Complete in accordance with instructions on reverse and forward copy:

TO: National Oceanic and Atmospheric Administration
Office of Oceanic and Atmospheric Research
1315 East-West Highway SSMC-3 Room 11554
Silver Spring, MD 20910

Form Approved: OMB No. 0648-0025 Expires 01/31/2018

NOAA FORM 17-4 (4-81) U.S. DEPARTMENT OF COMMERCE
NAT'L OCEANIC AND ATMOSPHERIC ADM.

INITIAL REPORT ON WEATHER MODIFICATION ACTIVITIES (P.L. 205, 92ND. CONGRESS)

1. PROJECT OR ACTIVITY DESIGNATION, IF ANY
Purgatory/ Western San Juan Program

2. DATES OF PROJECT

a. DATE FIRST ACTUAL WEATHER MODIFICATION ACTIVITY IS TO BE UNDERTAKEN: 11/01/2018

b. EXPECTED TERMINATION DATE OF WEATHER MODIFICATION ACTIVITIES: 03/31/2019

3. PURPOSE OF PROJECT OR ACTIVITY
Winter snow pack and precipitation augmentation

4. (a) SPONSOR

NAME: see attached pages (WSJ)

AFFILIATION:
PHONE NUMBER:
STREET ADDRESS:
CITY:
STATE:
ZIP CODE:

4. (b) OPERATOR

NAME: L. M. Hjermstad
AFFILIATION: Western Weather Consultants
PHONE NUMBER: (833) 216-1820
STREET ADDRESS: PO Box 58
CITY: Durango
STATE: CO
ZIP CODE: 81302

5. TARGET AND CONTROL AREAS (See Instructions)

TARGET AREA		CONTROL AREA	
LOCATION	SIZE OF AREA	LOCATION	SIZE OF AREA
Western San Juan Mountains and Purgatory Ski Area	800 SQ.MI	SE Utah Mountains and Northern NM Mountains	1,000 SQ.MI.

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

Apparatus: There are a total of 30 ground based cloud nuclei generators used for seeding the three programs (WDT, WSJ and ESJ) across the San Juan Mountains. The close proximity of the three programs' generators can be used for multiple areas of seeding. There are a total of 20 generators over the region for the WDT Program, of which 9 are program specific and 11 are shared.

Modification Material: Acetone solution of 4% silver iodide and 1.25% sodium iodide. Rate of dispensing material will range from 3 gm/hr. to 25 gm/hr. depending on cloud base moisture and temperature, cloud base height and cloud type.

Precipitation Measurements: Standard NWS precipitation observations along with NRCS SNOTEL observations in both seeded and control areas.

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

NAME: Mike Hjermstad
AFFILIATION: Western Weather Consultants
PHONE NUMBER: (833) 216-1820
STREET ADDRESS: PO Box 58
CITY: Durango
STATE: CO
ZIP CODE: 81302

THIS REPORT IS REQUIRED BY PUBLIC LAW 92-205; 85 STAT 735; 15 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.

8. SAFETY AND ENVIRONMENT

- [ ] YES [X] NO — Has an Environmental Impact Statement, Federal or State been filed? If yes, please furnish a copy as applicable.
- [X] 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.
- [X] 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.)*

NAME: Mike Hjermstad
AFFILIATION: Western Weather Consultants
STREET ADDRESS: PO Box 58
CITY: Durango
STATE: CO
ZIP CODE: 81302

CERTIFICATION: I certify that the above statements are true, complete and correct to the best of my knowledge and belief.

SIGNATURE:
OFFICIAL TITLE: Asst. Manager
DATE: 10/25/2018
PHONE NUMBER: (833) 216-1820

INSTRUCTIONS FOR INITIAL REPORT ON WEATHER MODIFICATION ACTIVITIES

One completed copy of this form is to be received 10 days* or more prior to actual modification activities. A NOAA file number will be assigned by the Administrator after receipt of the initial report for each project or activity.

A supplemental report in a letter form referring to the appropriate NOAA file number must be made to the Administrator if the "Initial Report" is found to contain any material inaccuracies, misstatements, and omissions, or if there are changes in plans for the project or activity.

*For exceptions, see Sections 908.4(b) and (c), Part 908 of Title 15, Code of Federal Regulations.

Item 1. Enter designation, if any, used by operator for the project or activity.

Item 2. Enter: (a) Date first actual weather modification activity is to be undertaken;
(b) Date on which final weather modification activity is expected to occur.

Item 3. Enter the purpose of the project or activity: e.g., rainfall increase, hail suppression, cold fog dispersal, etc.

Item 4. Enter: (a) Name, phone number, affiliation, and address of the primary person for whom the project is to be performed (sponsor).

