

PROJECT INFORMATION

Project title: Development of climate indices for Tree Species Distribution

Project ID: 17

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PROJECT DESCRIPTION

Objectives of the project

Indication of thresholds and combination of climate parameters (e.g. mean temperature during vegetation period) based on daily resolved climate model data.

Scientific background of the project:

The distribution of tree species is driven by climatic conditions. Basically temperature and precipitation determine the species favorability. With daily resolved climate model data, a set of climate indices can be developed to describe the optimal climatic conditions for single tree species. Conditions during the vegetation period, site specific droughts or occurrence of late frost can be taken into account.

The project is focussing on beech and spruce but can be enlarged to other tree species too. The ICP Forest database will be used to calculate response curves for each climate index. This set of response curves will then be used to construct multiple linear regressions, to calculate a distribution probability. Additional Data are climate model data from reanalysis, current condition model runs and future scenario models.