April 24, 2023 Project No.: 1358008

Year	Month	Type of Hazard	Location	Source	Description of Event
		Flood	Squamish	Skwxwú7mesh Úxwumixw	Refer to description provided by Skwxwú7mesh Úxwumixw
				oral history	
1900	June	Watercourse Flood	Squamish, Squamish	Septer (2007)	After heavy rain, the Squamish River flooded it's banks by 1.5 to 1.8 m, washing away some homes and confining
1906	September	Watercourse Flood	River Squamish, Cheakamus	Septer (2007), District of	residents to upper stories of the rest. Damage estimated at \$50,000. Bridge over the Cheakamus River washed away in flooding
	·		River	Squamish (2014)	
1906	September	Watercourse Flood	Squamish, Squamish River	Septer (2007), District of Squamish (2014)	After heavy rain, the bridge over the east mouth of the Squamish River washed away in floodwaters of at least 3 m high.
1906	September	Watercourse Flood	Squamish, Squamish River	Septer (2007), District of Squamish	After heavy rain, hop farms in the Squamish Valley were flooded from the rising Squamish River.
1921	October	Watercourse Flood	Squamish, Mamquam River	District of Squamish (2014)	Flooding covered the Squamish valley floor
1921	October	Watercourse Flood	Squamish, Squamish River	District of Squamish (2014)	Flooding covered the Squamish valley floor
1924	September	Watercourse Flood	Squamish, Mamquam River		Squamish Railway bridge was washed away by the flooding Mamquam river. Traffic was rerouted by stage through Ashcroft. Damage was in the thousands of dollars and expected to be repaired in 2-3 days.
1924	September	Watercourse Flood	Squamish, Squamish River		The government bridge at Squamish was washed away by the Squamish River.
1932	December	Watercourse Flood	Squamish, Howe Sound	District of Squamish (2014)	The ocean topped the sea dike and flooded downtown Squamish
1937	October	Watercourse Flood	Squamish, Mamquam River, Cheekey River	. , ,	A railway bridge was pushed out of alignment and flooded by the Mamquam river, isolating Brackendale between 2 lost bridges.
1940	October	Watercourse Flood	Squamish, Squamish River	Septer (2007), District of Squamish (2014)	Flooding of the Squamish River caused evacuations from Brackendale to downtown Squamish.
1940	October	Watercourse Flood	Squamish, Squamish River	Septer (2007)	Flooding on the Squamish River caused evacuations from Brackendale to downtown Squamish, Dynamite was used to blast the main sea dikes and some small dikes blocking water.
1940	October	Watercourse Flood	Squamish, Mamquam River	Septer (2007)	Flooding of the Mamquam flooded Squamish streets with 1.5 m of water, overturning cars with a strong current.
1940	October	Watercourse Flood	Squamish, Mamquam River	Septer (2007)	Flooding of the Mamquam weakened the PGE railbridge and several other smaller railway bridges were also lost.
1949	November	Watercourse Flood	Squamish, Squamish River		A violent winter storm caused flooding at Squamish. In the vicinity of the PGE railway shops, 10-12 families had to be evacuated. At one stage the water was within 5 cm of the top of the dykes ringing the settlement. In Squamish itself, lower level homes were surrounded by water and basements flooded in the school area. The overflowing log-jammed Squamish and Mamquam rivers wiped out three bridges (two railway bridges and the highway bridge). Some 300 homes were temporarily isolated by 2 m of water, which flooded the valley.
1950	October	Watercourse Flood	Squamish, Mamquam River, Squamish River	(2014), Septer (2007)	Flooding on the Squamish River caused damage to roads and rail bridges. Flash floods hit the shop area of Squamish. Road and railway crews worked all night clearing logs and debris away from bridges. The Mamquam River bridge had a curve as water started to recede and floating logs had torn the decking and railings. The high tide backed up the water from the swollen Squamish River to several outlying areas but did not affect the town itself. As the tide receded, the rivers gradually went down and by the next day were well inside their banks. There were accounts of extensive bank erosion caused by the Squamish River during the flood.
1951	December	Watercourse Flood	Squamish, Howe Sound	(2014), Septer (2007)	On December 1, wind-backed tides breached the sea dike in two places. Water poured into the area on the east side of Cleveland Avenue. Within a short time, water was running over the sidewalks and the main street of Squamish was flooded with 0.6 m of water. Just south of Squamish, Highway 99 washed out.
