

PARTIAL ANALYSIS OF REPORTED WEATHER
MODIFICATION ACTIVITIES IN THE U.S. FOR CY 1978
AND COMPARISONS WITH RESULTS FOR CY 1976 AND 1977

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INTRODUCTION

Public Law 92-205 requires that all non-federally sponsored attempts to modify the weather be reported to the Secretary of Commerce. Responsibility for administering a reporting program on behalf of the Secretary was delegated to the National Oceanic and Atmospheric Administration (NOAA) in 1972. A year later, Federal agencies agreed to report their weather modification activities to NOAA. Thus the reporting program has become the single, authoritative repository of information on weather modification projects carried out in the United States and its territories.

The reporting procedures include the submittal of Initial, Interim, and Final Reports covering weather modification activities for individual target areas. Interim Reports are required for those projects active on January 1 of each year and must be filed within 45 days. A project may be carried out intermittently at one location for one or more years, or a project may begin and end within a year. Often, projects are completed early in a year and restarted near the end of that year at the same location with the same techniques. In this case, only one project at the one location would be used in summarizing the number of projects for the calendar year.

Since all the Interim Reports had not been filed at the time of preparing this paper, only a partial analysis of reported activities is possible for CY 1978. A complete report will be published by NOAA during the spring of 1979 and will be available from the author.

To gain a perspective of changes in the nation's weather modification efforts, a limited comparison of results of this analysis has been made with information on activities in CY 1976 and 1977. Preliminary data for these two years were reported in the Journal of Weather Modification, Volume 10, Number 1, April 1978, pages 165-169.

ANALYSIS

Table 1 provides a breakdown of weather modification operators and sponsors for CY 1976, 1977 and 1978; it shows that activities were greatly reduced in CY 1978. The number of community associations (farmers and businessmen) that sponsored projects decreased by more than half in CY 1978 from the previous year. However, State and Federal sponsorship of activities increased; 8 States and NOAA, the Air Force, and the Bureau of Reclamation

were sponsors in CY 1978.

The Federal operators in CY 1978 were NOAA and the Air Force. Six commercial weather modification firms carried out about 60 percent or 34 of the 58 activities. One of these companies operated 9 of the projects during the year.

Table 2 lists the number of activities in the various States and the total target area for each State. California has had the largest number of activities for each of the three years. In CY 1978, the total target area was 13 percent less than in CY 1977. This total target area is about 6 percent of the area of the United States. Also in CY 1978, about 91 percent of the activities took place west of the Mississippi River.

CONCLUDING REMARKS

This brief analysis of reported weather modification activities for CY 1976, 1977 and 1978 indicates the possibility of a downward trend in the number of projects. However, the trend could be reversed if precipitation amounts lessen during the year and extended dry periods ensue.

TABLE 1
Operators and Sponsors of Weather Modification
Activities in the U.S.

	CY 1976	CY 1977	CY 1978
Total Activities/Locations	61	88	58
Nonfederal	52	82	46
Federal (all or in part)	9	6	12
Operators	31	29	23
Federal	4	2	2
Nonfederal	27	27	21
Commercial	16	16	12
Water districts	7	7	6
Universities	2	2	2
Community associations	1	1	0
Utilities	1	1	1
Sponsors	59	68	53
Community associations	18	25	11
Airlines	10	10	10
Municipal districts	10	12	10
Federal organizations	6	3	3
States	5	6	8
Utilities	4	3	4
Private	5	6	4
Cities	1	3	3

TABLE 2
Activities and Size of Target Areas,
By State

	CY 1976		CY 1977		CY 1978	
	Activities	Area (sq.mi.)	Activities	Area (sq.mi.)	Activities	Area (sq.mi.)
Alaska	2	3	3	7	2	3
California	11	11,993	20	59,403	19	42,864
Colorado	3	2,915	6	31,300	5	25,900
Delaware	1	1,000	0	0	1	1,800
Florida	1	4,800	0	0	1	4,800
Georgia	0	0	3	9,000	1	4,800
Idaho	1	8,600	1	600	0	0
Illinois	2	2,502	3	3,700	2	1,850
Iowa	2	4	1	3,600	0	0
Kansas	1	9,000	1	10,400	3	43,866
Louisiana	0	0	2	1,350	0	0
Maryland	1	1,100	0	0	0	0
Michigan	1	530	3	7,524	0	0
Minnesota	2	15,381	1	240	0	0
Montana	2	20,005	2	20,005	1	25,520
Nebraska	1	2	0	0	0	0
Nevada	1	5	7	16,326	6	15,125
New Hampshire	1	4	1	4	0	0
New Mexico	0	0	0	0	1	1,600
North Dakota	4	23,068	3	16,288	3	15,578
Oklahoma	7	6,948	2	719	2	719
Oregon	2	7,821	3	836	0	0
South Dakota	3	11,821	1	2,500	1	2,682
Texas	5	11,226	5	11,826	4	22,126
Utah	4	59,410	9	47,135	4	26,010
Washington	3	56	10	25,379	3	1,020
Wisconsin	0	0	1	1,100	0	0
Wyoming	2	196	4	1,446	2	195
	63*	198,390	92*	270,689	61*	235,458

*In all 3 years, some projects were conducted in adjoining States and crossed state boundaries.

COMPUTERIZED ON-LINE HAIL BIBLIOGRAPHY

ILLINOIS STATE WATER SURVEY

Under the direction of Stanley A. Changnon, Jr., members of the library and computer programming staff of the Illinois State Water Survey have developed an on-line Hail Bibliography. Subject coverage of the topic of hail is comprehensive. The literature surveyed is primarily 1950 to date, with some items of historical interest also included. Coverage of the literature is worldwide, with primary emphasis on English language publications. The bibliography currently contains 1,500 citations. Search capabilities of the system, which was designed for a WANG 2200 WC320, include author, key word in title, location, year, and subject.

Announcement of the Hail Bibliography is made to atmospheric scientists with the hope that they might use this research tool. A nominal fee may be assessed if the request is deemed extensive. For further information concerning literature searches contact:

Marcia Clark, Librarian
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