Geomatics Lab – BSc/MSc Thesis

Geography Department, Humboldt-Universität zu Berlin

Quantification of fire incidence in mainland Southeast Asia

Supervisors

Daniel Müller (IAMO / HUB)

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Thematic Background and Objectives

Fires have massive impacts on human health as well as the integrity of the earth system. One of the global fire hotspots is mainland Southeast Asia (namely, the area within the Indo-China Biodiversity hotspot) where shifting cultivation, grassland clearing, and residue and garbage burning continue to be widespread practices. As a result, the region emits massive amounts of greenhouse gases, black carbon in particular, with global impacts and particularly with adverse consequences on glacier conditions in the Tibetan plateau and the Himalaya. We propose to map the density and evolution of fires in this region using a statistical model (e.g., MaxEnt) fed with biophysical and socioeconomic data. The results are expected to shed light on the distribution and temporal evolution of fires in the region.

Potential research questions:

- How are fires distributed across mainland Southeast Asia?
- How did fire incidence change over time?
- What are the spatial determinants of fire incidence?
- What are the greenhouse gas emissions associated with fires?

Target group

MSc students

Pre-requisites

Advanced knowledge of GIS and interest in the analysis of large spatial data sets

Dates and Duration

tbd

Application Procedure (e.g. Interested students are asked to contact one of the supervisors)

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