Memorial to Harold Thornton Stearns 1900–1986

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Harold T. Stearns died on July 28, 1986, seventy years after he began his lifelong study of geology. Born into a poor family in Wallingford, Connecticut, on August 25, 1900, he rose above the limitations imposed by poverty in those early days of the century to gain a scholarship to Wesleyan University. There he studied geology and graduated with honors in 1921. Even while a young college student, he actively engaged in geological investigations as an assistant to John S. Brown, one of the early members of the water resources section of the U.S. Geological Survey. Before graduating, he mapped and described the geology of the portion of Connecticut where he aided Brown in collecting groundwater information. This effort brought him to the attention of O. E. Meinzer of the Survey; subsequently, he became one of Meinzer's proteges.

Following graduation in 1921, at the urging of Meinzer, Stearns became a temporary employee of the Survey. He was dispatched to Idaho as a mineral examiner. It was here that his enthusiasm for geology first combined with his intellectual reach to generate the contributions in geological mapping and description that were to place him among the outstanding interpreters of volcanic terranes. His success as a mineral examiner, accompanied by his zest for conducting geological investigations not included in the "job description," convinced Meinzer to offer him a permanent position with the Survey in the ground water division, then in its early period of formation.

He returned to the Northwest in 1923 as an assistant geologist, but a crucial event in his career came a year later, in May 1924. He was temporarily assigned to Hawaii to assist W. O. Clark in completing a report on the water resources of the Kau district in the southern part of the island of Hawaii. In November he returned to Washington, D.C., the long way, by going around the world. Travel in that era was slow, but for a geologist it afforded wonderful opportunities to observe, even to map, a variety of strange environments. Back in Washington, he perfected the Kau manuscript and simultaneously attended George Washington University, from which he received his Ph.D.

Stearns' next major assignment was again to the Northwest, where he participated in investigations that were to result in one of his many enduring geological interpretations of volcanic terranes. The Snake River Plain report (U.S. Geological Survey Water Supply Paper 774), co-written with L. Crandall and W. G. Stewart, was eventually published in 1938.

In 1929, Stearns set out once more for Hawaii and the Pacific, initially to study the ground-water resources of the island of Oahu, but ultimately to unravel and interpret the geological and hydrological fundamentals of all of the Hawaiian Islands and of numerous other Pacific islands. To those of us who practice our profession in the Pacific region, Stearns' descriptions of the geology of the various islands of Hawaii represent his major accomplishment among many distinguished achievements. The series of bound volumes (Bulletins) dealing with the geology and ground-water resources of the islands remains the definitive exposition of Hawaiian geology. He was first author for each volume except the one on the island of Kauai. Although not listed as an author for that volume, his preliminary investigations were incorporated in the final report. His principal collaborator was Gordon A. Macdonald, who

became an authority on igneous petrology and on the interpretation of volcanic phenomena. It would be inconceivable to proceed with geological, geophysical, and hydrogeological studies in any part of Hawaii without relying on the Bulletins. A similar caveat pertains to islands elsewhere in the Pacific where Stearns worked. For example, he deciphered the geology of Guam in 1937, and of Samoa in 1941, while exploring for new water sources for the U.S. Navy.

During World War II he became an invaluable asset to American forces invading Japanese-held islands. As "Geologist in Charge of Pacific Ocean Investigations," he accompanied the occupying forces in order to identify and establish water supply sources. Among the more hazardous of his responsibilities were assignments in Guadalcanal and Saipan, where he performed his duties while battles raged. Eventually he was awarded the Medal of Merit in recognition of his important role in the war effort.

In 1946, he resigned from the Survey, 25 years after his initial hire and 22 years after his first assignment to Hawaii. He spent just 15 continuous years in the Pacific, but in that short time he created a body of work worthy of a lifetime. His interests ranged far beyond the immediate goals of mapping and description. For instance, he became a pioneer in identifying and interpretating sea level changes in the Pacific, an interest which he retained and vigorously pursued for the remainder of his life.

On leaving Hawaii, he and his wife Claudia, his closest companion in all his endeavors, returned to the Northwest, intending to settle in a quiet area to escape the pressures and tensions they had suffered in the war years. But the vision was soon interrupted; they were too vigorous, too experienced, too knowledgeable to escape the demands of a booming U.S. economy. Stearns became a consulting engineering geologist, specializing in dam-site investigations for hydroelectric projects. For the next decade, he pursued his new career from a homestead in Idaho.

He returned now and then to Hawaii to participate in geological investigations as a consultant. He never retired from active involvement in the work he loved most—geology. He corresponded with numerous colleagues about geological phenomena, particularly sea shore changes, and engaged in field work until the end of his life. Several months ago I accompanied him on a trip to the fossil remains of a sea level on the island of Maui which he had mapped decades ago. I was exhilirated by his enthusiasm to improve on his original interpretations.

Harold Stearns was elected a Fellow of the Geological Society of America in 1927. He saw GSA as the parent of all geological associations in the United States and translated his respect into an endowment. He also made philanthropic gifts to the Hawaii Institute of Geophysics at the University of Hawaii, the Bishop Museum in Hawaii, and Wesleyan University.

