

Nature-based solutions for dune restoration to mitigate coastal erosion



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Parc Natural
dels Aiguamolls
de l'Empordà



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Climate adaptation & mitigation in all European biogeographical regions



Continental

Berlin metropolitan region, DE



Coastal

Catalonia, ES



Mediterranean

Attica region, GR



Atlantic

Zeeland & Rijnmond, NL



Arctic

Troms & Finmark, NO



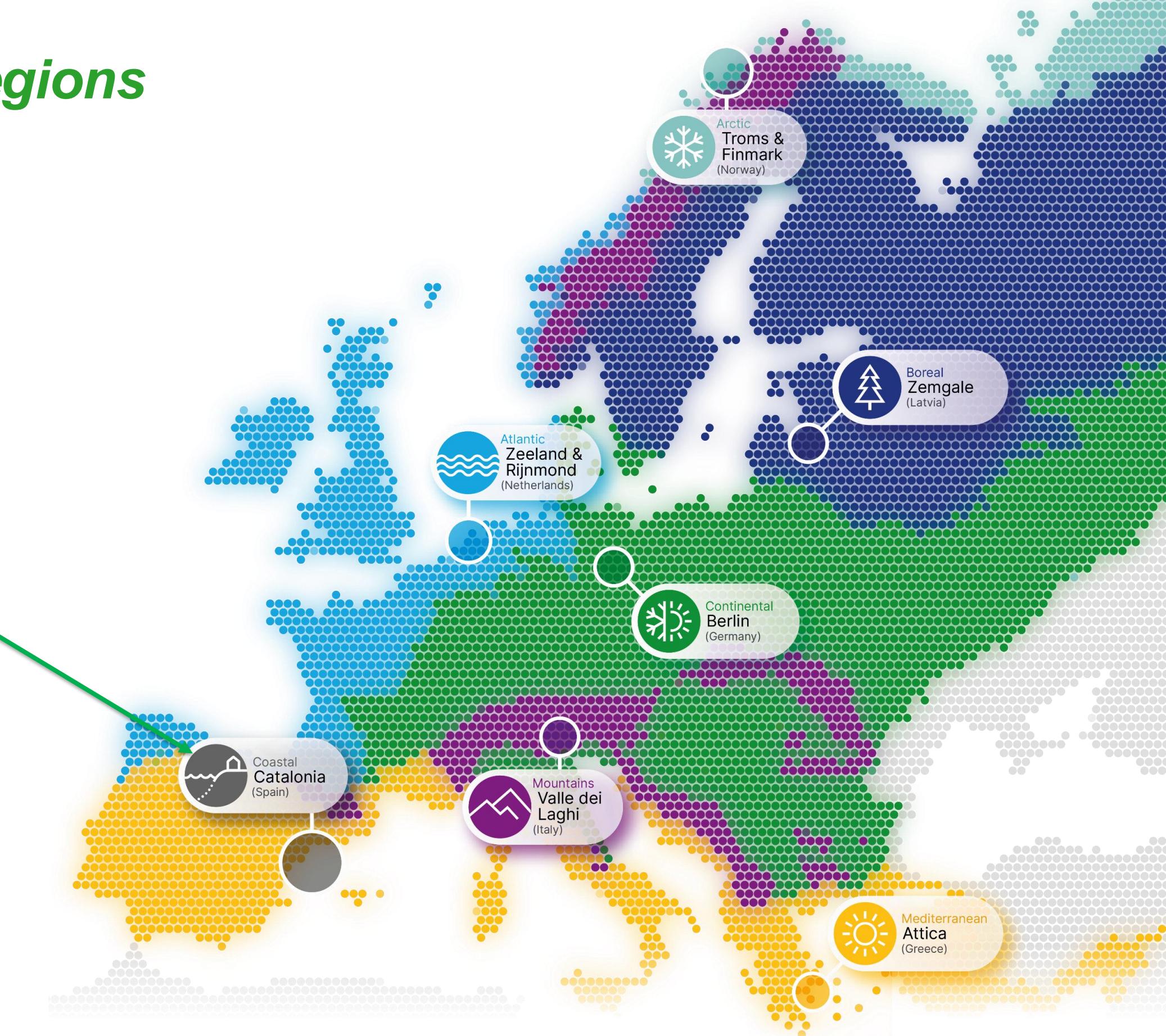
Boreal

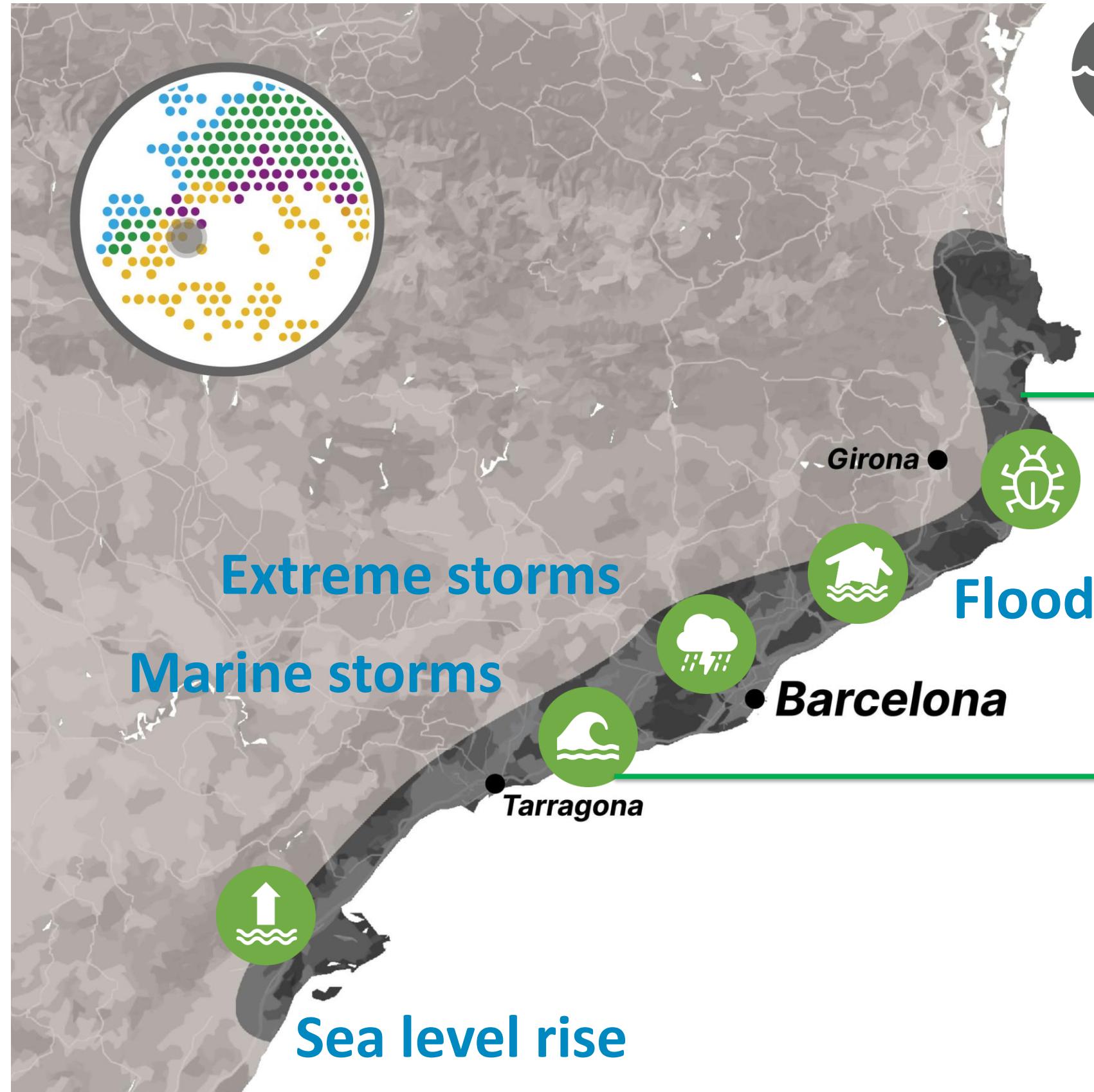
Zemgale region, LV



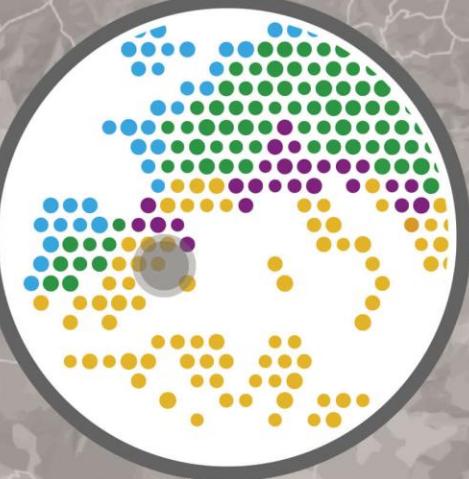
Mountainous

Valle dei Laghi, IT





Coastal
Catalonia, ES



Sant Pere Pescador
Semi-urban beach
Semi-natural beach



Flooding risk

Calafell
