CL Discussion

Sub-bottom acoustic records, surficial sediment cores, and long-core stratigraphy provide evidence that the Cariboo River is the dominant source of suspended sediment to Cariboo Lake. Although coarser grained sediments from discrete turbidite flows are found proximal to sidewall tributary deltas, silt and clay comprise over 90% of the sediment at V1 and V2 and is inferred to have been delivered via suspension from the main Cariboo River. Therefore, the sediment stratigraphy from cores V1 and V2 provide a high-resolution physical proxy for late Holocene hydroclimatic regimes in the watershed. The Cariboo River has two main tributaries, the Upper Cariboo River and the Matthew River which are connected to high alpine peaks and glaciers which provide a significant source of sediment. Sediment connectivity between these upper tributaries is limited however by several deep fjord like lakes including Lanezi and Sandy Lake along the Upper Cariboo River, and Ghost Lake along the Matthew River which act as sediment traps limiting the transfer of sediment from the production zones and results in the low sedimentation rates observed in cores V1 and V2. Although connectivity is limited, enough suspended sediment to produce annual varves reaches Cariboo Lake.