Project Name	Arctic Coastal Dynamics II
Acronym	ACD II
Study Region	Arctic
Principal Investigator	Paul Overduin
Duration	April 1, 2006 - December 31, 2011
Project Website	Link to project website
LOICZ Project Database	Click here for more project information

PROJECT DESCRIPTION

Arctic Coastal Dynamics II (ACD II) is a joint project of the International Arctic Science Committee (IASC) and the International Permafrost Association (IPA). Its overall objective has been to improve our understanding of circum-arctic coastal dynamics as a function of environmental forcing, coastal geology and cryology and morphodynamic behavior. ACD II extends this focus to establish a circumpolar network of coastal observatories, within the context of the International Polar Year (2007-09).

This network serves as a global tool for detecting and monitoring change in the Arctic coastal zone and will provide the necessary input to further our understanding of processes unique to the coastal zone in the Arctic. The incorporation of biodiversity groups and human dimensions researchers into the planning process (e.g. the International Conference on Arctic Research Planning II in November 2005) ensures a multidisciplinary approach. The coastal region in the Arctic is where human habitation, transportation, and resource harvesting take place: ACD II seeks to capture change in this soci-ecological ecosystem with the involvement of communities by creating a snapshot of current processes.

The network is designed to create common methodologies resulting in easy circumpolar data-sharing . Subject to the creation of the new science and implementation plan for ACD II at the 6th ACD workshop taking place in October 2006, the goals of ACD II are: " Support the creation of an international network of Arctic coastal observatories. This effort has been launched as an IPY initiative to incorporate the key sites established as a part of ACD Is coastal classification effort, and to develop them into observatories via the creation of a standardized monitoring template, and specific goals for synthesis of observations (beginning with a 7th workshop during IPY). The inclusion of community-based observations at observatory sites (for example, of sea ice extent) provides a link to communities and the issues of importance to coastal residents. " Use the observations to develop a more comprehensive understanding of the processes at work in Arctic coastal environments in order to better predict what responses to expect under changing environmental forcings in these regions. "

Integrating human and physical sciences in the Arctic coastal zone. ACD recognizes that the coastal zone in the Arctic has traditionally been the region in which habitation, resource harvesting and transport occur. As such, the physical sciences need input on the human perspective on coastal processes. The participation of local shareholders in the observation process provides a mutual benefit as monitoring efforts adapt to become socially relevant. "The evolution of permafrost in the submarine environment is a relatively unexplored field with broad implications for coastal stability and the fate of methane on the continental shelf. This goal includes the mapping of offshore permafrost and the compilation, analysis and application of existing environmental forcing data. " Publish coastal classification as an internet map server (IMS-GIS). Refine coastal classification, including the assessment of the quality of data in the current classification. " Establish a remote sensing baseline for the observatory network and further develop methods of using remote sensing products to better understand and characterize the coastal zone (i.e., using Radarsat imagery to detect the extent of bottom-fast ice).

THE PROJECT RELATES TO THE FOLLOWING PRIORITY TOPICS AND SCIENTIFIC THEMES

Scientific Themes:

1- Vulnerability of Coastal Systems and Hazards to Society

2 - Implications of Global Change for Coastal Ecosystems and Sustainable Development