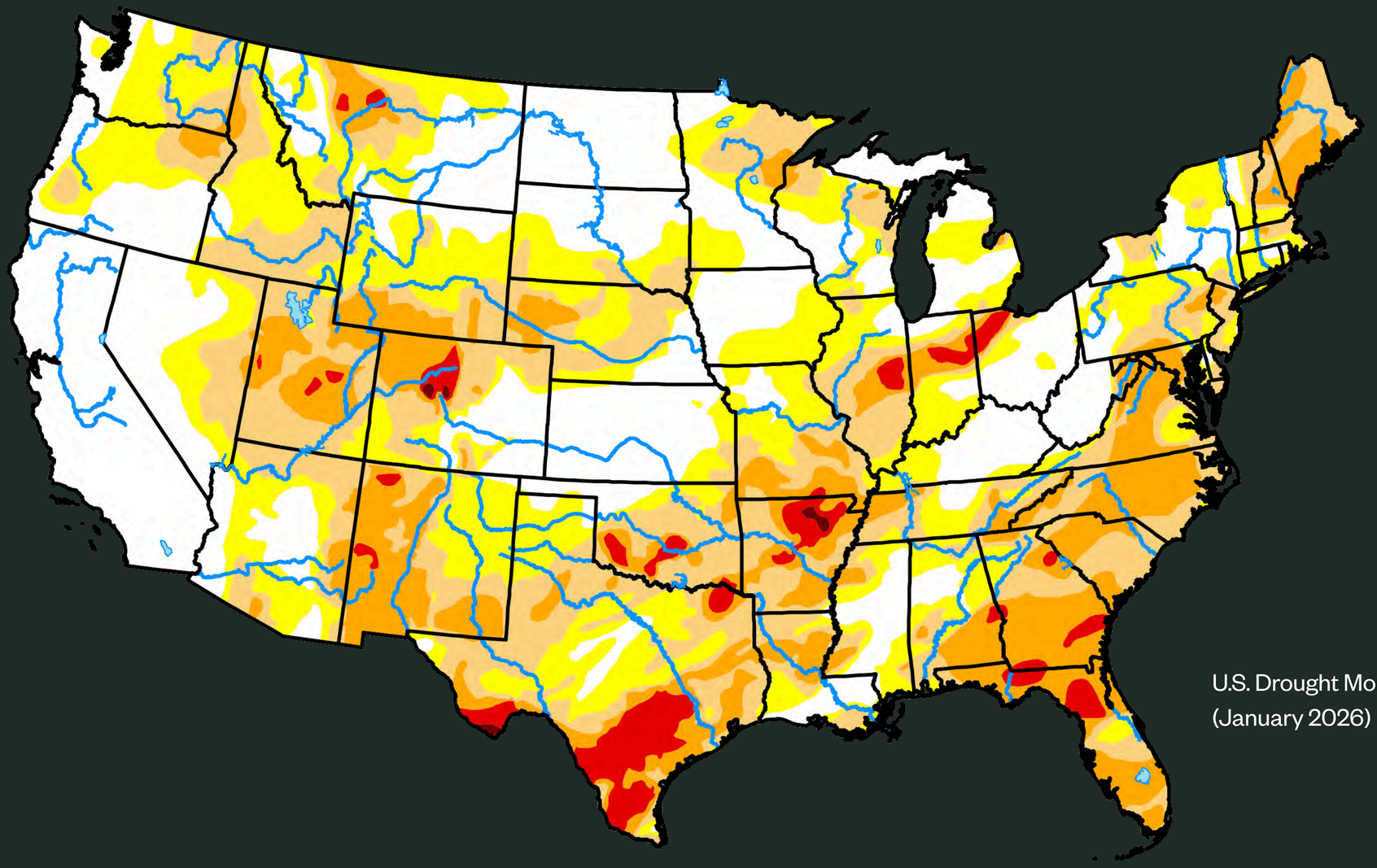

RAINMAKER

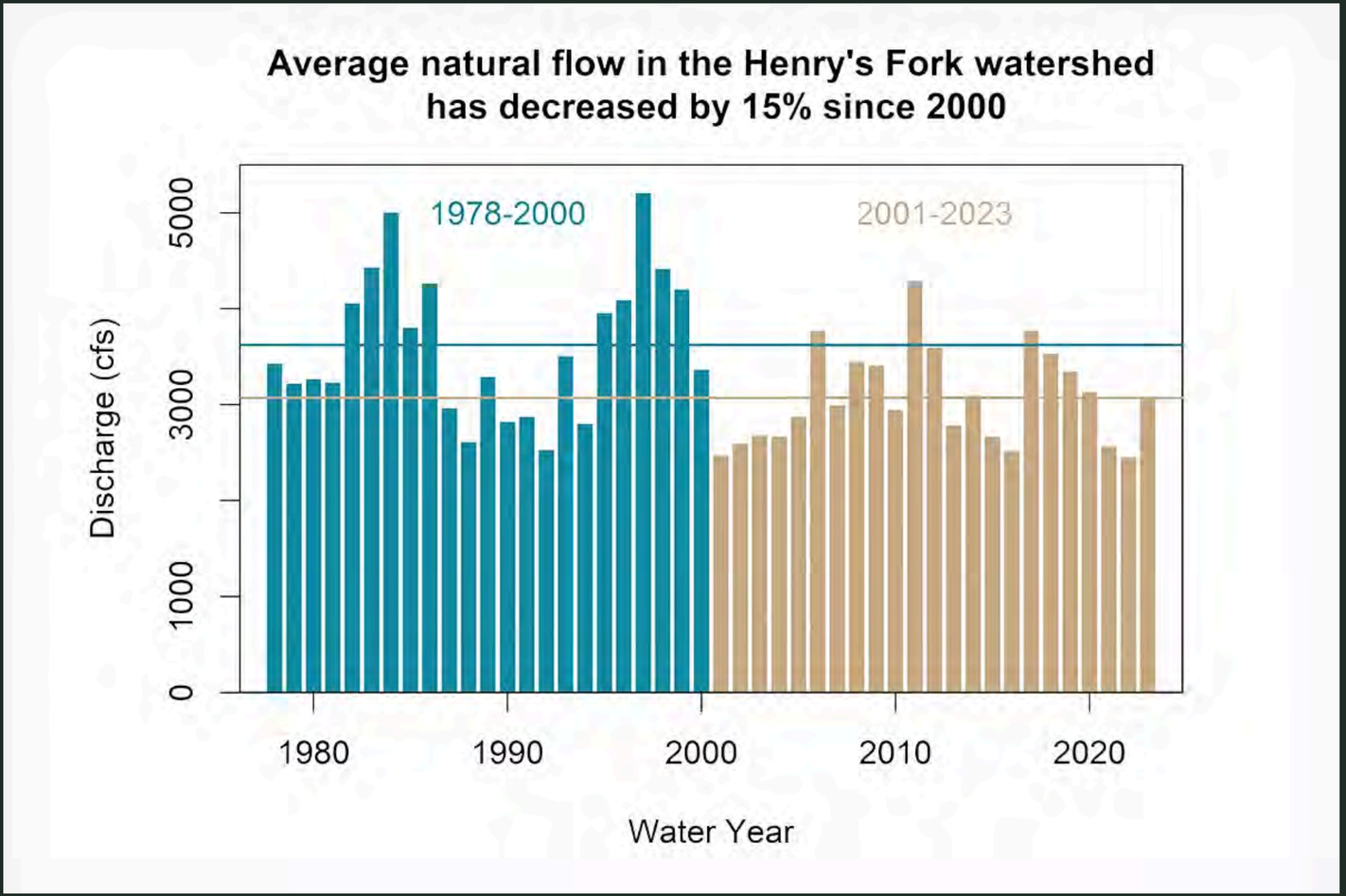
The American West is running out of freshwater.

Over 135 million Americans are now affected by drought.



U.S. Drought Monitor
(January 2026)

