

Statistical modeling of river ice

In this project, students will be involved in exploring, building and comparing different statistical models for river ice cover. As first step, traffic camera imagery will be used to identify river ice, and a traffic camera based time series is generated at three locations. With respect to model building, a generalized linear model will be used initially. Models will be built using (a) only in-situ data (temperature, discharge) and (b) a combination of in-situ and satellite data. Comparing (a) with (b), the value added by the remote sensing products will be estimated. The developed ice-cover model can then be applied to a previous year and results can be compared to at-gauge observations.