ESPON

EUROPEAN UNION

Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

// InTerAlp

Interface Territories across the Alpine region

Research results

November, 2024

Photo: View to Garmisch-Partenkirchen (Elias Günther, 2024).

Friedrich-Alexander-Universität Erlangen-Nürnberg

Politecnico di Torino

ÖIR

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Mapping interface territories across the Alpine region

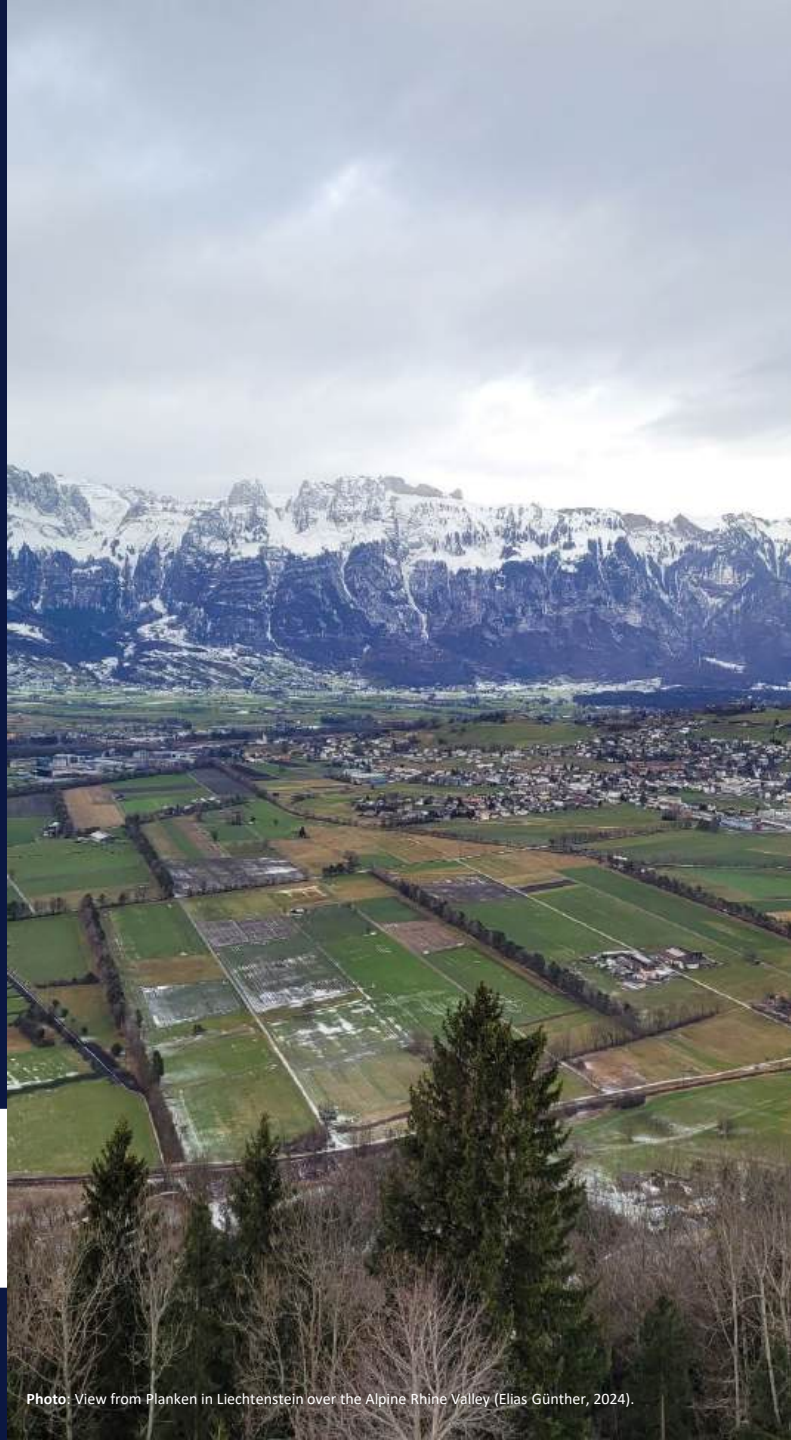

Photo: View from Planken in Liechtenstein over the Alpine Rhine Valley (Elias Günther, 2024).

Turin area

Photo: Andrea Mucelli, CC BY-NC-SA 2.0, https://www.flickr.com/photos/bluestardrop/8296928890

Grenoble area

Photo: Agence d'urbanisme de la région grenobloise

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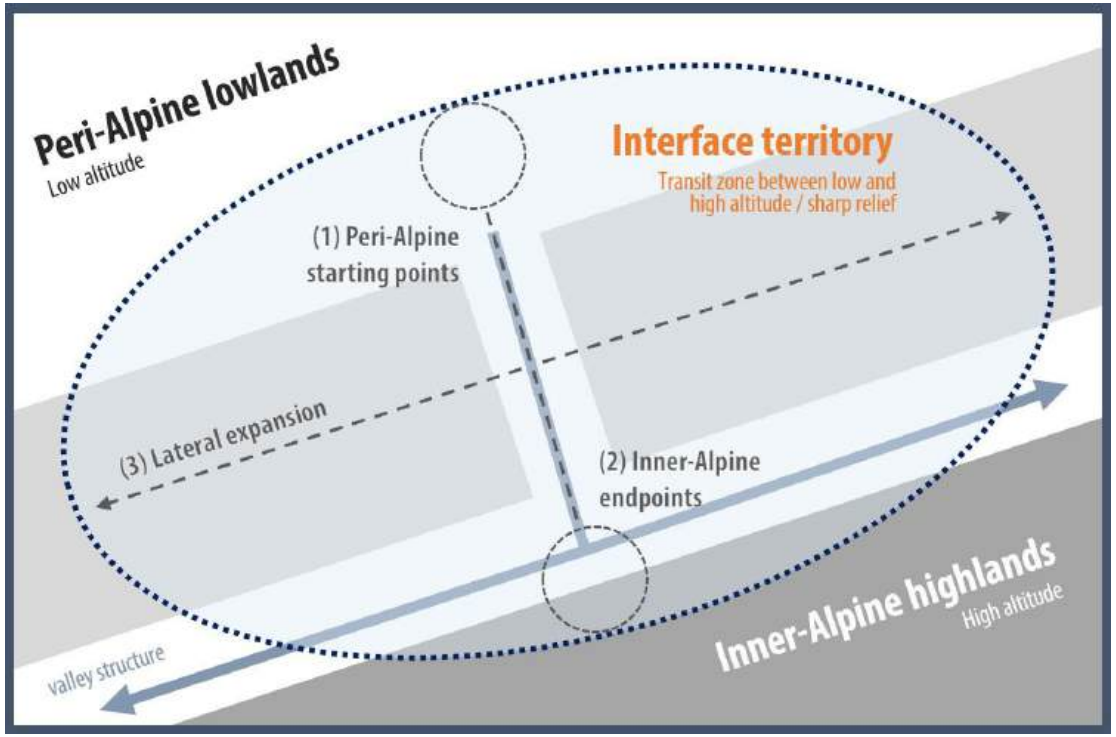
Scheme of defining interface territories



FAU, 2024

Garmisch-Partenkirchen towards Munich

Photo: Elias Günther, 2024

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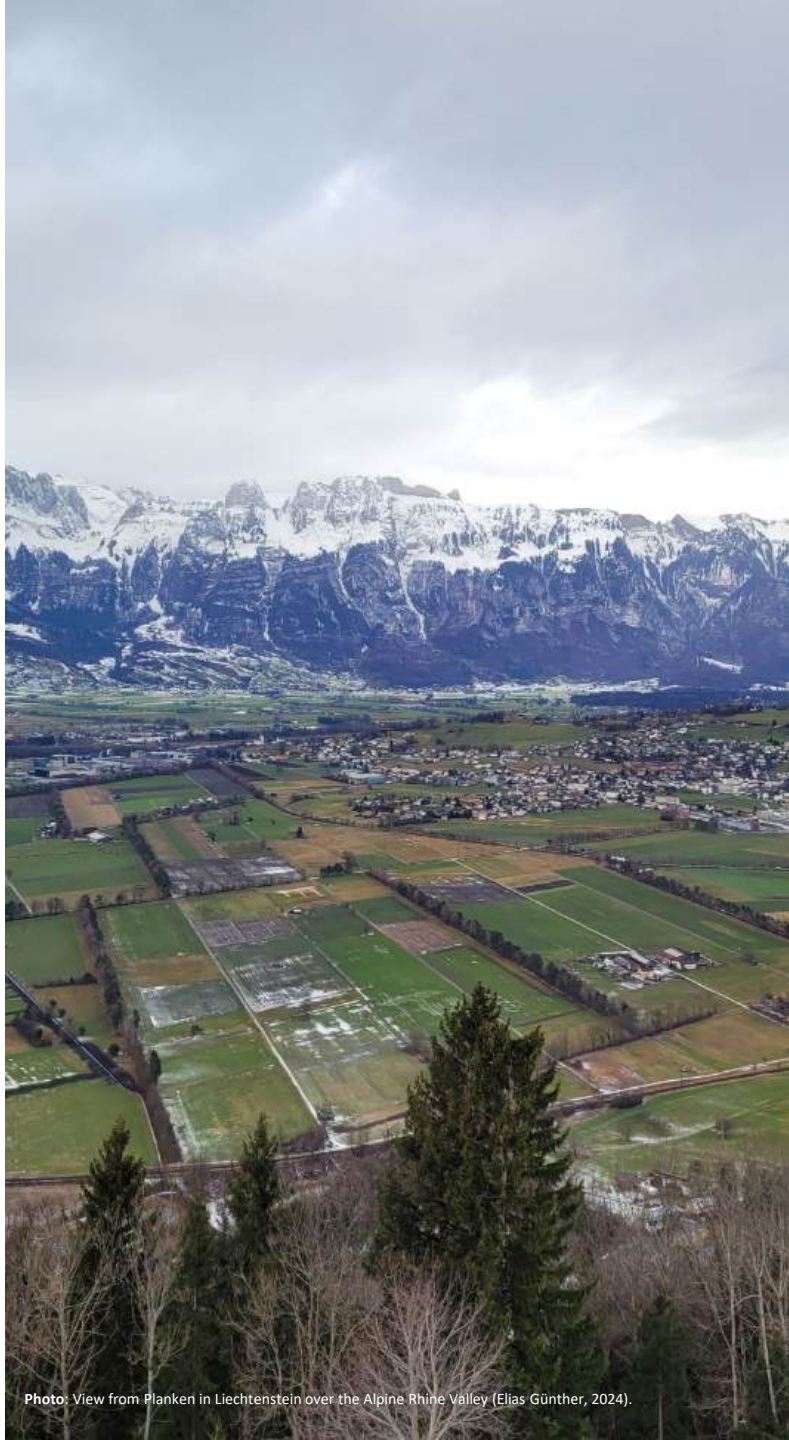
General criteria for the spatial definition include the following aspects:

- Interface territories **link the peri-Alpine lowlands** with **inner-Alpine highlands.**
- Interface territories represent the **transition zone** between low and high altitude, encompassing areas with sharp relief.
- The definition of interface territories is based on characteristics of the **Alpine settlement system**, the **transport infrastructure** and **morphological aspects** such as topographical elevation and the river system.
- Spatial patterns in demographic organisation, environmental regionalisation and transport infrastructure provide the **data framework** (e.g. accessibility to central places, functional urban areas, water catchment areas, transport infrastructure, geomorphological arguments like altitude and slope).



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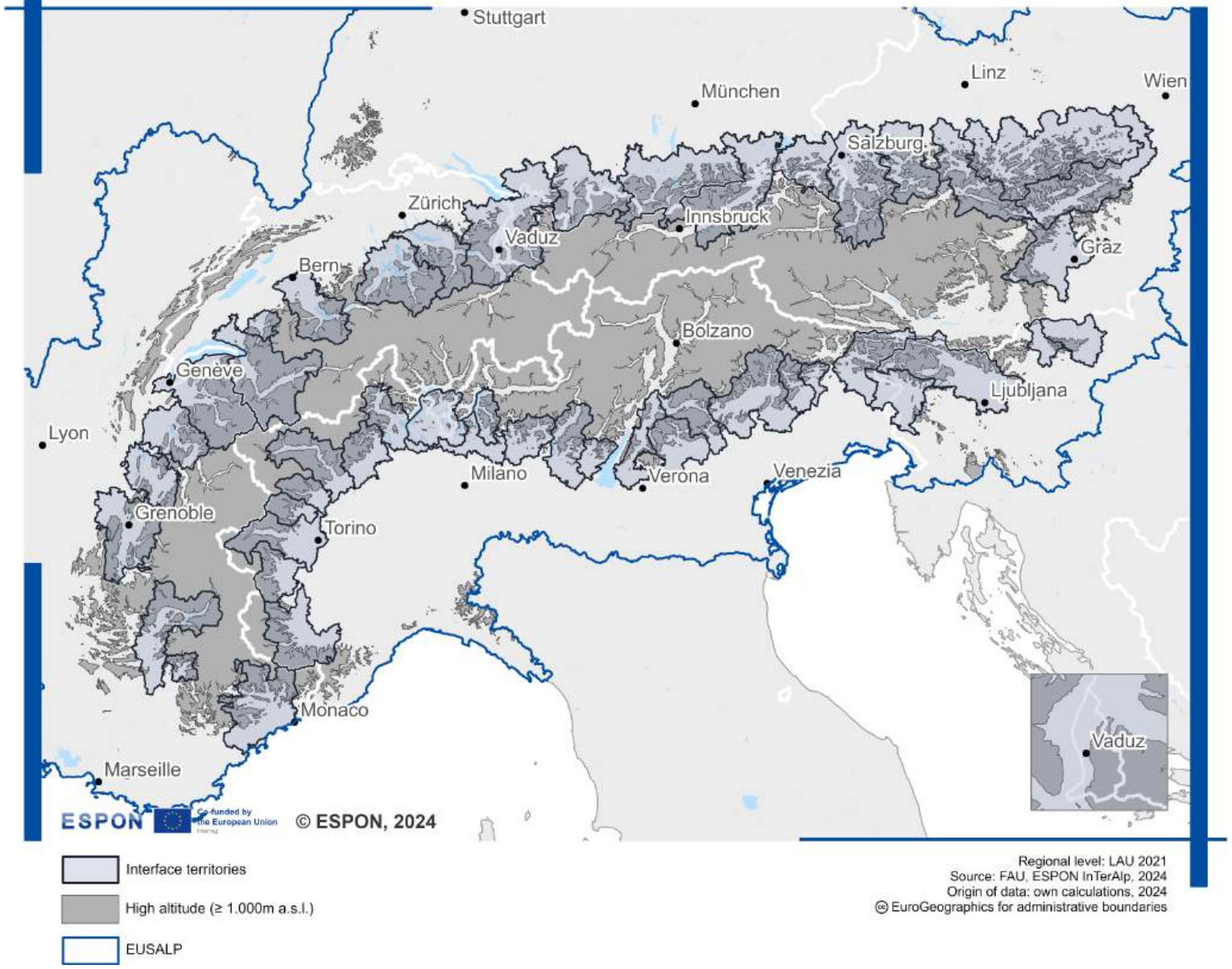
Interface territories across the Alpine region



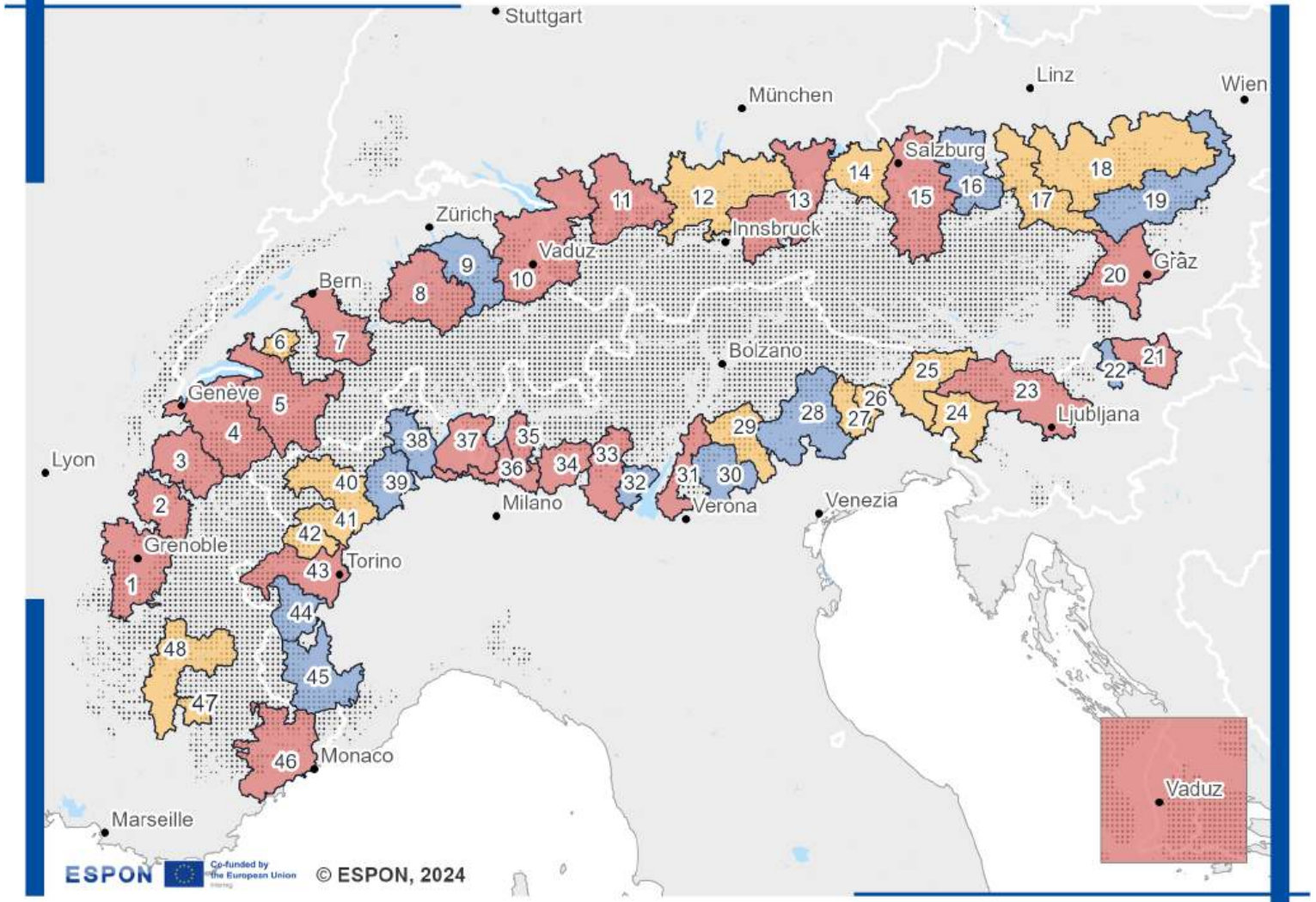
Interface territories

High altitude (≥ 1.000m a.s.l.)

EUSALP

Regional level: LAU 2021
Source: FAU, ESPON InTerAlp, 2024
Origin of data: own calculations, 2024
© EuroGeographics for administrative boundaries

Spatial typologies of Alpine interface territories



Spatial typology	Interface areas
Core city interface areas	(01) Grenoble/Rhône-Alpes region (FR), (02) Chambéry (FR), (03) Annecy (FR), (04) Geneva/Annemasse/Thonon-les-Bains (CH/FR), (05) Rhone Valley (CH/FR), (07) Bern/Thun (CH), (08) Zug/Luzern (CH), (10) Alpine Rhine Valley (DE/CH/AT/LI), (11) Allgovia (DE/AT), (13) Rosenheim (DE/AT), (15) Salzburg (AT/DE), (20) Graz (AT), (21) Maribor (SI), (23) Ljubljana/Julian Alps (SI/AT), (31) Trento (IT), (33) Brescia (IT), (34) Bergamo (IT), (35) Lecco (IT), (36) Milano fringe (IT), (37) Lugano (CH/IT), (43) Turin (IT), (46) Nice (FR)
Semi-urbanised interface areas	(09) Zürich/Schwyz/Glarus (CH), (16) Gmunden (AT), (19) Vienna/Mürz Valley (AT), (22) Velenje (SI), (28) Belluno/Piave Valley (IT), (30) Vicenza/Schio (IT), (32) Gavardo/Salò (IT), (38) Domodossola (IT), (39) Biella/Borgomanero (IT), (44) Pinerolo (IT), (45) Cuneo/Cottian Alps (IT)
Rural interface areas	(06) Bulle (CH), (12) Munich fringe (DE/AT), (14) Bad Reichenhall/Berchtesgaden Alps (DE/AT), (17) Liezen (AT), (18) Vienna/Lower Austria fringe (AT), (24) Gorizia/Nova Gorica (IT/SI), (25) Udine (IT), (26) Maniago (IT), (27) Pordenone (IT), (29) Bassano del Grappa (IT), (40) Aosta Valley (IT), (41) Cuorgnè (IT), (42) Ciriè (IT), (47) Digne-les- Bains (FR), (48) Sisteron/Gap (FR)

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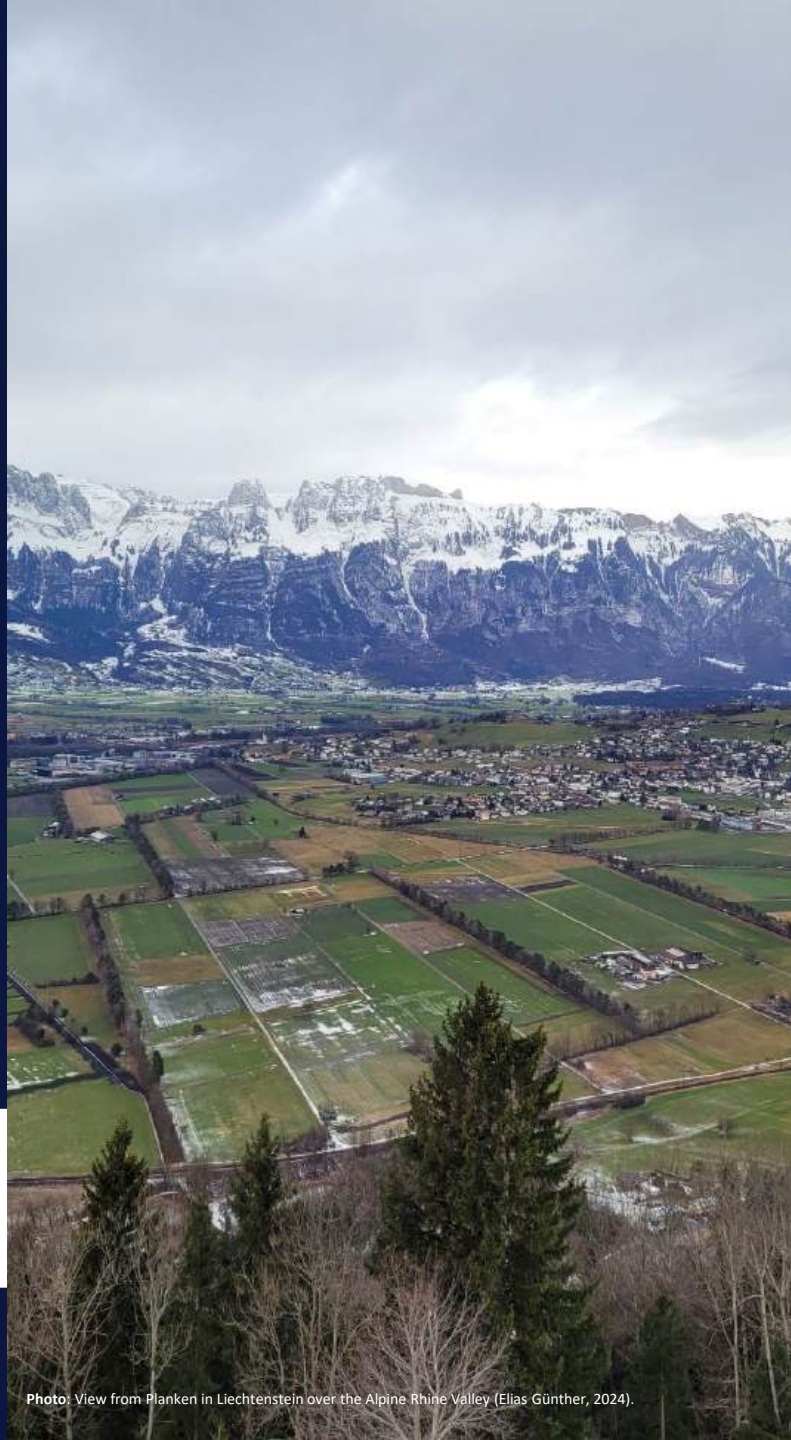
Alpine interface territories as a specific geographic category



