United Nations Climate Change | COP29 Baku Azerbaijan

WORLD METEOROLOGICAL ORGANIZATION

Aeronautica Militare

Ministry of Foreign Affairs and International Cooperation

EvK2CNR

SIDE EVENT: Mountain Areas and Glaciers: Italian and International Research Activities for Monitoring the Atmosphere and the Cryosphere

SATURDAY, NOVEMBER 16, 2024

Prof Maria Teresa Melis,
University of Cagliari, Italy

"Knowing Glaciers and Forests by Monitoring Their Evolution from Satellite""

EvK2CNR

UNIVERSITÀ DEGLI STUDI DI CAGLIARI
Department of Chemical and Geological Sciences

Copernicus Academy

AIT

isprs
Information from Imagery

Focus: *Knowledge transfers and collaborations between universities in the Glacier and Students project for land management and adaptation policies*

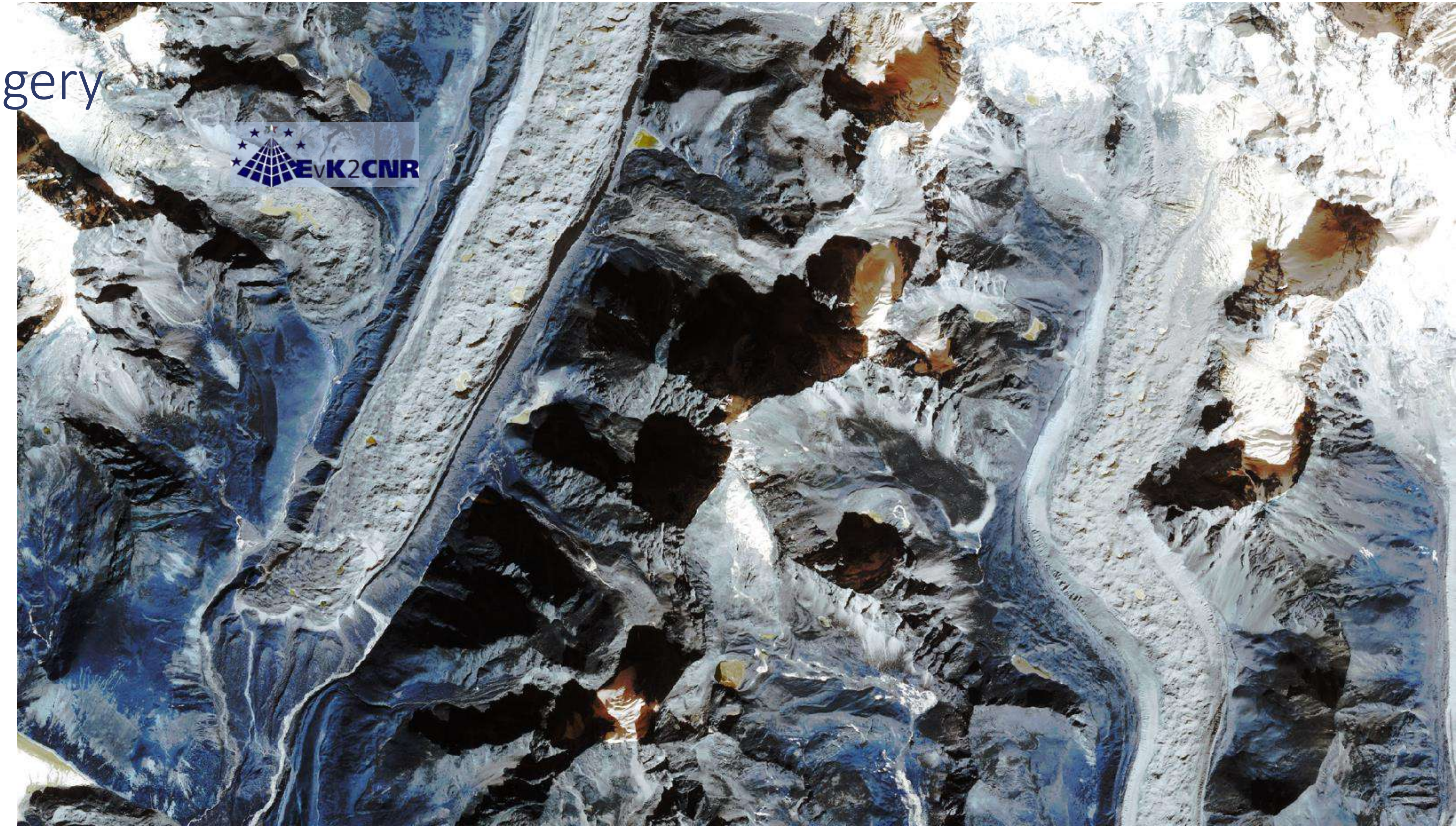
Technology for all...

- *Geo-Data integration and sharing*
- *Involving the Communities into the Knowledge of Fragile High Mountains Ecosystem*

