



NYE COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM REQUEST FORM

Department: Finance	Meeting Date:
Category: Timed Agenda Item - 10:00 a.m.	October 17, 2023
Prepared by: Stephani Elliott	Phone: (775) 751-6355
Presented by: Daniel Weeks, Nye County Water District General Manager	Phone: (775) 727-3487
Action requested: (Include what, with whom, when, where, why, and terms) Presentation by Daniel Weeks, General Manager of the Nye County Water District Governing Board, regarding Cloud Seeding Program results pursuant to the Nye County ARPA Recovery Plan and Policy: Infrastructure Grant.	
Complete description of requested action: (Include, if applicable, background, impact, long-term commitment, existing county policy, future goals, obtained by competitive bid, accountability measures) On March 23, 2022 the Board of Nye County Commissioners (BoCC) allocated the Nye County Water District \$285,000.00 for a Cloud Seeding Program to encourage rain in southern Nye County for an increase of the recharge rate to the Pahump Valley aquifer located in Hydrographic Basin #162. The Nye County American Rescue Plan Act (ARPA)- Recovery Plan and Policy was approved by the BoCC during the September 20, 2022, which authorized Infrastructure Grant funding for the Nye County Water District Cloud Seeding Program.	
Recommendation:	

Financial Impact

Cost:	Fund Name:	Fund #:
Budgeted: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	FY:	<input type="checkbox"/> One-Time <input type="checkbox"/> Recurring
Comments:		

Review & Approval

Legal Review Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Legal Approval Received: <input type="checkbox"/>	Date:
Financial Review Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Submitted to Finance: <input type="checkbox"/>	Date:
Administrative Manager Review: <input checked="" type="checkbox"/>	Place on Agenda: <input checked="" type="checkbox"/>	Initials: ST

Spring Mountains Cloud Seeding² Water Year 2023

Basin 162 Preliminary Report

Frank McDonough
Desert Research Institute



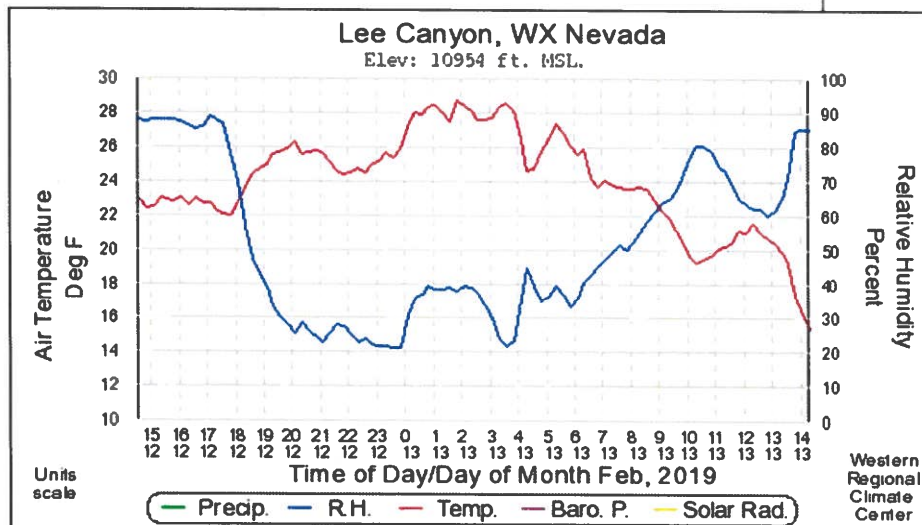
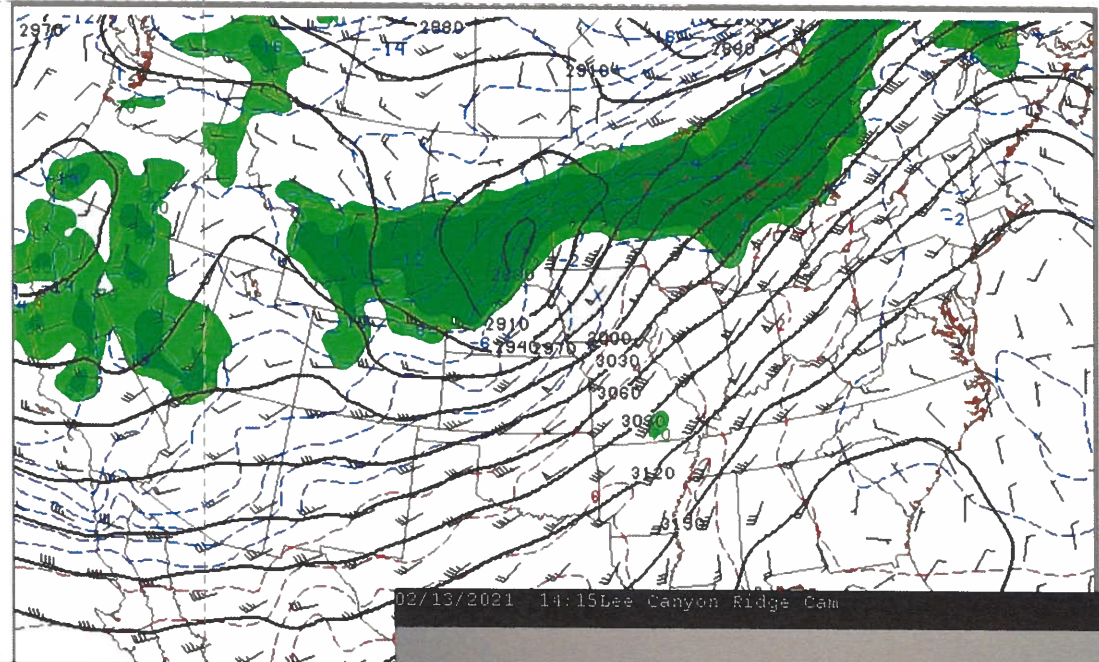
Spring Mountains Cloud Seeding Weather (based on climatological analysis of winter storms)

Cloud bases below mountain top level.

Clouds containing subfreezing water drops.

