

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

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NATIONAL HAIL RESEARCH EXPERIMENT NEWSLETTER

June 9, 1976

This is the first of our weekly newsletters summarizing activities in the 1976 field research program of the National Hail Research Experiment. We will be sending a newsletter out each week from now through the end of July.

No cloud seeding will be done during this summer's NHRE field program, which began on June 1 and will end July 31. The program is designed to study the structure and behavior of hailstorms, using radar, instrumented aircraft, and other research tools. The aircraft will fly around and through the storms to collect data, but will not seed them. This summer's studies are expected to provide a basis for developing new seeding techniques that will be tested in future field work.

We are continuing our research on hailfall and crop damage. More than 250 farmers in northeastern Colorado and southwestern Nebraska will be reporting to us on hail crop damage in their areas. A network of more than 400 hail cubes--12-inch cubes of soft styrofoam covered with aluminum foil--has been established in cultivated areas of Kimball and Cheyenne Counties, Nebraska, and Logan and Weld Counties, Colorado. The imprints left in the cubes by hailstones provide data on the size and number of hailstones as well as the force and direction of their motion. These characteristics are being related to the actual hail damage to various crops.

The hailstorm research is centered in the area around the point where Colorado, Nebraska, and Wyoming join. Thunderstorms have developed in this general area on five days since the field work started. On June 1, 2, 4, and 7, thunderstorms and some small hail occurred. On June 8, one of our research aircraft penetrated an early afternoon thunderstorm about ten miles south of Cheyenne, and three other aircraft took measurements in the vicinity of the storm.

At about 4:30 p.m. on June 8, a large, severe hailstorm moved into the area south of our field headquarters at Grover, Colorado. Four NHRE aircraft collected data around the storm--a single-engine T-28 from the South Dakota School of Mines and Technology and three twin-engine Beech Queen Air research aircraft, one from the University of Wyoming and two from the National Center for Atmospheric Research. Moving in a generally southeasterly direction, this storm passed about ten miles north of Briggsdale, dropping hail up to golf-ball size in a swath that was about four miles wide and ten miles long. As the NHRE radars tracked and probed the storm, mobile units on the ground followed it to collect hail samples and measure wind, rainfall, and other factors. The storm lasted until about 5:00 p.m.

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At this point in our 1976 field work, it appears that we are making a good start toward getting the data that we need to develop new approaches to cloud seeding that can be tested in future summer field programs.

Cordially,

Henry Lansford

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Information Officer