

Dr. Brian Atwater

NWSA Outstanding Scientist for 2019



Brian Atwater is recognized as an outstanding scientist in the Pacific Northwest. He not only has wide recognition in his field, but his influence also extends into other fields of science. Atwater is widely recognized by professionals in the fields of architecture, engineering, and public safety. Beyond that, he is recognized by a broad cross-section of the general public as a scientist of exceptional achievement. He changed the way people in the Pacific Northwest think about and understand the risks of earthquakes and tsunamis. Brian Atwater's greatest contribution could be a legacy of saving lives by promoting greater geological awareness and earthquake vigilance.

Brian Atwater is a scientist emeritus with the U.S. Geological Survey and an affiliate professor at University of Washington, with degrees from Stanford University and University of Delaware. In the early 1980s he mapped granitic rocks and counted ice-age floods in northeast Washington. Since 1985 he has specialized in natural hazards. His findings hastened consensus that the Pacific Northwest is subject to great earthquakes and associated tsunamis. He also helped clarify earthquake and tsunami hazards in Japan, Chile, the northeast Indian Ocean, and the Caribbean. Publications include a book on Japanese evidence for a North American earthquake, and public-safety booklets based on tsunami survivors' accounts from Chile, Indonesia, and Pakistan.

Brian Atwater's field is the Quaternary geology and geologic history of the Pacific Northwest, most notably that of past great earthquakes and tsunamis. Atwater is further noted for his studies of Ice Age floods in the Pacific Northwest, the natural history of San Francisco Bay, and the history of past great earthquake tsunamis of South America, the Caribbean, Japan, and the Indian Ocean. Many of his publications are landmarks of pioneering significance. He has inspired other scientists and also engineers because his work has redefined the nature and frequency of dramatic geologic events and associated natural (ecological) disturbances as well as the implications of such events on pre-settlement peoples and cultures. And he has enthusiastically taken science outreach about earthquake science and past earthquakes to broad audiences via many interviews, books, and field trips for both professional societies and meetings as well as for governments and institutions. Atwater's 1987 publication in *Science*, "Evidence for Great Holocene Earthquakes along the Outer Coast of Washington State", provided the first solid evidence that the Pacific Northwest had a history of colossal subduction zone earthquakes of magnitude 9 or greater. He has followed up on this work with various collaborators to produce supporting research that established a history of similar earthquakes back thousands of years, remarkably, precisely dating the most recent one to a single day, January 26, 1700. In 2000, Brian Atwater and Eileen Hemphill-Haley were awarded the Geological Society of America's prestigious Kirk Bryan Award for their 1997 paper, "Recurrence intervals for great earthquakes of the past 3,500 years at northeastern Willapa Bay, Washington," U.S. Geological Survey Professional Paper 1576, 108.