Late-Glacial Alpine Glacier Advance, and Early Holocene Tephras, northern British Columbia

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Two related studies in northern British Columbia are presented. The first documents moraines in the Finlay River area that record an advance of alpine glaciers. A minimum age of $9230 \pm 50 \, ^{14}C \, yr \, BP$ and the relation of moraines to ice-stagnation deposits suggest the advance is Younger Dryas in age. The advance demonstrates Younger Dryas glacier expansion differs in magnitude in western Canada, suggesting a complex glacier response to late-glacial climate change. The second study describes four early Holocene tephras. Two phonolitic tephras, older than $9180 \pm 80 \, ^{14}C \, yr \, BP$, were found in sediments from Finlay River and Dease Lake areas. Their source may be a large volcano in northwest British Columbia. Two other tephras were recovered from Bob Quinn Lake. A lower basaltic tephra was produced by an eruption near the Iskut River 8400 $^{14}C \, yr \, ago$. The upper phonolitic tephra is 6000-7000 $^{14}C \, yr \, old$. 