53th FEFCO

Forest Ecosystem Function Colloquium (FEFCO) は、地域や地球全体のレベルで森林生態系の機能とその持続的活用法を統合的に理解することを目的とし、研究者間の学術交流を推進します。

第53回森林生態系機能コロキウムは、フィンランド、LukeのFinner先生にご講演いただきます。どなたでも参加できますので、多くの皆様のご参加をお待ちしております。京都大学農学研究科森林水文学研究室がホストを務めます。

53th FEFCO

2022/2/27 14:30 - 16:00

Faculty of Agriculture Main Building, S174

Prof. Leena Finér, professor
(Natural Resources Institute, Finland)

Demonstration of nature based solutions for promotion of good lake water quality by forest management in boreal forest landscape

Amount of precipitation and frequency of extreme rainfall events are projected to increase in future. Abundant precipitation and rapid snow melt increase the leaching of suspended solids and nutrients to surface waters from managed boreal forests and have high negative impacts on surface water quality. Nature Based Solutions (NBS) may provide means for tackling societal and environmental challenges related to good water quality through ways inspired and supported by nature. In the presentation I will introduce a new methodology to implement NBS to mitigate the negative impacts of extreme weather events and forest management practices on surface water quality. For the study we have established a forest and water dominated open air laboratory (OAL) in Lake Puruvesi catchment located in Eastern Finland. Lake Puruvesi is one of the seven European OALs of OPERANDUM -project (Open-air laboRAtories for Nature based solutions to Manage hydro-meteorological risks) received funding from the European Union's Horizon 2020 research and innovation programme. At the OALs NBS are co-designed, co-developed and co-deployed with scientists and local stakeholders. At Lake Puruvesi the designing and development of NBS is assisted with science based modeling tools which calculate nutrient and sediment loads under different climate change and forest management scenarios. The NBS consist of a combination of forest management options (e.g. continuous cover forestry) and water protection structures (sedimentation ponds, constructed wetlands etc.). Modeling tools, field monitoring and citizen-science approaches are used for studying the efficacy of NBS for improving the water quality in Lake Puruvesi.

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