



## **A tale of three fjords: A comparison of marine heatwave impacts on three British Columbia mainland coastal systems**

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### **Résumé de la conférence**

The coastline of British Columbia (25,725 km in length) is lined by numerous fjords that were carved out by glaciers and whose bathymetry (length, maximum depth, sill depth) varies with specific geologic history. Some fjords, such as Bute, Knight, and Rivers Inlets, are still influenced by headwater glaciers whose seasonal runoff strongly influences the physical, chemical and biological properties in these inlets. In recent years, warm anomalies in the Eastern Pacific atmospheric system have led to enhanced glacial melt and a prolonged marine heatwave in subsurface coastal waters. Physical (temperature and salinity) and chemical (oxygen) profile data have been collected in these three fjords since 1951, yet this nearly 7 decade-long time series has never been examined in the context of climate change. In June 2019, all three fjords were concurrently sampled by the Raincoast Foundation's R/V Achiever (Bute and Knight Inlet) and by the Hakai Institute's small boat (Rivers Inlet). Data from these three inlets show the striking impacts of glacial melt and the 2014 to 2016 marine heatwave on the internal structure of temperature, salinity and oxygen within these fjords.

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