Italian Geological Maps – More than a colored picture

Using geological maps to support better policies for society

PANEL 2C

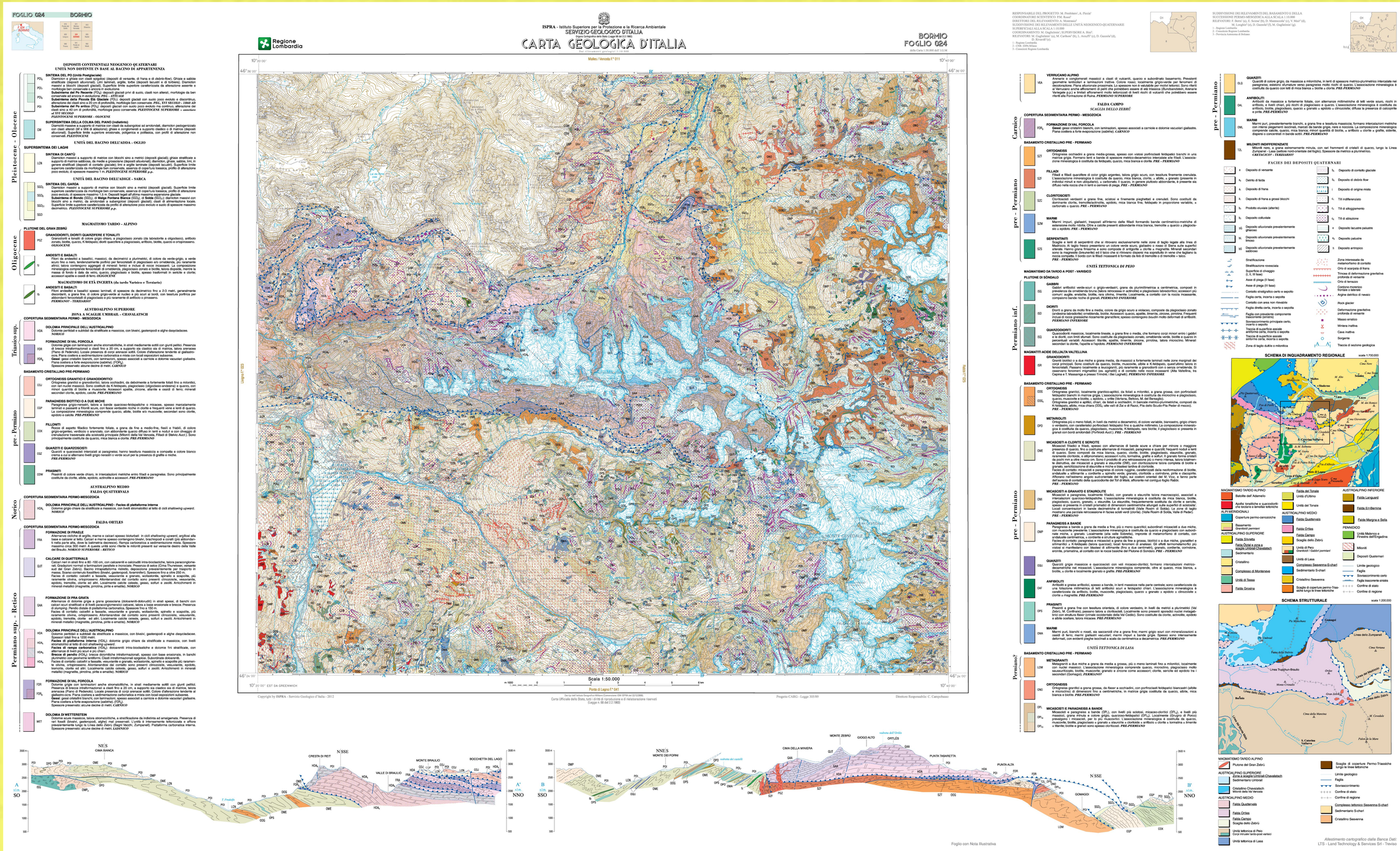
Central Alps: the Austroalpine units
From typographical maps to digital databases
Understanding geological processes in the XXI Century

Double change with the launch of the CARG Project:

1) Updated scientific approach to data collection and representation taking into account the development of the Earth Sciences
2) Geological data stored in a standardized national GIS database (homogeneous criteria for data collection)

