# Native American granite cisterns in the Sierra Nevada

Dr. James G. Moore

Abstract

A belt of circular meter-size granite basins extends for 240 km at mid-elevations on the west flank of the southern Sierra Nevada. More than a thousand of these basins are distributed over 220 sites with a median elevation of 6400 feet. In addition a cluster of 350 similar basins occurs on glaciated bedrock in the northern Sierra. They were clearly made by Native Americans for evaporating saline water from a salt spring for producing salt as a commodity. New data on the age and climatic setting of the southern basins indicate that they too were man-made cisterns but used for storing fresh water. Some of these basins contain AD 1350 volcanic ash indicating they were in use before the end of the Medieval Climate Anomaly (AD 800-1350) characterized by extended drought in the West. The cistern water was apparently used to enable food gatherers to extend their seasonal residence in summer camps during drought periods.

Biography

James G. Moore, now retired from the US Geological survey, received his BS in geology from Stanford; MS from University of Washington; and PhD from Johns Hopkins. He made geologic studies of 10 15-minute quadrangles in the central Sierra Nevada, which led to a book: "Exploring the Highest Sierra", which weaves together the history of exploration and mapping of the range with the development of pioneering geologic concepts. Another book recently published: "King of the 40th Parallel-Discovery in the American West" recounts the adventures of Clarence King who became the first Director of the US Geological Survey.

Jim also served as Scientist-in-Charge of the Hawaiian Volcano Observatory and investigated about 20 world-wide, on-going volcanic eruptions. He has participated in 25 oceanographic cruises and made numerous dives in research submarines to investigate volcanic rocks on the submerged flanks of young volcanoes. Current research is on young volcanic rocks of the Tahoe Basin, and on quench features of Columbia River lava.