Tools

IKONOS

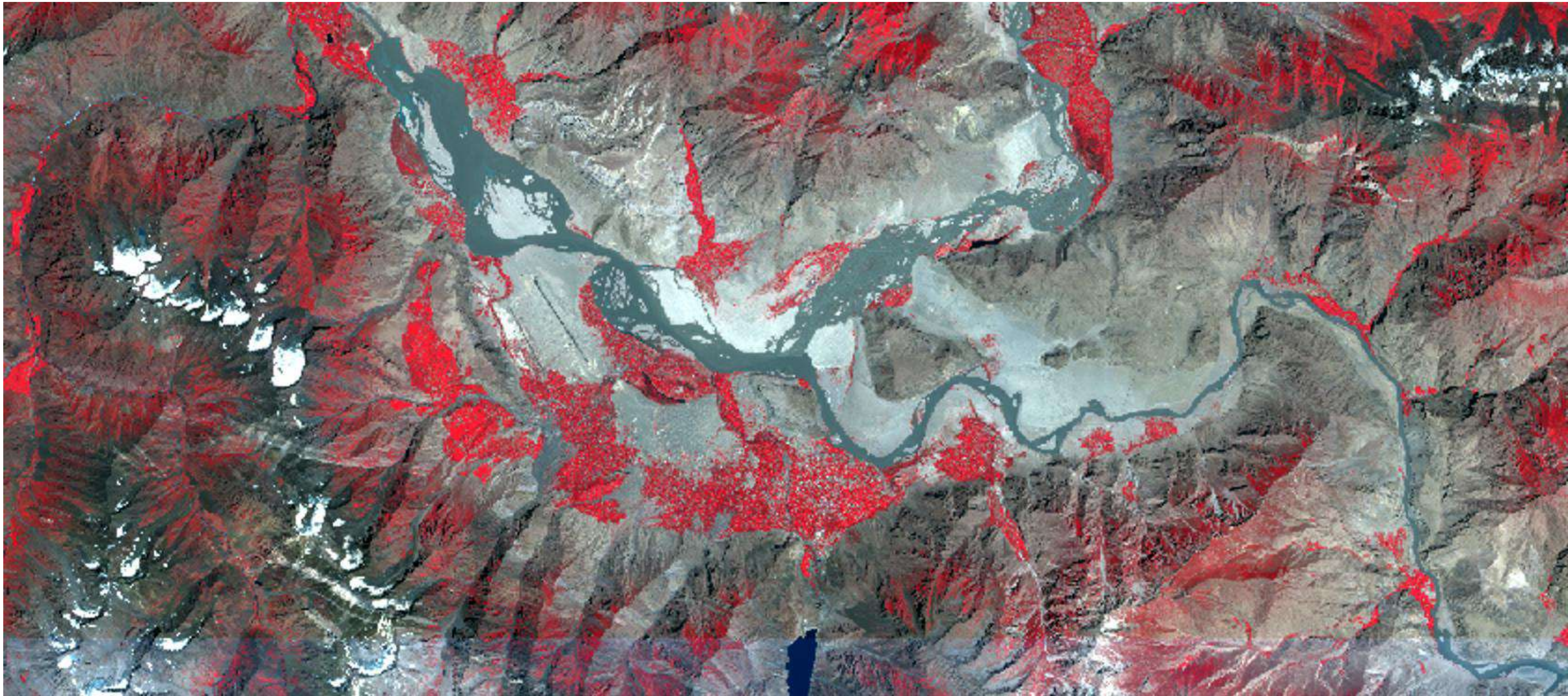
VHR Imagery



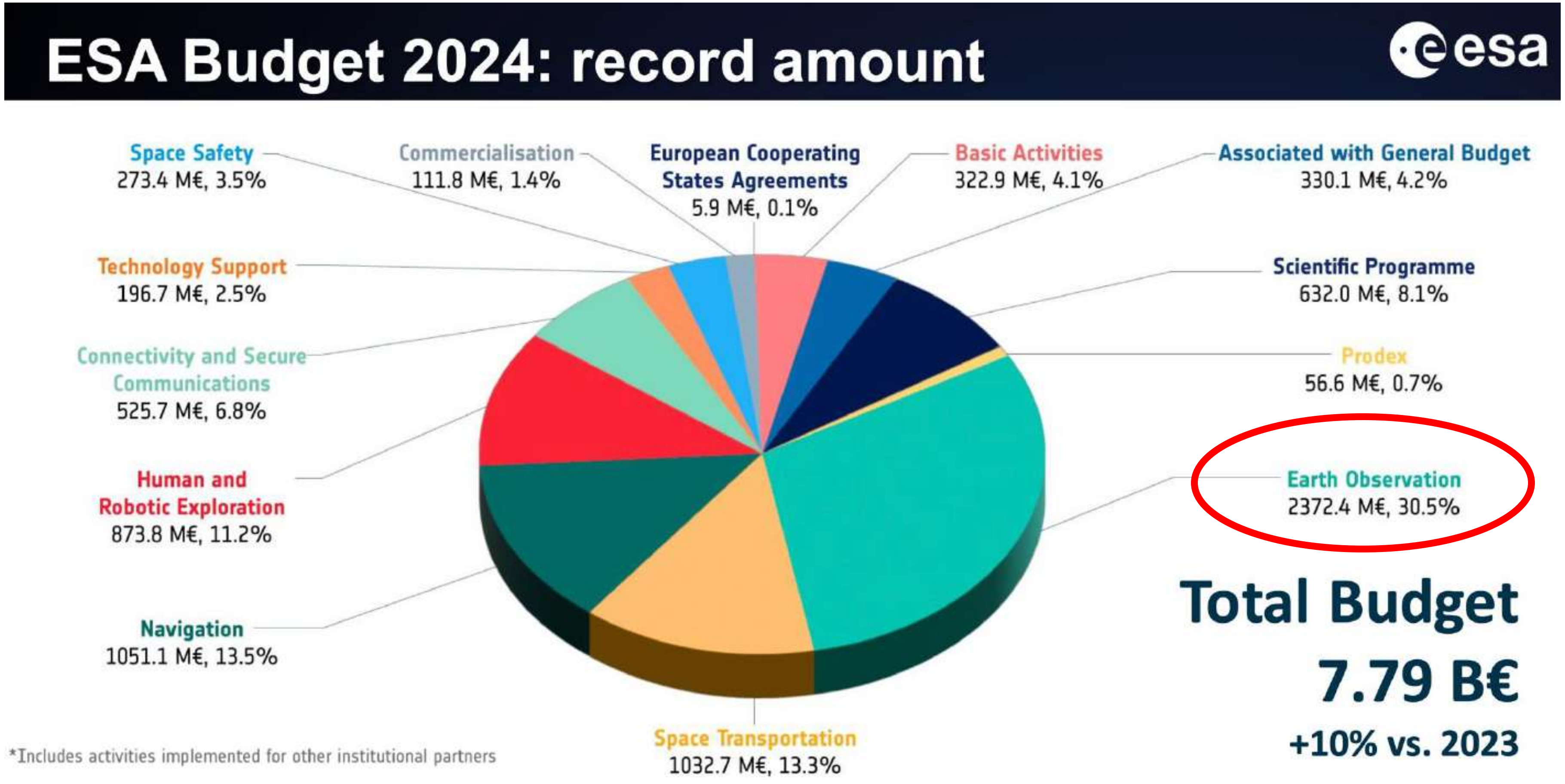

N

Skardu

Sentinel data



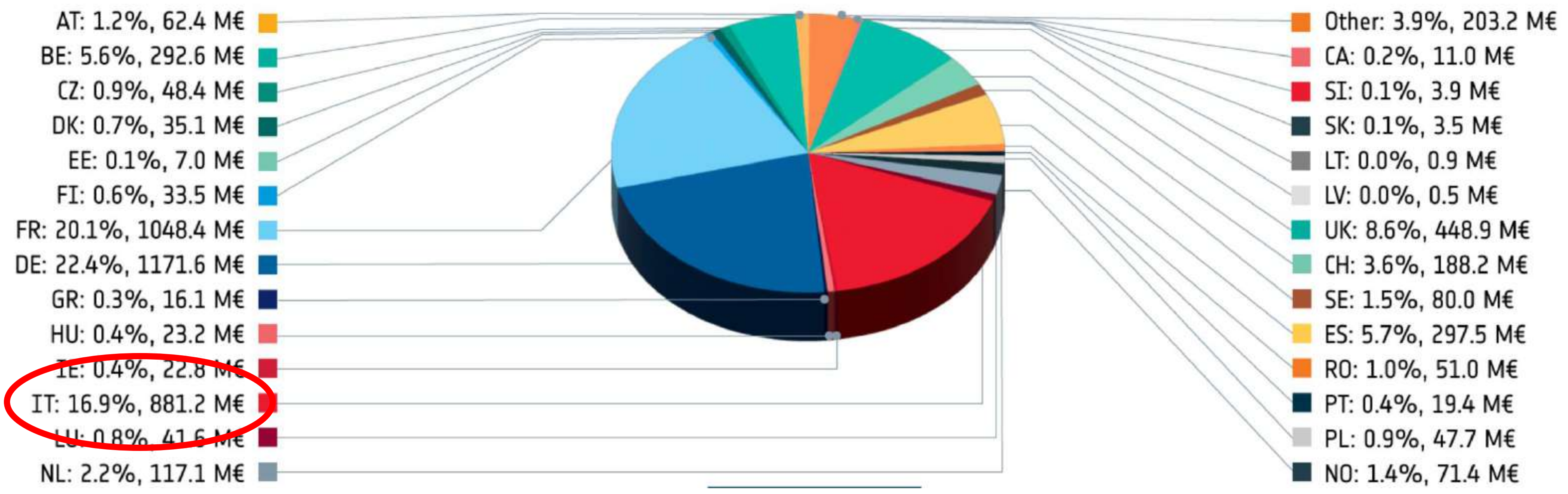
European Space Agency



Copernicus
Europe's eyes on Earth

ESA Budget 2024 by funding source

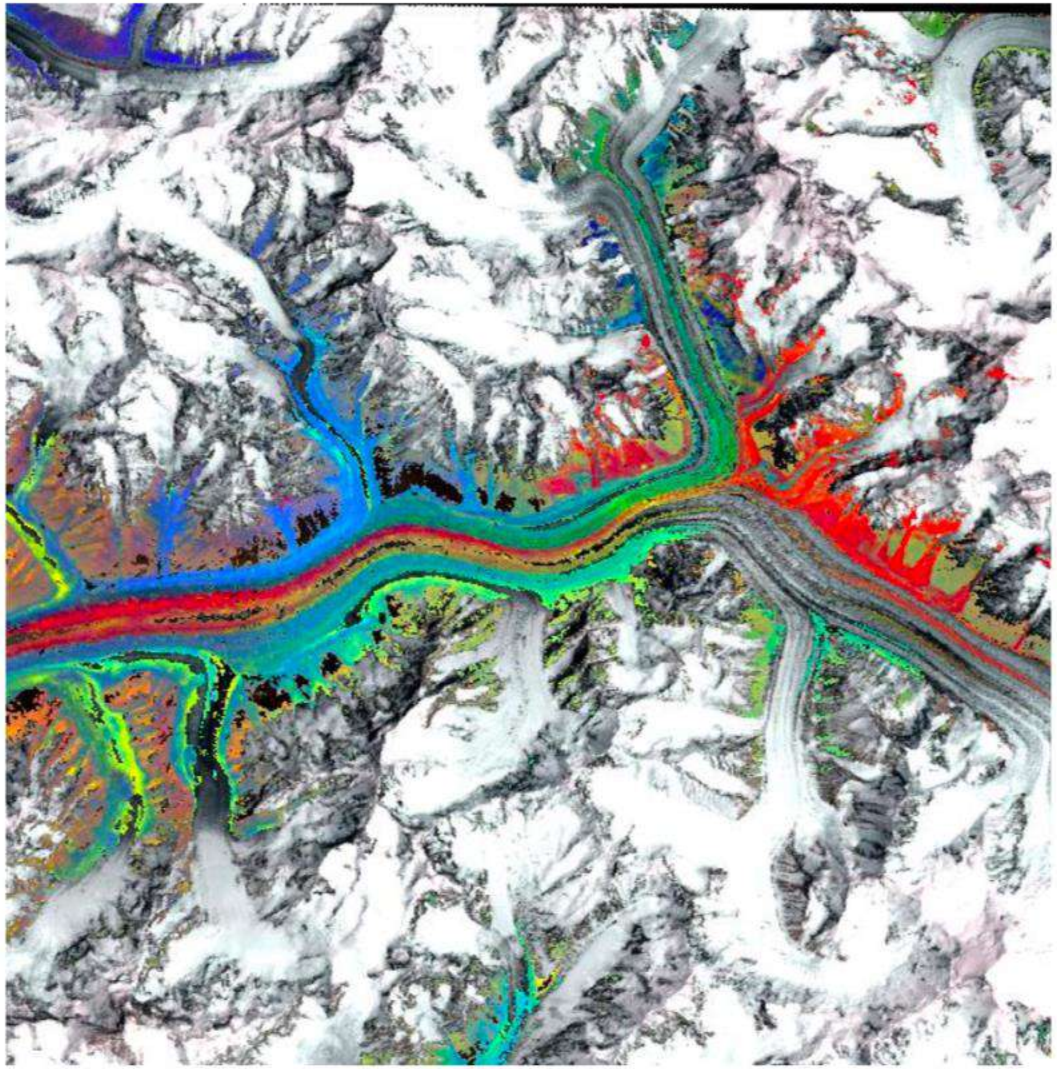
esa



PRISMA: PRecursore IperSpettrale della Missione Applicativa

National EO hyperspectral Mission fully funded by ASI and realized by Italian Industries Consortium led by OHB Italia, Leonardo and Telespazio

- Access to Users since May 2020 https://prisma.asi.it/
- Sensor operates in Pushbroom scanning mode recording the radiation reflected from the Earth surface in 400nm – 2500nm spectral window
- 240 total bands in VNIR (#66, 400–1010 nm) & SWIR (#174, 920–2505 nm), partial spectral overlap
- Medium spatial resolution (30m) and swath (30km)
- PAN camera offers added capability with 5m resolution

