



Vulnerability to climate-induced changes in ecosystem services of boreal forests

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Boreal forests provide an array of ecosystem services. They regulate climate, and carbon, water and nutrient fluxes, and provide renewable raw material, food, and recreational possibilities. Rapid climate warming is projected for the boreal zone, and has already been observed in Finland, which sets these services at risk. MONIMET (LIFE12 ENV/FI/000409, 2.9.2013 – 1.9.2017) is a project funded by EU Life programme about Climate Change Indicators and Vulnerability of Boreal Zone Applying Innovative Observation and Modeling Techniques. The coordinating beneficiary of the project is the Finnish Meteorological Institute. Associated beneficiaries are the Natural Resources Institute Finland, the Finnish Environment Institute and the University of Helsinki. In the MONIMET project, we use state-of-the-art models and new monitoring methods to investigate the impacts of a warming climate on the provision of ecosystem services of boreal forests. This poster presents results on carbon storage in soil and assessment of drought indices, as a preparation for assessing the vulnerability of society to climate-induced changes in ecosystem services. The risk of decreasing provision of ecosystem services depends on the sensitivity of the ecosystem as well as its exposure to climate stress. The vulnerability of society, in turn, depends on the risk of decreasing provision of a certain service in combination with society's demand for that service. In the next phase, we will look for solutions to challenges relating to the quantification of the demand for ecosystem services and differences in spatial extent and resolution of the information on future supply and demand.