1953	January	Watercourse Flood	Squamish, Howe Sound	Septer (2007)	High tides backed by a strong south wind drove water over River Road and flooded low-lying areas near Squamish. The road washed out and was badly rutted for 100 m. One residence flooded, and water came within inches of coming into several others. In the lower end of Squamish, the water was almost level with the dyke.
1954	November	Watercourse Flood	Squamish, Mamquam River	Septer (2007)	Heavy warm rain melted snow on the mountains along Howe Sound and brought the river levels up. The Squamish River came over the road in several places and the Mamquam River was running bank full. Crews dynamited logs which jammed against the railway bridge and city crews kept close watch over road bridges.
1954	November	Watercourse Flood	Squamish, Stawamus River, Mamquam River, Shannon Creek		In the middle of November, heavy rains and subsequent flooding caused considerable damage to the road and bridge system in the Squamish Valley. It was the second time in two weeks that the heavy rains brought the rivers in the area to dangerous levels. A culvert north of Shannon Creek washed out, cutting traffic on Highway 99. High water undermined a small bridge south of Shannon Creek. Water flooded across the road above the Mamquam bridge. Logs and debris coming down with the high water damaged the Mamquam River bridge. Squamish lost its municipal water supply for over 24 hours as heavy rains caused the Stawamus River to rise and wash out a bent between the intake and the forebay. Gravel and debris washed in front of the intake at the dam, reducing the amount of water coming through the pipe.

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Year	Month	Type of Hazard	Location		Description of Event
1955	June	Watercourse Flood	Squamish, Cheakamus River, Squamish River, Mamquam River	Septer (2007)	A sudden hot spell caused the Squamish and Cheakamus rivers to rise. The Squamish River crested when it was 0.6 m below the road at Alvie Andrews'. The Cheakamus River threatened BC Hydro's bridge across the Cheakamus. Rock fills were placed around the bents, but further work was required as soon as the river dropped. The southern approach to the Mamquam River collapsed when a logging truck passed over it. The approach was filled, and a breakwater built alongside it. The bridge, which since the previous fall's high water had been anchored by cables, required extensive repairs or
1955	October	Watercourse Flood	Squamish, Mamquam River, Squamish River	(2014), Septer (2007)	After 75 mm or rain the Squamish and Mamquam rivers rose 2.5 m in 24 hours. Many acres of the north end of Squamish were flooded. Flooding on the Mamquam River washed out the Mamquam Bridge for the 10th time in 28 years. After debris piled against it, both ends gave way and hurled against the railroad bridge. After water levels subsided, the bridge was a twisted mass of wreckage with a portion of the bridge draped over a huge logjam in the middle of the river. Railway crews managed to save their bridge by blasting away the logs and debris which lodged against it. Until the completion of a new road bridge, the railway bridge was planked and temporary road built to the highway.
1955	November	Watercourse Flood	Cheakamus River Valley, Evans Creek, Cheakamus River, Mamquam River, Squamish River	Septer (2007)	Heavy rain on snow brought local rivers over their banks. The Highway 99 Bridge across Stoney Creek was in precarious condition and bus transport between Squamish and Britannia Beach was cancelled. The Mamquam and Squamish rivers flooded the valley from the former Joyce ranch to below the shops. About 100 people were evacuated. The Cheakamus River washed out a small portion of the road to Paradise Valley. Evans Creek washed holes in the upper valley road.
1956	June	Watercourse Flood	Squamish, Mamquam River, Cheakamus River	Septer (2007)	The Mamquam, Squamish and Cheakamus rivers rose 0.3 m per hour. Near Squamish, the Squamish and Mamquam rivers threatened three bridges. On June 7, a sudden rise sent logs and debris into a railway bridge and two highway spans about 5 km north of Squamish. The Mamquam River flooded a road about 3 km from Squamish and was washing away the approaches of a vehicular bridge. Logging companies in the area were blasting logs and debris away from all bridges and moving equipment to higher ground.
1956	September	Watercourse Flood	Squamish, Mamquam River	Septer (2007)	Rain caused the Mamquam River to rise 1.8 m at its mouth at Squamish. The floodwater piled up debris against a railway bridge. The river knocked out an 18 m section of the rail line including the bridge.
1957	September	Watercourse Flood	Squamish, Cheakamus River, Squamish River	Septer (2007)	Torrential rains caused flooding in the Squamish Valley. The swollen Squamish River burst its banks, flooding to a depth of 4 m in places and blocking the only road. Dozens of cars and trucks were trapped. The BC Hydro powerhouse under construction at Cheakamus was flooded; it cut off 40 workers for two night.