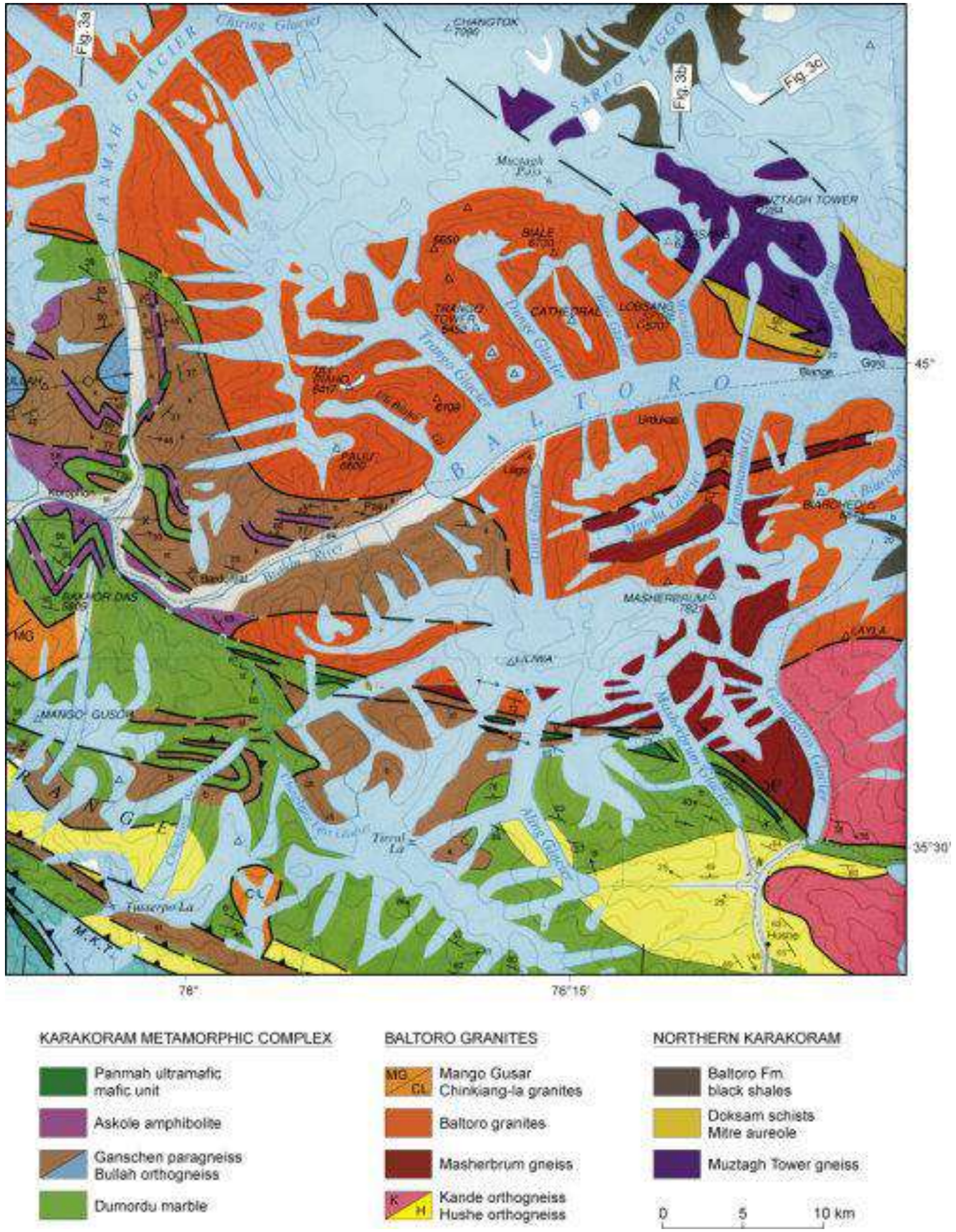


PRISMA

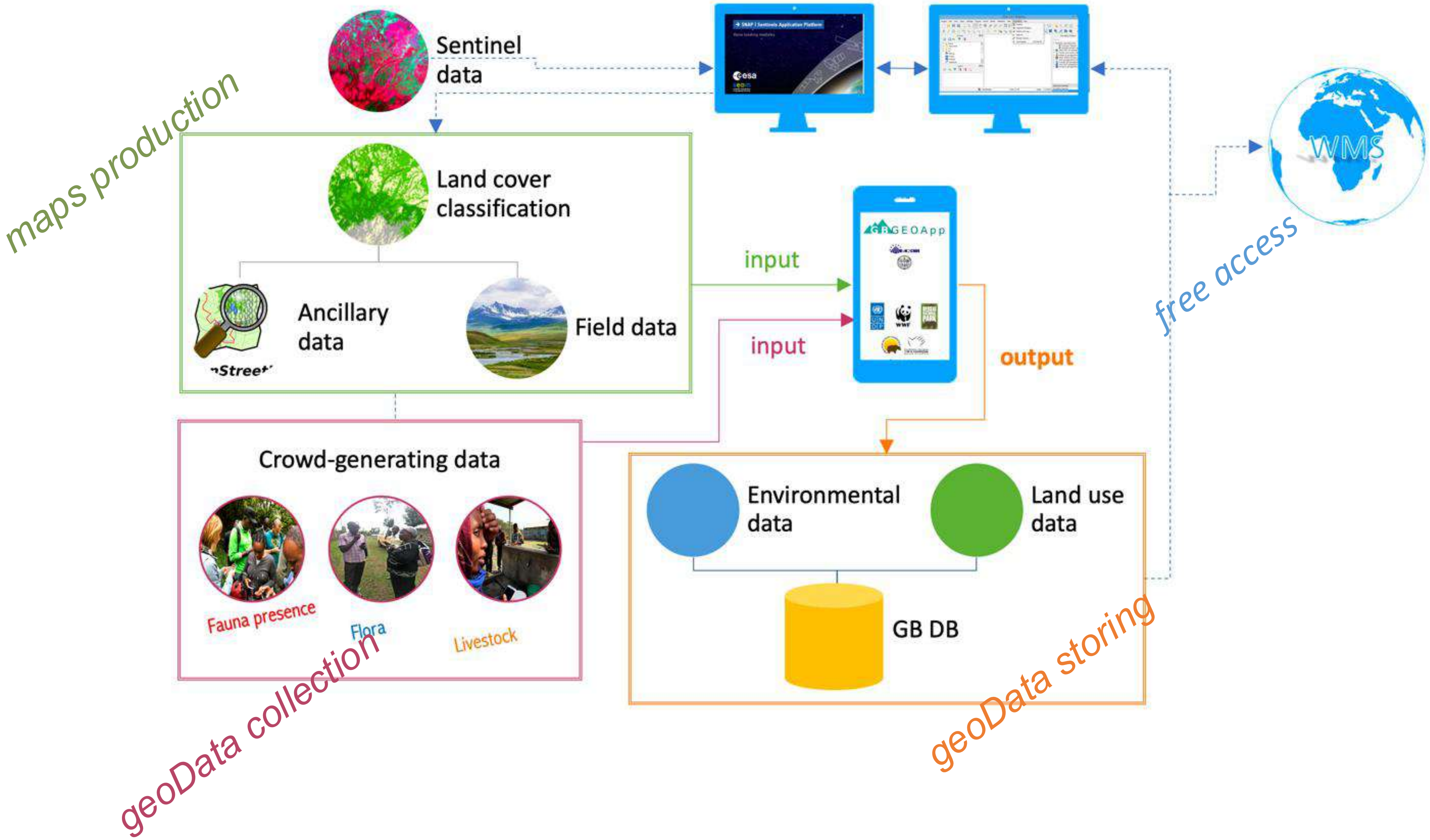
RGB =Montmorillonite, Muscovite, Fe-Silicates

