United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation,
la science et la culture

International Experts Meeting

Climate Change
and Arctic Sustainable Development :
scientific, social, cultural and educational challenges

3-6 March 2009, Monaco

ABSTRACT: BIODIVERSITY AND ECOSYSTEM SERVICES

Kari Laine
Thule Institute,
University of Oulu,
FINLAND

Northern Long-term Socio-ecological Research Platform (Northern LTSER Platform) cooperation in Finland: possibilities and challenges for long-term socio-ecological research

The Northern LTSER Platform, founded as a part of the Finnish LTER Network in 2007, constitutes an environmental transect from northern boreal forest landscapes to arctic tundra. The main aim of the Northern LTSER Platform is to pool long-term research activities and monitoring data of the northernmost university research stations in Finland under five research themes related to socio-ecological changes in northern nature and communities. The platform is a good example of a comprehensive and interdisciplinary research cooperation. The platform covers northern parts of Finland almost entirely and the study design of the platform operates as a sensitive instrument to assess drivers, pressures and the state of the environment on multiple spatial scales both on nature and human systems and their interactions. The sites maintain high-quality infrastructures that enable research with a focus on complex interactions between environmental pressures (climate change, land use change, atmospheric pollution) and ecosystem functions and services. The sites cover a wide range of ecosystems and human induced pressures and serve as bases for socio-economic research. A well-developed network of university research stations (Oulanka, Kilpisjärvi, Kevo, Värriö) and northern units of research institutes (NorNet partners) offers the basic infrastructure for conducting collaborative research; basic laboratory facilities, competent personnel and office space as well as accommodation facilities for visiting scientists. The Pallas-Sodankylä Long-Term Ecological Research (LTER) Observatory, a part of the Northern LTSER-platform, provides for example the weather and atmospheric parameter monitoring data, land cover characteristics, hydrological and surface water quality monitoring and modelling data, forest ecosystem monitoring data, and environmental radioactivity data. About 30 senior researchers or professors with their research groups are involved in the work of the platform. LTER in Finland has objectives similar to that of the international LTER network. The research themes of the Northern LTSER Platform are the following: 1) Population dynamics and productivity of plant and animal populations living in the periphery of their distribution, 2) Effects of global change on

northern ecosystems, 3) Changing society and livelihoods in rural and peripheral areas, 4) Human health and wellbeing in northern communities, and 5) Information management and research infrastructure for scientific collaboration. Additionally, problems and challenges for long-term socio-ecological research will be discussed.