



Preliminary results from the chemical analysis of GV7 ice core (East Antarctica)

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In the framework of the new project “The IPICS 2k Array: a network of ice core climate and climate forcing records for the last two millennia”, which represents a thematic research line of International Partnerships in Ice Core Sciences (IPICS), a 250 m deep ice core (spanning roughly the last millennium) was retrieved at GV7 site, together with several shallow firn cores and snow pits. The PNRA (Programma Nazionale di Ricerche in Antartide) project “IPICS-2kyr-It” represents the Italian contribution to IPICS “The 2k Array” and it is being accomplished in collaboration with KOPRI (Korean Polar Research Institute).

The availability of various records from the same site all spanning a temporal period ranging from the last decades to the last centuries will allow achieving a stacked record of chemical and isotopic markers and accumulation rate, that is basic for a reliable climatic reconstruction.

Previous surveys in the area of GV7 (70°41' S - 158°51' E, 1950 m a.s.l., East Antarctica) showed that this site is characterized by a relatively high accumulation rate (about 240 mm water eq./year), allowing a high resolution study of the climatic variability in the last millennium.

The aim of this work is to present the chemical stratigraphies of the ion markers coming from a snow pit, two shallow firn cores and the uppermost part of the deep ice core, in order to carry out a preliminary survey of their preservation and temporal patterns at this site.

Basing on the seasonal trends of selected climatic and environmental proxies (such as non-sea-salt sulphate, methanesulphonic acid and nitrate), an accurate dating of this snow pit is being performed, which is basic for the interpretation of the achieved records and for their comparison with records from snow pits or ice/firn cores collected at different sites.