

Atmospheric Circulation

Newsletter of the University of Washington Atmospheric Sciences Department

Jim Holton's Global Influence

by Professor Clifford Mass

Jim Holton passed away on March 3, 2004. The rest of the world knew Jim as a highly respected researcher, a member of the U.S. National Academy of Sciences, and the author of a leading textbook in dynamic meteorology. But for us, memories of him are deeper and more personal...as a warm friend, a wonderful lecturer and teacher, a department chairman who brought in a new generation of faculty members, a loving father and husband, and an inveterate athlete. His passing stunned the department, with the rapid and unexpectedness of the loss making it all the more difficult.

During his years as a UW faculty member, Jim guided 26 doctoral and seven M.S. students, many of whom have gone on to become leaders in our field. He won virtually every award available to an atmospheric scientist, including the Roger Revelle Medal of the AGU in 2000 and the Rossby Research Medal of the AMS in 2001 - the highest awards for excellence in research given by these two professional societies.

When he joined the faculty in 1966, Jim's early work dealt with the nocturnal jet along the eastern slope of the Rockies and fluid dynamics using rotating tanks of salt water. In 1968, he was author of four important papers on the Quasi-Biennial Oscillation of the tropical stratosphere, including a paper with R.S. Lindzen, which is regarded as the essential explanation of its origin. He continued to work on tropical dynamics and wave

interactions through the early 1970's, with the first edition of his textbook being published in 1972. In the early 1980s, Jim's observational work showed the interaction between the QBO and the global stratospheric circulation and its relation to stratospheric waves. Subsequently, his research turned to the role of gravity waves in the stratosphere, as well as the water vapor puzzle of that region. In 1987 he co-authored a book with David Andrews and Conway Leovy entitled "Middle Atmosphere Dynamics". The themes of atmospheric dynamics, stratosphere-troposphere constituent exchange, and gravity wave - mean flow interaction continued to benefit from his insight and leadership for the remainder of his life. The six volume "Encyclopedia of Atmospheric Sciences", which he co-edited with Judy Curry and John Pyle, appeared in print in 2002, while the fourth edition of "An Introduction to Dynamic Meteorology" was published in 2004.

A memorial celebration of Jim's life was held at the University of Washington on 3 April 2004. Attended by nearly 200 friends, family and colleagues, many described the kindness, generosity and humanity that accompanied his scientific and athletic interactions. The gathering ended with a moving "Walk with Jim" in which his



Professor James Reed Holton, 1938 - 2004

recent hike across central England was documented with slides and music. The department received at least 100 emails and phone calls from people who could not attend the celebration, and another gathering in Jim's honor took place at the University of Reading for his European friends.

Jim will be greatly missed by his wife Margaret; sons Eric and Dennis; daughter-in-law Gretchen; grandchildren Jake, Bailey and Noah; sisters Janet and Shirley; friends and colleagues around the world. He personified the dedication to our profession, excellence in teaching, and collegiality and cooperation that has allowed our department to grow and prosper.

In lieu of other remembrances, the family asks that memorial contributions be sent to the James Holton Building Fund at New Hope Farms, P.O. Box 89, Goldendale, Washington 98620, where Jim had served on the board of directors.