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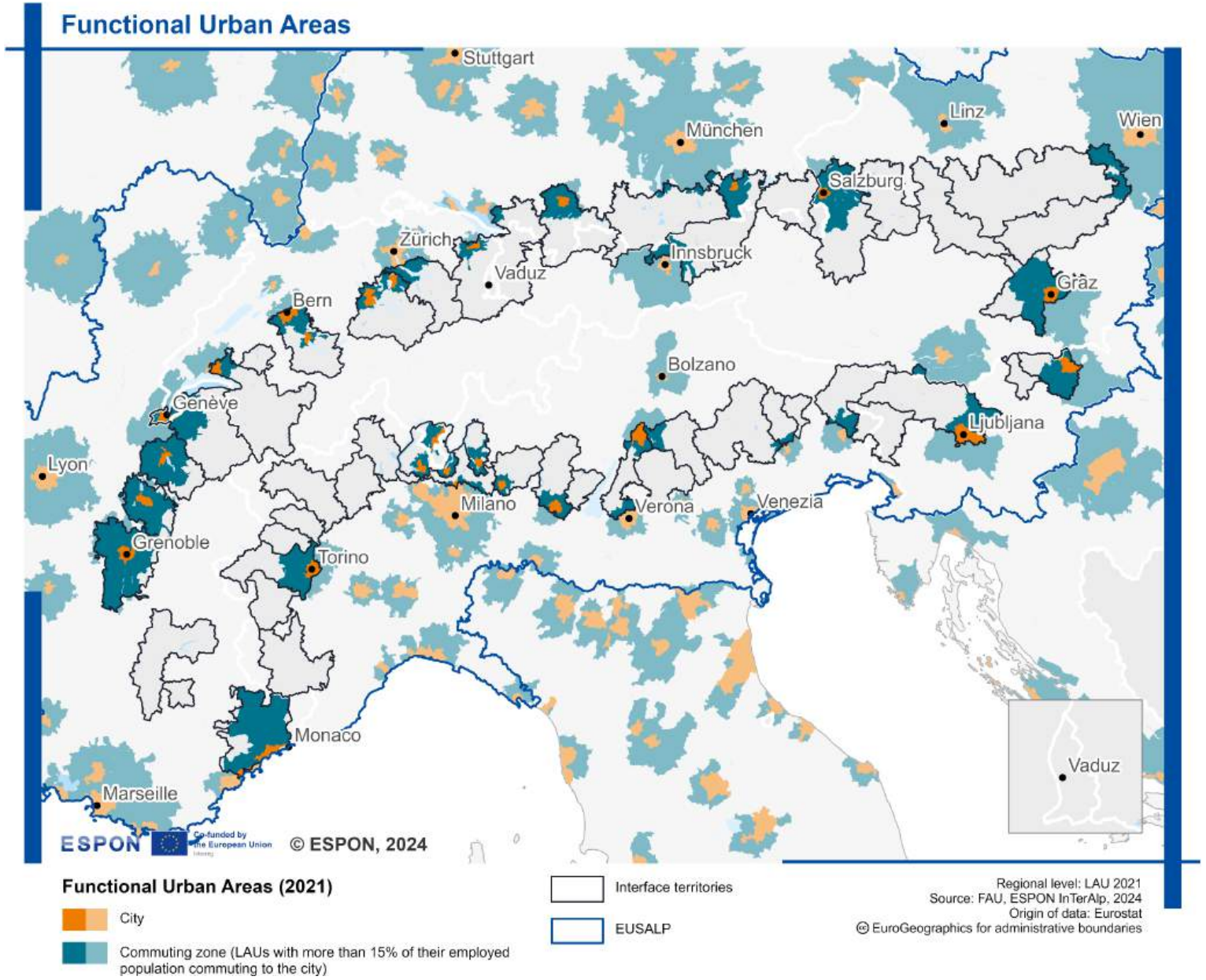
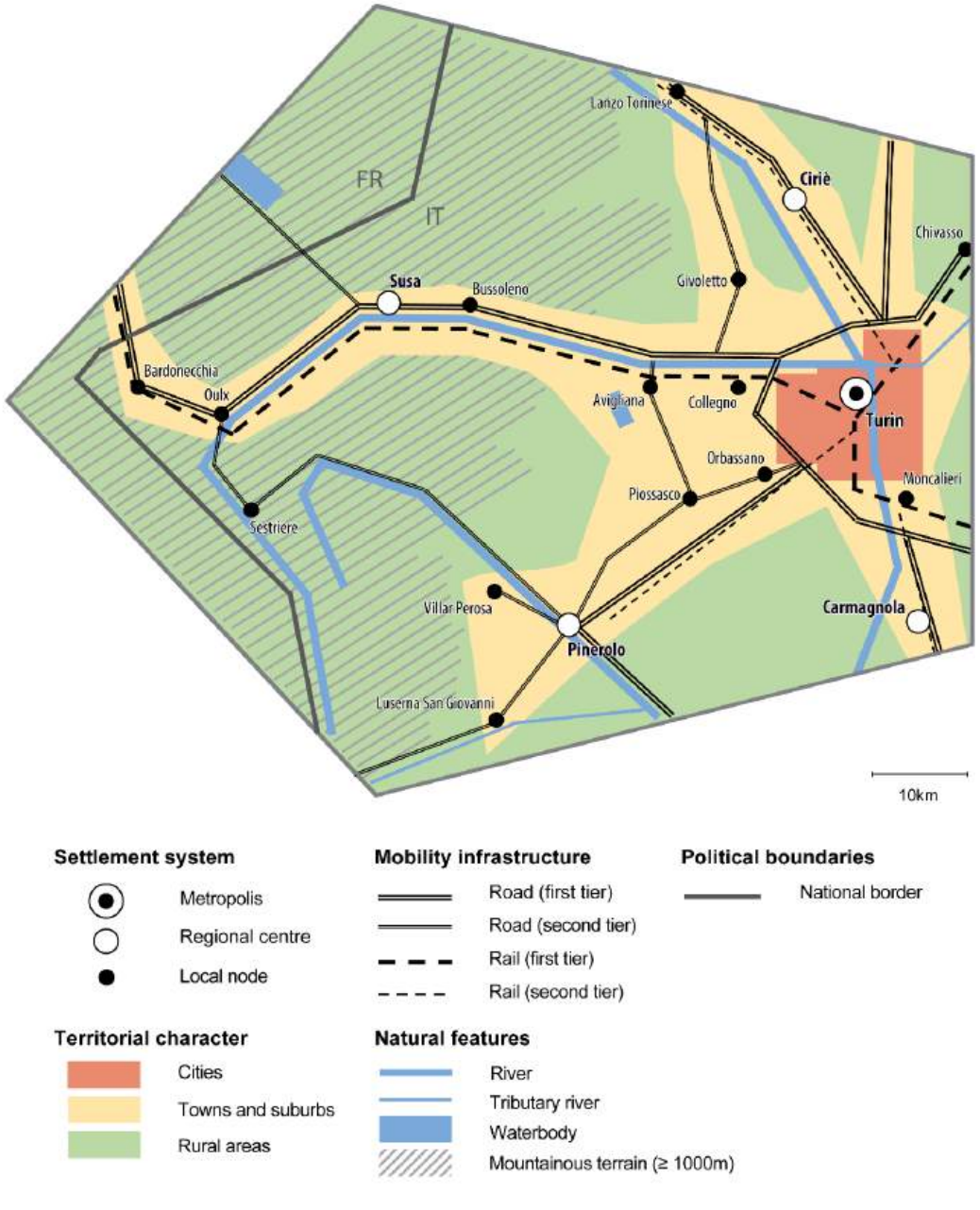
A new geography

The European Alps beyond Functional Urban Areas



A new geography

The geographic specificity of mountain-lowland areas



Turin area

Photo: Andrea Mucelli, CC BY-NC-SA 2.0, https://www.flickr.com/photos/bluestardrop/8296928890

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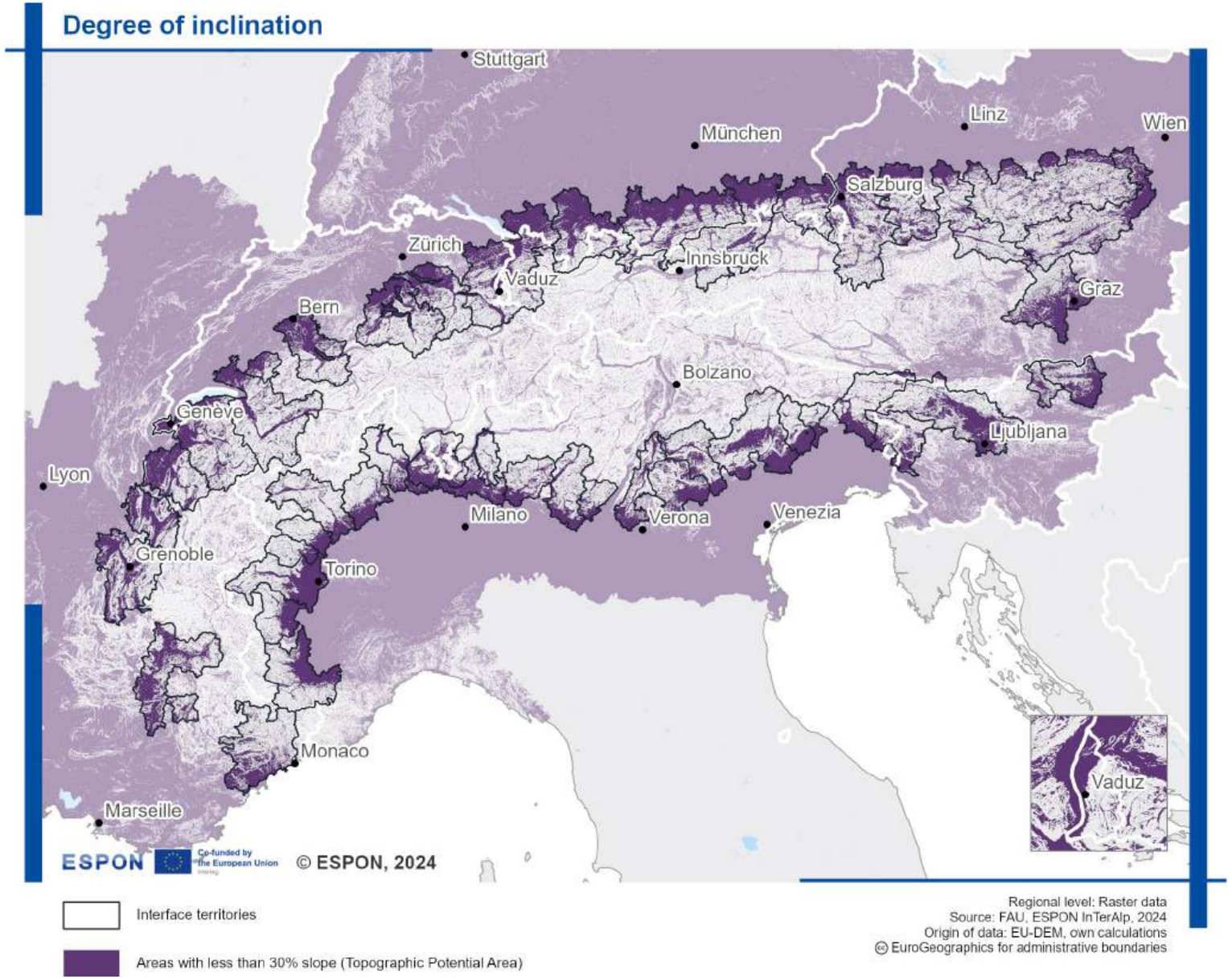
A new geography

The challenge of double-demand with half of space



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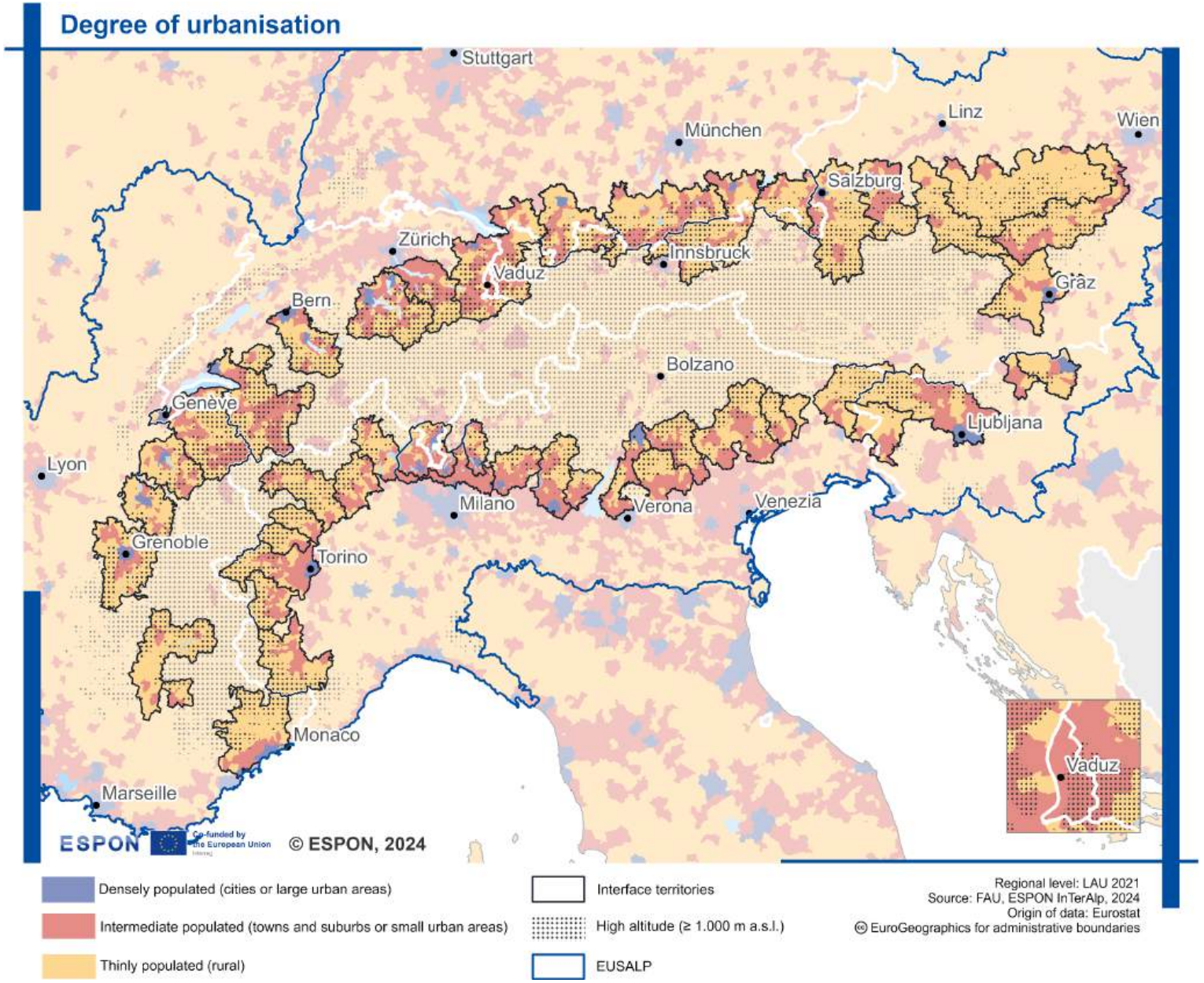

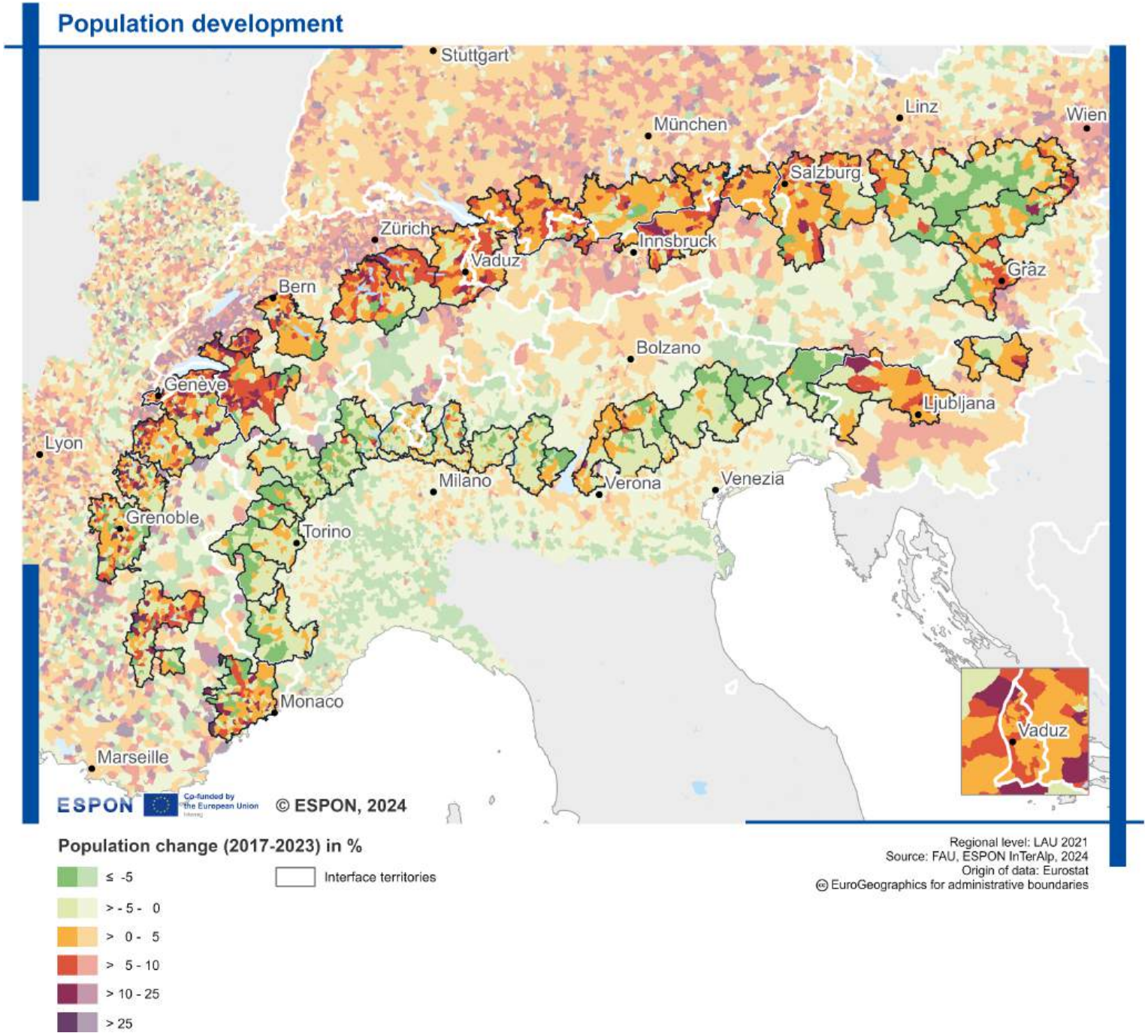

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The challenge of double-demand with half of space

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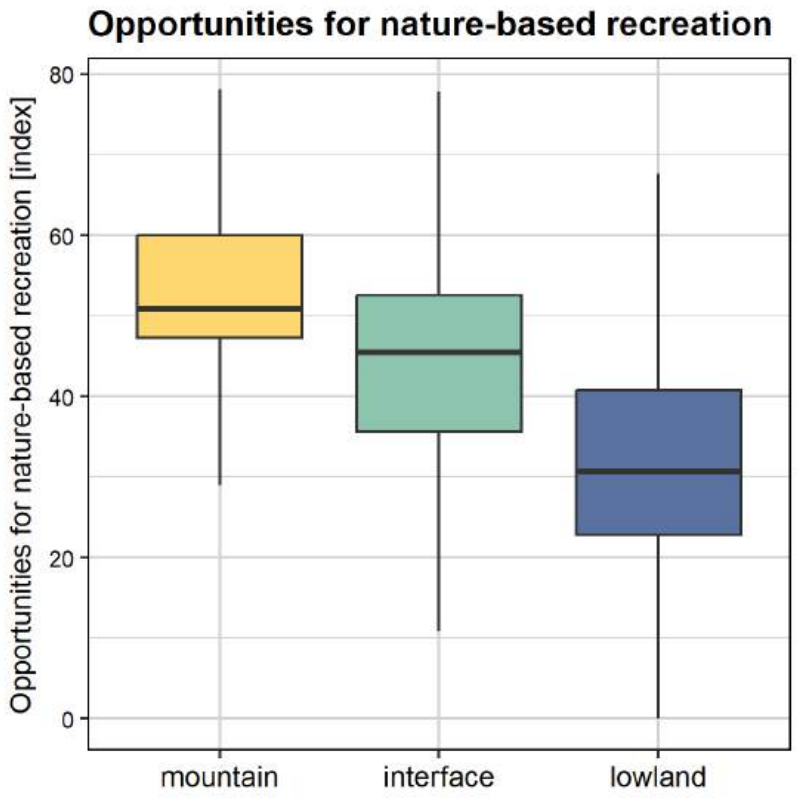

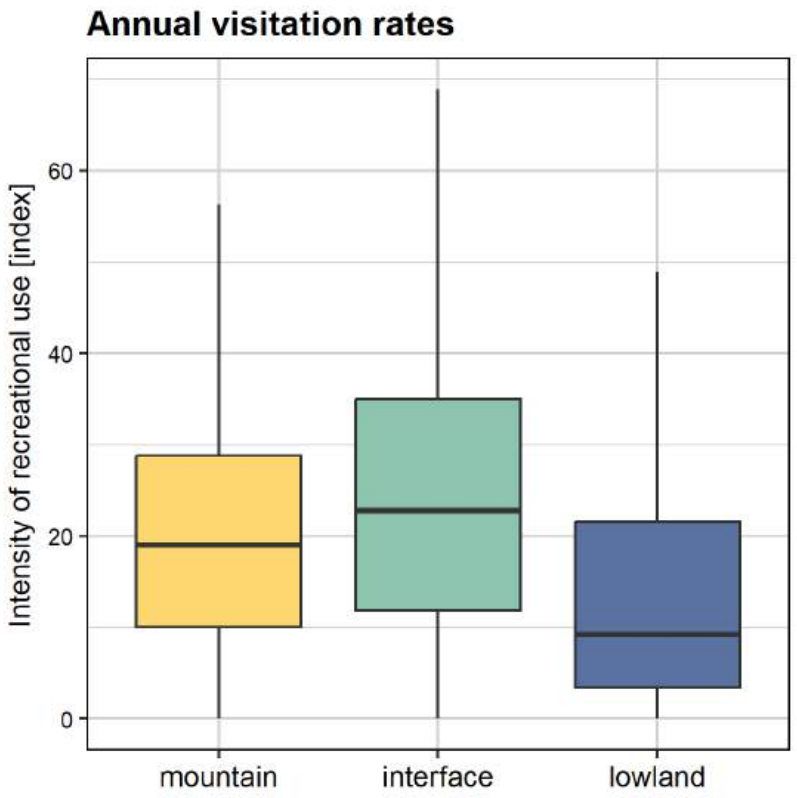

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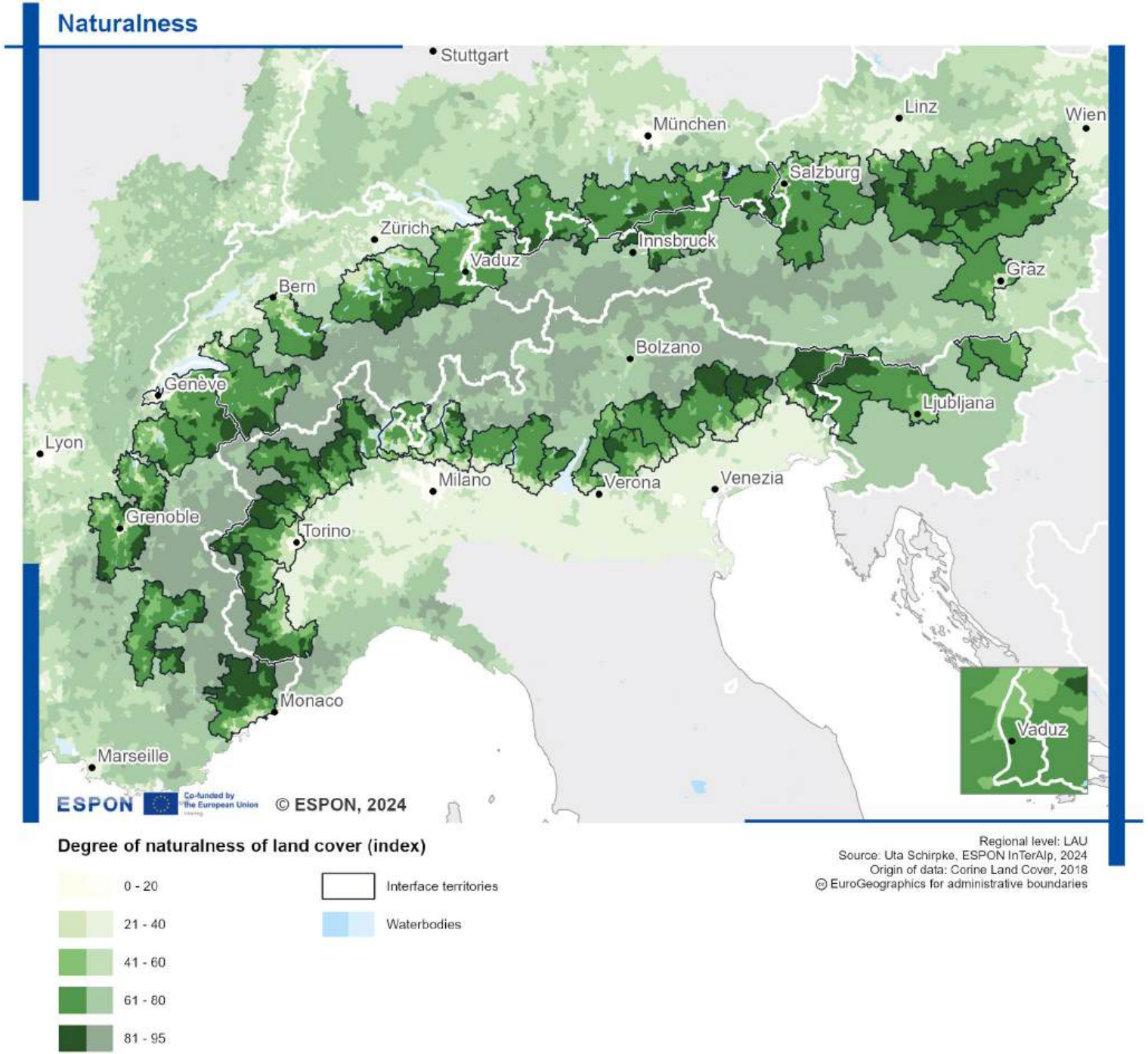
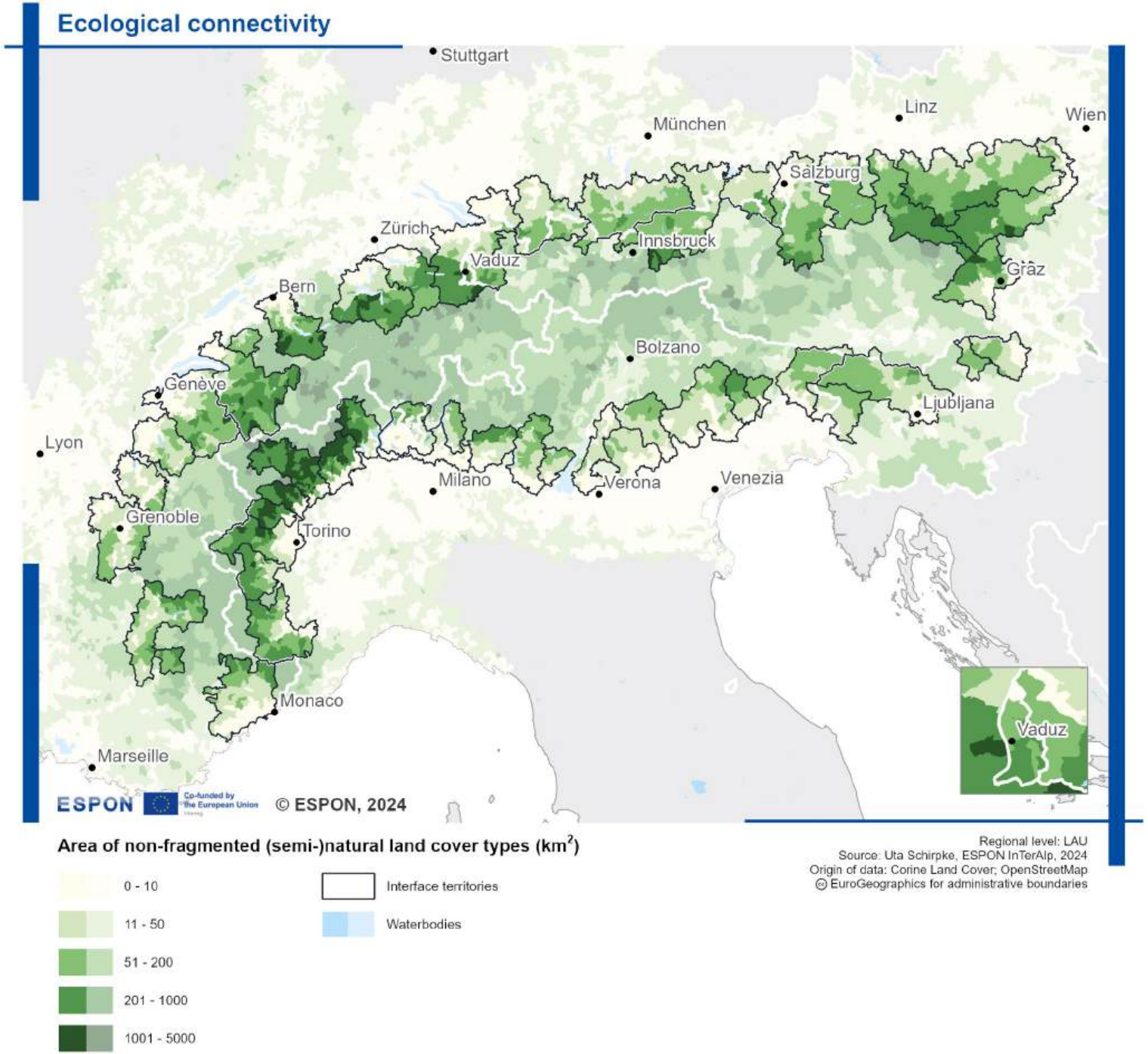
Territories with sharp contrasts

