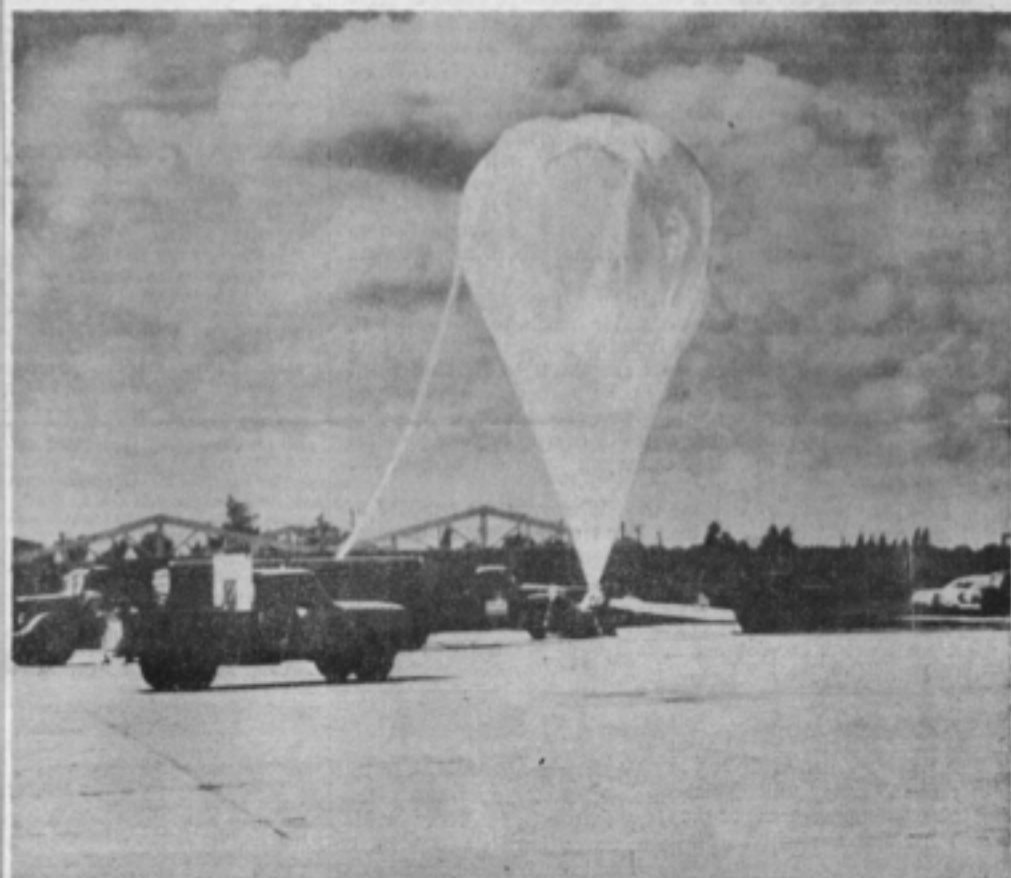


NOTS-Developed

OZONE DEVICE IN RECORD BALLOON HOP - 142,000 FT.



POLYETHYLENE BALLOON is inflated at Sioux Falls, South Dakota, prior to carrying NOTS-developed ozonesonde high into the ozone layer of the earth's atmosphere.



HIGH-FLYING PACKAGE containing NOTS operational ozonesonde (ROCOZ), which reached a record altitude of 142,000 feet, is inspected by project men W. L. Burson and H. P. Patton of NOTS Earth and Planetary Sciences Division.

By FRED RICHARDS

A new altitude record of 142,000 feet was set by a balloon flight of a NOTS-developed instrument recently at Sioux Falls, South Dakota, in a final evaluation test for a project supported by the Office of Naval Research.

Penetration and evaluation of the ozone layer of the earth's atmosphere (the ozonosphere) by the NOTS ozonesonde (ROCOZ) qualifies the instrument for further testing as a rocket-borne unit in a series of flights at Pt. Mugu this fall.

Computer Assesses Data

According to Arlin J. Krueger, NOTS project leader of the ROCOZ program, the instrument functioned successfully throughout the entire balloon flight and parachute descent. The telemetered data, recorded on magnetic tape, is being assessed on the IBM 7090 computer.

Basically, ROCOZ is an optical instrument utilizing the sun as a light source. The vertical distribution of the ozone is measured through the attenuation of solar energy by ozone at selected

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Ascent Into Ozone



ROCKET-BORNE instrument is designed to test the deployment system for the ROCOZ ozonesonde soon to be used in a series of Arcas rocket flights.

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wavelengths in the ultraviolet. The objective of the program is to provide a means for studying the ozone distribution and solar flare fluxes to altitudes of 250,000 feet.

Program Started in 1961

A program for development of a rocket ozonesonde has been in progress at the Naval Ordnance Test Station, China Lake, since April 1961. The project was originated upon the suggestion of Dr. C. E. Palmer of the Institute of Geophysics at the University of California at Los Angeles. Project support for the design of the instrument is by the Office of Naval Research. The basic design is similar to Dr. Paetzold's balloon ozonesonde that consists of a filter photometer using an integrating sphere for light collection.

China Lake personnel accompanying Krueger of the Earth and Planetary Sciences Division, headed by Dr. Pierre St. Amand, Research Department, included William L. Burson, H. Patton Tempel, and Eugene Dibble. Other NOTS personnel contributing directly to the design of the instrument include James P. Lee and Larry N. Pace, Weapons Development Department, and Dr. William R. McBride, Research Department.

Krueger voiced high praise to these and other NOTS personnel responsible for the successful flight of the ROCOZ ozonesonde. He also emphasized the cooperation and expert service rendered by the Raven Industries personnel and a team from the Air Force engaged in the balloon launching, tracking and instrument retrieval operation.