Project Database of ICP Forests

PROJECT DESCRIPTION

PROJECT INFORMATION

Project title:	**Quantifying forest net primary production at high spatial resolution (Part of LANDSUPPORT project)**
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PROJECT DESCRIPTION

The goal of this project is to study the feasibility and to provide a roadmap to estimate forest net primary productivity (NPP) at high spatial resolution (10-30 m pixel size) using satellite and other data from the Copernicus programmes.

The study is focusing on the adaptation and assessment of the MOD17 NPP algorithm with Landsat, Sentinel-2 and other Copernicus data. The model is executed on different sites and the results are compared to native MOD17 data and to the NPP obtained with ground-based monitoring (from forest inventory data).

Benefits of 10-30 m spatial resolution NPP are analyzed on a plot level and on a stand level.

Another objective is to assess if the high spatial resolution NPP can represent differences in annual increment on a smaller scale.

Furthermore, analyzing this model at high spatial resolution would provide better understanding of input parameters on a smaller scale (on a stand and on a plot level). Potential improvements and directions of further research are presented.

For validation purposes, modelled NPP need to be compared to ground-based monitoring (from forest inventory data). Field data (tree increment, dbh, height, volume, ground vegetation, LAI, foliage biomass) will be used to calculate the biomass, NPP and periodic annual increment. Correlation analysis will be performed between modelled NPP and periodic annual increment, as well as comparison between the modelled NPP and NPP obtained from field data. Therefore, UNECE ICP Forests data will be used for model validation and accuracy assessment of the NPP estimation.