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Global drivers impact on Geodiversity and Geosystem services in Alagna Valsesia (N-W Alps, Italy). Mapping and assessment for a sustainable development perspective

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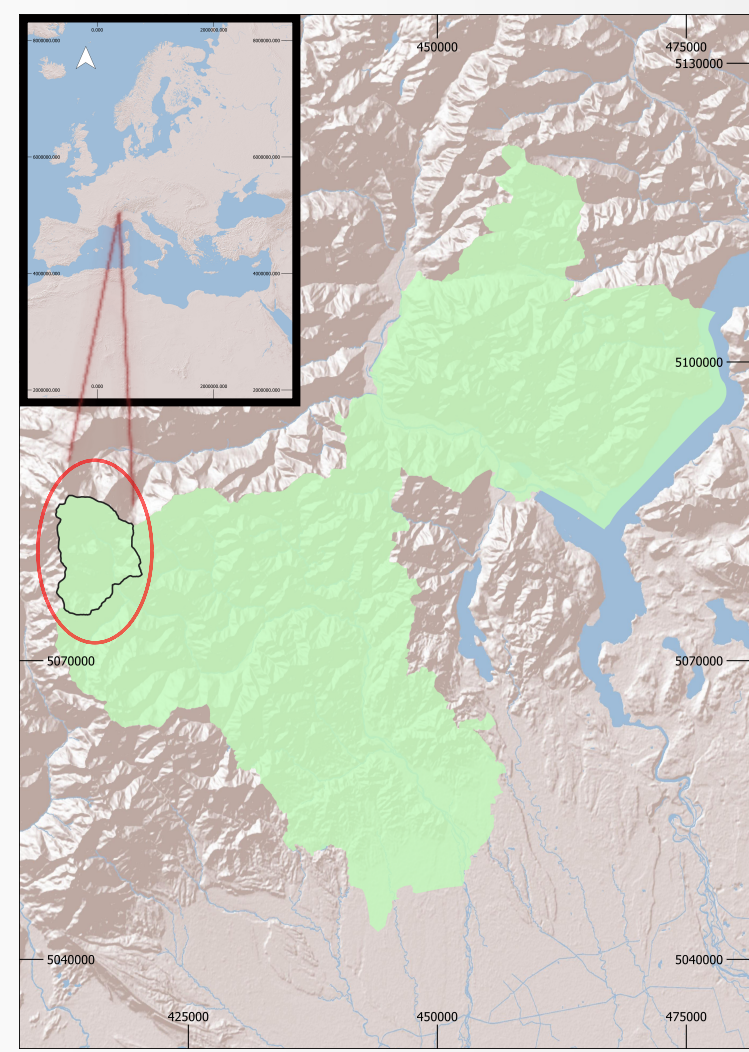
Michele Guerini*¹⁻²; Rasool Bux Khoso¹; Alizia Mantovani³; Marco Giardino¹⁻⁴

1. Earth Science Department, University of Turin, Italy; 2. EDYTEM, Université Savoie Mont Blanc, France; 3. Computer Science department, University of Turin, Italy; 4. Sesia Val Grande UGGp, Varallo, Italy

