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Lewis and Clark Fund in Astrobiology
Awarded May 2019

Biosignature Dynamics in British Columbia's Frozen Hypersaline Lakes: Implications for the Habitability and Bioburden of Ice-Brine Environments

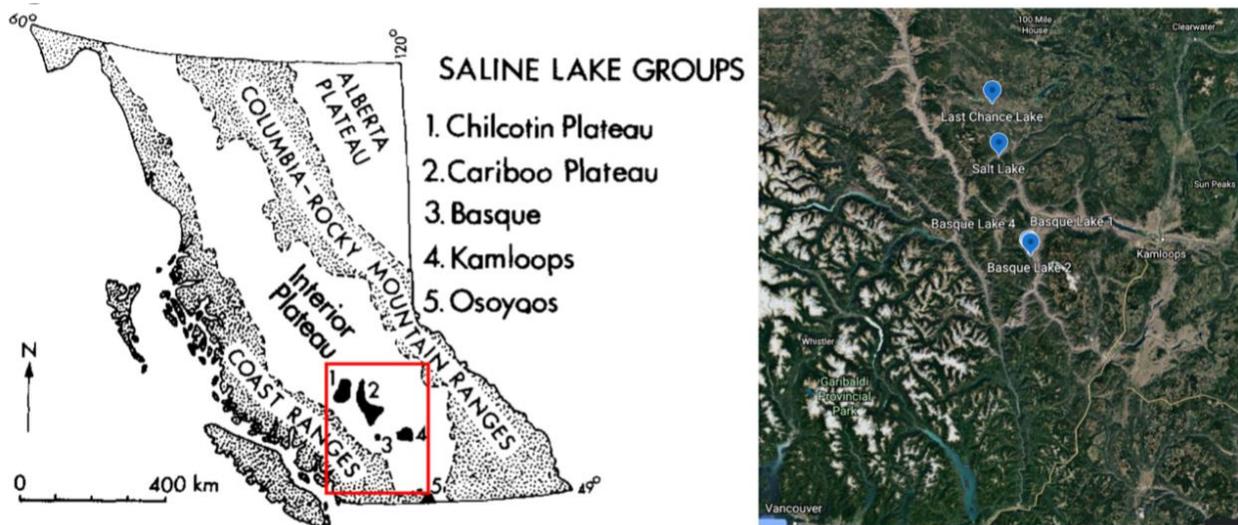


Figure 1 – Hypersaline lake locations. Left) Map of the hypersaline lake groups of central British Columbia (modified from [Renaut and Long, 1989]) Last Chance Lake and Salt Lake are members of the Cariboo Plateau group while Basque Lakes 1, 2 and 5 are members of the Basque group. Right) Enlarged view of the region outlined in red showing the lake locations visited during February 2020.



Figure 2 – Field work at Basque Lake 2. A) Drone image of Basque Lake 2 taken in February 2019 (courtesy of Peter Doran). The segregated brine pools, more evident in (D), can still be seen under the snow cover. B) Ground

photo of a sample site. Emma Brown is beginning to drill the borehole array seen in the next panel. **C)** The typical sampling procedure where ice thickness and temperature are recorded, ice cores are gathered, and brine is extracted from the underlying lake. **D)** The lake without an ice cover, photographed in September 2019.