



**AGENDA
REGULAR WORKSHOP/MEETING OF THE
BOARD OF DIRECTORS**

**WEDNESDAY, JANUARY 5, 2022
10:00 A.M.**

**INLAND EMPIRE UTILITIES AGENCY*
VIEW THE MEETING LIVE ONLINE AT IEUA.ORG
TELEPHONE ACCESS: (415) 856-9169 / Conf Code: 811 003 35#**

PURSUANT TO AB361 AND RESOLUTION NO. 2021-12-1, ADOPTED BY THE IEUA BOARD OF DIRECTORS ON DECEMBER 8, 2021, IEUA BOARD AND COMMITTEE MEETINGS WILL CONTINUE TO BE CONDUCTED THROUGH TELECONFERENCE IN AN EFFORT TO PROTECT PUBLIC HEALTH AND PREVENT THE SPREAD OF COVID-19. THERE WILL BE NO PUBLIC LOCATION AVAILABLE FOR ATTENDING THE MEETING IN PERSON.

The public may participate and provide public comment during the meeting by dialing into the number provided above. Comments may also be submitted by email to the Board Secretary/Office Manager Denise Garzaro at dgarzaro@ieua.org prior to the completion of the Public Comment section of the meeting. Comments will be distributed to the Board of Directors.

CALL TO ORDER OF THE INLAND EMPIRE UTILITIES AGENCY BOARD OF DIRECTORS WORKSHOP/MEETING

FLAG SALUTE

PUBLIC COMMENT

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to email the Board Secretary prior to the scheduled meeting time or address the Board during the public comments section of the meeting. Comments will be limited to three minutes per speaker. Thank you.

ADDITIONS TO THE AGENDA

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

*A Municipal Water District

1. ACTION ITEM

A. ADOPTION OF RESOLUTION NO. 2022-1-1, MAKING CERTAIN FINDINGS AND DETERMINATIONS REGARDING SPECIAL RULES FOR CONDUCTING MEETINGS THROUGH TELECONFERENCE

Staff recommends that the Board adopt Resolution No. 2022-1-1, making certain findings and determinations regarding special rules for conducting meetings through teleconference.

2. WORKSHOP ITEM

A. SANTA ANA RIVER WATERSHED WEATHER MODIFICATION PILOT PROGRAM AND STATE OF CALIFORNIA PERSPECTIVE

3. GENERAL MANAGER'S COMMENTS

4. BOARD OF DIRECTORS' REQUESTED FUTURE AGENDA ITEMS

5. DIRECTORS' COMMENTS

ADJOURN

Declaration of Posting

I, Denise Garzaro, CMC, Board Secretary/Office Manager of the Inland Empire Utilities Agency*, a Municipal Water District, hereby certify that, per Government Code Section 54954.2, a copy of this agenda has been posted at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA and on the Agency's website at www.ieua.org at least seventy-two (72) hours prior to the meeting date and time above.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary at (909) 993-1736 or dgarzaro@ieua.org, 48 hours prior to the scheduled meeting so that IEUA can make reasonable arrangements to ensure accessibility.

**ACTION
ITEM**

1A

Date: January 5, 2022

To: The Honorable Board of Directors

From: Shivaji Deshmukh, General Manager

Committee:

Executive Contact: Shivaji Deshmukh, General Manager ASD

Subject: Adopt Resolution No. 2022-1-1, Making Certain Findings and Determinations Regarding Special Rules for Conducting Meetings through Teleconference

Executive Summary:

On March 4, 2020, Governor Newsom declared a state of emergency pursuant to Government Code 8625 due to the COVID-19 pandemic and recommended, together with local officials, measures for social distancing to assist in abating the spread of COVID-19; and on March 17, 2020, the Governor issued Executive Order N-29-20 which, among other things, suspended certain Brown Act rules governing the use of teleconferencing for local agency board meetings. Executive Order N-29-20 expired on September 30, 2021. In response to the ongoing COVID-19 pandemic, the California legislature enacted, and the Governor signed into law, AB 361 amending portions of Government Code 54953, allowing for the continued use of teleconferencing for local agency board meetings while suspending the conditions and restrictions of Government Code 54953(b)(3) if the legislative body of the local agency makes certain findings. The legislative body must make these findings every 30 days to continue the use of teleconferencing.

Staff is recommending that the Board of Directors makes the necessary findings and determinations and Adopt Resolution No. 2022-1-1 to continue to conduct meetings through teleconference for a period of 30 days.

Staff's Recommendation:

Adopt Resolution No. 2022-1-1, Making Certain Findings and Determinations Regarding Special Rules for Conducting Meetings through Teleconference

Budget Impact *Budgeted (Y/N): Y Amendment (Y/N): N Amount for Requested Approval:*

Account/Project Name:

Fiscal Impact (explain if not budgeted):

None.

Prior Board Action:

The Board adopted Resolution No. 2021-10-1, making certain findings and determinations regarding special rules for conducting meetings through teleconference on October 6, 2021. On October 2, 2021, November 3, 2021, November 17, 2021, and December 8, 2021, the Board adopted Resolution Nos. 2021-10-1, 2021-11-6, 2021-11-1, and 2021-12-1, respectively, making continued findings and determinations regarding special rules for conducting meetings through teleconference.

Environmental Determination:

Not Applicable

Business Goal:

The Adoption of a Resolution to make findings for conducting meetings through teleconference is consistent with the IEUA's commitment to applying ethical, fiscally responsible, transparent and environmentally sustainable principles to all aspects of business and organizational conduct.

Attachments:

Attachment 1 - Resolution No. 2022-1-1

RESOLUTION NO. 2022-1-1

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE INLAND EMPIRE UTILITIES AGENCY*, SAN BERNARDINO COUNTY, CALIFORNIA, MAKING CERTAIN FINDINGS AND DETERMINATIONS REGARDING SPECIAL RULES FOR CONDUCTING MEETINGS THROUGH TELECONFERENCE

WHEREAS, Inland Empire Utilities Agency (“IEUA”) is a municipal water district established pursuant to Section 71000 et seq. of the California Water Code; and

WHEREAS, all meetings of the Board of Directors of IEUA are conducted in open and public settings in compliance with the Ralph M. Brown Act (Brown Act) so that any member of the public may attend, participate and watch the Agency’s Board of Directors conduct their business; and

WHEREAS, on March 4, 2020, the Governor declared a state of emergency pursuant to Government Code 8625 due to the COVID-19 pandemic and has recommended, together with local officials, measures for social distancing to assist in abating the spread of COVID-19; and

WHEREAS, on March 17, 2020, the Governor issued Executive Order N-29-20 which, among other things, suspended certain Brown Act rules governing the use of teleconferencing of local agency board meetings; and

WHEREAS, the California legislature has enacted, and the Governor has signed into law, AB 361 amending portions of Government Code 54953, allowing for the continued use of teleconferencing for local agency board meetings while suspending the conditions and restrictions of Government Code 54953(b)(3) if the legislative body of the local agency makes certain findings; and