Areas of environmental contrasts





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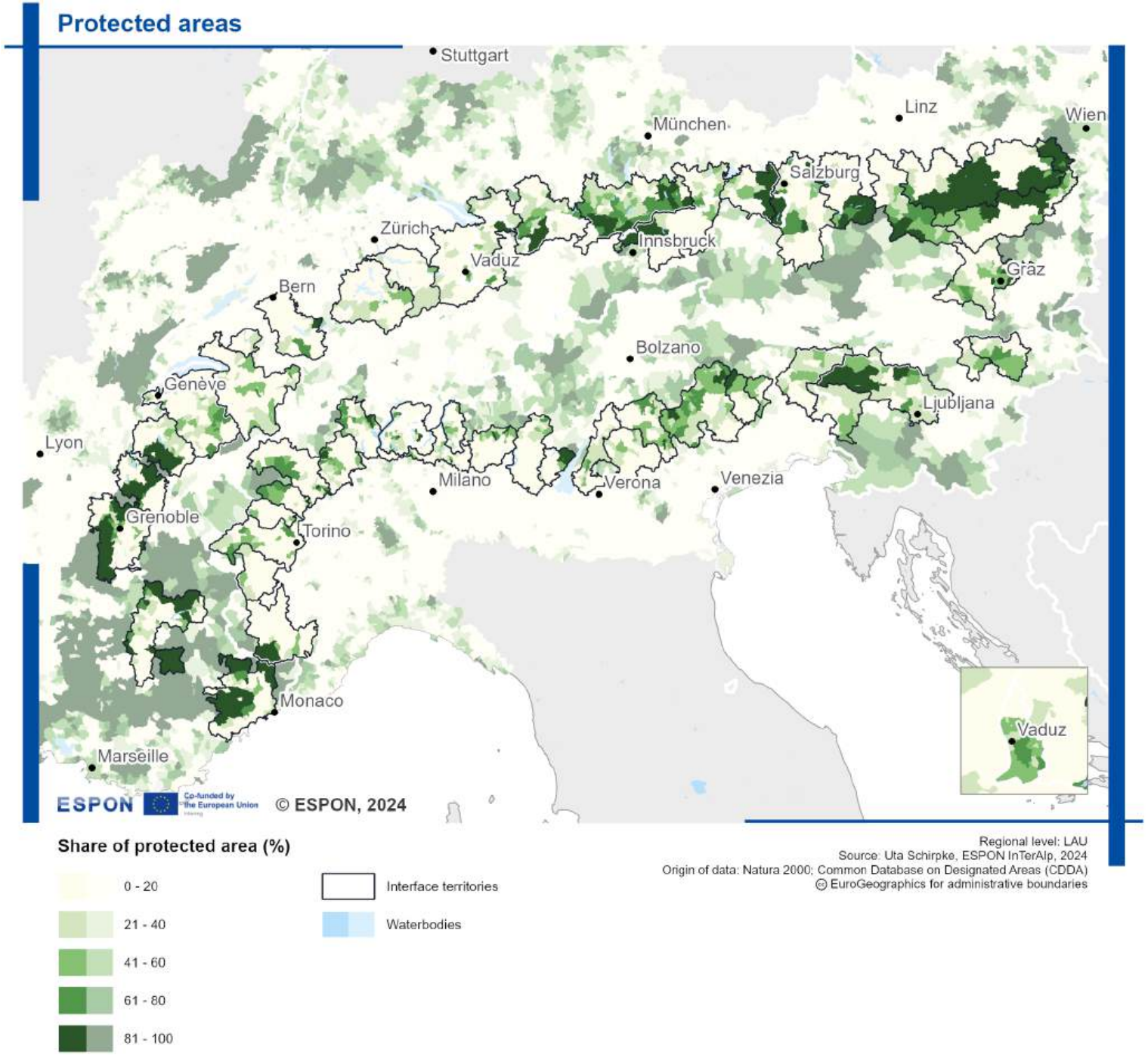

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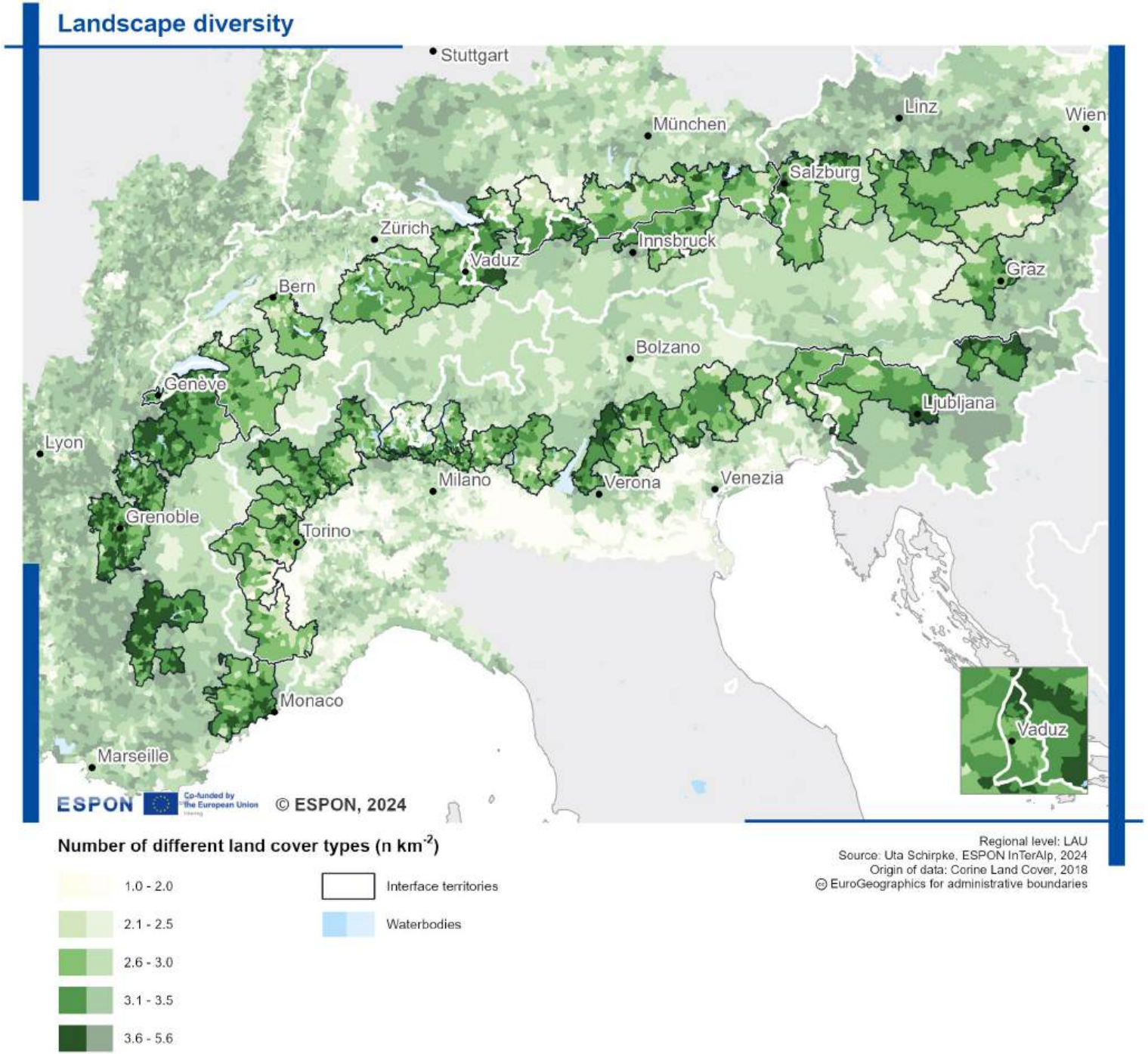
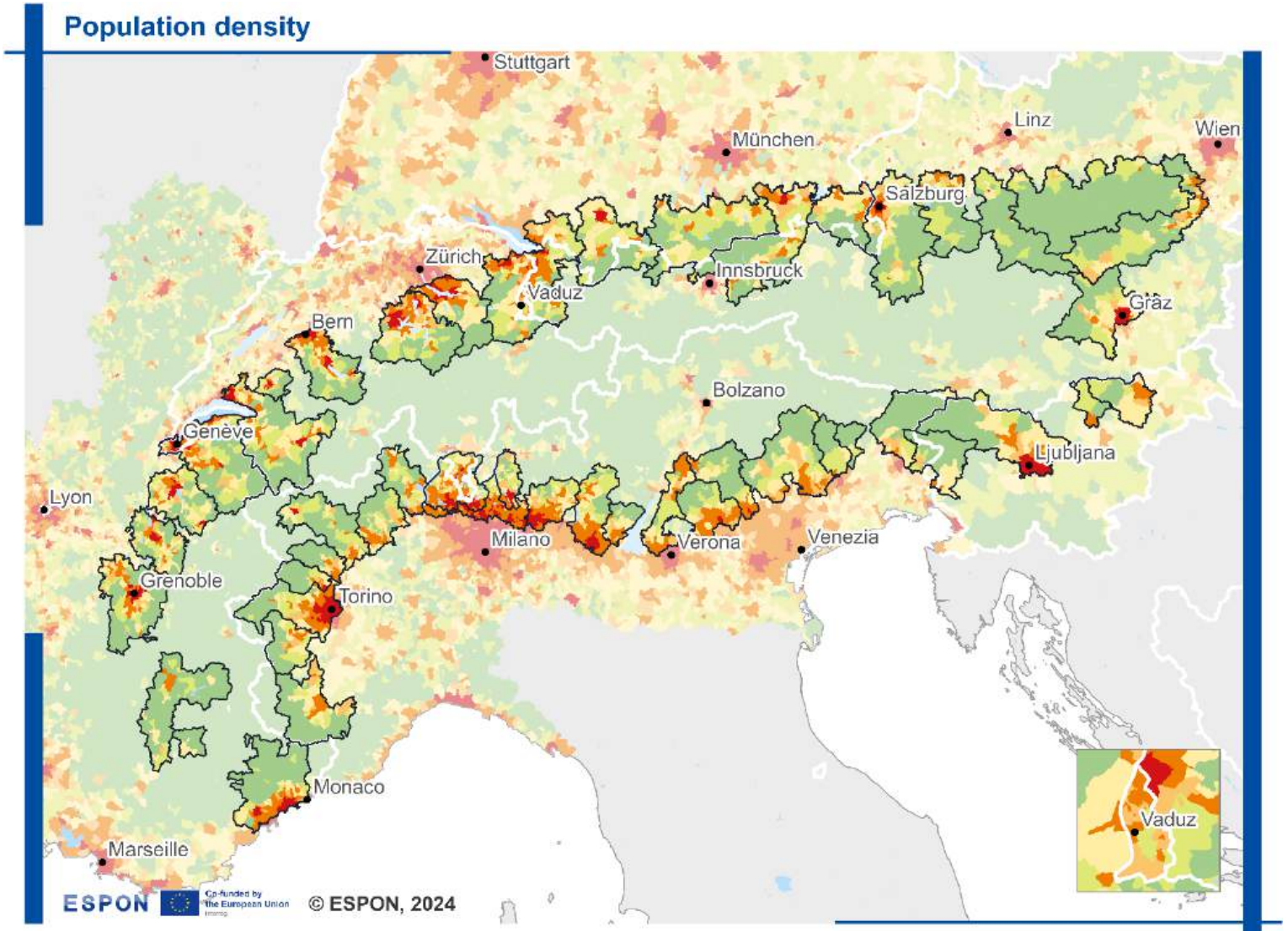


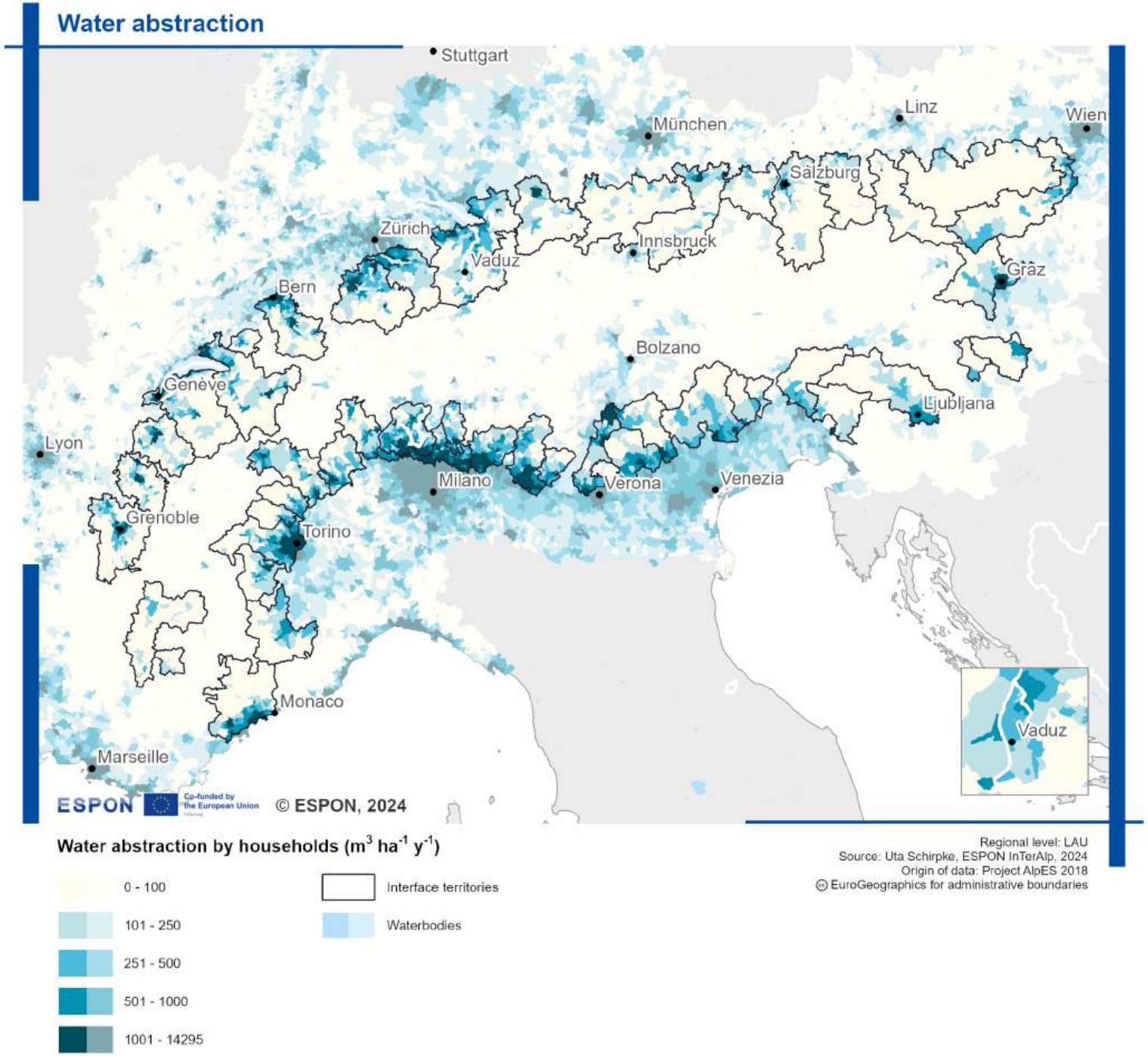
Territories with sharp contrasts

Areas of environmental contrasts

Territories with sharp contrasts

Areas of socio-economic contrasts





Territories with sharp contrasts

Areas of socio-economic contrasts

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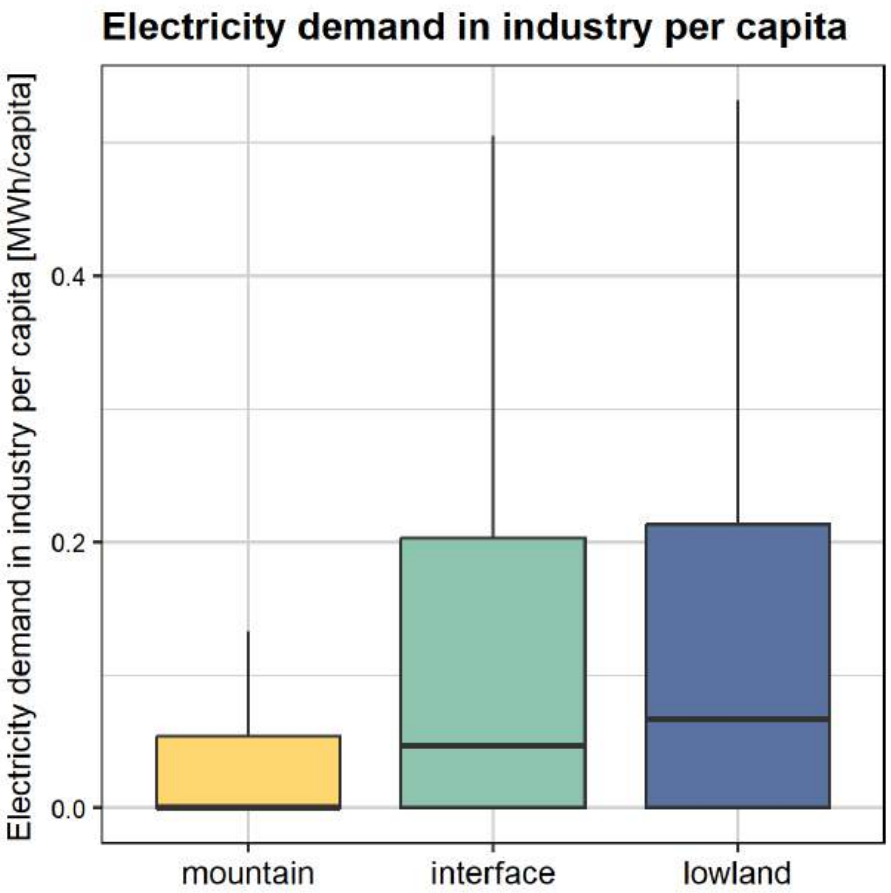

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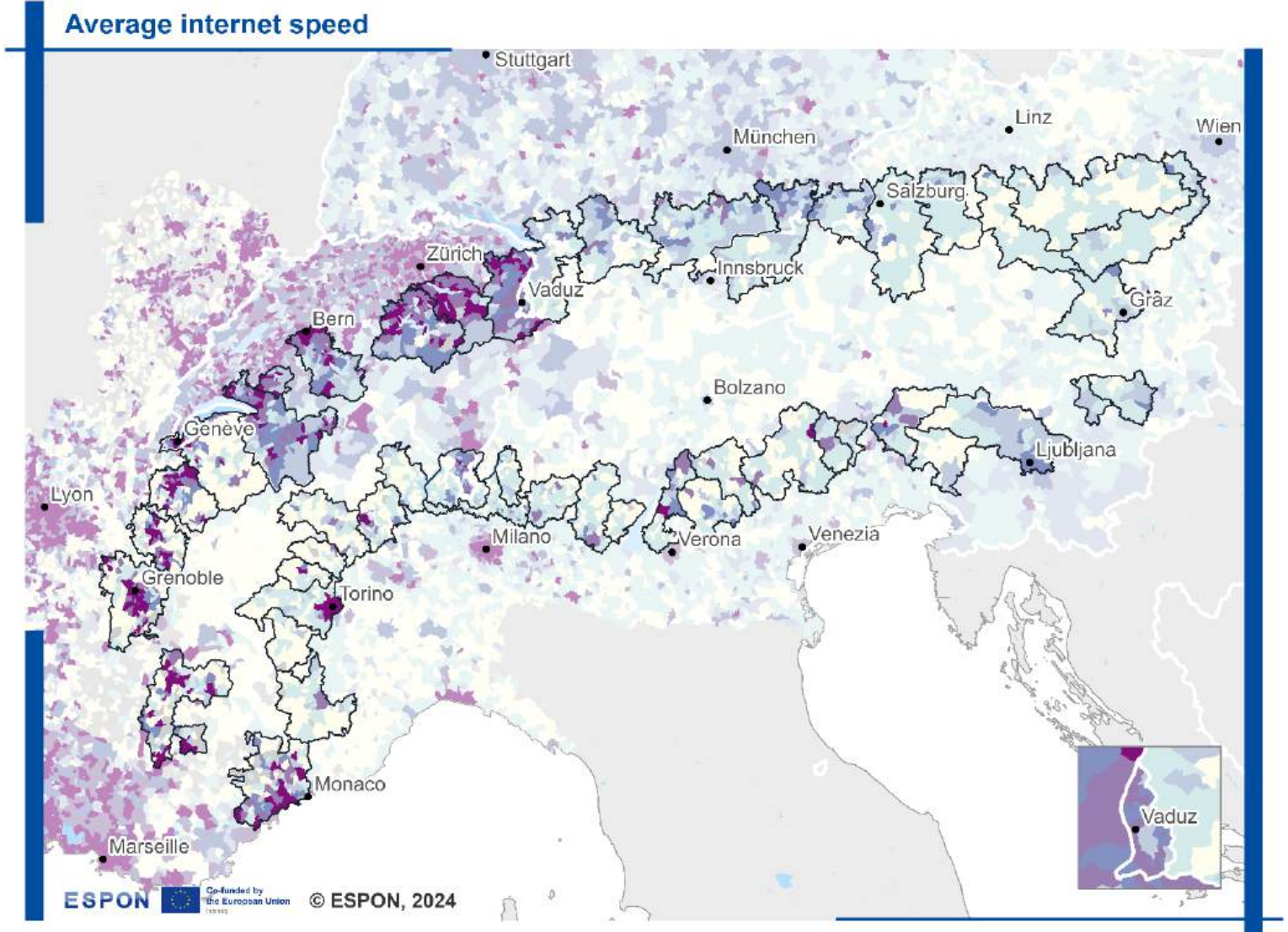
Territories with sharp contrasts

