

LOCATION OF VOLCANOES IN BRITISH COLUMBIA

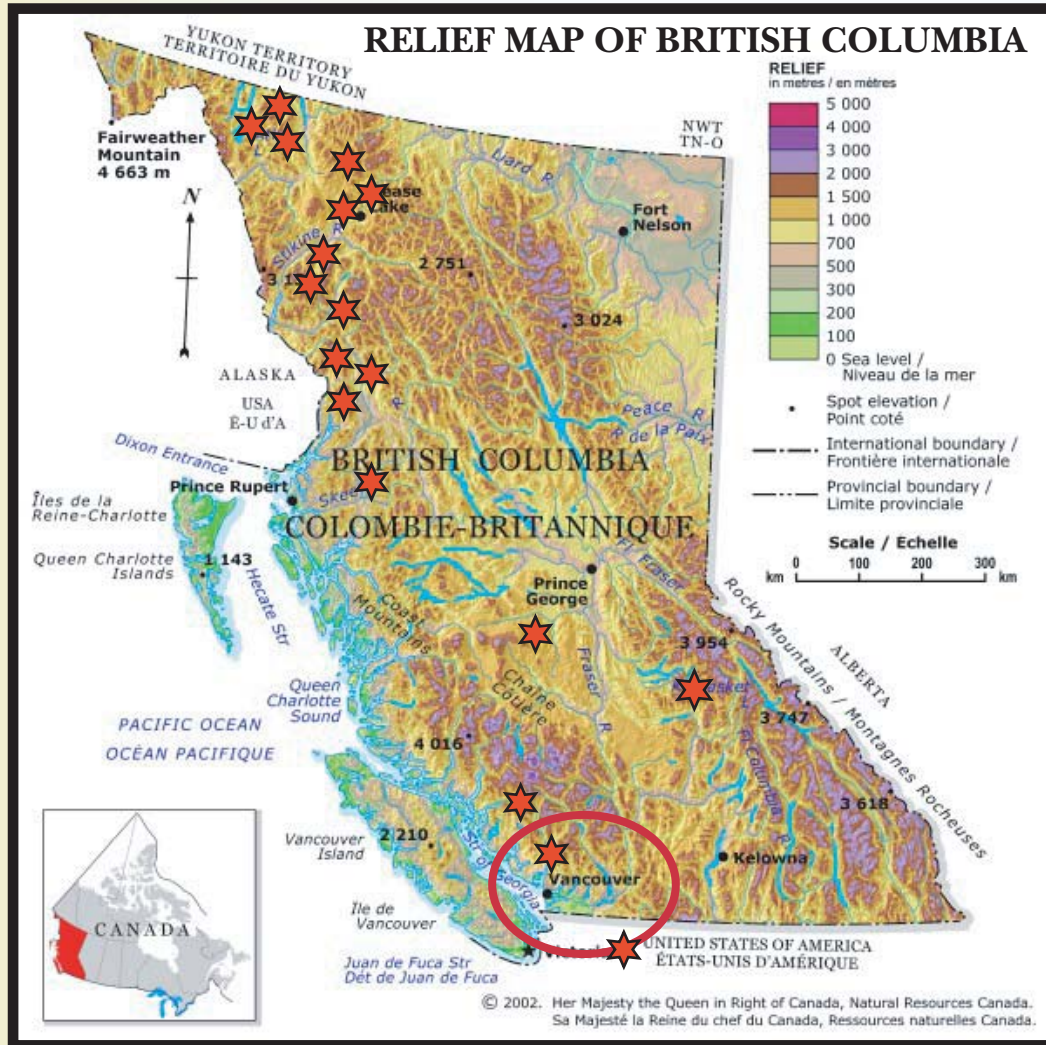
Source of Volcanic Eruption Hazards to the Lower Mainland of British Columbia



Mt. Garibaldi Volcano located in British Columbia

Eruption History: last dated 10,000 years ago

"The volcanic rocks are divided into five groups with diverse types of volcanoes and tectonic settings. In southern British Columbia, the Pemberton and Garibaldi volcanic belts and the Chilcotin Group plateau are related to the subduction of the Juan de Fuca and Explorer plates beneath the North American continent. The Anahim Volcanic Belt trends easterly across central British Columbia and is probably related to a mantle hot spot. The Stikine Volcanic Belt forms a broad zone of volcanoes in northwestern British Columbia and the southern Yukon. These volcanoes are probably related to shear along the Queen Charlotte transform fault to the west. The Wrangell Volcanic Belt is an arc of continental volcanoes associated with the subduction of the Pacific plate beneath the North American plate. Volcanism has also occurred at the Clearwater-Quesnel and McConnell Creek area and at Alert Bay."



