



Nathan Hill, a National Oceanographic and Atmospheric Administration officer, collects data atop the newly dedicated Atmospheric Research Observatory at the South Pole.

Fresh Air Dedication

story and photo by Alexander Colhoun

With a vacuum-sealed glass flask in hand, Nathan Hill heads out into the clean air sector of the South Pole. With each breath his lungs enjoy a taste of the world's cleanest air—air he has come to capture. Even a wisp of his own breath could contaminate the sample. Sucking in lung-full of air, Hill

opens the flask lid and, while holding his breath, walks downwind 30 yards while the flask fills.

A weekly ritual for Hill, this collection of air will join a data set that has been accumulating since 1957. "We collect this data over decades," said Hill, a National Oceanographic

and Atmospheric Administration (NOAA) officer. "Scientists will use it to form theories for centuries to come."

As well, scientists will enjoy use of the new Atmospheric Research Observatory (ARO) at South Pole, dedicated on Monday, January 12th. Joe Bordogna, the Acting Deputy Director of NSF; D. James Baker, the Administrator of NOAA and the Undersecretary for Oceans and Atmosphere at the Department of Commerce; and Dave Hofmann, Director of NOAA's CMDL labs, attended the dedication.

The ARO replaces the old Clean Air Facility and houses not only NOAA's South Pole laboratory but also a LIDAR experiment, a UV-Monitoring experiment, and an aerosols monitoring experiment. Completed last year, ARO has served as the base for these experiments for just under one year.

Located in the northeast sector of South Pole Station, the ARO is perfectly situated to greet prevailing winds that have traveled thousands of miles without direct influence by man. The closest non-Antarctic landfall is Cape Good Hope, South Africa, some 5,000 miles away.

"The wind here is nearly constant, so we tend to flag the anomalies of the data" said Hill. "Our instruments are so sensitive, we can pick up a human walking through the sector," said Hill. Even planes flying in and out of South Pole are routed to avoid flying through or above the clean air sector.

The new clean air facility joins seven other facilities managed by NOAA in faraway sites that include Barrow, Alaska, Pongopongo, American Samoa and the summit of Mauna Loa in Hawaii. *