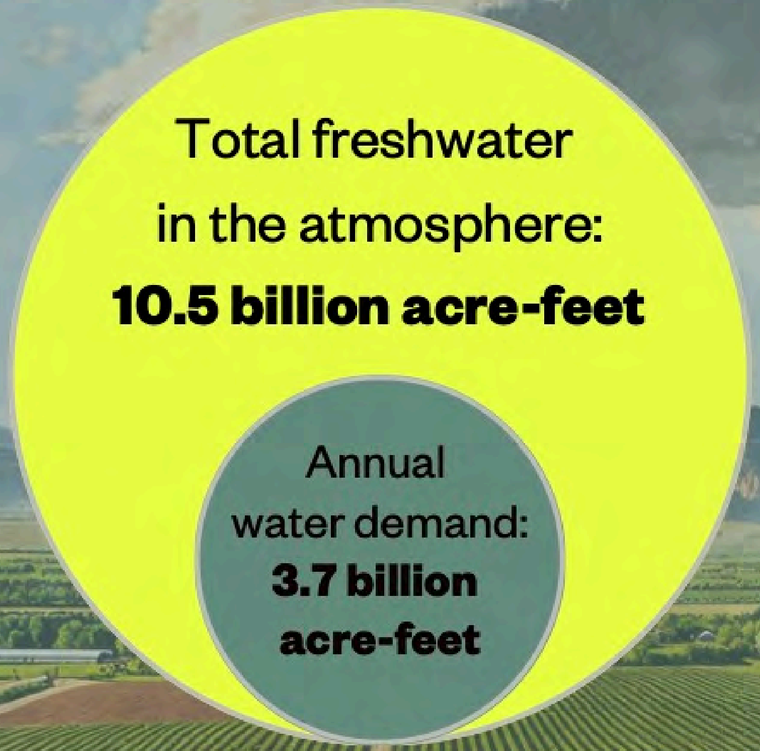
Flow Loss in Henry's Fork



20% decline in snowpack above major tributaries (upper Henry's Fork, Fall River, Teton River) has resulted in streamflow losses

Similar decline seen across Idaho: 95% of land area classified as Abnormally Dry or in Drought

The solution is in the sky



The atmosphere holds nearly **3 times** more water than global annual water demand at any given moment.

Why Cloud Seeding?

RAPID

Cloud seeding closes the “evaporation gap,” increasing rain- and snowfall by 10–15%. **Effects are visible within minutes to hours.**

AFFORDABLE

Cloud seeding is an order of magnitude cheaper than desalination or recycling/reuse programs (~$2,800/AF and ~$2,200/AF).

SCALABLE

Modern drone delivery makes cloud seeding hyper-mobile and hyper-scalable. **New seeding units start making water in 2–3 months.**

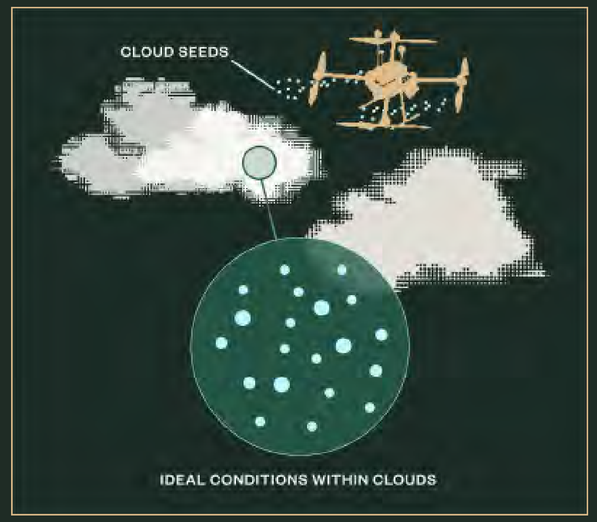
How Rainmaker helps to mitigate drought:

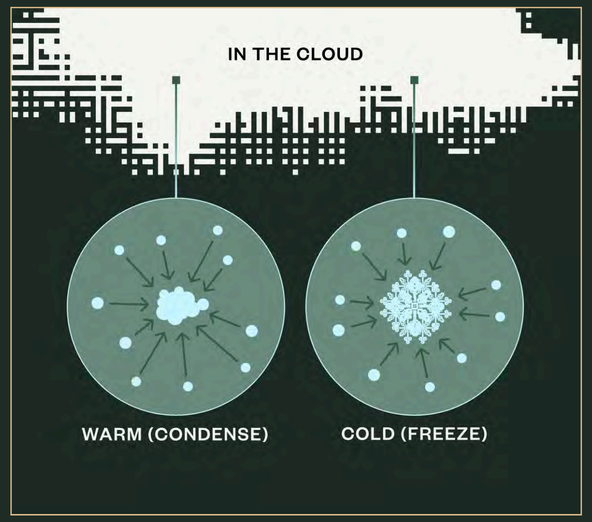
1. **Enhanced Winter Snowpack:** Glaciogenic cloud seeding increases cold cloud precipitation by up to 20%.