(b) Name, phone number , affiliation, and address of the person primarily responsible for carrying out the project (operator).

Item 5. A map should be attached showing size and location of target area, control area, coded number and location of each item of ground-based weather modification apparatus and coded number and location of key raingages, radars, or other precipitation measuring devices. Also show location of airport for airborne operations.

Item 6. Describe the weather modification apparatus, modification agents, and the techniques to be used. This would include type of ground or airborne apparatus to be used, type of modification material to be dispensed, rate of dispensing material in grams per hour or other appropriate units, type of precipitation gages to be used in target and control areas, and any other pertinent information such as type of radars, type of aircraft to be used, techniques to be employed, (e.g., cloud base seeding at 10,000 feet msl).

Item 7. List name, phone number , affiliation, and address of the responsible individual from whom log books or other records may be obtained.

Item 8. Provide applicable answers to questions as indicated.

Item 9. This item is to permit the reporting person to include any information not covered by items 1 through 8 but which he feels is significant or of interest. It is also to be used to include any information not covered elsewhere that the Administrator may request.

INFORMATION PROVIDED UNDER THE PROVISIONS OF THE PAPERWORK REDUCTION ACT OF 1995

The Paperwork Reduction Act of 1995 requires that individuals or organizations be provided with the following information if they provide information on paper forms which are collected by the Federal Government. (This includes reports required of weather modification activities.)

1. Public Law 92-205, enacted December 18, 1971 (amended by Public Law 94-490, Section 6(b), October 15, 1976) requires that all non-federal weather modification activities in the United States and its territories be reported to the Secretary of Commerce. The National Oceanic and Atmospheric Administration has implemented the Act and the current reporting requirements are published in the Catalog of Federal Regulations (15 CFR 908).

2. The intent of the program is to increase expertise in the field of weather modification, to allow scientists and other concerned persons to have access to information on current and past efforts at weather modification, to help avoid unneeded and wasteful duplications, to aid in preventing territorial overlapping of weather modification operations, to provide data to assess possible harmful or dangerous activities, and to furnish information to check both desirable and undesirable atmospheric changes against records of weather modification efforts. To meet this objective, information is collected on the location and size of the target area, names and addresses OF sponsors and operators, beginning and ending dates of the project, specific purpose, description of apparatus and seeding agents to be used, number of days of operations, number of hours of operations of each type of weather modification apparatus, and total amount of seeding agent used.

3. Public reporting burden for this collection of information is estimated to average 40 hours for reporting and 200 hours for record keeping, based on one-half hour per response on Form 17-4 and one-half hour per response on Form 17-4A, and five hours per record keeper. It is estimated that the time per response is approximately the same across all respondents. Send comments regarding this burden estimate or any other aspect of this data collection, including suggestions for reducing this burden to: Ms. Karen King, DOC/NOAA/OAR, 1315 East West Highway, Silver Spring, MD 20910.

4. Reporting of this information under Public Law 92-205, enacted December 18, 1971 (amended by Public Law 94-490, Section 6(b), October 15, 1976) is <u>mandatory</u>.

5. Confidentiality is not a requirement for this reporting; no sensitive information is required.

6. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

September 1, 2000
Expires 09/30/2004

(WDT)

Program Sponsors for Telluride Ski Area / Upper San Miguel Program

Southwestern Water Conservation District POC: Bruce Whitehead

P.O. Box 475

Durango, CO 81302 970-247-1302

Telluride Ski & Golf Company POC: Jeff Proteau

565 Mountain Village Blvd., # ofc

Telluride, CO 81435-9521 970-728-7444

Dolores Water Conservancy District POC: Ken Curtis

P.O. Box 1150

Cortez, CO 81321 870-565-7562

Colorado Water Conservation Board POC: Joe Busto

1313 Sherman St., Room 721

Denver, CO 80203 303-866-4807

(WSJ)

Program Sponsors for Purgatory Resort and Western San Juan Program

Southwestern Water Conservation District POC: Bruce Whitehead

P.O. Box 475

Durango, CO 81302 970-247-1302

Purgatory Resort POC: Ed Youmans

#1 Skier Place

Durango, CO 81301 970-385-2148

Dolores Water Conservancy District POC: Ken Curtis

P.O. Box 1150

Cortez, CO 81321 870-565-7562

Animas-La Plata Water Conservancy District POC: Bob Wolff

P.O. Box 475

Durango, CO 81302 970-247-1302

Colorado Water Conservation Board POC: Joe Busto

1313 Sherman St., Room 721

Denver, CO 80203 303-866-4807

(ESJ)

