

ASTRONAUTICS

Lab Reaches Into Space

► REACHING FROM EARTH to sun, a far-ranging program is getting under way at the newly-established Atmospheric Research Laboratory of the University of California, with the help of a \$600,000 grant from the National Science Foundation.

Scientists from many University departments will combine their special skills to probe some fundamental areas of space age research which have become too complex to be tackled by any one branch of science.

The laboratory, a part of the Institute of Geophysics and Planetary Physics, is headed by Prof. Gordon J. F. MacDonald, who will coordinate the research on both the Los Angeles and La Jolla campuses of the University of California.

Taking part in the laboratory projects will be professors and graduate students of physics, chemistry, geology, mathematics and meteorology, who will investigate atmospheric problems in three major areas:

1. Transfer of matter, momentum and energy within and across the boundaries of the earth's atmosphere.

2. The sun-earth relationships, especially unsolved astrophysical problems of solar emissions, plasma physics and the interaction of solar radiation with the high atmosphere.

3. Atmospheric dynamics, including the motion of planetary atmospheres, construction of mathematical and physical models of

entire atmospheres and the interaction of the earth's upper and lower atmospheres.

One of the laboratory's first major projects will be to investigate the atmosphere's response to the gravitational pull of the sun and moon, by means of spectrum analysis.

As a big part of this project, Dr. MacDonald and other researchers will analyze hourly barometric pressure readings, going back for 100 years, at stations throughout the world.

The checking of this huge mass of readings can only be handled by an electronic computer, and half of the National Science Foundation grant will be spent on computer operations. Most of the remaining money will be used for research and clerical personnel.

Besides its research activities, the laboratory will serve as an important study center for graduate students to meet the pressing shortage of young geophysicists and other scientists trained in the atmospheric sciences.

"These graduates are needed to solve complex research and engineering problems of vehicles operations in space and the upper atmosphere, to cite just one example," says Dr. Clarence E. Palmer, acting director of the Institute of Geophysics and Planetary Physics.

"We must train mathematicians, chemists and physicists who are not only specialists

in their fields but all-round scientists. In effect, we need a new scientific Renaissance Man to meet the challenge of the new age of discovery."

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GENERAL SCIENCE

October Will Spotlight Young U. S. Scientists

► WHEN THE NATION'S calendars are turned to Oct. 1, potential scientists in schools and communities all over the country will be spotlighted with the launching of the fifth annual observance of National Science Youth Month.

Leading national organizations will put special emphasis on programs designed to increase the quality and quantity of youthful ability in science.

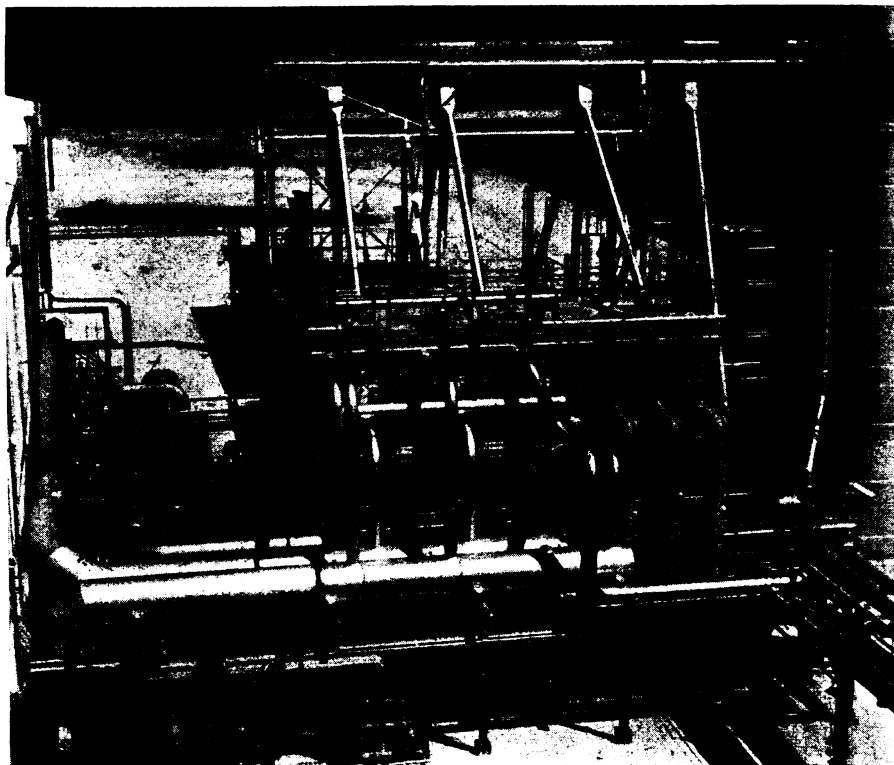
Help and encouragement offered by 34 agencies is being detailed in a brochure of information and suggestions issued by SCIENCE SERVICE, which coordinates National Science Youth Month as part of its science youth program. Local and regional groups wishing to participate in the observance may request the leaflet from SCIENCE SERVICE, Washington, D. C.

Many Science Clubs of America members will be working on projects for science fairs that will be held next spring. Science career seminars, how-to-do-it sessions, school science assemblies, and science programs for P.T.A. and civic club meetings are being scheduled as October highlights.

Interest in encouraging science-mindedness in America's students increases each year. Six additional agencies are cooperating in National Science Youth Month in 1960. These include: The American Heart Association, the American Institute of Biological Sciences, the American Pharmaceutical Association, the National Youth Conference on the Atom, the Optical Society of America and the Society of American Bacteriologists.

National organizations and activities continuing their support are: American Association for the Advancement of Science, American Cancer Society, American Chemical Society, American Dental Association, American Federation of Labor and Congress of Industrial Organizations, American Medical Association, American Veterinary Medical Association, B'nai B'rith Women, Chamber of Commerce of the United States, Department of Defense, Thomas Alva Edison Foundation, Engineering and Science Organizations, Junior Engineering Technical Society, Manufacturing Chemists' Association, Inc., National Academy of Sciences-National Research Council, National Association of Manufacturers, National Aviation Education Council, National Committee for Careers in Medical Technology, National Merit Scholarships, National Science Foundation, National Science Teachers Association, New England Council, Oak Ridge Institute of Nuclear Studies, SCIENCE SERVICE, Scientific Apparatus Makers Association, U. S. Air Force, U. S. Army and the Association of the U. S. Army, and U. S. Navy.

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COLD BOXES—The heart of the Air Force liquid hydrogen plant near West Palm Beach, Florida, is this group of "cold boxes" where liquefaction of the ultra-cold fluid takes place. The plant, built by Air Products, Allentown, Penn., is capable of producing 60,000 pounds of liquid hydrogen a day.