at the Hawaiian site may begin the following year. Since it is expected that thick basalt will be found during the drilling to the mantle, the testing of special drill bits, instruments, and other equipment in hard basaltic-type rock has recently been carried out at a site in Texas.

The NSF budget

In its annual budget request, the National Science Foundation has asked for $530 million for the fiscal year 1966 (which ends June 30, 1966). The proposed budget, which is summarized in Table 1, calls for an increase of almost $110 million over fiscal 1965. The Foundation is one of six agencies which together provide nearly all the federal money spent on basic research and it is the only one whose basic function is the support of science. The other five support research which they consider related to their primary administrative functions, but in the past year or two their expenditures for basic research have been stabilized or even reduced. NSF has stepped in to support some of the research previously sponsored by one or another of these agencies, an example being the grants provided by the Foundation for the construction and maintenance of several major accelerators. Such support used to be the exclusive province of the Atomic Energy Commission.

Meanwhile, the costs of doing research are increasing by about five percent per year, and the number of graduate students in science is increasing by about ten percent per year. To meet this need for providing research opportunities, President Johnson's budget allows for a fifteen percent growth in the support for academic research given by all federal agencies. In the preceding eight years, federal support of "research and development" at universities (almost all of which is basic research) has increased by at least that percentage each year, with the exception of fiscal year 1965, when it was 11 percent. In fact, the amounts spent in fiscal 1959 through 1962 were all increases of at least 26 percent over each preceding year.

The Foundation proposes to spend $92 million for grants to specific basic research projects in the mathematical and physical sciences. The largest amount is for physics ($23 million), followed by chemistry ($20 million), mathematics ($16 million), earth sciences ($10 million), oceanography ($8 million), and astronomy and atmospheric sciences ($7.5 million each). In fiscal 1965 only about $54 million in grants went to the mathematical and physical sciences; in fiscal 1964 it was about $51 million; in fiscal 1963 it was about $48 million. The $23 million for physics would be awarded in 286 individual grants; forty percent of these would be new ones. This reverses the trend established in the lean years just mentioned, when, in fiscal 1965, for example, physics received an estimated $13.5 million, distributed in 188 grants, only eighteen percent of which were new.

Table 1. NSF Budget Summary by Activity.
(In millions of dollars. Estimate, Fiscal Year 1966.)

Basic research and supporting facilities		**$276.9**
Basic research project grants	**$191.0**	
National research programs	**31.6**	
Specialized research faciilties support	**31.5**	
National research centers	**22.8**	
Science education programs		**129.0**
Institutional science programs		**95.0**
Science information services		**12.5**
Studies of national resources for science and technology		**2.3**
Program development and management		**14.3**
	Total obligations	**$530.0**

Support is provided by the Foundation for several continuing national research programs and NSF has requested $31 million for them in fiscal 1966. These programs include: Antarctic research ($8.6 million), Project Mohole for deep crustal studies of the earth ($11 million), the ocean sediment coring program ($5.4 million), and the International Years of the Quiet Sun ($2.5 million).

The Foundation also provides funds for major pieces of equipment and supports specialized research facilities at universities and other research institutions. Of the $31.5 million requested for this item in the budget $13.6 would go for the physical sciences and $7 million of this would be for physics.

For the support of research centers in optical and radio astronomy and the atmospheric sciences, NSF asks $22.8 million. The National Center for Atmospheric Research would receive $10.5 million, Kitt Peak National Observatory would get $6.3 million, the National Radio Astronomy Observatory would get $5.1 million, and the Cerro Tololo Inter-American Observatory would get $0.9 million.

Although NSF's biggest financial interest is in basic research, its interest in science education runs a fairly close second. It plans to spend $47 million for fellowships and traineeships, $46 million for teacher institutes, $16 million for course content improvement, and $20 million for other education programs. In addition, the budget allows $95 million for programs specifically aimed at strengthening the science activities at certain academic institutions. The largest amount ($40 million) would go towards the science development program, which is designed to increase the number of institutions of recognized excellence in scientific research and education. Most of the $40 million would be distributed in large grants to a relatively small number of institutions (from ten to twenty), in order to help them become "centers of scientific excellence". However, the new budget also proposes that a few million dollars be reserved for smaller grants to a larger number of institutions. The

Foundation would provide supporting funds to institutions at various levels of existing competence, and would also consider the particular educational requirements of the region in which the institution is located.

Another sizable amount in the NSF program to strengthen science at selected universities is the $28 million requested for graduate science facilities. This program supports the construction or renovation of facilities devoted to basic research and education at the graduate level. The remainder of the funds for institutional science programs is divided into $19 million for grants which may be used at the discretion of the individual institution, and $8 million for equipment for undergraduate instruction.

Low-level contamination

The newest subcommittee of the National Academy of Sciences-National Research Council Committee on Nuclear Science met on January 30 to hear reports on studies of low-level radioactive contamination. The group is called the Subcommittee on Low Level Contamination of Materials and Reagents. It is concerned with contamination which is too slight to be a significant biological hazard but which can interfere with scientific measurements in such diverse fields as medical diagnosis and biochemical tracer studies, archaeological and geological dating, hydrology and oceanography, fallout and radioactive waste detection and monitoring, meteorite and space probe studies, industrial tracer experiments, and other measurements requiring the use of low-background, high-sensitivity radiation detectors. Its primary aim is to encourage and facilitate the production and dissemination of information on the extent of such contamination and on methods of evaluating as well as of controlling or avoiding it.

The committee invites comments, suggestions, and results of measurements from interested persons. Communications may be addressed to the chairman of the subcommittee, Dr. E. C. Anderson, Los Alamos Scientific Laboratory, Los Alamos, N. M.