BioSpace25 - Biodiversity insight from Space
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Scaling-up island biodiversity monitoring with remote sensing: Insights from the BioMonI project

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Biodiversity Monitoring of Island Ecosystems

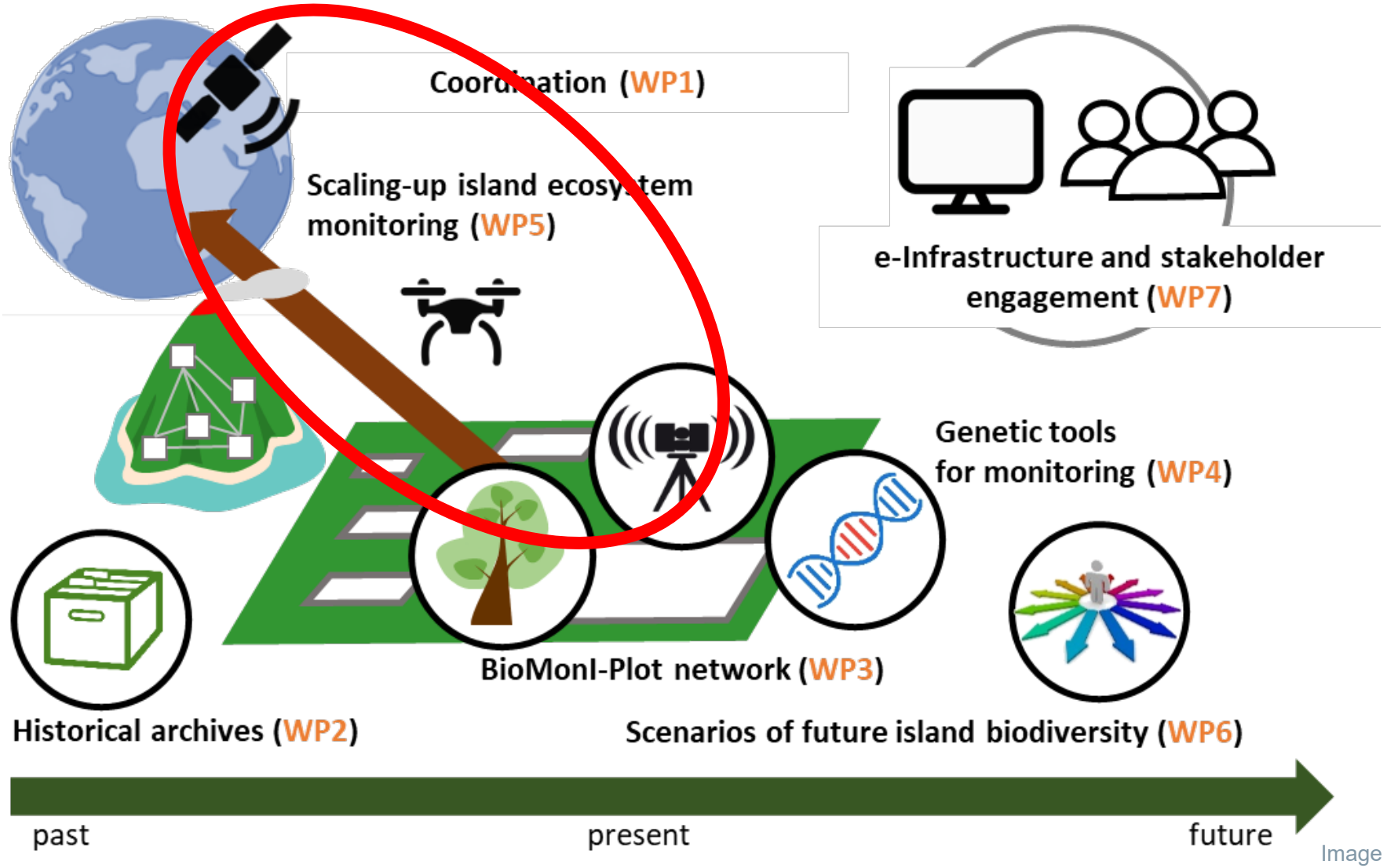


Image source: BioMonI

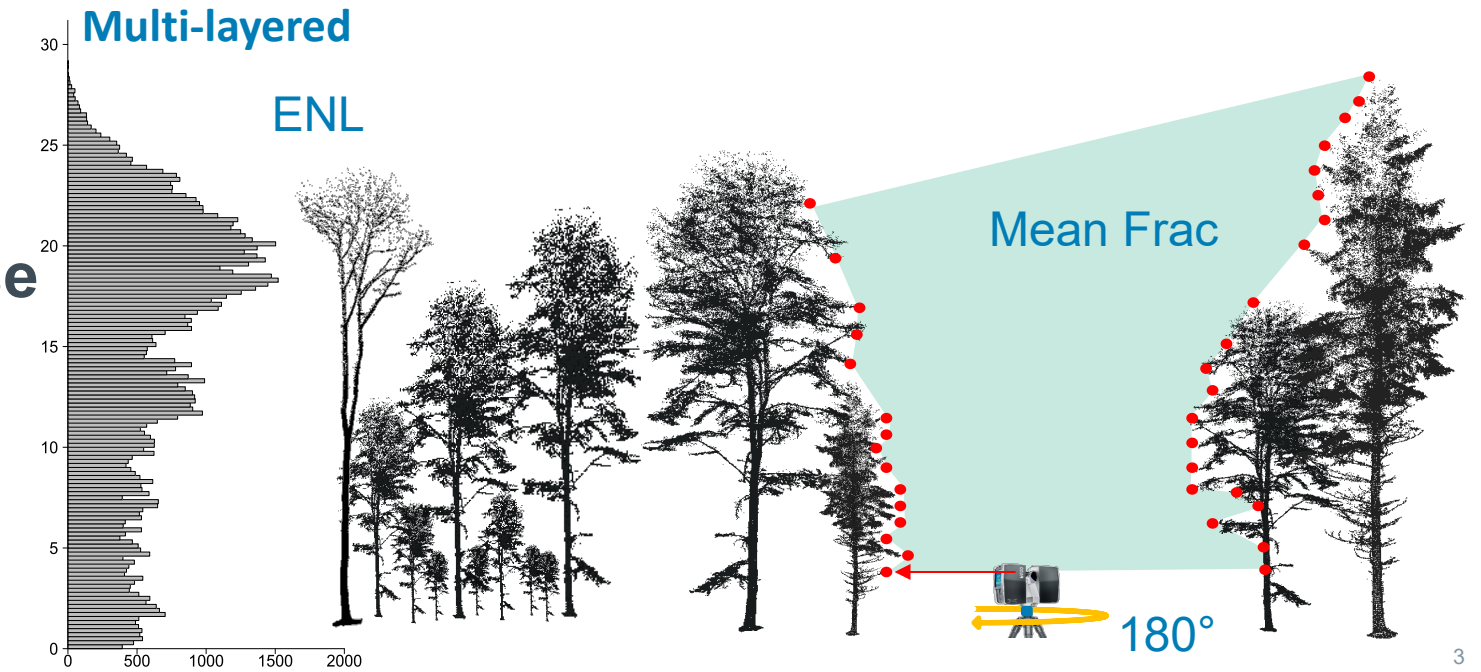
Working Package Aims

Objective 1: Methodological development for upscaling monitoring of EBVs

Objective 2: Integrate field and remote sensing (ground and satellite) data for harmonised monitoring of EBVs

Objective 3: Track changes in EBVs across islands using satellite imagery

Can we use or adapt remote sensing techniques to increase monitoring beyond forested habitats?