WHEREAS, On October 6, 2021 the Board of Directors of the Inland Empire Utilities Agency approved Resolution 2021-10-1 making certain factual findings, and authorizing the continued use of teleconferencing for IEUA Board meetings for an effective period of 30 days; and

WHEREAS, On November 3, 2021 the Board of Directors of the Inland Empire Utilities Agency approved Resolution 2021-11-6 again making certain factual findings, and authorizing the continued use of teleconferencing for IEUA Board meetings for an effective period of 30 days; and

WHEREAS, On November 17, 2021 the Board of Directors of the Inland Empire Utilities Agency approved Resolution 2021-11-1 again making certain factual findings, and authorizing the continued use of teleconferencing for IEUA Board meetings for an effective period of 30 days; and

WHEREAS, On December 8, 2021 the Board of Directors of the Inland Empire Utilities Agency approved Resolution 2021-12-1 again making certain factual findings, and authorizing the continued use of teleconferencing for IEUA Board meetings for an effective period of 30 days; and

WHEREAS, the Board of Directors must now determine whether to extend the effective period of Resolution 2022-1-1 for an additional 30 days, making the appropriate factual findings in support thereof;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Inland Empire Utilities Agency hereby make the following findings and determinations:

SECTION 1. The Governor has proclaimed a state of emergency on March 4, 2020 which continues.

SECTION 2. The Governor and local officials have promoted the use of social distancing as a method to abate the spread of COVID-19 within the community. The Board of Directors finds that conducting in person meetings of the IEUA Board of Directors would be inimical to social distancing and would present imminent risks to the health or safety of the attendees and conducting meetings by teleconference would diminish that risk.

SECTION 3. The Board of Directors will continue to conduct Board meetings by teleconference in compliance with Government Code 54953(e) until such time as the Governor has terminated the state of emergency and the risk to health and safety of meeting attendees is sufficiently diminished or as otherwise required by law. Notice of meetings and posted agendas will contain information which allows members of the public to access the meeting and address the Board of Directors and offer public comment including an opportunity for all persons to attend via a call-in option or an internet-based service option.

SECTION 4. This Resolution shall take effect immediately upon its adoption and shall be effective for 30 days or until such time as the Board of Directors adopts a subsequent resolution in accordance with Government Code 54953(e)(3) to extend the time during which meetings of the Board of Directors may be conducted by teleconference without compliance with Government Code 54953(3)(b).

ADOPTED this 5 day of January, 2022.

Steven J. Elie, President of the Inland
Empire Utilities Agency* and of the Board
of Directors thereof

ATTEST:

Marco Tule, Secretary/Treasurer of the Inland
Empire Utilities Agency* and of the Board of
Directors thereof

STATE OF CALIFORNIA)
)
COUNTY OF SAN BERNARDINO)

I, Marco Tule, Secretary/Treasurer of the Inland Empire Utilities Agency*, DO
HEREBY CERTIFY that the foregoing Resolution being No. 2022-1-1, was adopted at
a regular meeting on January 5, 2022, of said Agency by the following vote:

AYES:

NOYES:

ABSENT:

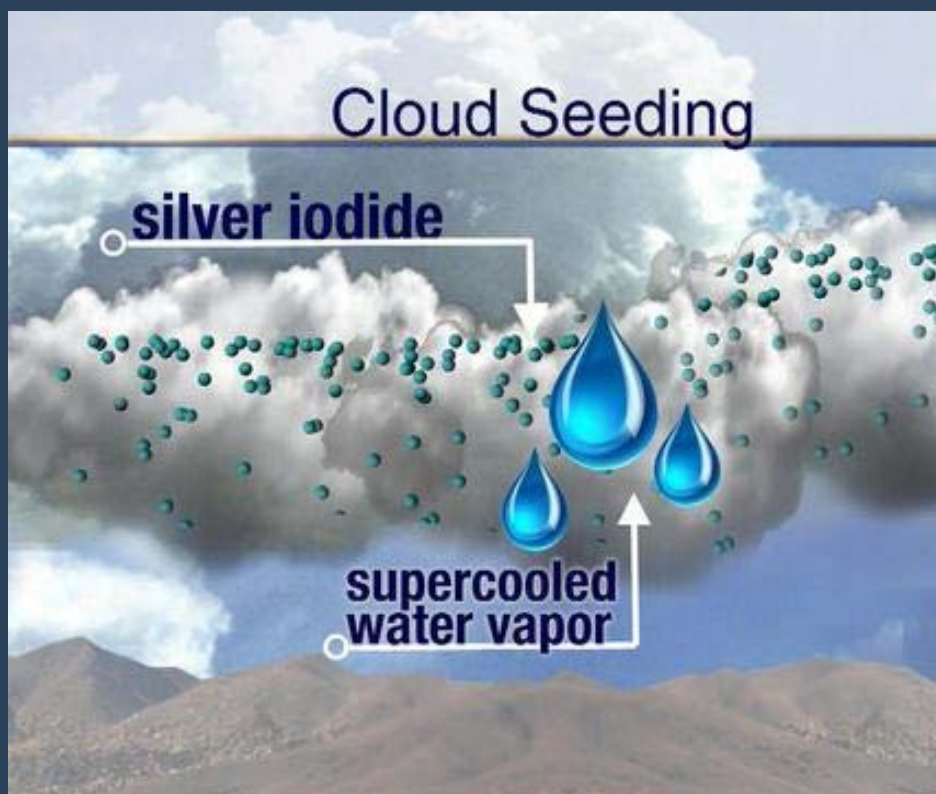
Marco Tule
Secretary/Treasurer

(SEAL)

*A Municipal Water District

**WORKSHOP
ITEM**

2A



Source: CBS News

Santa Ana River Watershed Weather Modification Pilot Program

Jeff Mosher, General Manager
Mark Norton, Water Resources & Planning Mgr.
Santa Ana Watershed Project Authority