Areas of socio-economic contrasts



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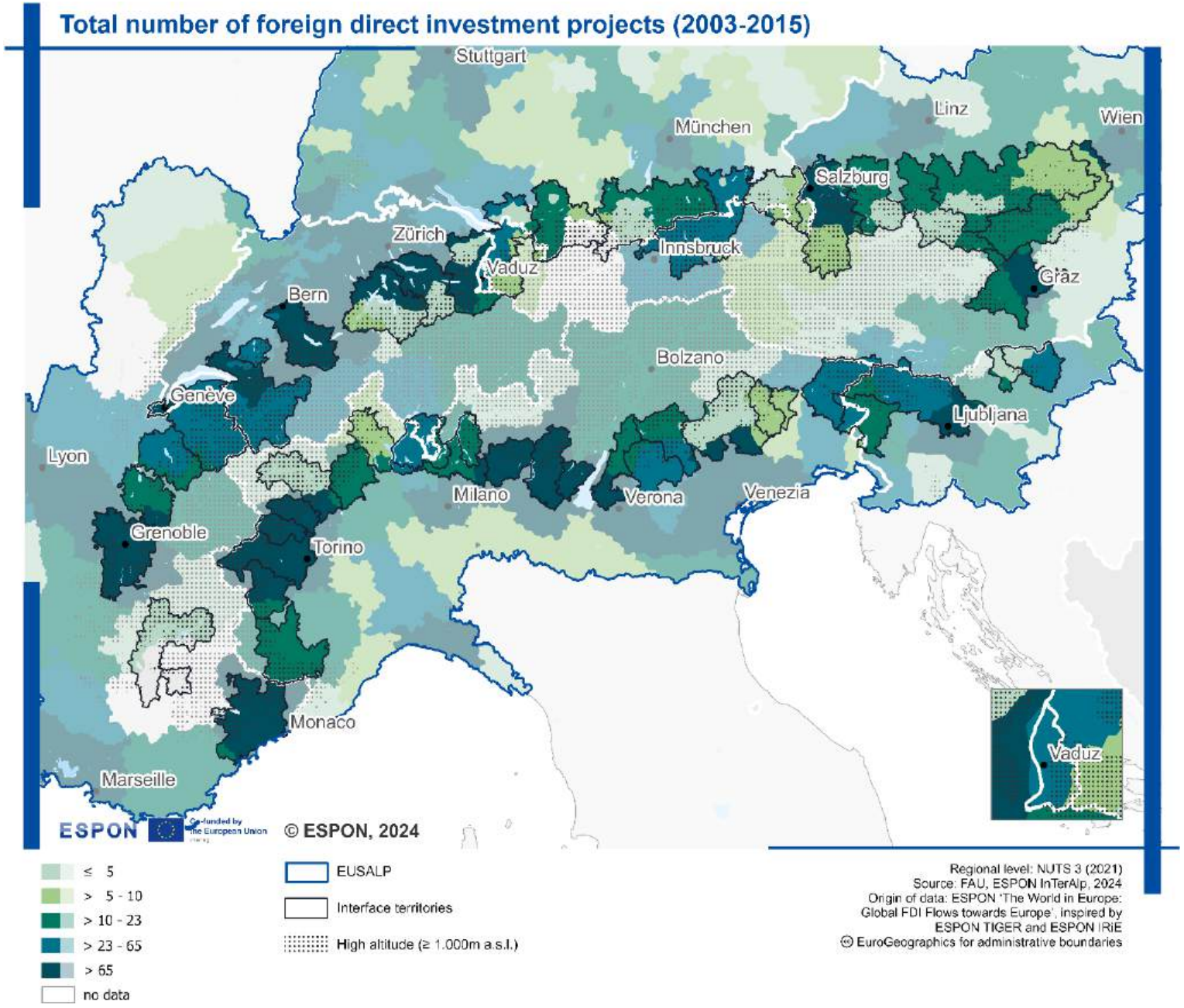
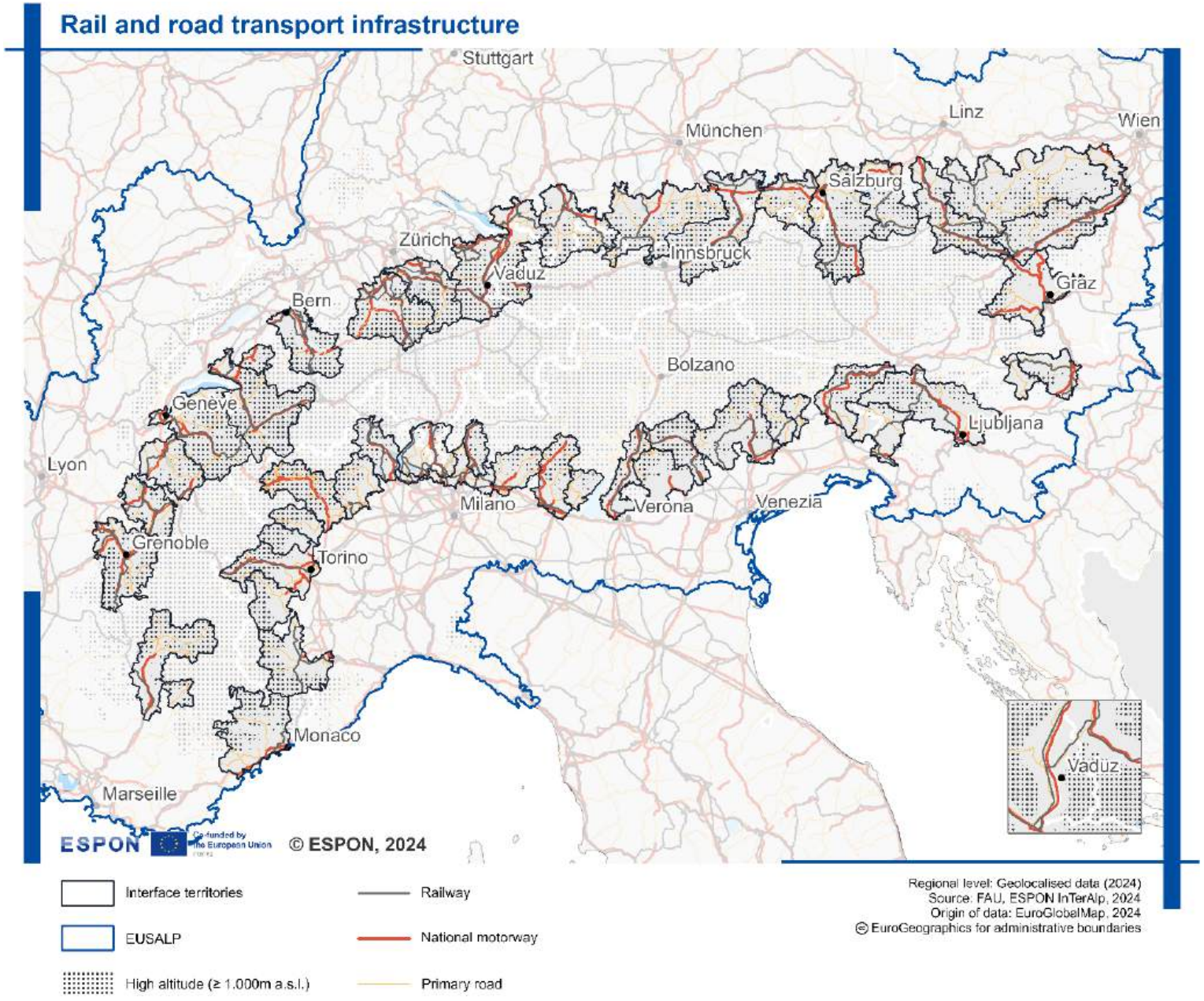


Territories with a geographic funnel effect

Transalpine gateways and mobility funnels



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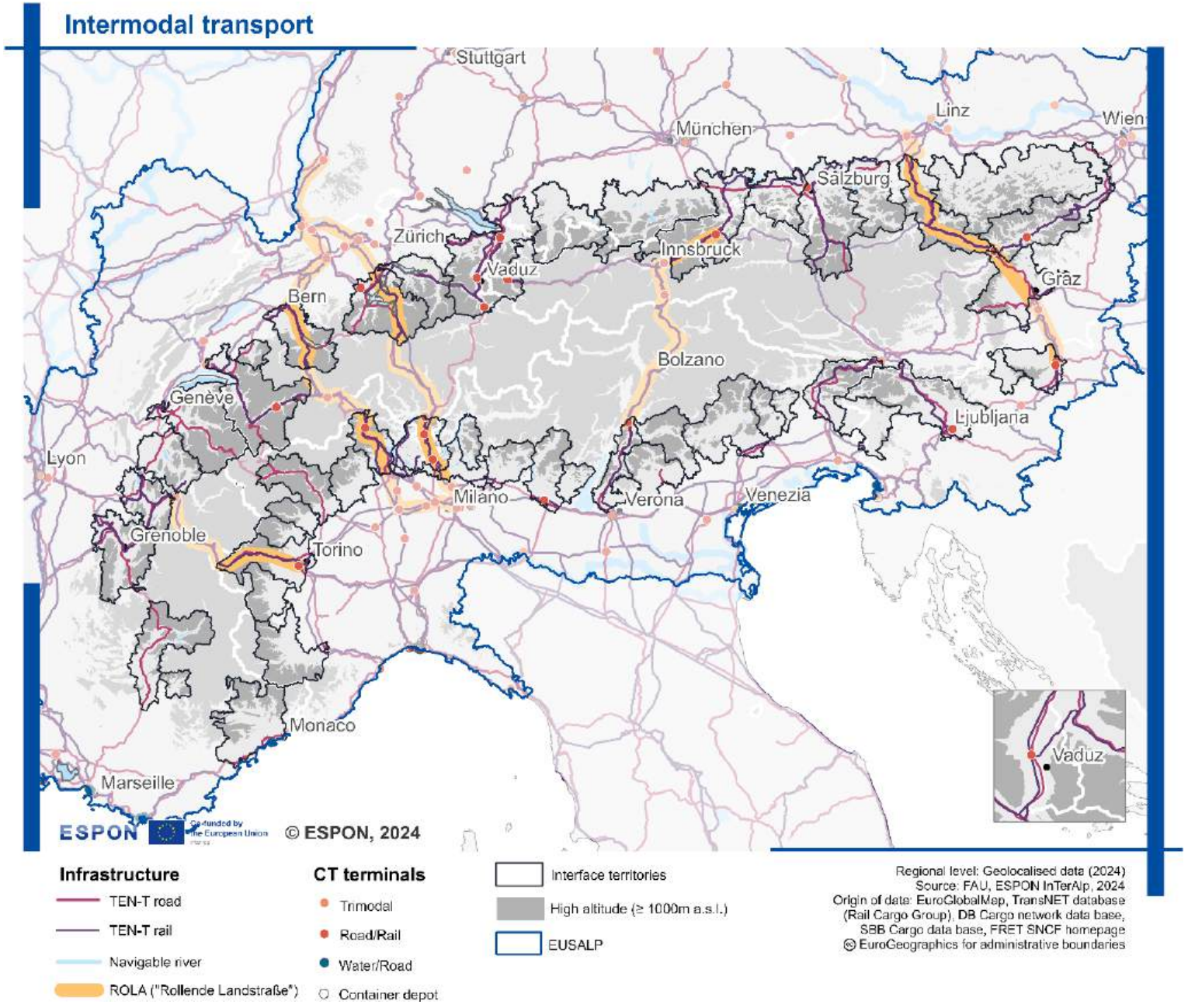
Transalpine gateways and mobility funnels



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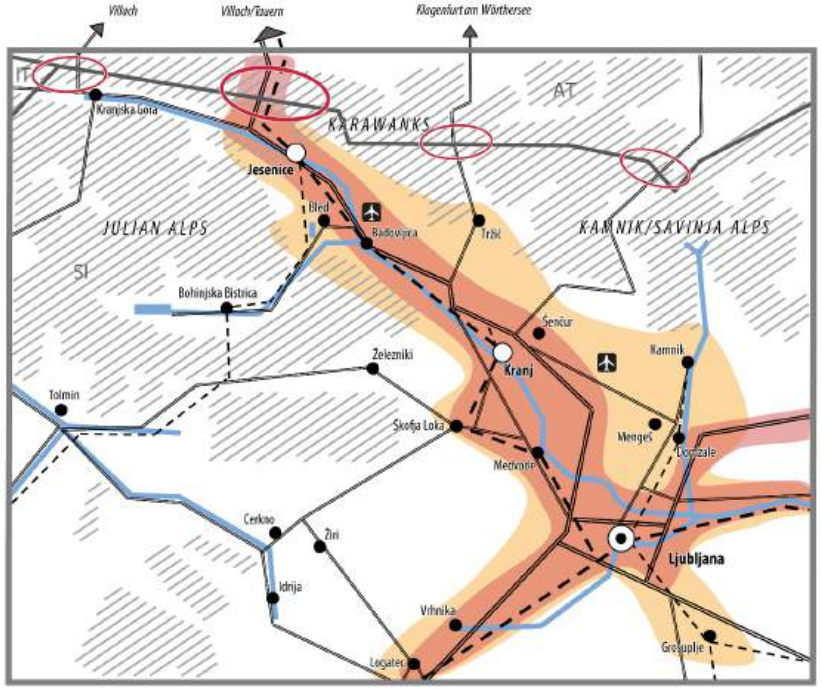
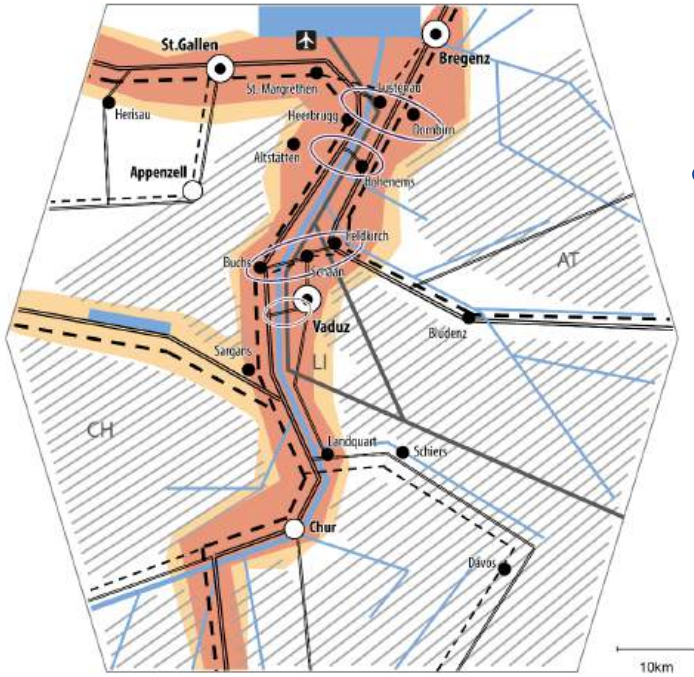
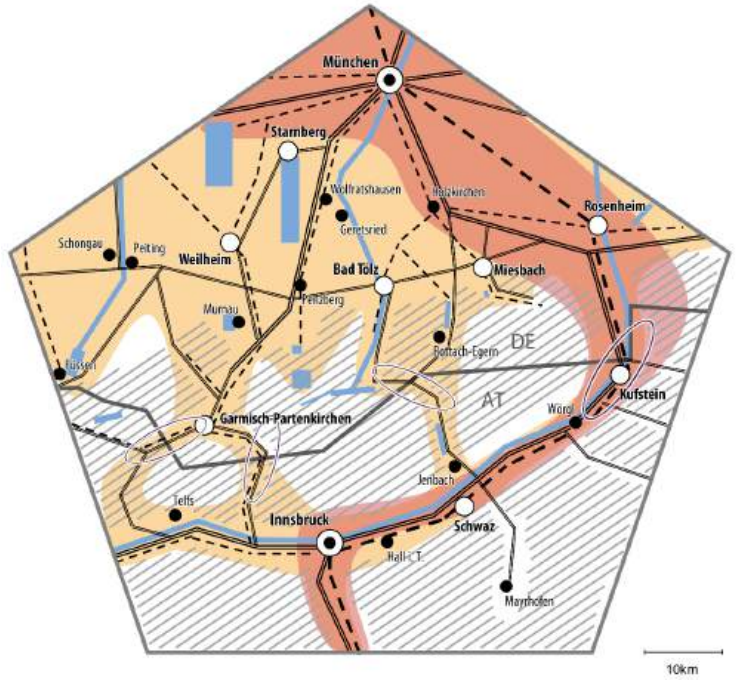
Territories with a geographic funnel effect

Transalpine gateways and mobility funnels







Settlement system

- Metropolis
- Regional centre
- Local node

Mobility infrastructure

- Road (first tier)
- Road (second tier)
- Rail (first tier)
- Rail (second tier)

Political boundaries

- National border

Natural features

- River
- Waterbody
- Mountainous terrain

Transport and mobility

- High intensity of freight transportation
- High intensity of individual mobility
- Highly frequented border crossing
- Relevant airports as mobility node

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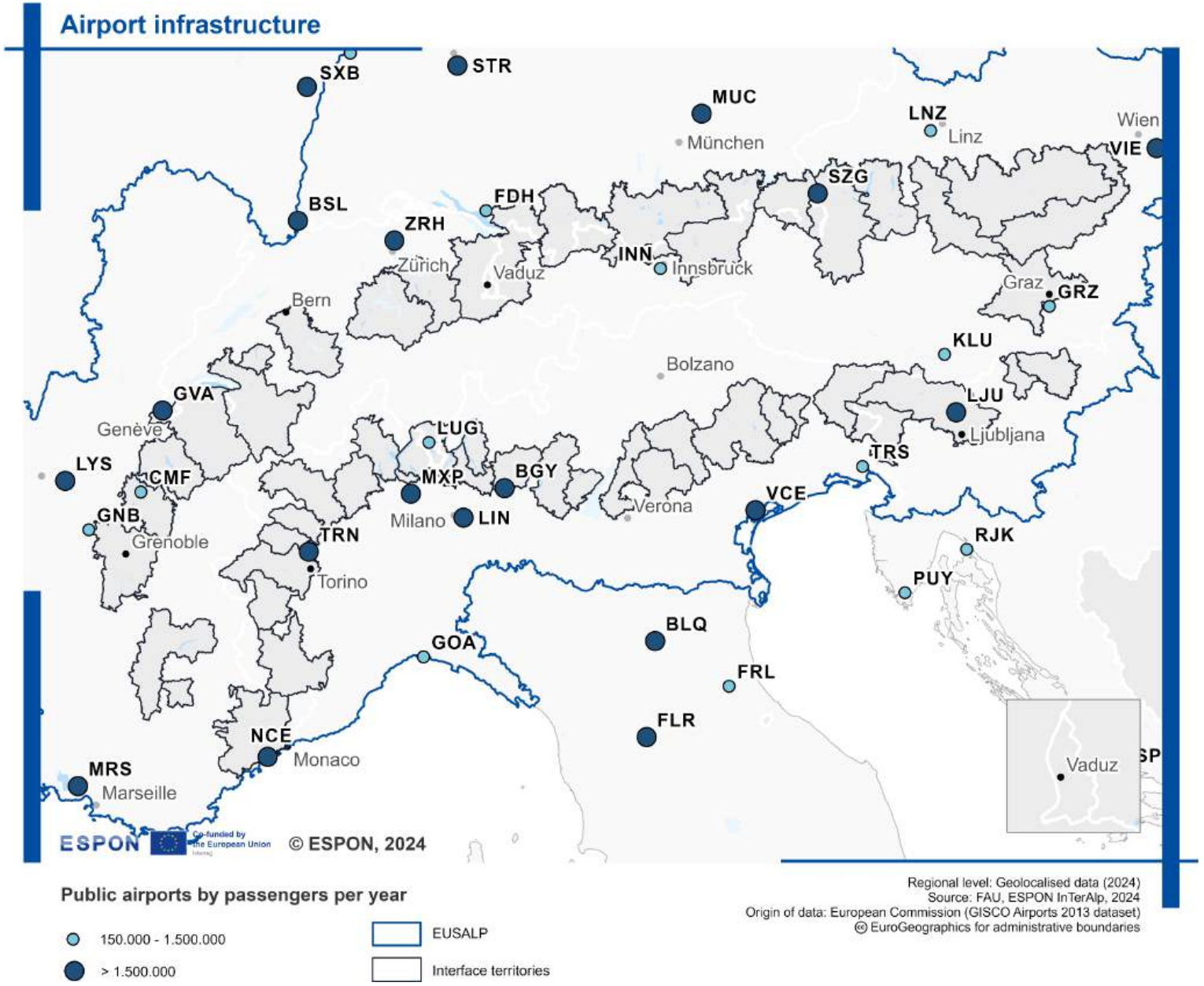
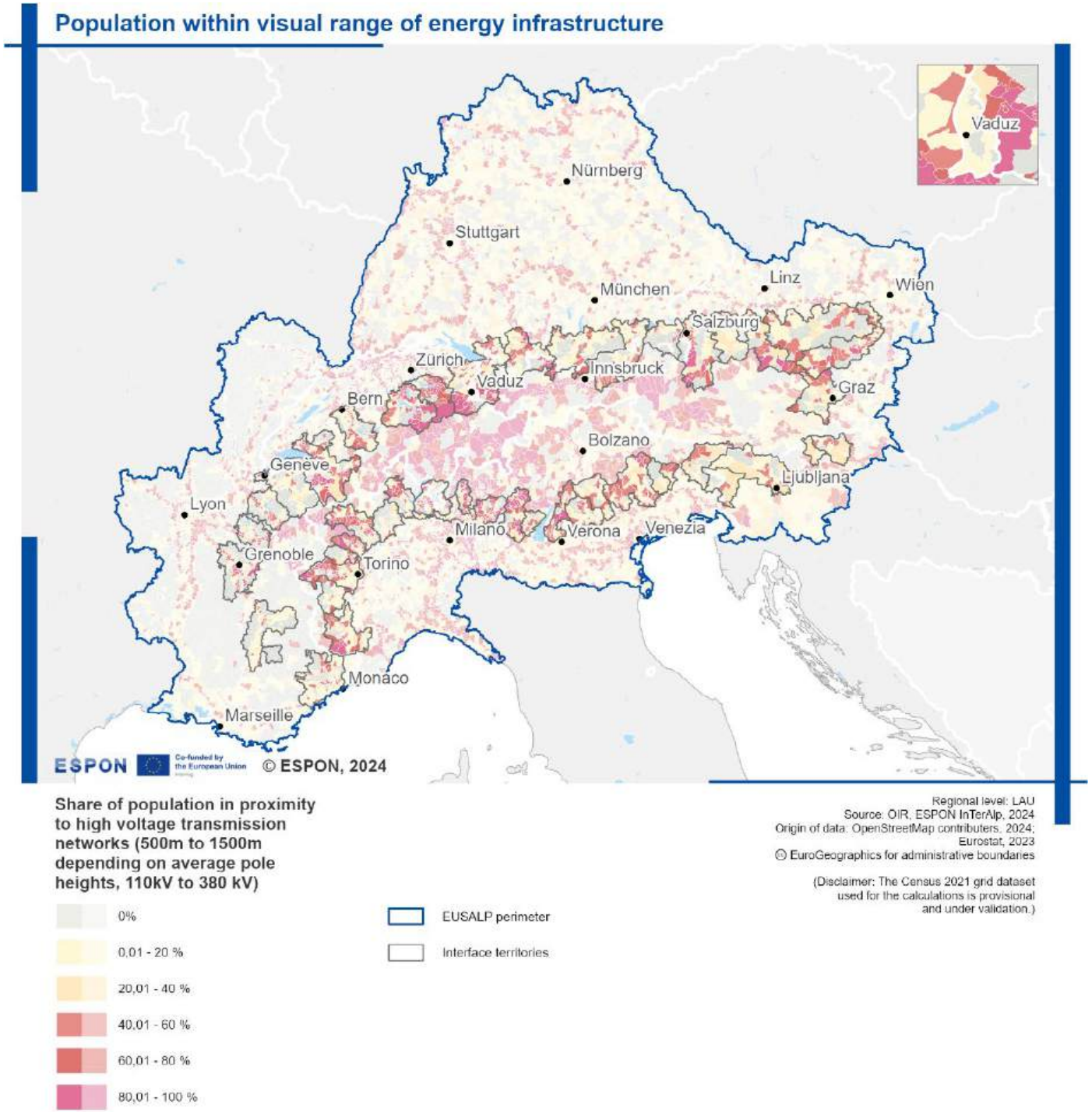
Territories with a geographic funnel effect

Transalpine gateways and mobility funnels



Territories with a geographic funnel effect

Energy transit zones



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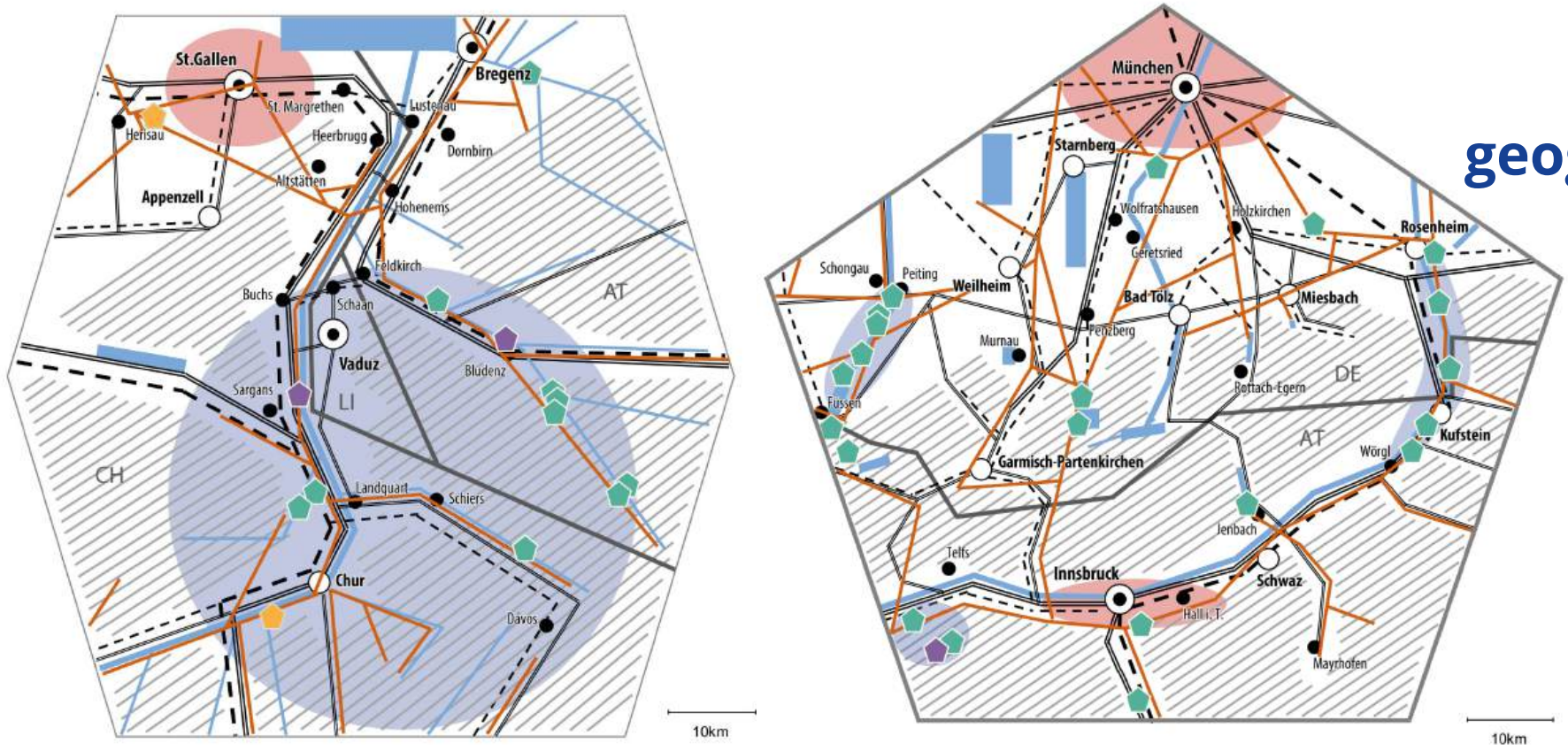
Territories with a geographic funnel effect

Transalpine gateways and mobility funnels



Settlement system

- Metropolis
- Regional centre
- Local node

Mobility infrastructure

- Road (first tier)
- Road (second tier)
- Rail (first tier)
- Rail (second tier)

Political boundaries

- National border

Natural features

- River
- Tributary river
- Waterbody
- Mountainous terrain

Energy infrastructure

- Hydroelectric plant (≥ 100 mio. kWh/a)
- Hydroelectric plant with hydrogen production facility (≥ 200 t/a)
- Planned hydroelectric plant (≥ 50 mio. kWh/a)
- Power line (≥ 50 kV)
- Main region of energy demand
- Main region of energy production