Urban beach



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Stakeholders involved

City Council

Implementing management measures
and maintenance measures



Sand fences



Rope fences



Nourishment

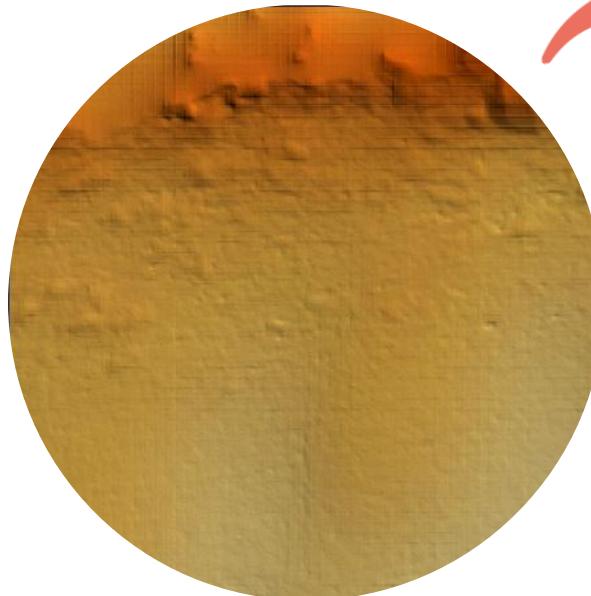


Deconstruction

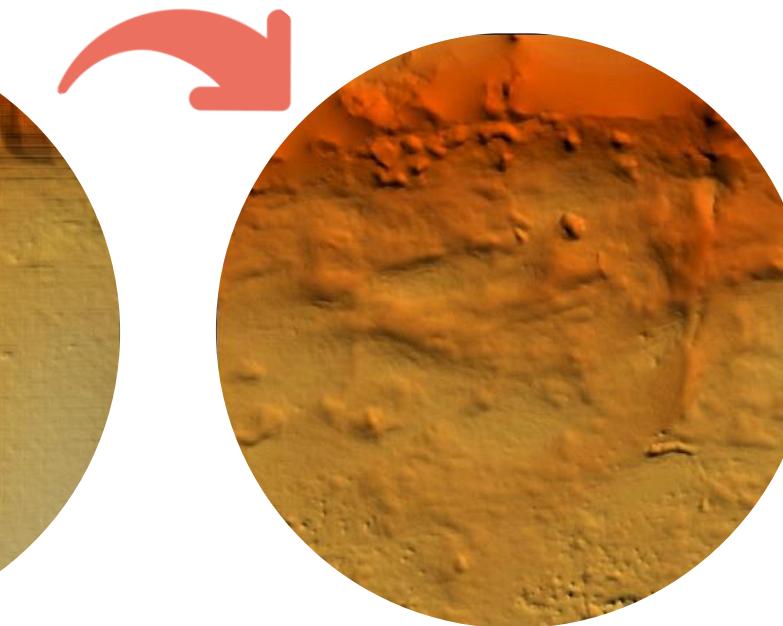


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Monitoring management measures



