Geophysical Research Abstracts,
Vol. 10, EGU2008-A-07421, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-07421
EGU General Assembly 2008

Investigating the potential for palaeo-climatic record in buried ice from the Dry Valleys, Antarctica

D. Samyn (1), D.M. Marchant (2), R.L. Lorrain (1) and J.-L. Tison (1)

(1) Laboratoire de Glaciologie, Université Libre de Bruxelles, Belgium, (2) Department of Earth Sciences, Boston University, USA

Glaciers and ice sheets are sedimentary deposits that enclose paramount information for the understanding of past and current environments. Since a few decades, most of this information has been retrieved from deep polar ice cores, allowing to decipher crucial interactions between the various spheres of the global environment at the million-year scale. However, because of the potential disturbance of environmental proxies in glacier ice cores by ice flow and basal processes, and of the limited time cover of such cores, there is a need to explore new types of glacial archives. The present work deals with buried ice deposits from the Dry Valleys, Antarctica, that might represent new and potentially far-reaching archives of terrestrial atmosphere and climate. We focus on grounded ice cores from several locations in Beacon Valley, and discuss preliminary results of co-isotopic, gas content and textural analyses. Various scenarii taking account of the local glaciological, geological and climatological context are explored to understand the formation of buried ice and to evaluate its role as a potential environmental archive.