Master Thesis: Temporal Implications of Climatic Factors on Lightning-Ignited Wildfires in Boreal Forests

Earth Observation for Ecosystem Management

Start Date: Spring/Early Summer 2025

Description of Project:
Are you interested in lightning-ignited wildfires in boreal forests? This master thesis will apply climatic, topographic, lightning-ignited wildfire data and machine learning to dive deeper into the complex interactions between lightning-ignited wildfires and short-term/long-term climate factors. Students will leverage MODIS, ERA 5, BoLtFire, as well as other datasets to conduct this research.

Research Question: How do climatic conditions impact the ignition probability of lightning-ignited wildfires in boreal forests?

Key Outcomes:

- *The creation of a LIW dataset that includes climate data*
- *Analysis of climate patterns and their implications for LIW ignitions*

Additional information about Lightning-Ignited Wildfires or the RECCAP2 project can be found here:

RECCAP2

Contact:
Brittany Engle
Brittany.engle@tum.de

Total Lightning-Ignited Wildfires in Boreal Forests

Number of Lightning-Ignited Wildfires