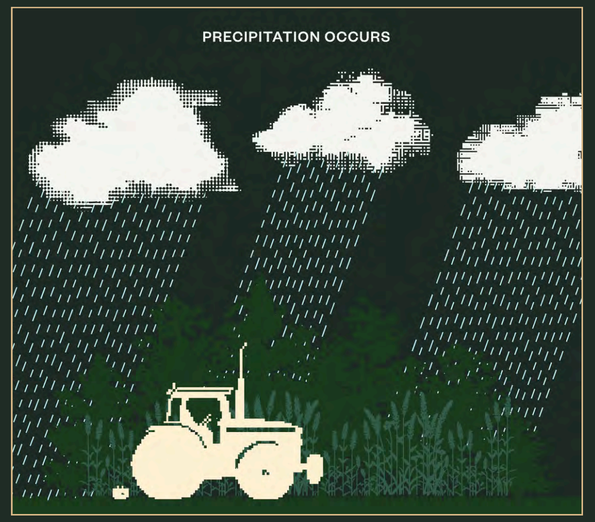
2. **Augmented Inflows to Surface Water:** Snowmelt produces freshwater for drinking, agricultural irrigation, hydropower, fishery conservation, and other uses.

3. **Long-Term Resilience:** Inflows to surface water also feed into groundwater banking and storage, stabilizing year-round water supply. Precipitation enhances ecosystem health, promoting moisture retention and reducing wildfire risk.

How Cloud Seeding Works







01 Delivery

Seeding particles are delivered into clouds with the ideal conditions for droplet or ice crystal growth.

02 Attraction

Small water droplets in clouds are attracted to the seeding particles and condense or freeze onto them.

