

2014 Henry Stommel Research Award & Fellow, American Meteorological Society



James Moum

Professor,
Physics of the Ocean and Atmosphere

James Moum was awarded the 2014 Henry Stommel Research Award by the American Meteorological Society “for fundamental research on quantifying and modeling vertical mixing in the ocean.”

The Henry Stommel Research Award is granted to researchers in recognition of outstanding contributions to the advancement of the understanding of the dynamics and physics of the ocean. The award is in the form of a medallion and was named for

Henry Stommel, one of the foremost oceanographers of the 20th century and who made some of the first estimates of ocean mixing. The award is accompanied by election to Fellow of the American Meteorological Society.

Primarily funded by the National Science Foundation and the Office of Naval Research, Moum and colleagues have worked to gain a better understanding of the physical processes that cannot be resolved by numerical simulations of ocean flows because their scales are too small and proceed too rapidly. Yet these scales are where irreversible thermodynamic transformations occur and must be represented in models.

To improve our understanding of these small scales, Moum and colleagues have contributed new observational techniques, adapted existing instruments to obtain unique views of oceanic fluid dynamics and developed new sensors and instruments. These have been used all over the world’s oceans through shipboard and moored experiments.



*Wecoma in 2001 on a rare day off Nehalem.
Photo taken by Jim Moum.*

“I have had the great experience of spending considerable time at sea, much of it on R/V Wecoma, while trying to illuminate the varied and complex flow fields beneath the ship. This has been fun, rewarding and impossible to do without a dedicated group of talented engineering professionals.”
— James Moum