Inland Empire Utilities Agency
Board Workshop
January 5, 2022



Presentation Overview

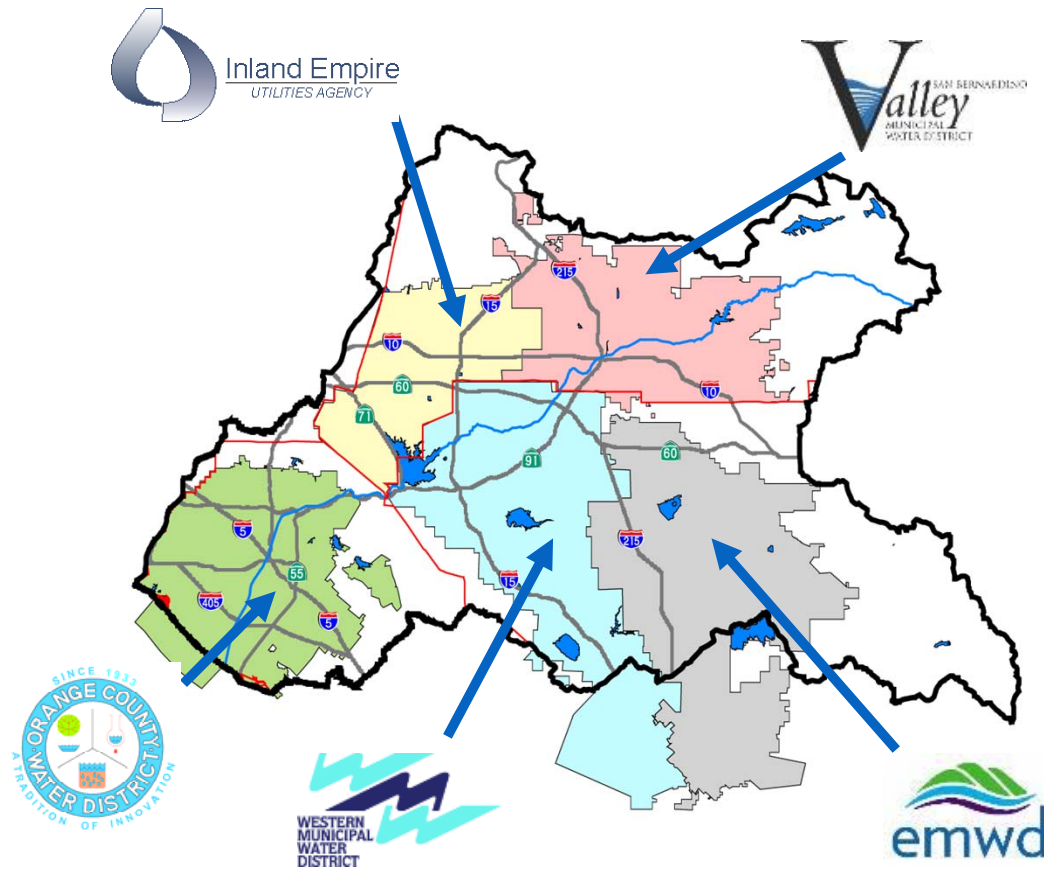
- 💧 Background on cloud seeding
- 💧 Cloud seeding potential in California (Ramesh Gautam, DWR)
- 💧 Proposed SAWPA Study:
 - Santa Ana River Watershed Weather Modification Pilot Program



Photo by Cindy Yamanaka, The Press-Enterprise/SCNG



SAWPA: Joint Powers Authority with five Member Agencies



Stakeholders:

- 97 Water-related Agencies
- 4 Counties
- 63 Cities
- State, environmental, and regulatory agencies
- Federal agencies
- Other special districts
- Special interest groups

How cloud seeding works

1

Silver iodide mixed with acetone is vaporized, releasing particles into the atmosphere.

2

Iodide particles rise into cold, high-altitude air, moisture in the air condenses to form ice crystals on particles.

3

As ice crystals grow they become heavy and fall back to Earth in the form of snow or, at warm temperatures, melt into rain.

Seeding generator

Wind direction

Source: The Fact Site

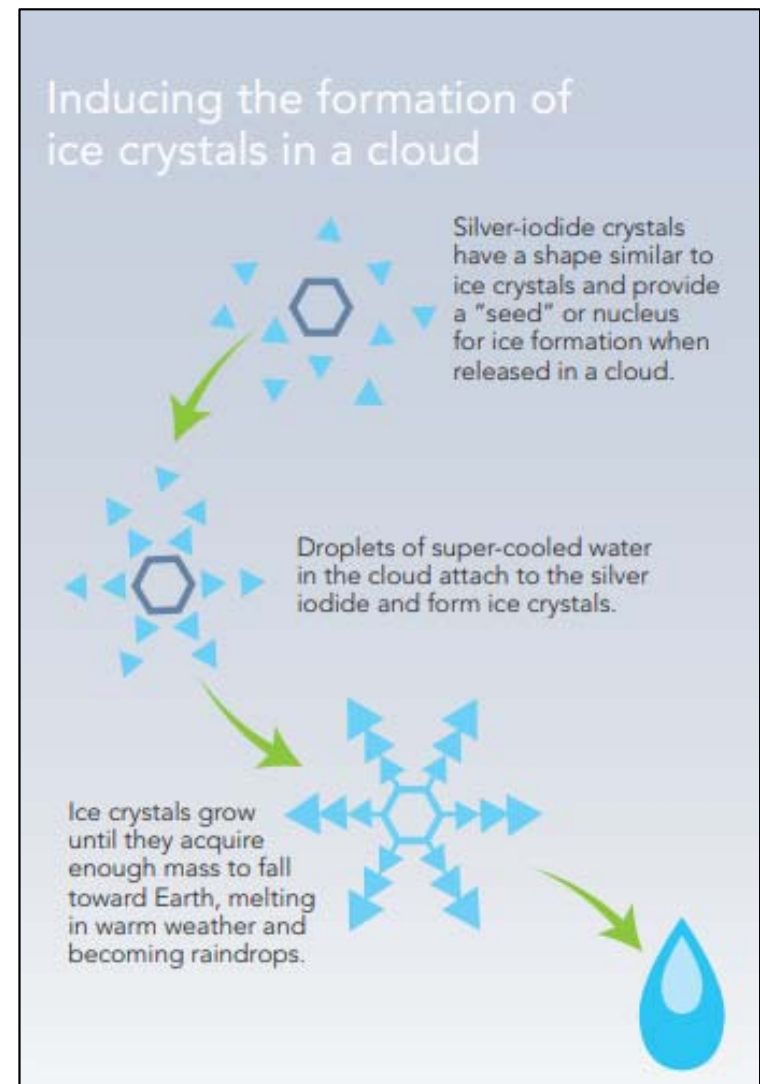
Cloud Seeding History

Background

- Physics is well known
- Started in the U.S. in the 1940s
- Challenges: Overselling, limited science
- Misconceptions remain