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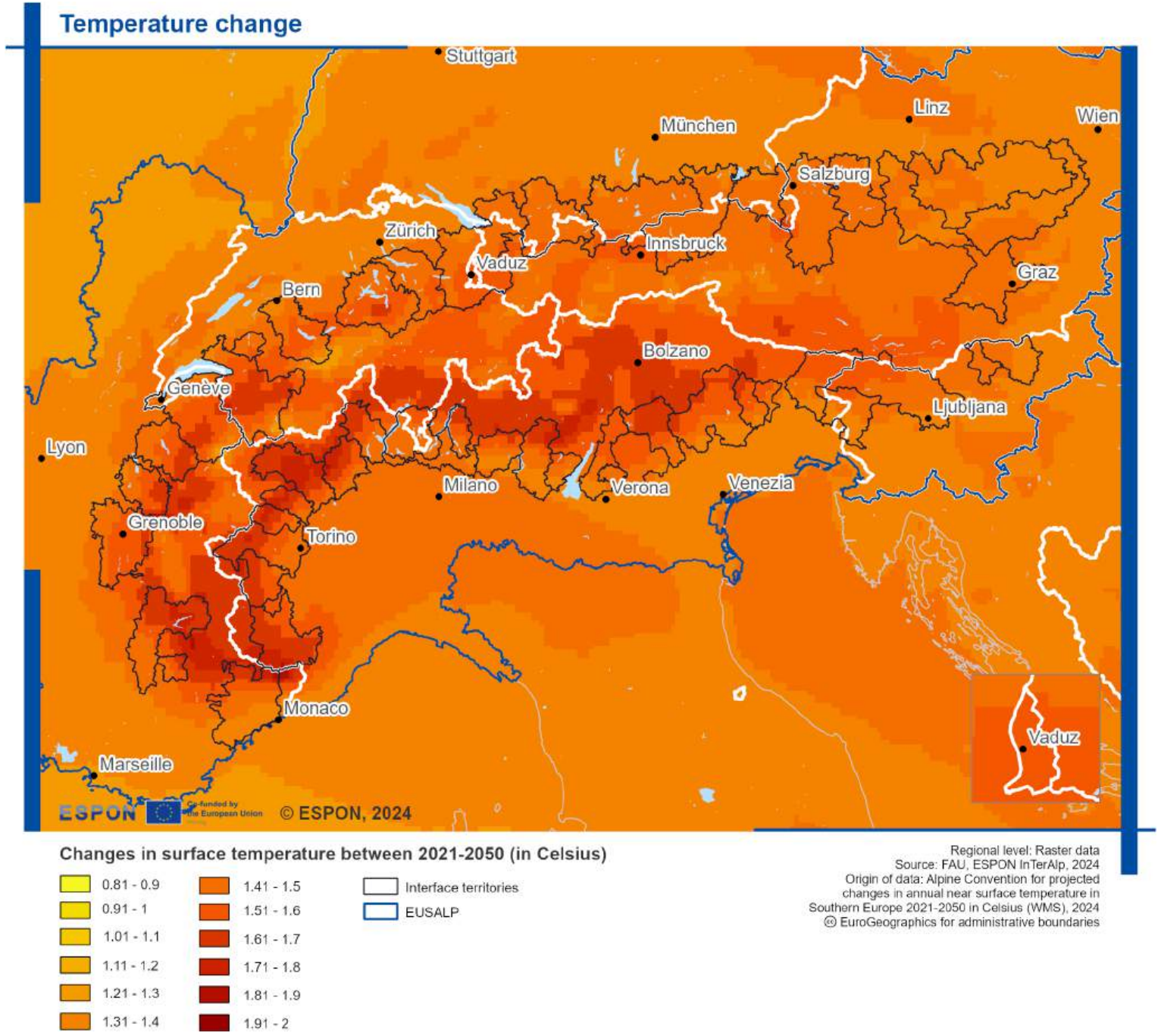
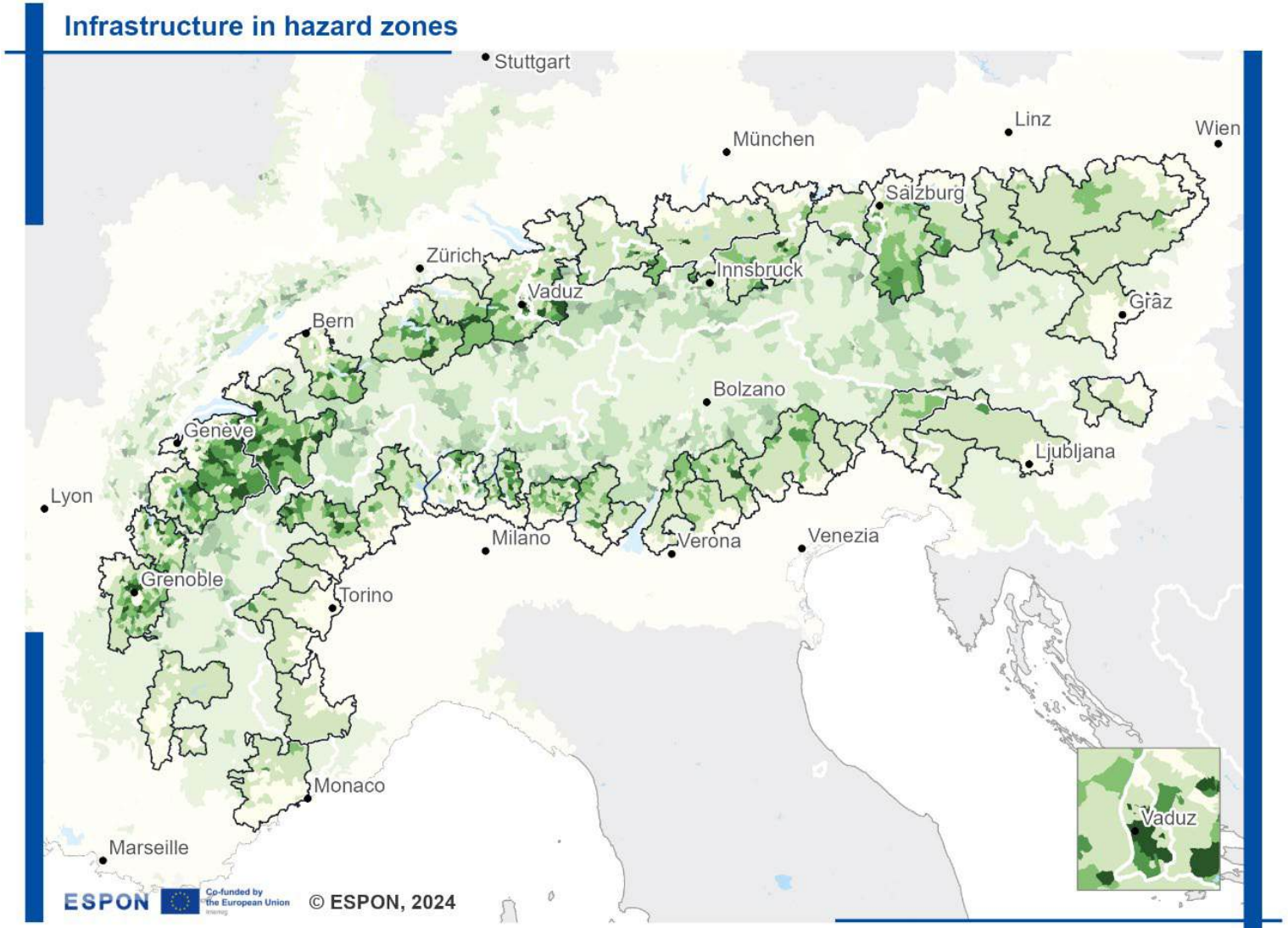


Territories with common challenges and specific roles

Addressing cross-cutting issues of climate change

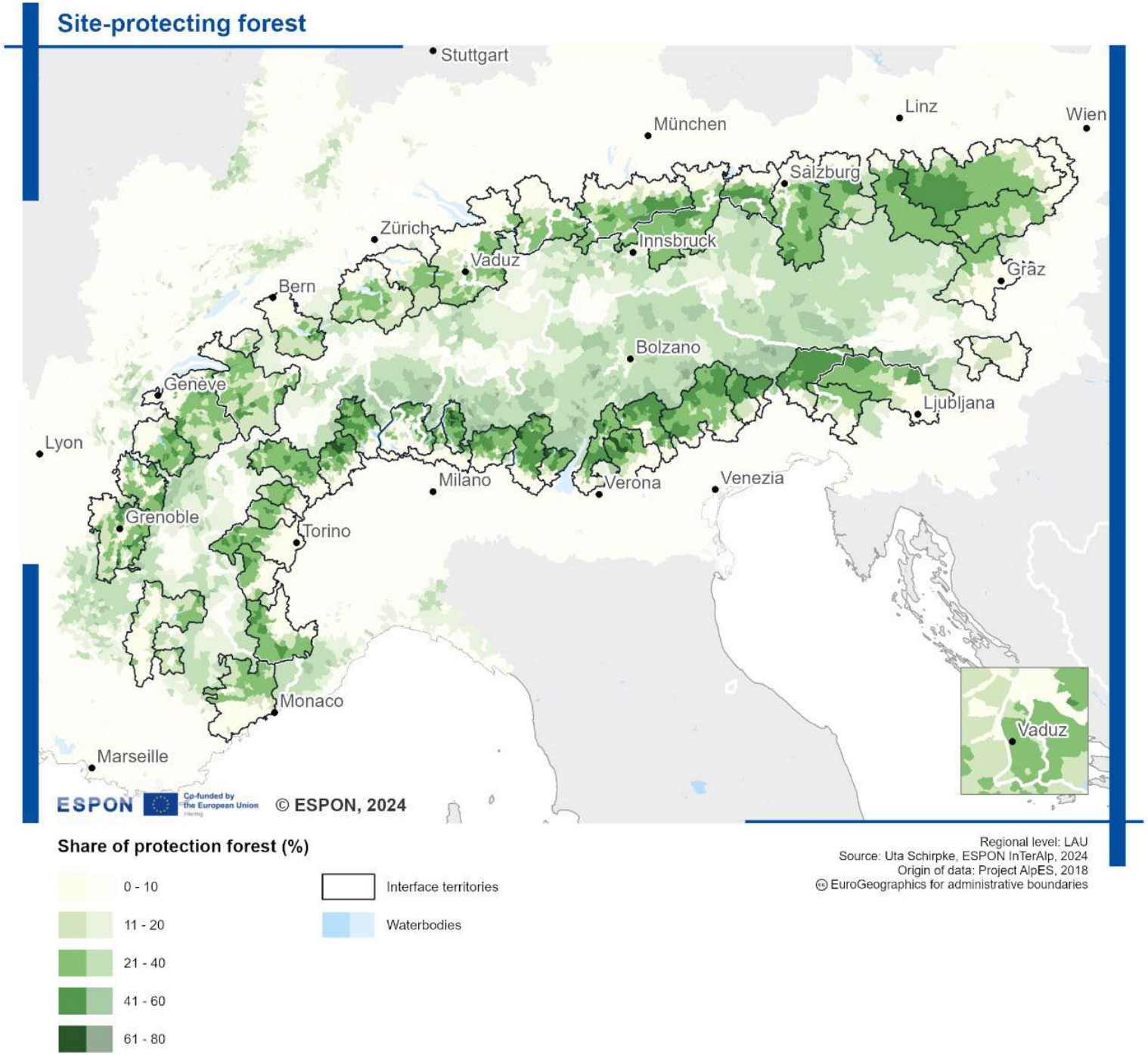
Territories with common challenges and specific roles

Hazard prevention areas



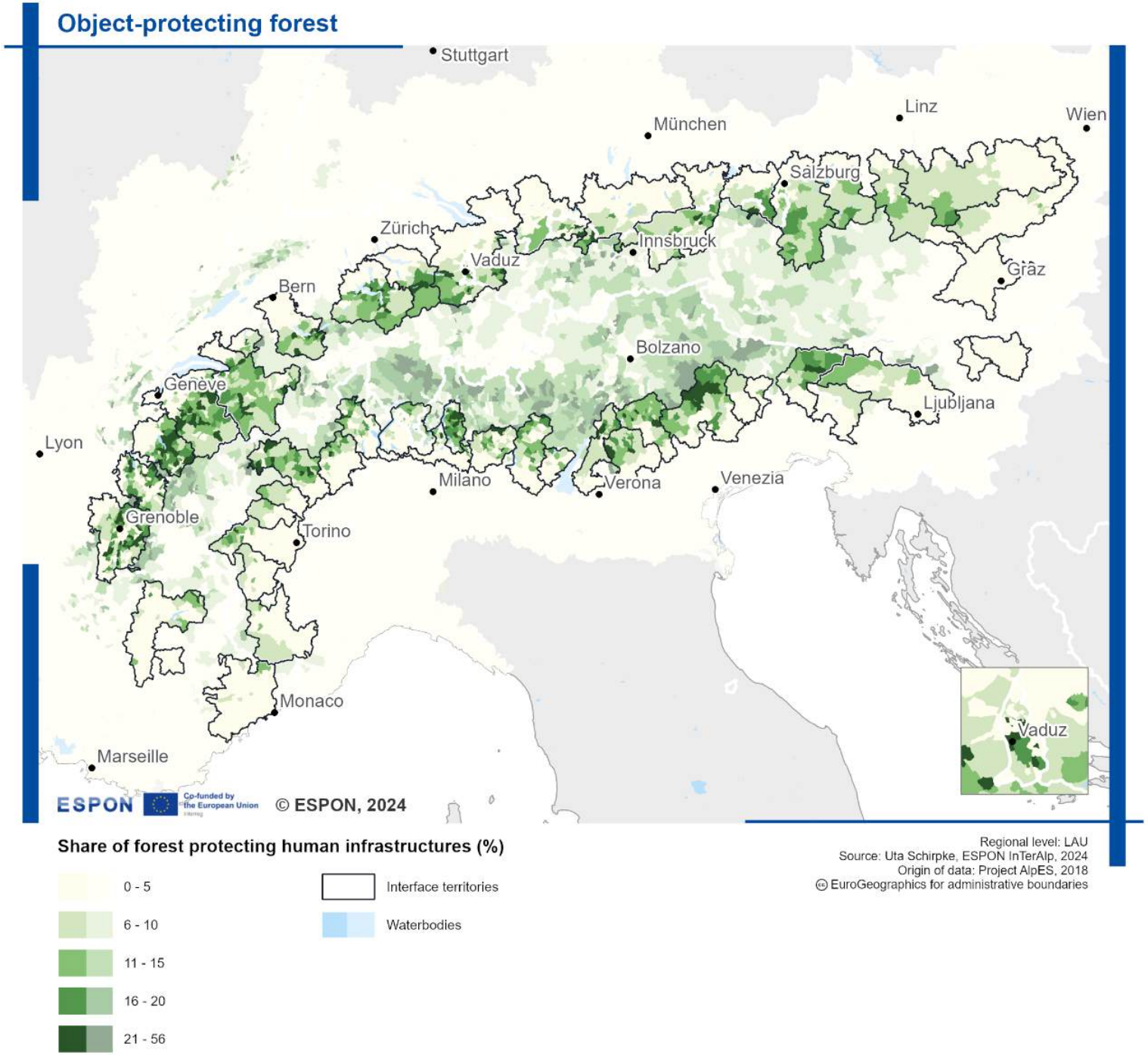
Territories with common challenges and specific roles

Hazard prevention areas



Territories with common challenges and specific roles

Hazard prevention areas



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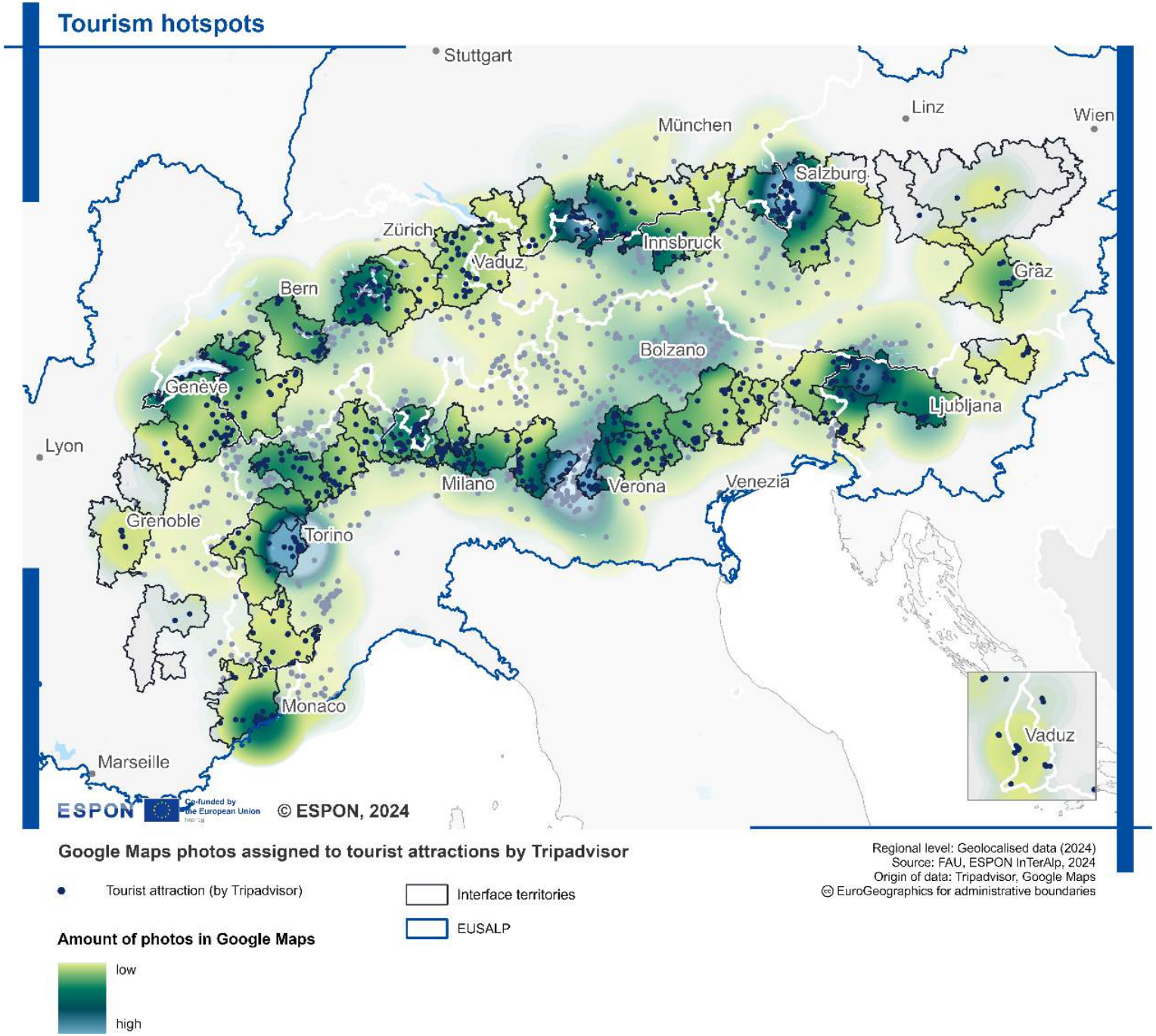
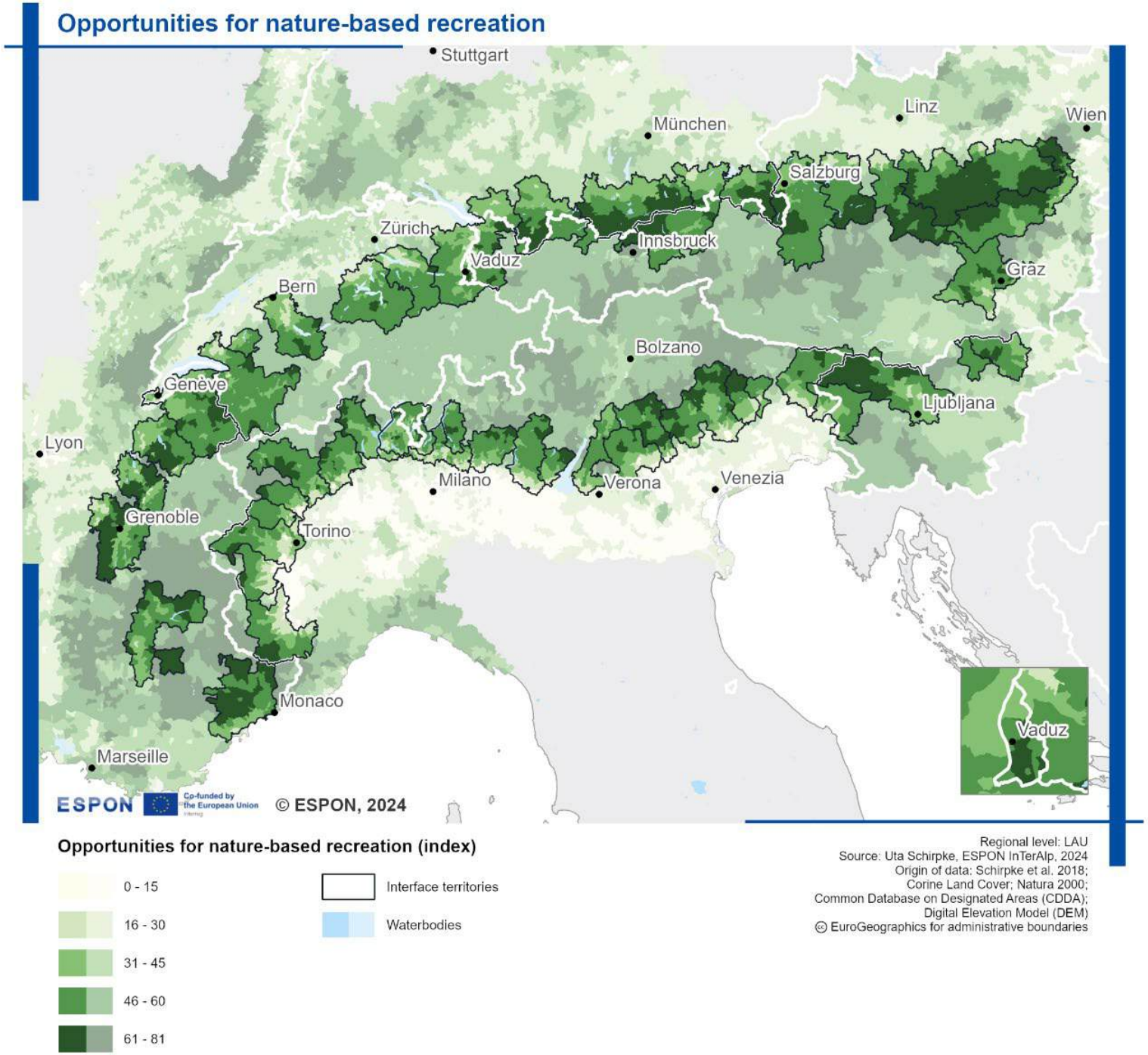
Territories with common challenges and specific roles