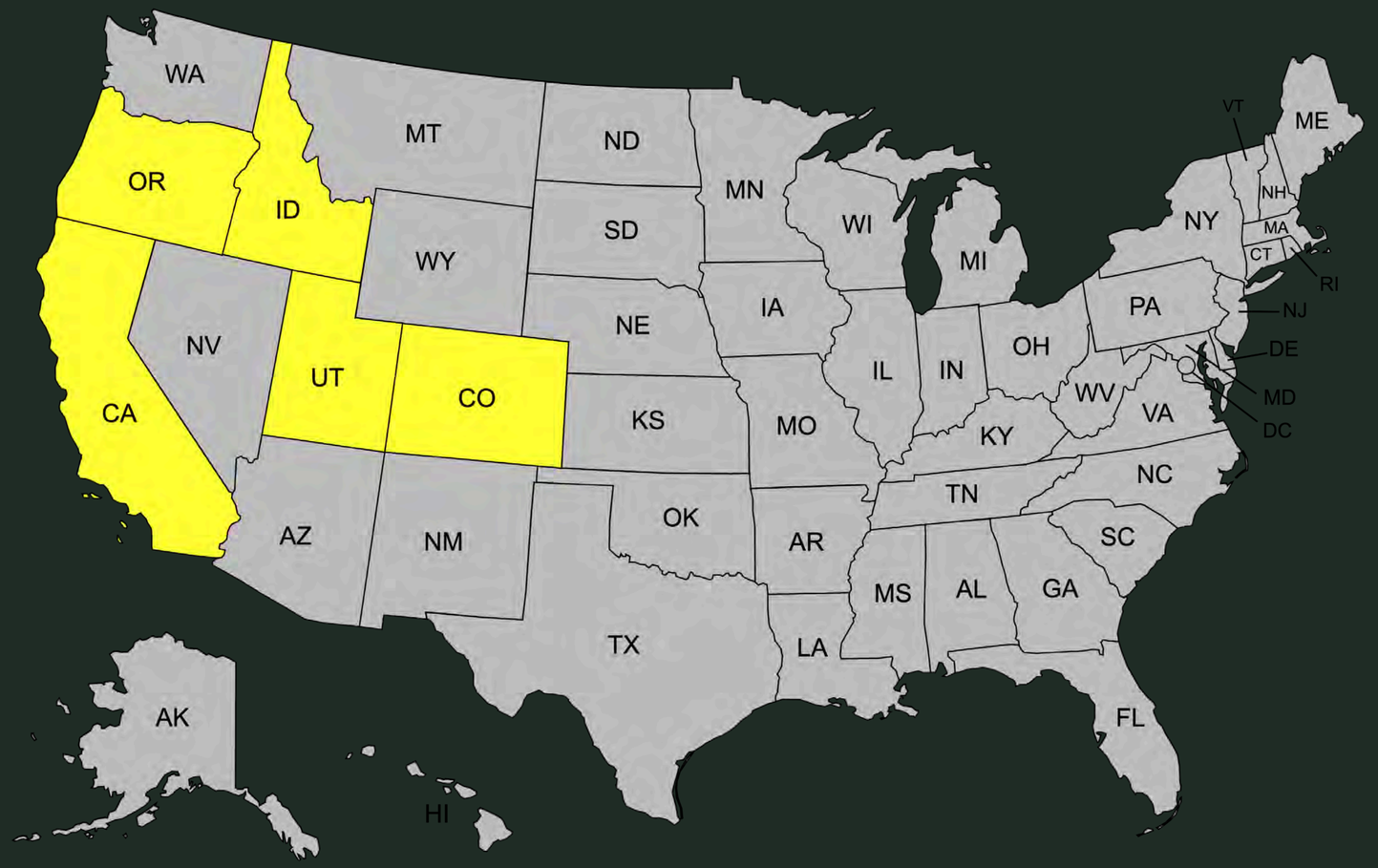
03 Accretion

The resulting water droplets or ice crystals grow at the expense of surrounding droplets.

04 Precipitation

Once the water droplets or ice crystals grow large enough, they fall as precipitation—rain or snow.

Rainmaking in the American West



Operational partners:

- Idaho Department of Water Resources
- Utah Department of Natural Resources
- Santa Barbara Water Authority
- Colorado Water Conservation Board

Research partners (SNOWSCAPE):

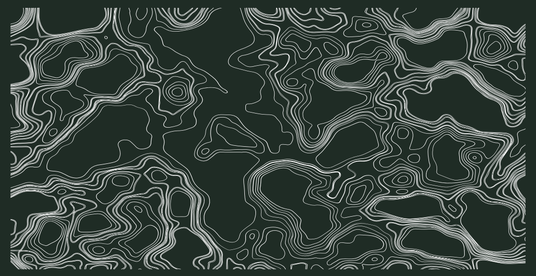
- National Center for Atmospheric Research (NCAR)
- University of Utah
- Utah State University
- University of Wyoming

\+ more

Rainmaker's Operations

Multiple converging technologies—AI/ML, drones, and radar—make cloud seeding more effective than ever before.

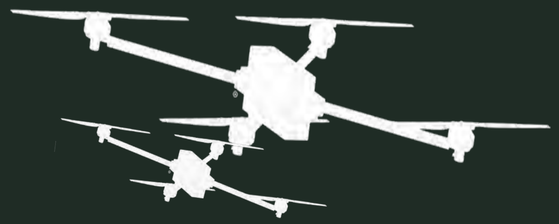
01 Predict



Numerical Weather Modeling & Forecasting

Our integrated mission control platform provides full awareness of atmospheric conditions and seeding outcomes.

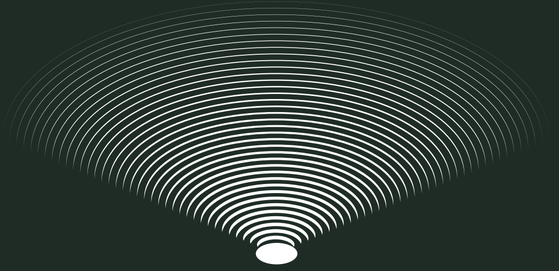
02 Target



Weather-Resistant, High-Altitude UAVs

Our drones are rapidly deployable, affordable, and safe. On-board instrumentation provides insight into cloud microphysics in real time.

