CANOE: A Broadband Array in Northwestern Canada

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The Canadian Northwest Experiment (CANOE) is a nearly sixty broadband-instrument array extending from the Slave Craton in the Canadian NWT, across the Canadian Rockies in northern British Columbia and Yukon and south to Edmonton Alberta where the FLED (Florida to Edmonton) PASSCAL array terminated (Figure 1). The array crosses 4 Ga of geologic time and a series of compressive orogens undisrupted by later periods of extension or extensive hotspot volcanism. Coupled with excellent shallow structural control from Lithoprobe active-source transects, CANOE offers an unparalleled window into deep continental lithosphere structural expression and history. The array also offers excellent deep-mantle sampling of the central Pacific and Hawaii. A subset of the array was installed in May, 2003. The remaining two-thirds of the array were deployed in May and June of 2004 and will remain until October, 2005. Array endpoints are anchored by permanent stations of the CNSN that are available through the IRIS DMC; typical station spacing within the array is less than 50 km. Data are recorded continuously at 20 samples per second on a mixture of Guralp 3T, 3ESP and 40T instruments. Instruments for CANOE were provided by PASSCAL/IRIS. The members of CANOE wish to thank the PASSCAL Team for training, extensive field assistance and critical logistical support.