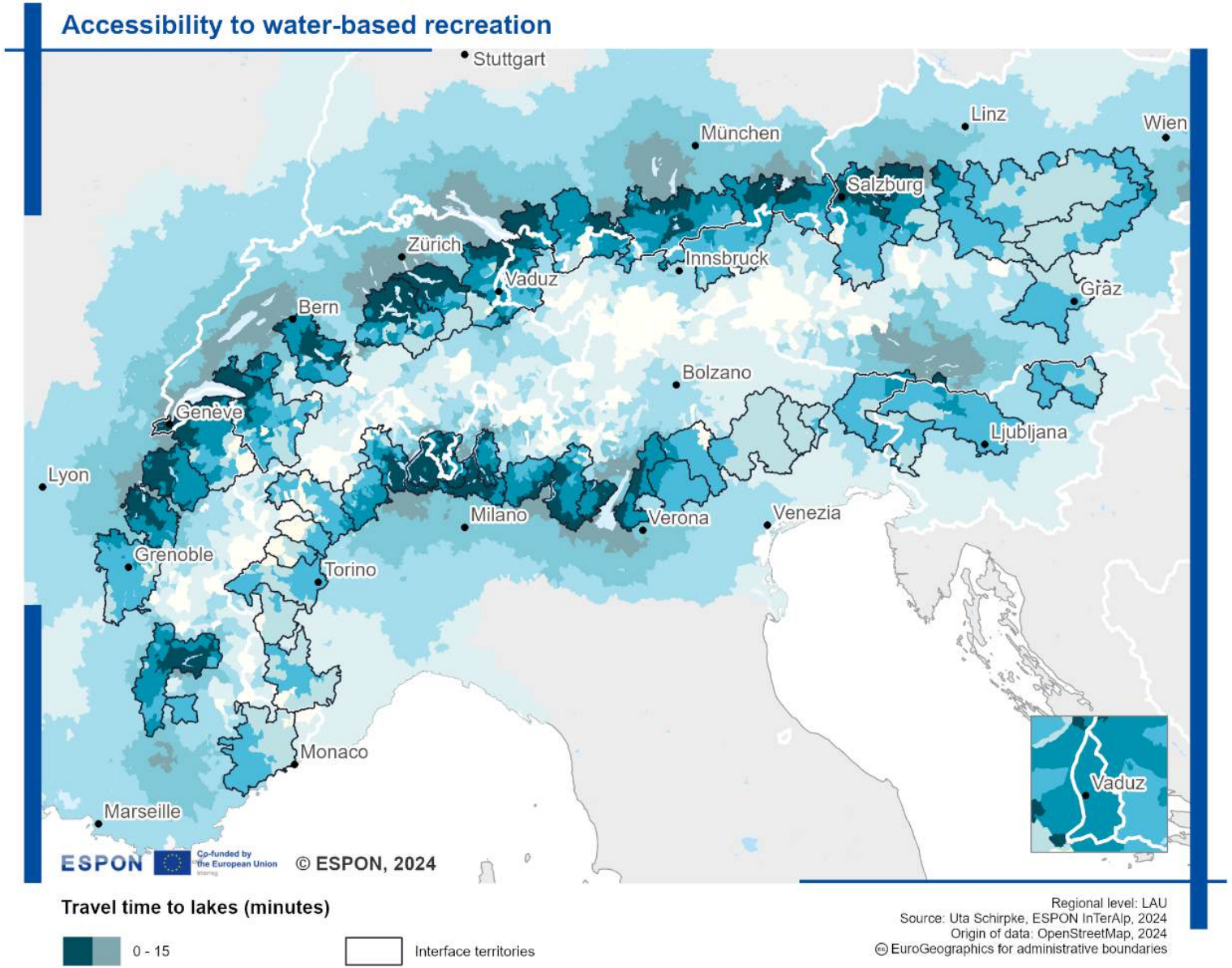
Tourist and recreation areas



Territories with common challenges and specific roles

Tourist and recreation areas



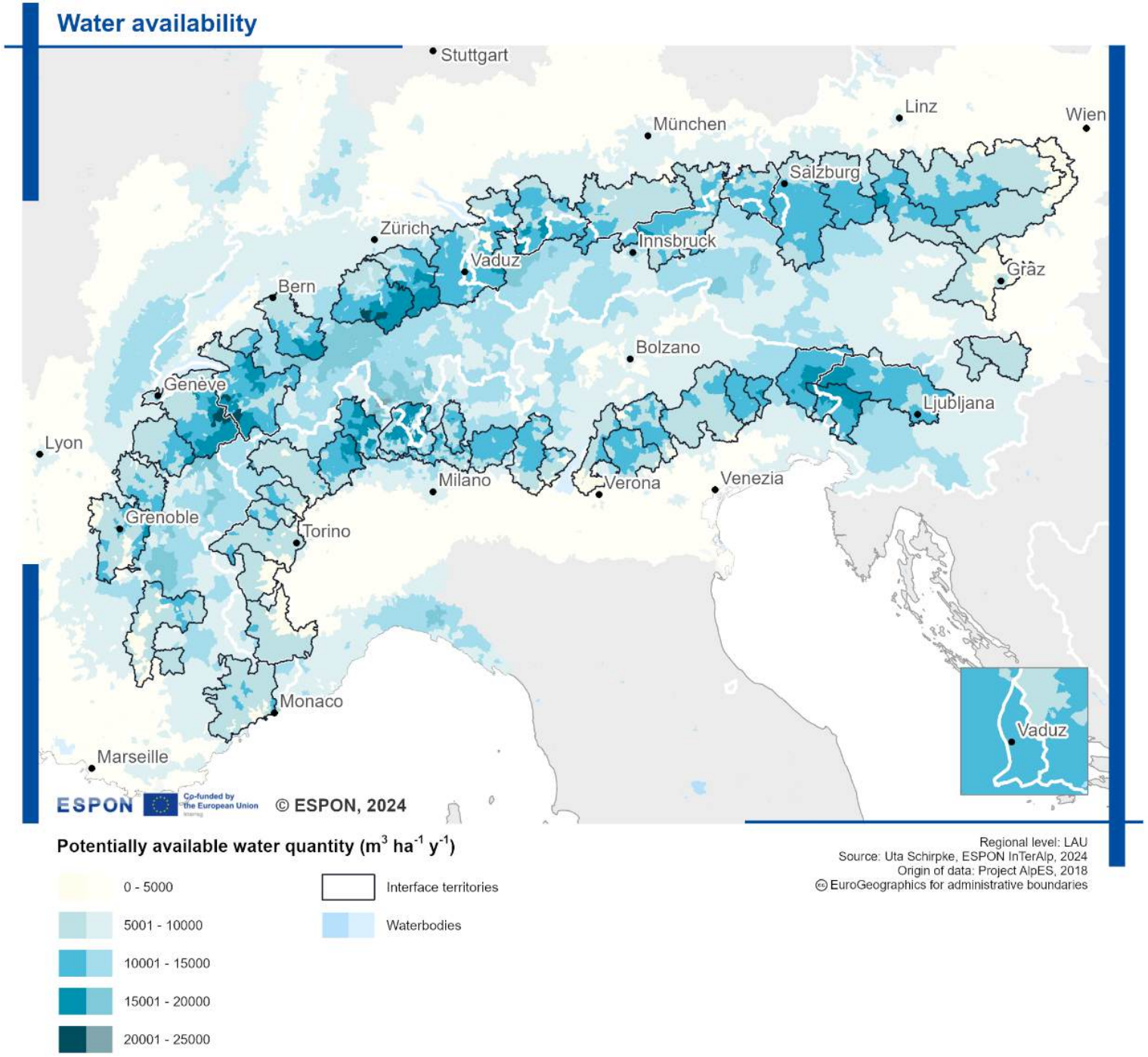


Territories with common challenges and specific roles

Tourist and recreation areas

Territories with common challenges and specific roles

Areas of water infrastructure



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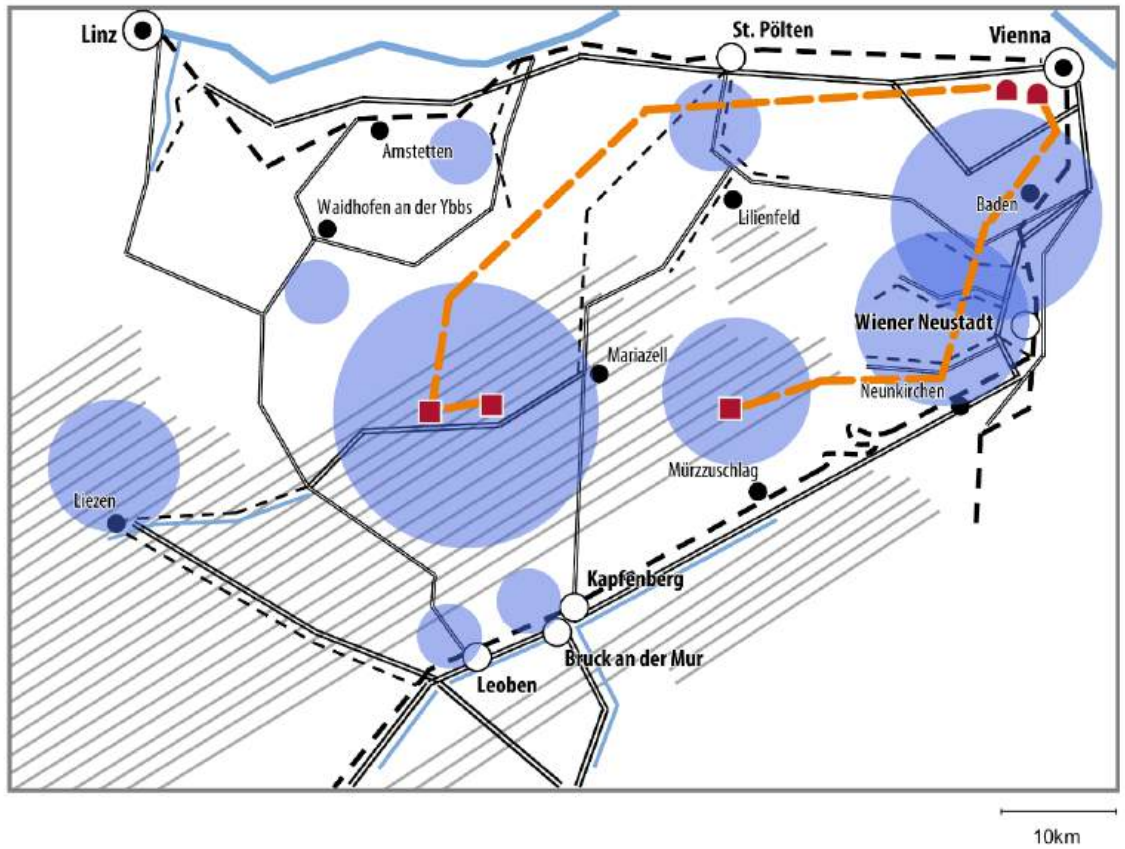
Territories with common challenges and specific roles

Areas of water infrastructure



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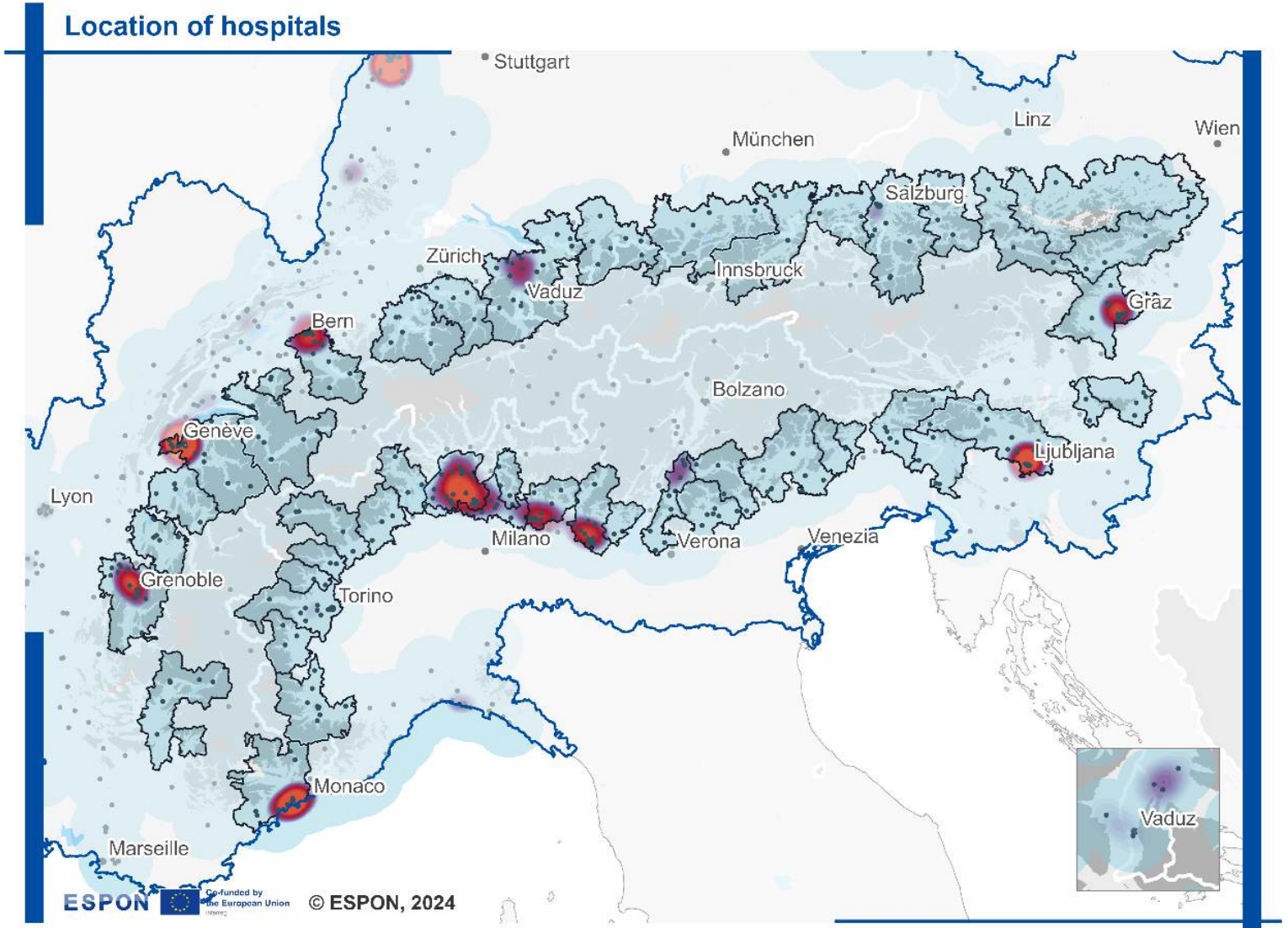
Territories with common challenges and specific roles

Agglomeration areas of hospitals and universities



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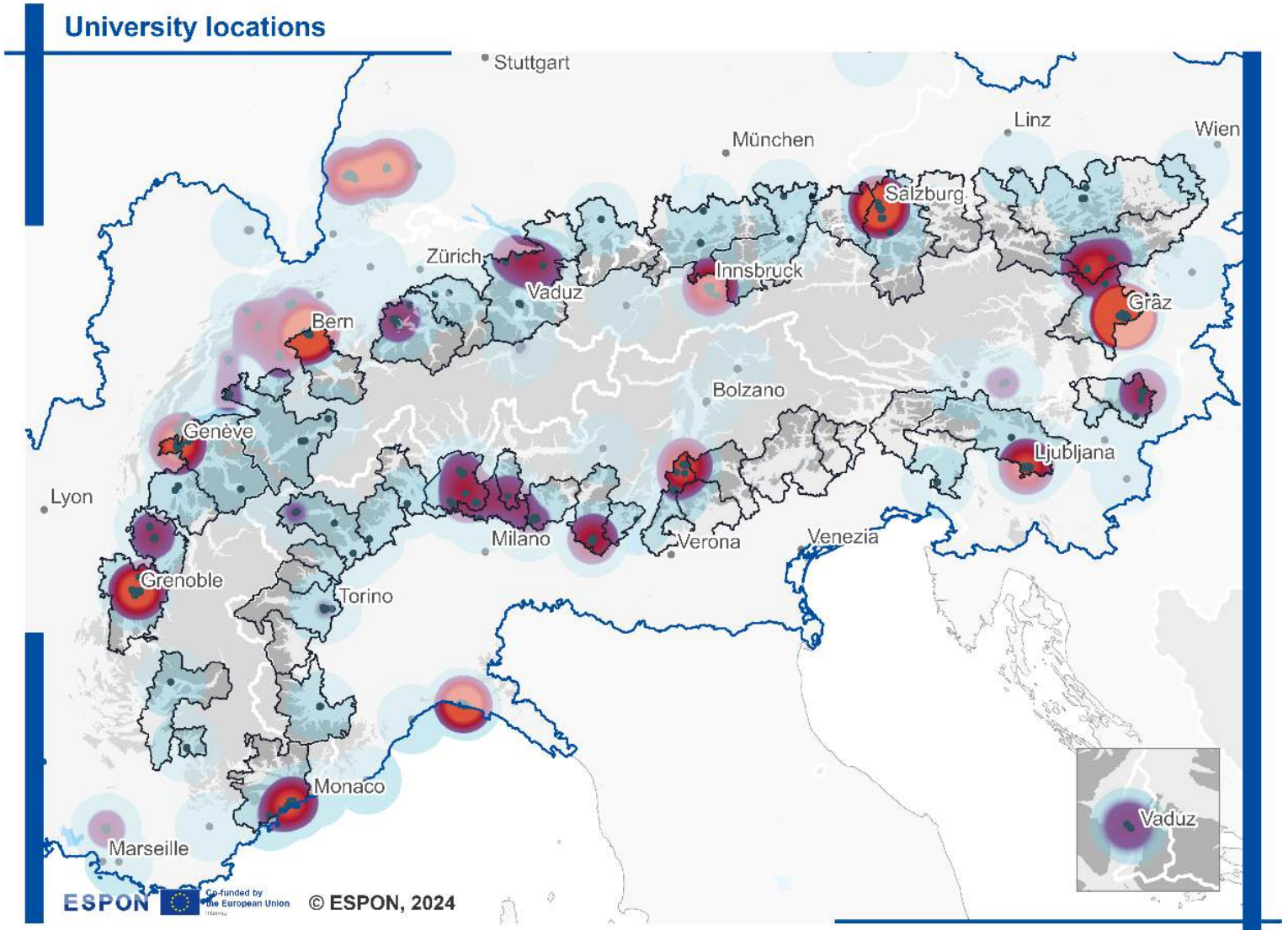
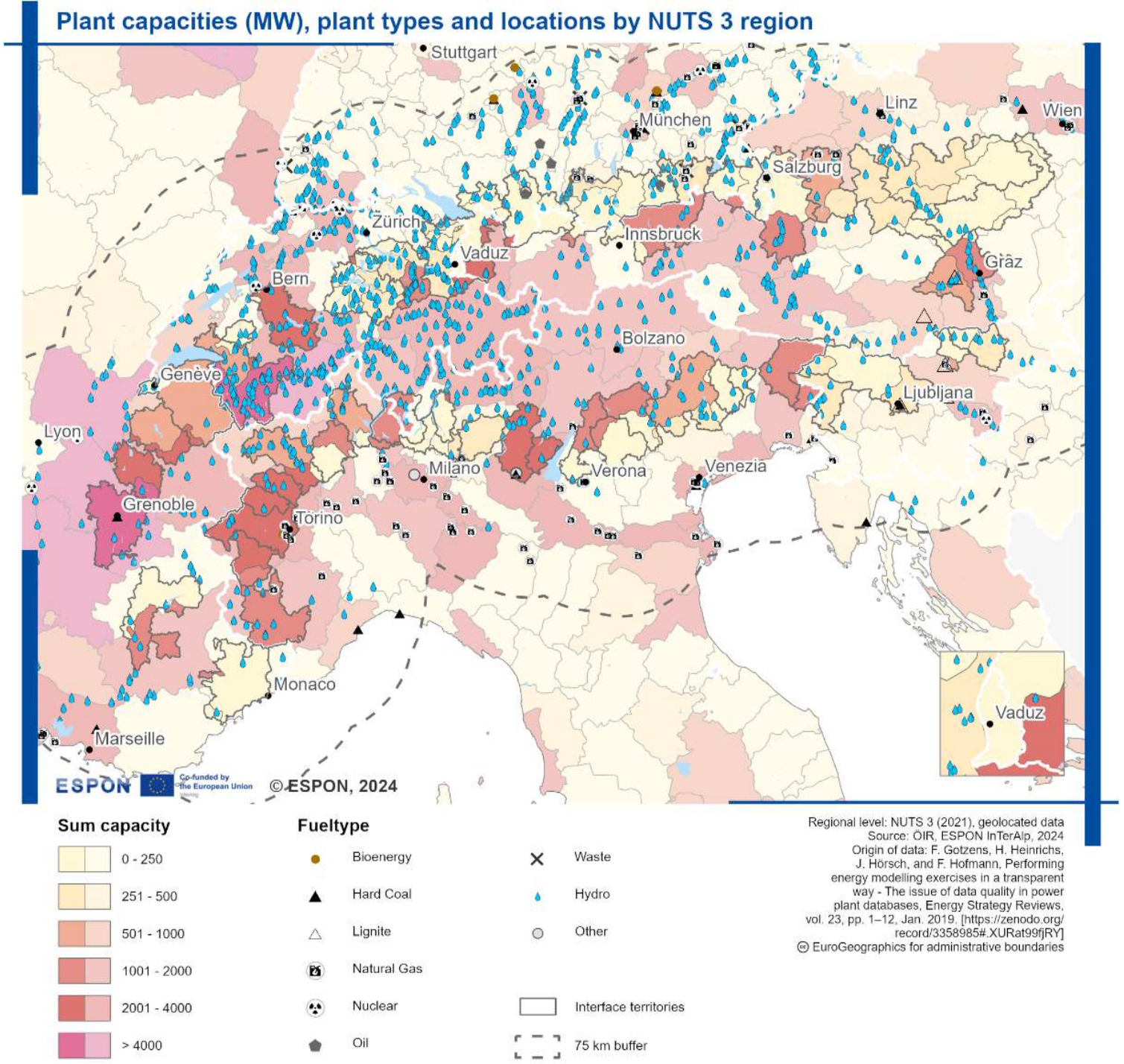


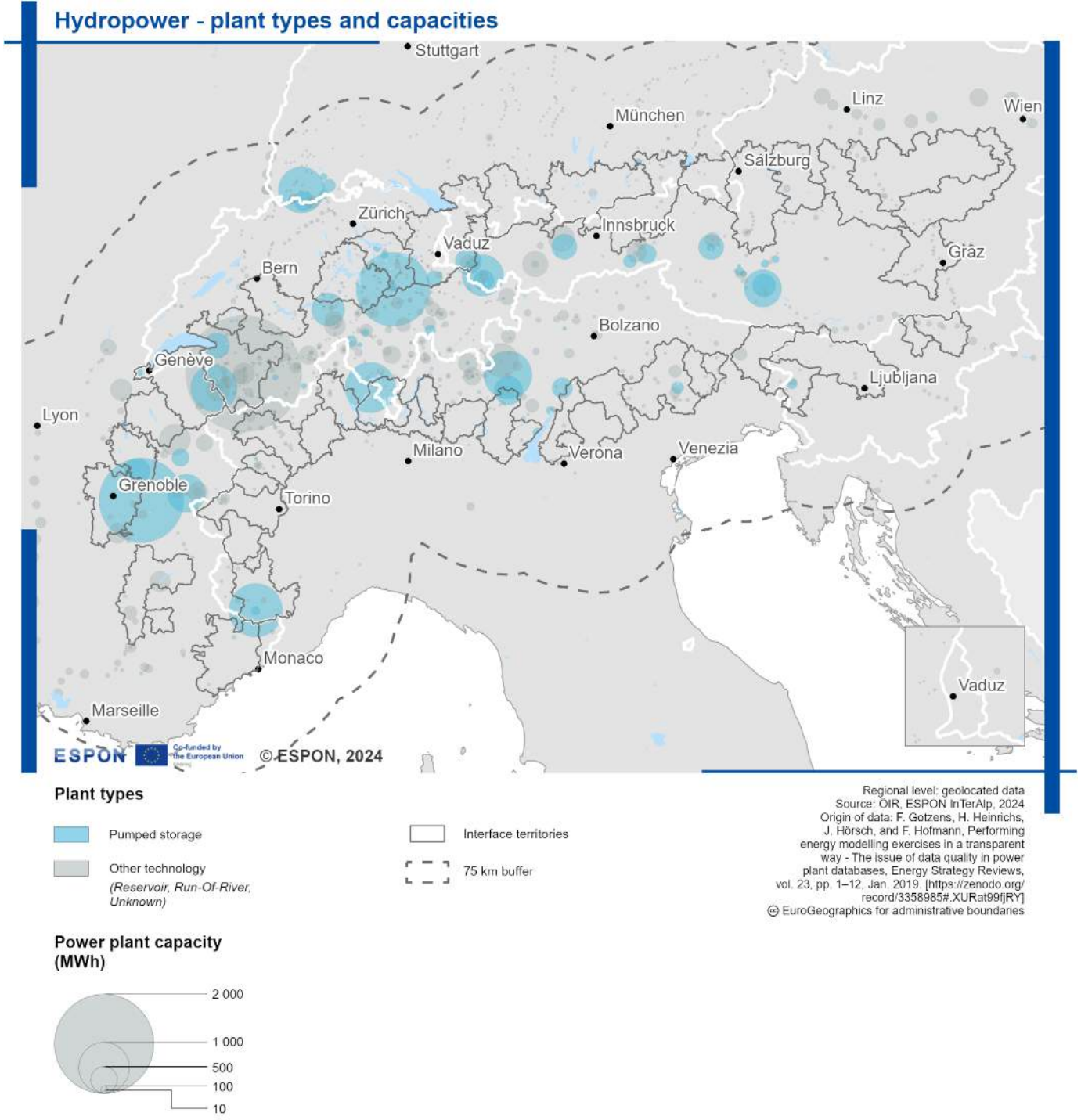
Territories with common challenges and specific roles

Energy production patterns



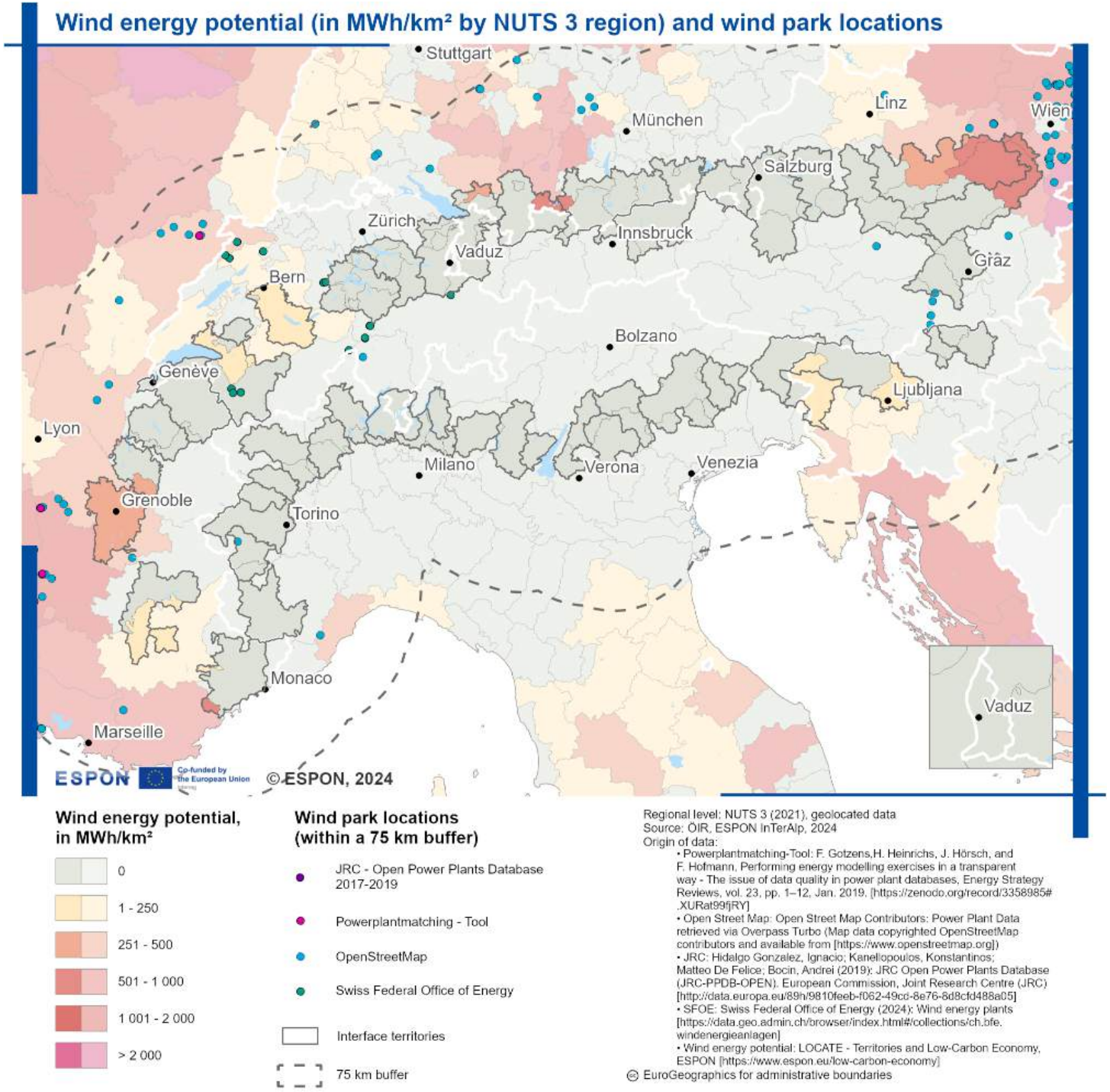
Territories with common challenges and specific roles

