Master thesis: Where does the fire stop? A case of South Siberian burned areas

Earth Observation for Ecosystem Management

Start Date: Summer **/** Autumn 2025

Description of Project:
As the climate warms, the frequency and size of wildifres in boreal forests are on the increase. In Siberia where population is scarce and fire service is insufficient, fire often ravages vast areas of forest. The fire eventually stops naturally due to rain, or as it encounters water bodies or areas with a lack of fuel (e.g., rocks). However, our knowledge of this process is scarce and fragmented. In this thesis, you will look at fire dynamics in the Baikal region of Siberia. You will precisely date satellite-based (MODIS FIRMS / Landsat) burned area perimiters and compare them with the interiors of burned areas. This will allow you to identify the role of local environmental conditions in fire termination, and disentangle it from weather patterns. You will use existing remote sensing-based datasets, as well as weather data from neighboring meteorological stations. You may optionally supplement them by producing a remote-sensing based pre-fire classification of major forest types or landcover.

Research Question: What is the role of topography, vegetation, natural barriers and weather in natural termination of wildfires?

Objectives:
- *assessing and quantifying the impact on natural termination of wildfires of pre-fire vegetation, topography and proximity to water bodies, as well as weather patterns;*

You can find additional information about the BOFOR project here:

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Feel free to contact if you have your own ideas for a Siberia-based M.Sc. thesis!

Gradient of fire severity in Southern Siberia