



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

Letter on form 71183 OCT 10 1979

The Honorable Richard A. Frank
Administrator, National Oceanic
Atmospheric Administration

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Dear Mr. Frank:

Our recently completed review of severe storms research activities within the National Oceanic and Atmospheric Administration (NOAA) disclosed a need for improved communication and coordination which we would like to bring to your attention.

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The problem stems from the fact that one component within NOAA--the National Weather Service--is responsible for issuing public forecasts and warnings of severe storms while another--the Environmental Research Laboratories--is responsible for research necessary to improve the forecast and warning capability of the Weather Service. It seems questionable to us that the two groups are working effectively toward the same objectives in that there is no formal procedure to assure that the Weather Service Research needs are identified and communicated to the laboratories and that the laboratories actively seek to meet those needs.

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Our efforts to evaluate the magnitude of the problem was complicated by the fact that there is no common definition of severe storms and severe storms is not identified as a separate program. As a result, accurate cost information is not available. However, we did note that a NOAA official estimated that fiscal year 1977 costs were within 20 percent of \$4.6 million and information from other more current sources indicate that severe storms research may become increasingly expensive in the future.



Even though the predicting and forecasting of severe storms is becoming increasingly important within NOAA, we are concerned that no effort is being made on a formal basis to periodically identify research projects necessary to support and enhance such activities. NOAA officials--both in headquarters and the region--were able to identify for us, on a one-time basis, the following list of unmet research needs.

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Letter Report*

- single point consolidation of data and analysis capabilities related to field observations of mesoscale and physical processes,
- techniques for filtering data to eliminate systematic biases of operational forecasters,
- smaller-scale models of convection and boundary layer processes,
- verification programs for severe weather watches,
- identification of strong straightline winds using radar and satellites,
- quality control of radar rainfall estimates, and
- improvements in forecasting heavy rainfall.

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We discussed our views with responsible NOAA officials at an exit conference on August 14, 1979, and they agreed that more formal procedures should be established to allow the Weather Service to periodically identify and prioritize the severe storms research necessary to support its operational program and that this information should be used by the Environmental Research Laboratories in developing research plans and formulating specific research projects.

We suggested that this responsibility might best be carried out by the Federal Coordinator for Meteorological Services and Applied Research. The NOAA officials, however, were of the opinion that the appropriate mechanism already exists within NOAA in the line-management structure established 2 years ago with the Assistant Administrators for Oceanic and Atmospheric Services and for Research and Development. They stated that coordination of needs and capabilities can and should be established at this level.

In any event, we believe that significant improvements can be made in achieving common goals and objectives by better blending the perceptions of forecasters and scientists as to what research is needed to better utilize existing resources.

With this in mind, we recommend that formal procedures be established to require that the National Weather Service periodically identify and prioritize severe storms and other research necessary to support its operational program and that such data can be used by the Environmental Research Laboratories in developing research plans and formulating specific research projects.

We also recommend that the Federal coordinator, in cooperation with the appropriate Assistant Administrators, compare weather service needs with research activities in order to evaluate project relevance and provide greater confidence that operational goals are being met in an effective manner.

We would appreciate being advised of any action taken or planned with regard to these recommendations.

In closing, I would like to express our appreciation for the cooperation extended to our staff during the audit.

Sincerely yours,


Wilbur D. Campbell
Associate Director