0 3,25 6,5 13 km

N



Data integration



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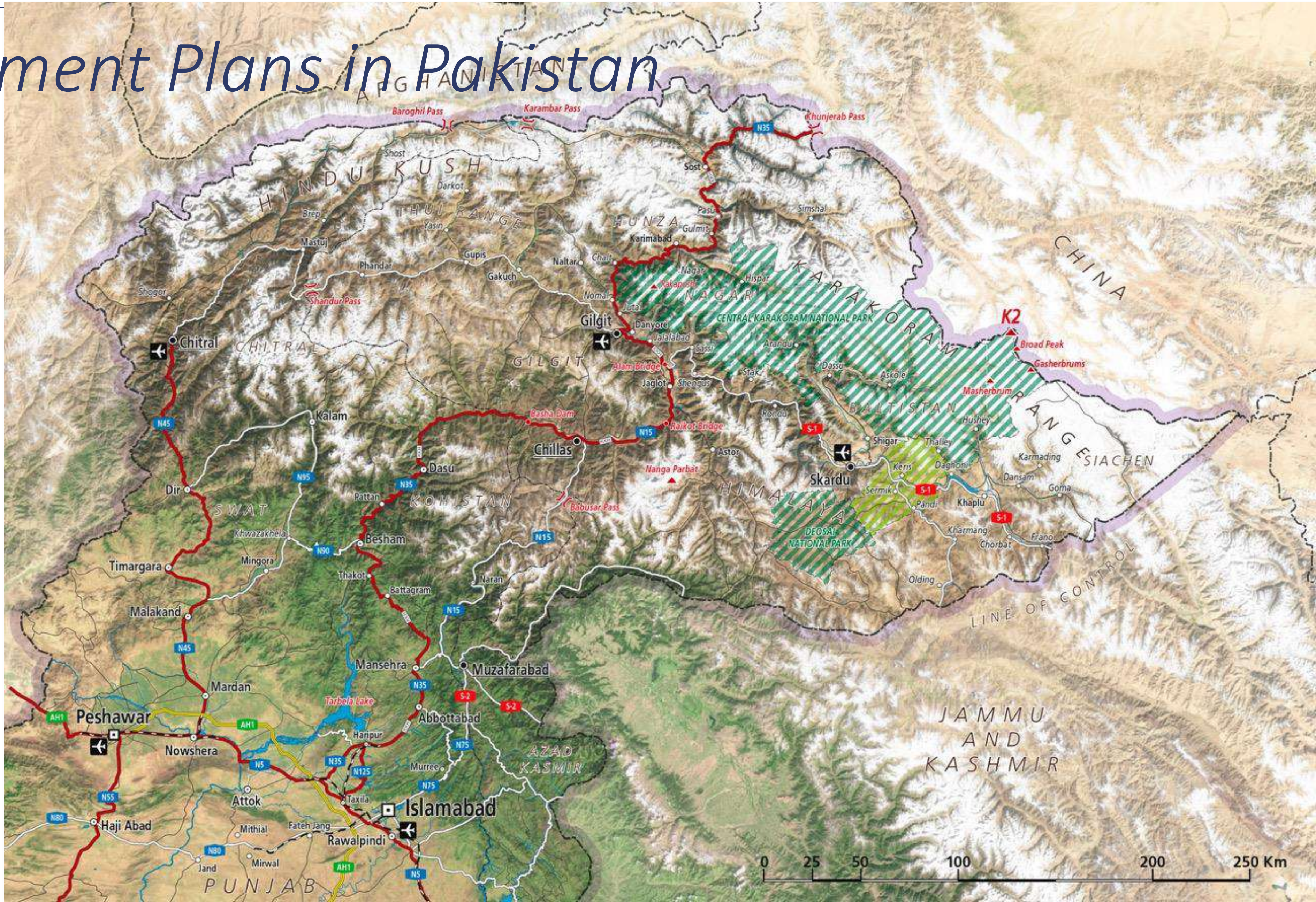
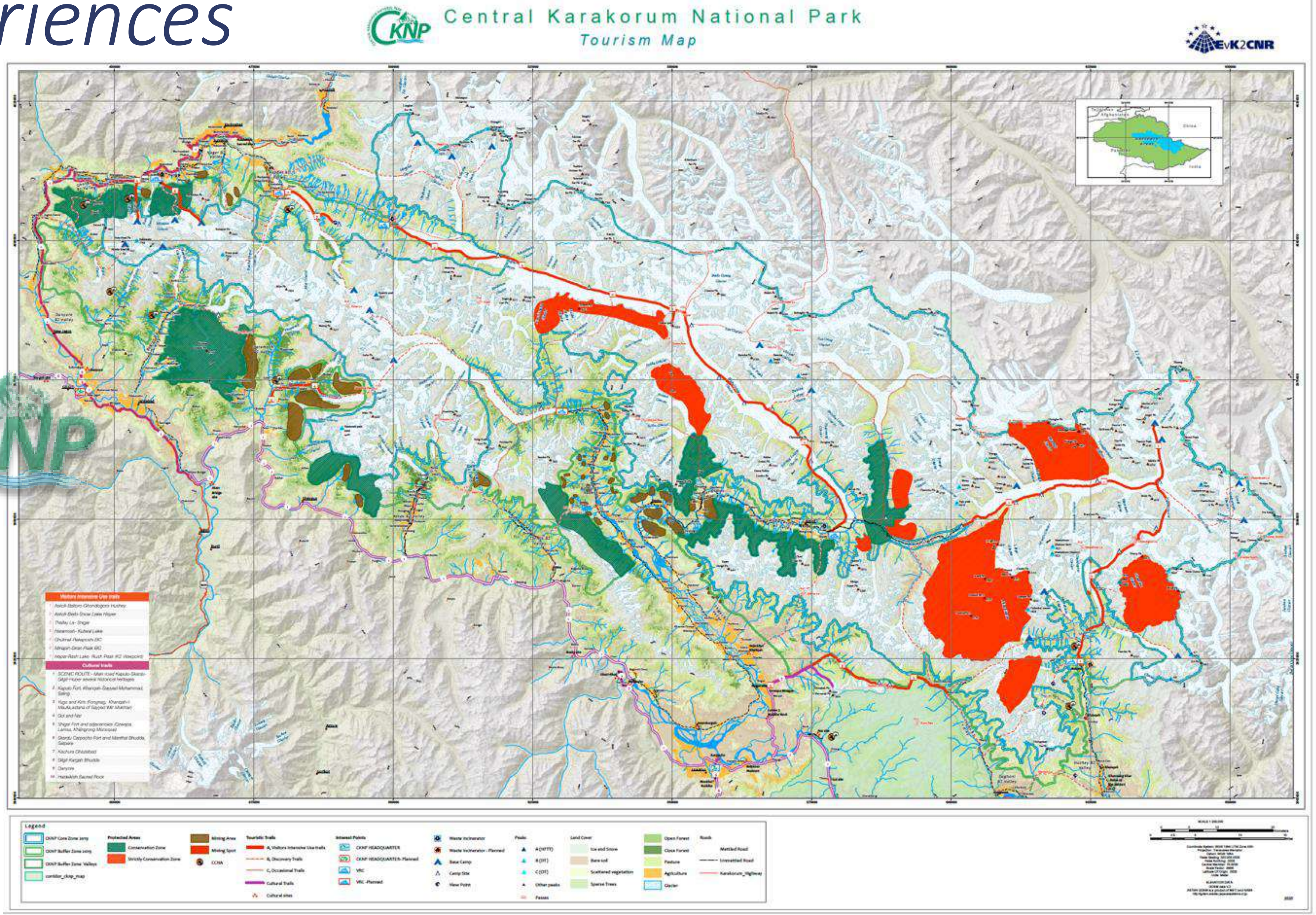
Park Management Plans in Pakistan



