NOAA FORM 17-4 (4-81) U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Form Approved OMB Control No. 0648-0025
Expires 05/31/2021

INITIAL REPORT ON WEATHER MODIFICATION ACTIVITIES

This report is required by Public Law 92-205; 85 Stat. 735; 145 U.S.C. 330b. Knowing and willful violation of any rule adopted under the authority of Section 2 of Public Law 92-205 shall subject the person violating such rule to a fine of not more than $10,000, upon conviction thereof.

Complete in accordance with instructions on reverse and forward one copy to:
National Oceanic and Atmospheric Administration
Office of Oceanic and Atmospheric Research
1315 East-West Highway, WWMC-3, Rm 11216
Silver Spring, MD 20910

1. PROJECT OR ACTIVITY DESIGNATION, IF ANY
Medicine Bow / Sierra Madre Weather Modification Project

2. DATES OF PROJECT
a. DATE FIRST ACTUAL WEATHER MODIFICATION ACTIVITY IS TO BE UNDERTAKEN: 11/8/2022
b. EXPECTED TERMINATION DATE OF WEATHER MODIFICATION ACTIVITIES: 4/22/2023

3. PURPOSE OF PROJECT OR ACTIVITY
Increase snowpack in Medicine Bow and Sierra Madre Ranges, WY

4. (a) SPONSOR

NAME	Wyoming Water Development Office, Attn: Ms. Julie Gondzar		
AFFILIATION	State of Wyoming	PHONE NUMBER	(307)777-7626
STREET ADDRESS	6920 Yellowtail Road		
CITY	Cheyenne	STATE	WY
ZIP CODE	82002		

4. (b) OPERATOR

NAME	Bruce A. Boe		
AFFILIATION	Weather Modification LLC	PHONE NUMBER	7012355500
STREET ADDRESS	3802 20th Street North		
CITY	Fargo	STATE	ND
ZIP CODE	58102		

5. TARGET AND CONTROL AREAS (See Instructions)

TARGET AREA		CONTROL AREA	
LOCATION	South-Central Wyoming	LOCATION	none
SIZE OF AREA	1000 SQ. MI	SIZE OF AREA	SQ. MI

6. DESCRIPTION OF WEATHER MODIFICATION APPARATUS, MODIFICATION AGENTS AND THEIR DISPERSAL RATES, THE TECHNIQUES EMPLOYED, ETC. (See Instructions)

One (1) twin-engine turboprop aircraft will be used to seed supercooled orographic clouds with glaciogenic pyrotechnics. Seeding will be guided by a qualified meteorologist, aided by weather observations and a four-dimensional (x, y, z, t), high resolution prognostic numerical model configured for these specific target areas. The aircraft will be based in Cheyenne, WY. Flight patterns will be approximately at right angles to the prevailing wind at seeding altitude, upwind of the targeted range. Seeding will occur only when the following conditions are met over the targeted range: (1) supercooled cloud exists upwind and/or over the ranges, and (2) the wind direction is such that the proper transport of the cloud ice thus nucleated will occur resulting in snow development, from the seeding zone to the target. Seeding rates will be approximately 20 grams every 30-60 seconds while the aircraft is encountering supercooled cloud. The ranges to be targeted are: the Medicine Bow Range, and the Sierra Madre Range, within the State of Wyoming.

7. LOG BOOKS *Enter name, affiliation, address, and telephone number of responsible individual from whom log books or other records may be obtained.*

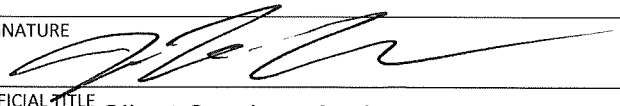
NAME	Mr. Jake Van Ornum		
AFFILIATION	Weather Modification LLC	PHONE NUMBER	(701) 235-5500
STREET ADDRESS	3802 20th Street North		
CITY	Fargo	STATE	ND
ZIP CODE	58102		