03 Validate

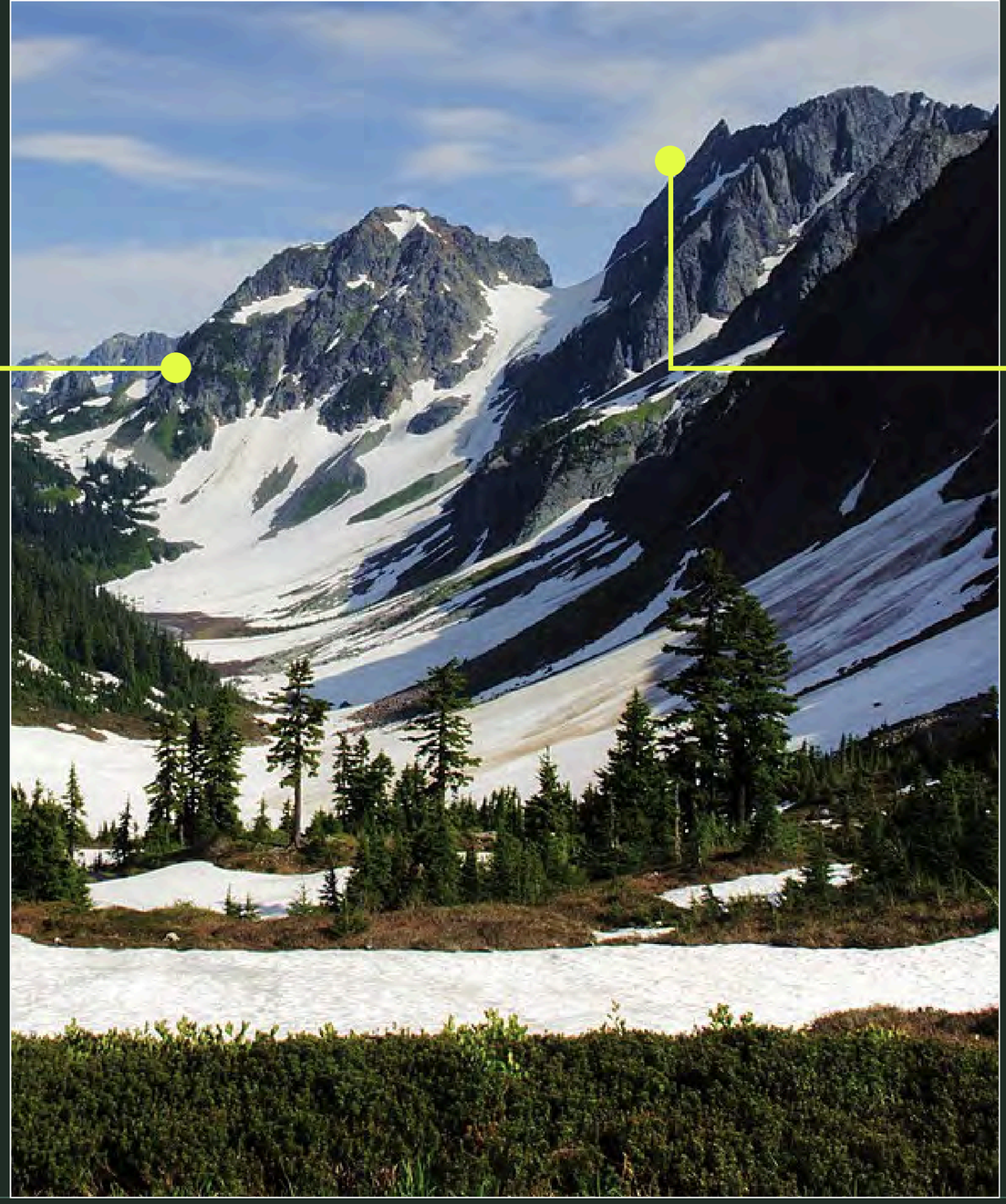


Advanced Radar Sensing & Validation

Detection of dynamic phase changes in clouds unlocks validation—and allows us to quantify the total volume of seeded precipitation.

Orographic

Mountain ranges form a natural “hurdle” for atmospheric moisture. Water vapor is lifted above mountain peaks to form seedable clouds.

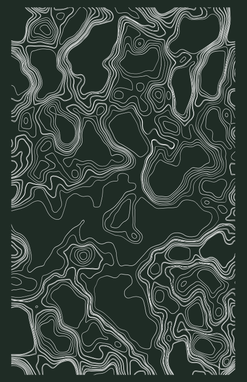


Glaciogenic

Cold temperatures above the mountains promote formation of supercooled liquid water (SLW). Cloud seeding turns SLW into ice that precipitates as snow.

Glaciogenic cloud seeding can augment mountain snowpack that feeds into critical freshwater resources.

