EUROGEO WORKSHOP 2023

Water – ecosystems nexus the mountain perspective

Edoardo Cremonese
Cima Research Foundation

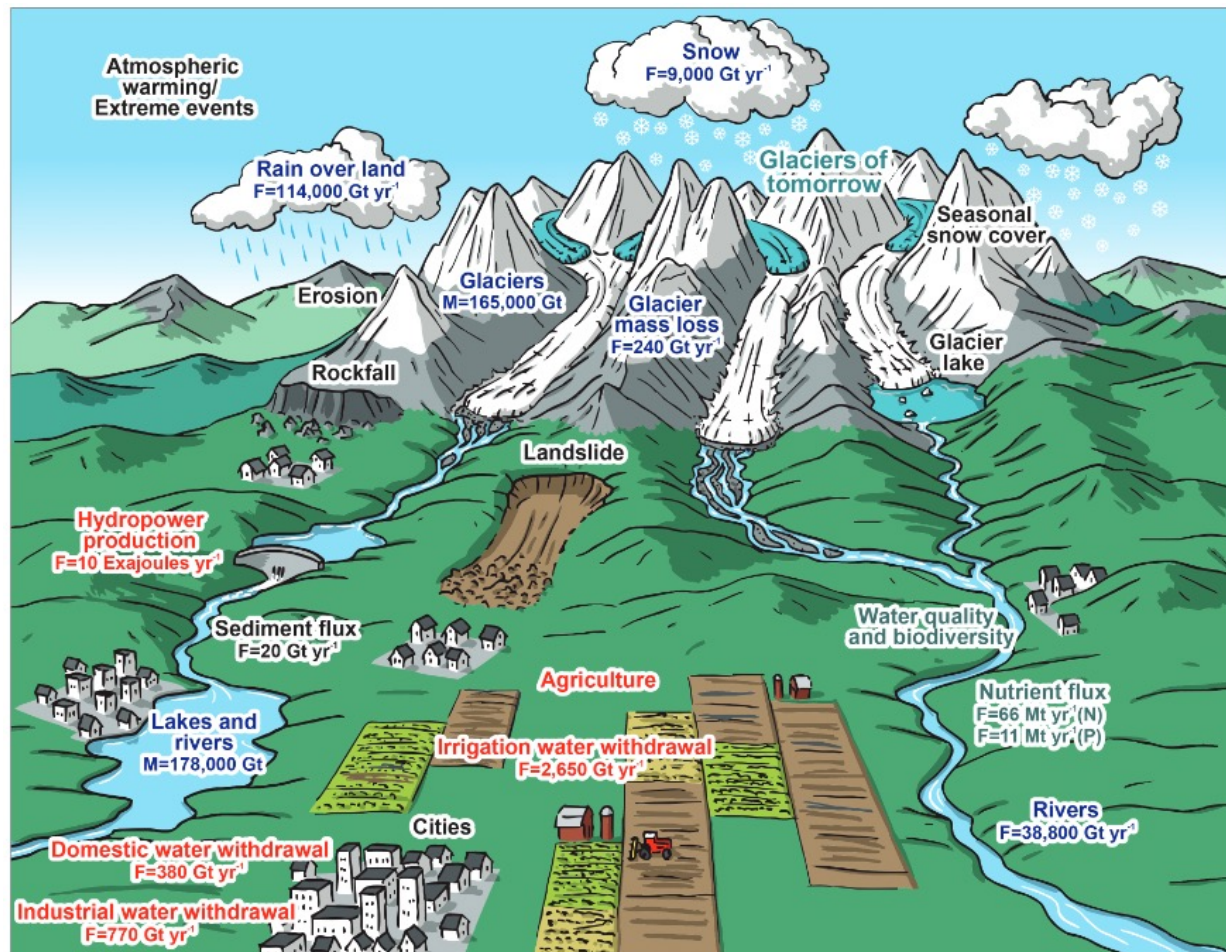cima
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BOLZANO 2-4 OCTOBER 2023

