

90° N

POLE TRACK

exploring the arctic and the perspectives on climate change





'The drive to return to the North Pole once more for a scientific expedition is fueled by my desire to contribute to a better understanding of the icy wilderness that I love so much. With this new project I want to bridge the gap between the cold facts of science and the way we take care of this great white spot on our planet. '

*Marc Cornelissen, The Netherlands
polar explorer and project leader.*

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POLE TRACK

What is POLE TRACK?

POLE TRACK is an international North Pole expedition that sets out to support climate change research and to call attention to the changing Arctic and World Climate. This expedition brings together a unique mix of experienced explorers and passionate professionals in the fields of science and nature conservation.

The project aims to collect valuable scientific data which will be used for climate change studies. The expedition also aims to reach a broad audience and inspire people to take up to the challenge of reducing the emission of green house gasses. As this is one of the main themes, the expedition will promote the international climate symbol.

Main partners at this moment are: WWF Netherlands, WWF International, ESA, Alfred Wegener Institute and Essent (leading Dutch energy company).



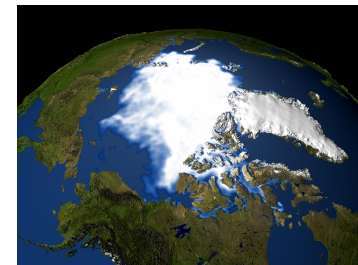
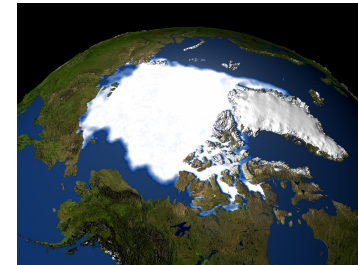
This expedition brings together a unique mix of experienced explorers and passionate professionals in the fields of science and nature conservation. Christian Haas, a leading sea-ice specialist from the Alfred Wegener Institute in Germany ensures that measurements meet the standards for running scientific programs.

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Why this expedition?

At the end of 2002, and even more recently, the scientific community published reports concluding that the ice mass on the Arctic Ocean has reduced significantly over the last several decades. Scientists documented signs of rising temperatures, changes in the atmosphere, and sea currents in the Arctic region. According to some, these trends may result in an ice-free Arctic Ocean by the end of this century.

The radical changes in the North Pole region are part of the global trend of climate change and could have consequences far beyond the Arctic ecosystem. If Arctic sea ice actually becomes thinner over the next few decades, it could change the circulation pattern of the north Atlantic, changing the supply of heat to lower latitudes. The Arctic plays an important role in the regulation of the Earth's climate. This expedition is part of an ongoing effort to better understand the changes that there are taking place.



Average ice-cover on the North Pole in 1979 (above) and 2003 (below). Source: NASA.



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Summary

In April 2004 a tests took place on the Arctic Ocean. Prototype equipment, clothing, food, communication devices and instrumentation were successfully tested during a last degree ski-trek to the North Pole. This test also provided stock footage and photography. Based on this stock the expedition will seek co-operation with media partners and broadcasters.