Recent Advances

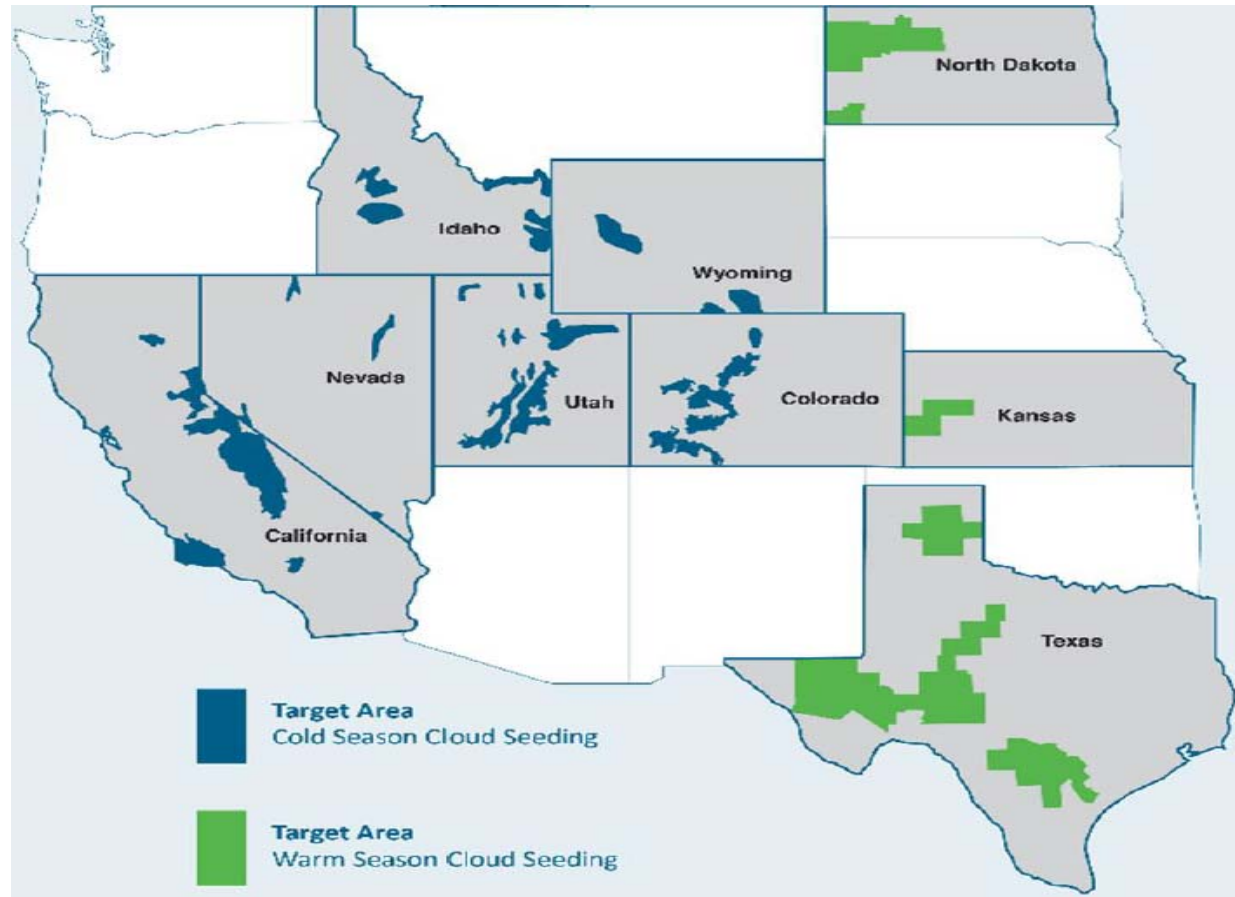
- Weather forecasting
- Computing / Modeling
- Seeding methods
- Scientific validation studies



Source: North American Weather Modification Council

U.S. Projects

- 💧 Cold Season Cloud Seeding Leaders
 - CA, CO, ID, UT, WY, NV
- 💧 Applications
 - Power Utilities (hydropower)
 - Ski areas
 - Water Resource Agencies
 - Irrigation Districts
- 💧 California Projects
 - Santa Barbara County
 - San Luis Obispo
 - Sacramento Municipal Water District
- 💧 CA DWR
 - Cloud seeding is a “safe and effective means of augmenting local water supplies.”



Source: North American Weather Modification Council

Ground Based Seeding Methods

CNG's (Cloud Nuclei Generators)



- Ideal for orographic lift (winds caused by land barriers)
- Create a continuous plume
- Inexpensive to install and operate

AHOGS (Automated High Output Ground Seeding) Systems



- Ideal for strong convective storm attributes (turbulence)
- Delivers higher concentration of AgI
- Operated remotely – rapid release

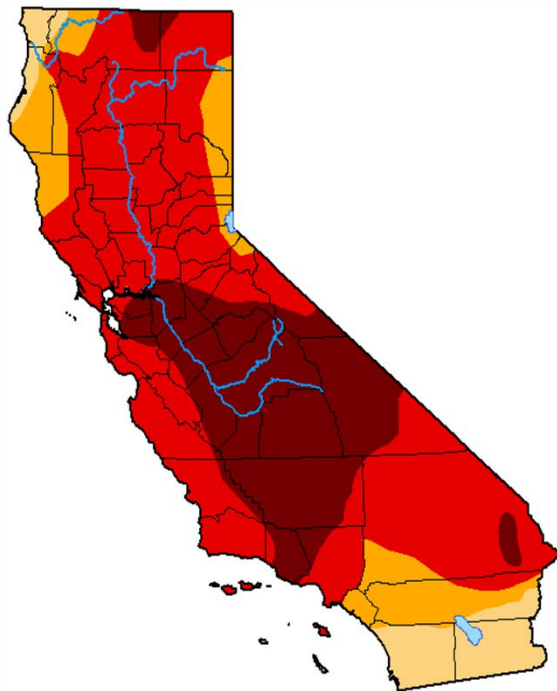
Cloud Seeding Potentials in California



Ramesh Gautam, PhD, PE
Manager, California Cooperative Snow Surveys Program
California Department of Water Resources

U.S. Drought Monitor California

December 14, 2021
(Released Thursday, Dec. 16, 2021)
Valid 7 a.m. EST



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

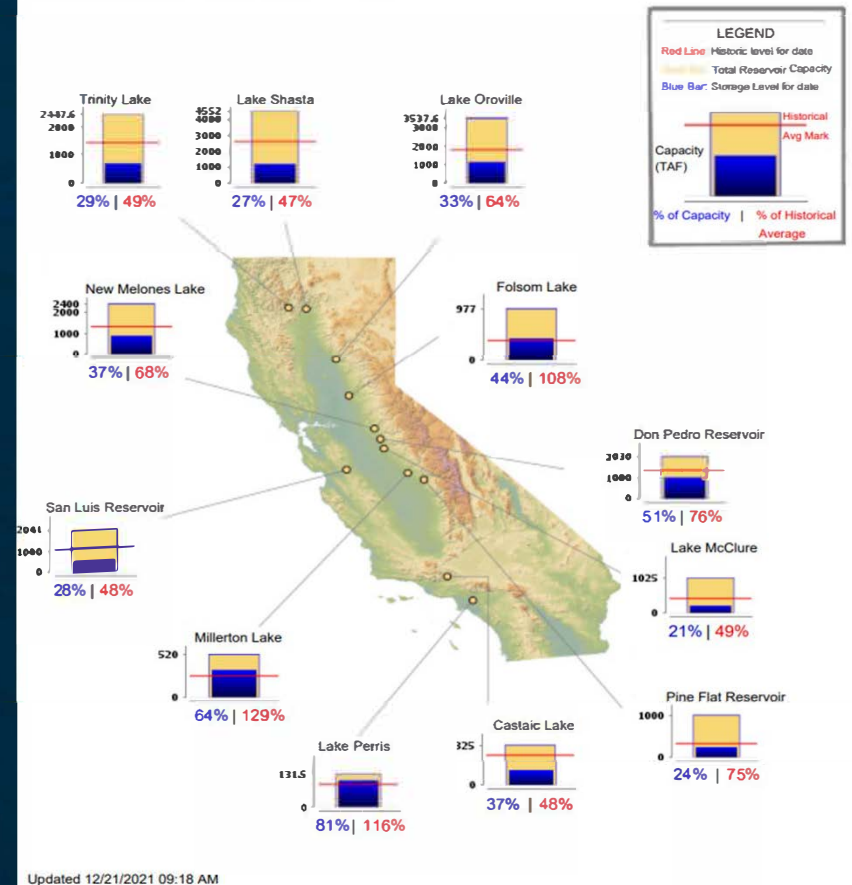
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