eurac research

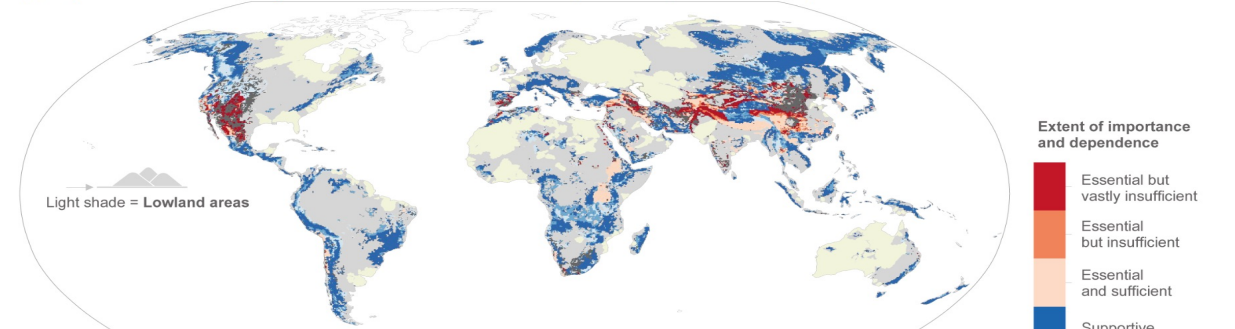Institute of Atmospheric Pollution Research
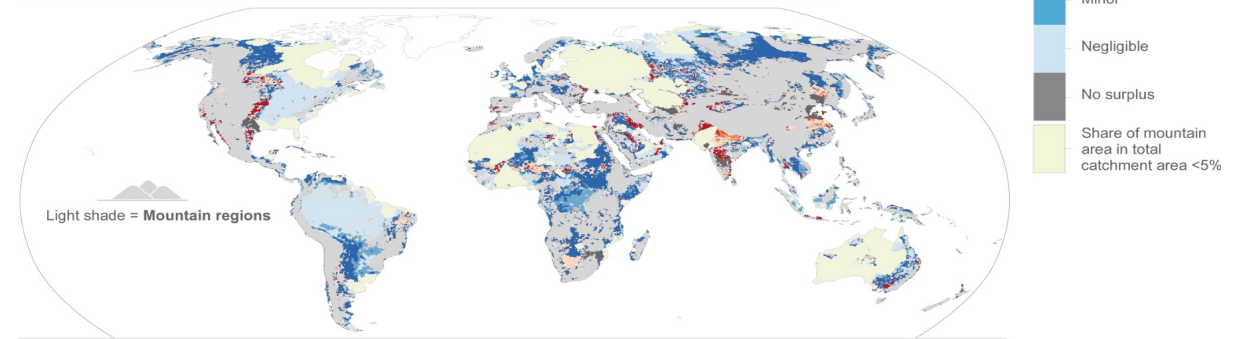National Research Council of Italy

European Commission

Huss et al. 2017

Importance of mountain water resources for lowland areas and populations

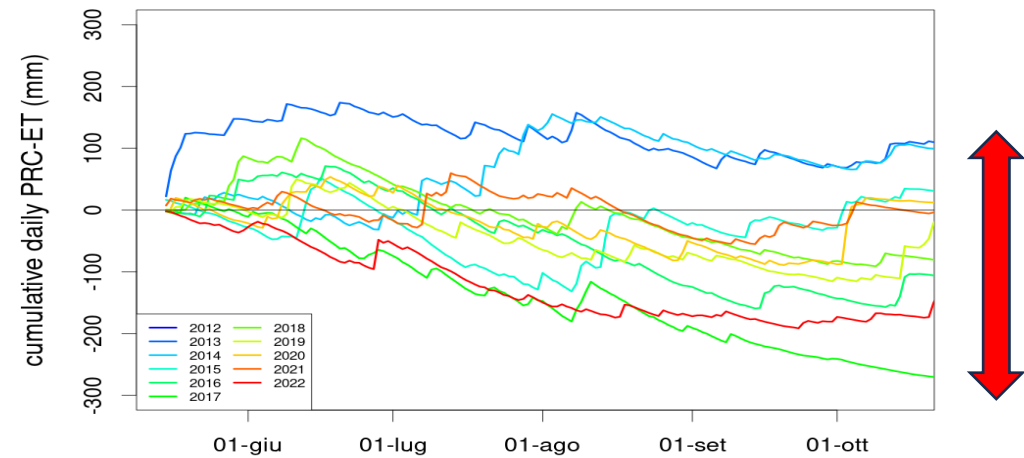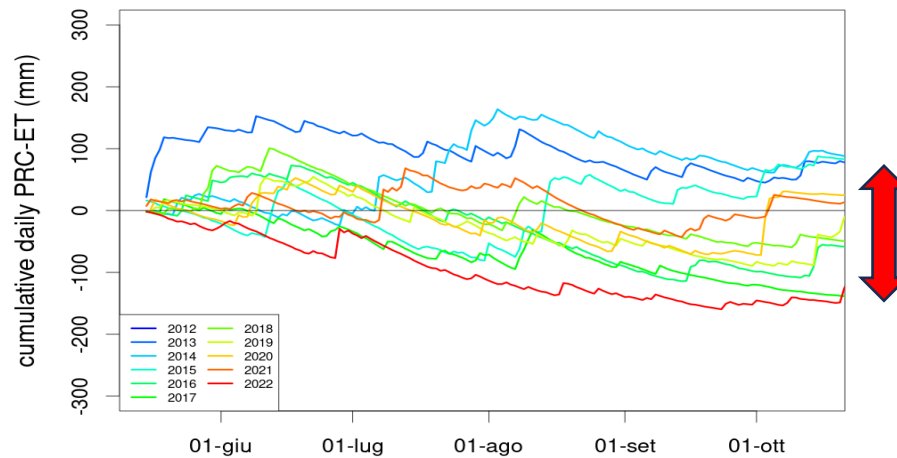(a) Importance of mountain regions for lowland water resources (2041–2050, SSP2-RCP6.0)

