Geomorphology of the Mt. Cusna Ridge (Northern Apennines, Italy): evolution of a Holocene landscape

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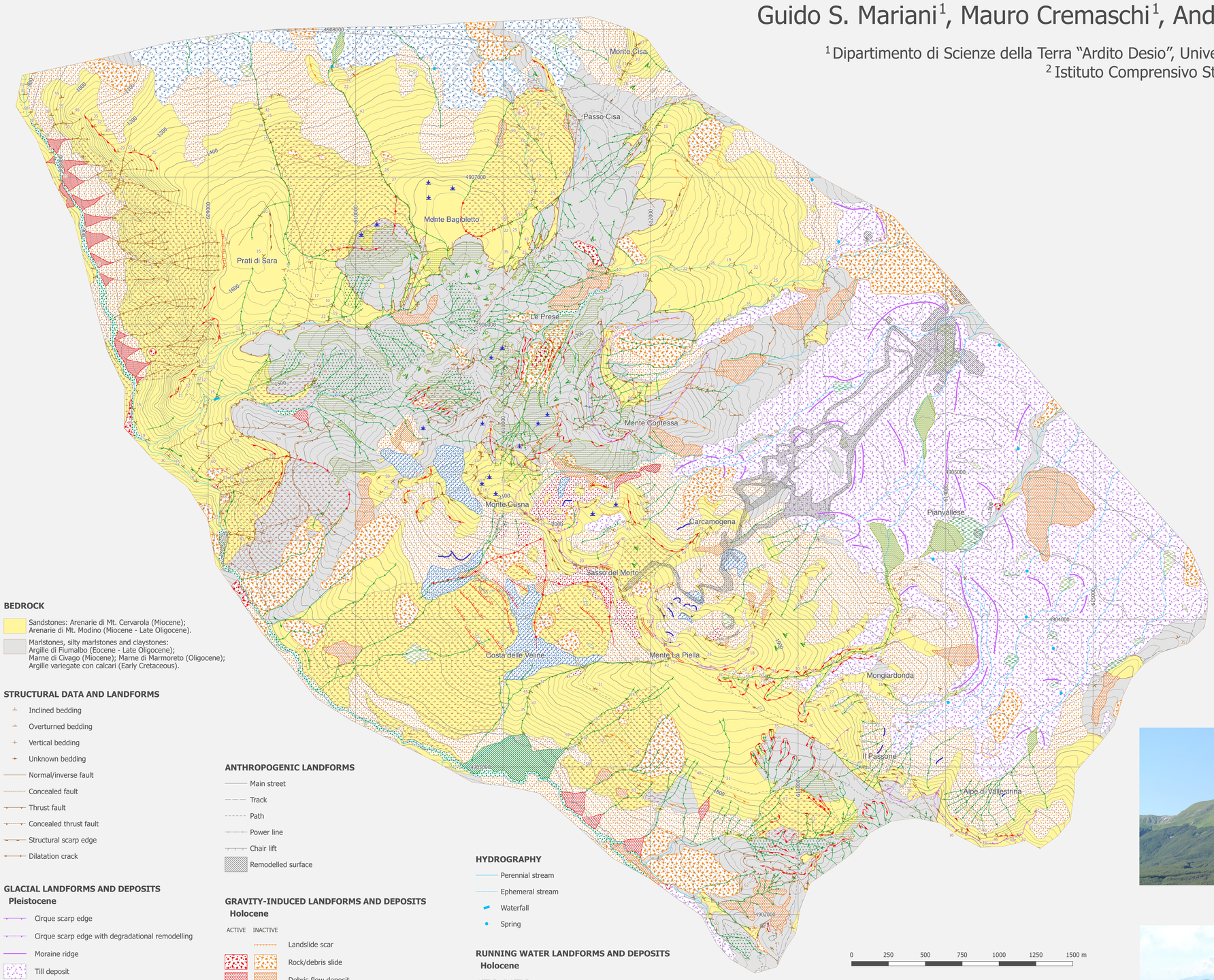

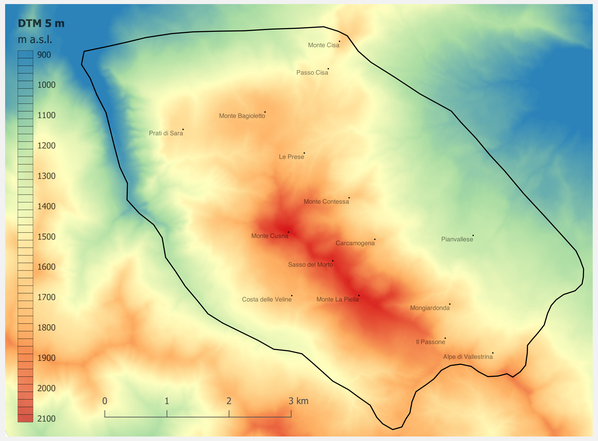

BEDROCK

Sandstones: Arenarie di Mt. Cervarola (Miocene); Arenarie di Mt. Modino (Miocene - Late Oligocene).

Marlstones, silty marlstones and claystones: Argille di Fiumalbo (Eocene - Late Oligocene); Marne di Civago (Miocene); Marne di Marmoreto (Oligocene); Argille variegate con calcari (Early Cretaceous).

STRUCTURAL DATA AND LANDFORMS

- Inclined bedding
- Overturned bedding
- Vertical bedding
- Unknown bedding
- Normal/inverse fault
- Concealed fault
- Thrust fault
- Concealed thrust fault
- Structural scarp edge
- Dilatation crack

GLACIAL LANDFORMS AND DEPOSITS

Pleistocene

- Cirque scarp edge
- Cirque scarp edge with degradational remodelling
- Moraine ridge
- Till deposit

PERIGLACIAL LANDFORMS AND DEPOSITS

Pleistocene / Holocene

ACTIVE	INACTIVE	
		Frost creep
		Protalus rampart
		Nivation hollow
		Glacis deposit
		Rock glacier

ANTHROPOGENIC LANDFORMS

- Main street
- Track
- Path
- Power line
- Chair lift
- Remodelled surface

GRAVITY-INDUCED LANDFORMS AND DEPOSITS

Holocene

ACTIVE	INACTIVE	
		Landslide scar
		Rock/debris slide
		Debris flow deposit
		Degradational scarp edge
		Talus cone
		Talus heap
		Deep-seated gravitational slope deformation (DGSD)
		Unloading valley
		Counterscarp
		Trench
		Double crest

HYDROGRAPHY

- Perennial stream
- Ephemeral stream
- Waterfall
- Spring

RUNNING WATER LANDFORMS AND DEPOSITS

Holocene

ACTIVE	INACTIVE	
		Gully
		Erosion cliff
		Alluvial deposit
		Marsh deposit
		Colluvial deposit
		Colluvial fan
		Slope washout
		Badlands

0 250 500 750 1000 1250 1500 m

N

Coordinate System: UTM 32N
Datum: WGS84

Grid and contour lines unit: meters
Field survey years 2013-2015

1:10,000 at print scale

North-east view of the Mt. Cusna ridge

Lateral view of a DGSD on the south-west side of the ridge with visible counterslopes on its surface

Diffuse washout erosion between Mt. Cusna (outside the picture) and Mt. Bagioletto (in the background)