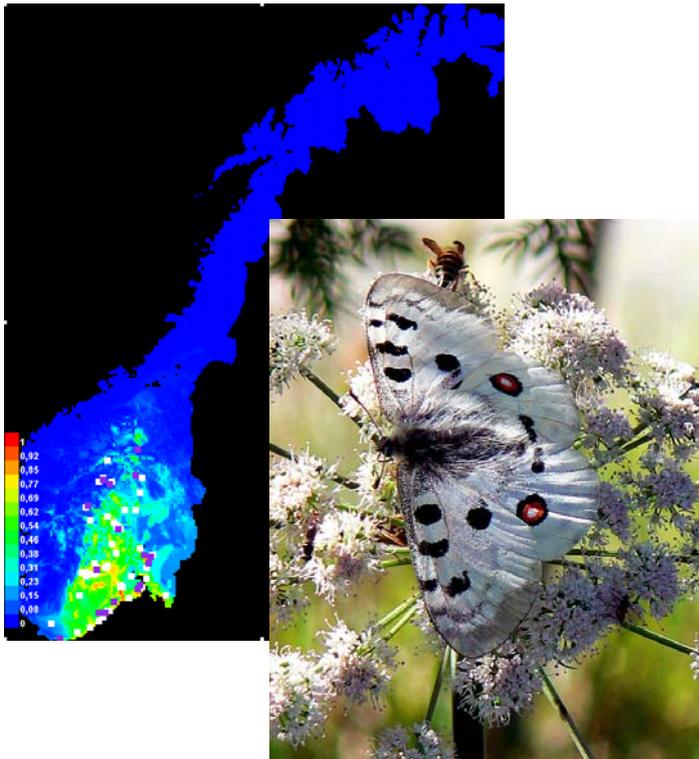




Natural History Museum

Ecological niche modeling as a tool for predicting species distribution and evaluating the status of endangered and threatened species

Brief description of the project. This is a cross-disciplinary project linking ecology, biodiversity informatics, modeling and entomology. The project is funded by the Norwegian Research Council and uses terrestrial insects as a model. We use species occurrence data extracted from museum collections, databases, and obtained in our field work to build models of species ecological niches. The niches are then projected onto terrain to make predictions about species geographical distribution. Predictions can be tested in different ways, for example by validation in the field. This powerful approach is used to detect changes caused by global warming, habitat destruction and fragmentation. While using cutting edge scientific analyses, the project will answer a practical demand in information on conservation status of endangered species. Here is an example of a model produced by PhD student Bente Støa. The model predicts distribution of Apollo Butterfly in Norway.



What you can learn and practice includes the following:

- Use of Geographical Information System (GIS)
- Model ecological niches
- Make and test predictions of species distributions
- Develop species conservation programs
- Use databases
- Sample insects in the field
- Identify insects
- Use research collection

The fields where you can apply your newly acquired experience:

- Biodiversity informatics
- Ecology and biogeography
- Climate change biology
- Conservation and wildlife management
- Evolutionary biology

You will have your own research task within the main project, while working together with a group of other researchers and a PhD student. The results of your work will be publishable in top scientific journals. Up to two students can join the team working in this project.

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