
Master Thesis: AI-based forest disturbance mapping in Europe using Landsat/Sentinel 2

Start Date: Anytime

Description of Project:

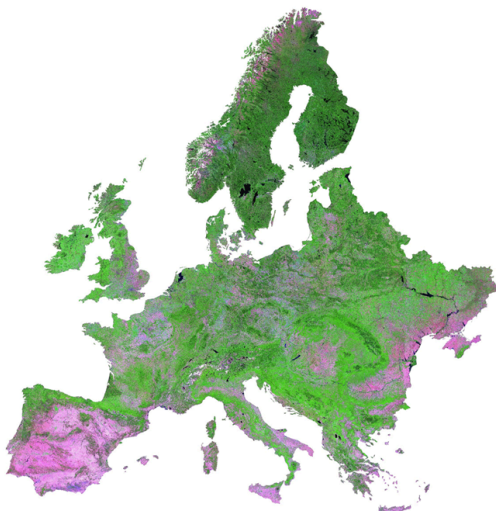
In this thesis, you will investigate the use of artificial intelligence (AI) methods for mapping forest disturbances, with a focus on differentiating stand-replacing and non-stand-replacing disturbances. The goal is to assess how well deep learning models, such as U-Net architectures, can detect and classify disturbances using Landsat/Sentinel2 imagery. To achieve this, you will test different window sizes in AI models to analyse their sensitivity in detecting disturbances of varying magnitudes. The results will help improve the understanding of disturbance mapping based on optical data (<https://zenodo.org/records/13333034>).

Research Question: How effectively can deep learning models capture forest disturbances from satellite imagery?

Objectives:

- *Develop AI-Based Forest Disturbance Mapping Models using Landsat/Sentinel2 time-series*
- *Assess the sensitivity of model performance to different window sizes and evaluate their impact on detecting disturbances*

Additional information about the ForestPaths and AI4Forests projects can be found here:



ForestPaths



AI4Forests

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