

"Monitoring For Ecosystem Change In The Canadian Arctic (Auyuittuq National Park, Baffin Island)

Joyce Gould, Science Co-ordinator, Alberta Tourism, Parks, Recreation and Culture, Charles Tarnocai, Research Scientist, Agriculture and Agri-Food Canada, Research Branch, Gabrielle Broll, Professor, University of Vechta and Peter Achuff, Scientist Emeritus, Parks Canada

Seven transects were established in Pagnirtung Pass in Auyuittuq National Park, Baffin Island in 1995 and 1996 to monitor changes in ecosystems of the Canadian Arctic. Detailed vegetation, soil, permafrost and surface condition data collected along these transects in 1995 and 1996 were remeasured in 2002 and 2007. Parks staff collecting information on types and severity of disturbance in intervening years. Data indicate that the ecosystems associated with these transects were dynamic and changes appear primarily due to natural processes although there is some indication of human impact. Wind, water, changes in air and soil temperatures and direct human activities appear to be the main factors affecting change. The higher soil temperatures have had a noticeable effect on thaw depth and soil moisture with the greatest difference noted in the northern part of Pagnirtung Pass. Changes in vegetation, both cover of vascular plant taxa and species composition, were also noted and these may be the result of the higher air temperatures and greater thaw depths.