

RESEARCH FIELD:

Quaternary Geology

RESEARCH TOPIC:

Study of Quaternary sediments and landforms

PARTICIPANTS AND COLLABORATIONS:

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RESEARCH DESCRIPTION:

Contribution of Quaternary Geology to the Piedmont Geoheritage project:

Reconstruction of the quaternary sediments in the Ivrea Morainic Amphitheater, with the taking of a core of sediments through the realization of a sounding.

Study of the limbs related to the terraced fluvial quaternary sediments that characterize the hilly area adjacent to the City of Turin concentric. It consists in the reconstruction of the subsequent paths of the ancient Po River in the Quaternary, around the Turin Hill, through the graphical representation of the different episodes of river modeling and the three-dimensional reconstruction of the hillside.

Researches related to the Villafranchian sedimentary succession outcropping diffusely in the Asti wine area and to the Pliocene-Quaternary deformation along the T. Traversola deformation Zone.

Evaluation of one of the routes around the Monviso likely used by Hannibal in 218 BC during the second Punic War. Study of the deep-seated gravitational slope deformations in the Rodoretto Valley (Germanasca Valley) in the Monviso Massif.

Study of the different episodes of fluvial sedimentation that characterized an ancient alluvial fan of the Biella area, closely related to the evolution of morphology and soils that interest it.

Contribution of Quaternary Geology to the study of the archaeological heritage of the Valle d'Aosta project:

Reconstruction of the geological events and the climatic changes in the middle Aosta Valley, where some prehistoric sites frequented by humans in the Mesolithic, Middle Neolithic and in the Copper age are being investigated (geoarchaeology).

Contribution of Quaternary Geology to the hydrogeological study:

Geological study of some sources of the Turin Province, in collaboration with the hydrogeologists, with the aim to make a three-dimensional reconstruction of the aquifers.

Contribution of Quaternary Geology on studies of a convergent margin at different structural levels:

Study of the quaternary sediments and the deep-seated gravitational slope deformations in the Alpine Ridge in the Piedmont and in the Aosta Valley.

RESEARCH PRODUCTS:

- Forno M.G., De Luca D.A., Fioraso G., Gianotti F. (2010) - Hydrogeological implication of the Pliocene-Pleistocene torrential and debris flow succession around the Lanzo Ultramafic Massif (Western Alps). *Memorie Descrittive della Carta Geologica d'Italia*, 90: 97-112.
- Forno M. G., Lingua A., Lo Russo S., Taddia G. (2011) - Improving digital tools for Quaternary field survey: a case study of the Rodoretto Valley (NW Italy). *Environmental Earth Sciences*, 64, 1487-1495.

- Forno M. G., Lingua A., Lo Russo S., Taddia G., Piras M. (2011) - GSTOP: a new tool for in field recording of 3D geological data. Riassunti del Convegno: GEOITALIA, VIII Forum FIST, Torino, 19-23 settembre 2011, EPITOME, 4, pp. 247.
- Forno M. G., De Luca D. A., Destefanis E., Gianotti F., Lasagna M., Masciocco L. (2011) - Stratigraphic reconstruction of the Cascina Giarrea well field: a strategic site for the supply of the Monferrato Aqueduct (central Piedmont plain, Italy). Riassunti del Convegno: GEOITALIA, VIII Forum FIST, Torino, 19-23 settembre 2011, EPITOME, 4, pp. 21.
- Gianotti F, Forno MG, Ajassa R, Cámara Artigas F, Cigolini C, Ferrando S, Giardino M, Mortara G, Motta L, Motta M, Rossetti PG (2011) - Glaciation and deglaciation: geomorphic signatures on morainic amphitheatres of Ivrea and Belvedere. Riassunti del Convegno: GEOITALIA, VIII Forum FIST, Torino, 19-23 settembre 2011, EPITOME, 4, pp. 133.
- Forno M.G., Gattiglio M., Gianotti F. (2012) - Geological context of the Becca France historical landslide (Aosta Valley, NW Italy). *Alpine and Mediterranean Quaternary* 25 (2), 125-139.
- Forno, M.G., Gattiglio M., Gianotti F., Raiteri L., Guerreschi A. (accepted) - Deep-seated gravitational slope deformations as possible suitable locations for prehistoric human settlements: an example from the Italian Western Alps. *Quaternary International*.
- Forno, M.G., Lucchesi S. (accettato) - La successione pliocenico-quadernaria su cui è edificata la Città di Torino e il suo significato per l'utilizzo del territorio. *Geam*.
- Lasagna M., De Luca D.A., Clemente P., Dino G.A., Forno M.G., Gattiglio M, Gianotti F. (accepted) - Valutazione dell'apporto idrico alla sorgente Montellina da parte del T. Renanchio (Quincinetto, Torino). *Acque Sotterranee. Italian Journal of Groundwater*.
- Rolfo F., Benna P., Cadoppi P., Castelli D., Favero-Longo S., Giardino M., Balestro G., Belluso E., Borghi A., Cámara F., Compagnoni R., Ferrando S., Festa A., Forno M. G., Giacometti F., Gianotti F., Groppo C., Lombardo B., Mosca P., Perrone G., Piervittori R., Rebay G., Rossetti P. (reviewed) - The Monviso massif and the Cottian Alps as symbols of the alpine chain in geological heritage in Piemont, Italy. *Geoheritage*.