He is survived by his wife Claudia, his son Stanley, two grandchildren, and two great grandchildren.

Harold Stearns was one among those outstanding individuals in a generation of geologists whose perceptions evolved from nineteenth century classicism to become the foundation of modern geological thought. We regret his passing but rejoice in his enduring accomplishments.

SELECTED BIBLIOGRAPHY OF H. T. STEARNS

1924 Craters of the Moon National Monument: Geographical Review, v. 14, p. 362–372.

1926 Volcanism in the Mud Lake area, Idaho: American Journal of Science, 5th ser., v. 11, p. 353–363.

1930 (and Clark, W. O.) Geology and water resources of the Kau District, Hawaii: U.S. Geological Survey Water Supply Paper 616, p. 29–191.

____ (and Ronbinson, T. W., Jr., and Taylor, G. H.) Geology and water resources of the Mokelumne area, California: U.S. Geological Survey Paper 619, 402 p.

1931 Geology and water resources of the middle Deshutes River Basin, Oregon: U.S. Geological Survey Water Supply Paper 637-D, p. 125–212.

1935 (and Vaksvik, K. N.) Geology and ground-water resources of the island of Oahu, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 1, 479 p.

____ Shore benches on the island of Oahu, Hawaii: Geological Society of America Bulletin, v. 46, p. 1467–1482.

____ Pleistocene shore lines on the islands of Oahu and Maui, Hawaii: Geological Society of America Bulletin, v. 46, p. 1927–1956.

1936 Origin of the large springs and their alcoves along the Snake River in southern Idaho: Journal of Geology, v. 44, p. 429–450.

1938 (and Crandall, L., and Steward, W. G.) Geology and ground-water resources of the Snake River plain in southeastern Idaho: U.S. Geological Survey Water Supply Paper 774, 268 p.

____ Ancient shore lines on the island of Lanai, Hawaii: Geological Society of America Bulletin, v. 49, p. 615–628.

1939 Geologic map and guide of the island of Oahu, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 2, 75 p.

1940 Supplement to the geology and ground-water resources of the island of Oahu, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 5, 164 p.

____ Geology and ground-water resources of the islands of Lanai and Kahoolawe, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 6, 177 p.

____ Geologic history of Guam [abs.]: Geological Society of America Bulletin, v. 51, p. 1948.

1941 Shore benches on north Pacific Islands: Geological Society of America Bulletin, v. 52, p. 773–780.

1942 (and Macdonald, G. A.) Geology and ground-water resources of the island of Maui, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 7, 344 p.

1944 Geology of the Samoan Islands: Geological Society of America Bulletin, v. 55, p. 1279–1332.

1945 Glaciation of Mauna Kea, Hawaii: Geological Society of America Bulletin, v. 56, p. 267–274.

____ An integration of coral reef hypotheses: American Journal of Science, v. 244, p. 245–262.

____ Eustatic shore lines in the Pacific: Geological Society of America Bulletin, v. 56, p. 1071–1078.

____ Geology of the Wallis Islands: Geological Society of America Bulletin, v. 56, p. 849–860.

____ Late geologic history of the Pacific basin: American Journal of Science, v. 243, p. 614–626.

1946 Geology of the Hawaiian Islands: Territory of Hawaii Division of Hydrography Bulletin 8, 106 p.

____ (and Macdonald, G. A.) Geology and ground-water resources of the island of Hawaii: Territory of Hawaii Division of Hydrography Bulletin 9, 363 p.

1947 (and Macdonald, G. A.) Geology and ground-water resources of the island of Molokai, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 11, 113 p.

____ Geology and ground-water resources of the island of Niihau, Hawaii: Territory of Hawaii Division of Hydrography Bulletin 12, 51 p.

1956 Stratigraphic sequence in the Eagle Rock volcanic area near American Falls, Idaho: Geological Society of America Bulletin, v. 67, p. 19–34.

1966 Geology of the State of Hawaii: Palo Alto, California, Pacific Books, 266 p.

____ (and Anderson, A. L.) Geology of the oxbow on the Snake River near Homestead, Oregon: Idaho Bureau of Mines and Geology Pamphlet 136, 23 p.

1970 (with Lum, D.) Pleistocene stratigraphy and eustatic history based on cores at Waimanalo, Oahu, Hawaii: Geological Society of America Bulletin, v. 81, p. 1–16.

1971 Geologic setting of an Eocene fossil deposit on Eua Island, Tonga: Geological Society of America Bulletin, v. 82, p. 2541–2552.

1974 Submerged shorelines and shelves in the Hawaiian Islands and a revision of some of the eustatic emerged shore lines: Geological Society of America Bulletin, v. 85, p. 795–804.
1978 Comparison of the geology of the Society and Hawaiian islands: B. P. Bishop Museum Occasional Papers, v. 24, p. 276–290.
____ Quaternary shorelines in the Hawaiian Islands: B. P. Bishop Museum Bulletin 237, 57 p.

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