Preliminary Investigations

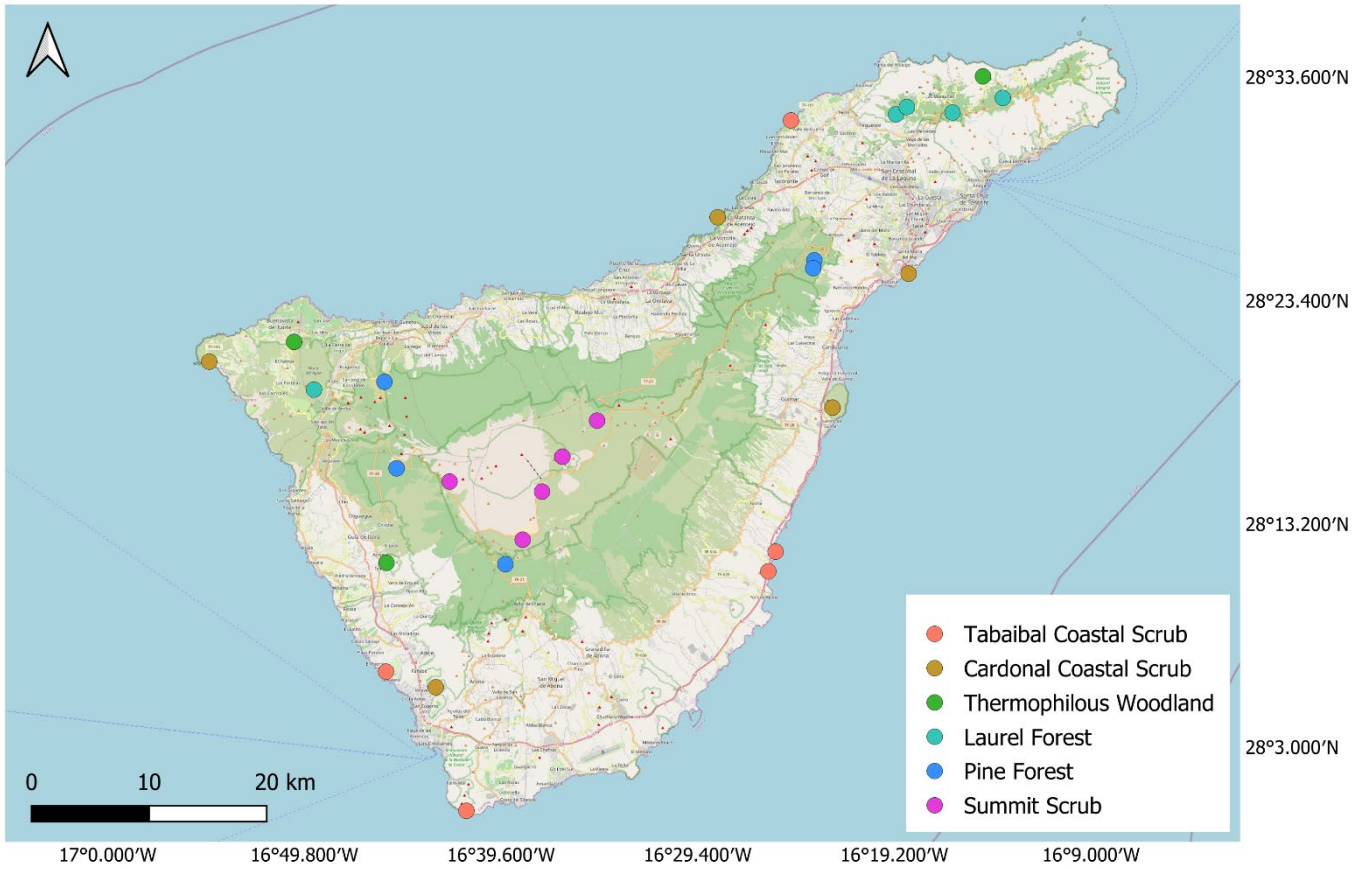
