

## 5. Preliminary results

The data so far processed show mean balloon vertical velocities of near 1 meter per second; some are as high as 6 meters per second. The vertical oscillations extend through an average of 260 meters; a few reached 800 meters in extent. The wavelengths averaged 18.6 kilometers (12 miles); the longest wave was 37 kilometers (23 miles).

One of the most interesting wave situations observed occurred on 1 April 1964 when two balloons were released simultaneously from Deming, New Mexico, just ahead of an approaching cold front which was accompanied by a vigorous trough aloft. Fig. 3 shows the trajectories of these balloons as they were tracked from the western boundary of the missile range, across the San Andres Mountains and the Tularosa Basin, to the eastern range boundary at Holloman Air Force Base. Operational priorities prevented tracking any farther east. The successive positions of the ridges and troughs within the wave are marked on the trajectories.

Fig. 4 shows the vertical motion of the lee wave as these two balloons floated over the White Sands Missile Range. The vertical cross section is shown normal to the wind, which was from 250 degrees; the vertical exaggeration is 4.8 to 1. The length of this wave was about 17 miles; the vertical velocities of the balloons, as shown from the computer output, reached 6 meters per second.

A final report will contain comprehensive data for each balloon flight, including radiosonde temperatures, data from our 500-ft meteorological research tower,

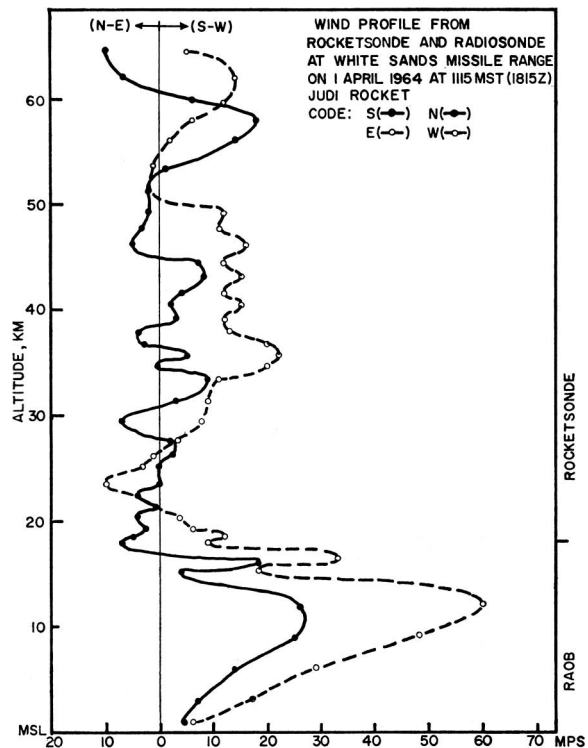


FIG. 5. Rocketsonde winds for 1 April 1964 at White Sands Missile Range.

when available, and in many cases rocketsonde data such as is shown in Fig. 5 for the wave occurrence shown in Figs. 3 and 4.

## necrology

### John Edward Baczuk 1913-1965

Lt. Col. John E. Baczuk, who retired as operations officer of 6th Weather Squadron (Mobile), Tinker AFB, Oklahoma, on 28 February, died of a heart attack at Grand Rapids, Michigan, on 11 July.

After graduating from Joliet Junior College, Illinois, in 1931, Col. Baczuk worked for the U. S. Forest Service, the National Park Service, and the War Department until World War II. He then entered the Army Air Corps and received meteorological training at Chanute Field. As a weather officer he served at many duty stations from Japan to Labrador. He became a professional member of the American Meteorological Society in 1957.

His last address was c/o Mrs. H. J. Bergmans, 4294 Canal Street, S. W., Grandville, Michigan.

### Victor Samuel Palmer 1913-1965

Victor S. Palmer, meteorologist and research mathematician at the U. S. Army Biological Laboratories, Fort Detrick, died at his home in Frederick, Maryland, on 3 July 1965.

His accomplishments at Fort Detrick since 1951 marked him uniquely as an expert in bringing theory in mathematics and meteorology to bear on problems confronting design engineers, aerobiologists, and military specialists. His ability to provide the working tools of application from well-founded theoretical concepts made him a widely sought consultant in research and development, often at Pentagon levels.

Author of a long list of Army publications, he devoted a major portion of his time to the documentation of his findings. Several of his reports have received extremely wide circulation and continue to stand as the chief, if not the only, references in many special areas of knowledge.

Mr. Palmer graduated with honors from Western Maryland College in 1934, took courses in meteorology at the University of Tennessee, and was associated with the U. S. Weather Bureau prior to his assignment at Fort Detrick. He joined the American Meteorological Society in 1949 and became a professional member in 1954.

His last address was 37 East Third Street, Frederick, Maryland.—Walter D. Foster