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## Evaluating locally measured weather and weathers services

The purpose of the project is to compare weather data measurements from the Swedish Meteorological and Hydrological Institute (SMHI) with milking data collected from the SLU Infrastructure for dairy data collection, Gigacow. This project is a step towards enabling researchers to integrate farm-level data from herd management systems and genome analysis collected by SLU Gigacow with weather data to conduct long term studies on how weather conditions affect animal health and milk production.

Objectives for the project are to:

- Conduct a literature study on currently available methods to study animal-environment effects caused by weather.
- Create a dataset for weather data at Gigacow farms.
- Compare milk yield of dairy cows with external weather factors.

The expected outcome of the project is a to measure the impact of weather on the milk yield of dairy cattle. Scripts for collecting and analyzing weather data has previously been created as a part of the course (<https://github.com/SGBC/weatherdata>) and will now be combined with an updated weather data set and the SLU Gigacow dataset.

All scripts and visualizations produced in the project will be published as open source code via a Github repository.

**Requirements:** Python is the preferred programming language and to complete the project you must be comfortable working with API:s such as the ones provided by SMIH (<http://opendata.smhi.se/apidocs/>) and SLU Lantmet ([clickable link](#)). An interest in in meteorological data and animal science is beneficial but not required.

During the project you will be working as a part of the SLU Gigacow team working at the Department of Animal Breeding and Genetics at SLU campus Ultuna (see <https://www.slu.se/gigacow> for more information) with Dr Tomas Klingström, Dr Lena-Mari Tamminen and Dr Martin Johnson as your supervisor group. Most work can be conducted remotely but a working space will also be provided as necessary.

### CV pages and contact details of the supervisor group:

<https://www.slu.se/en/ew-cv/tomas-klingstrom/>

<https://www.slu.se/en/ew-cv/lena-mari-tamminen/>

<https://www.slu.se/en/ew-cv/martin-johnsson/>