

Active Faults off BC's Coast

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Earthquakes occur on active faults. Active faults along coastal BC are primarily just offshore our coast and the major ones are transboundary between Canada and the USA. For example, the Devil's Mountain Fault extends east to west from Washington State to just off the Victoria waterfront in the northern Strait of Juan de Fuca. Recently collected data suggest that the present Devil's Mountain Fault and the re-activated Leech River Fault on southwestern Vancouver Island may be the same fault system. Based on the length and previously estimated movement along the fault in Washington State, it appears to have the potential of producing a strong earthquake, perhaps as large as magnitude 7.5 or greater within less than 2 km of downtown Victoria. Off the northern coast of British Columbia the Queen Charlotte Fault extends from southern Haida Gwaii 1,300 km up into the Gulf of Alaska and has and is capable of producing earthquakes of greater than magnitude 8.0 and potential tsunamis of 10's of meters. A Canada/USA project is now mapping this fault with 3D imagery and has discovered active volcanos adjacent to the fault.