David Simal
Western Regional Climate Center

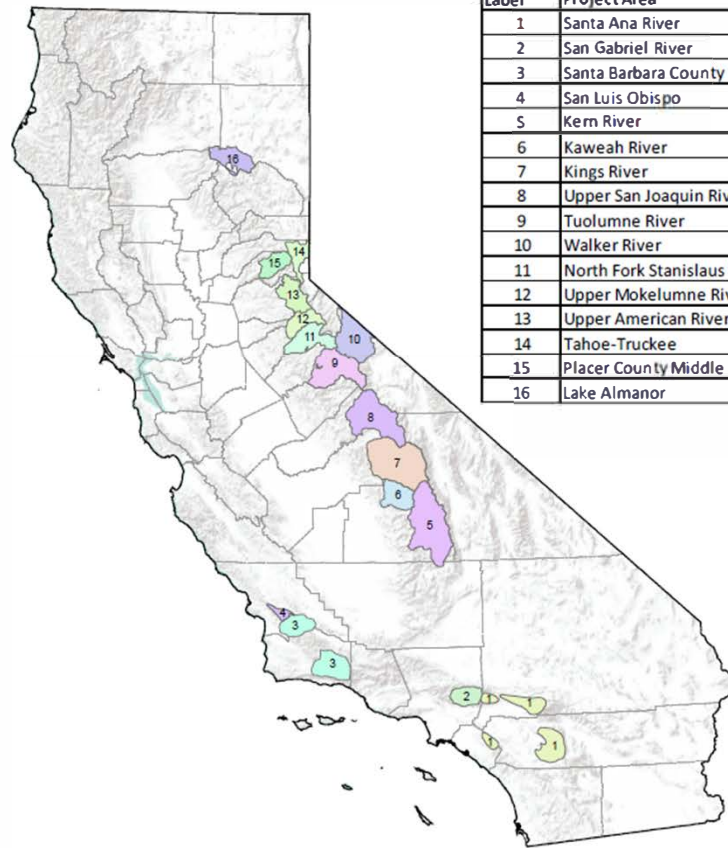


droughtmonitor.unl.edu





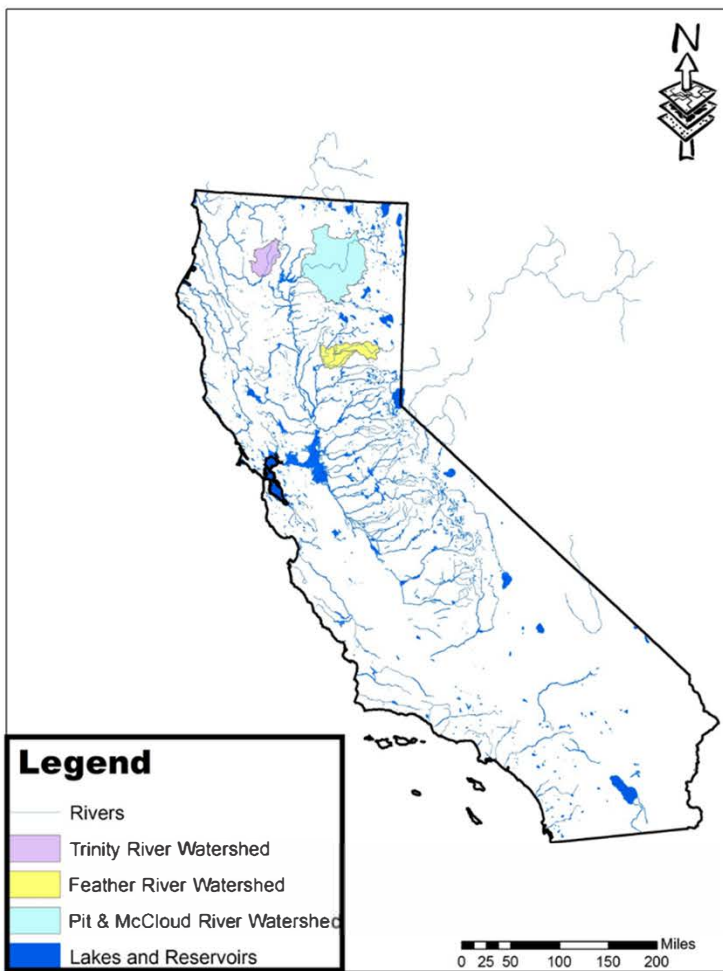
Cloud Seeding Project Areas in California



Label	Project Area
1	Santa Ana River
2	San Gabriel River
3	Santa Barbara County
4	San Luis Obispo
5	Kern River
6	Kaweah River
7	Kings River
8	Upper San Joaquin River
9	Tuolumne River
10	Walker River
11	North Fork Stanislaus River
12	Upper Mokelumne River
13	Upper American River
14	Tahoe-Truckee
15	Placer County Middle Fork
16	Lake Almanor

