Geophysical Research Abstracts,
Vol. 10, EGU2008-A-09475, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-09475
EGU General Assembly 2008

Schools on Ice - Classroom Experiments on Cryospheric Processes

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The creation of public awareness of Polar Regions is one of the important tasks of the International Polar Year (IPY). Schools on Ice is an educational project taking place as a contribution to the IPY. Within the project, pupils will study issues concerning global change and its impact on the polar regions in the Arctic and the higher Alpine regions supported by scientists. Cryospheric processes and research in the Arctic are transferred to the classroom via digital globes like google earth and via a geoblog written by a scientist while his fieldwork in meteorological station Zackenberg / Greenland. Glaciers and permafrost in the alpine area of Central Austria will be studied by students in situ by measuring and mapping former and current extension with GPS. The project strongly advocates the inclusion of pupils' perspectives and activity in the conceptualisation of learning materials. Based on these foundations, the project develops and evaluates learning objects for free use in schools. An important part of the project is the development of tutorials concerning the physical attributes of ice. These learning objects are intended to help to develop pupils' curiosity and awareness in studying cryospheric processes. By carrying out of classroom experiments pupils are involved in measuring processes, collection and analysis of data, and discussion of the obtained results. The active participation of the children provides a base for effective learning. The reflection on properties of ice will support their interest for the Polar Regions. By simple hands-on experiments natural processes can be understood and the practical experience can be transferred to other situations. This presentation gives an overview of the development and implementation of the tutorials supervised by scientists of the Technical University Vienna - Department of Geophysics with teachers and students

of primary and secondary schools. After a general introduction pupils are supported in scientific working and setting up experiments by themselves using instruction manuals. The presentation concludes with an evaluation of learning objects as base for subsequent discussion.