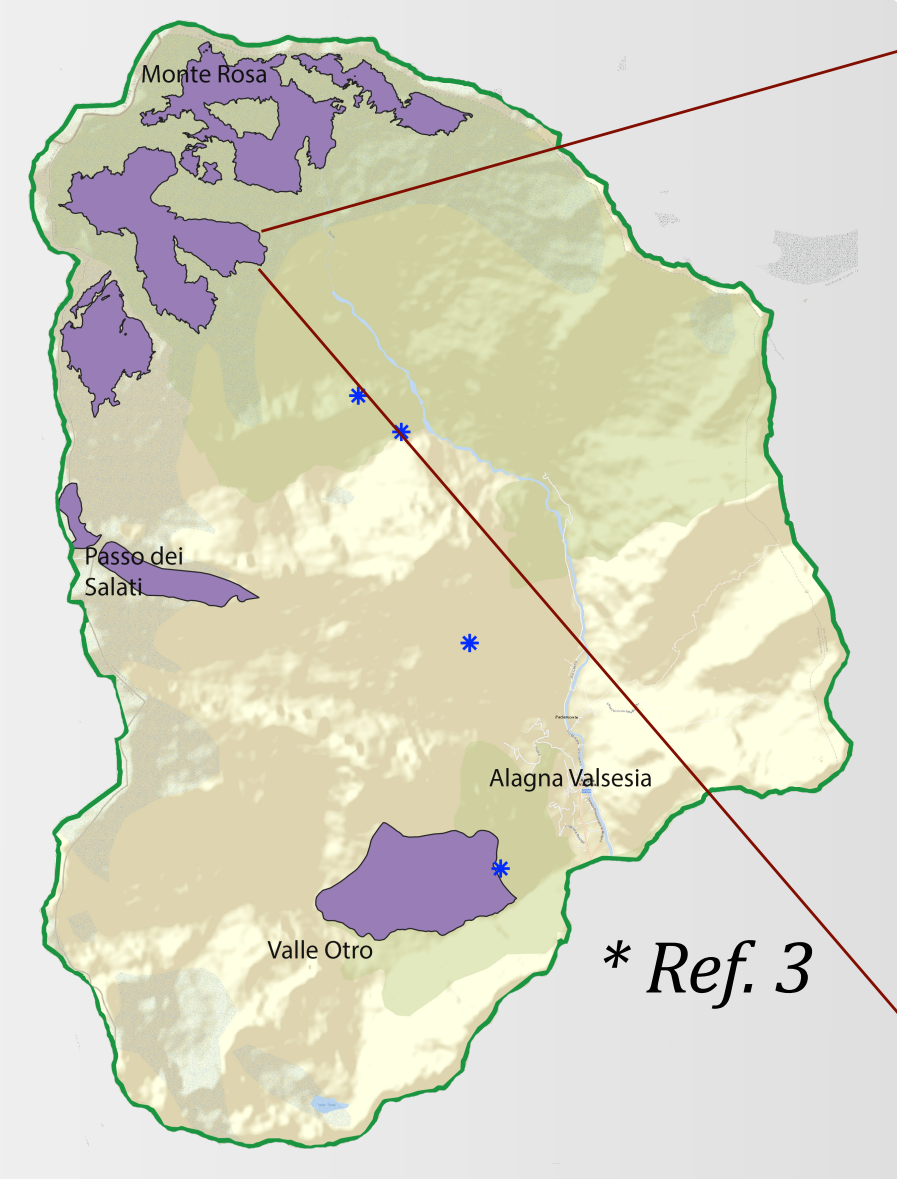
1. INTRODUCTION

Natural capital consists of two natural elements: biodiversity and geodiversity. **Geodiversity** is often underestimated, but it is just as important as biodiversity because of the services it can provide to humans: **Geosystem services**. Because of its importance, geodiversity must be protected and promoted. Especially in today's context of global climate change, the conservation of geodiversity requires **increased attention** in order to protect geosystem services and geological heritage. **UNESCO Global Geoparks** (UGGps) are proving to be an effective tool for recognising the importance of geodiversity and protecting it through geological conservation measures, environmental education and the promotion of geotourism in the region. This study highlights the environmental framework of a mountainous area of the **Sesia Val Grande UGGp** by assessing and mapping geodiversity, geosystem services and geoheritage. The study then explores **new approaches** to provide **targeted responses** to local needs, with the aim of promoting geodiversity conservation and sustainable development.

