



Climate-proofing forest production in Scandinavia

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In several countries in northern Europe forestry is a key sector where adaptation to a future climate is already today a concrete but difficult issue because of the long rotation period of the trees, typically 60 to 120 years. In essence, the young tree seedlings planted today will have to survive under present-day conditions and show optimal growth in a future climate. Skogforsk serves the Scandinavian forestry sector by running a comprehensive web-based operational decision support system (DSS). The tool is extensively used as an operational management tool by the sector, from small-scale forest owners to the largest companies. One component of this tool is the “Planter’s Choice” which provide hands-on decision support as to which seed sources (seed orchards and provenances) to select given different climatic and environmental conditions. The central component of this tool is the transfer functions that from various climatic and environmental factors estimate survival and biomass production of different trees. We are updating these functions to include future climate scenarios. Drawing on recently developed gridded climate datasets, both a surface reanalysis and scenario ensembles for future climates, we compute a set of climate indices tailored to be used as independent variables in the transfer function modelling of Scots Pine (*Pinus sylvestris*, L.). These indices are used as independent variables in the development of new transfer functions, where a large database of field measurements of survival and growth of a wide range of pine trees are used as dependent variables. The reanalysis data is also used to bias-correct the scenario ensemble to enable the DSS to present a smooth transition from present day climate to future scenarios. In this presentation we outline the full processing chain, from analysing the scenario ensemble to presenting the results in the web tool.