Mapping *experiences*



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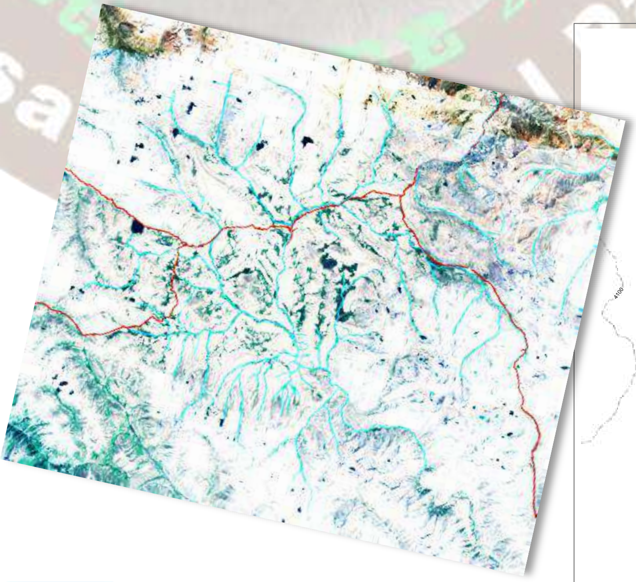
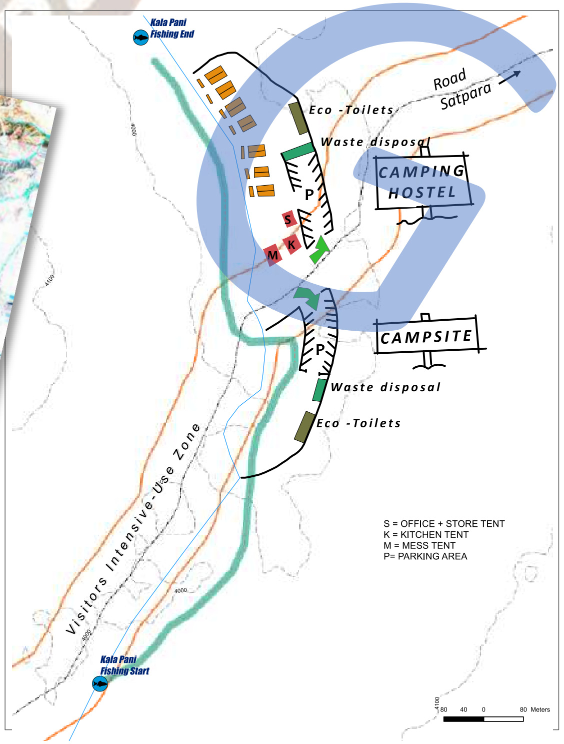
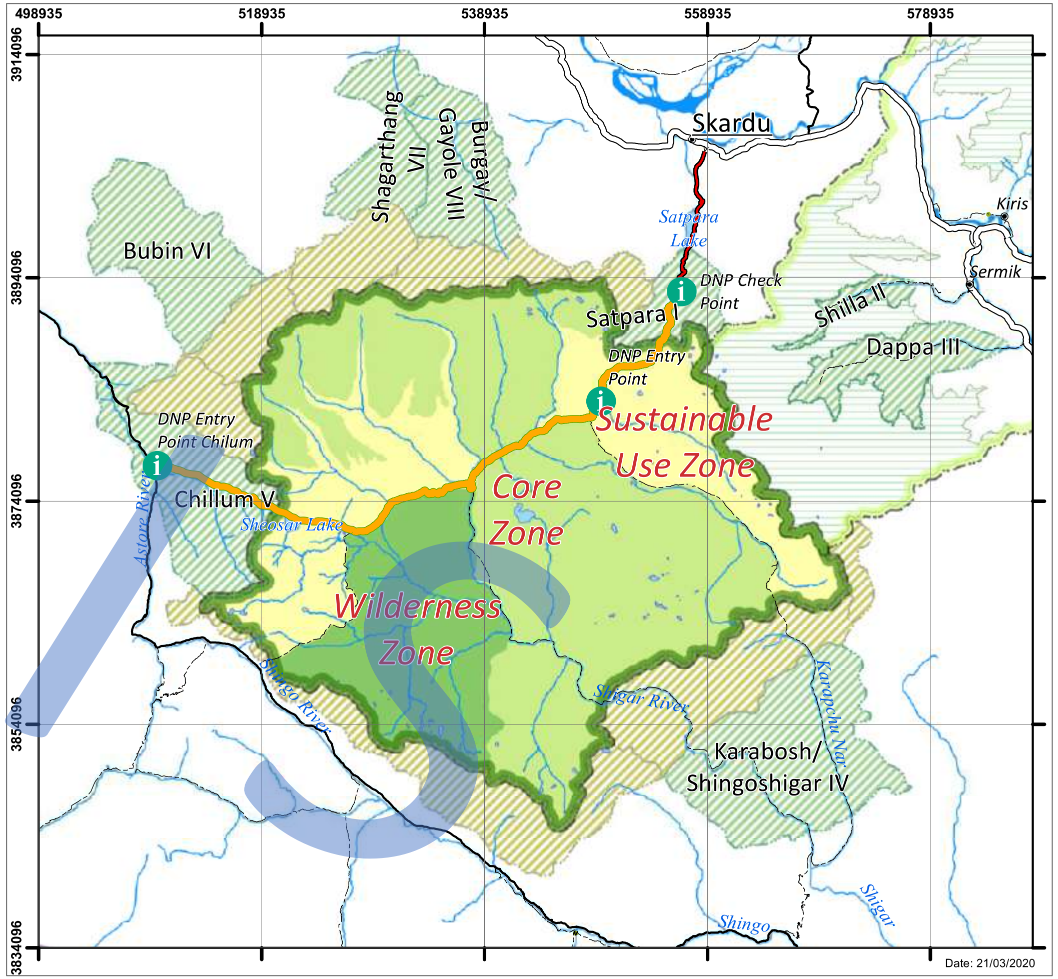
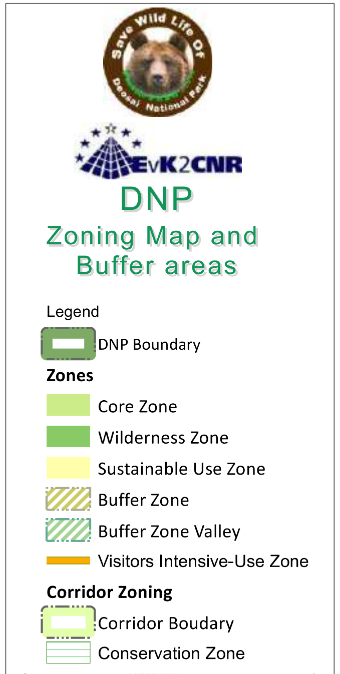
DNP Management Plan *experiences*

Satellite data
Geo-data layers
Human effort









DNP Zoning	
Zones	Surface (sq km)
Core Zone	859,1
Sustainable-Use Zone	470,3
Wilderness Zone	292,2
Tot DNP	1621,6
Buffer Zone	613,4
DNP Buffer Zone Valleys	765,69
Tot Buffer	1379,09
Tot DNP Protected Areas	3000,69

