
William Henry Mathews
1919-2003



Professor Emeritus William Henry Mathews passed away Monday, March 3, 2003. Born in Vancouver in 1919, Bill lost his mother and a brother at the age of 2. His father, Vancouver pioneer Thomas Mathews, died when Bill was 13. Bill attended King George High School and the University of BC (B.A.Sc, 1940, M.A.Sc, 1941 in Geological Engineering).

While studying for the masters degree, Bill was an instructor in the mountain infantry school of the Alpine Club of Canada, training personnel for the Canadian armed forces. From 1942 to 1949, Bill was an Associate Mining Engineer for the B.C. Department of Mines. Bill was a doctoral student at the University of California at Berkeley from 1946 to 1948, obtaining the Ph.D. in 1948 with a dissertation on the geology of the Mt Garibaldi Area. While Assistant Professor at Berkeley (1949-51) Bill travelled to Davis to deliver the first lectures in geology at the UC campus there. Bill joined the Faculty of UBC as an Associate Professor in the Department of Geography and Geology in 1951. He was promoted to Professor in 1959, and was Head of the Department of Geology from 1964 to 1971. Bill retired in 1984.

A classical field geologist of the highest caliber, Bill was a legend among Cordilleran geologists, having made ground-breaking contributions in such diverse fields as Quaternary volcanism, seismology, regional geomorphology, glacial geology, hydrology, regional bedrock mapping, marine geology, limnology, landslides and rock avalanches, Tertiary stratigraphy, coal geology and mineral deposits. He was the first to document ice age volcanism during which lava erupted beneath thick glacier ice covering the Mt Garibaldi area. His studies at the Granduc mine documented very rapid rises of subglacial water pressure that can result in sudden catastrophic glacial outburst floods. Bill developed a method of determining the approximate chemical composition of finegrained igneous rocks by measuring the refractive index of the glass.

A veritable walking encyclopedia of western Canadian geology, Bill could give a helpful answer to almost anything about the topic one needed to ask. A Professional Engineer, Bill made important contributions to the Geological Engineering program at UBC. He was best known to undergraduates for his two-term fourth-year course in geomorphology. Mathews published his first article, titled "*Geology of the Garibaldi Lake area*", in the *Canadian Alpine Journal* in 1938 when he was only 19 years old. He would go on to author more than 100 published scientific papers and reports over the next six decades. A large portion of this body of work is devoted to the numerous fascinating volcanic, glacial, and limnological features of Garibaldi Provincial Park, which he examines, analyzes, and interprets in meticulous detail and with far-reaching insight. While still in graduate school at Berkeley in 1947, he published a paper, *Tuyas, Flat-Topped Volcanoes in Northern British Columbia*, in which he coined the term *tuya* to refer to the distinctive, flat-topped, steep-sided volcanoes formed when lava erupts through a thick glacier or ice sheet. He took the name from Tuya Butte, a near-ideal specimen of the type, and this name has since become standard worldwide among volcanologists in referring to and writing about

these volcanic formations. Late in his career, other scientists named a previously unnamed tuya in the Tuya Volcanic Field in honor of him as Mathews Tuya.

Bill was a Fellow of the Royal Society of Canada (elected in 1957), the Geological Society of America and a member of numerous societies, including the American Geophysical Union, the American Association of Petroleum Geologists, the Geological Association of Canada, the British Glaciological Society, the Arctic Institute of North America, Phi Beta Kappa, Sigma Xi, the Alpine Club of Canada and the Natural History Society of British Columbia. Bill received the Willet G. Miller Award of the Royal Society of Canada, and the C.J. Westermann Memorial Award, the primary award of the Association of Professional Engineers and Geoscientists of British Columbia.