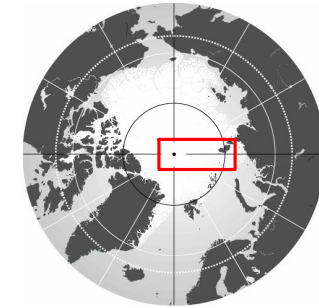
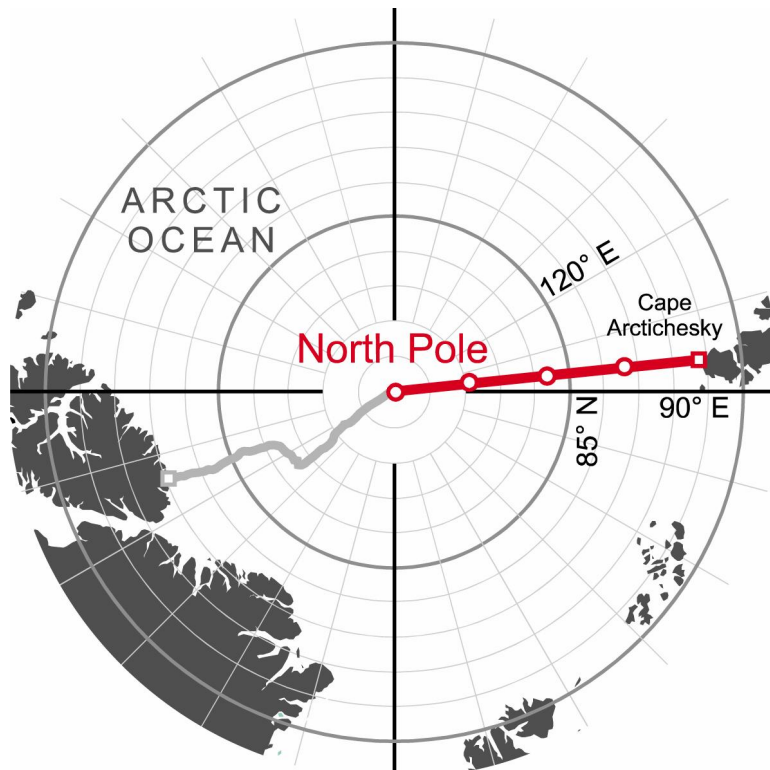
February 2005: the expedition heads out from Russia to cross the Arctic Ocean to the North Pole, a distance of 1000 kilometers. The expedition deploys lightweight satellite beacons, which transmit their ever-changing position on the drifting sea ice as well as data on air temperature and barometric pressure. In addition the expedition takes daily readings of the snow cover thickness, which helps to validate the observations of a new ESA satellite mission.

2004
PASSED
test expedition

2005
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During the 1000 kilometre trek from Cape Arctichesky to the Pole, three beacons will be deployed. The expedition will begin at the end of February 2005 and will take as long as 60 days to complete. The route covers a scientific 'white spot', a region from which no recent data has been retrieved.

(The grey line indicates the 1997 route to the Pole.)

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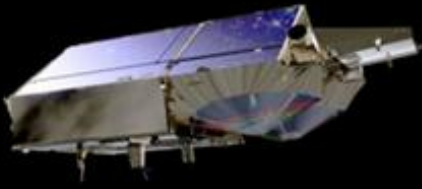
Sending out a signal

The expedition will deploy satellite beacons in a region which is lacking recent data on ice drift, surface temperature and barometric pressure. The data will be automatically retrieved via satellite connections over a period of one year. All data will be fed into the database of the International Arctic Buoy Programme (IABP). The objective of this program is to establish and maintain a network of data buoys in the Arctic Ocean that will provide meteorological and Oceanographic data for weather forecasts and research purposes, including the World Climate Research Programme (WCRP).

The respected Germany Alfred Wegener Institute participates in the IABP and supports the expedition. The institute will assure the seamless integration of data into the IABP database coordinated by the Polar Science Center in Seattle, Washington, United States.



Together with German manufacturer denkmanufaktur and the Alfred Wegener Institute, the expedition has developed a new type of ice-beacon. It weighs only 5 kilograms and is easy to activate. The beacons can be tracked near Real-Time on the Internet.

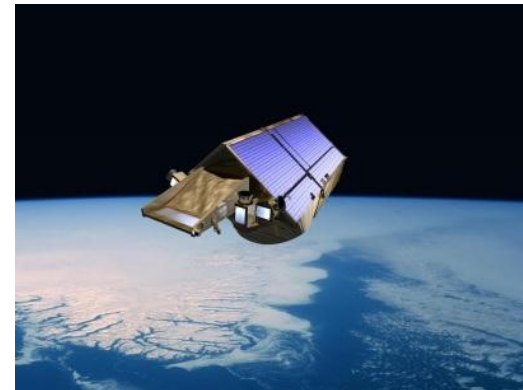


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ESA CryoSat mission

As part of the Living Planet Programme the European Space Agency (ESA) initiated CryoSat. It is a three-year radar altimetry mission, scheduled for launch March 2005, to determine variations in the thickness of the Earth's continental ice sheets and marine ice cover. Its primary objective is to test the prediction of thinning Arctic ice due to global warming.

