



*Earl G. Lusk*

## EARL E. GOSSARD

1923–2009

Elected in 1990

*“For fundamental advances in understanding the interactions between radiowaves and the atmosphere and major developments in remote sensing.”*

BY RICHARD G. STRAUCH

EARLE E. GOSSARD, renowned atmospheric scientist, died on January 27, 2009, at his home in Fortuna, California, at the age of 86. He retired in 1999 after a distinguished career, primarily at the National Oceanic and Atmospheric Administration’s Wave Propagation Laboratory (WPL). He was elected to the National Academy of Engineering (NAE) in 1990.

Earl was born on January 8, 1923, in Eureka, California. He had an early appreciation of, and a fascination with, the world around him. He spent time roaming the hills and valleys of his boyhood home on foot or on horseback. He married his life companion, Sophia (Marge) Poignand, on November 21, 1948.

After serving in the U.S. Army Air Force from 1943 to 1946 as a first lieutenant, Earl attended Humboldt State University in Arcata, California. He received his B.A. degree from the University of California at Los Angeles (UCLA) in 1948 and his M.A. degree from the University of California at San Diego in 1951. He earned his Ph.D. in physical oceanography in 1956

from UCLA for research conducted at the Scripps Institution of Oceanography, where he worked with Walter Munk on atmospheric gravity waves. His Ph.D. thesis was titled "Gravity Waves in the Lower Troposphere Over Southern California."

Concurrent with his studies, Earl began his professional career as a meteorologist at the Naval Electronics Laboratory (NEL) in San Diego in 1951. He became head of the Radio Meteorology Section in 1955, and from 1961 to 1971 he was head of the Radio Physics Division at NEL (later the Naval Ocean Systems Center). In 1971 he joined WPL in Boulder, Colorado, as chief of the geoacoustics program. From 1973 to 1982 he was chief of the meteorological radar program at WPL. In 1982 Earl was appointed senior research associate at the Cooperative Institute for Research in Environmental Science at the University of Colorado, Boulder. From 1997 until his retirement in 1999, he was a senior scientist with the Science and Technology Corporation.

Early in his career at NEL Earl published several foundational papers describing the structure of the marine boundary layer and associated propagation and scattering effects relevant to over-water communications. He received the Distinguished Research Award at NEL in 1971. At WPL he published widely in all aspects of atmospheric structure, propagation, and scattering related to ground-based remote sensing of atmospheric variables. He was the senior co-author of two classic atmospheric science texts: *Waves in the Atmosphere* (with W. H. Hooke, 1973) and *Radar Observations of Clear Air and Clouds* (with R. G. Strauch, 1983). As a result, he received the U.S. Department of Commerce (DOC) Distinguished Author Award in 1975 and again in 1985.

He was author or co-author of more than 100 open-literature publications spanning five decades of research (publishing in each of six decades from the 1950s through 2000s). He was an invited author of a chapter, "Radar Research in the Atmospheric Boundary Layer," in the 40th anniversary volume of *Radar Meteorology*, published by the American Meteorological Society (AMS). He served as co-editor of a

special issue of Radio Science on radar investigations of clear air in 1980. He delivered more than 30 invited presentations at national and international symposia. He received a DOC Special Achievement Award in 1974, a DOC Unit Citation as chief of the Meteorological Radar Program in 1975, and the DOC Silver Medal in 1977. He holds a patent (with others) on a modification of the Navy's OMEGA navigation system.

Dr. Gossard was a member of Commissions F and G of the International Radio Scientific Union (URSI) and was a chairman of Commission F for the United States. He served as a member of the URSI National Committee and as a consultant to the Interunion Committee on Radio Meteorology. He was a member of the American Geophysical Union. In 1990 he became a fellow of the AMS and was elected to the NAE.

All who knew Earl in his professional life recognized a true gentleman and a gentle man. He generously gave credit to his co-workers. He began his career when paper, pencil, and intellect were the tools of the scientist, and when technological advances brought new tools he used them in data analysis but never as a substitute for reason. His reputation for using an experimental data set to verify the underlying scientific theory was legendary.

It was apparent to all that Marge, his life companion, was an integral part of his daily life. No group meeting was allowed to last into the noon hour because Marge made the drive from their mountain home to join him for lunch, regardless of the weather. She was always with him when he traveled to meetings and conferences worldwide. More important to him than all his career achievements was that Earl, known to his family as Bud, was a dedicated and loving husband, father, grandfather, and great-grandfather. In 2003 he moved from Boulder to the Humboldt County, California, redwood area of his childhood that he so loved.

Earl is survived by his wife of 60 years, Sophia (Marge) Poignand; children Linda Gossard (of Longmont, Colorado), Ken Gossard (of Mattole, California), and Diane Warn (of Waiheke Island, New Zealand); and five grandchildren and

six great-grandchildren. Grateful acknowledgment is made to granddaughter Heather Brown for sharing her special tribute to her grandfather.

His daughter, Linda Gossard, wrote:

When I remember my father, I think of his insatiable curiosity about everything in life. He taught us children how to love “finding answers” to our questions. I remember when I was about 12 years old being very interested in his family’s genealogy. My father gave me some books to read on the history of Humboldt County and got me in contact with my uncle who knew more about his family’s history than anyone else. The next summer my father “trailed” my horse up with us to the family ranch so I could spend that summer riding on the trails, so full of history, that he had ridden when he was a young boy. It has been one of the most memorable experiences of my life.

Whenever I remember my father, I will always think of the phrase “love of learning” and that great gift he gave us.