Light shade = **Lowland areas**

(b) Lowland population dependence on mountain water resources (2041–2050, SSP2-RCP6.0)

Light shade = **Mountain regions**

Extent of importance and dependence

- Essential but vastly insufficient
- Essential but insufficient
- Essential and sufficient
- Supportive
- Minor
- Negligible
- No surplus
- Share of mountain area in total catchment area <5%

Cross-Chapter Paper 5: Mountains. WGII, AR6, IPCC

- ~ 25% of the land surface & **1.2 billion people**
- **climate** change and **biodiversity** hot spots
- essential **water**, **energy**, food, and other **resources goods** and **services**
- **linked to downstream regions** through natural pathways and human infrastructures
- **water towers for the world's major rivers** (e.g. ⅔ of irrigated agriculture depends on water from mountains)

Ecosystem functional properties and **blue** vs **green** water partitioning
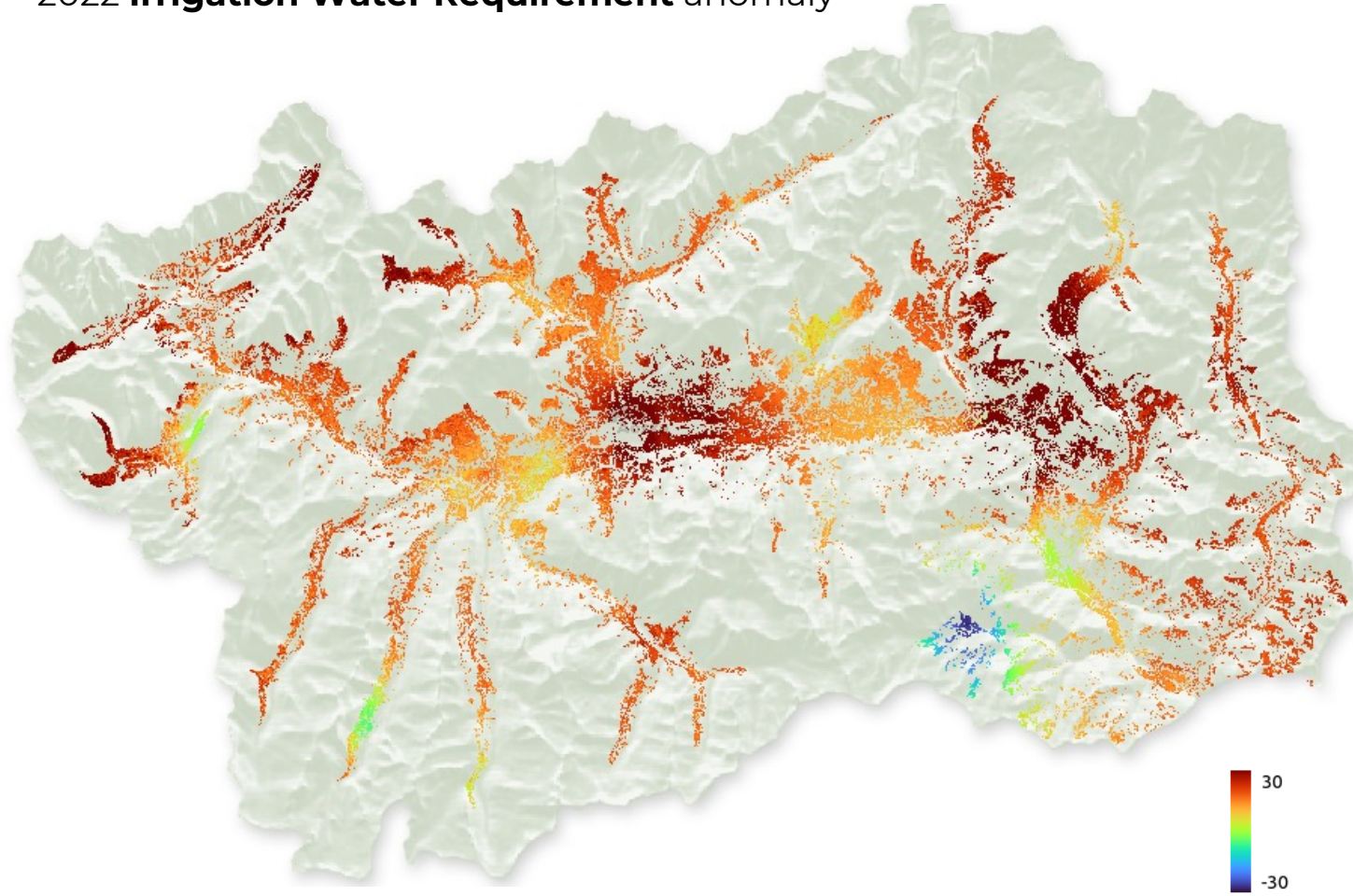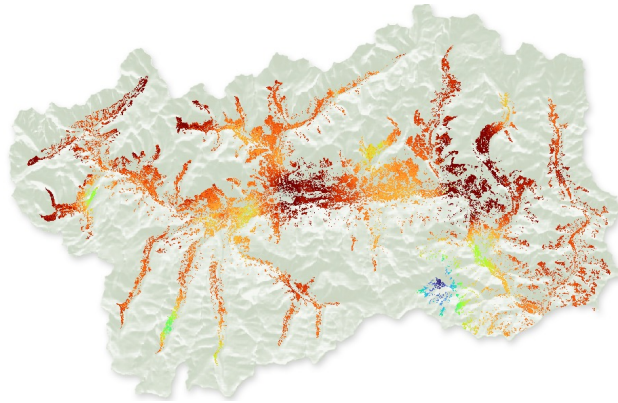
Mountain **agro-ecosystems** and droughts