0 50 100 200 300 400 Miles

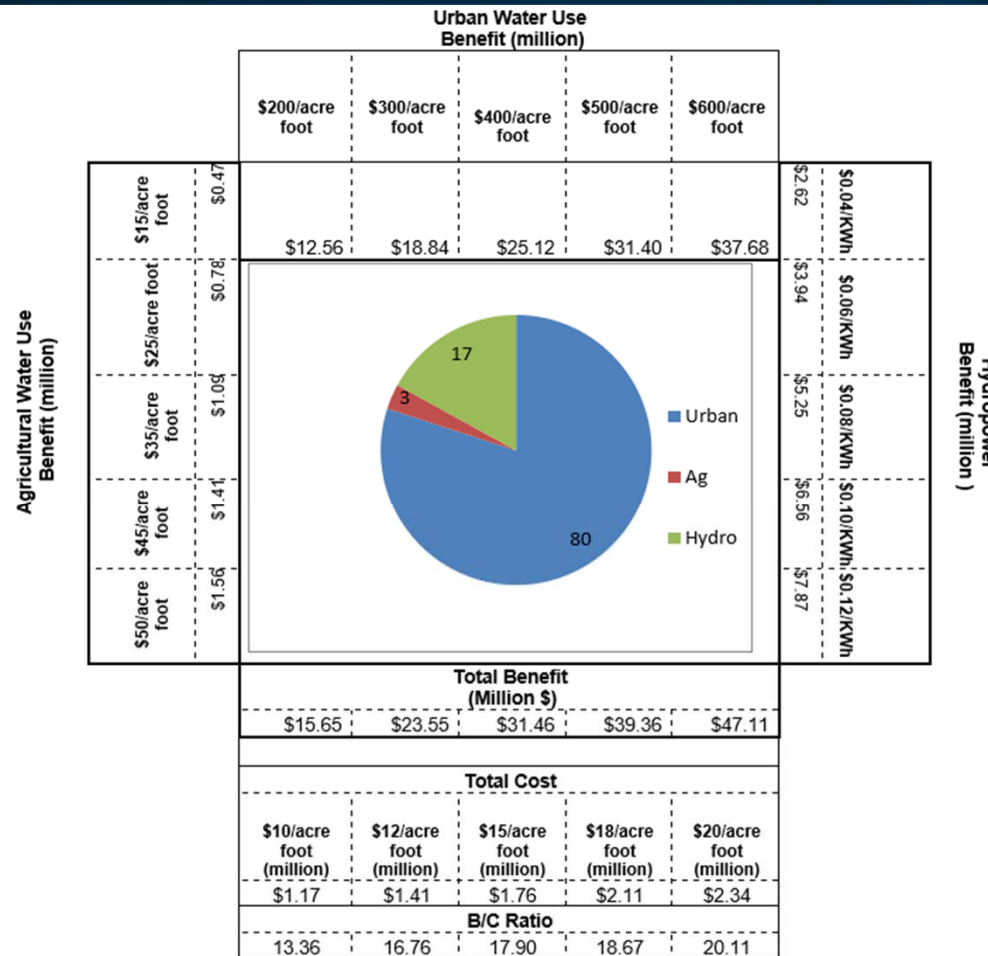




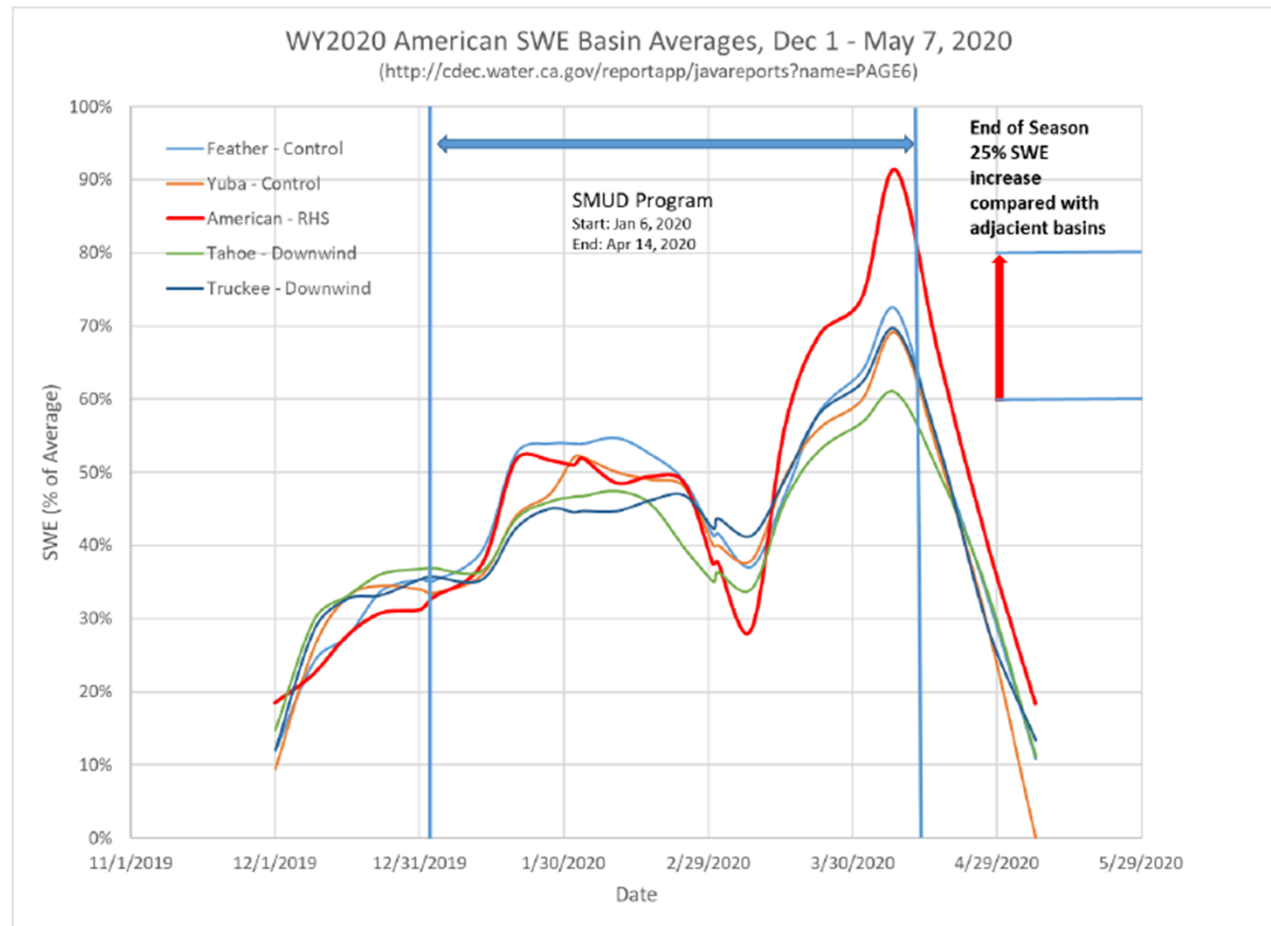
Benefit Cost Ratio of Cloud Seeding Feasibility Study Conducted by the Department of Water Resources

Basin	Rate 1	Rate 2	Rate 3	Rate 4	Rate 5
Pit & McCloud	12:1	16:1	17:1	17:1	19:1
Feather	13:1	17:1	18:1	19:1	20:1
Trinity	14:1	17:1	18:1	19:1	20:1