12,000' MSL temperatures less than 23°F

Winds blowing from the south-southeast through southwest



Current Values

Date/Time

Feb. 13, 2021

14:15 PST

Air Temperature

15.4 F HI: 28.7 F
LO: 15.4 F

Relative Humidity

85 % HI: 89 %
LO: 21 %

Precipitation

-999 in. Past 24h
0.00

Solar Radiation

-999 Kw/m2

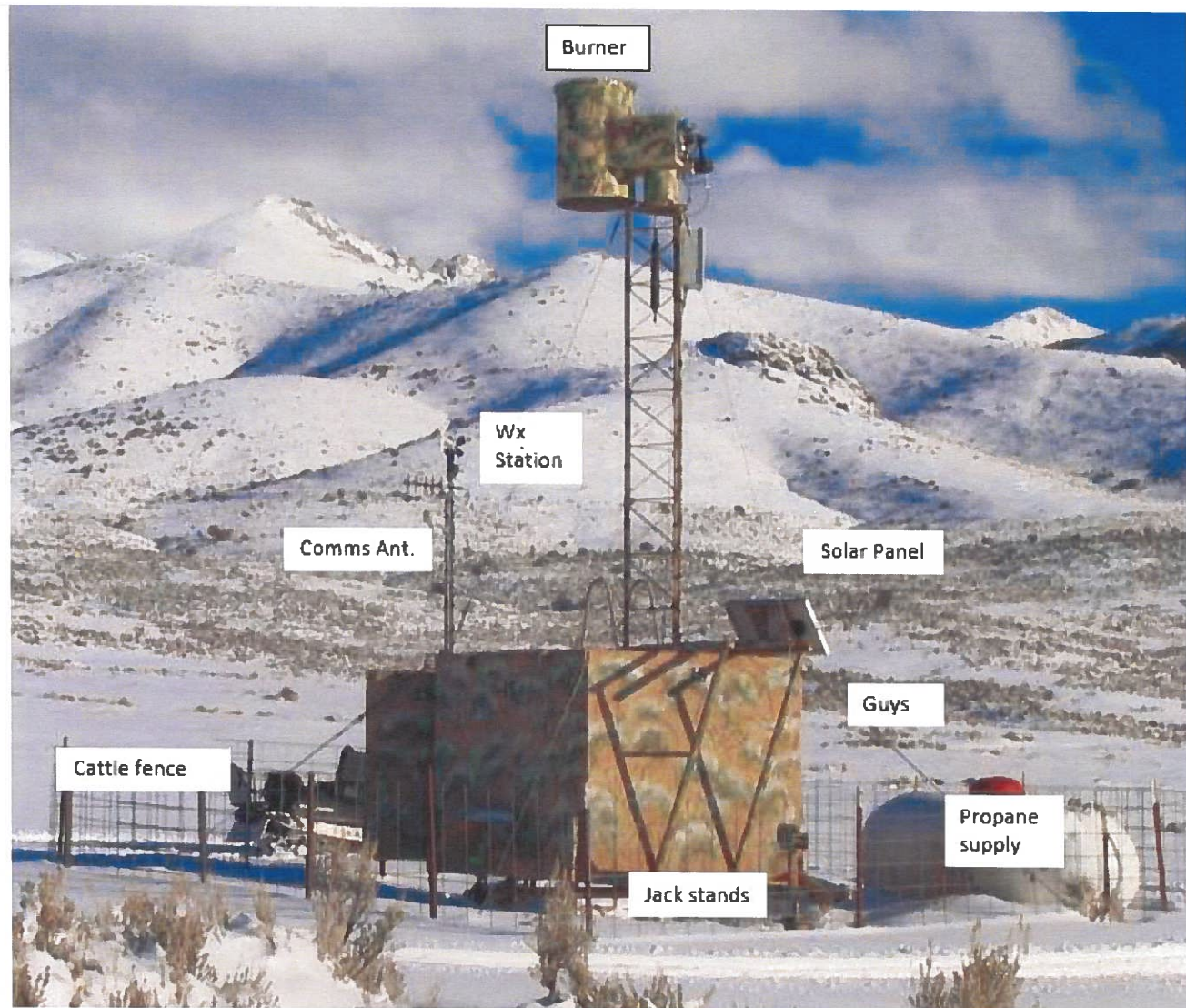