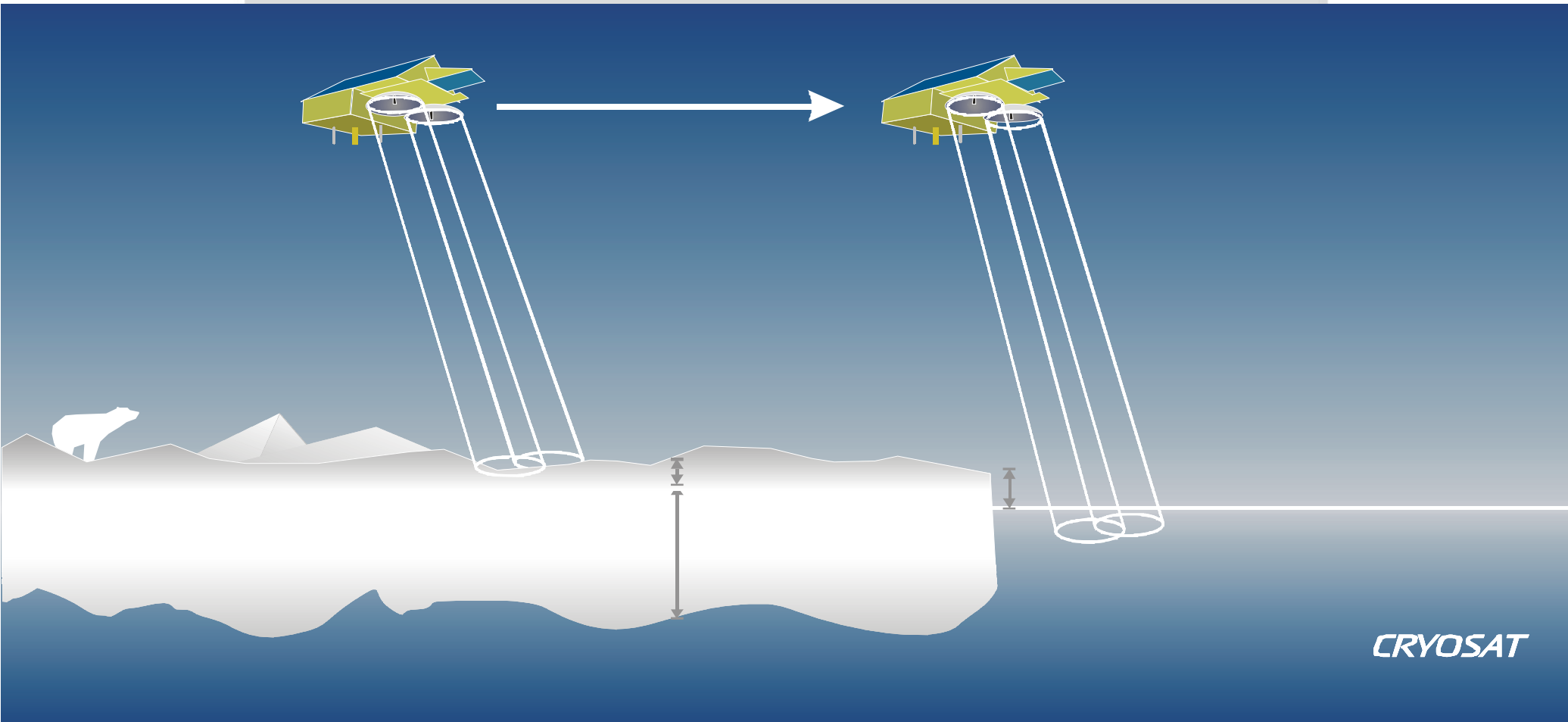
CryoSat will contribute to scientific studies of the polar climate and climate change with an unprecedented level of detail. To ensure that the data is accurate enough to be used in global climate research, it is essential to correct for a degree of error due to a variety of technical and physical effects. This means that data received from the altimeter aboard CryoSat must be calibrated and verified with data taken in-situ. In addition to validating CryoSat's data, the expedition will provide a snow-cover profile over a section of 1000 kilometers of sea ice.



