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Letter to the Editor

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Letter to the Editor

Dear Editor,

RE: A Tribute to Richard L. Armstrong

A Geological Society of America Penrose Conference, entitled "Tectonics of the Coast Mountains orogen, British Columbia, Yukon and Alaska", will be held 17-22 May 1992 at Whistler, British Columbia.

The conference is dedicated to Richard Lee Armstrong, who died on 9 August 1991. Dick had planned to attend the conference, and would have been an active participant. His efforts in the fields of isotope geochemistry and geochronology, and his regional syntheses profoundly influence our understanding of Coast Mountains and Cordilleran geology. In 1990, Dick Armstrong was awarded the Logan Medal of the Geological Association of Canada and the citation, listing some of his achievements, was printed in *Geoscience Canada* (v. 17, p. 205).

The Coast Mountains orogen provides an excellent natural laboratory for studies of continental crustal genesis. Pre-Jurassic rocks within and adjacent to the Coast Mountains formed largely in oceanic arc-type terranes that were located outboard of, and perhaps far from, the Cordilleran margin. These rocks became part of the North American continent during mid-Mesozoic to Early Tertiary time by a variety of processes, including: development of a thrust belt over 1800 km in length; burial of supracrustal rocks to lower crustal levels; emplacement of one of the world's largest batholiths; and rapid uplift and erosion. Some workers view this orogenic activity as the result of closure of a suture in the Coast Mountains that separates Alexander and Wrangellia terranes on the west from Stikine and Yukon-Tanana terranes to the east. Others see the orogen as an intra-terrane feature driven mainly by magmatic processes related to subduction of Pacific Ocean crust.

One of the primary objectives of the conference will be to elucidate along- and across-strike variations in the orogen. Such comparisons have been difficult to make in the past because of incomplete mapping, insufficient control on ages of units and structures, and lack of an appropriate forum involving both Canadian and US geologists. The state of knowledge has now advanced to the point, however, that temporal and spatial patterns of magmatism, metamorphism, deformation, sedimentation, and uplift can be reconstructed. With these patterns as a framework, we plan to address more controversial topics, such as: (1) processes of melt-enhanced deformation, tectonic surge, and magmatic loading; (2) petrogenesis of plutons in the batholith; (3) regional tilt *versus* large-scale translation alternatives to explain anomalous paleomagnetic data; (4) relations between plate motions and orogenesis; (5) distribution and significance of continental margin strata in the Coast Mountains; (6) roles of transtension, transpression, and crustal extension in formation and uplift of the orogen; and (7) proposed pre-Cretaceous structural, stratigraphic and plutonic links across the Coast Mountains. Such discussions will shed light on possible genetic links between the formative tectonic processes, and perhaps resolve the role of terrane displacement and accretion in the evolution of the orogen.

We encourage participation from earth scientists with a wide variety of backgrounds and interests. Such diverse techniques and talents have been important in unravelling the history of the Coast Mountains, and will play an ever-increasing role in the future. We also plan to incorporate information from critical regions adjacent to the Coast Mountains, as well as from along-strike areas of southern Alaska and northwestern Washington.

Prospective participants should send a letter of application stating the relevance of their research to the conference to George Gehrels. The deadline for applications is February 1, 1992. The conference fee will be less than $650 and includes registration, food (except dinners) and lodging at the Whistler Resort, and a one-day field trip through the southern Coast Mountains. Limited support is available for qualified graduate students.

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