= The Volcano (British Columbia) =

The Volcano , also known as Lava Fork volcano , is a small cinder cone in the Boundary Ranges of the Coast Mountains in northwestern British Columbia , Canada . It is located approximately 60 km (40 mi) northwest of the small community of Stewart near the head of Lava Fork . With a summit elevation of 1 @,@ 656 m (5 @,@ 433 ft) and a topographic prominence of 311 m (1 @,@ 020 ft) , it rises above the surrounding rugged landscape on a remote mountain ridge that represents the northern flank of a glaciated U @-@ shaped valley .

Lava Fork volcano is associated with a small group of related volcanoes called the Iskut @-@ Unuk River Cones . This forms part of the much larger Northern Cordilleran Volcanic Province , which extends from the Alaska ? Yukon border to near the port city of Prince Rupert , British Columbia . Eruptive activity at The Volcano is relatively young compared to most other volcanoes in the Northern Cordilleran Volcanic Province . Geologic studies have shown that The Volcano and its eruptive products were emplaced in the past 400 years ; this is well after the last glacial period , which ended about 10 @,@ 000 years ago .

= = Geology = =

The Volcano is the southernmost of 10 volcanoes comprising the Iskut @-@ Unuk River Cones volcanic field , as well as the most recent to erupt . Its structure is poorly formed and has been reduced by erosion from alpine glacial ice found at its elevation and latitude . It represents one of the few historically active volcanoes in the Northern Cordilleran Volcanic Province , with a base elevation estimated to be 100 m (330 ft) . Like most cinder cones , The Volcano consists of a pile of loose volcanic ash , lapilli @-@ sized tephra and volcanic bombs . These were deposited during periods of lava fountain activity . The vent area contains volcanic bombs up to 0 @.@ 5 m (1 @.@ 6 ft) long and small deposits of sulfur precipitated from volcanic gases .

Like other Iskut @-@ Unuk River Cones , The Volcano has its origins in continental rifting ? a long rupture in the Earth 's crust where the lithosphere is being pulled apart . This incipient rifting has formed as a result of the Pacific Plate sliding northward along the Queen Charlotte Fault , on its way to the Aleutian Trench . As the continental crust stretches , the near surface rocks fracture along steeply dipping cracks parallel to the rift known as faults . Basaltic magma rises along these fractures to create effusive eruptions . The rift zone has existed for at least 14 @.@ 9 million years , and has created the Northern Cordilleran Volcanic Province . Several dormant volcanoes in the province are potentially active , with The Volcano being one of the three having erupted in the last few hundred years . Tseax Cone , which last erupted in the 18th century , is the southernmost volcano in the province , while Prindle Volcano in easternmost @-@ central Alaska , which erupted more than 10 @,@ 000 years ago , is generally considered the northernmost .

= = = Volcanic history = = =

At least two phases of volcanic activity have been identified at The Volcano . Each event was followed by the eruption of lengthy basaltic lava flows that flowed down steep granitic flanks of the mountain ridge on which The Volcano lies . After this took place , they travelled through the Lava Fork valley for 5 km (3 mi) . Here , the flows crossed the British Columbia border into the U.S. state of Alaska and blocked the Blue River , a tributary of the Unuk River , forming several lakes . The lava flows in total are about 22 km (14 mi) long and still contain their original features from when they cooled , including pressure ridges and lava channels . A series of large trees were engulfed by the lava flows during eruption . The bases of the trees burned and the upper trunks and branches collapsed into the solidifing lava , leaving the trees embedded on the surface of the lava flows . After the flows solidified , tree molds and lava tubes collapsed to form volcanic pits . At the southern end of one of the lava flows , it spreads into a broad terminal lobe on the flat alluvial plain of the Unuk River . Volcanic ash and lava from The Volcano still linger on small glaciers near Mount Lewis Cass , a 2 @,@ 094 m (6 @,@ 870 ft) high mountain near the Alaska @-@ British Columbia border .

At least one lava flow from The Volcano was notified by a surveyor named Fremont Morse in 1905 during a survey for the International Boundary Commission . In 1906 , Morse wrote that the most recently erupted lava flow had " probably occurred within less than fifty years " . Since Morse 's report , tree ring and radiocarbon dating techniques have been used to establish the dates of The Volcano 's two volcanic phases . The first is estimated to have occurred about 360 years ago and the latest possibly took place only 150 years ago . This indicates that The Volcano is the youngest known volcanic mountain in Canada and that its volcanic activity is recent compared to many other volcanoes in British Columbia . In several documents , the last eruption of The Volcano is written to have occurred in 1904 . However , according to the Smithsonian Institution 's Global Volcanism Program , this eruption is considered uncertain .

