Bachelor thesis: Do protected areas prevent forest disturbance in Siberia?

Earth Observation for Ecosystem Management

Start Date: Late autumn 2025

Description of Project:

Siberian boreal biome is one of the major global forest disturbance hotspots. Climate change increases the frequency of extreme droughts and hence wildfires, while large-scale logging continues to advance into intact forest landscapes driven by an increasing re-orientation of Russian wood exports to China.

Russia has an extensive protected area system aimed at preserving ecosystem and wildlife diversity, yet the effectiveness of conservation measures is often unclear, especially for smaller regional protected areas. In this thesis, you will be able to analyse a novel forest disturbance dataset produced from long-term Landsat satellite data. Combined with a dataset of Russian protected areas, it will provide insights on protected area effectiveness across different regions and management levels. You will be able to assess how disturbances are affected by climate, topography and ease of accessing the protected area.

Research Question: Do rates of forest disturbance in protected areas differ from the adjacent unprotected areas in Siberia?

Objectives:

- *analysis of protected area effectiveness in different (eco-) regions of Siberia;*
- *identifying factors limiting protected area effectiveness in Siberia.*

You can find additional information about the BOFOR project here:
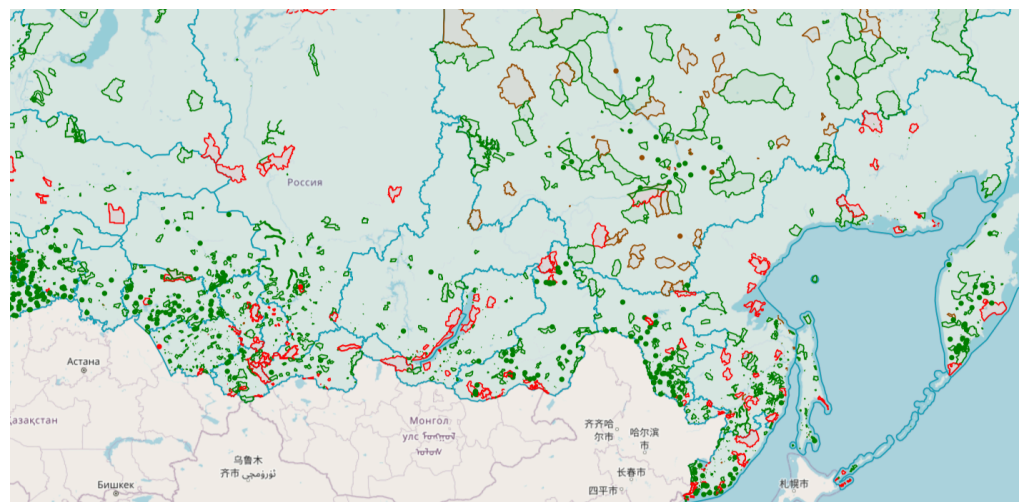
Protected areas in Southern Siberia

Contact:
Oleg Zheleznyy
oleg.zheleznyy@tum.de

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