2022 **Irrigation Water Requirement** anomaly

How can we transform our research results into **actionable strategies**?
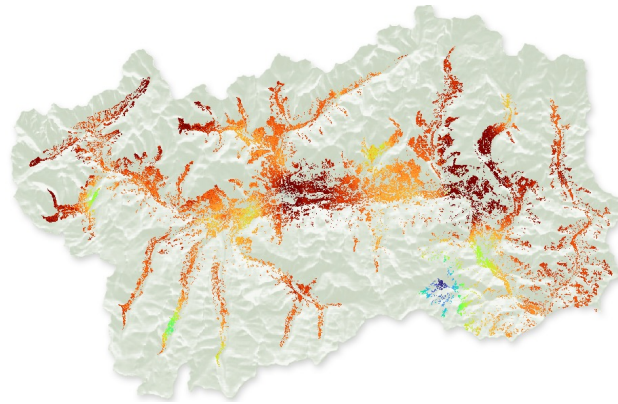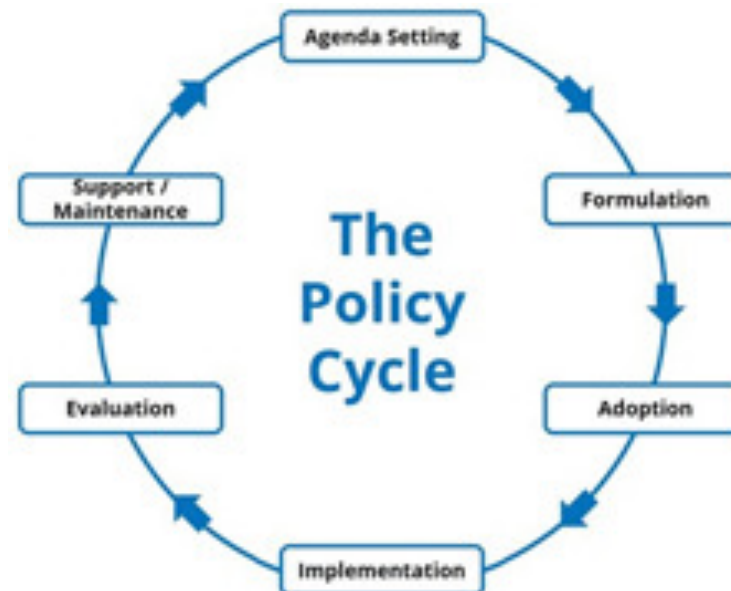

data collection,
process understanding
and **good science**

support the **evidence
based policy cycle**

How can we transform our research results into **actionable strategies**?

data collection,
process understanding
and **good science**

The Policy Cycle

- Agenda Setting
- Formulation
- Adoption
- Implementation
- Evaluation
- Support / Maintenance

support the **evidence based policy cycle**

hands on the **science-policy interface** (time, commitment, language, values, …)

Thank you

edoardo.cremonese@cimafoundation.org

Edoardo Cremonese
Cima Research Foundation

**in collaboration with
ARPA Valle d'Aosta – Climate Change Lab
www.arpa.vda.it**