1958	October	Watercourse Flood	Squamish, Squamish River	District of Squamish (2014)	Flooding on the Squamish River caused four feet of water over the main road in Brackendale.
1963	July	Debris Flow	Squamish River Valley, Dusty Creek, Turbid Creek	(1982); Jakob (1996)	A large landslide occurred on the west flank of Mount Cayley, the failure commenced when a large block of poorly consolidated tuff breccia detached and slid into the valley of Dusty Creek. The block fragmented and moved about 1 km down Dusty Creek. The debris mass thinned as it spread across the broader, flatter valley of Turbid Creek, and was deposited as an irregular blanket with a maximum thickness of 65 m. Because of the landslide Turbid and Dusty creeks were blocked, and lakes formed behind the debris. These debris dams were soon overtopped and rapidly breached, causing floods and probably debris flows to sweep down Turbid Creek valley far beyond the terminus of the landslide.
1967	December	Outburst Flood - Manmade Structure	Squamish, Howe Sound	District of Squamish (2014)	The sea dike was overtopped and flooded downtown Squamish.
1968	September	Watercourse Flood	Squamish, Stoney Creek	Septer (2007)	Rains washed out a temporary road and culvert built around the bridge during construction of Stoney Creek bridge.
1968	October	Watercourse Flood	Squamish, Stoney Creek	Septer (2007)	Stoney Creek spilled its banks, flooding and washing out a section of Highway 99 and railroad track 4 km south of Squamish, closing both for a day.
1968	November	Watercourse Flood	Squamish, Mamquam		Flooding on the Mamquam River damaged a trailer park, highways and the railway.
1975	November	Watercourse Flood	Cheakamus River Valley, Cheakamus River, Daiy Lake, Mamquam River, Cheaakamus River, Squamish River,	Septer (2007)	Continuous rain combined with a sudden rise in the freezing level caused the Cheakamus and Squamish rivers to flood. Dozens of residents were evacuated or commuted by rowboat. Many backroads were impassable, and homes were surrounded by 1 m of water. The Daisy Lake reservoir threatened to overflow its dam, BC Hydro was forced to open the gate, thus increasing river levels above its banks at some points. About 25-30 people left the Cheakamus area when minor flooding hit their homes. The Mamquam River caused bank erosion and the District of Squamish carried out emergency bank stabilization. Where Highway 99 follows the Squamish River it was flooded with 1 m of water. The heavy rain also washed out a temporary bridge at Stoney Creek, 5 km south of Squamish, closing Highway 99.
1975	November	Watercourse Flood	Squamish	Septer (2007)	On November 13, residents of a trailer park near Squamish were evacuated due to flooding caused by a week-long rain storm in the region.

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1980	December	Watercourse Flood	Squamish, Stawamus River	Septer (2007)	Logjams on Squamish, Cheakamus and Mamquam rivers led to damages to 200 homes and closure of Highway 99. A partial jam on Mamquam River suddenly gave way, sending a wall of water down the river. The Squamish River jumped dykes flooding an area where the dyke was never completed as funding ran out. Overflow from Daisy Lake caused the Squamish River to backup. Government Road was under water. The Cheakamus River threatened several cottages between it and Highway 99. In the Squamish Valley, many of the mobile homes in the Spiral Trailer Court were flooded, forcing evacuation of the trailer park and other homes closest to the water's edge. Three helicopters and a hovercraft were used to evacuate more than 500 people in low-lying areas of Squamish and Brackendale. The Mamquam River flooded the Wagon Wheel Trailer Court and road. At the Valleycliffe subdivision, the Stawamus River, diverted some years earlier by city engineers to form a park, reverted to its old course and threatened to sweep away a house. The BC rail line was broken to permit water out. Floodwaters cut roads north of Squamish and three bridges on the road to Cheekeye washed out. After the Cheekeye bridge on the Cheakamus River washed out, the residents of the Upper Squamish Valley were flown out. Dykes prevented flooding in Squamish itself and the new highway but the unprotected area on the north shore of the Mamquam River and from the confluence of the Mamquam and Squamish rivers up to the Lions Easter seal camp suffered heavy flooding.