Barometric Pressure

NA

Spring Mountains mountain top webcam

Spring Mountains mountain top weather station

DRI Remote Cloud Seeding generator

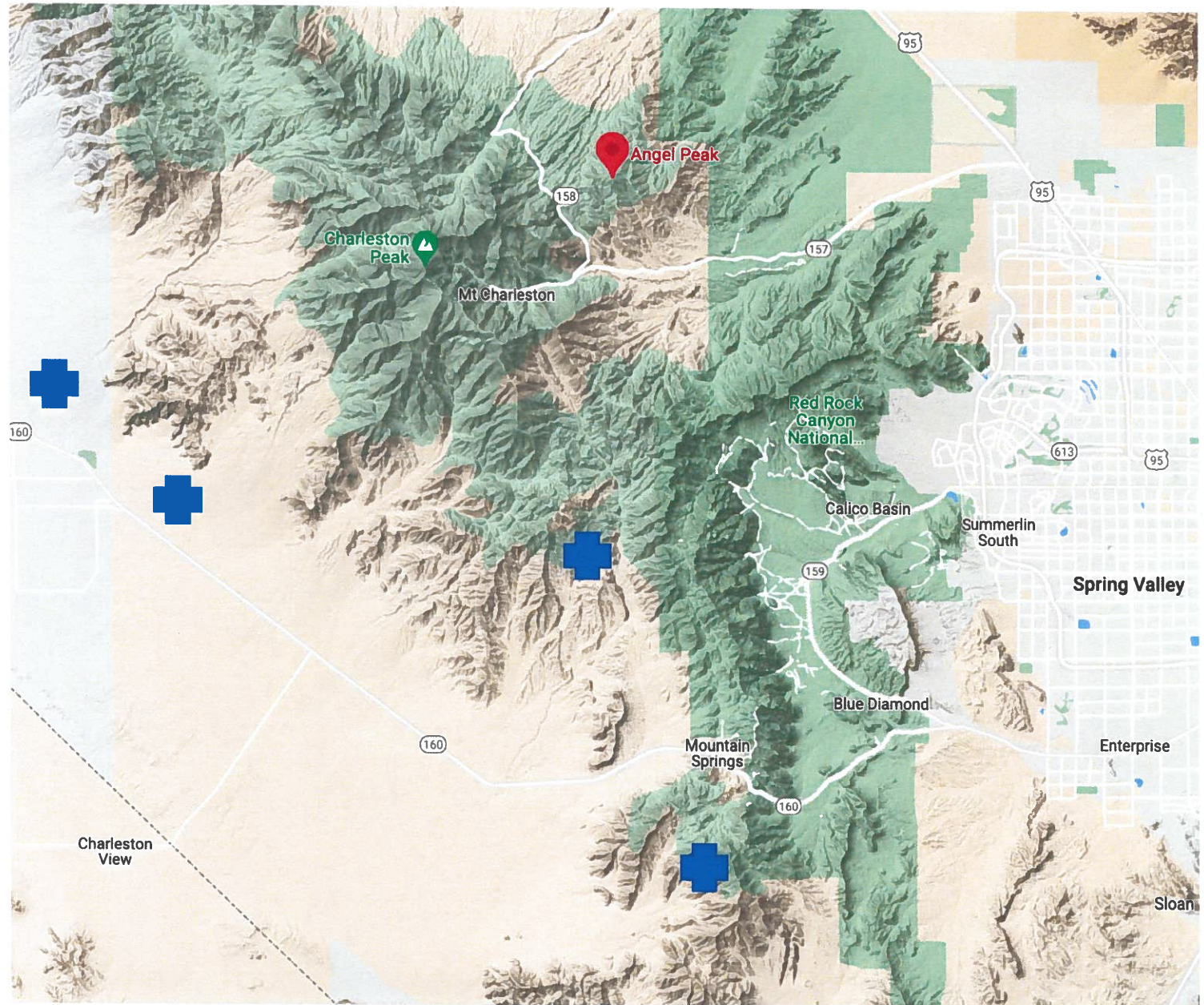


Spring Mountains Project WY2023

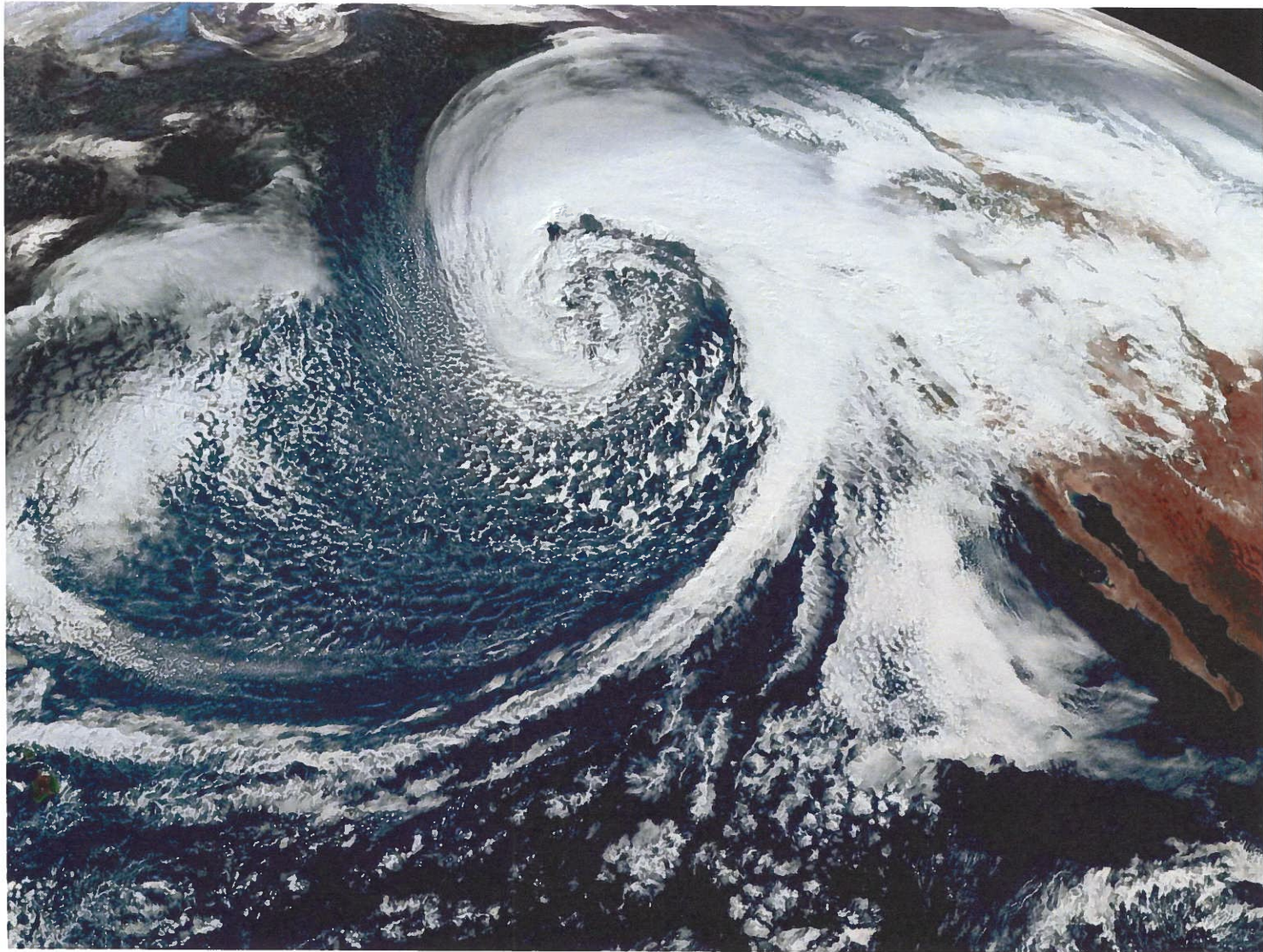
4 – DRI generators

- Mesquite
- Manse
- Lovell
- Potosi

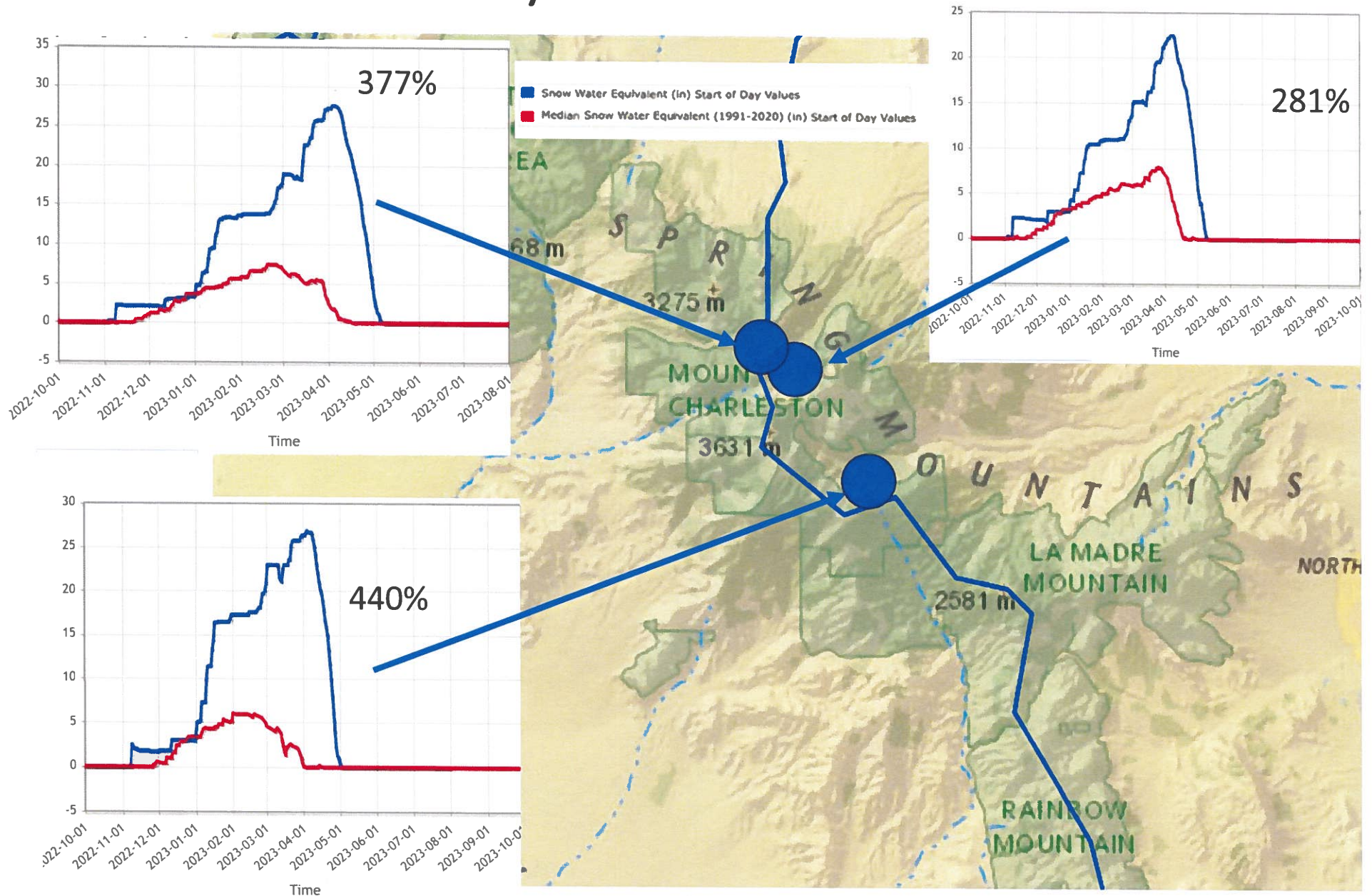
