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DIPARTIMENTO DI GEOSCIENZE
DIPARTIMENTO DI SCIENZE STORICHE, GEOGRAFICHE E DELL'ANTICHITÀ
UNIVERSITÀ DI PADOVA

Geomorphological map of SAN PELLEGRINO PASS
(Dolomites, Northeastern Italy)

Geomorphological survey:
Abbà T.*, Bondesan A.**, Carton A.*, Fontana A.*, Mozzi P.*, Surian N.*, Zanoner T.*

Bedrock survey:
Abbà T.*, Breda A.*, Massironi M.*, Preto N.*, Zampieri D.*

Cartographical layout: Abbà T.*

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Scale 1:10.000
0 500 1000 m

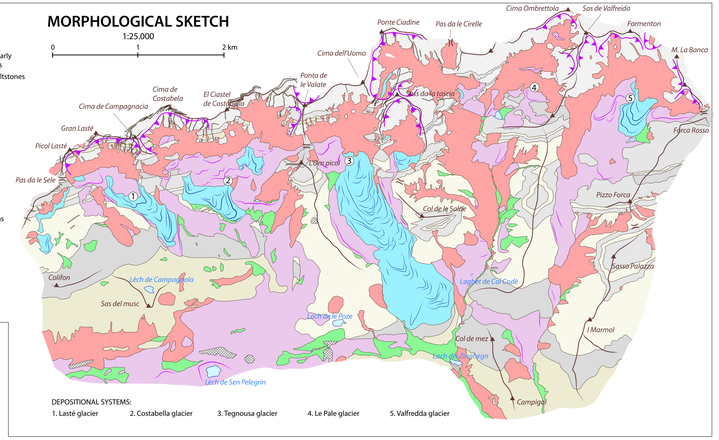
Projection: Transvers Mercator
Projection system: ETRS 1989 UTM Zone 32N
Datum: ETRS 1989
Spheroid: GRS 1980,6378137.0,298.257222101

Topographic map
Author and owner: Servizio Geologico della Provincia Autonoma di Trento (Italy)
Name: Carta Tecnica 2015
http://www.territorio.provincia.tn.it/portal/server.pt/community/carta_tecnica_provinciale/920/carta_tecnica_provinciale/40052

MAIN MORPHOLOGICAL UNITS

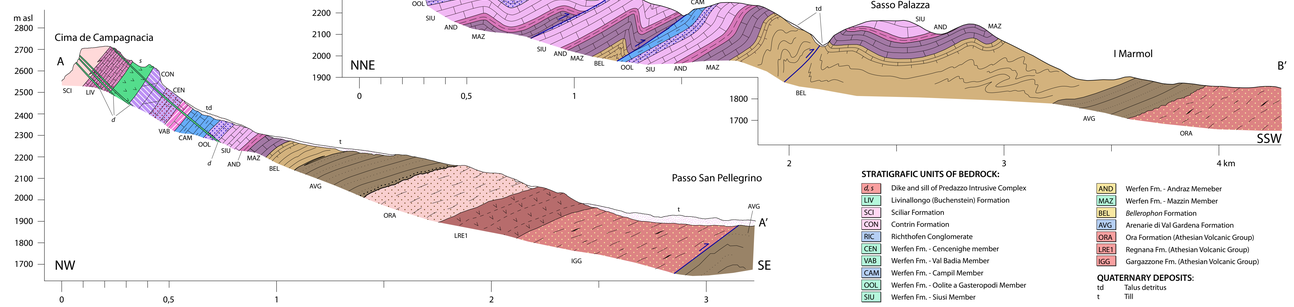
- Mainly limestones
- Alternation of limestones and marly limestones, with minor siltstones
- Alternation of sandstones and siltstones with minor conglomerates
- Marls, silty marls and siltstones
- Magmatics
- Landforms and deposits due to running waters
- Landforms and deposits due to gravity
- Glacial landforms and deposits
  - **a:** main morain ridges
  - **c:** Criogenic and nivation landforms
  - **a:** rock-glacier ridges
- Man-made landforms
- Edge of main cirques
- Main ridges, peaks, saddles
- Lake or peat bog

MORPHOLOGICAL SKETCH
1:25.000
0 1 2 km



DEPOSITIONAL SYSTEMS:
1. Lastè glacier 2. Costabella glacier 3. Tegnousa glacier 4. Le Pale glacier 5. Valfredda glacier

GEOLOGICAL SECTIONS
(after Abbà et alii, 2018)



GEOCHRONOLOGY

^{14}C date

Sample	Depth from lake bottom	Type of material	Radiocarbon age (years BP)	Calibrated age (2σ: cal years BP)
Beta-338312	2.05 m	Plant debris	9400±40	10,510-10,731
Beta-338313	2.55 m	Plant debris	9970±40	11,258-11,686

Radiocarbon dates from core near the center of Campagnola Lake. Age calibrated through the software CalibB.2 (Stuvier et alii, 2021), using the curve IntCal20 (Reimer et alii, 2020).