1981	January	Impoundment	Squamish, Culliton Creek	Septer (2007)	A temporary log bridge on Highway 99 washed out. The structure at Culliton Creek had been installed only weeks prior as a replacement for the permanent bridge that had been washed out during the Boxing Day floods. The washout was caused by heavy rain developing a dam, which broke and released the floodwaters. Since the floods also washed out an old logging road bridge in the area, children going to school in Squamish and residents going to work, walked across a 47 m long railway bridge across Culliton Creek. BC Rail security posted a "No Trespassing" sign on the bridge as trains could not be stopped in time. The railway bridge was the only lifeline for the 25 families that lived in the Upper Cheakamus Valley.
1981	October	Watercourse Flood	Squamish, Squamish River	. , ,	177 mm of rain fell in Squamish in 48 hours. The Squamish River overflowed its left bank from the downstream end of the dyke completed in 1975 to the BC rail crossing at Government Road and then along the BC rail right of way, through the Spiral Mobile Park and then into the area of the confluence of the Mamquam and Squamish rivers. Hop Ranch Creek inundated the Easter Seals Camp area.
1981	November	Watercourse Flood	Squamish, Cheakamus River	Septer (2007)	The Cheakamus River overflowed its banks, breaching dykes and washing out a 300 m stretch of road at Paradise Valley. Eighteen students and three teachers from Brackendale Elementary School were left stranded in the Cheakamus subdivision and an area known locally as Upper Cheakamus.
1984	June	Debris Flow	Squamish River Valley, Avalanche Creek, Turbid Creek	Cruden and Lu (1992); Jakob (1996)	Approximately 3.2 million cubic meters of volcanics travelled 2 km down Avalanche Creek at velocities up to 35 m/s to dam the confluence of Avalanche and Turbid creeks. The breaching of the landslide dam caused an extremely fast debris flow. The debris flow removed the logging road bridge and road approaches to the mouth of Turbid Creek, blocked the Squamish River during surges, and introduced huge quantities of sediment to the Squamish River.
1984	October	Watercourse Flood	Squamish, Cheakamus River, Cheekeye River, Squamish River,	District of Squamish (2014); Ebbwater (2022)	A section of dyke along the Cheekeye River to the Cheakamus River started to give away behind the Black Bear Restaurant by Alice Lake, but temporary repairs were made. A log bridge across the Cheakamus River was destroyed, the flooding it caused damaged homes. In the Eagle Run Drive area, water was starting to collect behind the Petrocan station and in the nearby trailer court. A ditch was dug from the court to the nearby pumphouse, which relieved the problem.
1984	October	Watercourse Flood	Squamish, Squamish River	Hickin and Sichingabula (1988)	Three successive days of heavy rain from October 6 to October 8 caused bankfull or greater flows on Squamish River for three consecutive days during this flood. At least 10 homes near Squamish had to be evacuated due to the heavy flooding. In the braided reach the flood caused floodplain erosion and major reorganization of the channel to an extent previously unrecorded, apparently exceeding a threshold for channel stability.
1986	January	Watercourse Flood	Squamish, Squamish River	Septer (2007)	Heavy rains combined with frost in the ground resulted in minor flooding in a number of areas in the Squamish Valley. Problems were reported in Brackendale, Garibaldi Estates and Valleycliffe. A section of unprotected bank along the Mamquam River started to develop erosion threatening the dyke. By the middle of February, the river had already taken away up to 30 m of sandy bank.
1989	November	Watercourse Flood	Squamish, Cheakamus River, Squamish River	Septer (2007)	As water levels in the Upper Squamish and Cheakamus rivers rose rapidly due to heavy rains, RCMP warned about 75 Squamish residents to prepare to flee their homes.
1990	November	Watercourse Flood	Squamish, Mashiter Creek	Septer (2007)	High water caused the Mashiter Creek rock dam that diverts water to the cement intake structure to break. Adjacent to the new intake structure, a 15 m rock dam was ripped out. The hole in the dam allowed water to divert away from the intake and reopen the original creek bed. When the dam broke, a pulse of water, gravel and logs was sent down the creek. Damage was extensive, and the fisheries intake was estimated at \$15,000. Although a section of the diversion weir washed out and sediment was deposited, there was no apparent damage to the gates, screens or concrete of the diversion structures. It was rumoured that the dam had been designed to fail under such flooding conditions in order to reduce damage to the main intake.
1991	August	Outburst Flood - Manmade Structure	Squamish, Mashiter Creek	Septer (2007)	The Mashiter Creek dam was taken out after a debris jam formed in the Mashiter Creek water intake. On August 30, rocks and debris had filled the dam solid and rendered it inoperable. The original creek bed was riprapped, and the creek was redirected back to its original course.