Operated under
southeast through
west winds
(majority of
storms)



Winter 2022-2023 review and monthly seeding operations



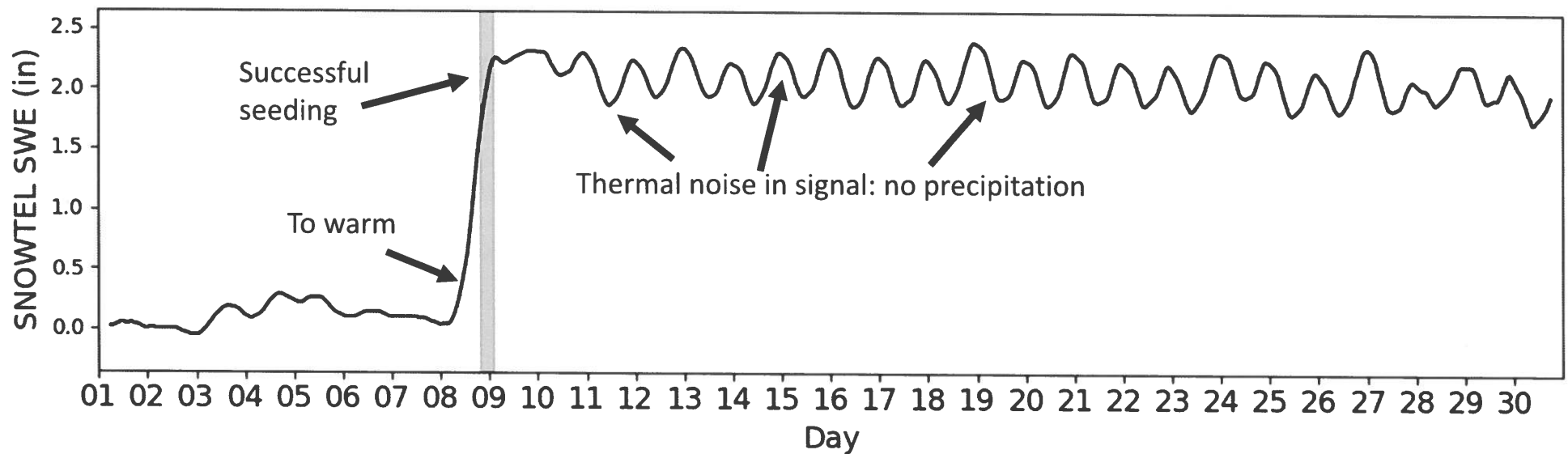
Cumulative WY23 Spring Mountains SWE Compared to 30-year maximum SWE



Spring Mtns: Monthly Seeding Operations⁸ and SWE

(Black line Lee Canyon SNOTEL SWE, gray bars seeding periods)