This is a visualization of the CryoSat satellite in orbit, 720 kilometres above the Earth.

For more information visit ESA's website at: www.esa.int/export/esaLP/cryosat.html

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Promoting solutions

It will take some time before there is a full understanding of how the Arctic Ocean responds to dynamic and thermal forces such as sea currents, winds and rising temperatures. But it is undisputed that rising temperatures in the Arctic will effect the ice cover of the ocean. This is potentially dangerous as the ice sheet on top of it is responsible for reflecting solar heat back into the atmosphere. A retreat of ice will amplify the warming up of the region.

Action has to be taken now to reduce the emission of greenhouse gasses as they impose a threat to the sensitive eco-system of the polar region.

The expedition offers an exiting and attractive platform to address this issue and promote solutions to reduce the human impact on global warming . The promotion of these solutions is integral part of this expedition and is taken at hand in close co-operation with stakeholders such as the WWF and energy companies like the Dutch based Essent.



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Taking it further

While Marc, Doug and Petter are nearing the Geographic North Pole at the end of April 2005, they will call upon young adults around the world to join their next mission.

Participants between 18 and 25 years old (man and women) will be selected for the 2006 mission on the Ice Cap of Greenland. The aim is to offer a live changing experience in the polar region and add to the knowledge and skills of the participants in such a way that they are inspired, well informed and effective Climate Change ambassadors in their home country. The concept is called Climate Change College.

This ongoing effort ensures a more wide spread and continued level of attention for the global challenge imposed by climate change. This initiative is supported by WWF International.



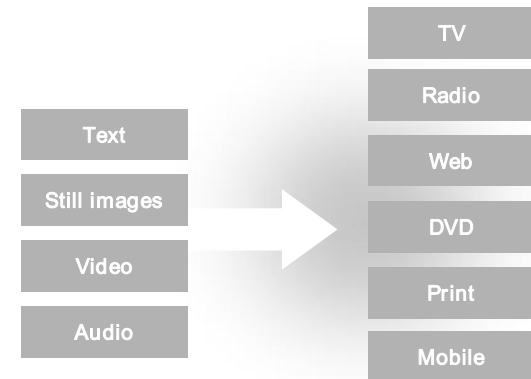
Young people will be inspired and trained to be well informed and skilled ambassadors to gain attention for Climate Change issues in their home country.