Program Sponsors for Eastern San Juan Program

Southwestern Water Conservation District POC: Bruce Whitehead

P.O. Box 475

Durango, CO 81302 970-247-1302

San Juan Water Conservancy District POC: Bruce Whitehead

P.O. Box 4632

Pagosa Springs, CO 81157

Pine River Irrigation District POC: Christy Duran, Office

13029 Co. Rd. 501

Bayfield, CO 81122 970-884-2558

Colorado Water Conservation Board POC: Joe Busto

1313 Sherman St., Room 721

Denver, CO 80203 303-866-4807

Florida Water Conservancy District POC: Phil Craig

1523 Co. Rd. 243

Durango, CO 81301 970-247-5332

New Mexico Interstate Stream Commission POC: Christina Malessa

Office of the State Engineer

P.O. Box 25102

Santa Fe, NM 87504-5102 505-827-6091

(Vail/ BC)

Program Sponsors for Central Colorado Program

Vail Associates, Inc. POC: Greg Johnson

P.O. Box 7

Vail, CO 81658 970-476-5601

Beaver Creek Associates, Inc. POC: Gary Shimanowitz

P.O. Box 7

Vail, CO 81658 970-476-5601

(CCMRB)

Program Sponsors for the Central Colorado Mountain River Basins Program

Denver Water Department POC: Bill Bates

1600 West 12th Avenue

Denver, CO 80204 303-893-2444

Colorado Springs Utilities POC: Kevin Lusk

215 Nichols Boulevard

Colorado Springs, CO 80907 719-448-4800

Upper Arkansas Water Conservancy District POC: Eric Wilkinson

339 East Hwy 50

Salida, CO 81201 719-866-4807

Colorado Water Conservation Board POC: Joe Busto

1313 Sherman St., Room 721

Denver, CO 80203 303-866-4807

Winter Park Resort POC: Doug Laraby

P.O. Box 36

Winter Park, CO 80482 970-726-1564

Keystone Resort POC: Geoff Buchheister

P.O. Box 1058

Keystone, CO 80435 800-354-4386

Breckenridge Resort POC: John Buhler

P.O. Box 1058

Breckenridge, CO 80424 970-453-5000

Northern Colorado Water Conservancy District POC: Eric Wilkinson

220 Water Avenue

Berthoud, CO 80513 800-369-7246

Southeastern Colorado Water Conservancy District POC: Jim Broderick

31717 United Avenue

Pueblo, CO 81001 719-948-2400

Aurora Water POC: Kathy Kitzmann

15151 East Alameda Parkway

Aurora, CO 80012-1553 303-739-7370

Pueblo Board of Water Works POC: Seth Clayton

319 West Fourth Street

Pueblo, CO 81003 719-584-0203

Twin Lakes Reservoir & Canal Company POC: Bruce Hughes

331 Main Street

Ordway, CO 81063-1302 719-267-4411

108.65000° W
108.48333° W
108.31667° W
108.15000° W
107.98333° W
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PLF
TELREM
JLG
CCB
Lone Cone
BEC
Black Mesa
JVA
JCG
DWCD REM
BW
ACL
Scotch Crk
Cascade
Purgatory
Spud
Molas
Bear Town
El Diente
Liz Pass
Mnrl Crk
RMP
Idarado
Telluride
Slumgullion
Wager Gulch
Up Rio Gnd
Middle Creek
Weminuche Creek
Stump
Vallecito
Sharkstooth
SJREM
DMZ
RRW
DS
CHA
Mancos
SLH
WJO
GGD
GRA
MDM
SCB
RAC
DSG
MHJ
JJT
BCW
Up San Juan
WCP
Gray Back
Lilly Pond
DPK
HE
LOM
ADT
Colm Bsn
Durango
Pagosa Springs
Creede
Lake City
Ouray
Ridgway
Telluride
Silverton
Howardsville
Gladstone
Ironton
Dallas
Norwood
Redvale
Naturita
Nucla
Montrose
Delta
Cortez
Dolores
Mancos
Lewis
Arriola
Lebanon
Stapleton
Pleasant View
Yellow Jacket
Towaoc
Redmesa
Marvel
Hesperus
Rockwood
Trimble
La Plata
Vallecito
Bayfield
Ignacio
Oxford
Lemon Res
Vallecito Res
Navajo Res
Wagon Wheel Gap
Antelope Mtn
Spar City
Chromo
Arboles
Carracas
Tiffany
Allison
La Boca
Pagosa Junction
Juanita
Trujillo
Lone Tree
Dyke
Nutria
Chimney Rock
Oxford
Loma Linda
Grandview
Durango
Hesperus
Mancos
Dolores
Cortez
Lewis
Arriola
Lebanon
Stapleton
Pleasant View
Yellow Jacket
Towaoc
Redmesa
Marvel
Bondad
Tiffany
Allison
La Boca
Arboles
Carracas