

AN ABBREVIATED HISTORY OF THE WEATHER MODIFICATION ASSOCIATION

<u>Meeting date</u>	<u>Location and Attendance</u>	<u>Host*</u>	<u>Highlights and/or Historic Items</u>
1950	Bishop Riverside	-	Original discussion between personnel at the California Electric Power Company offices. Completion of three years of snowpack increase on Bishop Creek Watershed.
4 Apr'51	Riverside (6)	-	Organizational meeting: Cundiff (CEPC), Hartman (SCEC), Lang (SCEC) Battle (WMC), Elliott (NAWC), Bollay (NAWC).
17 Apr'51	Pasadena (8)	NAWC	Organizational meeting: Name changed from Artificial Precipitation Operators Association to Weather Control Research Association. Articles of Incorporation organized.
17 May'51	Pasadena (24)	NAWC	Discussions of legislation, licensing and dues structure (\$50/three years and \$10/year for affiliate). Observations of excessive glaciation at -6 <sup>0</sup> C (Sierra Range).
2 Aug'51	Los Angeles (10)	SCEC	Schaefer nuclei counter discussions. California Licensing Act passed July 1951.
5 Nov'51	Los Angeles (16)	SCEC	California Division of Water Resources \$50,000 program on evaluations. California licensees total 7.
12 Mar'52	Los Angeles (20)	SCEC	Pending CDWR \$50,000 program. WCRA financial statement: Receipts include three three-year at \$50 and four affiliate at \$10 -- total \$190: expenses, \$37.87.
10 Dec'52	Los Angeles (16)	SCEC	\$500,000 appropriation for Department of Commerce ACN project (Seattle) Proposed California Random Cloud Seeding Project.
18 May'53	Los Angeles (18)	SCEC	Evaluation of the six-year California Electric Power Company Snowpack Increase Program (Bishop Cups).
9 Dec'53	Los Angeles (22)	SCEC	Federal Advisory Committee on Weather Control created by Congress on 13 Aug. 1953. Committee appointed 9 Dec. 1953. Approved by Congress 25 January 1954. Howard T. Orville, Chairman.

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10 Jun'54	Los Angeles (18)	SCEC	Activities of Advisory Committee on Weather Control (ACWC) -- Discussion of "controls" -- evaluations proposed by California Division of Water Resources.
18 Feb'55	Los Angeles (23)	SCEC	Activities of ACWC -- WCRA Committee to Formulate By-Laws (Henderson, Lewis and Elliott).
23 Mar'55	Los Angeles (32)	SCEC	Informal meeting with the Task Force of ACWC (Howard Orville, Joe George, Fred Berry, Ken Spengler). First transcript of a WCRA meeting.
14 Feb'56	Los Angeles (41)	SCEC	Recommend extension of ACWC -- approved the bylaws of WCRA -- transcript of meeting -- first resolution of WCRA commending ACWC -- meeting attended by members of ACWC.
16 Nov'56	Los Angeles (16)	SCEC	Proposed Santa Barbara randomized program -- activities of ACWC -- New York hail suppression program.
18 Feb'57	Los Angeles (25)	SCEC	ACWC extended (S.2913) -- report by ACWC members -- S.86 introduced (Case -- 3 January 1957) -- "Cloud Modification Research Act of 1957" (HR 5232, a companion bill). Senate hearings on S.86 -- Washington.
Nov. '57	Meeting postponed until early 1958 in order to have available the final report of the National Advisory Committee on Weather Control.		
19 Feb.'58	Los Angeles (21)	SCEC	Report of the NACWC dated 31 December 1957 (Berry) -- supports positive effects from orographic seeding and recommends "no controls" -- WCRA resolution commended ACWC. (8 corporate and 11 individual members).
25 Feb'59	Los Angeles (21)	SCEC	First suggestion to hold WCRA meeting elsewhere -- weather modification by Department of Interior (S.943) -- Forest Service Lightning Suppression Equipment -- NSF Reporting Functions.
19 Dec'59	Los Angeles (16)	SCEC	AMS-ASCE meeting, Denver, Colo. -- controversy appears to be diminishing -- new dues: Corporate \$15.; Individual \$2.00. -- Skyline Conference 1-3 May 1969, Virginia.
10 Mar'60	San Francisco (40)	CDWR	California long range programs continue (SCEC on San Joaquin and KRCD on Kings) -- Santa Barbara Proj. -- requirement for new evaluation technique -- Forecasting difficulties.