2. STUDY AREA



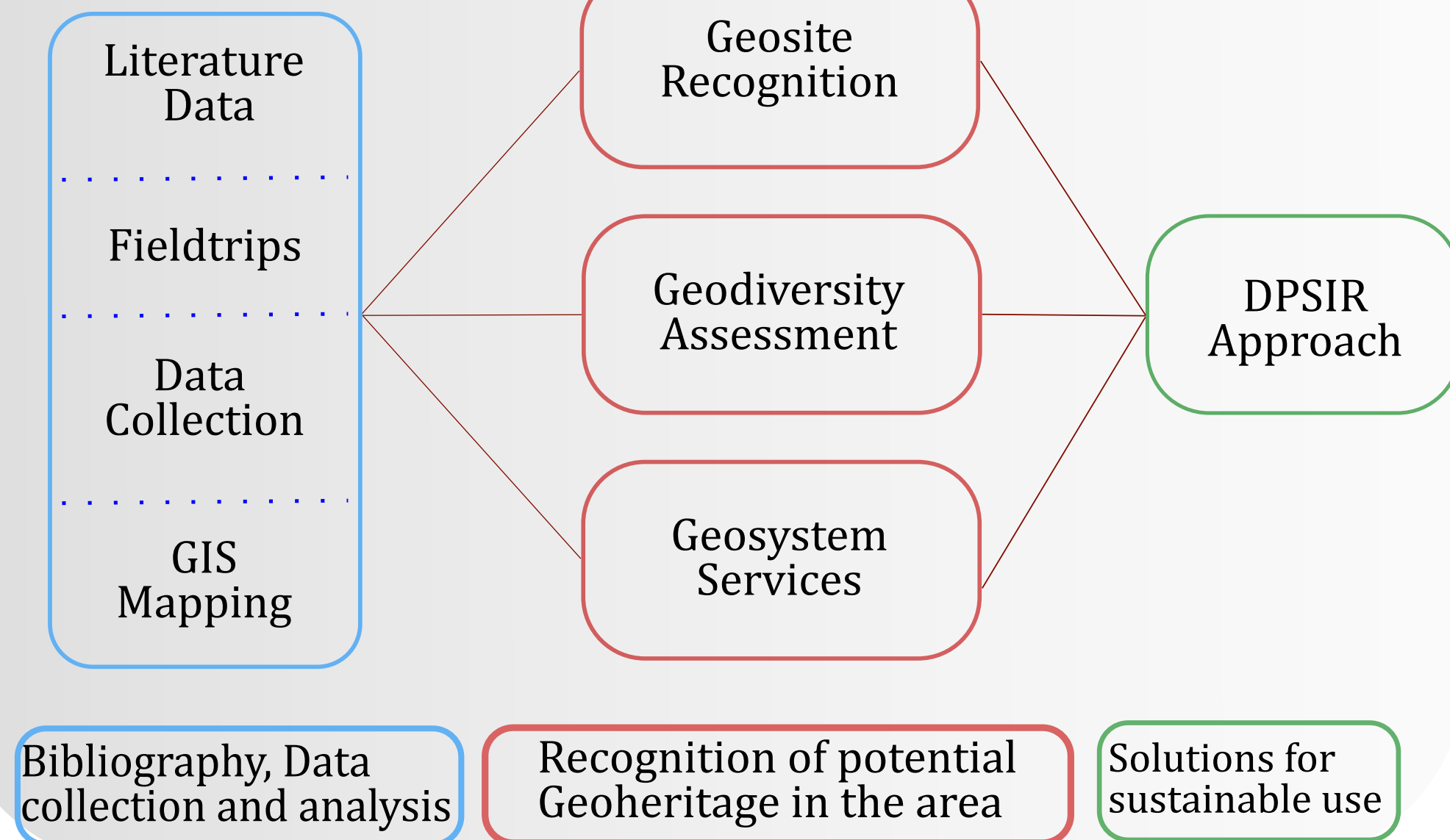
Sesia Val Grande UGGp