- ★ VOLCANOES IN BC**
(from North to South)
- Ruby Mountain
 - Heart Peaks
 - Level Mountain
 - Edziza
 - Spectrum Range
 - Hoodoo Mountain
 - Yseax River Cone
 - Iskut-Unuk River
 - Crow Lagoon
 - Mulbanke Sound
 - Satah Mountain
 - Nazko
 - Wells Gray
 - Siverthron
 - Bridge River
 - Meager
 - Garibaldi
 - Baker (Washington)

LEGEND

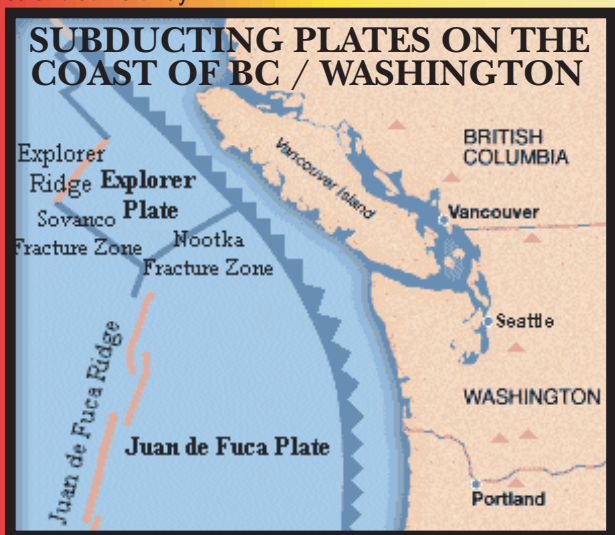
- ★ Volcanoes
- Zone of Hazard
- Study Region



Mt. Garibaldi (Volcano) located in Washington

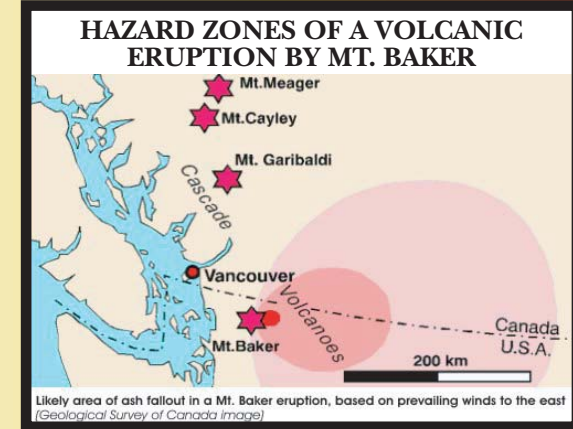
Eruption History: 1792, 1843 -65 , 1870, 1880

"Historical Activity Historical activity at Mount Baker includes several explosions during the mid-19th century, which were witnessed from the Bellingham area, and since the late 1950s, numerous small- volume debris avalanches. In 1975, increased fumarolic activity in the Sherman Crater area caused concern that an eruption might be imminent. Additional monitoring equipment was installed and several geophysical surveys were conducted to try to detect the movement of magma. The level of Baker Lake was lowered and people were restricted from the area due to concerns that an eruption- induced debris avalanche or debris flow might enter Baker Lake and displace enough water to either cause a wave to overtop the Upper Baker Dam or cause complete failure of the dam. However, few anomalies other than the increased heat flow were recorded during the geophysical surveys nor were any other precursory activities observed to indicate that magma was moving up into the volcano. An increased level of fumarolic activity has continued at Mount Baker from 1975 to the present, but there are no other changes that suggest that magma movement is involved." - Gardner, et.al., 1995



Location of Potential Volcanic Eruption Hazards to the Lower Mainland of British Columbia

Because Mt. Garibaldi has been determined as a dormant volcano, the closest volcano that represents a potential for volcanic damage to the Lower Mainland of British Columbia is Mt. Baker in northern Washington. Both Mt. Baker and Mt. Garibaldi are stratovolcanoes that are the result of the dense heavier oceanic Juan de Fuca Plate subducting beneath the lighter, less dense North American Plate that has created the energy to produce these volcanoes along the West Coast of North America. Mt. Baker has been releasing steam, as recently as 2001, from Sherman Crater and is considered to be active. The last dated eruption of Mt. Baker was in 1870 and has been cooling off. "In recent years, scientists have been looking very closely at the geology and past history of activity of Mt. Baker. They are not saying that Mt. Baker will erupt soon, but they are forecasting that it will probably erupt again." Although, Mt. Baker may not erupt in the near future it has been forecast that an eruption will occur at some point in the future. When Mt. Baker erupts it is expected to behave in the same fashion as Mt. St. Helens eruption of 1981. "Where Mt. St. Helens virtually exploded under the pressure of gas buildup, spewing mainly hot rock and ash causing mudflows which blocked rivers and caused flooding far away from the actual volcano peak."



SOURCES OF REFERENCES: WRITTEN component from websites: http://www.pep.bc.ca/hazard_preparedness/volcano/Prepare_for_Volcano.html, <http://vulcan.wr.usgs.gov/Volcanoes/Cascades>
RELIEF MAP of British Columbia from website: http://atlas.gc.ca/site/english/maps/references/provinceterritoriesrelief/bc_relief/referencemap_view_image
PHOTOGRAPH of Garibaldi Volcano from website: http://www.nrcan.gc.ca/gsc/pacific/vancouver/volcanoes/catalogue/gvb_gvo_013_e.php
PHOTOGRAPH of Baker Volcano from website: http://www.nrcan.gc.ca/gsc/pacific/vancouver/volcanoes/catalogue/cas_usa_001_e.php
MAP of Hazard Zones of a Volcanic Eruption by Mt. Baker from website: http://www.pep.bc.ca/hazard_preparedness/volcano/Prepare_for_Volcano.html
MAP of Subducting Plates on the Coast of BC / Washington from website: http://vulcan.wr.usgs.gov/Glossary/PlateTectonics/Maps/map_juan_de_fuca_ridge.html



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