

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

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January 16, 1970

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Dr. Duane Cooley  
National Academy of Sciences  
National Research Council  
2101 Constitution Avenue, N.W.  
Washington, D. C. 20418

Dear Dr. Cooley:

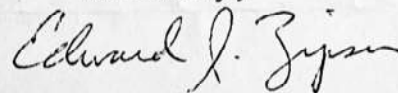
We concur in the recommendation of the Executive Committee that the "Proposed U.S. Participation . . ." is realistic, but not fully that it is sound and economic. The nearly total neglect of the Blue Book recommendations on field observation programs other than the Tropical Experiment would seem to close the door to any significant new governmental funding of them. In particular, we believe that the U.S. Committee should reiterate its support of well-formulated observational efforts in boundary layer, convection and air mass modification study as being probably necessary to accomplish the GARP objectives. The unavailability of substantial government funding for these purposes in the immediate future should be regarded as a serious problem to which further efforts should be directed.

While we are in full agreement that the Tropical Experiment (proposed for 1974 in the Eastern Pacific or Western Atlantic) should be recommended, the following points in the Committee's draft concern us greatly.

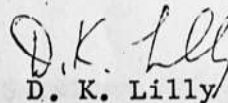
1. To us, the draft carries the implication that this experiment will answer, or be designed to answer, the basic scientific questions about tropical transfer processes that were posed in the introductory pages. In fact, it can do no such thing, and the program only makes sense if viewed as a direct stepping stone to a full-scale tropical experiment. Even though this full-scale experiment is to take place outside the 5-year time frame currently under consideration, it should be clearly stated that the highest scientific priority of all is attached to this program. The 1974 program can be viewed as a necessary step toward that objective by providing a realistic environment for a systems test, including the aircraft windsonde, in sharpening our knowledge of the mesoscale systems within cloud clusters, and in testing what I hope will be a viable data management, processing and analysis system.

2. We can be much more definite about the research aircraft requirements for the 1974 experiment. The convective clouds and mesoscale cloud systems that will be of primary concern in this program will not yield the secrets of their structure to aircraft equipped only with doppler wind-finding systems. It will be necessary to employ at least three aircraft with working inertial platforms for these studies, although additional aircraft with well calibrated doppler systems will be highly desirable supplements.

Sincerely,



E. J. Zipser



D. K. Lilly

cc: J. Charney, MIT ✓  
W. W. Kellogg, NCAR