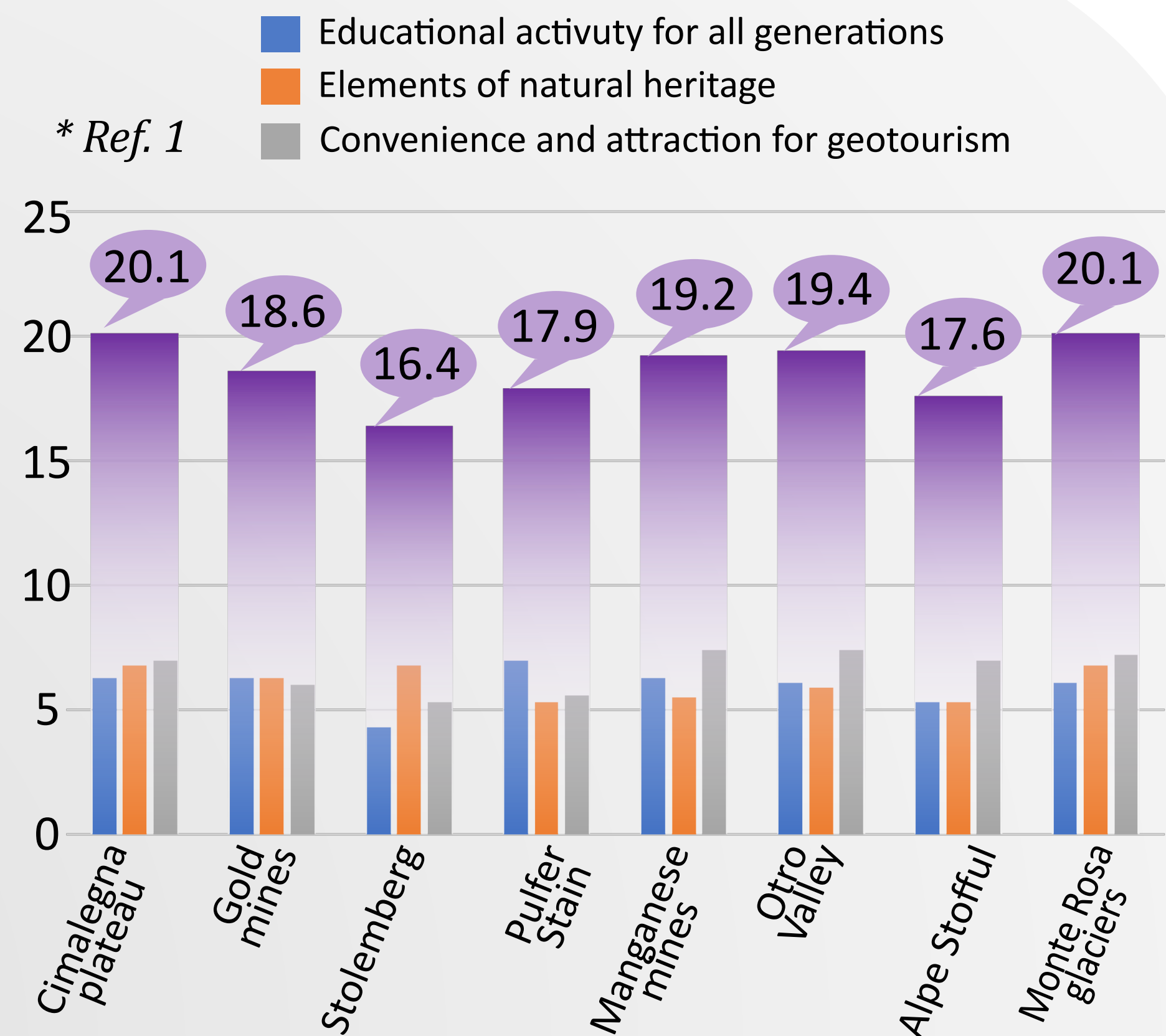
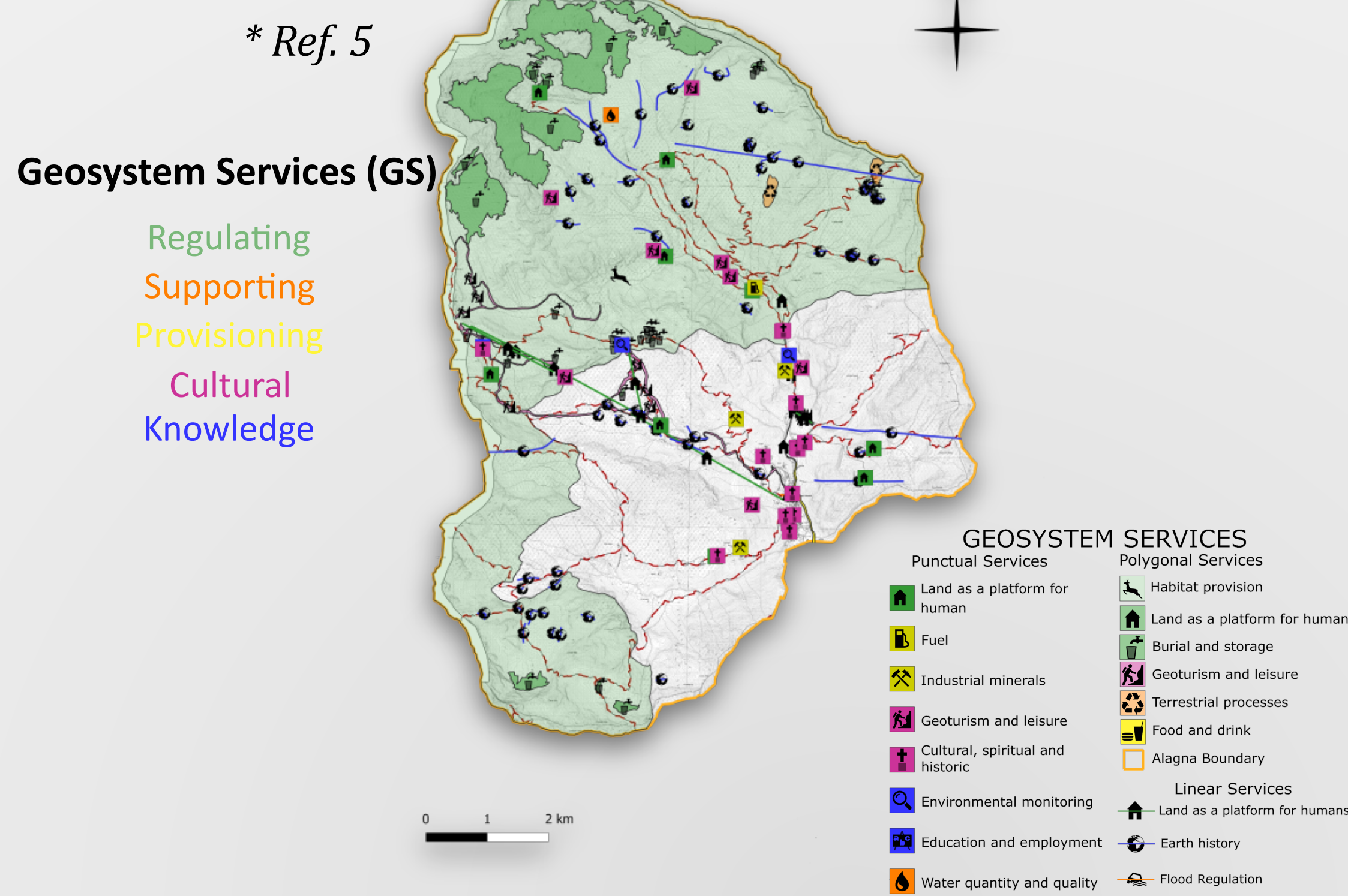