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1 Dec '60	Altadena (26)	MRI	California has five licensed groups and 13 projects -- Interim Report on Santa Barbara Project -- Radar observations and precipitation measurements-- CSU thunderstorm studies.
15 Mar '61	Sacramento (19)	CDWR	Use of Weather Bureau WSR-57 Radar System -- Dept. of Interior programs (USBR) -- Development of pyrotechnic cloud seeding devices.
13 Dec '61	Altadena (20)	MRI	Tor Bergeron speaks on "The Possibility of Artificial Control of Rainfall on the Globe" -- Santa Barbara Project now supported by NSF.
26-27 Apr '62	Fresno (19)	CDWR	First two-day meeting of WCRA -- discussion of Yellowstone Field Research Expedition -- strong comments on desirable relationships in weather modification projects: Experiment vs. production, scientists versus operators, statistician vs. layman, statistician vs. physical scientist.
15 Mar '63	Santa Barbara (29)	NAWC	Joanne (Malkus) Simpson of UCLA reports on "Rainmaking Experiments With Natural and Artificial Heat Sources" -- Edward Morris discusses "Legal Aspects of Weather Modification" -- St. Amand reports on "Naval Research in Weather Modification".
3-4 Apr. '64	Reno (40)	DRI	Doyne Sartor (NCAR) presents "A Coordinated Approach to Weather Control" -- Continued pyrotechnic development -- Wyoming research (Elk Mt. -- Williams)
10-11 Dec '64	China Lake (26)	NOTS	History of pyrotechnic development -- demonstrations by Pierre St.-Amand -- At this point in WCRA history, no routine procedure had ever been set for dues collection -- present membership includes four corporate members (AI, DRI, SCEC, L.A. Flood Control District) and 29 individual members -- bank balance of \$355.31.
21 Jun '65	Los Angeles (23)	SCEC	National Academy of Science Publication 1236 (critical) -- Panel on Weather and Climate Control met in Boston the previous week -- WCRA passed resolution to request NAS to withdraw its preliminary report -- Ralph Huschke of the Panel attended meeting and noted their final report will be entirely new -- Symposium on Economic and Social Aspects of Weather Modification, Boulder, 1-3 July 1965.

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14 Feb '66			Executive and Policy Committees Meeting to formulate a position statement on weather modification legislation. Produced a strong paper urging separate regulatory group, utilization of private manpower, encourage private industry, federal protection on liability.
18 Mar '66	San Francisco (23)	CDWR	Review of NAS report -- Congressional bills: Interior S.2875 (Anderson) Commerce S.23 (Anderson) Commerce S.2916 (Magnuson) -- First consideration of using WCRA as a vehicle for liability insurance -- 5th Berkeley Symposium on Mathematical Statistics and Probability, January 1966.
Oct. '66			Reorganization Committee (Mordy, Eberly, Elliott, McCready, and Powers) met to discuss possibilities for upgrading the entire WCRA organization.
7 Nov '66	Los Angeles (19)	LADWP	First suggestion of a Journal -- most federal legislation died with adjournment of Congress.
16-17 Mar '67	Sacramento (34)	AJG	Legislation at federal level which would license and regulate (both Commerce and Interior) -- state legislation on licensing -- WCRA certification proposed -- ICAS report 10a, "A Recommended National Program in Weather Modification", November 1966.
21-22 Sept. '67	Altadena (53)	MRI	Continued discussions on a possible Journal -- Committee revised the Constitution and Bylaws -- organization name changed to Weather Modification Association -- Certification and Publication Committees appointed -- Dues change -- Individual \$12.; Association Corporate \$24.; Corporate, \$100. Texas Weather Modification Law passed and pronounced that Weather Modification was not an ultra-hazardous activity.
26-27 Feb. '68	Logan (30)	USU	Theme concept: "Targeting and Plume Tracing" -- Legislative Committee working on a model law (first draft) -- 18 requests for certification have been received -- the last of the NSF reporting function (1959-68). WMA balance of \$1,799.77.
16-17 Sept. '68	Rapid City (60)	SDSM	Theme: "Generation of Seeding Material" -- Initiated approval of the first Journal of Weather Modification -- Review of regulatory legislation: Commerce S.373 (Magnuson), Commerce HR 9212 (Staggers), Interior HR 5734 (Staggers) -- NOAA gets reporting function -- evolution of pyrotechnics -- chemistry of AgI production -- Naval Weapons Center, China Lake, Calif.

