



The state of permafrost as observed during the International Polar Year

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Four coordinated permafrost programs are planned for the International Polar Year (2007-2008). Our “Permafrost Legacy” is to create a “snapshot” of existing conditions as a baseline against which to assess future changes. (1) The Permafrost Observatory Project: A Contribution to the Thermal State of Permafrost (TSP) will obtain a “snapshot” of permafrost temperatures in many hundreds of existing and new boreholes throughout both hemispheres. The project is a field campaign of the existing Global Terrestrial Network on Permafrost (GTN-P) that also includes the Circumpolar Active Layer Monitoring (CALM) project and monitoring of periglacial processes. (2) The Antarctic and sub-Antarctic Permafrost, Periglacial and Soil Environments project (ANTPAS) is aimed at integrating existing and new data on the distribution, thickness, age, history and physical and geochemical properties of permafrost, soils and the active-layer on the Antarctic continent and sub-Antarctic islands. A monitoring network, a regional subset of GTN-P, and consisting of borehole temperatures, active-layer thickness, and periglacial and soil observations, will be established along selected environmental gradients. (3) The Arctic Circum-Polar Coastal Observatory Network (ACCO-Net) proposes approximately 20 key coastal sites including deltas and estuaries of major Siberian and North American rivers at which physical, ecological, biochemical and socio-economic changes will be observed. (4) The Carbon Pools in Permafrost Regions (CAPP) project is aimed at quantifying soil organic matter quantity and quality in high-latitude and high-altitude regions that are characterized by the presence of isolated to continuous permafrost terrain with special attention to

the widespread peatlands (organic soils). Other permafrost activities include regional mapping projects in Central Asia and the Nordic region. Education, outreach and data management activities are key elements in these projects. The Permafrost Young Researchers Network (PYRN) will provide information to support the development of a new generation of permafrost researchers. A catalogue of International University Courses on Permafrost (IUCP) is under development. The Joint Committee of the IPY has approved these projects that include approximately 150 individuals from many of the 26-member countries of the International Permafrost Association (IPA). The IPA is coordinating these projects with the International Union of Geological Sciences (IUGS), the Scientific Committee for Antarctic Research (SCAR), the Land-Ocean Interactions in the Coastal Zone (LOICZ), the International Arctic Science Committee (IASC), and the Global Carbon Project (GCP). Results will be presented at the Ninth International Conference on Permafrost (NICOP) in Fairbanks, Alaska, and the 33rd International Geological Congress in Oslo, Norway, during summer 2008.