Although The Volcano is estimated to have last erupted 150 years ago , it is one of the five volcanoes in the Northern Cordilleran Volcanic Province that have recorded seismicity since 1985 . Others include Castle Rock (two events) , Hoodoo Mountain (eight events) , Crow Lagoon (four events) and the Mount Edziza volcanic complex (eight events) . Seismic data suggest that these volcanoes still contain active magma chambers , indicating that some Northern Cordilleran volcanoes are probably active , with significant potential hazards . The seismic activity corresponds both with some of Canada 's recently formed volcanoes and with persistent volcanoes that have had major explosive activity throughout their history , such as Hoodoo Mountain and the Mount Edziza volcanic complex .

= = Human history = =

= = = Naming controversy = = =

The name of the peak was suggested by an explorer named Chris Dickinson during the Cambridge Coast Mountains Expedition in 1979 . It was adopted on November 24 , 1980 , and has been its official name since then . However , this name for the peak does not normally show up in any volcanological resources . Instead , it is informally referred to as Lava Fork or Lava Fork volcano due to its close association with the creek of the same name . The reason for this controversy is because The Volcano is generic . In speech it may not be obvious whether The Volcano or the volcano is intended , leading to confusion . Similar named volcanoes in Canada include Volcano Vent in the Tuya volcanic field of northwestern British Columbia and Volcano Mountain in the Fort Selkirk volcanic field of central Yukon . As of 2009 , the unofficial terms for The Volcano continue to be used by Natural Resources Canada .

= = = Protection and monitoring = = =

The Volcano , its eruptive products and a large mineral spring are protected in Lava Forks Provincial Park . Founded in 2001 as a Class A provincial park , this highly remote park covers an area of 7 @,@ 000 ha (17 @,@ 000 acres) . Lying within its boundaries are the Lava Lakes , two lakes dammed by lava flows erupted from The Volcano . Located in asserted traditional territory of the Tahltan First Nation , Lava Forks Provincial Park provides a location to study ecological processes associated with primary succession or the establishment of vegetation after a major disturbance . After 150 years of non @-@ eruptive activity , vegetation has grown on the surface of the lava flows , including mosses and lichens . Western Hemlock , Mountain Hemlock and Alpine tundra biogeoclimatic subzones also occur in the area , which form part of the Boundary Ranges Ecosection .

Like other Iskut @-@ Unuk River Cones , The Volcano is not monitored closely enough by the Geological Survey of Canada to ascertain how active its magma system is . This is partly because it is located in a remote region and no major eruptions have occurred in Canada in the past few hundred years . As a result , volcano monitoring is less important than dealing with other natural processes , including tsunamis , earthquakes and landslides . However , with the existence of

earthquakes , further volcanism is expected and would probably have effects on the surrounding landscape . Because of these concerns , significant support from Canadian university scientists have resulted in the construction of a baseline of knowledge on the state of volcanoes in Canada .

= = Volcanic hazards = =

At least seven eruptions have occurred in the Iskut @-@ Unuk River volcanic field in the past 10 @,@ 000 years . Since around 1600 all eruptions have occurred at The Volcano . Its total eruption volume is estimated to be 2 @.@ 2 km3 (0 @.@ 53 cu mi) . Future eruptions from The Volcano will probably be similar in character to those that have occurred throughout its 360 @-@ year eruptive history . There is a one in 200 chance per year of an eruption occurring in Canada and one in 220 chance per year of an effusive eruption . An eruption in the foreseeable future is probably more likely along the Northern Cordilleran Volcanic Province than in an unrelated volcanic zone outside the province . This is because the Northern Cordilleran Volcanic Province , which includes the Iskut @-@ Unuk River Cones , is the most active volcanic zone in Canada .

= = = Effects = = =

A small range of effects are expected from future eruptions at The Volcano . Its remote uninhabited location makes volcanic hazards less extreme and is therefore not very hazardous . Ash and rock fragments (tephra) ejected during lava fountain activity are unlikely to be high enough to disrupt regional air traffic . However , they could possibly endanger lower flying aircraft along the northern coastal corridor between Vancouver and Alaska . The closest major air route is about 170 km (110 mi) to the east . Volcanic ash reduces visibility and can cause jet engine failure , as well as damage to other aircraft systems .

Lava flows emitted during future volcanic eruptions would likely be basaltic in nature based on the composition of its lavas produced during past volcanic activity . Basaltic lava flows are low in silica content and can have speeds extending from 15 to 50 km / h (10 to 30 mph) . The last eruption at The Volcano 150 years ago had a large impact on fish , plant and animal inhabitants in the valley the lava flows travelled through to cross the Canada ? United States border . Because of these circumstances , future eruptions may again block the flow of local water courses if the volume of the erupted lavas are significant enough . This would again have disastrous consequences for fish habitats and spawning grounds . However , there are neither records of any impacts on people during this eruption , nor evidence that it was even witnessed by people . A repeat of wildfires in the Lava Fork valley is also a possibility due to the existence of vegetation on and around the erupted lavas .