

### MAX CLIFTON BREWER (1924–2012)

Max Brewer was born on May 7, 1924, in Blackfalds, Alberta, to American parents. As the oldest of four children, Max moved with the family in the 1930s to Spokane, Washington. Drafted during World War II, he trained at Reed College in Portland, Oregon, as a U.S. Air Force meteorologist. After the war, Max received a degree in geological engineering from Washington University in St. Louis, Missouri. In the summers of 1948 and 1949, he conducted electrical resistivity studies of permafrost in the Fairbanks area for the U.S. Geological Survey (USGS) in Alaska. Max continued these studies at Barrow from 1950 to 1956, at which time he became the youngest (and ultimately the longest serving) director of the U.S. Navy's Arctic Research Laboratory (ARL).

As director, Max extended the scope of Laboratory activities into a diverse spectrum of air, sea, and land support capability. Oceanographic research benefited by the pioneering use of light aircraft in support of sampling on the ice-covered Arctic Ocean, leading to the establishment of the ARLIS series of drifting ice stations. Also during Max's tenure, ARL acquired the *Natchik*, a 12 m ice-strengthened research boat configured for Arctic coastal zone marine studies. Arctic mammal studies were facilitated by an expanded Animal Research Facility, and the Laboratory promoted upper-atmospheric research with a rocket program. Even social sciences were built upon through the Laboratory's close cross-cultural association with the Barrow population, based largely on a local-hire policy of using at least 50% local personnel that Max established. Max's personal permafrost research was applied many times in the engineering of runways and foundations for the Distant Early Warning Line and later the Alyeska Pipeline.

Max had come to the North Slope in the same manner as most other people from lower latitudes, essentially unaware of the Arctic. He would ask questions of the native employees and always said that Ken Toovak, Harry Brower, and Pete Sovalik, in particular, were his teachers. Max listened and learned so well that he became an expert not only in permafrost, but in many things Arctic. This expertise was beneficial to all concerned. Scientists had the native advantage of local capabilities, intuition, and knowledge accumulated over generations, as well as measure of safety. Barrow gained a more vibrant economy and also developed an understanding of scientific investigation that was unique for native communities. When uninitiated staff of a research project arrived in Barrow, they would be invited to meet the director and discuss their work. These sessions allowed the participants to get to know each other and allowed Max his Arctic forum. Coverage ranged widely but consisted basically of a how-to method for accomplishing research. Discussion always included cautionary tales of the dangers of the Arctic, emphasizing safety in an environment that is often a harsh taskmaster. If research involved a site considerably distant from the Laboratory, Max would likely assign an Iñupiat staff member to assist.



Max C. Brewer, Barrow, Alaska (ARL photo).

In 1971, Alaska Governor William Egan appointed Max as the first commissioner of the state's newly formed Department of Environmental Conservation. Max pushed hard in this capacity to protect the environment and yet allow for development, earning recognition from both environmentalists and industry. He always insisted that the Department was about more than simply setting and enforcing rules, that it was more important to guide and help industry in protecting the environment. After his years in Juneau, Max worked first for the Navy and then for the USGS, guiding exploration of the National Petroleum Reserve. He retired from the Survey in 1994 and was granted emeritus status.

Over the years Max received many prestigious awards, including an honorary doctorate from the University of Alaska, Distinguished Service awards from both the U.S. Department of the Navy and the U.S. Department of the Interior, the Linnaean Medal from the Naturhistoriska Museum in Stockholm, and the Sweeney Medal from the Explorers Club in New York. Later in life Max developed a respect for the Chinese culture similar to what he felt for



Max Brewer (left) and John Schindler (right), Barrow, Alaska (ARL photo).

the Iñupiat. He spent many months in China absorbing the ethos of the people there. Max was very proud to be invited to write the lead article in a new scientific journal published in February 2009 (Volume 1, Issue 1) by the Cold and Arid Regions Environmental and Engineering Research Institute of the Chinese Academy of Sciences in Lanzhou. Max valued this privilege as something equivalent to a lifetime achievement award.

Max died at his home in Anchorage on September 21, 2012, at 88 years of age. He is survived by Marylou, his wife of 58 years; son Bill (Tracy) of Blowing Rock, North Carolina; daughters Linda of Houston, Karen of Anchorage, Paula (Ted) Byron of Salem, Virginia; and son John Gregory (Kelly) of Anchorage. He also leaves 11 grandchildren, a great granddaughter, and numerous friends.

I first met Max when I arrived at Barrow in June 1960 and saw him nearly daily over the ensuing 52 years. It was an honor and wonderful part of my life to have such a close friend and colleague.

On October 3, 2012, Max was laid to rest in the Arctic, at Barrow, in the permafrost to which he dedicated his scientific career. In the early 1960s, when Barrow was a relatively remote outpost, a supply of plastic flowers was kept in the science storeroom. When we attended a funeral in Barrow, we would take an arrangement with us to give to the family of the deceased. On one of these occasions, after the casket had been lowered into the ground, a family member threw the floral arrangement down on top of the casket. Max and I looked at each other but said nothing. A few days later when Max asked a native employee about this, he was told, "But the flowers are for the dead." Max was so awed by the simple truth and honesty of this gesture that in the end, when Max's family went to Barrow for his own burial, they brought along 88 roses to the graveside service, one for each year of Max's life. One by one the participants stepped up to the open grave and tossed roses down onto the casket. I am sure that Max was smiling.

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