Energy production patterns



Territories with common challenges and specific roles

Energy production patterns



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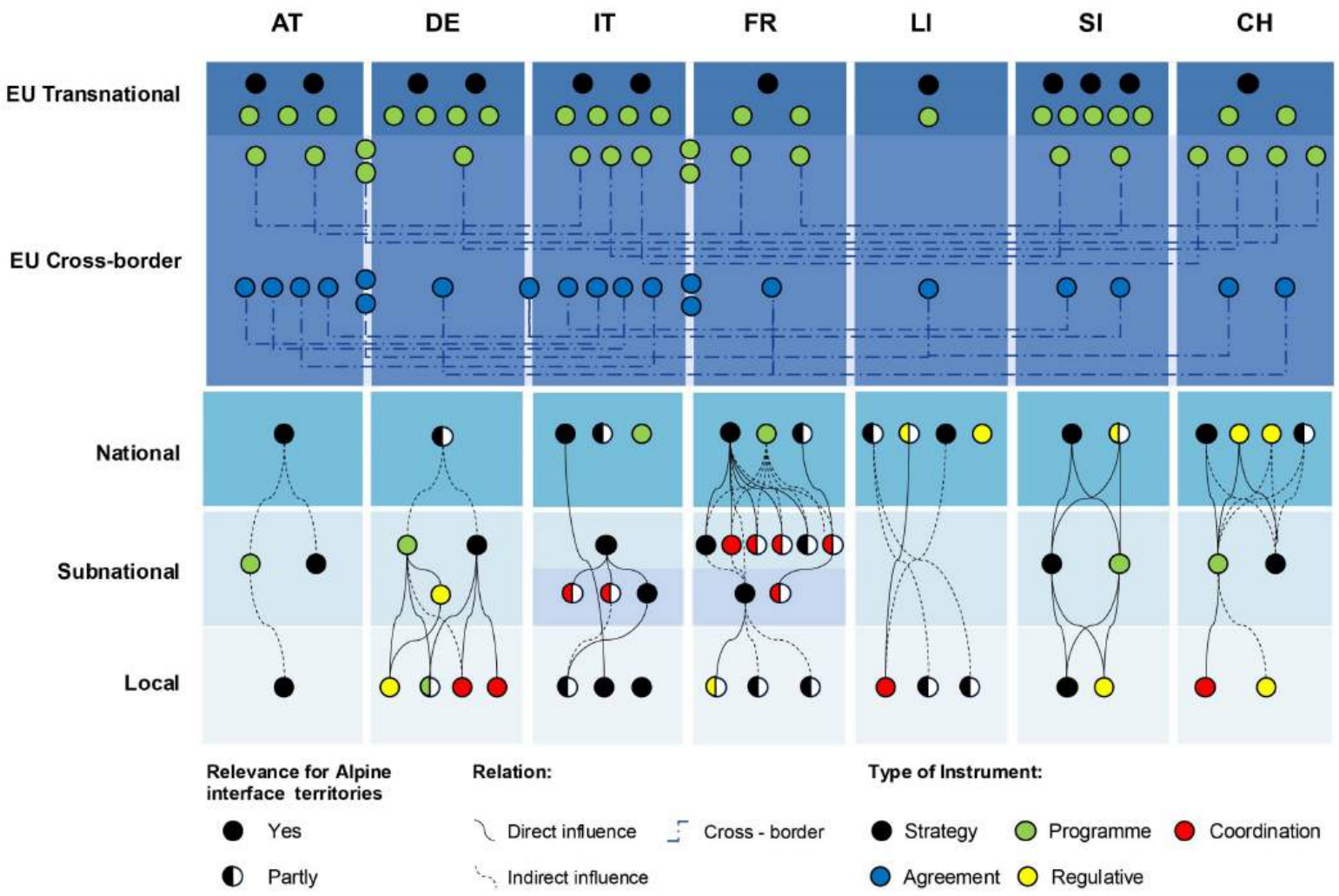
Territories with no specific governance

Interface territories and Alpine multi-level governance



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Territories with no specific governance

Spatial and sectoral governance and planning

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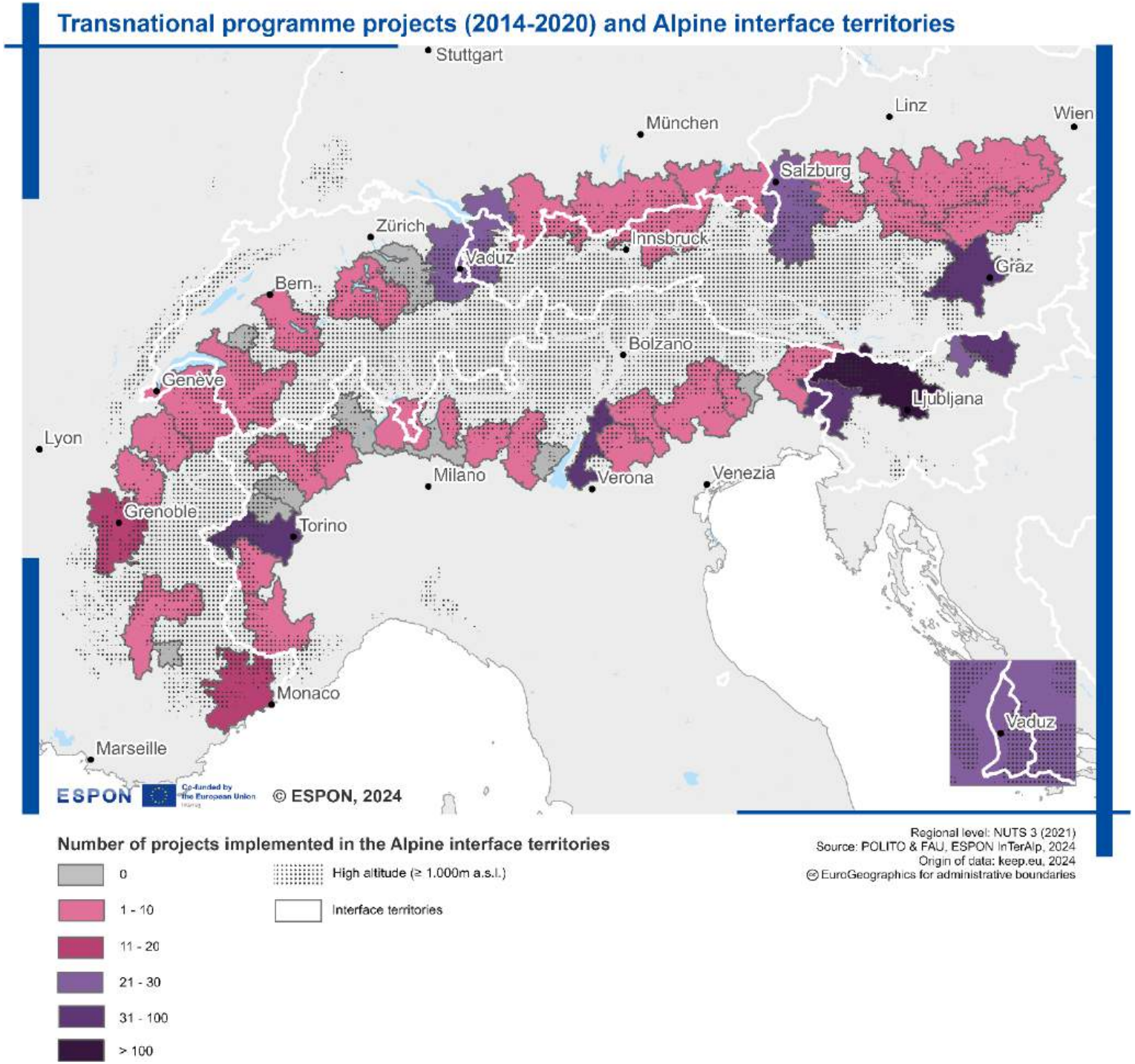
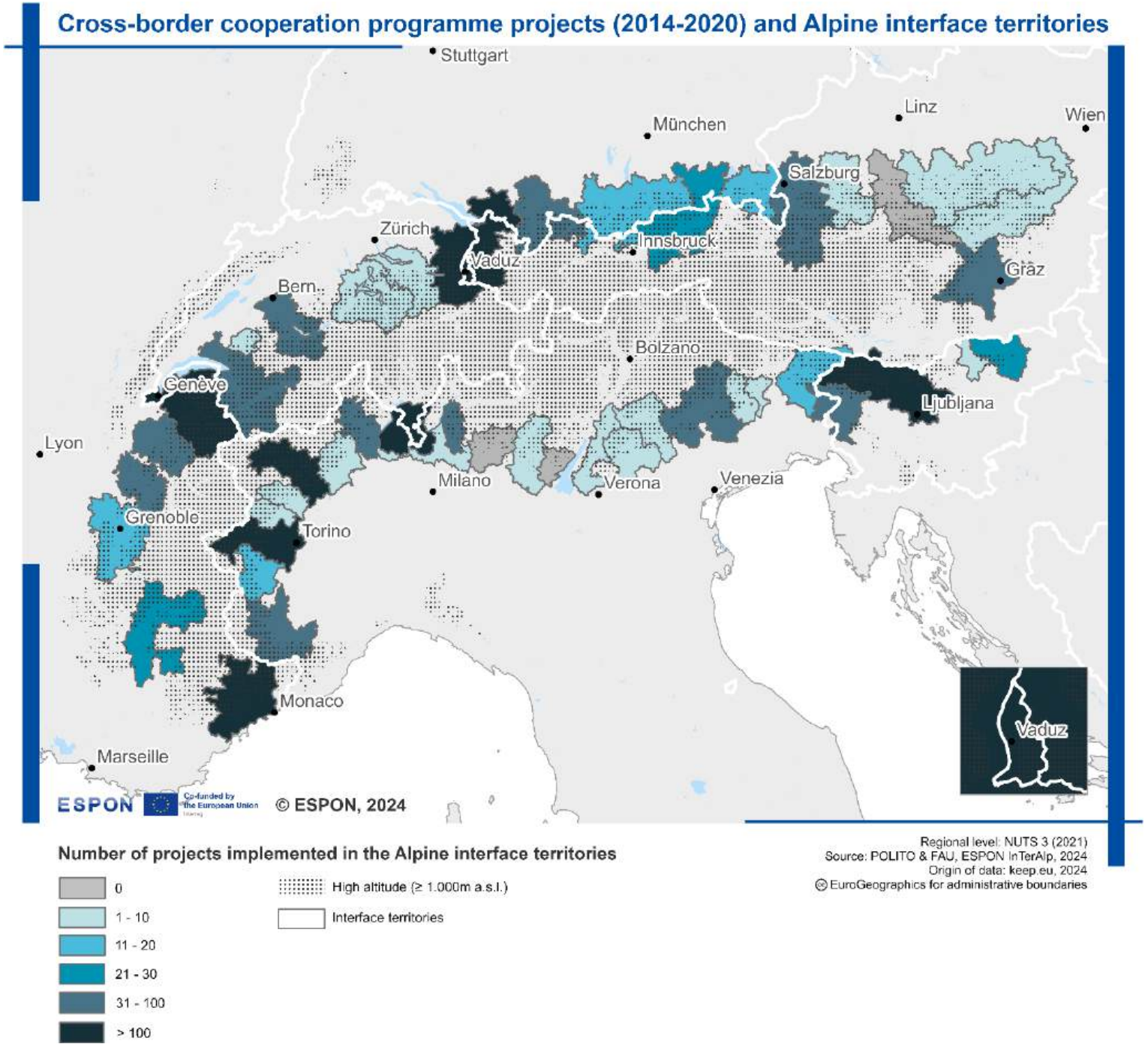


Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Transnational and cross-border level



Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Transnational and cross-border level

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Transnational and cross-border level

Alpine Convention

The Alpine Convention has the potential to significantly contribute to the **agenda setting** and **recognition** of interface territories.

Across the different sectoral and working groups and activities, the Convention could emphasise the importance of these interface territories as part of a new spatial and governance geography. Amongst others, Alpine interface territories can also be considered in **Reports on the State of the Alps**. This geography could be central in fostering a more place-based and territorially sensitive approach:

- Identifying territorial dynamics that stem from existing planning and cooperation practices (whether formal or informal) within interface territories.
- Investigating and testing the existence of any political convergence (explicit or implicit) towards this new geographical framework.
- Involving local actors in the Alpine Convention's governance process through specific tools, such as establishing a "Forum of Alpine interface territories."
- Encouraging local actors to adopt a proactive approach, raising awareness of the strategic and operational importance of Alpine interface territories.

ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

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Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Transnational and cross-border level

EUSALP

The EUSALP offers an important **platform for discussing** Alpine interface territories, in particular as its perimeter comprises all interface territories.

By promoting transnational cooperation, this strategy can develop a **common approach to support the Alpine interface territories** through a cooperative perspective. Across the EUSALP's sectoral Action Groups, it might contribute to:

- Providing technical and political support to solidify the role of Alpine interface territories, in line with EU strategies and policies.
- Building a common (transnational) approach to this new "geographic category" by acknowledging their unique status.
- Understanding and promoting their needs and potential in terms of fair and balanced territorial development.
- Targeting these territories with specific, ad hoc initiatives. This could become easier if they are included in post-2027 discussions.

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INTERREG Alpine Space and cross-border programmes

The **Alpine Space programme** as well as the **cross-border cooperation programmes** offer relevant platforms of territorial cooperation: this can actively promote **tailored-made projects** within interface territories.

The programmes' scale and objectives align well with the geographic distribution of many Alpine interface territories. In this respect, territorial cooperation programmes can support the Alpine interface territories when it comes to:

- Promote new forms of formal (or informal) cooperation values through which emerge or consolidate existing cooperation initiative formats.
- Promote ad hoc projects or a set of projects that specifically target these territories.
- Funding new emerging governance experiences which implement various models (see the case of PITER promoted by the ALCOTRA programme).

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Transnational and cross-border level

Interreg Alpine Space

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Federal Agglomeration Policy, Switzerland

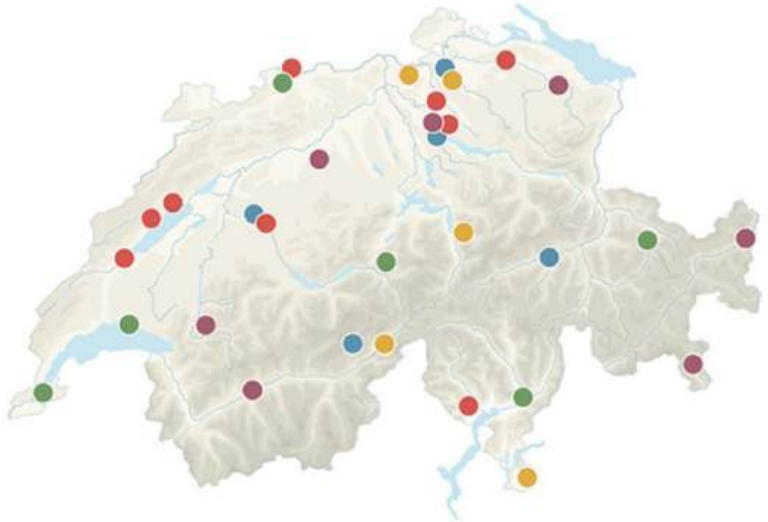
What are the benefits of Agglomeration Policy for Alpine interface territories?

- **Improved coordination of settlement development and transport:** The Alpine interface territories can benefit from better integrating transport infrastructure with settlement planning, ensuring more efficient and sustainable mobility options supporting regional development.
- **Comprehensive development support:** Through specific measures and instruments that complement sectoral policies (such as transport and social policy), AggloPol provides holistic support for the development of Alpine territories, fostering sustainable growth.
- **Enhanced collaboration and governance:** The policy promotes efficient collaboration across multiple levels of governance (Confederation, cantons, cities, municipalities) and private stakeholders, enabling more coordinated and effective territorial development for the Alpine regions.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

National level



2020-2024 Sustainable Land Development Model Projects. Source: Ufficio federale dello sviluppo territoriale (ARE)

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Future Mountains Programme, France

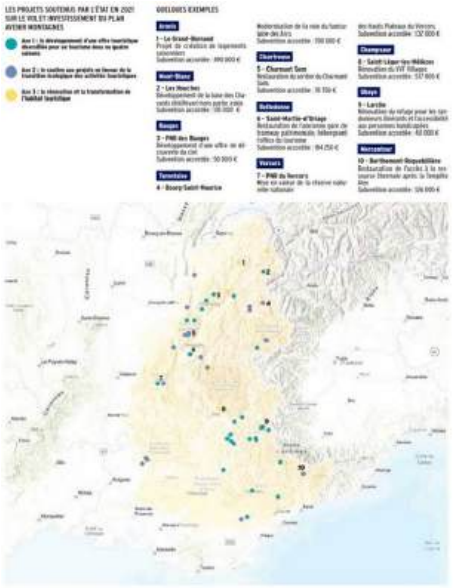
What are the benefits of Programme Avenir Montagne for Alpine interface territories?

- **Support for sustainable and diversified tourism:** It provides funding and operational support for Alpine territories as they transition toward a more sustainable and diversified tourism model, conserving natural resources and respecting biodiversity.
- **Tailored and collaborative regional support:** It offers solutions adapted to the strategies and needs of different mountain regions, promoting collaboration between national and local entities in shaping development strategies.
- **Strengthened territorial cohesion:** Managed by the National Agency for Territorial Cohesion, the programme enhances economic and social resilience in Alpine areas, equipping them to face economic and environmental challenges.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

National level



Projects supported by the state in 2021 under the investment section of the Programme Avenir Montagnes. Source: https://www.montagnes-magazine.com/actus-avenir-montagnes-quel-futur-les-territoires

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Piano Strategico Metropolitano di Torino (Turin's Strategic Metropolitan Plan), Italy

What are the benefits of Piano Strategico Metropolitano di Torino for Alpine interface territories?

- **Fostering metro-mountain collaboration:** The SMP promotes a new vision of interdependence and collaboration between metropolitan, rural, and mountain areas. This "metro-mountain" approach encourages Alpine interface territories to build stronger ties with urban areas
- **Cross-border and inter-regional cooperation:** The SMP underscores the importance of strengthening cross-border cooperation with neighbouring French territories and collaboration with other European metropolitan areas facing similar challenges.
- **Innovative metro-mountain thinking:** The SMP introduces an innovative method for reimagining the "metro-mountain" relationship, which the Alpine interface territories could apply. This approach encourages new thinking about development incorporating urban and rural mountain dynamics.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Sub-national level

Metropolitan and mountain relations. Source: PSM 2024-2026, Torino Metro(poli)montana

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Verein Agglomeration Werdenberg-Liechtenstein

What are the benefits of Verein Agglomeration Werdenberg-Liechtenstein for Alpine interface territories?

- **Enhanced cross-border cooperation**: The Werdenberg-Liechtenstein Agglomeration Association is an exemplary model of cross-border collaboration, involving multiple municipalities from Switzerland and Liechtenstein. Alpine interface territories can benefit from similar cooperative frameworks to address shared challenges that extend beyond national borders, improving governance and coordination.
- **Strengthened public service delivery:** The association's focus on the efficient fulfilment of public tasks demonstrates how collaboration can improve the delivery of public services across regions. Alpine interface territories can adopt similar methods to enhance service provision and address regional challenges collectively.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Local level

Buchs-Vaduz cycle and pedestrian bridge. Source: Agglomeration Werdenberg-Liechtenstein

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Local Mobility Concepts, Austria

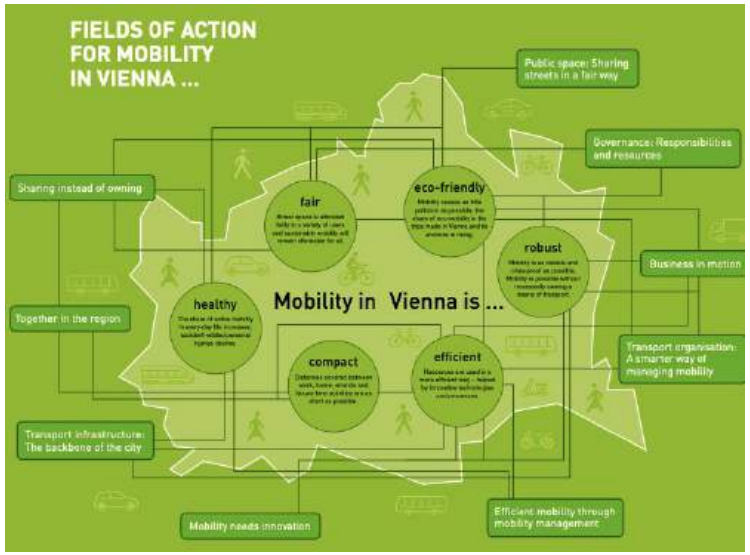
What are the benefits of Austrian Local Mobility Concepts for Alpine interface territories?

- **Regional coordination and integrated planning:** Similar to how the Vienna Urban Mobility Plan pro-motes coordination between Vienna, Lower Austria, and Burgenland, Alpine territories can benefit from regional cooperation. By aligning mobility plans with broader spatial development goals, Alpine municipalities can ensure that mobility solutions are integrated with land-use planning, environmental conservation, and economic development strategies. This regional and integrated approach helps address both local and cross-border mobility challenges.
- **Sustainable mobility solutions for sensitive areas:** The Vienna plan's focus on sustainable mobility—promoting walking, cycling, and public transportation—can directly benefit the Alpine interface territories. Given the environmental sensitivity of the Alps, Local Mobility Concepts in these regions can prioritize low-impact, eco-friendly transport solutions.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Sectoral planning: Transport



Thematic Concept STEP 2025. Source: Urban Mobility Plan Vienna

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Lokalni Energetski Koncept (Local Energy Concept), Slovenia

What are the benefits of Slovenian Local Energy Concepts for Alpine interface territories?

- **Alignment with national and EU policies:** By ensuring that local energy policies align with national frameworks like the Energy Concept of Slovenia (EKS) and broader EU goals, the LEK provides a structured approach that can harmonize energy initiatives across borders in the Alpine region. This coordination is key for cross-border projects and integrated energy systems in the Alpine interface territories.
- **Long-term strategic planning:** The LEK's role in planning the spatial and economic development of local communities fits well with the Alpine region's need for long-term, sustainable growth. Its methodical approach can help Alpine municipalities develop infrastructure that balances energy needs with environmental preservation, crucial for maintaining the region's ecological integrity.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Sectoral planning: Energy

LEK Celje. Source: Energy Renovation and Management in the Municipality of Celje

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River/Lake/Wetlands Contracts, Italy

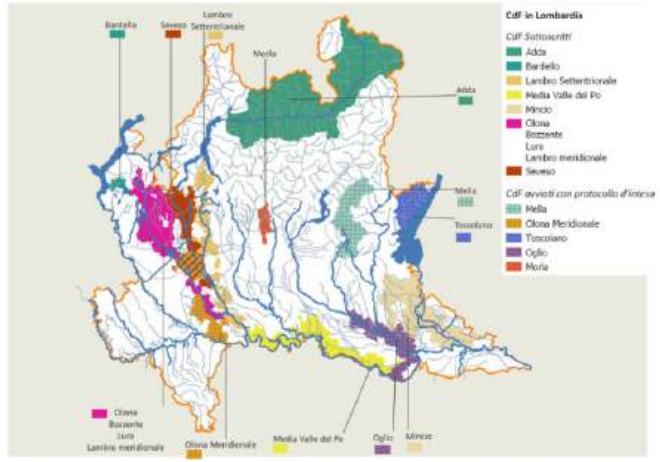
What are the benefits of Italian River/Lake/Wetlands Contracts for Alpine interface territories?

- **Cross-border and regional cooperation:** In the Alpine region, where rivers, lakes, and wetlands often span multiple countries, cross-border agreements (such as the Roia/Roya French-Italian Transboundary River Contract) can promote coordinated water management, benefiting all involved territories by addressing shared environmental and water resource challenges.
- **Integrated water management:** The contracts foster a holistic approach to water management that in-corporates ecological preservation, spatial planning, and hydraulic risk prevention. This is particularly important for the Alpine region, where fragile ecosystems and mountainous terrain require careful management to prevent issues like flooding, erosion, and biodiversity loss.
- **Flexibility across administrative boundaries:** The flexibility of these contracts allows them to operate independently of strict administrative borders, which is ideal for the Alpine territories, where ecological zones and water bodies often overlap various municipalities and regions.