Year	Month	Type of Hazard	Location	Source	Description of Event
1992	October	Watercourse Flood	Squamish River Valley, Squamish River	Septer (2007)	Resident at the Tantalus Acres subdivision, north of Brackendale near the Squamish River experienced flooding problems. Water was flowing along the Squamish Valley Road and on to the road to the subdivision. The water, 0.2-0.3 m deep, collected in some low-lying areas including front and backyards. Subdivision residents noted that at high water in the Squamish River, water backs up a creek channel that crosses Squamish Valley Road, where it flows down the road to Tantalus.
1993	July	Debris Flow	Squamish River Valley, Turbid Creek	Jakob (1996)	Debris flow observed by Jakob in the field. The debris flow discharged approximately 300,000 m ³ into the Squamish River over a 30-minute time period. The debris arrived in regular surge intervals spaced 25 to 35 seconds apart. Boulders up to 0.5 m diameter and up to 15 m long logs were transported in the flow. The site was visited two days after the event at which time the deposit had not drained, indicating a high clay content.
1995	October	Watercourse Flood	Squamish, Stawamus River	Septer (2007)	Heavy rain caused increased the level of sedimentation in the Squamish municipal drinking water, which turned noticeably discoloured. As well, some pine needles, moss and mucky material came through some resident's taps. The turbidity did not increase enough to require a boil water advisory.
1999	May	Watercourse Flood	Squamish River Valley, Squamish River	Septer (2007)	Rapid snowmelt resulted in high water flows, causing the loss of the existing riverbank along Squamish Valley Road, about 9.1 km from the Cheakamus River bridge. The cost to restore the riverbank and road protection along the full 15 m length was \$44,500. The next event would have the potential to wash out the road at this point and isolate the local first nations reserve.
2003	October	Watercourse Flood	Squamish, Cheakamus River, Squamish River	District of Squamish (2014), Septer (2007); Ebbwater (2022)	Largest flood in 50 years (369 mm in 4 days) caused District evacuations and damaged the BC rail line. Dikes were not overtopped.
2005	January	Watercourse Flood	Squamish, Mashiter Creek	Septer (2007)	After Mashiter Creek rose sharply, a boil water advisory was declared in the Garibaldi Heights area of Squamish. Officials were keeping close watch over the rising Cheakamus River. On January 21, heavy rain caused a rockfall to come down in the Cheakamus Canyon on Highway 99. An estimated 600-800 m ³ of rock ended up in the ditch along the highway.
2006	November	Watercourse Flood	Squamish, Squamish River	Septer (2007)	As the Squamish River was rising rapidly, evacuations were under way in Squamish. The river was expected to continue rising the next day, causing some flooding upriver from Brackendale.
2011	March	Watercourse Flood	Squamish	DriveBC	Flooding on highway 99, 1 km south of Alice Lake Road, closed a lane on the highway.
2012	November	Debris Flow	Squamish River Valley, Turbid Creek	Cordilerran (2013); Cordilleran (2022)	A debris flow on Turbid Creek washed out the Squamish River FSR and stranded two vehicles on the far side of the creek unable to reach Squamish.
2014	June	Watercourse Flood	Squamish River Valley, Turbid Creek	EMBC (June 9, 2014); Cordilleran (2022)	Turbid Creek (known locally as Mud Creek near Squamish overflowed its banks causing the Squamish River FSR to wash out around 21 km. Several hundred people were attending a gathering and were stranded. A contractor opened a path to provide an exit for people to walk out before the road was opened the following day.
2019	September	Debris Flow	Squamish River Valley, Turbid Creek	Cordilleran (2022)	A debris flow damaged the Squamish River FSR. The repairs took approximately three days.
2019	September	Debris Flow	Squamish River Valley, Turbid Creek	n/a	Another debris flow, larger than the earlier September event, once again damaged the Squamish River FSR. The repairs took approximately six days to complete.
2021	November	Watercourse Flood	Pemberton Creek, Fitzsimmons Creek, Rubble Creek, Stawamus River; Cheakamus River; Mamquam River; Squamish River; Millar Creek	Lau et al (2022); Chua (2021); Lalonde (2021)	The mid-November to early December atmospheric rivers caused many rivers to drastically rise in SLRD. Overland flooding was reported on the Cheakamus I.R. 11 along Fergie's Landing Road. The Stawamus River reached the bottom of the CN rail bridge but did not sustain damage.