DEM
2021



DEM
2024



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Management measures

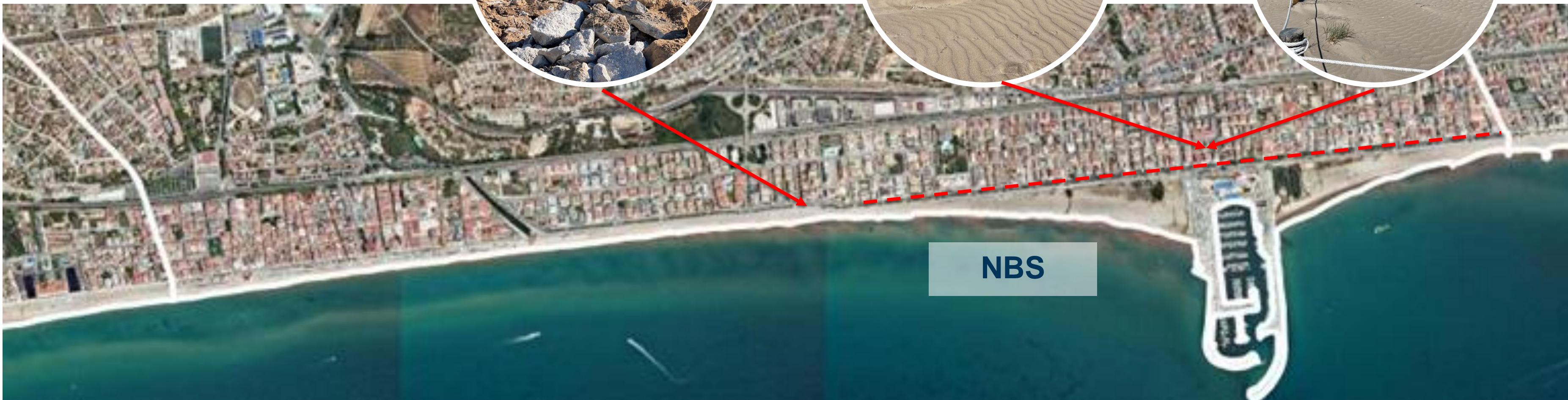
Deconstruction



Sand fences



Rope fences



Deconstruction



Preventive
deconstruction



January 2024

800 m²



Sand fences



2022



2023



2024



A wide-angle photograph of a coastal area showing severe coastal erosion. The sandy beach has been significantly reduced, particularly on the right side where a large, deep, and exposed ravine has formed. In the background, several multi-story residential buildings are built on stilts or elevated foundations to protect them from flooding. A volleyball net stands on the eroded beach. The sky is blue with some wispy clouds.

