

## In Memoriam: Edgar L. Andreas, 1946–2015

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On a day early last autumn, Ed Andreas went out, as was his wont, for a run from his home in Lebanon, New Hampshire. While on this run, Ed, a contributor to this volume and a collaborator and friend of many of us in the air-sea exchange community, suffered a cardiac event, from which he succumbed on 30 September 2015.

Mention of Ed Andreas will immediately bring to many readers' minds his protracted effort to incrementally improve the existing parameterizations of the sea surface spray flux (e.g., Andreas *et al.* 1995; Andreas 1998; Andreas 2001; Andreas *et al.* 2015) and his recent efforts to combine this modeling with concepts from atmospheric chemistry to assess the potential significance of spray-mediated air-sea gas flux (Andreas *et al.*, this volume). Since 2007 Ed worked on these topics from his home, which served as his outpost of NorthWest Research Associates. But it should be noted that many of his earlier papers dealt with the Arctic marine boundary layer, and sea-air fluxes at high latitudes (e.g., Andreas *et al.* 1979; Makshtas *et al.* 1986), reflecting his almost 30-year long tenure (1978–2006) at the U.S. Army's Cold Regions Research and Engineering Laboratory of the U.S. Army Corps of Engineers, located just down the road from Lebanon, in Hanover, New Hampshire.

Having been born in Sterling, Illinois, Ed went off to nearby Knox College for his B.S. in Physics, and then on to Michigan State University for an M.S. in Physics, before deserting the Midwest for Corvallis, where he earned his Ph.D. in Physical Oceanography at Oregon State University in 1977. While Ed certainly became an active member of our global scientific community, he never lost his Midwestern virtues. He could write well, and received numerous awards for his technical communication, but he was often refreshingly candid in speech. Ed would on occasion provide honest "unvarnished" critiques of his and his collaborators' efforts, but he did not hesitate to praise others' efforts in print. Ed was a principled person, and this was manifest in his professional dealings with others. Working on a manuscript with Ed was always, as it should be, an ultimately enlightening intellectual exercise.

His approach to any task combined both the rigor of the physicist with the practicality of an engineer, and as a result of his efficient nature, he has left our air-sea interaction community with a trove of no less than 140 valuable scientific publications, with others yet to appear.

Ed Andreas was a Fellow of the American Meteorological Society and of the Royal Meteorological Society (UK). He was recipient of the Antarctica Service Medal, and of numerous performance awards from the Cold Regions Research and Engineering Laboratory.

This brief tribute just touches upon Ed Andreas as a scientist. But Ed was a truly multi-faceted individual, as is apparent to any reader of the posthumous biographical sketch that appeared in his local



newspaper (Jurgens 2015), which you may want to access. We would like to acknowledge with gratitude the biographical materials we received from Ed's immediate family, and from his former associates at NorthWest Research Associates, Inc. in Redmond, Washington.

## References

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