

PRESS RELEASE

09:00 hours GMT – DATE TBC 2010 London – For Immediate Release

Arctic Scientists Send Vital Marine Species ‘Into the Future’

Research into ocean acidification sees copepods exposed to levels of atmospheric CO2 forecast for the year 2100

Scientists working at a remote Arctic Ice Base have begun experiments to determine how microscopic crustaceans, vital to the marine food chain, may respond to increasing levels of atmospheric CO2 absorption by our oceans.



The studies are being carried out as part of the 2010 Catlin Arctic Survey, an international collaboration that aims to understand how greenhouse gases are changing the chemistry of the seawater, leading to a phenomenon known as ocean acidification.

Ice Base Scientist Dr Ceri Lewis, from the University of Exeter, explains: “Within only a few decades, an increase in ocean acidity may cause seawater to become corrosive to the carbonate shells of the smaller marine creatures that are so abundant in our marine ecosystems, with potentially serious consequences for both them and the larger marine fish and mammals that rely on them for food.”



“Here at the Ice Base we’re running a series of experiments with copepods collected during special plankton trawls of the Arctic Ocean. We’re seeing how they’ll respond to pH levels expected in 100 and 300 years, according to predictions provided by the IPCC. You might say we’re sending them into the future!”

Copepods are of great ecological importance. They are one of the most numerous multi-cellular organisms in the water column, believed to contribute the biggest source of protein in our oceans and serving either directly, or indirectly, as food for most commercially important fish species. They also play a vital role in carbon transfer from surface waters down to the deeper waters of our oceans.

Since CO₂ is more easily absorbed in cold water, the Arctic Ocean is likely to feel the effects of rising greenhouse gases sooner. As Dr Helen Findlay from Plymouth Marine Laboratory, who’s working alongside Dr Lewis at the Ice Base, says, “It’s early days for research into acidification in this part of the world, but our findings could act as an early warning system for changes across the globe.”

The scientists have created small experimental aquaria in which the collected copepods have been placed and then maintained in a hole in the ice to keep them at seawater temperature. The acidity of the seawater has then been increased to the predicted levels using hydrochloric acid and sodium bicarbonate, a method approved by EPOCA, a leading scientific consortium investigating ocean acidification. The effects of this change in acidity on the health of the copepods will then be measured both out at the ice base and then back in the laboratories in Exeter.

Survey Director, Pen Hadow, concludes: “The consensus amongst scientists is that the oceans are acidifying at an unprecedented rate. Investigating how these tiny organisms may respond in the coming years is vital to our understanding of how wider marine communities may be affected. It’s just one strand of a survey that sees explorers and scientists working together to further understand a changing Arctic environment.”



More information about this, and the other research being undertaken, is available at www.catlinarcticsurvey.com.

BACKGROUND

In the time-honoured tradition of exploration, the 2010 Catlin Arctic Survey connects scientists and explorers in the quest to advance scientific understanding of the world we live in.

Bringing together marine biologists, oceanographers and polar explorers, it aims to study the impact of increased carbon dioxide absorption by our seas. This is changing the chemistry of the water, leading to 'ocean acidification'.

Within only a few decades, an increase in ocean acidity may cause seawater to become corrosive to the shells, skeletons and armour-plating of many marine life forms, and could seriously undermine the growth of coral reefs.

Three teams are instrumental to this mission: a group of leading scientists operating from our polar Ice Base under the guidance of Arctic experts; an Explorer Team gathering complementary data over a much greater area across the floating sea ice and a 24/7 Operations Team based in the UK.

MEDIA CONTACTS

Rod Macrae, Head of Communications at Catlin Arctic Survey 2010
Tel: +44(0) 781 402 9819 / Email: rod@catlinarcticsurvey.com

Jackie Pedersen - Tel: +44 (0) 7980767710 / Email: jackie@catlinarcticsurvey.com

NOTES TO EDITORS

INTERVIEWS

Pen Hadow, the Survey Director, is available for interview in London. Interviews with the scientists at the Ice Base and the Explorer Team can be arranged via the Media Team.

PHOTO AND VIDEO

- Photos are available from www.catlinarcticsurvey.com/press.aspx
Access Passwords can be obtained by calling the media team.
- Broadcast video footage is available at our FTP site:
<http://filestore.indigopapa.tv/CatlinArcticSurvey2010>

ABOUT CATLIN GROUP LIMITED

Catlin is the title sponsor for Catlin Arctic Survey. Catlin Group Limited is an international specialty insurer and reinsurer, operating six underwriting hubs - London, Bermuda, US, Asia-Pacific, Europe and Canada - which allows it to provide innovative risk management solutions and superior levels of service to clients and their brokers worldwide.