2025



2022



2024





2023





2023



3

500 m³







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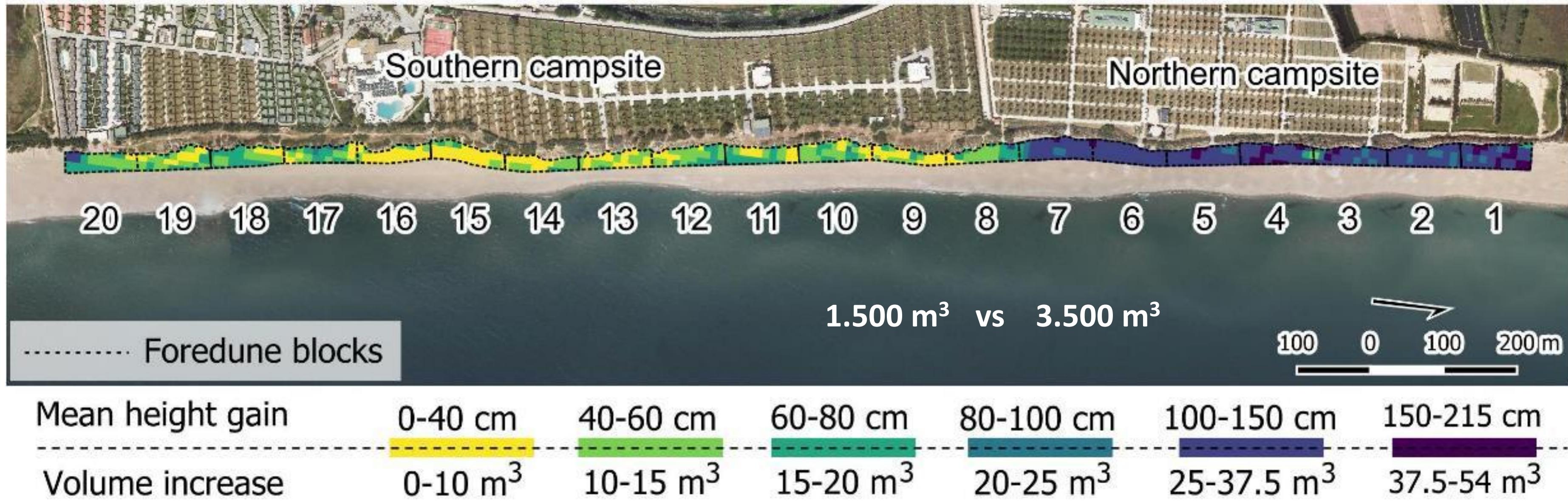
