New Forest Management Approaches: Climate-Smart Forestry by Horizon Europe Project FORWARDS

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Forests has been constantly impacted by climate change all over the Europe, and even more severe impacts on forest ecosystems are expected. Thus, we have to act proactively searching for new ways in forest management allowing for higher resilience against storms, forest pests (e.g. bark beetle), wildfires, etc. project FORWARDS (*The ForestWard Observatory to Secure Resilience of European Forests)* has been lunched in 2022 with ambition to provide best practice examples for the European forest owners, managers and professionals, building on Climate-Smart Forestry (CSF) approach.

Today we are planting forest of the future!

Acknowledgement of urgent need for forest adaptation and forest multifunctionality inspired development of Climate-smart Forestry (CSF) approach. CSF builds on the concepts of sustainable forest management, with a strong focus on climate and ecosystem services:

- Increasing **carbon storage in forests and wood products**, in conjunction with the provisioning of other ecosystem services;
- Enhancing the health and **resilience** through adaptive forest management;
- Using wood resources sustainably **to substitute non-renewable, carbon-intensive materials**.

The approach aims to have a balanced mix of these measures by developing spatially diverse forest management strategies. Such strategies should combine measures to maintain or increase carbon stocks in forest ecosystems and wood products, and maximize substitution benefits, **while taking regional conditions into account** (Verkerk et al., 2020).

Climate-Smart Forestry Demo Sites

FORWARDS established 5 forest demo sites addressing different European forest growing conditions, including *inter alia* Mediterranean, Alpine and Boreal forest ecosystems (figure 2).
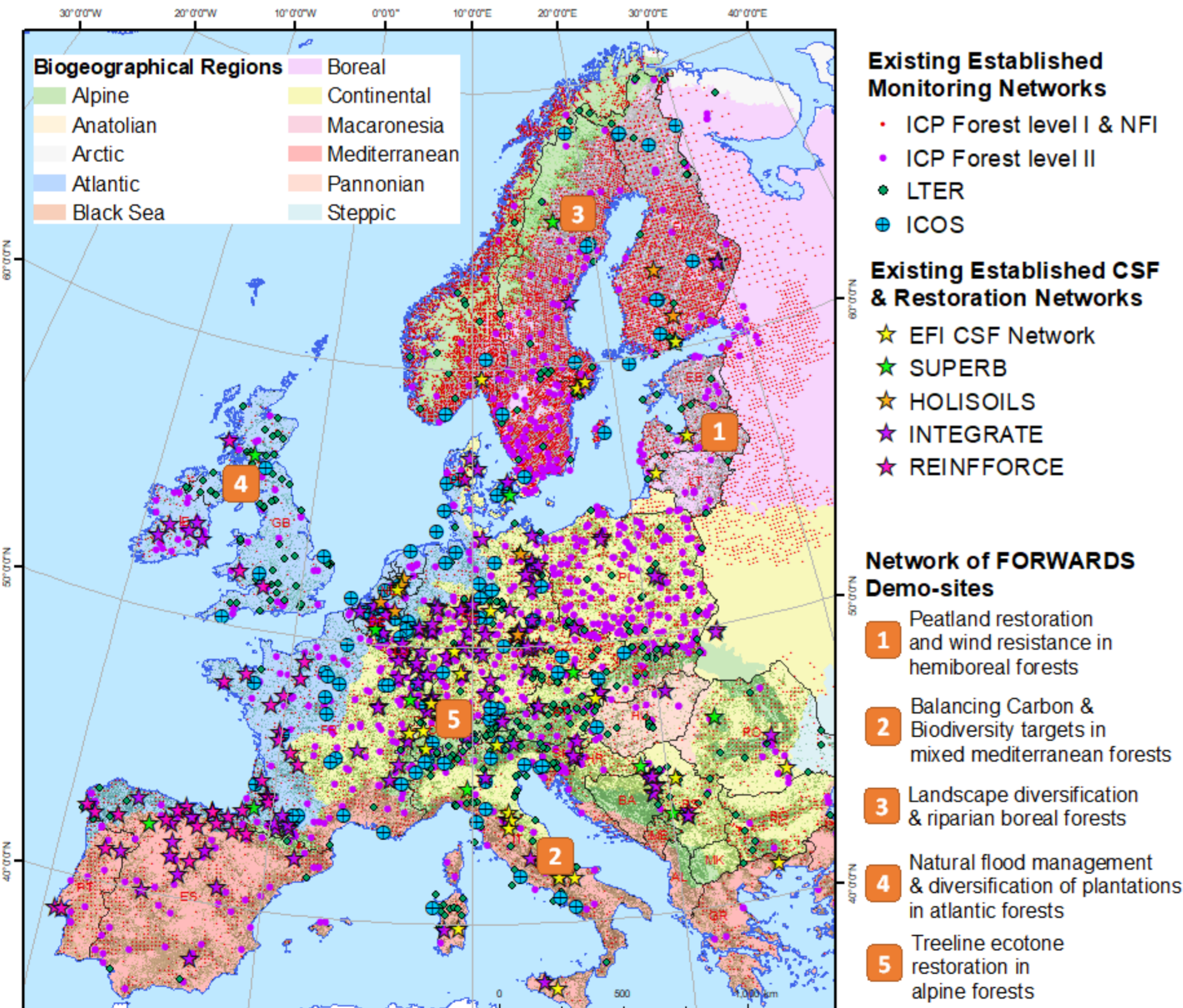

Figure 1. Network of FORWARDS project Climate-Smart Forestry demo sites

FORWARDS will capitalize on information available from existing networks, and in addition establish a network of pilot sites that will be extended during the implementation stage using a call for grants. Traditional forest monitoring will be supplemented with remote sensing methods, thus combining the obtained data will result in the most complete database of European forests. Thus, it will be possible to provide timely and detailed information on European forests' vulnerability to climate change.

In 2022, 20 European scientific and academia institutions gathered in a European Network on Climate-Smart Forestry, contributing to practical forestry by leading science. The network under European Forest Institute will collaborate with FORWARDS project and contribute to good practice guidance for European forest practitioners and stakeholders.

Source: European Forest Institute
Figure 2. Network of Climate Smart Forestry projects

Latvia (LFRI Silava) is a Partner to FORWARDS project and contributes to the CSF network and with a project on forest stands resilience to wind "Reduction of wind damage in birch and aspen stands" (figure 2).

The CSF Network:
- Brings together under a single platform European forestry pilot projects,
- Shows different ways how to manage forest stands wisely,
- Various ways to help mitigate the effects of climate change as much as possible,
- Strengthens cooperation and information exchange among European scientists.

Expected results:
1. FORWARDS will provide timely and detailed information on European forests' vulnerability to climate change.
2. The project will deliver science-based knowledge to guide management using the principles of climate-smart forestry, ecosystem restoration, and biodiversity preservation.
3. The ForestWard Observatory will be constructed under the principle of co-design to address the information needs by users and stakeholders.

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