

Ice and a slice of climate history

August 25 2004

The first 40 million years of Arctic climate history was recovered from beneath the Arctic sea floor on Monday 23 August.

After four days drilling in hazardous conditions the Integrated Ocean Drilling Program's Arctic Coring Expedition retrieved a 272m core before sea ice forced the work to be abandoned.

The deepest ever Arctic borehole, just 233 kilometres from the North Pole, was interrupted late on Monday when very thick, moving ice floes meant that even the world's most powerful icebreaker, the Russian Sovetskiy Soyuz could no longer ensure it was safe to continue coring..

The Sovetskiy Soyuz is one of two ice breakers brought in to protect the coring ship, the Vidar Viking, which must remain stationary while the cores are being taken.

While the team search for another favourable site scientists are taking the opportunity to look at the retrieved core.

Initial analyses, based on examining microfossils in the core, suggest that the some of the material in these sediments could be 40 million years old – the Middle Eocene period.

Chief co-scientist, Professor Jan Blackman, from the University of Stockholm said: "This is very exciting. For the first time we are beginning to get information about the history of ice in the central Arctic Ocean.

“This core goes back to a time when there was no ice on the planet – it was too warm. It will tell us a great deal about the climate of the region. It will tell us when it changed from hot to cold and hopefully why.”

Jan explained that back in prehistoric times life in the Arctic Ocean was much different to today. In the warmer conditions, and free from ice, life thrived in the far north. The sediments will give some indication of the type and abundance of marine creatures living in these waters at that time.

The team of international scientists are two weeks into the six-week expedition to extract the deepest Arctic sedimentary cores ever drilled. They intend coring to a depth of about 500 metres under the seabed. The previous deepest core extracted from the Arctic was only 16 metres.

On Monday afternoon, a Hercules C-130, from the Swedish Armed Forces, parachuted package of spare parts and supplies onto the site. Both still pictures and broadcast quality video were collected during this airdrop, which are available to the media. Onshore personnel are available for immediate interview, the scientists and drilling personnel may be available for interview by satellite phone by prior arrangement.

Source: Natural Environment Research Council

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