Are you interested in how climate change and contaminants will impact coastal ecosystems?

If so, the following Master's project may be what you have been looking for!

Master's project on

"Climate-mediated changes in coastal water chemistry and ecology: Effects on contaminant fate, uptake and food web transfer"

Climate change is expected to drive strong increases in organic matter (OM) export from the terrestrial environment to many northern aquatic systems, including Norwegian coastal waters. The coastal environment can also be strongly influenced by terrestrial and long-range inputs of environmental contaminants (such as mercury and persistent organic pollutants) that can pose human and ecosystem health risks.

This project focuses on assessing how changes in OM loading to coastal waters will affect contaminant accumulation in coastal food webs. We will use field-based observational approaches in order to assess differences in water chemistry, plankton dynamics and contaminant bioaccumulation along a gradient in the relative influence of terrestrial OM.

We aim to carry out a spatial survey of physical, chemical and biological conditions along two riverine-coastal transects (one in southern Norway, and one in northern Norway). The project as a whole includes two key components: A) characterization of spatial trends in physicochemical conditions and planktonic food web structure, and B) characterization of contaminant transport, fate, uptake and distribution in the lower food web.

The aim of this Master's project is to characterize plankton dynamics along these gradients (focusing on primary and bacterial productivity, plankton community structure, and dietary relationships). However, there is some flexibility in the scope of the Master's project depending on the interests of the student.

The student will participate in fieldwork (sampling and sample processing), preparation of samples for analysis, as well as working with the project team to interpret the results. **In particular, the student will learn techniques related to measurement of bacterial and primary production, flow cytometry, and determination of food web structure using dietary markers (including stable isotopes and fatty acids).**

This work is funded by the Framsenter and NIVA, and includes collaboration between NIVA (project leader: Amanda Poste), UiT, UiO, Akvaplan-NIVA, Norwegian Polar Institute and SALT (salt.nu).

The student will be co-supervised by Amanda Poste (NIVA; email: amanda.poste.niva@gmail.com) and Marit Reigstad (UiT; email: marit.reigstad@uit.no) and Lena Seuthe (UiT; email: lena.seuthe@uit.no). Please do not hesitate to contact us if you have any questions concerning the project!

Amanda Poste

Marit Reigstad

Lena Seuthe