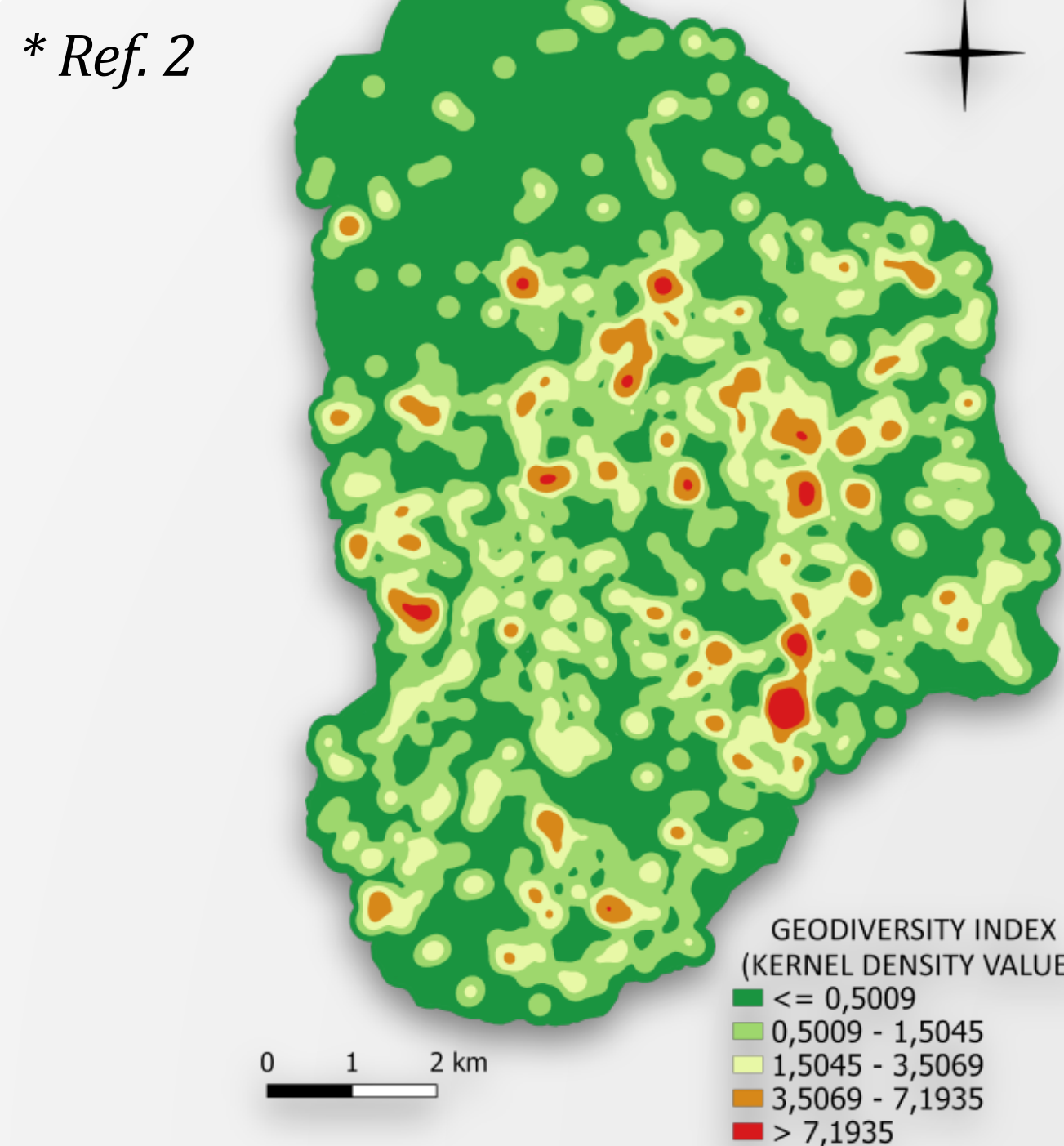
Geosite map of Alagna Valsesia * Ref. 3