20221101 to 20221201

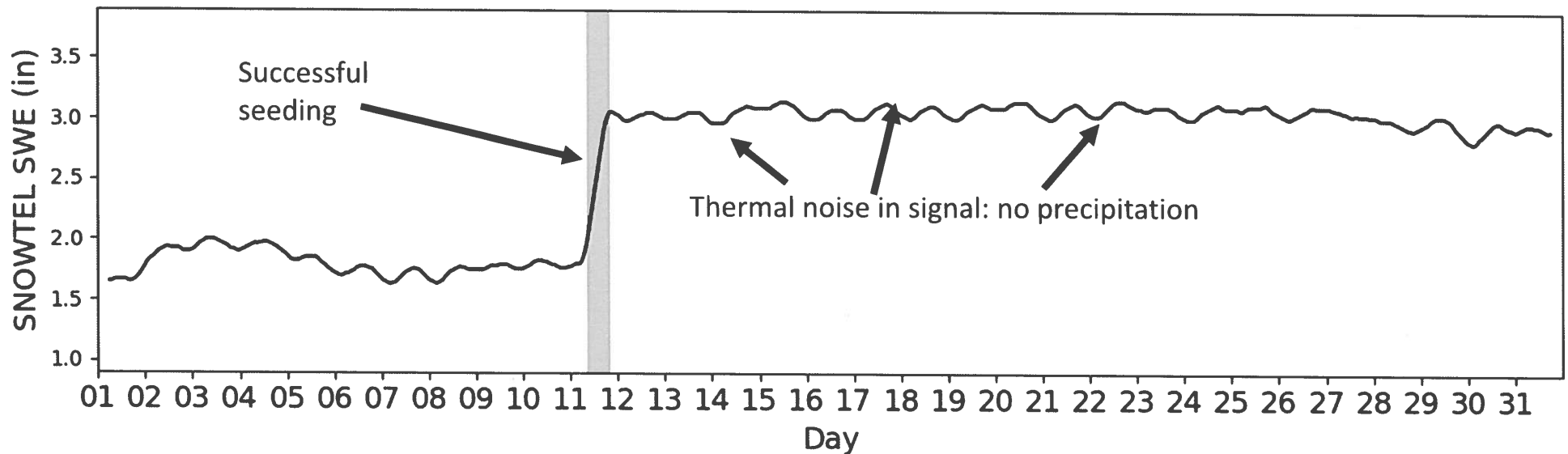


November 2022 – 2.4" of total SWE,
6-hours of successful seeding

Spring Mtns: Monthly Seeding Operations⁹ and SWE

(Black line Rainbow Canyon SNOTEL SWE, gray bars seeding periods)

20221201 to 20230101

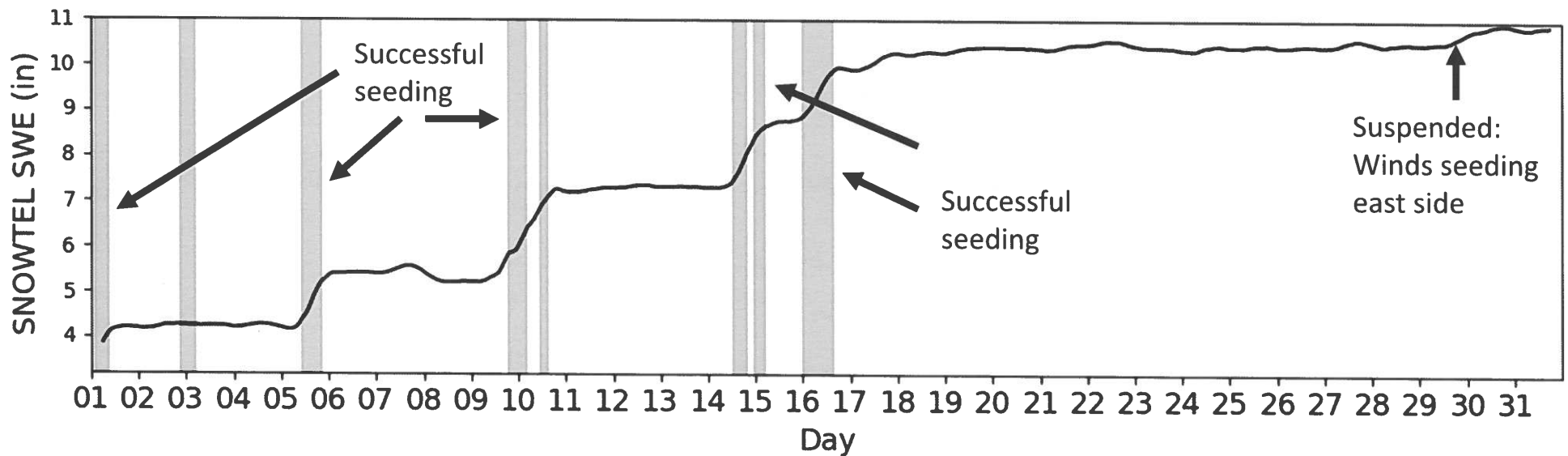


December 2022 – 1.3" of total SWE,
10-hours of successful seeding

Spring Mtns: Monthly Seeding Operations¹⁰ and SWE

(Black line Lee Canyon SNOTEL SWE, gray bars seeding periods)

20230101 to 20230201

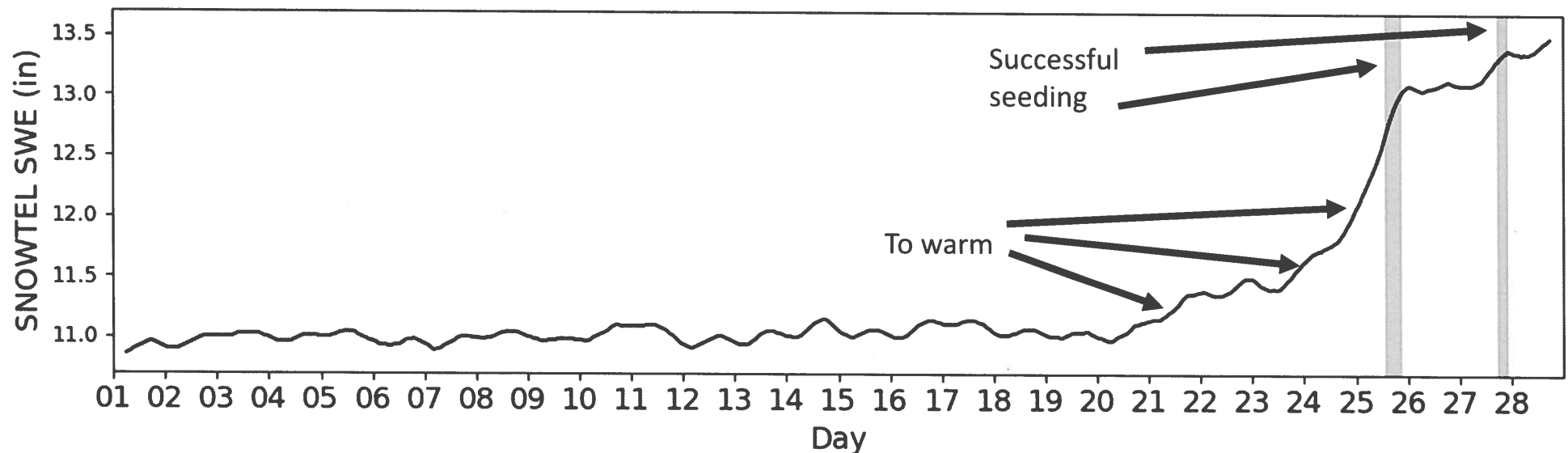


January 2023 – 7.8” of total SWE,
57-hours of successful seeding

Spring Mtns: Monthly Seeding Operations¹¹ and SWE

(Black line Lee Canyon SNOTEL SWE, gray bars seeding periods)

