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Howard Allaway
Headquarters, Washington, D.C.
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Joseph McRoberts
Goddard Space Flight Center, Greenbelt, Md.
(Phone: 301/982-4955)

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SATELLITE GATHERS WEATHER DATA FROM SENSORS ON BALLOONS

Some 150 fixed, floating and airborne instrument platforms -- balloons -- are transmitting information on tropical and polar weather and ocean and ice conditions to NASA's newest and most sophisticated meteorological research satellite, Nimbus-6, circling the Earth in a north-south orbit at an altitude of 1,104 kilometers (660 miles).

In the coming months some 1,000 platforms, girdling Earth, will be deployed to transmit information to investigators in Australia, Brazil, Canada, France, Norway, South Africa and the United States. Data will be returned from such remote places as the South Pole, the Indian Ocean, Africa, Samoa and the Arctic.

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GATHERS WEATHER DATA FROM SENSORS ON
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Information from all platforms is transmitted to the satellite, which records the data on tape recorders and then on command from either Fairbanks, Alaska, or Rosman, N.C., plays back the information to the station below. From there the data are sent to the Goddard Space Flight Center, Greenbelt, Md., then disseminated to investigators.

Dr. Paul R. Julian, National Center for Atmospheric Research (NCAR), Boulder, Colo., is releasing more than 400 balloons from American Samoa, Ghana and Ascension Island to study the atmosphere in the tropic belt. These balloons go to altitudes of some 14 km (8 mi.), drifting around the world while transmitting information to Nimbus-6 passing overhead. The balloon packages were developed by NCAR in cooperation with a University of Wisconsin team led by Dr. Verner Soumi.

About 50 low-level balloons were released by Prof. Pierre Morel, Assistant Director, Laboratoire de Meteorologie Dynamique, Paris, France, from the Seychelles, an island group just north of the Malagasy Republic. Prof. Morel is studying the air-sea interface to determine its effect on monsoons in India. The balloons stayed aloft for only two to three weeks, floating about 750 meters (775 yd.) above the ocean.

Some 30 ice buoys are being placed in various experiments in the Arctic and Antarctic, including a fixed platform 45 m (50 yards) from the South Pole, as part of a major project by a number of U.S. government agencies to better understand ice packs and icebergs as well as weather patterns near the poles. Dr. Norbert Untersteiner, Project AIDJEX (Arctic Ice Dynamics Joint Experiment), Seattle, Wash., is the principal investigator.

In the meantime, Thor Haegh and Torgny Vinje, of the Norsk Polarinstitut, Oslo, Norway, are deploying four drifting buoys to help chart ice drift in the Svalbard Greenland area.

Nimbus-6 was launched June 12 from the Western Test Range near Lompoc, Calif., by a Delta rocket, and the mission was officially declared successful Sept. 12. The Goddard Center manages the project for NASA's Office of Applications, and General Electric, Valley Forge, Pa., is the prime contractor. The Onboard Random Access Measurement System, which is capable of contacting and receiving data from more than 1,000 fixed or moving platforms, was developed by Texas Instruments, Dallas, Tex.

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