GEOLOGICAL STRUCTURAL FEATURES

BEDROCK

- Mainly limestones *(Contrin Fm., Sciliar Fm.)*
- Alternation of limestones and marly limestones with minor siltstones *(Mazzin, Siusi, Oolite a Gasteropodi, Val Badia and Cencenighe members of Werfen Fm., Livinallongo (Buchenstein) Fm.)*
- Alternation of sandstones and siltstones with minor conglomerates *(Campil Member of Werfen Fm., Val Gardena Sandstones, Richthofen Conglomerate)*
- Marls, silty marls and siltstones *(Bellerophon Fm., Andraz Memeber of Werfen Fm.)*
- Magmatic rocks *(Rhyolites of Athesian Volcanic Group; Monzonites, dikes and sills of Predazzo Intrusive Complex)*
- Contact metemorphic rocks
- Lithologic boundary
- Boundary between homogenetic morphological units

STRUCTURAL GEOLOGY

- 40 — Attitude of the beds (tilted, sub-horizontal) with dip angle
- Fault certain, uncertain
- Thrust certain, uncertain

HYDROGRAPHY

- Spring
- Lake
- Palustrine deposit

STRUCTURAL LANDFORMS

- Edge of scarp
- Structuraly controlled step-slope
- Ridge
- Hogback
- Peak
- Strike-slope

KARST LANDFORMS

- Edge of doline
- Doline or doline field (not in scale)

LANDFORMS AND DEPOSITS DUE TO GRAVITY

active	relict	
		EROSIONAL LANDFORMS
		Landslide crown:
		a) of rock fall
		b) of earth/debris flow
		c) of rotational slide
		Degradational scarp
		Couloir with debris discharge
		Degradational ridge
		CONSTRUCTIONAL LANDFORMS AND DEPOSITS
		Landslide deposit
		Earth flow
		Rotational landslide
		Debris-flow/mud-flow deposit
		Scree slope
		Talus cone
		Debris-flow/mud-flow fan
		Debris-flow
		Tension cracks/lateral spreading trench

LANDFORMS AND DEPOSITS DUE TO RUNNING WATERS

active	relict	
		EROSIONAL LANDFORMS
		Gully / Barranco
		V-shaped small valley
		Throgh-shaped small valley
		Flat-bottomed small valley
		Incising channel
		Fluvial erosion scarp
		Surface affected by sheet-erosion
		Surface affected by rill-erosion
		CONSTRUCTIONAL LANDFORMS AND DEPOSITS
		Stream deposit with texture from boulder to sand
		Conglomerate
		Alluvial fan
		Colluvial deposit
		Colluvial fan

CRYOGENIC AND NIVATION LANDFORMS

active	relict	
		Protalus rampart
		Rock glacier
		Surface with earth hummocks

GLACIAL LANDFORMS AND DEPOSITS

active	relict	
		EROSIONAL LANDFORMS
		Edge of cirque
		Step of trough (Riegel)
		Smoothed surface
		Roche moutonnée
		CONSTRUCTIONAL LANDFORMS AND DEPOSITS
		Morain ridge
		Glacial deposit
		Big boulders glacial deposit
		Erratic boulder

MAN-MADE LANDFORMS

- Excavation surface
- Embankment
- Ski track

STRATIGRAFIC UNITS OF BEDROCK:

- d, s — Dike and sill of Predazzo Intrusive Complex
- LIV — Livinallongo (Buchenstein) Formation
- SCI — Sciliar Formation
- CON — Contrin Formation
- RIC — Richthofen Conglomerate
- CEN — Werfen Fm. - Cencenighe member
- VAB — Werfen Fm. - Val Badia Member
- CAM — Werfen Fm. - Campil Member
- OOL — Werfen Fm. - Oolite a Gasteropodi Member
- SIU — Werfen Fm. - Siusi Member
- AND — Werfen Fm. - Andraz Memeber
- MAZ — Werfen Fm. - Mazzin Member
- BEL — *Bellerophon* Formation
- AVG — Arenarie di Val Gardena Formation
- ORA — Ora Formation (Athesian Volcanic Group)
- LRE1 — Regnana Fm. (Athesian Volcanic Group)
- IGG — Gargazzone Fm. (Athesian Volcanic Group)

QUATERNARY DEPOSITS:

- td — Talus detritus
- t — Till