20230201 to 20230301

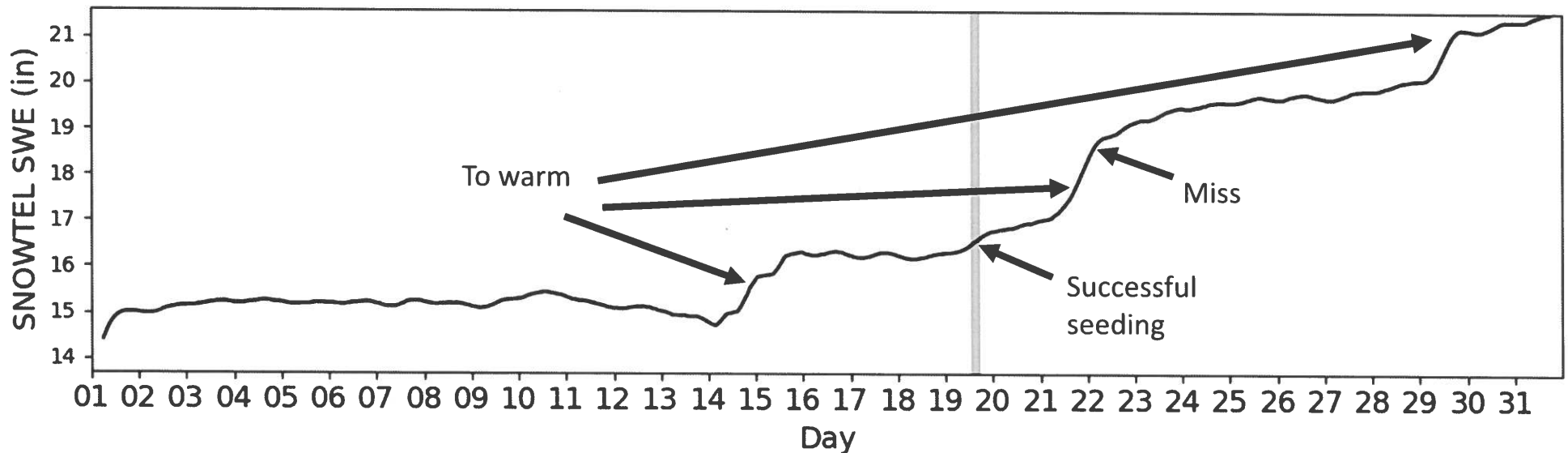


February 2023 – 2.7” of total SWE,
9-hours of successful seeding

Spring Mtns: Monthly Seeding Operations and SWE¹²

(Black line Lee Canyon SNOTEL SWE, gray bars seeding periods)

20230301 to 20230401



March 2023 – 7.8” of total SWE,
4-hours of successful seeding

Operations Summary Spring Mountains Basin 162

Number of generators - 4

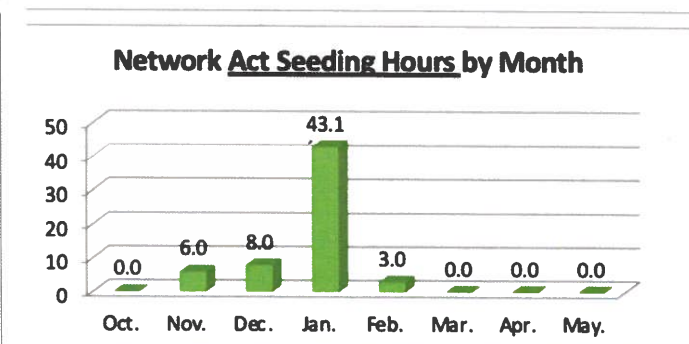
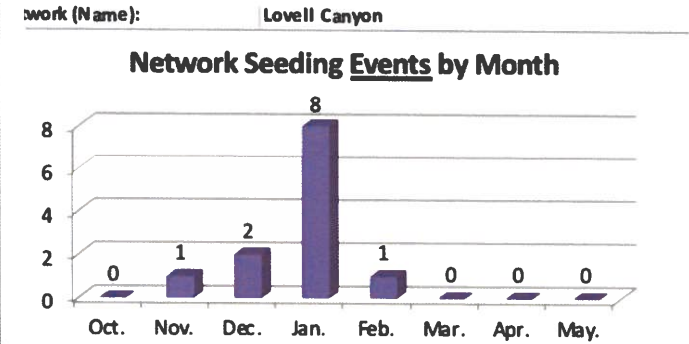
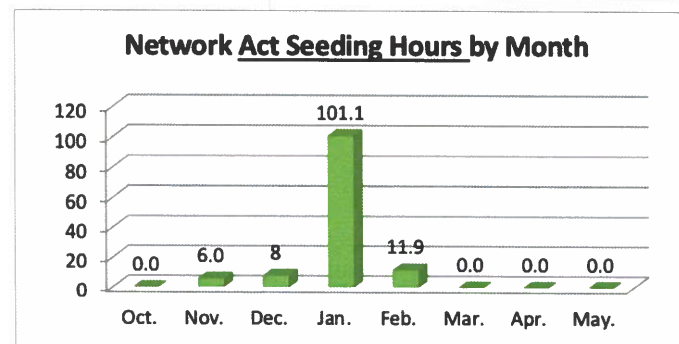
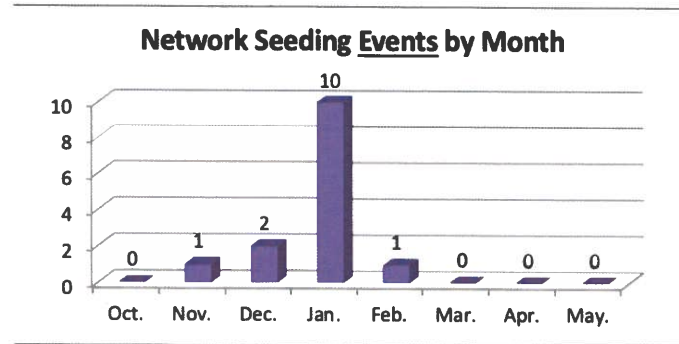
Seeded storm periods – 13