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Communication as it happens

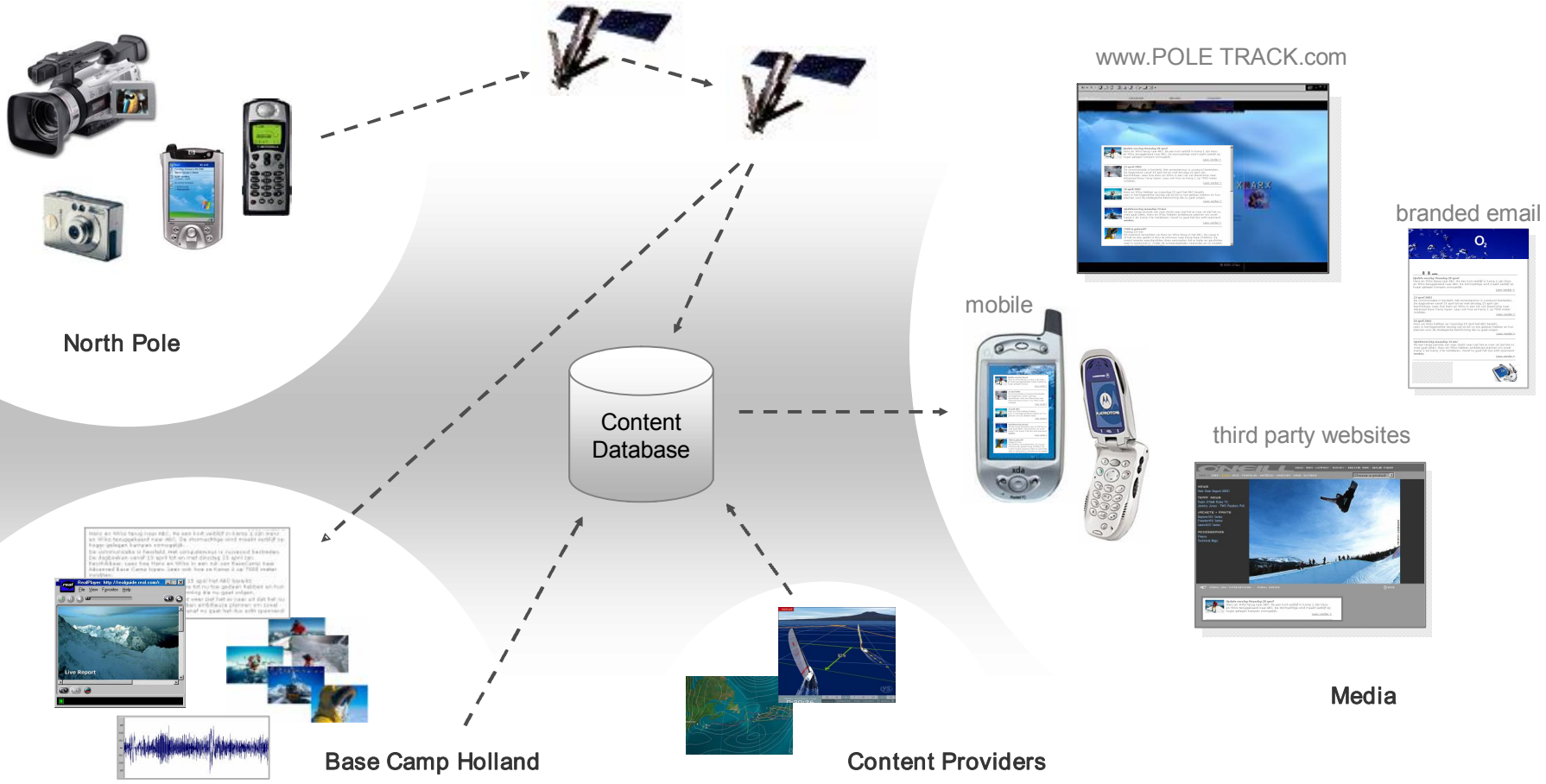
The days when expeditions were cut off from the outside world for a long time, before returning to civilization and being able to report to the public, are now behind us. Modern communication technology will enable this expedition to relay information from the North Pole to anywhere around the globe in mere seconds. Near real-time communication stimulates involvement from the audience. Proven technology will be used to report live from the ice and interact with people who follow the expedition.

Reports will consist of voice, text, pictures or compressed video files. All reports are managed and published from one central database to different media. This database also contains unique multi-media fragments related to the topics and backgrounds of this expedition. Attractive and accessible information maximizes the impact of the project.





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Experienced and dedicated explorers

For many years Marc Cornelissen has made expeditions, most of them in the polar regions. He is one of the few people on this Planet to reach the Geographic South and North Pole using muscle power. With his expeditions not only did he focus on personal challenges; he also called attention to conservation issues. On every occasion he did this in close co-operation with WWF Netherlands.

Alarmed by continuous reports on climatic changes in the Arctic, Marc initiated the POLE TRACK expedition. Although mentally and physically the expedition will be very demanding, the main focus will be the collection of scientific data. The extra weight of the instruments and the daily discipline needed to perform readings demand an extraordinary level of dedication. Marc will be joined by Doug Stoup / U.S. and Petter Nyquist / Norway, both first class (polar) explorers with a broad experience in media and communication.



'Any opportunity to explore the polar region is a worthwhile endeavor. When such an adventure is combined with beneficial research for the planet then I have no choice but to participate.'

Doug Stoup