

METEOROLOGY

National Weather Center

A NATIONAL CENTER of atmospheric research will be established by the National Science Foundation in Washington, D. C., to conduct and stimulate basic research on weather.

Dr. Alan T. Waterman, director of the Foundation, said the center will collaborate and cooperate with university groups now involved in research and will coordinate several such units for the purpose of conducting large-scale projects in the atmospheric sciences.

The major portion of the research will remain with the universities; and the center may operate from several locations, as yet undetermined. No headquarters have been established to date.

Center research programs will include studies concerned with atmospheric motions, energy exchange processes in the atmosphere, water content of the atmosphere and physical phenomena in the atmosphere.

A year of investigation and exploratory work will probably precede any decision involving the undertaking of long-term research projects.

Dr. Walter Orr Roberts, director of the High Altitude Observatory, Boulder, Colo., has been appointed director of the national center.

The Foundation has a \$500,000 con-

tract with the University Corporation on Atmospheric Research (UCAR), to set up and establish the center. UCAR also will provide management for what is expected to become a large and widely dispersed research effort.

Dr. Waterman said, "The atmospheric sciences have suffered from neglect and lack of trained research personnel. Walter Roberts and the research group he forms will be able to lead the way in overcoming these problems."

The USSR already has established two central institutions for atmospheric research. Additionally, it has provided central installations and equipment for this important scientific field.

Science News Letter, July 9, 1960

TECHNOLOGY

Stretch Paper Promises Throw-Away Clothes

A PAPER that stretches in all directions is being boosted for use as disposable bed-sheets, diapers, draperies, slipcovers, sterile medical gowns, nurses' and barbers' uniforms and similar products.

The all-way-stretch paper developed from research work with a commercially sold

paper that stretches lengthwise. The new paper is now "halfway between pilot production and actual commercial manufacture," reports Gerald E. Amerman, president of Clupak, Inc., the New York firm holding the stretch-paper patent.

Mr. Amerman said experiments indicate that even a practical leather substitute might be developed using a combination of extensible heavyweight paper and resins.

Production of the older paper involves pressing together the fibers in a wet sheet of paper between a rubber blanket and a heated, polished cylinder. The new paper is made by controlling the recoil of the rubber blanket so the paper sheet is compressed in all directions, not just lengthwise.

Science News Letter, July 9, 1960

ROCKETS AND MISSILES

Radar System Can Recover Spaceships

A GROUND-BASED radar system for guiding and landing aircraft by remote control has been developed by the Sperry Phoenix Company, Phoenix, Ariz. The microwave aerospace navigation (MAN) system can command and control direction and speed of the aircraft through an earth-bound controller operating the MAN unit from a specially constructed highway van. MAN will literally "fly" aircraft from the ground.

Sperry engineer-scientists believe MAN may prove ideal for testing of nuclear-powered aircraft capable of cruising aloft for weeks or months. Managing such flights for such periods would be difficult for men confined inside the ships. It would be easy and effortless for the MAN system

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ASTRONAUTICS

New Re-entry Solution: "Ballute" Drag Balloons

A NEW SOLUTION to the re-entry problems of space vehicles—giant, pop-up balloons—has been developed by the Goodyear Aircraft Corporation, Akron, Ohio.

The balloons are designed to stabilize and slow down nose cones and manned capsules as they re-enter the upper atmosphere. By reducing the speed of re-entry, a drag balloon can reduce the amount of heat caused by friction with the atmosphere and save a space vehicle from burning up.

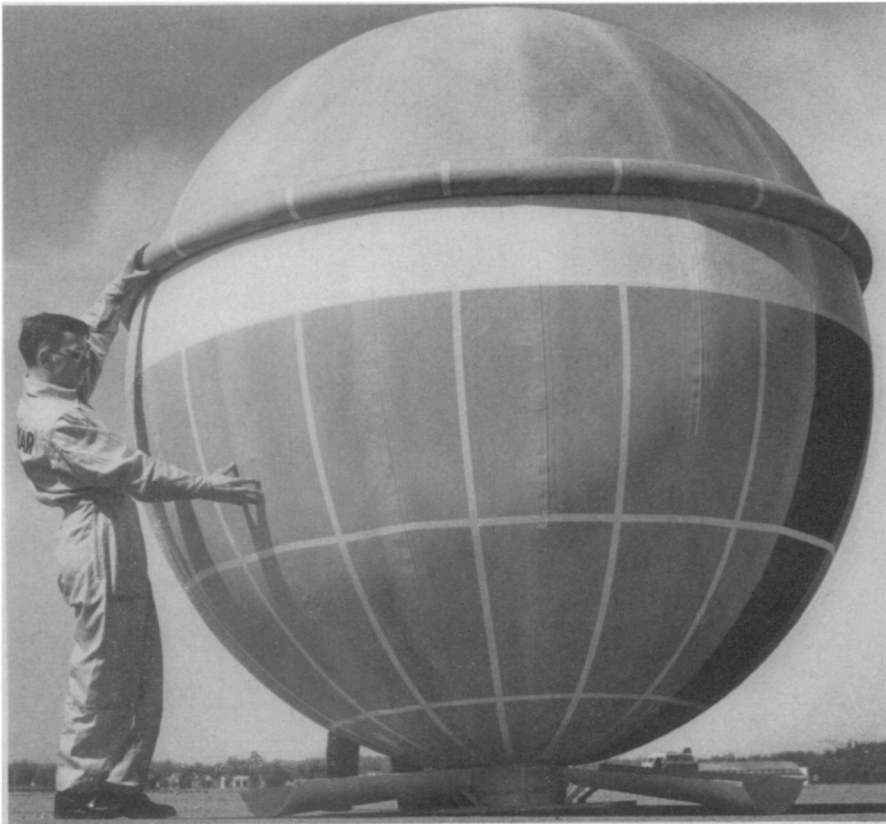
Company engineers call the drag balloons "Ballutes." In the proposed slowing of the vehicle, a parachute ejected at lower altitudes is also used.

A Ballute nine feet in diameter will be evaluated this summer with a Cree test missile. The Ballute inflates in a tenth of a second. It will be deployed behind the Cree missile for stabilization.

Once the missile is stabilized, the balloon will be reeled out to slow re-entry.

The Ballute is made of coated fabric. It has already been tested at two centers of the National Aeronautics and Space Administration, Langley Research Center at Hampton, Va., and Lewis Research Center in Cleveland, Ohio.

Science News Letter, July 9, 1960



POP-UP BALLUTE—Capable of inflating in a tenth of a second, this drag balloon, called a "Ballute," can control high-speed deceleration of re-entry vehicles. James C. Bell, Jr., Goodyear Aircraft Corporation development engineer, inspects the nine-foot-diameter balloon.