Fig. 1. Panoramic view of the Ivrea Morainic Amphitheatre.

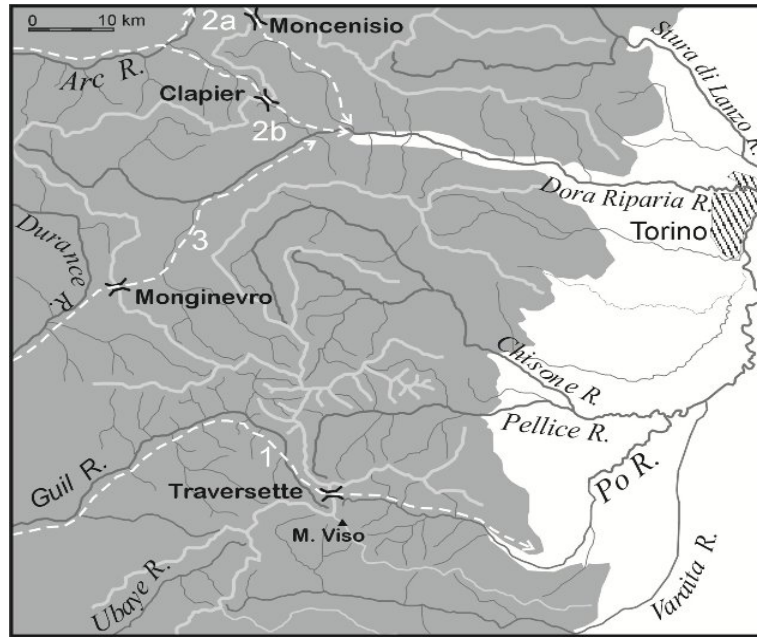


Fig. 2. Map of the possible routes (1, 2 and 3) followed by the Hannibal's Punic army across the southern sector of the Western Alps.

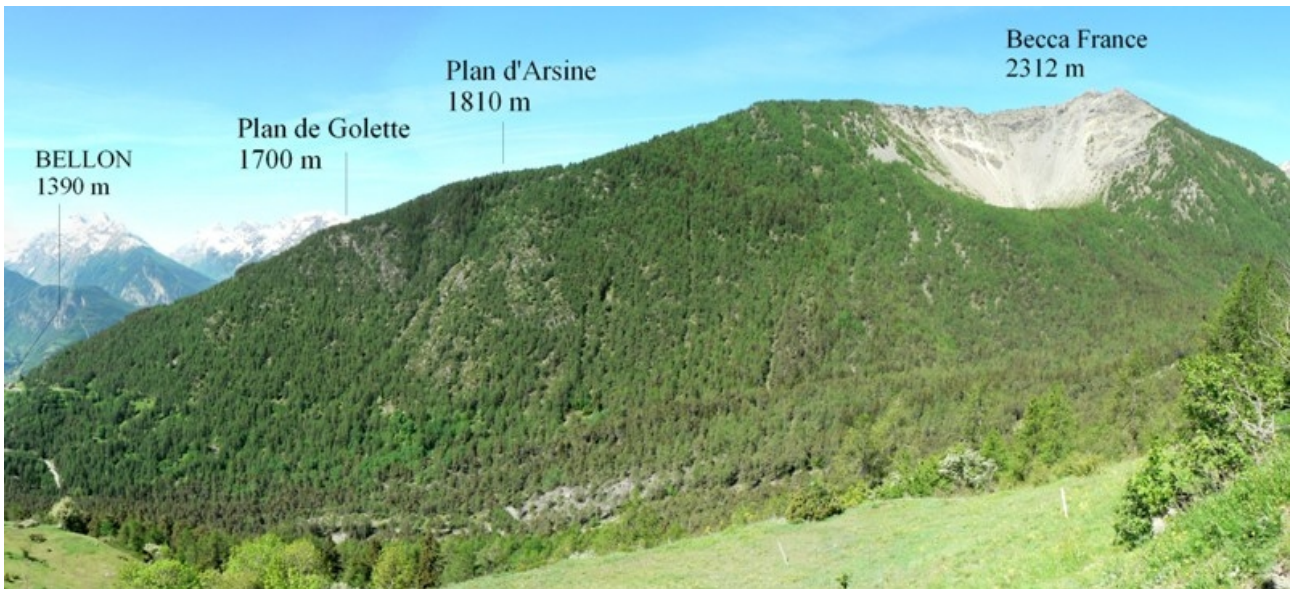


Fig. 3. Main scarp and landslide body of the Becca France rock avalanche in the Clusellaz Valley (Aoste).



Fig. 4. Overall view of the Plan di Modzon (a) in the Verrogne Valley, occupied by human settlements (MF1 and MF3) since Mesolithic.

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