



Uncovering Fragmentation in Nature-Based Solutions for Climate Adaptation: A Territorial Knowledge Synthesis for Climate-Resilient Urban Planning in Europe

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1 Introduction

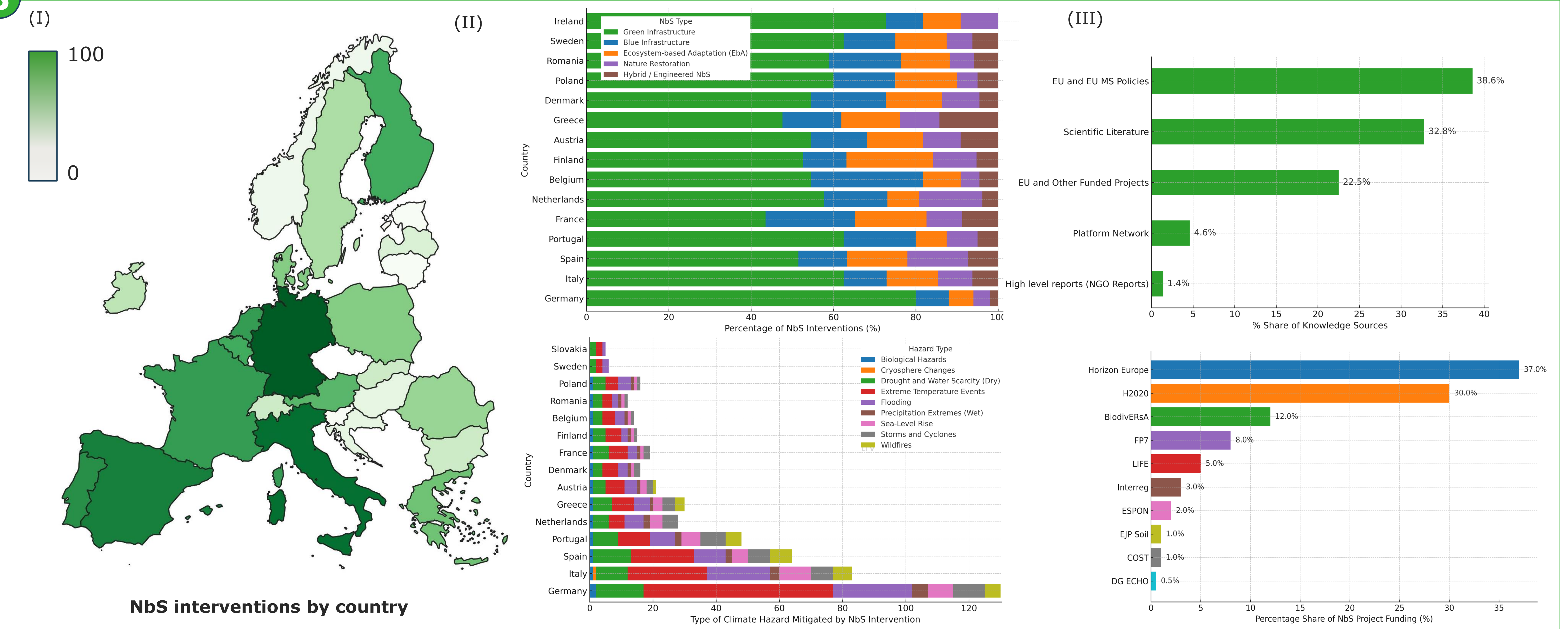
Nature-Based Solutions (NbS) are central to the EU Green Deal and Climate Adaptation Strategy. Yet, their territorial uptake across Europe remains **fragmented, uneven, and poorly integrated** into local planning. Stakeholders face a disconnect between policy ambitions, project experiments, knowledge platforms, and scientific research.

The aim is to **systematically map and synthesize** fragmented evidence on NbS for **climate adaptation** across Europe, in order to identify **territorial gaps, policy-practice mismatches**, and interoperability challenges, and to propose pathways toward **integrated and climate-resilient urban and regional planning**.

2 Method

1. PRISMA mapping (n=1185) across: Policies; EU-funded projects; knowledge platforms; scientific literature.
2. Analysis conducted across: NbS, Climate Hazard, Spatial Scales, Governance Instruments, Policy & Planning, Co-benefits / Impacts and Barriers & Enablers dimensions

3 Key Findings



4 Discussion

- NbS knowledge is **abundant but fragmented**, limiting its usability in **territorial planning**.
- A disconnect between **strategic ambition** and **local implementation**.
- Governance diversity (**laws vs. strategies vs. action plans**) creates **uneven** policy traction hindering transformational adaptation at EU level.
- Funding cycles drive **short-term experimentation**, with limited **continuity**.

5 Recommendations (Policy & Practice)

- Bridge **policy-practice gaps** by translating EU strategies into clear territorial guidance.
- Secure **continuity** with long-term funding and institutional support beyond short-term pilots.
- Enhance **interoperability** of NbS knowledge base.