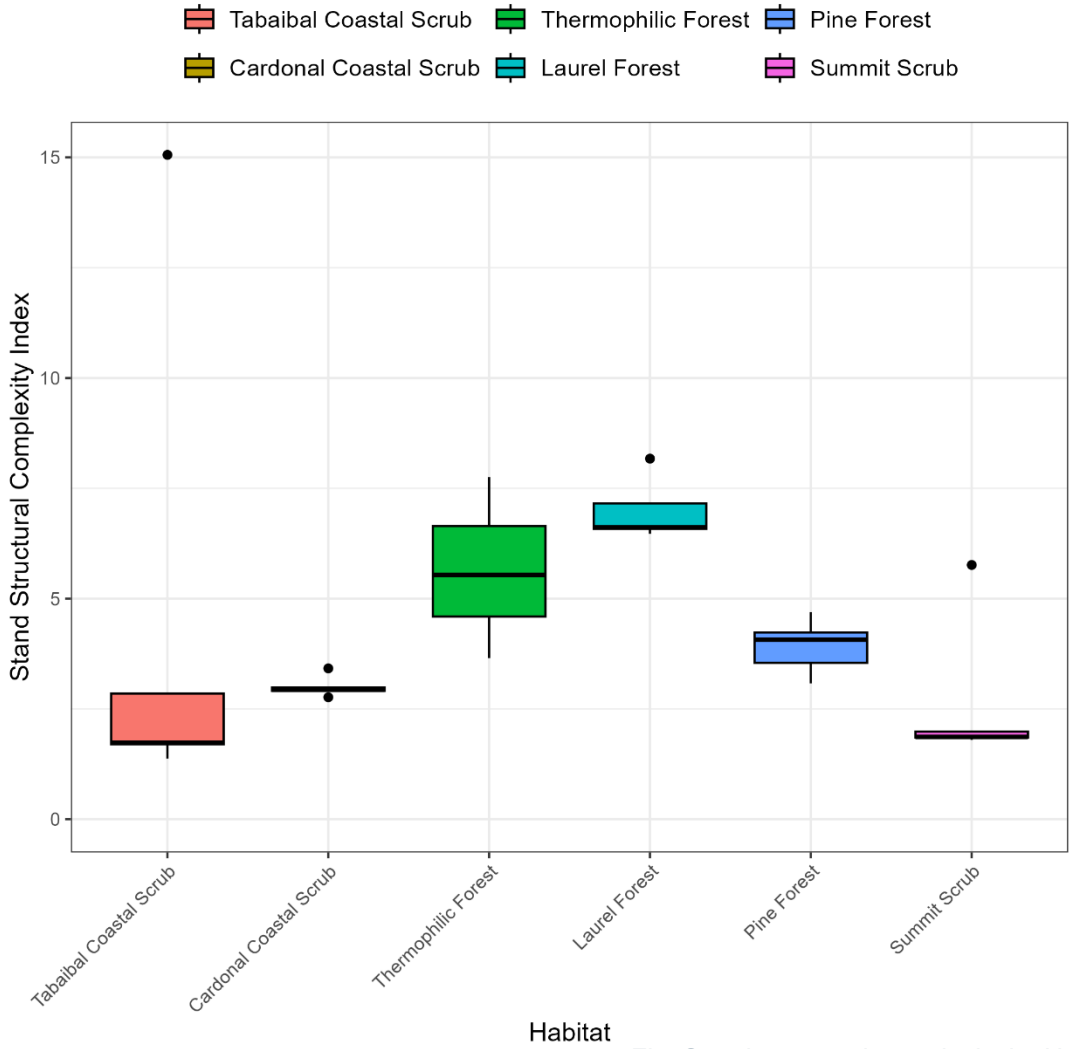