Generator hours – 156

Est. SWE Increase per hr
= 0.02"

Impact area per generator
40sq mi

Estimated increase in SWE
from seeding program–
6,653 acre-feet*



*Seeding SWE = 156hr X (0.02in/hr) X (1ft/12in) X (640acre/1sq mi) X 40 sq mi

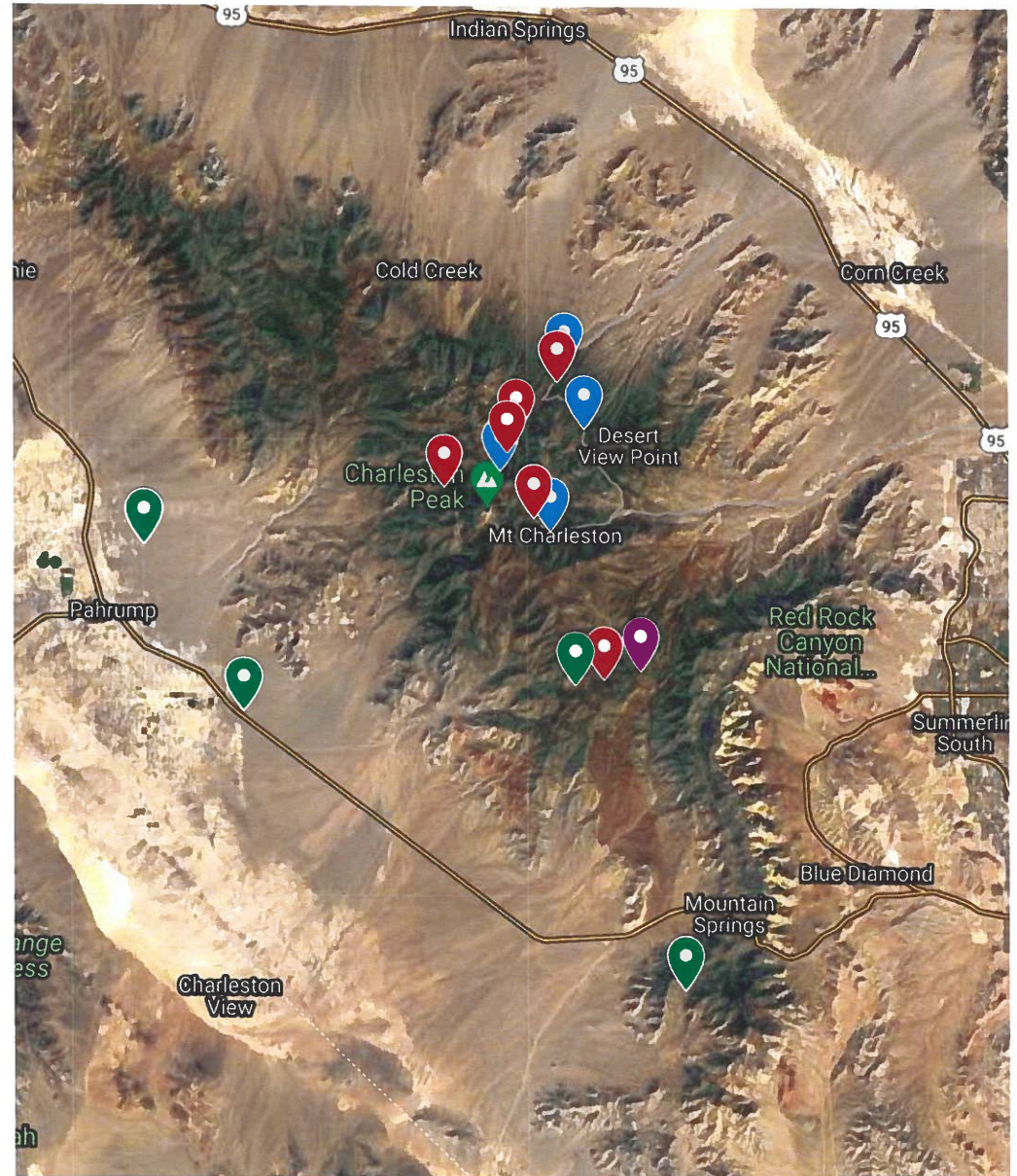
Confirming targeting using trace chemistry