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17-18 Feb '69	Santa Barbara (56)	NAWC	Presentation of elements of a model law for regulation of weather modification activities -- first inputs from sociologists.
15-16 Sep '69	Ft. Collins (42)	CSU	Established a "permanent" mailing address: Box 125, Altadena, CA. -- presentation of nucleation theory (St.-Amand, et al) -- Israel program -- USBR programs -- WMA balance: \$2,965.56.
10 Apr. '70	Santa Barbara (30)	NAWC	Synopsis of insurance situation -- proposed assemblage of "expert witnesses" -- discussion on possible executive secretary -- distribution of WMA sponsored model law -- discussion on first issue of JWM -- Dr. Vincent J. Schaefer elected an Honorary Member of WMA.
8-9 Oct. '70	Las Cruces (36)	NMSU	Theme: "Programs for the 70's" -- USBR programs -- NSF programs -- Private sector programs -- HR 18180 and S.4091 -- presentation of first volume of JWM.
18-19 Feb. '71	Riverside (40)	USFS	Discussions on warm cloud seeding -- ammonium nitrate and urea -- discussions on cold cloud seeding processes -- consideration of extra area effects -- further discussion on seeding devices -- explanations of AgI-NH <sub>4</sub> I solutions (advantage over AgI-NaI) -- WMA bank balance of \$4,847.57.
21-22 Oct '71	Norman (69)	WSI	Most recent Santa Barbara experiment -- Climax experiment -- the status and desirability of federal weather modification legislation -- legal aspects of weather modification -- role of the federal government in emergency drought relief programs -- summary of first International Conference on Weather Modification, Australia, September 1971 -- Federal role vs. private role in applied weather modification for the benefit of man.
24-25 Feb. '72	Fresno (60)	AWRR/AI	Position statement on drought relief programs -- resolution on NOAA preparation of regulations. Project Skywater Conferences -- discussions of Project Storm Fury -- environmental impact statements.
28-29 Sep '72	Ft. Collins (54)	WSS	Suggested changes in constitution and bylaws -- preparation of new format -- review of resolutions regarding allocation of responsibilities for emergency drought relief measures and the NOAA Weather Modification Project Reporting requirements under Public Law 92-205.

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29-30 Mar '73	Austin (58)	TWDB	Texas weather modification programs -- rules and regulations related to the Act -- WMA balance of \$3,904.52.
13-14 Sep '73	Champaign (61)	ISWS	WMA draft of a Military Use Statement -- discussion of Vol. 5 of JWM.
21-22 Mar '74	Huntington Beach (63)	DC	Acceptance of new Constitution and Bylaws -- abolish Association Corporate Member -- opposition to Haskell Bill (S.3028).
2-3 Oct '74	Seattle (54)	WSDC	The North American Interstate Weather Modification Council organized earlier this year. WMA resolution supporting NAIWMC.
20-21 Mar '75	Santa Barbara (57)	NAWC	Bellmon Bills S.3313, S.3314, S.3315 -- Sisk Bill HR 2742 -- proposal of weather modification book.
4-5 Sept. '75	Calgary (71)	CDA	Sisk Bill HR 2742 (Wilderness/Weather Modification) -- Bellmon Bills, drought relief research and operations (S.2706, S.2707) and Weather Modification Council (S.2705) -- discussion of North Dakota and Utah State Weather Modification Programs -- total WMA members 152; corporate, 10; student 3. Bank balance \$10,485.25.
1-2 Apr. '76	Los Angeles (102)	WMA	The Silver Anniversary Program.

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AI	Atmospherics Incorporated	DRI	Desert Research Incorporated
NAWC	North American Weather Consultants	NOTS	Naval Ordnance Test Station
SCEC	Southern California Edison Company	LADWP	L.A. Dept. of Water and Power
CDWR	California Dept. of Water Resources	AJG	Aerojet General
MRI	Meteorology Research Incorporated	USU	Utah State University
CSU	Colorado State University	SDSM	South Dakota School of Mines & Tech.
USFS	U.S. Forest Service	WSI	Weather Science Inc.
AWRR	Atmospheric Water Resources Research	WSS	Western Scientific Services
TWDB	Texas Water Development Board	ISWS	Illinois State Water Survey
DC	Deepwater Chemical	WSDC	Washington State Dept. of Conservation
CDA	Canadian Dept. of Agriculture	CEPC	Calif. Electric Power Company