

Peter Eric Holloway (1953-2002)

On 27 October 2002 Peter Eric Holloway died suddenly, cutting short a highly distinguished career in physical oceanography. Holloway was internationally recognized for his contribution to the observation, theory, and numerical modeling of internal waves. The oceanography community sends its sincerest condolences to his family.

Holloway had been an AGU member (Ocean Sciences) since 1980.

Holloway graduated from Flinders University of South Australia, completing a Ph.D. titled "Vertical Temperature Structure in Shallow Water," under the supervision of Gunther Krause, who became his lifelong friend and colleague. Following his Ph.D., Holloway took a 1-year postdoctoral position with Chris Garrett at Dalhousie University, Canada, before moving to the University of Western Australia, where his work on internal waves flourished. His early work on internal waves was based on current meter observations from the North West Shelf of Australia and provided the wider research community with spectacular data on internal tide generation and propagation. While in Western Australia, Holloway also contributed to our understanding of the Leeuwin Current, a poleward-flowing eastern boundary current transporting warm, low salinity water southward along the coast of Western Australia.

Holloway's work on the North West Shelf benefited and was supported by the offshore petroleum industry; he was often consulted on matters associated with offshore engineering. In 1986, Holloway moved to the University of New South Wales at the Australian Defence Force Academy in Canberra, Australia. He made a significant contribution to the theory of non-linear internal waves, showing how solitons and other non-linear waveforms develop from the shoaling and steepening of the internal tide over steep bathymetry. This interaction between internal waves and bathymetry became a cornerstone of Holloway's work. Applications of his work on non-linear internal waves have been adopted into the established bodies of knowledge in offshore engineering, biological oceanography, and ocean acoustics. His work on non-linear waves has received international recognition and led to fruitful collaborations with prominent scientists in Australia, Russia, the United Kingdom, and Canada.

Holloway's observational and analytical work naturally led to numerical modeling, and he was perhaps the first to demonstrate the generation of internal tides over sloping topography in a two-dimensional numerical model of the North West Shelf. His drive to understand the observations of internal waves led him to use the Princeton Ocean Model to successfully model observed energy fluxes associated with internal tides on the North West Shelf. Holloway was highly respected within the numerical modeling community and contributed the section on boundary conditions in the users' guide. His numerical work continued into studies of sediment transport processes, engaging another substantial element of the marine science community.

Most recently, Holloway had been a principal investigator in the high-profile Hawaiian Ocean Mixing Experiment (HOME). As part of the HOME team, Holloway provided numerical simulations of internal tide generation over the Hawaiian Ridge that agreed remarkably well with estimates derived from satellite altimeter data. This work identified the energy transfer from the barotropic tide as it interacts with steep topography, to internal tides, then into shorter period internal waves and eventually into turbulence contributing to deep ocean

mixing. Holloway's numerical results also showed that the internal tide was generated from a series of "hot spots," the results of which were used in planning the HOME measurement program.

In acknowledging these considerable achievements, it is worth noting that Holloway's career was strongly in the ascendancy. He still had a lot of good science to do and was highly sought for invited presentations at conferences and contributions to books. He was the founding member and primary driving force behind the development of the oceanography program of the University of New South Wales at the Australian Defence Force Academy. Holloway was a fine teacher who was much appreciated by students. He was in his first term as head of the School of Geography and Oceanography, and he was widely respected by students and colleagues across campus for his genuine honesty, openness, and wonderful sense of humor. He was always happy to provide tennis lessons for colleagues, and he loved to ski in the mountains. Marilyn and his three children, Joe, Ben and Jennifer; grandson Marlon; his parents; and four sisters survive him.

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