Target sites - red WY23
6 snow samples were taken

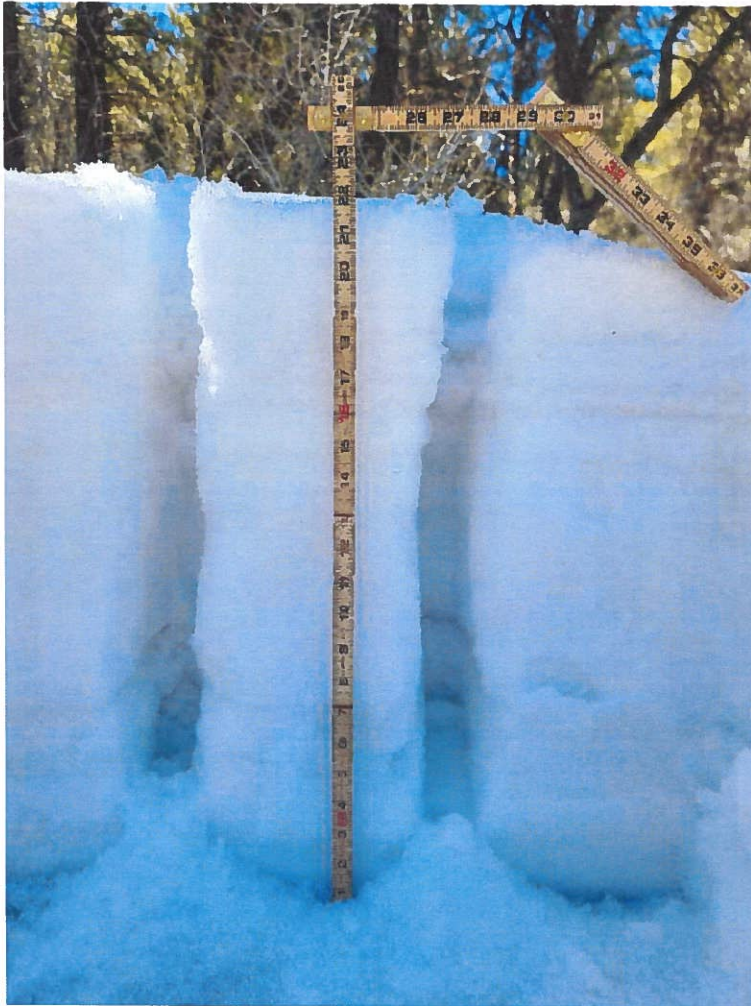
Control sites - blue WY21

Generators – green

Waiting for Trace Chem Lab results

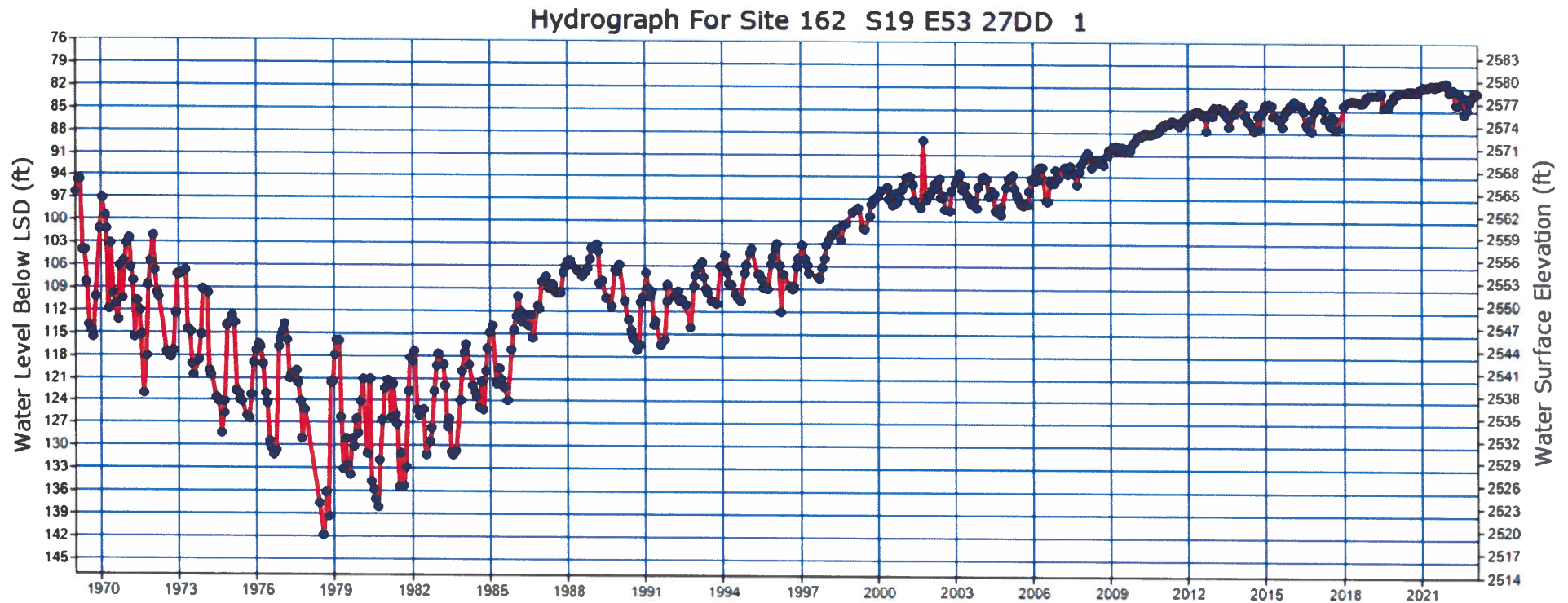


Confirming targeting using trace chemistry – snow collection



Ground Water Recharge in Basin 162

Last update March 6, 2023, prior to melt



Thank You/Questions





INVOICE TO

Nye County Water District
 Attn: Daniel Weeks
 2101 E. Calvada Blvd., Suite 100
 Pahrump, NV 89048
dcweeks@nyecountynv.gov

INVOICE NUMBER: **CI-06-00009096**DATE: **05/19/23**AMOUNT DUE: **\$285,000.00**TERMS: **NET 30 DAYS**

Contract/Grant/Agreement/Purchase Order	Period Billed	
	From	To
P.I. Frank McDonough DRI Account No. AWD-06-00001025 GR16964	11/15/2022	11/14/2026
Cost Elements/Services		

Project Title: Multi-Year Cloud Seeding Program Targeting the Spring Mountains During Winter

Description	Current Amount	Cumulative Total
Winter 2022 - 2023	\$95,000.00	95,000.00
Winter 2023 - 2024	\$62,500.00	62,500.00
Winter 2024 - 2025	\$62,500.00	62,500.00
Winter 2025 - 2026	\$65,000.00	65,000.00
Total	\$285,000.00	\$285,000.00

Total Amount Due This Invoice

\$285,000.00

"I certify to the best of my ability that all expenditures reported are for appropriate purposes and in accordance with the provisions of the award document."

Carla Geib

Carla Geib, Accounting Specialist

carla.geib@dri.edu

05/19/23

Date

Make Check Payable To: **Board of Regents**

Mail Check To:

Financial Services Office
 Desert Research Institute
 2215 Raggio Parkway
 Reno, Nevada 89512-1095

* Please reference invoice number on remittance advice *

Tax I.D. No. **886000024**

Nye County, Nevada

ACCOUNTS PAYABLE CHECK

NO. 6003068

INVOICE NUMBER	DATE	P.O. NUMBER	DESCRIPTION	DISCOUNT	AMOUNT
CI-06-0009096	05/19/2023	10-0031199	SPRING MOUNTAIN CLOUD SEEDING PROGRAM	0.00	285,000.00
					285,000.00

PLEASE DETACH BEFORE DEPOSITING



NYE COUNTY, NEVADA
 NYE COUNTY TREASURER
 P.O. BOX 473
 TONOPAH, NEVADA 89049

NEVADA STATE BANK
 P.O. BOX 313
 TONOPAH, NEVADA 89049

94-77
 1224

VENDOR NUMBER	DATE	CHECK NUMBER	CHECK AMOUNT
011688	05/31/2023	6003068	285,000.00

PAY Two Hundred Eighty Five Thousand Dollars and No Cents

VOID AFTER 90 DAYS

TO THE
 ORDER
 OF

DESERT RESEARCH INSTITUTE
 2215 RAGGIO PKWY
 RENO, NV 89512

NON-NEGOTIABLE

NON-NEGOTIABLE

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COPY

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