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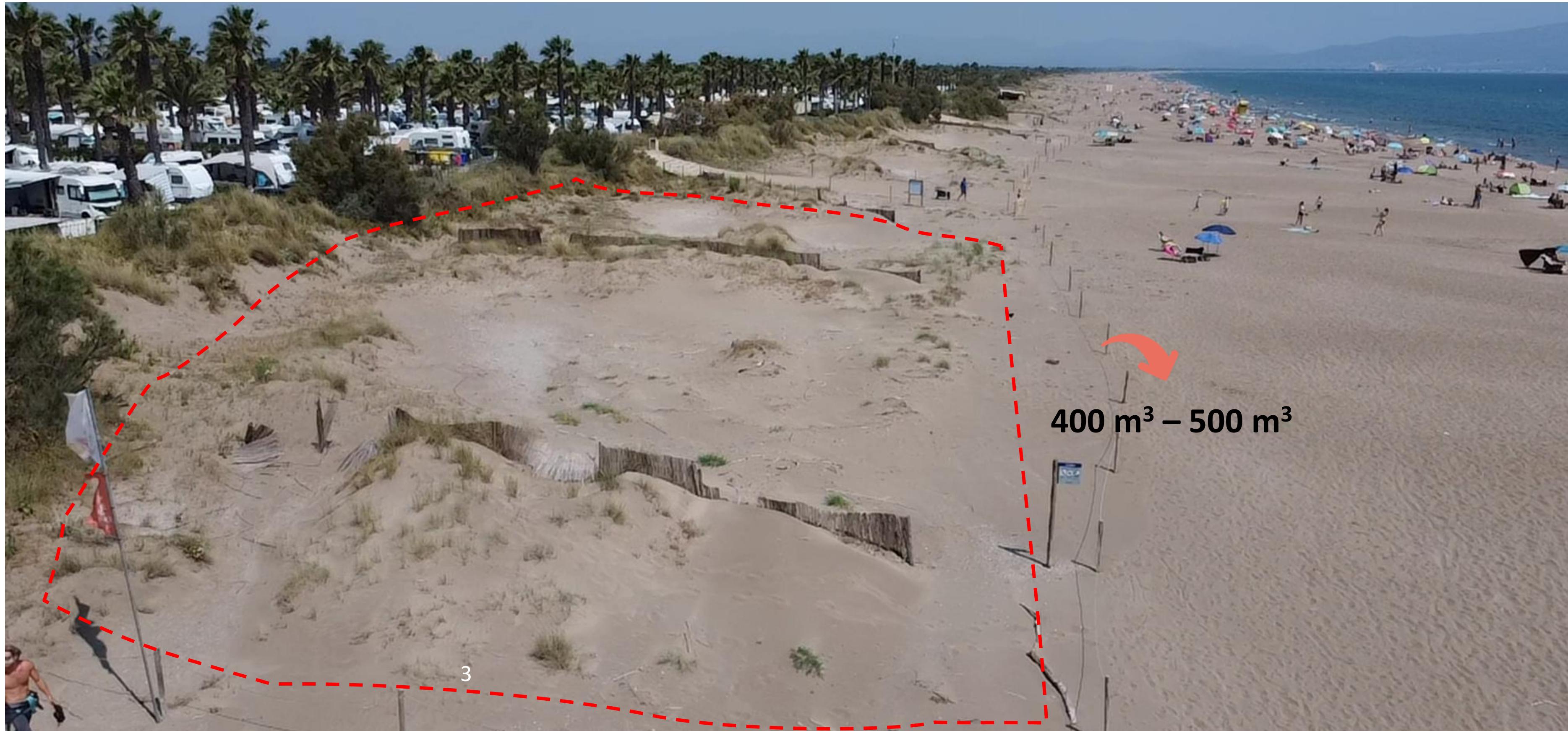
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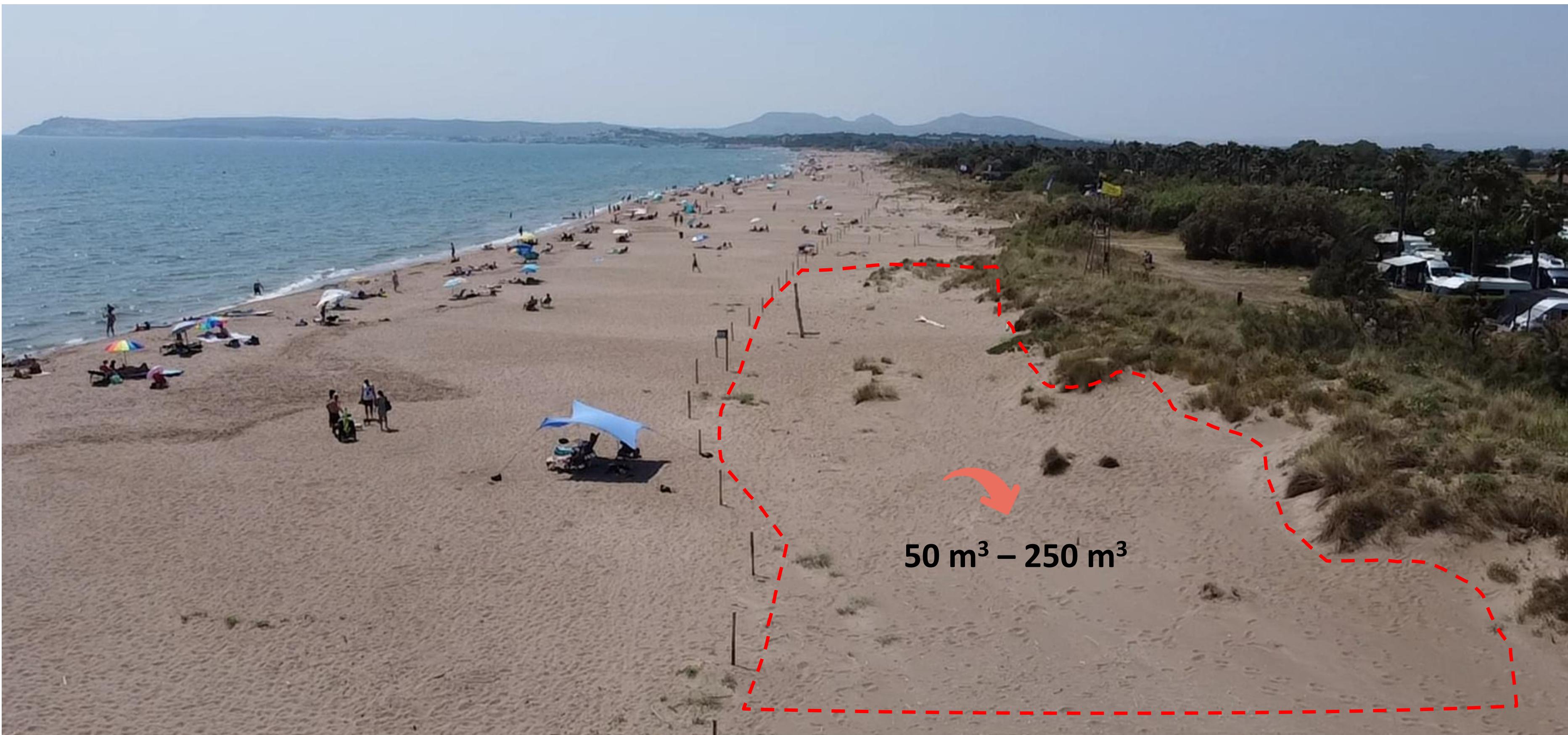


