

Internship summary

Svartberget Field Research Station, Vindeln Experimental Forests

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I completed an internship at Svartberget Field Research Station in Vindeln during the period 27/06/2021 to 20/08/2021. Svartberget is operated by the Swedish University of Agricultural Sciences (SLU) in Umeå as one of multiple research sites included in Vindeln Experimental Forests. Svartberget is a member of Integrated Carbon Observation Systems (ICOS), a European research infrastructure that aims at collecting high-quality data on greenhouse gas fluxes between different ecosystems and the atmosphere. The Svartberget site contains a combined Ecosystem- and Atmospheric station, thereby collecting data on greenhouse gases, meteorological variables and biotic variables.

The aim of the internship at Svartberget was to improve my knowledge in data collection and data analysis within my field of studies, Physical Geography and Ecosystem Science, by undertaking practical fieldwork with different types of instruments. This internship was a good solution to bring practical elements to my education to complement the theory. Furthermore, it gave me an opportunity to become more familiar with ICOS and the work they do.

During the internship I worked together with Dr Paul Smith, station manager and PI for the ICOS atmospheric station at Svartberget. Together, we performed continuous tasks that are associated with the ICOS Atmospheric Station and worked on an ICOS project on using Photosynthetically Active Radiation (PAR) transmission through canopies to estimate Green Area Index (GAI) in forests. The process of installing PAR quantum sensors in the forest included several tasks:

- a) Selecting locations for installation using a hand-held PAR quantum sensor
- b) Recording the mounting positions of the selected locations with a GPS
- c) Programming a data logger to log sensor output
- d) Sensor cross-calibration to detect any differences in accuracy
- e) Installation of the below canopy sensors in the forest

Overall, I found this internship to be valuable in developing my practical skills related to data collection and analysis. It also greatly improved my knowledge and understanding of how climate and environmental data is collected and the problems you may encounter by working in the field. I have also gained experience in programming data loggers and installing instruments in the field. These are skills that I will be able to use in future research in my education and career.