of international concern, the commission called for the enunciation of a national policy embodying two points: (i) the United States, with due regard for its own basic interests, will pursue its weather modification efforts for peaceful ends and for the constructive improvement of conditions of human life throughout the world; (ii) the U.S. welcomes and solicits the cooperation, directly and through international organizations, of other nations.

Weather modification ultimately will affect the interests of everyone because the problems involved extend over a vast range of human concerns—posing the possibility of change, not always for the good, in social habits and ways of livelihood, and of destabilizing delicate biological and ecological balances. The commission said that, in weather modification research, none of these problems should be neglected.

"Although man may seek to modify weather in order to benefit the quality of his life, the result is rarely a simple relation between an atmospheric circulation and human activity," it said. "Atmospheric circulation, the hydrologic cycle, biological ecosystems, and human production are interlocked."

In its review of the scientific aspects of weather modification, the MacDonald panel identified a need for a number of studies and experiments in addition to cloud seeding. Among the projects and investigations recommended were a comprehensive exploration of hurricane energetics, leading to the development of a theoretical hurricane model and, subsequently, to hypotheses for hurricane modification; a comprehensive investigation of hailstorms; measurement of the dynamics and water budgets of a variety of precipitating storm types; development of theoretical models of condensation and precipitation mechanisms; and studies of the meteorological effects of atmospheric pollution and urbanization. The panel said that faster computers are required for simulation of atmospheric processes.

Computers, the formulation of increasingly elaborate theories and mathematical models, and better observation of the atmosphere through the use of aircraft, radar, and satellite—all have enhanced the long-term prospects for weather modification, the panel said. An earlier era of speculation has been superseded by a period in which "rational and systematic exploration of modification potentialities has become possible," it stated.

By encouraging a more widespread belief that useful techniques for changing the weather are within reach, the reports of the MacDonald panel and the NSF commission may promote greater political acceptance of proposals to give weather modification increased government support. In any event, the political base on which the program rests seems to be broadening.

Members of Congress from arid regions of the West have, in the past, appealed for more ambitious efforts to increase rain and snow, without arousing much interest among colleagues from regions where water has been taken for granted. But now, drought conditions in the East are likely to assure the Westerners of enthusiastic new allies. Some measure of the extent of the new interest may be obtainable when the Senate Commerce Committee, which at times has been suspected of indifference to weather modification, holds hearings on the subject later this year (none are yet scheduled).

Funds budgeted for weather modification for fiscal 1967 represent an increase of only a few million dollars over the fiscal 1966 appropriation. Sooner or later, however, funds will be increased substantially if the demand for a broader, more intensive program develops.

In September Secretary of Commerce John T. Connor, in a message to President Johnson after hurricane Betsy, said, "A vigorous national program to explore the possibility of weather modification should now be mounted. I in-

India's AEC Head Dies in Crash

Homi J. Bhabha, chairman of India's Atomic Energy Commission, was among 117 persons killed Monday when a jet-liner crashed into Mont Blanc. Bhabha, 57, was en route to Vienna to attend a meeting of the International Atomic Energy Agency. He was a member of the group's Scientific Advisory Committee.

A theoretical physicist and key figure in the development of India's atomic energy industry, Bhabha was his country's representative to many international organizations and had close professional and personal relations with scientists throughout the world.

Frederick Seitz, president of the National Academy of Sciences, and head of this country's delegation to the General Assembly of the International Council of Scientific Unions that met earlier this month in Bombay, issued the following statement upon hearing of Bhabha's death.

"Bhabha has occupied an entirely unique position in the developing science of India during the past two decades. He has not only created a center, the Tata Institute, at which outstanding science, as judged by the best international standards, is carried out, and has not only developed the activities of the International Atomic Energy Agency to a point that they are essentially self sustaining but has also devoted himself and all of the resources available to him to the service to India without reservation.

"As a young man he must have been tempted to follow an academic career abroad where he would have been welcome permanently as a major figure in any country, but he preferred to commit his career to his homeland. There he stood for quality in science and engineering in a developing environment in which standards of quality can have an unusually great effect on the course of progress.

"Bhabha was a hospitable man. Any scientist who visited Bombay received a warm and sophisticated welcome from an individual who was steeped not only in his many professional interests but also in the history and culture of his homeland. His last major opportunity to serve as host occurred at the General Assembly of the International Council of Scientific Unions in the first half of January this year. Those of us who were in Bombay will carry a treasured memory of a great man at the peak of his valuable career."