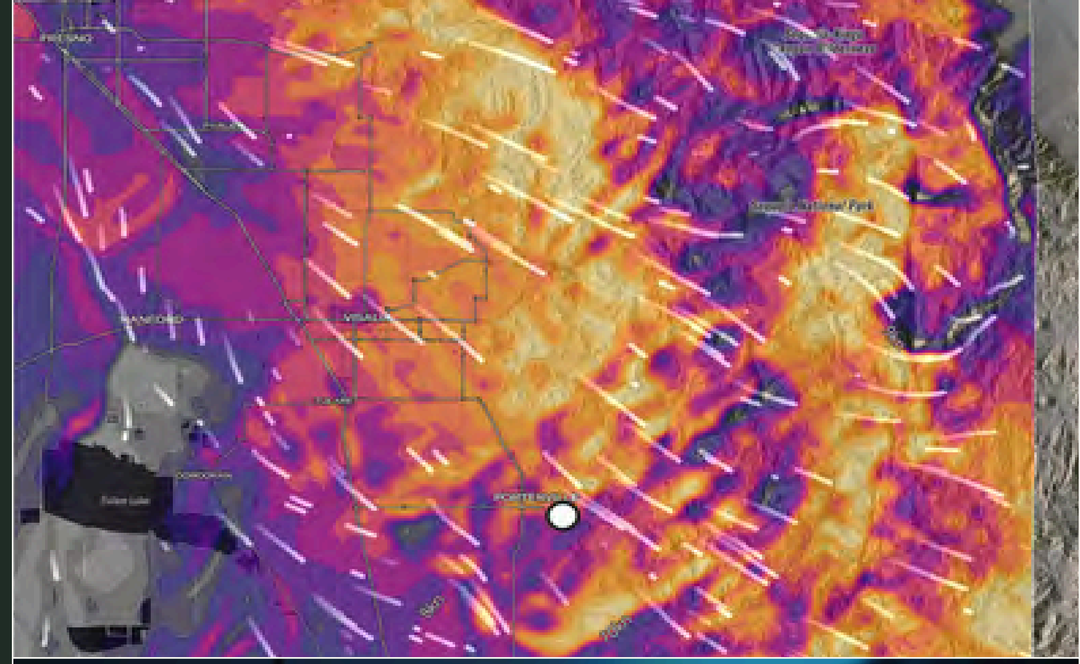
Numerical Weather Modeling & Forecasting

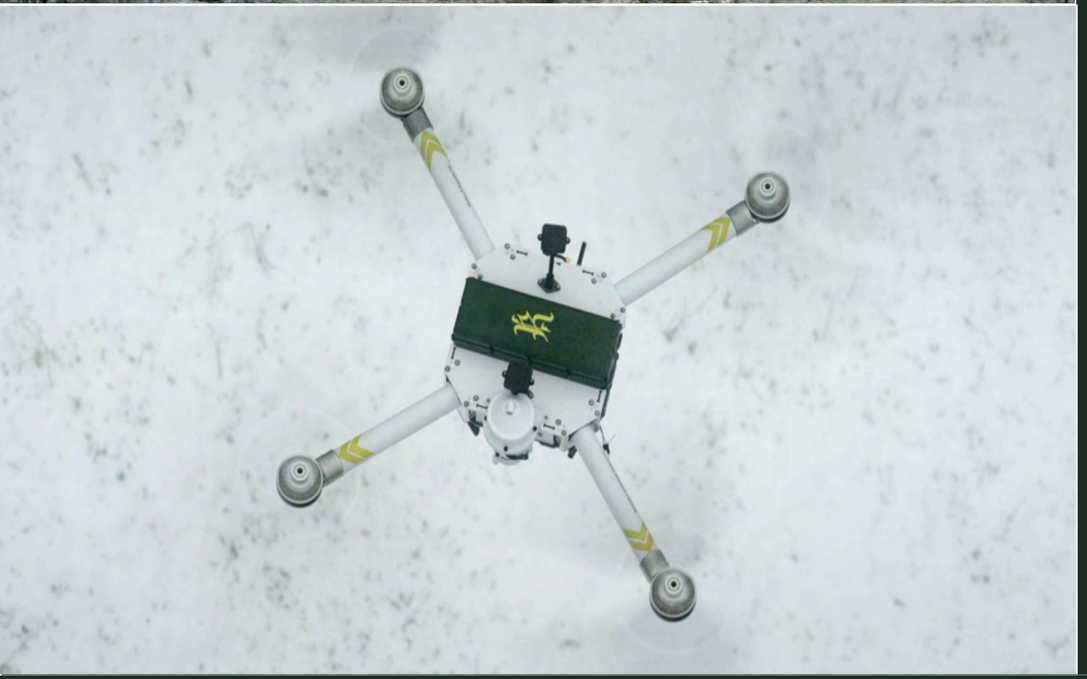


Flexible Continuous and low-cost monitoring of current cloud conditions.

