



Workshop IODP-Italia “Lo stato delle proposte di perforazione nell’area mediterranea”
Scientific Drilling in the Mediterranean Sea
Roma, 15-16 gennaio 2018

Abstract

ICDP –Lo stato delle proposte di perforazione per l’area del Mediterraneo

Drilling Overdeepened Alpine Valleys – step 1 (ICDP – DOVE step 1).

The Italian CNR contribution to Alpine glaciation and the palaeoclimatology of glacioeustatic cycles from the Alpine foreland to the Adriatic realm#

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The ICDP project - Drilling Overdeepened Alpine Valleys (DOVE) arises from the initiative of the six main circum-alpine countries (Switzerland, Germany, Austria, Italy, France and Slovenia) with the aim to drill the most relevant valley structures segmenting the Alpine edifice and provide a stratigraphical archive of their glacier and pre-glacial history down to the bedrock. The project design, discussed in the international workshop held in Como (2013) and finally approved by ICDP in 2016, is targeted at two main scientific purposes – (i) reach the most ancient sediments accumulated in proximity of one depocenter, relying on preliminary geophysics and drillings – and (ii) build up a history of the multiple Alpine glaciations and Quaternary climates, and their interplay with tectonics and erosion in shaping the Alpine landscapes and their biodiversity.

The feasibility of global correlation and tuning, applied to terrestrial stratigraphy, is based on long regional reference records, which are currently missing in the Alpine region. Long reference archives can be offered by the Italian counterpart, thanks to the availability of a glacioeustatic record, directly controlled by Alpine glaciations in the northern compartments of the Adriatic foredeep.





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The lower Friulian and Venetian plain was directly supplied by the Tagliamento and Isonzo glacial/fluvioglacial systems. A large accommodation space, favored by substantial Quaternary subsidence, allowed glacial spreads to alternate with marine interglacial and interstadial incursions. A complete set of terrestrial and marine palaeoclimate proxies will be studied at centennial resolution throughout the last million year across this outstanding glacioeustatic record in the Azzano Decimo extended drillhole, AZDh. Borehole is funded by the Regione Friuli Venezia Giulia. The drilling is expected to reach a depth of ~350 m (around MIS 22) and to record the Brunhes/Matuyama paleomagnetic inversion at ~320 m depth.

The research will be primarily performed by researchers at IDPA and IGG CNR, and is open to cooperation to focus on further issues in paleoclimatology at Alpine and Mediterranean scale, as well as in drilling technologies.

