2101 CONSTITUTION AVENUE · WASHINGTON, D.C. 20418

COMMITTEE FOR THE
BAL ATMOSPHERIC RESEARCH PROGRAM
ISION OF PHYSICAL SCIENCES

January 10, 1970

MEMORANDUM

TO: Members of the USC-GARP

FROM: Jule G. Charney, Chairman, USC-GARP

Gentlemen:

Upon submission of our Plan for U. S. Participation in the Global Atmospheric Research Program (Blue Book) at the end of May, the ad-hoc GARP Working Group of the Inter-Agency Committee for the World Weather Program was appointed to prepare a proposal for the implementation of the Plan by the U. S. government. A first set of alternatives was drafted by October 23 and there followed a series of meetings of government representatives with the U. S. GARP Executive Committee. In addition, a U. S. GARP Review Subcommittee under Dr. Suomi was formed to review the U. S. government's response and report to the Executive Committee. As a result of these various conferences the final draft of the U. S. government's proposal was prepared in a manner which was acceptable both to the government participants in the GARP planning and the GARP Executive Committee. This draft is now being sent to members of the USC-GARP as well as to government agency representatives preparatory to the meeting of the Federal Committee on Meteorological Services and Supporting Research on January 20th. When approved by the latter committee and by the USC-GARP it will form the basis for the U. S. position at the International GARP Planning Conference to take place in Brussels, March 16-20, 1970.

As you will note there are a number of compromises in the proposal. It has not been deemed possible to carry out all of the field experiments within the time table set forth in the Blue Book. Instead, the experiment to which the Blue Book gave the highest priority, the Tropical Cloud Cluster Experiment, was singled out as most crucial to the success of GARP. Here,

the principal change was the recommendation that the experiment be carried out in the Eastern Pacific or Atlantic in 1973-1974, rather than in the Central and Western Equatorial North Pacific. The reason was money. An experiment in the latter region would have necessitated a dedicated geosynchronous satellite, a ground read-out station, and a great deal more money for logistical support. The Eastern Pacific has as high or a higher frequency of major tropical disturbances and is much more accessible. Moreover, both the Eastern Pacific and the Atlantic will be within the field of view of the presently planned geosynchronous satellites. It was decided unanimously that while the Marshall-Caroline Island Region would have been a better location -- all other things being equal -- the additional scientific benefits would not justify a doubling or trebling of the cost of the experiment. This decision was not taken lightly. During the Boulder-GARP Conference in October 1, I suggested to Bert Bolin, chairman of the JOC, that a Joint JOC/USC-GARP meeting on Tropical Meteorology be held in Miami following the National Hurricane Conference in December. This was done, and the decisions taken by the JOC Study Group on Tropical Disturbances are consonant with the present U. S. proposal.

The Observing Systems Test (now called the Data Acquisition Systems Test) is also given a high priority and is essentially the same as that recommended in the Blue Book. This is also true of the numerical simulation and modelling experiments. While there is acceptance of the need for procurement of computer facilities with far higher speeds, the manner in which this should be done is still under consideration. The primary changes are thus in the funding of some of the other field experiments. CAT studies will go forward anyway under Air Force sponsorship. We ask only that they take cognizance of GARP needs. Finally, it is felt that much of the work on boundary-layer turbulence and convection can be carried out through normal scientific government funding by small groups of research workers.

I believe that the present proposal embodies a sound, economic and realistic plan to which we can all subscribe. If it is carried out, it should considerably advance our ability to observe, understand and simulate weather changes and climate.

Any comments, criticisms, additions, or subtractions that you may wish to make will be gratefully received. We are fallible, and we need very much to know your reactions. Please send them to the Acting Executive Scientist, Dr. Duane S. Cooley (address: see letterhead). They will, of course, have the greatest impact if they are received before the Federal Committee Meeting of January 20th.