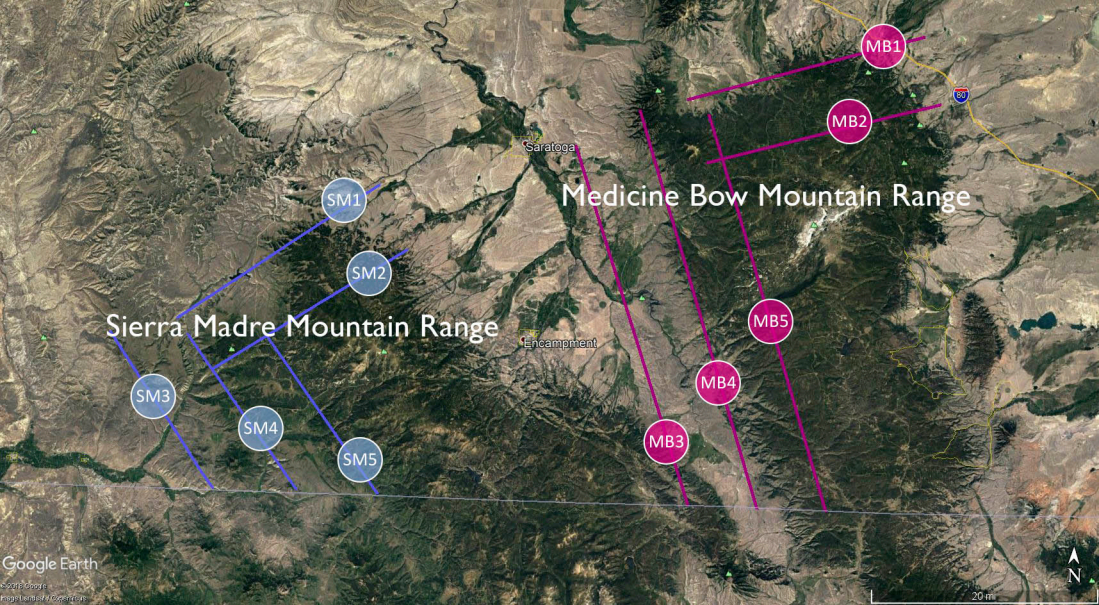
8. SAFETY AND ENVIRONMENT

☐ YES	☑ NO	Has an Environmental Impact Statement, Federal or State, been filed? If yes, please furnish a copy as applicable.
☑ YES	☐ NO	Have provisions been made to acquire the latest forecasts, advisories, warnings, etc., of the National Weather Service, Forest Service, or others when issued prior to and during operations? If yes, please specify on a separate sheet.
☑ YES	☐ NO	Have any safety procedures (*operational constraints, provisions for suspension of operations, monitoring methods, etc.*) and any environmental guidelines (*related to the possible effects of the operations*) been included in the operational plans? If yes, please furnish copies or a description of the specific procedures and guidelines.

9. OPTIONAL REMARKS (See instructions. Use Separate Sheet).

CERTIFICATION: I certify that all statements in this report on this weather modification project are complete and correct to the best of my knowledge and are made in good faith.

NAME OF REPORTING PERSON	Jake Van Ornum		
AFFILIATION	Weather Modification LLC	SIGNATURE	
STREET ADDRESS	3802 20th Street North	OFFICIAL TITLE	Client Services Assistant
CITY	Fargo	STATE	ND
ZIP CODE	58102	DATE	10/31/2022
PHONE NUMBER	(701) 235-5500		


MB1
MB2
Saratoga
Medicine Bow Mountain Range
SM1
SM2
Sierra Madre Mountain Range
Encampment
MB5
MB4
SM3
SM4
MB3
SM5
Google Earth
20 mi
N

WEATHER MODIFICATION
INTERNATIONAL

November 4, 2022

National Oceanic and Atmospheric Administration
Office of Oceanic and Atmospheric Research
1315 East-West Highway, #10339
Silver Springs, MD 20910-3282

To Whom It May Concern:

Weather Modification LLC dba Weather Modification International (WMI) is pleased to submit the enclosed with compliance with the National Oceanic and Atmospheric Administration's weather modification activities reporting requirements (P.L. 205, 92nd, Congress). Below is a summary of each 17-4 Form and any additional information and/or documents that are included.