0 7.5 15 km

AGENZIA ITALIANA PER LA COOPERAZIONE ALLO SVILUPPO

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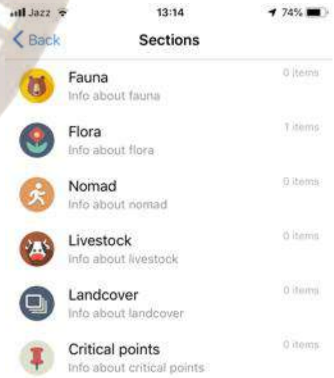
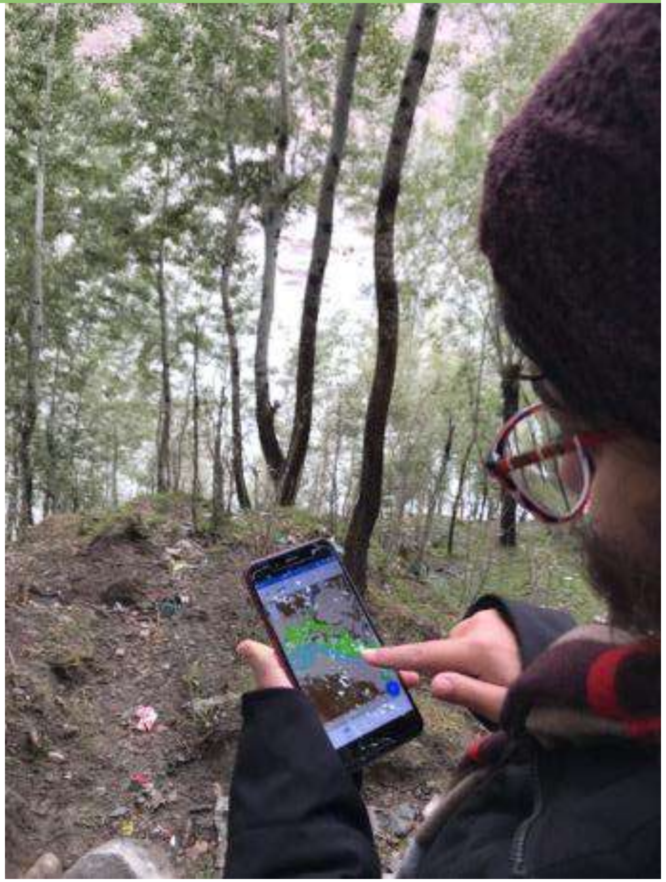
DNP Management Plan *experiences*

Field work: training and *validation*





GBGeoapp, and data collection

DNP Management Plan *experiences*

Training activities: field work

- Training on land cover map interpretation
- Discussion and suggestions for improvements

Training activities: Laboratory work

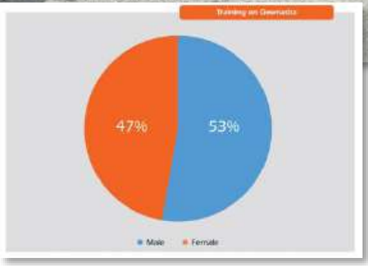
Water Quality Kit Lab at the Karakorum International University

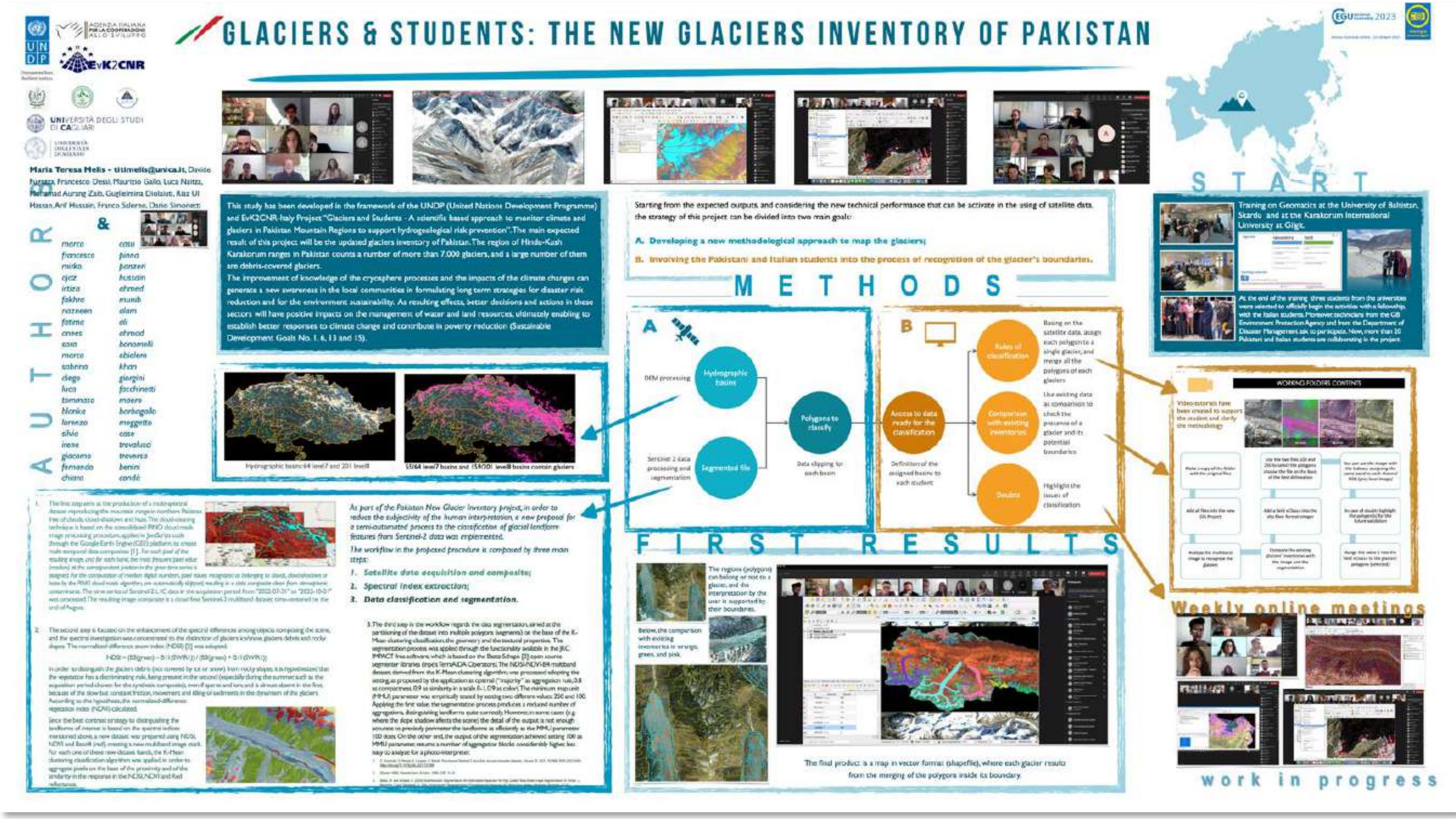
REGIONE AUTÒNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA

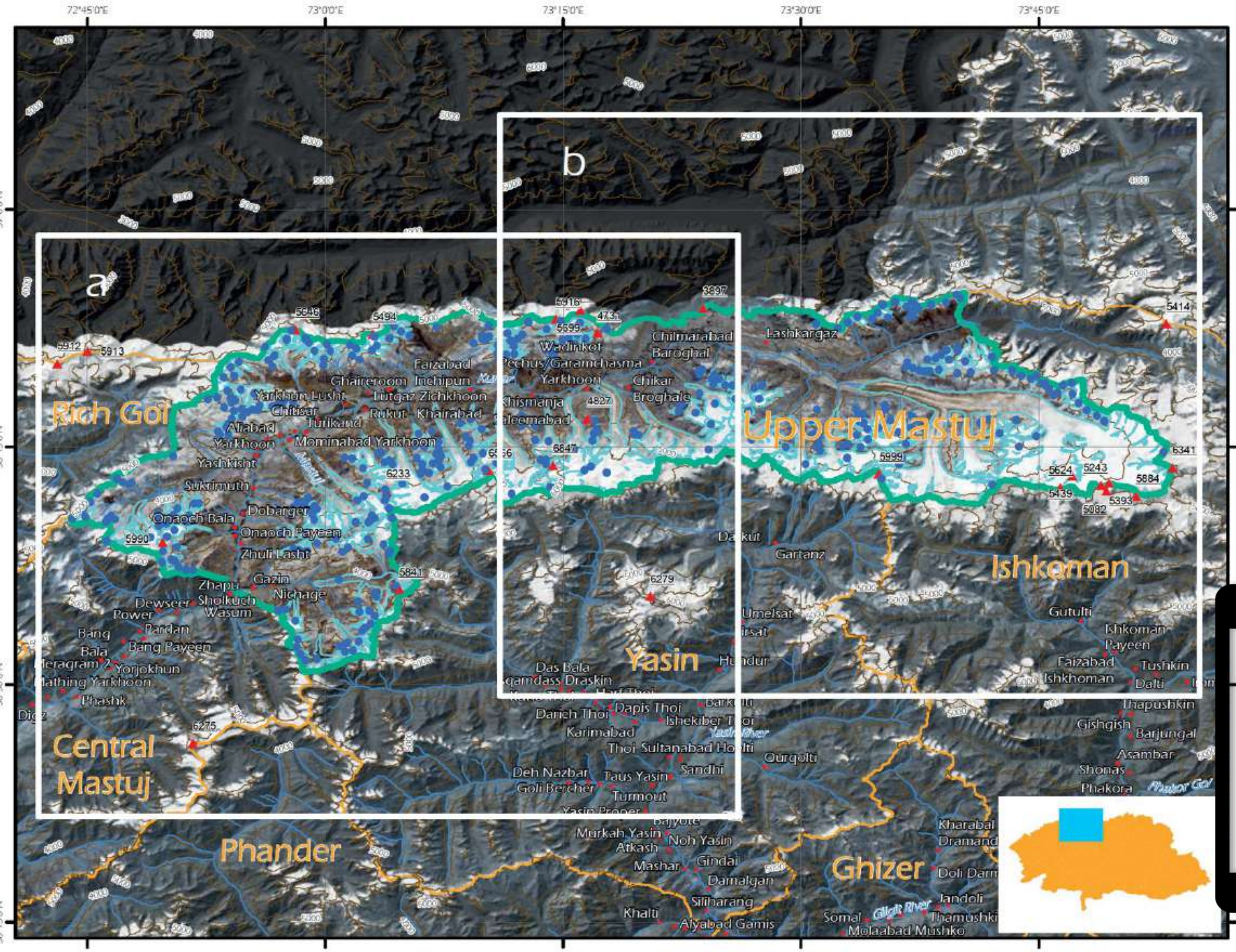
Training on new system for data sharing at GB-EPA in Gilgit

Glaciers & Students

Collaboration between Italian and Pakistan Universities







Upper Mastuj

Geoportal

https://geoportal.mountaingenius.org/portal/

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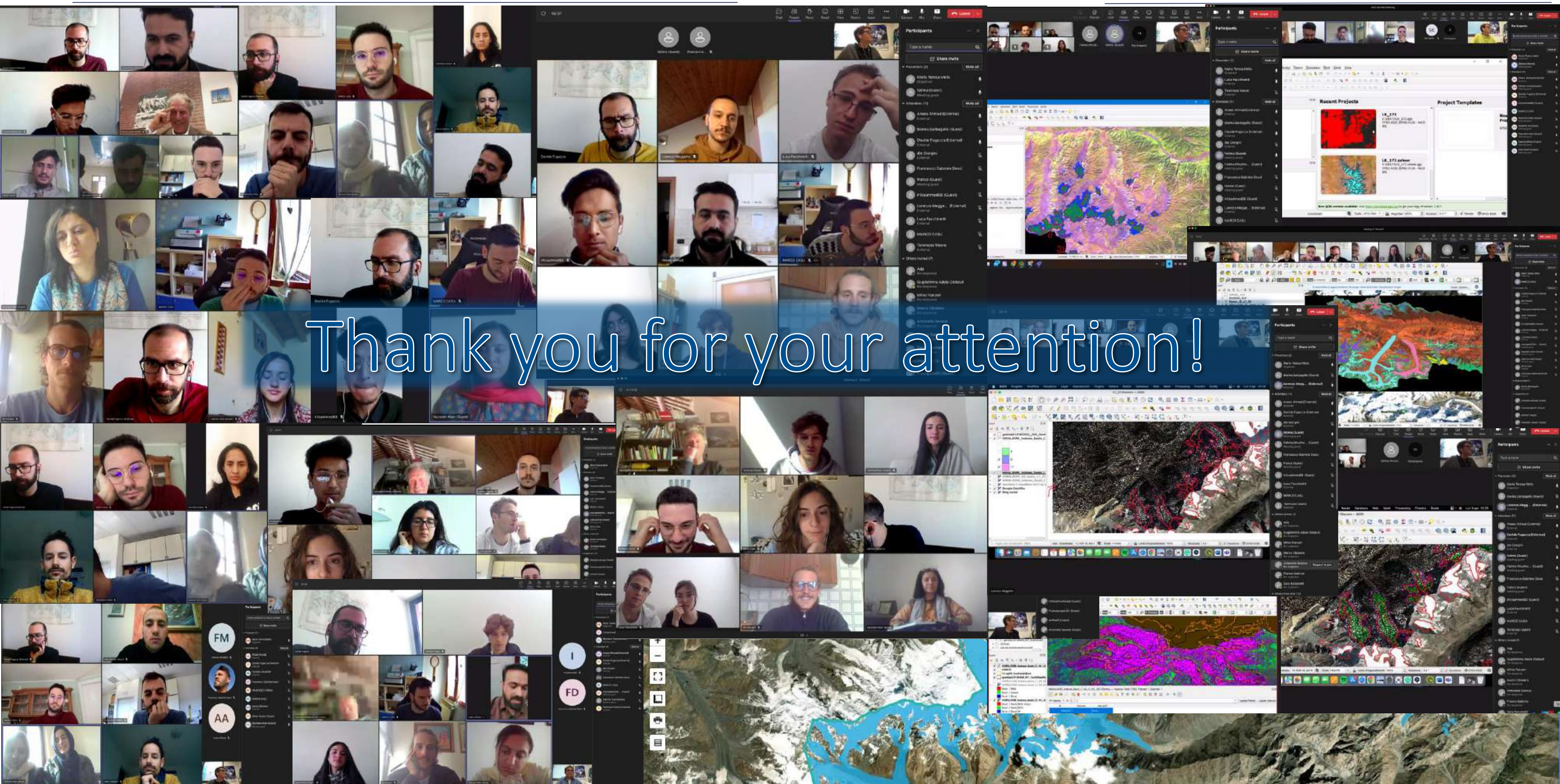

Thank you for your attention!