Feasibility Study by DWR in 2015-Feather River Basin

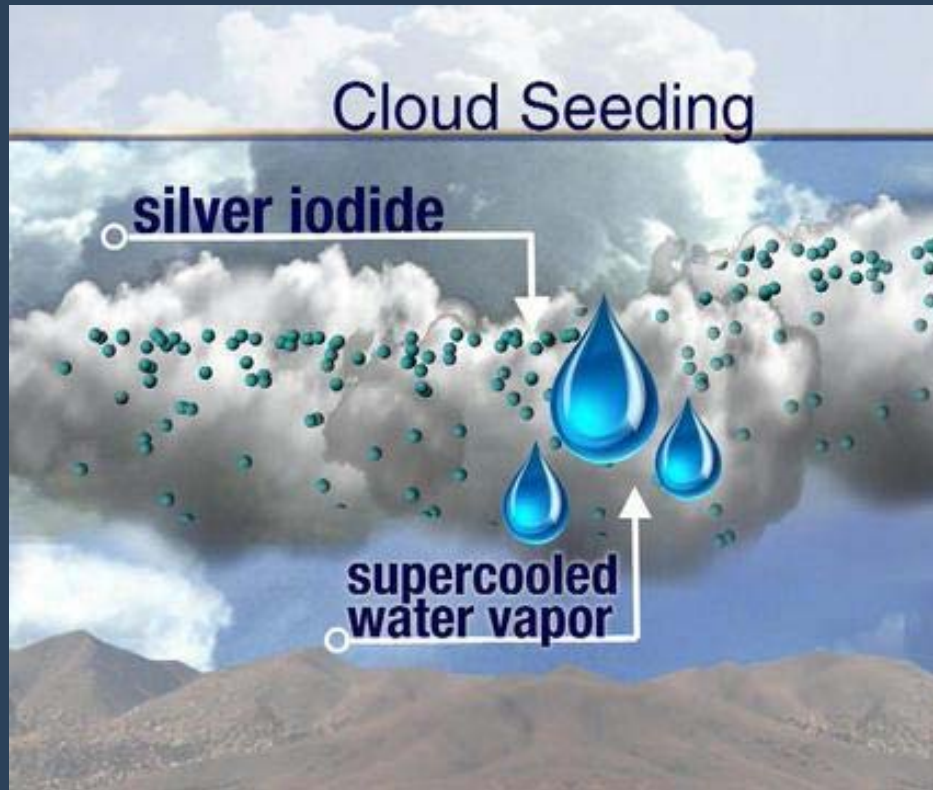


SMUD's Cloud Seeding Program (March-April 2020)



Summary

- Climate Change has been attributing more frequent and severe droughts in California.
- Cloud seeding may augment fresh water supply and thus may be one of the useful tools to consider for resource management strategies.
- Additional study would help to provide further insight for the potential benefit and investment of resources on a state level.



Source: CBS News

Santa Ana River Watershed Weather Modification Pilot Program

Overview



Why consider cloud seeding in the Santa Ana River Watershed?

Precipitation – and flows in the Santa Ana River – have been trending down

- Cloud seeding increases precipitation (with an emphasis as snow in upper elevations)
- Produces a local supply
- Potential to reduce the use of imported water

Dry years and droughts occur

- Cloud seeding works in both dry and wet years

Cost effective

- Costs for 8%-11% increase in streamflow is a fraction of the cost of imported water

Supports local water storage

- Natural infiltration
- Takes advantage of existing stormwater capture infrastructure

Santa Ana River Weather Modification Pilot Program

Program Element	2020	2021	2022	2023	2024	2025	2026
Feasibility Study							
Outreach on Local Cost Share (for grant)							
Ground Seeding Site Analysis							
CEQA							
Prop 1 Round 2 Grant Application (50% of cost)							
Pilot Program							
Outreach/Public Engagement							

Feasibility Study Approach

Ground Based Seeding Dispersion Model

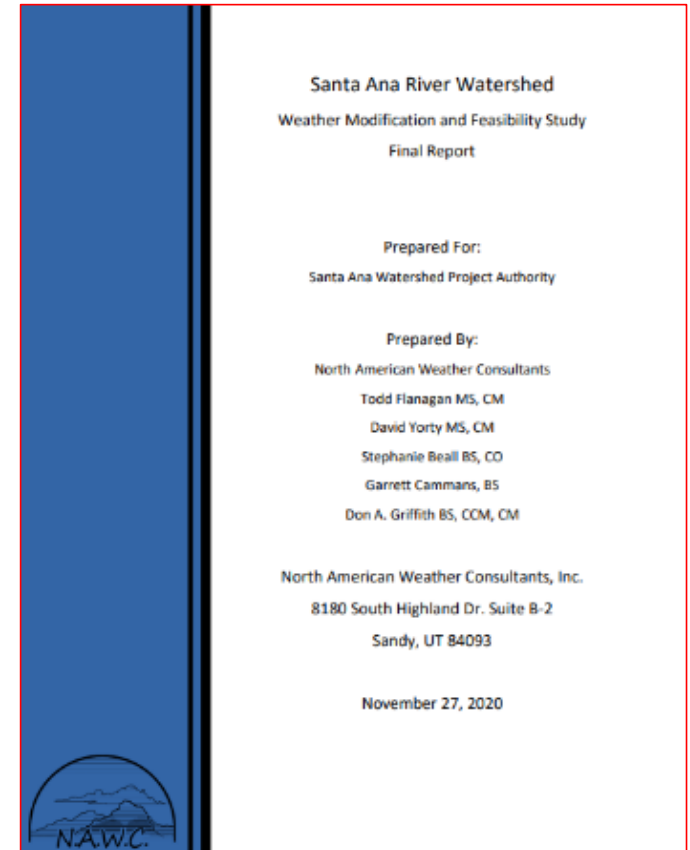
4 seeding areas:

- NW
- NE
- SW
- SE



2020 Feasibility Study Outcomes

- Finding:
 - ...the proposed cloud seeding program would be both technically and economically feasible...
- Pilot Project (annual basis)
 - Cost: **\$208,300**
 - Benefits:
 - Streamflow increase = **8,193 AF**
 - Percent increase in streamflow = **7.8%**
 - Cost per acre-foot (AF) = **\$25.42 /AF**
 - Benefit to Cost Ratio = **10.03**



Feasibility Study (2020)

<https://sawpa.org/latest-info/watershed-cloud-seeding-feasibility-study/>

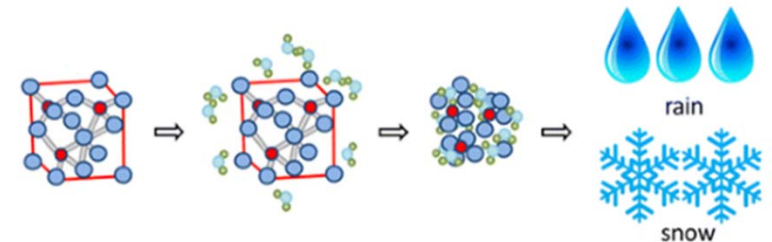
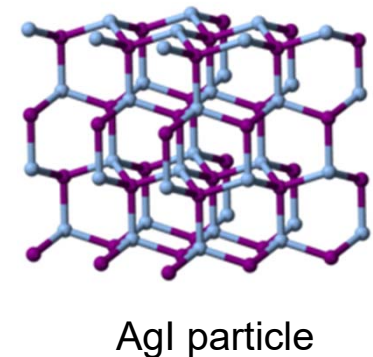
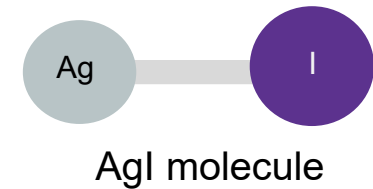
Cloud Seeding Project Questions

- Safety of Silver Iodide
- Operators are licensed and carry liability insurance
- Operations
- Suspension criteria
 - Turn off program during high precipitation (avoid flood conditions)
 - Turn off program due to burn scars from wildfires
- Permitting
- Outreach is critical