3. METHODOLOGY



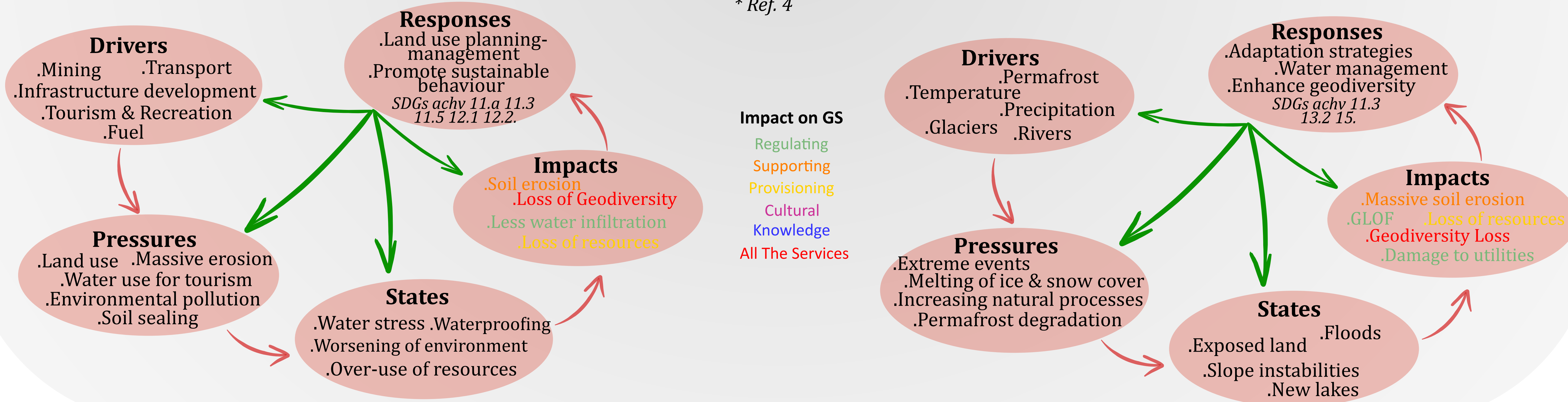
4. RESULTS



Humans factors

DPSIR Approach

Natural factors



5. CONCLUSIONS

- Geodiversity assessment highlights that Alagna Valsesia boasts **high geodiversity** in several areas, especially into the valley.
- Geosystem services assessment shows that geodiversity within Alagna **provides all 5 types of geosystem services**, especially regulating services.
- The geosites assessment shows 8 geosites in Alagna Valsesia with a **great potential for geotourism**, especially in the glacial and proglacial environment.
- The study demonstrates that using the DPSIR Framework allows to locate the global drivers of change for suggesting **targeted responses to local needs**. In Alagna Valsesia we identified **impacts on all the geosystem services** provided, with a mention on loss of geodiversity and massive erosion, and **suggested the responses** linked to the SDGs to favor the sustainable development

6. REFERENCES

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Michele Guerini
michele.guerini@unito.it

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