



# HAYLEY DOSSER

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Dr. Hayley Dossler is passionate about bridging the gaps in interdisciplinary research. And her current project – investigating the upwelling along the central coast of British Columbia – connects physical ocean processes to biological impacts. The project uses large observational datasets to characterize spatial and seasonal patterns that can be of use to regional modellers.

Every spring, the winds shift, and deep, dense water from the North Pacific Ocean is drawn onto the continental shelf. This nutrient-rich water helps fuel the huge phytoplankton blooms seen in this region. Dr. Dossler and the joint UBC-Hakai team will use an autonomous ocean glider paired with mooring and hydrographic data to understand where, when, and why this water affects ocean properties in coastal regions. The ocean glider operations will measure both large-scale water properties, spanning 150 km from the shelf break to the coastline in Queen Charlotte Sound, and small-scale turbulent ocean mixing, allowing the team to build the most complete picture to date of upwelling processes in this region. This work will improve understanding of the physical processes affecting the timing and spread of upwelled water through the region, which will contribute to the larger goal of understanding the role that upwelling plays in the health of coastal ecosystems.

This project contributes to a larger Mitacs program investigating juvenile salmon survival. The results will help understand why certain areas provide better feeding conditions for migrating juvenile salmon, and predict how



projected future climate change may impact the coastal waters along the central BC coast through changes in upwelling. This project will also advance autonomous observations of the region. The glider operations will serve as a proof-of-concept test for future repeat glider surveys along the central BC coast.

For Dr. Dossler, this project is a perfect example of partnership – involving researchers from UBC, the Hakai Institute, and the DFO Institute of Ocean Sciences. The results will be shared with conservation managers for Marine Protected Areas, regional modelling groups, and may improve fisheries management.

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