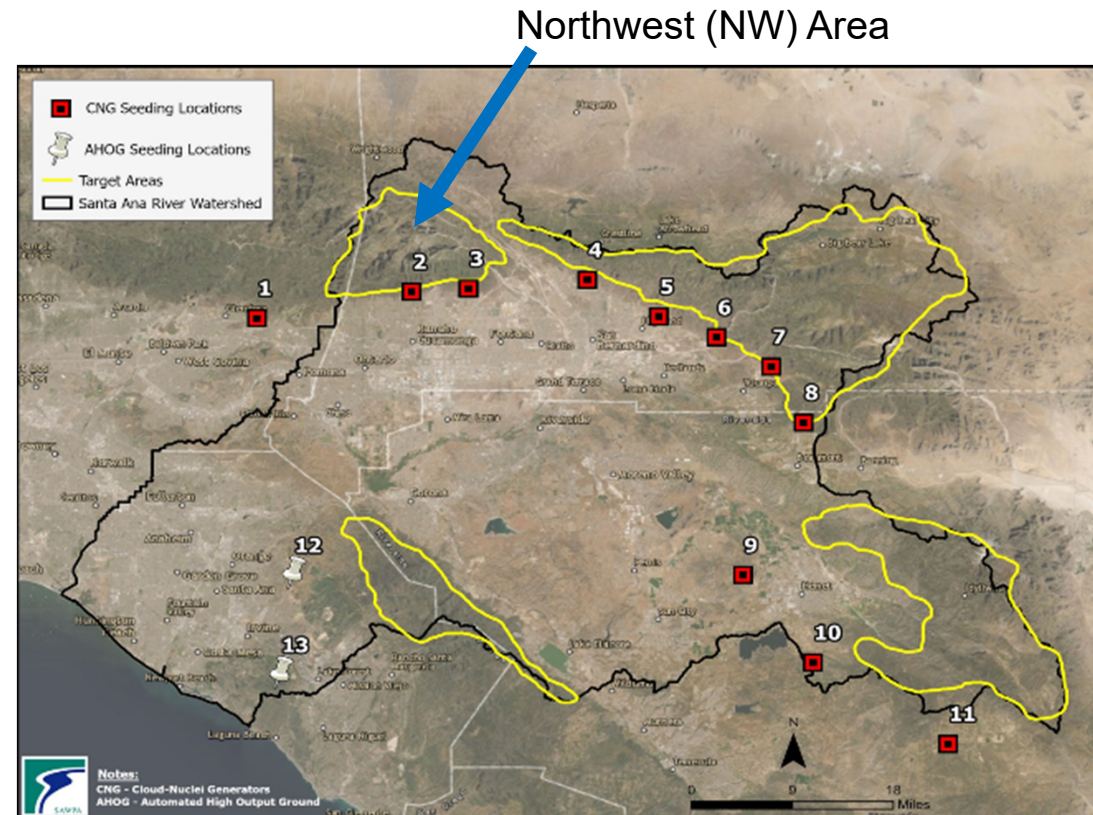
Safety of Silver Iodide (AgI)

- Silver Iodide:
 - Inert mineral salt
 - Not soluble in water
 - Does not break down into Ag and I (except $\text{pH} < 2.0$)
 - Is not carcinogenic to humans or animals
- In the environment:
 - AgI is attracted to soil particles
 - Concentrations in soil due to cloud seeding are within the range of background levels



Purpose of Weather Modification Pilot Project

- Verify increases in precipitation
 - Compare “Target Areas” to “Control Areas” (indirect approach)
 - 3-4 years needed
- Evaluate increases by areas in watershed
- Benefit/Cost evaluation
- Review of Operations
- Review of Suspension Criteria



Projected Increases in Precipitation and Streamflow (annual averages)

Ground Only Seeding:

Target Area	Seasonal Precip. Increase (inches)	Percent Increase	Avg. Natural Streamflow (AF)	Streamflow Increase (AF)	Percent Increase
NW	0.41	3.5%	25,000	2,043	8.2%
NE	0.49	4.1%	65,000	4,330	6.7%
SW	0.59	3.7%	5,000	447	9.0%
SE	0.49	4.5%	10,000	1,373	13.7%
TOTAL w/ Ground Only			105,000	8,193	7.8%

Outreach Presentations and Funding Support

Approach:

- Contacted 60+ water agencies/departments:
 - Provided information about the pilot program
 - Requested to make presentations to boards

Status:

- 12+ Presentations made/scheduled
- Funding commitments for pilot program:
 - Chino Basin Water Conservation District, **\$20,000**
 - San Antonio Water Agency, **\$5,000**
 - City of Corona, **\$5,000**
- 10+ board presentations have been scheduled over the next two months



What are we learning from the presentations?

Outcomes:

- Most agencies are supportive of the pilot program
- Many questions are asked, including the efficacy of cloud seeding

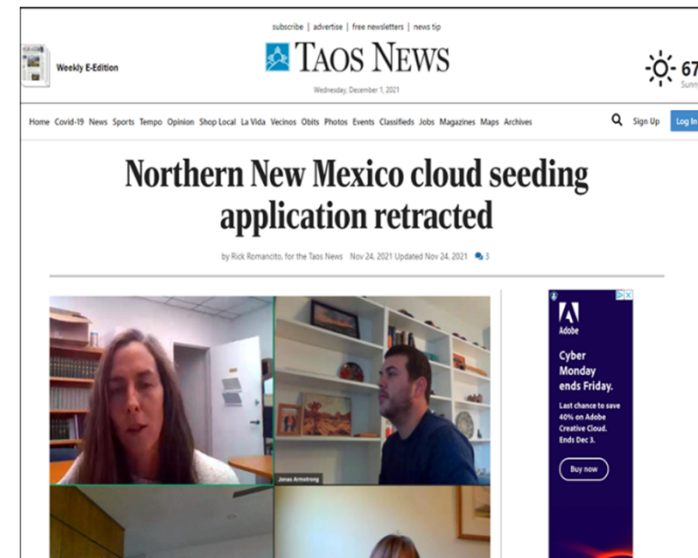
Comments on Cost Share:

- They are interested in the funding commitments by other agencies
- Financial support be provided by SAWPA member agencies



Questions and/or Concerns

- Is silver iodide safe? **(covered)**
- Why is only ground-based system being considered for pilot? **(cost and complexity)**
- What are the direct benefits to specific agencies? **(TBD in pilot)**
- How much of the new water can be captured and recharged from the ~8100 AF? **(TBD in pilot)**
- What is the liability? **(covered)**
- What were the outcomes of the previous cloud seeding study by SBVMWD in the 1970s?
- If other cloud seeding programs are being opposed (i.e., New Mexico) why start one for this watershed? **(Address need and cost; conduct outreach)**



Santa Ana River Weather Modification Pilot Program

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CEQA							
Prop 1 Round 2 Grant Application (50% of cost)							
Pilot Program							
Outreach/Public Engagement							



Thank You!

Jeff Mosher
General Manager
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Mark Norton
Water Resources & Planning Manager
mnorton@sawpa.org