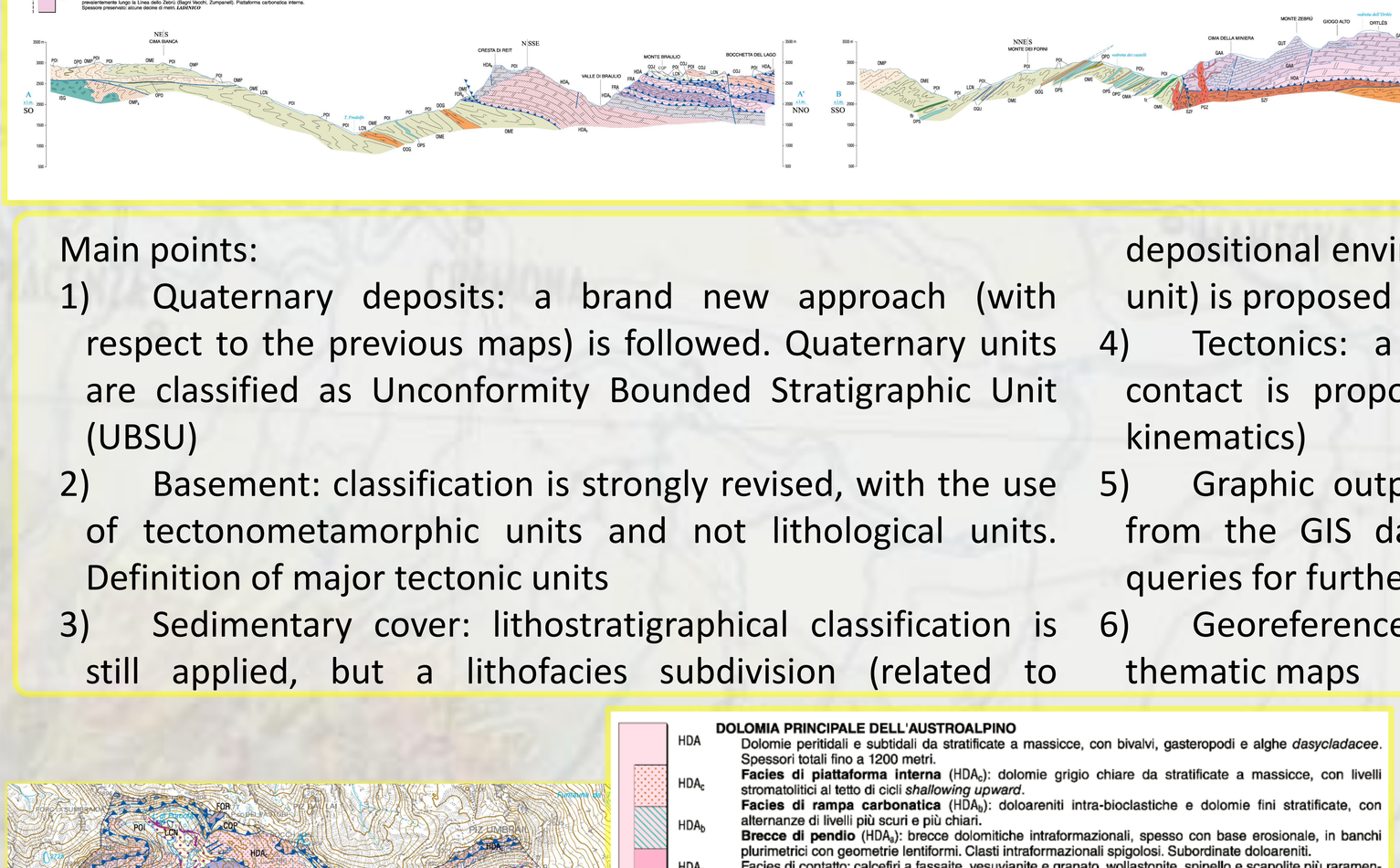
Consequence on the involved teams:

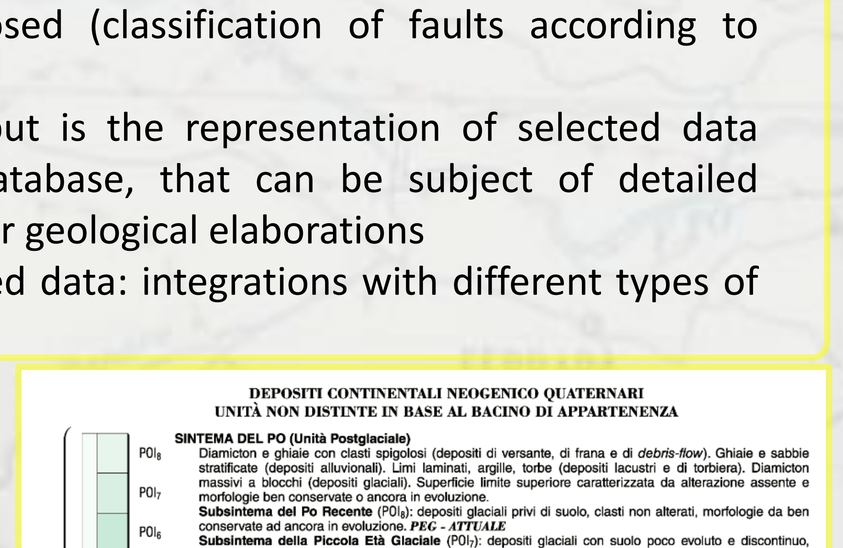
1) Education to the use of GIS for field geologists; hardware and software tools to store data collected by the team of field geologists
2) New approach to data collection and representation: the map is only one of the possible elaborations from the database



Main points:

1) Quaternary deposits: a brand new approach (with respect to the previous maps) is followed. Quaternary units are classified as Unconformity Bounded Stratigraphic Unit (UBSU)
2) Basement: classification is strongly revised, with the use of tectonometamorphic units and not lithological units. Definition of major tectonic units
3) Sedimentary cover: lithostratigraphical classification is still applied, but a lithofacies subdivision (related to depositional environments within the same lithostratigraphic unit) is proposed
4) Tectonics: a more detailed classification of tectonic contact is proposed (classification of faults according to kinematics)
5) Graphic output is the representation of selected data from the GIS database, that can be subject of detailed queries for further geological elaborations
6) Georeferenced data: integrations with different types of thematic maps





GIS databases can be easily handled to produce 3D digital geological models, that can be used for quantitative elaborations and for land management

3D models obtained with MOVE™ from a CARG database

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