transitions changed from 41 kyr (thousands of years), corresponding to Earth's obliquity cycle, to approximately 100 kyr, at the Mid Pleistocene Transition (MPT) around one million years ago, with no apparent change in the astronomical forcing. At the same time, the amplitudes of changes in glacial-interglacial temperature and ice-sheet volume (or equivalently sea level) drastically increased.

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Three legs:

High resolution CO₂ measurements (Thomas Blunier)

Modelling of the evolution of ice sheets (Christine Hvidberg)

Modelling the ocean-CO₂ interaction (Markus Jokum)

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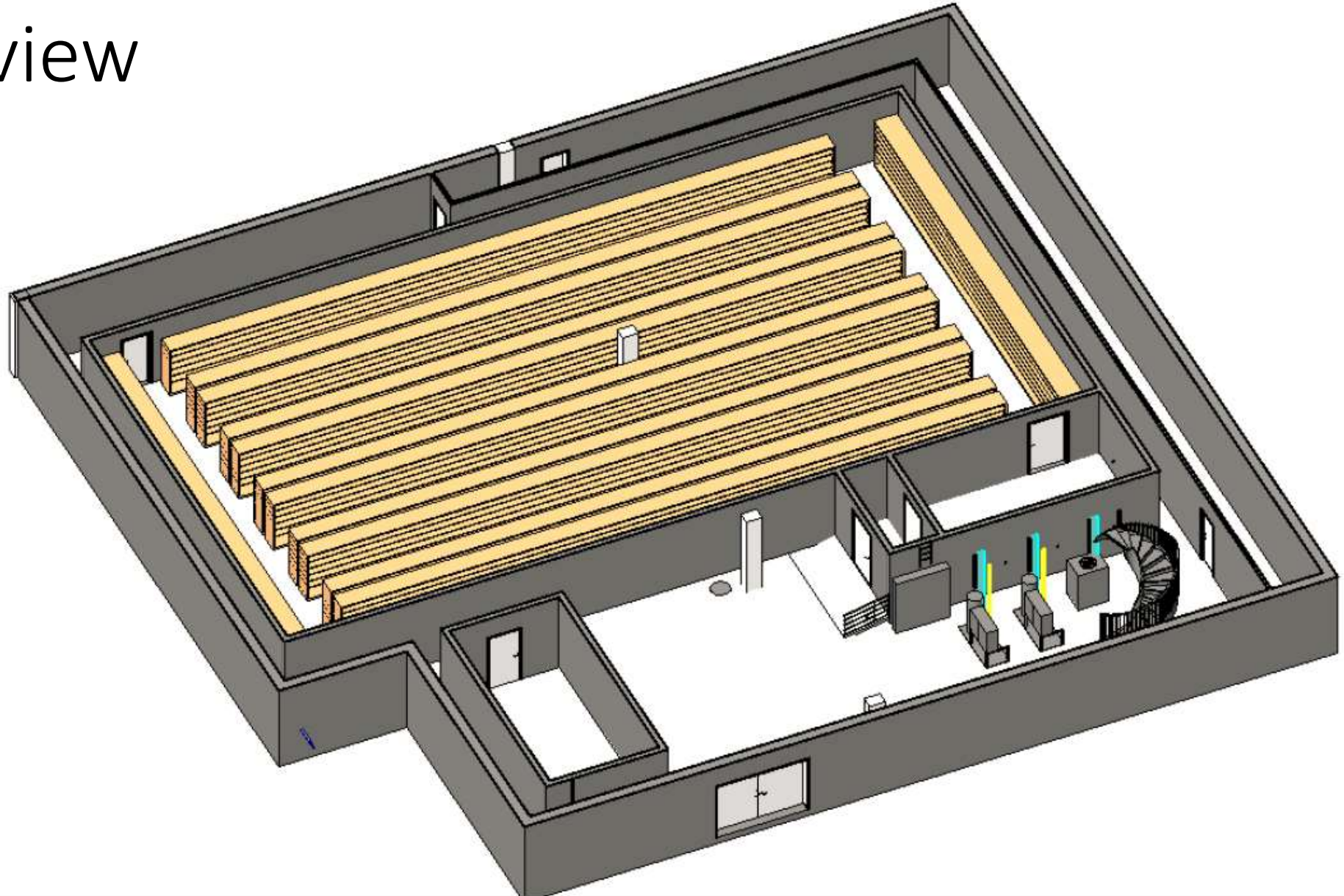
New CO₂ cooling system

2000 boxes – around 100 tons

World archive of Greenland (and Antarctic ice cores)



Overview



2 x independent CO₂ Compressor systems.



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All in all a **VERY** busy year