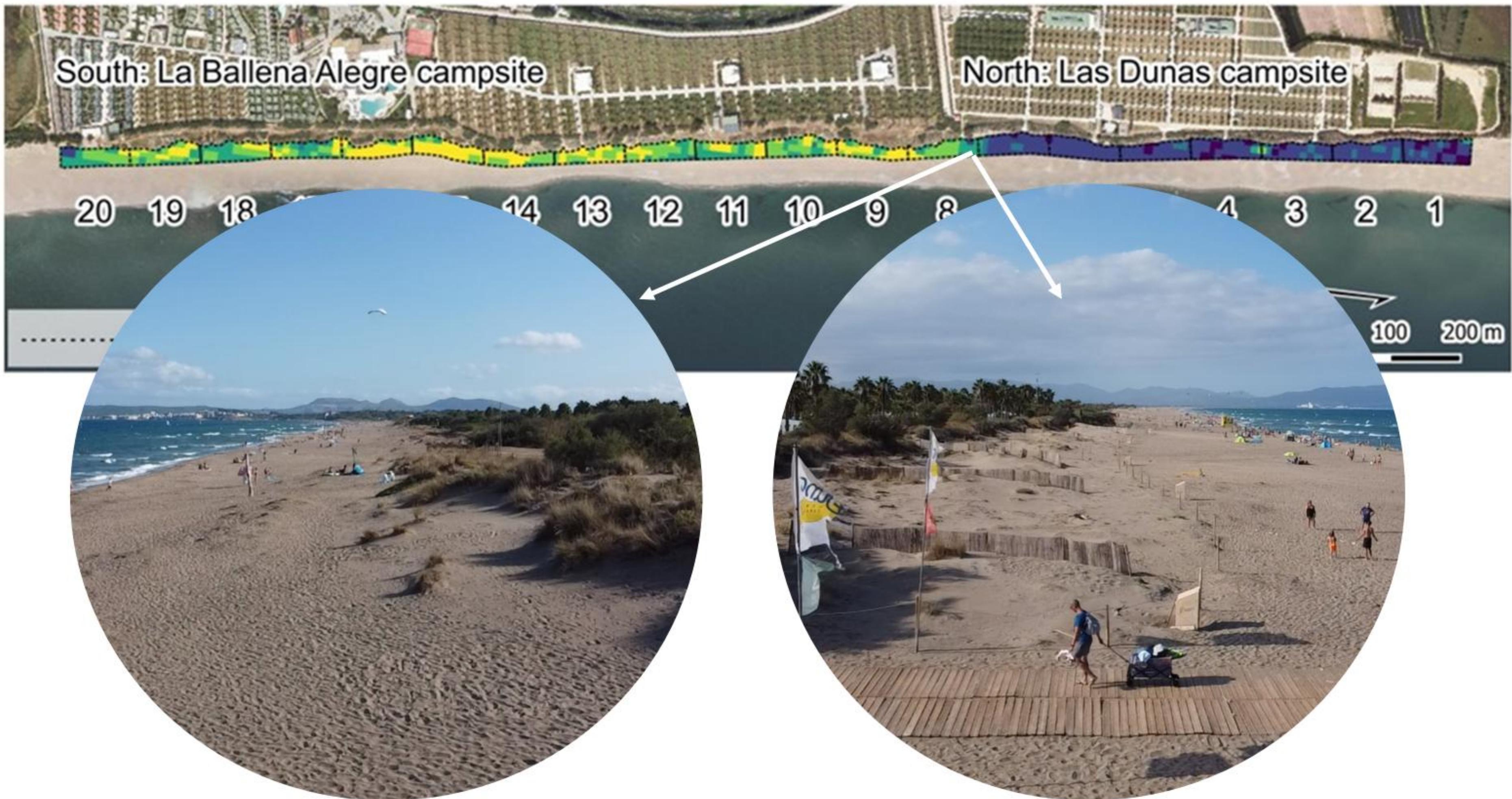
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Garcia-Lozano et al., 2024 under revision









Gràcies!
Thank you!



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