Fig: Plot locations, Tenerife (above). Habitat examples (right).

Results



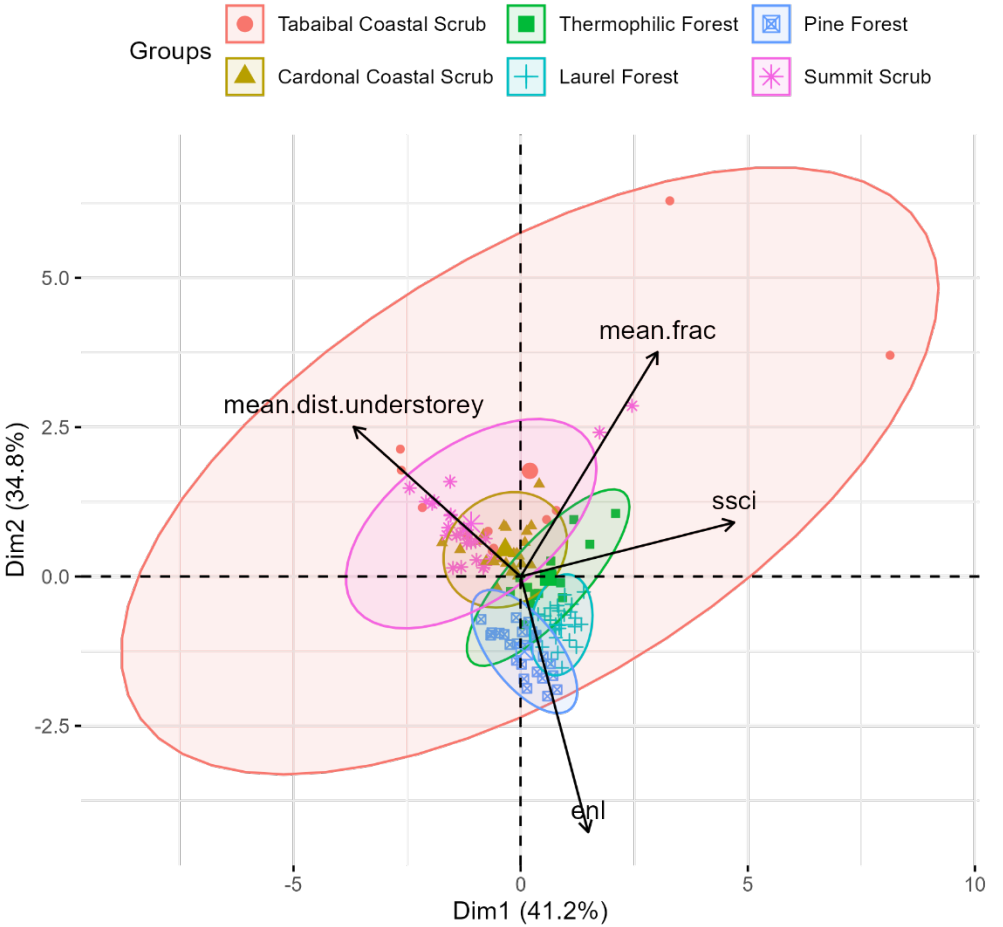
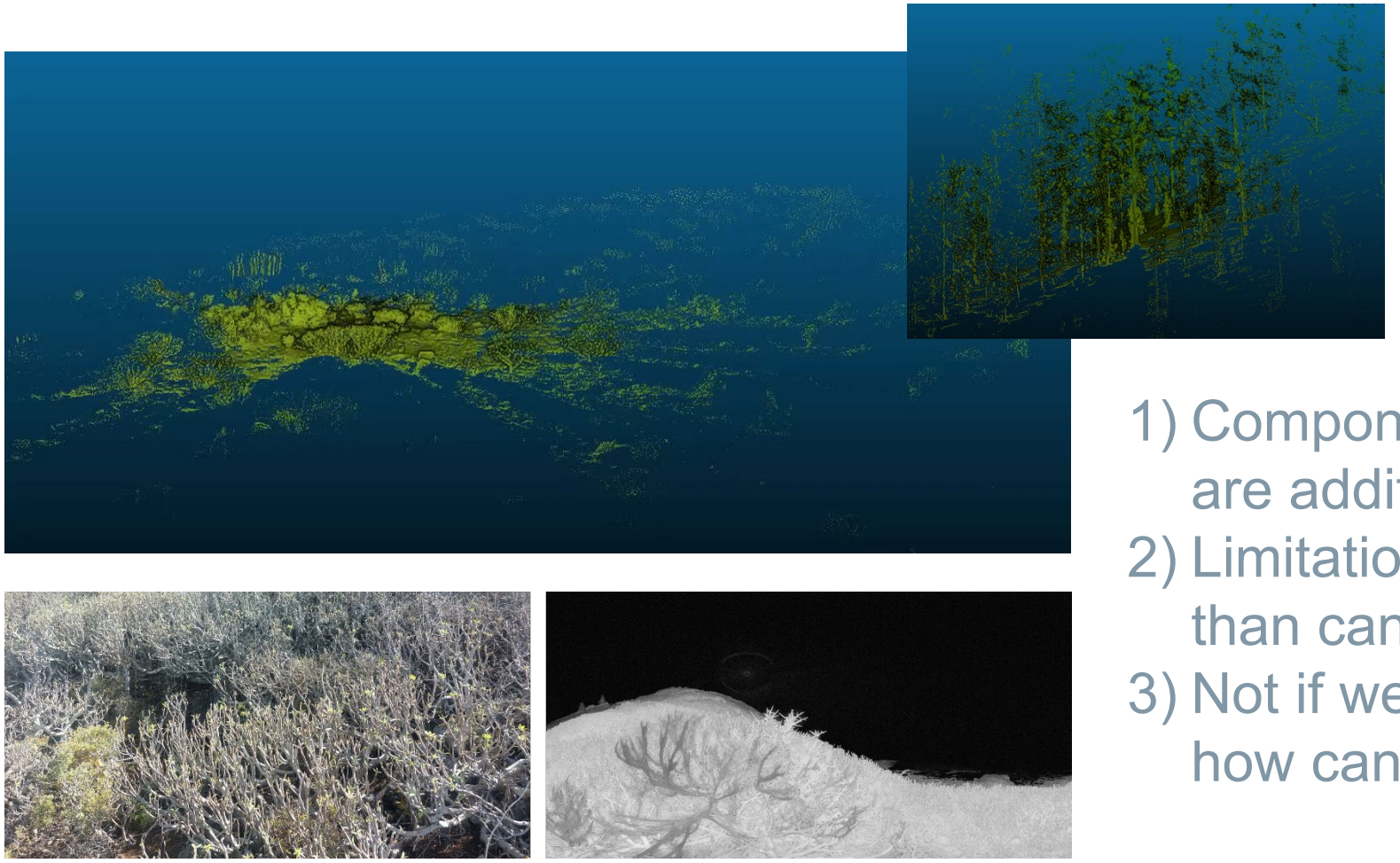