Territories with no specific governance

Opportunities for Alpine interface territories from a governance perspective

Sectoral planning: Water



Olona - Bozzente - Lura - Southern Lambro meridionale River Contract. Source: https://www.contrattidifiume.it/it/contratti-di-fiume/olona-bozzente-lura-lambro-meridionale/

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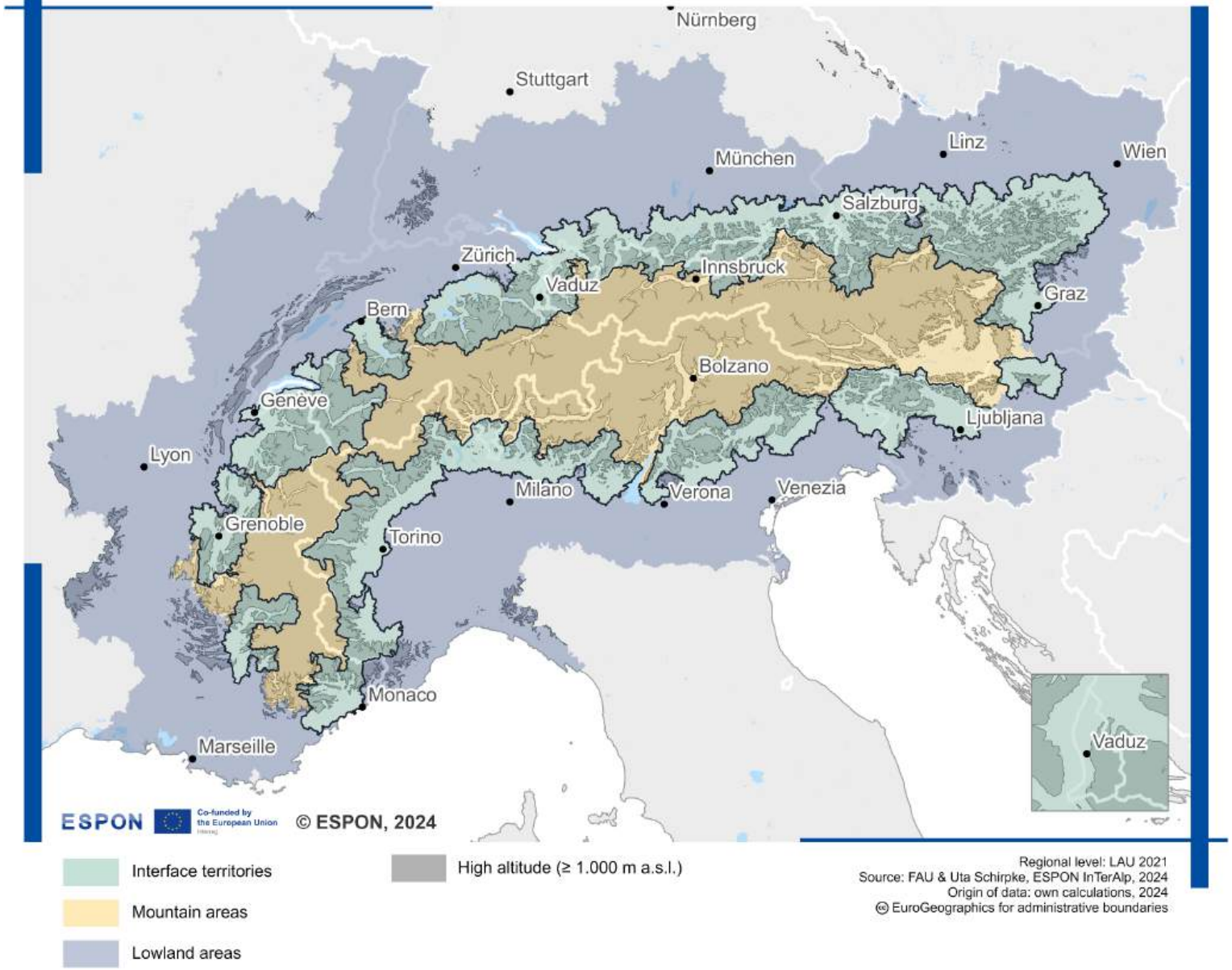
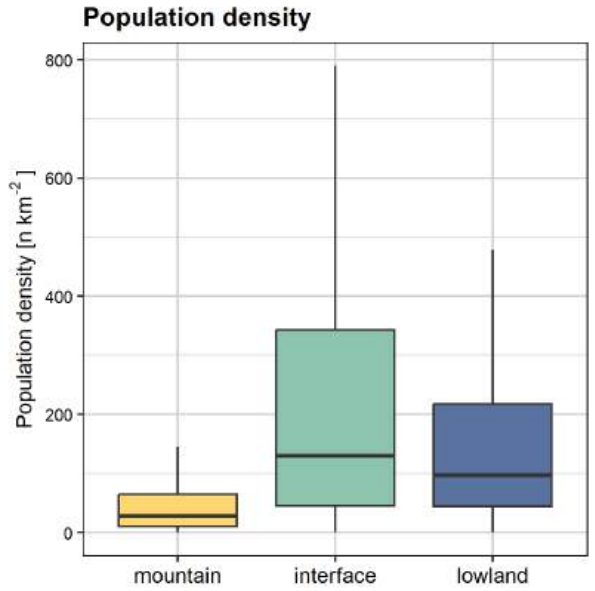
3

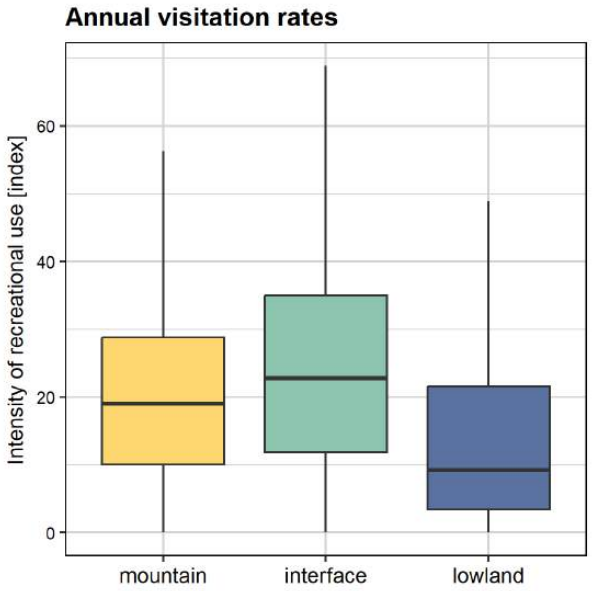
Positioning the spatial category of interface territories

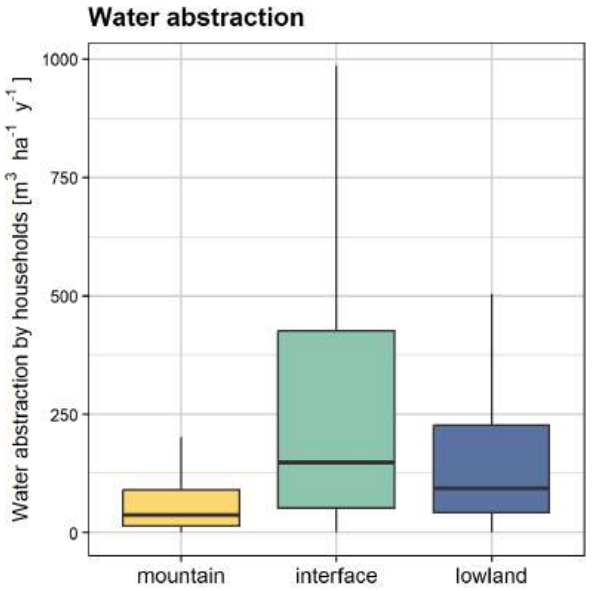
Photo: View from Planken in Liechtenstein over the Alpine Rhine Valley (Elias Günther, 2024).

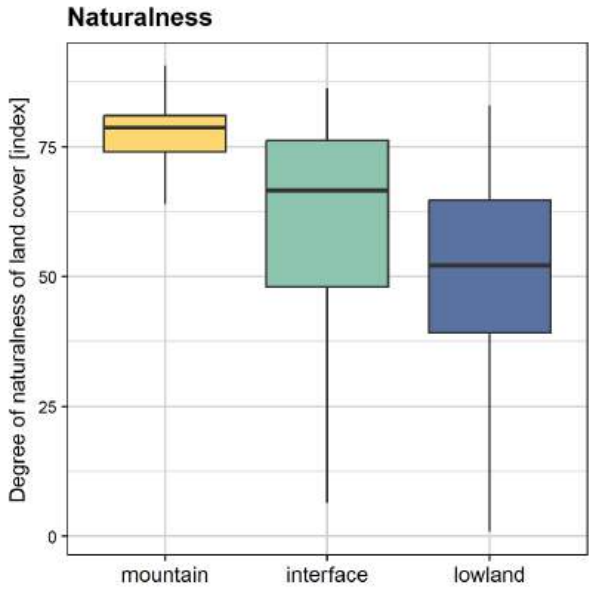
Interface territories, mountain and lowland areas

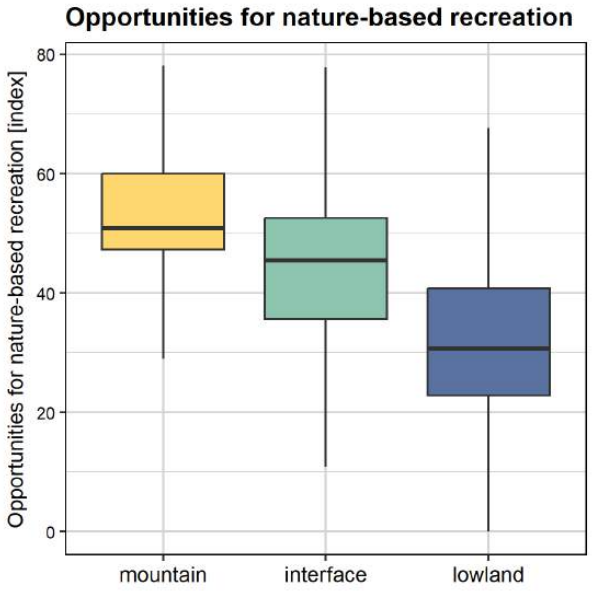


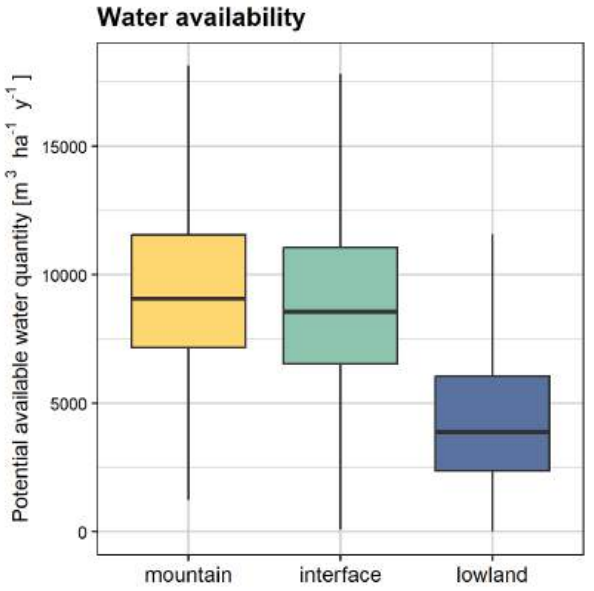












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The geographical specificities of interface territories

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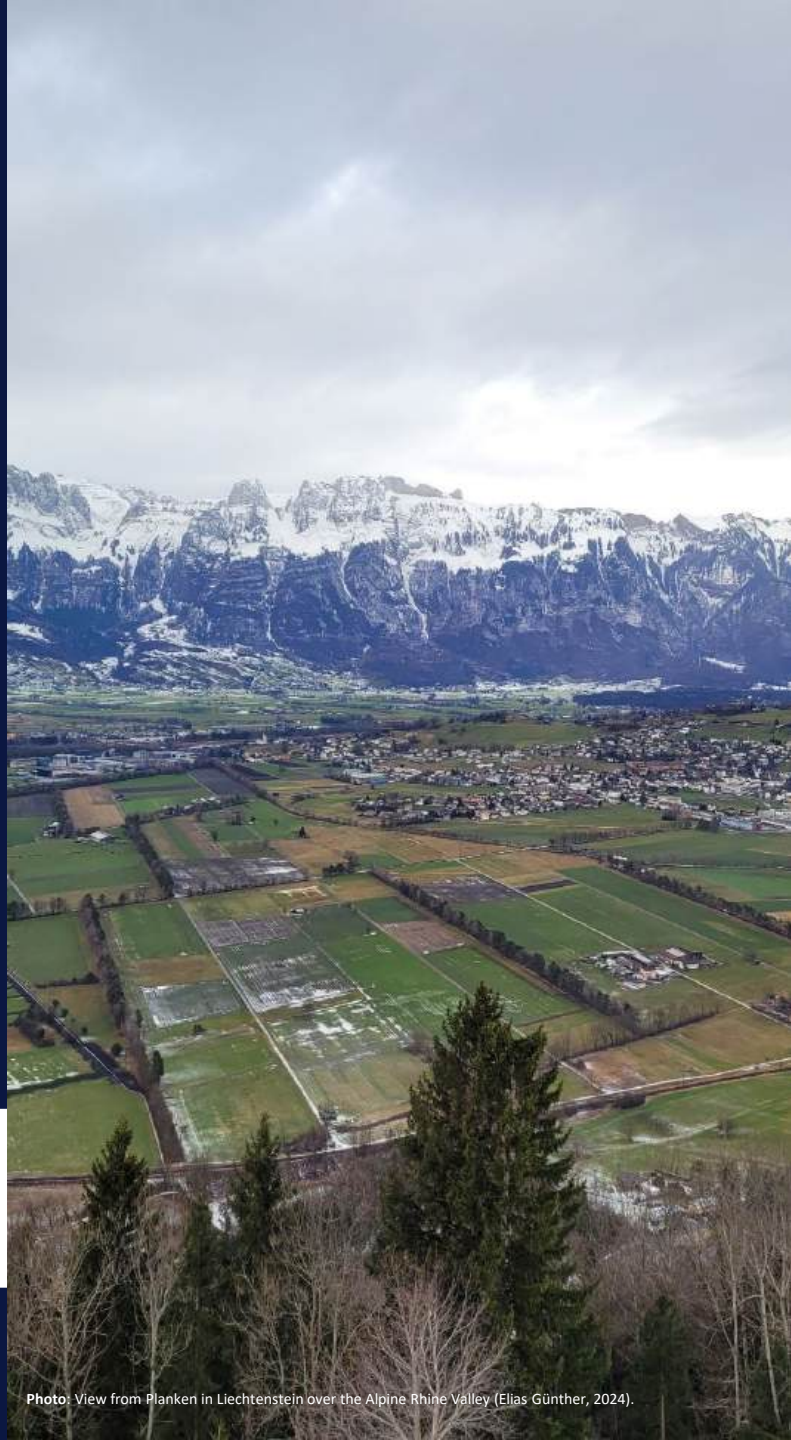

Photo: View from Planken in Liechtenstein over the Alpine Rhine Valley (Elias Günther, 2024).

Summary

1) Interface territories are areas with sharp **mountain-lowland contrasts**
2) Interface territories are **geographic funnels** and **transalpine gateways**
3) Interface territories are area with **common challenges** and **specific roles**

Photo: Andrea Mucelli, CC BY-NC-SA 2.0, https://www.flickr.com/photos/bluestardrop/8296928890

Photo: Agence d'urbanisme de la région grenobloise

Photo: Elias Günther, 2024

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Policy implications

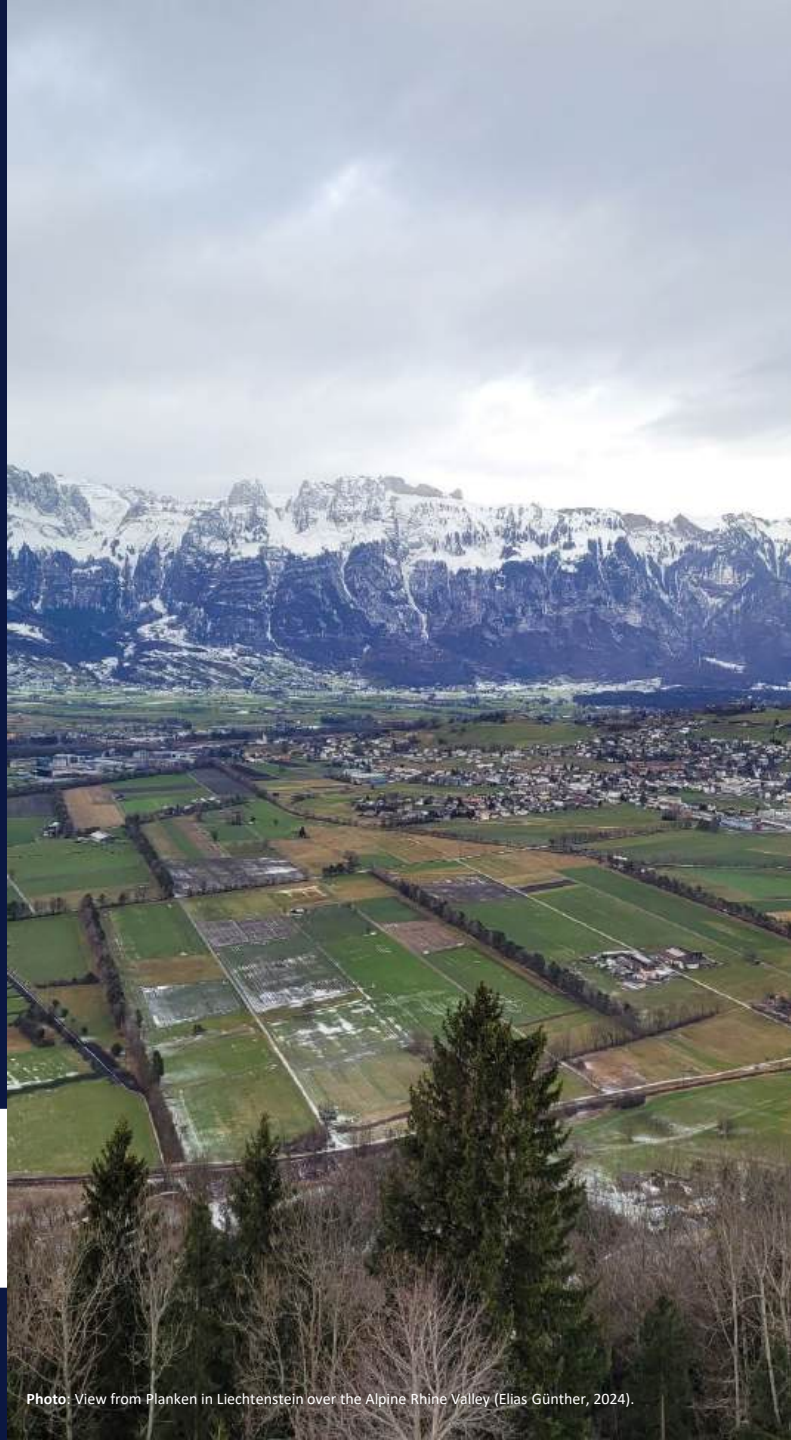
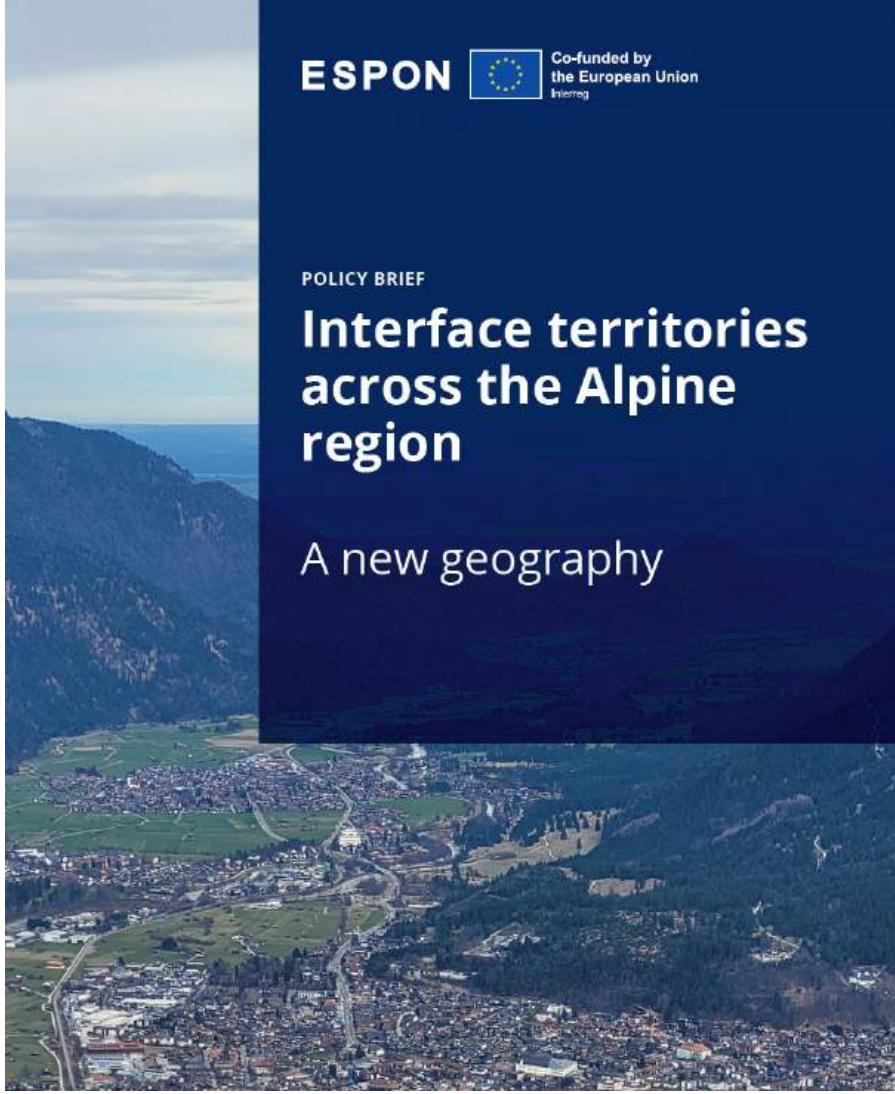


Photo: View from Planken in Liechtenstein over the Alpine Rhine Valley (Elias Günther, 2024).

KEY POLICY MESSAGES

1.

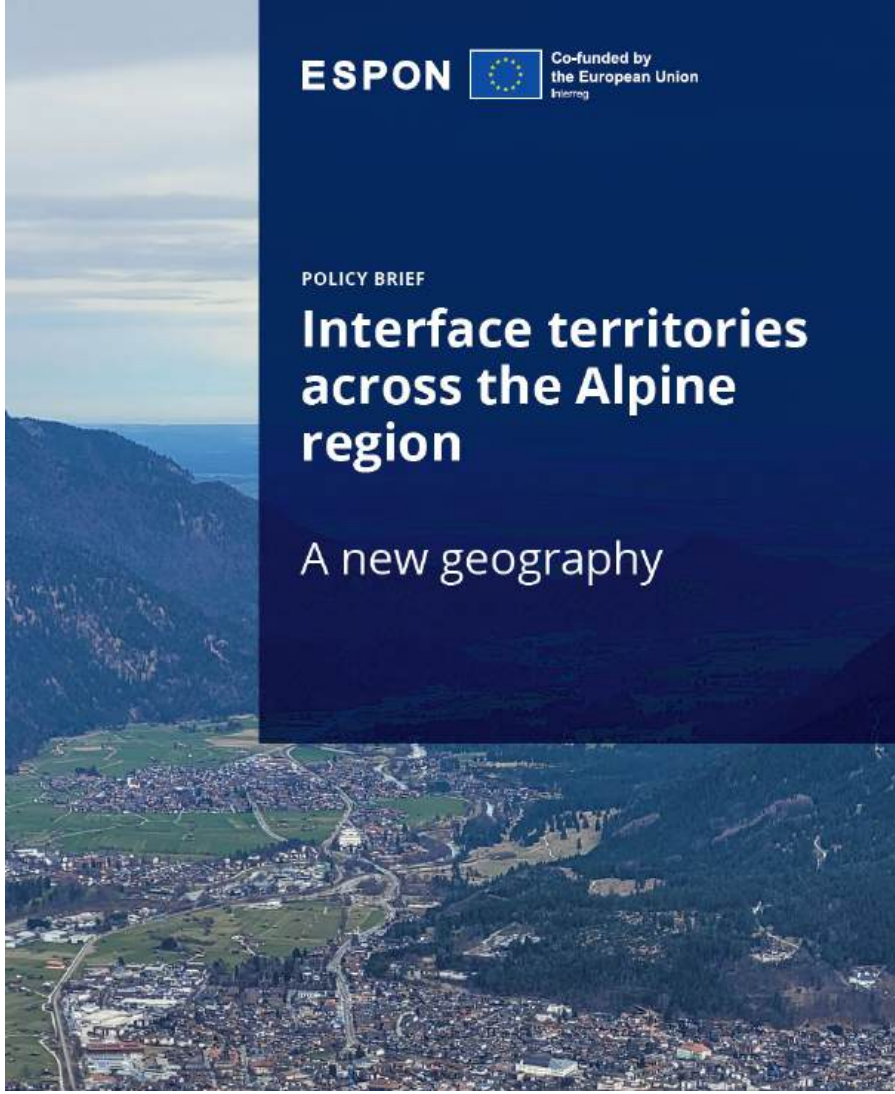
It is essential to **recognise interface areas as a specific geographic category**



KEY POLICY MESSAGES

2.

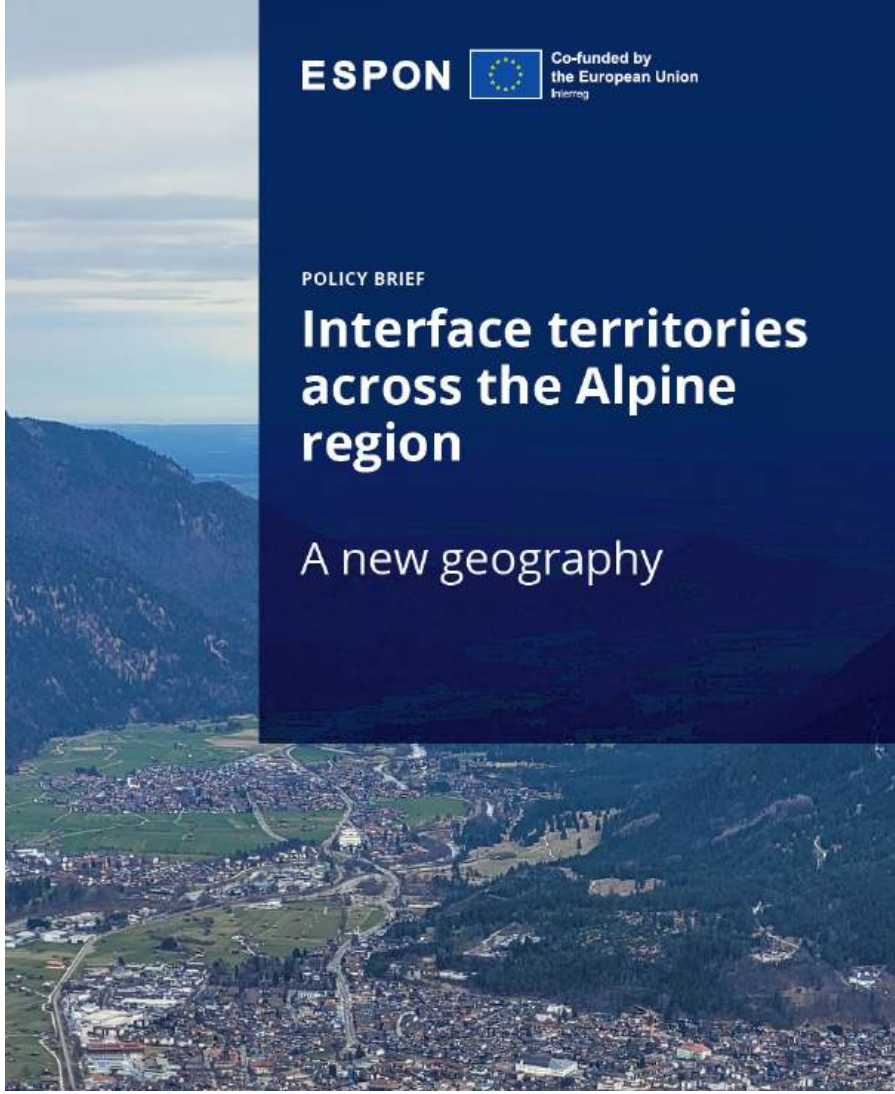
It is crucial to **address the common challenges faced by interface areas**.



KEY POLICY MESSAGES

3.

The **governance of Alpine interface areas requires a tailor-made approach**.



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// Thank you