including a methane flux measurement campaign on tundra and floodplain environments and thermokarst lakes, vegetation ecological experiments and sampling of lake bottom sediments for paleo-ecological research. Also a site was established for longer term monitoring of active layer thickness. In the summer of 2008, for the first time eddy covariance measurements using a cavity ringdown laser system were successfully set up and operated at the tundra site; its operation continued in the summer of 2009. Contact scientist: K. van Huissteden (ko.van.huissteden@falw.vu.nl).

The Willem Barentsz Polar legacy

When Willem Barentsz discovered Spitsbergen in 1596 he could never have imagined that more than 400 years later dozens of Dutch scientists go over there for all kinds of research and there would even be a Dutch Arctic Station. Nowadays Dutch researchers explore a variety of research topics from polar Archaeology till polar Zooplankton. A lot of these polar researchers are now working together in the Willem Barentsz Polar Institute (WBPI), an institute for Arctic and Antarctic research, although Willem Barentsz never went to the Antarctic.

The WBPI wants to be a clear Dutch identity in the international field, enhance the co-operation between Dutch polar researchers and contribute to polar education and outreach activities. The WBPI wants to give a positive boost to new initiatives from the Netherlands in the polar areas. It hopes to create an organisation that is a clear contact point of Dutch research in polar areas for the international field.

The first WBPI symposium was held in Groningen, 22th October 2009, followed by a day from the Netherlands Polar Network for early career scientist (NLPN) that is supported by the WBPI. The WBPI encourages students to do international polar courses and is willing to help (international) students to find suitable courses and master projects in the Netherlands.

More information can be found on the website: www.wbpolar.nl.

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New Zealand

This year we are celebrating 50 years since the first soil/permafrost scientific expedition in the Ross Sea Region of Antarctica. It was undertaken by Prof. John D. McCraw and Dr Graeme G. Claridge. They set off from Scott Base on the Massey Fergusson tractors that Sir Edmund Hillary took to the South Pole in 1957/58 and drove to New Harbour, from which they travelled on foot for several weeks exploring the Taylor Valley and adjacent areas. Graeme Claridge went on to become an expert on Antarctic soil chemistry and, with Iain Campbell, authored the most authoritative book available on the soils of Antarctica. Both McCraw and Claridge are fit and well - (permafrost and cryosol research must be good for you) and we will be holding a celebration to mark their original journey in November this year.

Graeme Claridge and John McCraw setting out on the first Antarctic soil and permafrost investigation expedition on the Hillary tractors, 50 years ago, in October 1959. (Photograph provided by Megan Balks)

Looking forward in time, Meridian Energy, in Alliance with Antarctica New Zealand and with support from the US National Science Foundation (NSF), are constructing a three turbine ‚proof of concept' wind farm on Crater Hill, Ross Island, Antarctica. Following commissioning in February 2010, the wind farm will supply power to and link the electrical grids of New Zealand's Scott Base and neighbouring US McMurdo Station offsetting fuel use. Sub-zero temperatures, absence of batching plant, aggregate and large quantities of fresh water have meant that it is not possible to construct a typical concrete gravity pad wind turbine foundation. Instead, the project has utilised a pre-fabricated foundation comprising eight 13-tonne concrete blocks buried in the permafrost. The blocks are fixed to an eight-legged steel ‚spider' with a flange that bolts to the wind turbine tower. Each concrete block is also fitted with two 12m long ground anchor bolts drilled and grouted in as an additional precaution for extreme weather events.

Foundations going in for the proposed windfarm site on Ross Island, Antarctica. (Photograph provided by Megan Balks)

Most New Zealand Antarctic researchers are currently involved in a funding bidding round that will largely determine the fate of NZ Antarctic permafrost research for the next six years. There is only a small pool of funds and a great deal of competition from many science areas so it is a challenging time for many.

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