Fig: Stand structural complexity by Habitat (left), and structural components by habitats (right)

Implications and Limitations



1) Components of structural complexity are additive
2) Limitations of habitat height rather than canopy openness
3) Not if we can adapt methods, but how can we…

Fig: High structural complexity caused by dense branching architecture.

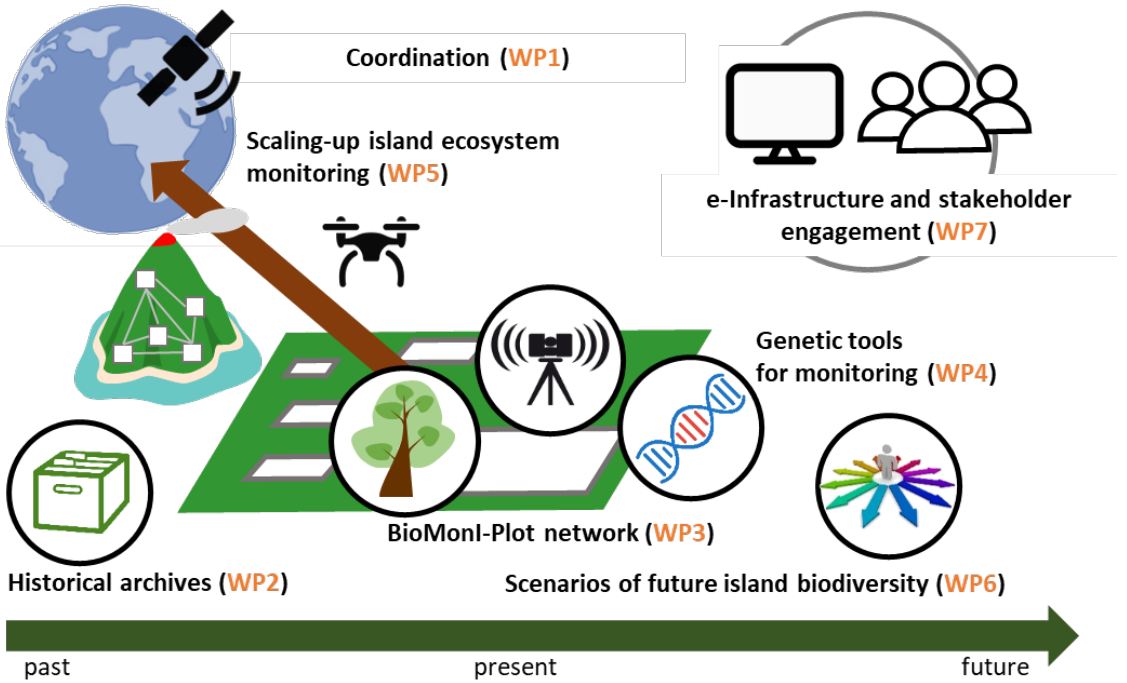
Future Research and Recommendations

Next Steps:

1. Scaling-up and integration with UAV, airborne, and/or satellite data (e.g. GEDI)
2. Linking ecosystem structure with field-based biodiversity data (e.g. tree species inventories)
3. Acquisition of further satellite products for mapping and monitoring EBVs beyond ecosystem structure

R+D Policy Thoughts:

- Products relevant or adaptable for all ecosystems
- Push for open science and greater availability of products
- User friendly workflows relevant to stakeholders



Thank you!

BioMonI
BIODIVERSITY MONITORING OF ISLAND ECOSYSTEMS

SCAN ME

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Swiss National Science Foundation