

GEORADAR SURVEY ON “VEDRETTA DELLA FRADUSTA” (TN). FIRST RESULTS.

Pavan M. (1), Pasta M.(2), Carollo F. (3), Sonda D. (4), Cagnati A.(5) & Valt M.(6)

- (1)D.I.S.I., Università di Genova (pavan@disi.unige.it)
- (2)DIP.TE.RIS., Università di Genova (pasta@dipteris.unige.it)
- (3)Libero professionista S.W.F. Studio Vicenza, (info@swfstudio.it)
- (4)Libero professionista (diego.sonda@libero.it)
- (5)ARPAV Centro Valanghe Arabba (acagnati@arpa.veneto.it)
- (6)ARPAV Centro Valanghe Arabba (mvalt@arpa.veneto.it)

The results obtained by a thorough georadar survey on “Vedretta della Fradusta” (performed on September 2004) are here introduced. The survey are achieved with a radar instrument operating at a frequency of 100 Mhz. The positioning of the radar survey was obtained by DGPS real time technique.

The helicopter allowed people and instruments to move to the glaciers reducing transfer time. In this survey are carried out profiles more than 5000 m long.

The measurements are performed on both upper and lower glacier lobes and allowed to appreciate a maximum thickness of about 37 m (on the glacier upper area) and permitted the evaluation of a volume of about $1.75 \cdot 10^6 \text{ m}^3$.

The jointed use of GPR measurement with GPS positioning, sampled at 1 second interval, allowed to produce a 3D model of the glacier bedrock.

The digital elevation model emphasized also an hollow close to the glacier terminus, the hollow could host a lake in case of future important glacier regression.

The results of these measurements constitute a first starting point for all the next future evaluations on the glacier evolution. The comparison between the current results with those future surveys could contribute to evaluate the evolution of the regional climate.