1. Upper Tuolumne River Weather Modification Project

Item 5: Aircraft operations – please see enclosed map.

Item 8: WMI is not aware of any EIS or EA conducted for this program. Additional information regarding this can be obtained from the client.

Contact Information: Mr. Jason Carkeet (209) 883-8325
Turlock Irrigation District
901 North Broadway
P.O. Box 949, Turlock CA 95381

Provisions will be made to acquire the latest weather information, including advisories, watches, and warnings from the National Weather Service. Snowpack and water storage levels will be monitored by both WMI personnel and the client. This information will be routinely communicated between both parties regarding seeding suspension and/or termination of operations.

Item 9: No additional comments.

2. Medicine Bow / Sierra Madre Weather Modification Project

Item 5: Airborne operations. Please see the attached map for location of proposed aircraft flight tracks. The tracks chosen will vary depending upon prevailing wind direction at the seeding altitude.

Item 8: WMI is not aware of any EIS or EA conducted for this program. Additional information regarding this can be obtained from the client.

Tel: 1-701-235-5500 • Fax: 1-701-235-9717 • 3802 20th St N • Fargo, ND 58102 • USA
www.weathermodification.com

WEATHER MODIFICATION
INTERNATIONAL

Contact Information: Ms. Julie Gondzar (307) 777-7626
Wyoming Water Development Office
6920 Yellowtail Road
Cheyenne, WY 82002

Provisions have been made to acquire the latest weather information, including advisories, watches, and warnings from the National Weather Service. In addition, project-specific high-resolution numerical modeling will be used to guide and inform seeding operations.

Operational suspension criteria have been developed and refined in concert with the Wyoming Water Development Office.

Item 9: No additional comments.

3. WY Aerial Weather Modification Project

Item 5: Airborne operations. Please see the attached map for location of proposed aircraft flight tracks. The tracks chosen will vary depending upon prevailing wind direction at the seeding altitude.

Item 8: WMI is not aware of any EIS or EA conducted for this program. Additional information regarding this can be obtained from the client.

Contact Information: Ms. Julie Gondzar (307) 777-7626
Wyoming Water Development Office
6920 Yellowtail Road
Cheyenne, WY 82002

Provisions have been made to acquire the latest weather information, including advisories, watches, and warnings from the National Weather Service. In addition, project-specific high-resolution numerical modeling will be used to guide and inform seeding operations.

Operational suspension criteria have been developed and refined in concert with the Wyoming Water Development Office.

Item 9: No additional comments.

4. Wind River Range Weather Modification Project (WRRWMP)

Item 5: Ground-based operations- Please enclosed map for locations of the seeding agent release sites.

WEATHER MODIFICATION
INTERNATIONAL

Item 8: WMI is not aware of any EIS or EA conducted for this program. Additional information regarding this can be obtained from the client.

Contact Information: Ms. Julie Gondzar (307) 777-7626
Wyoming Water Development Office
6920 Yellowtail Road
Cheyenne, WY 82002

Provisions have been made to acquire the latest weather information, including advisories, watches, and warnings from the National Weather Service. In addition, project upper air soundings made from Pinedale, Wyoming, will be transmitted in real-time to the NWS offices in Cheyenne and Riverton, WY.

Operational suspension criteria have been developed and refined in conjunction with the Wyoming Water Development Office and the project interagency Technical Advisory Team.

Item 9: No additional comments.

If you have any questions please do not hesitate to contact me by telephone at: (651) 287-2107 or by email at jvanornum@weathermodification.com

Sincerely,

Jake Van Ornum
Client Services Assistant