Real-Time Integrated with a variety of dynamic and localized sources of advanced weather data

Accurate High accuracy forecasts of optimal conditions for seeding operations.





High Altitude, Weather-Resistant UAVs

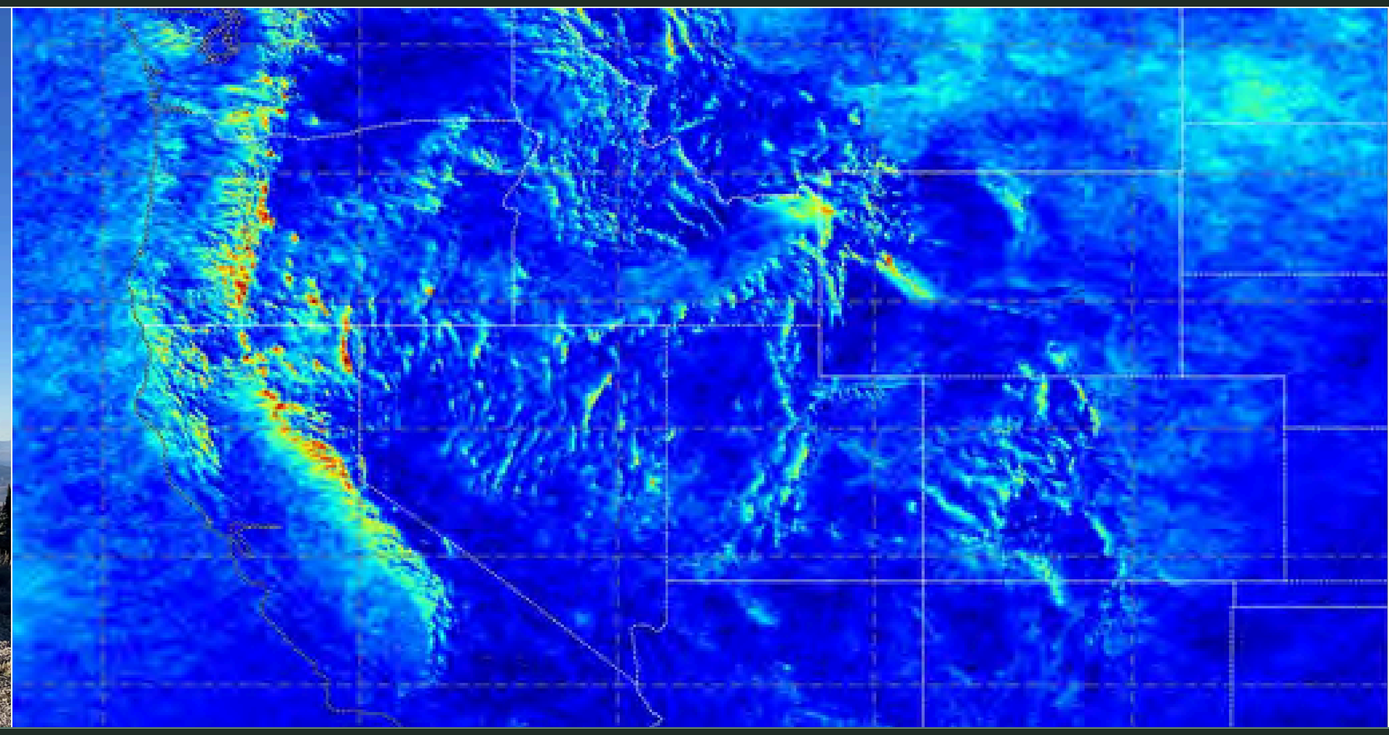
Robust	Rapidly deployable without the need for airport infrastructure.
Safe	Optimized for flying in any condition without risking pilot lives.
Low-Cost	Significantly lower capital and operational costs than legacy manned aircraft.
Rigorous	Capable of in-cloud measurements via onboard sensors to validate outcomes.
Precise	More nimble and adaptable flight patterns for cloud targeting in icing conditions.

Advanced Radar Sensing & Validation

Integrate Deployable weather stations ingest live data from atmospheric instruments.

Target Dynamic tracking of weather and water phase changes during missions.

Validate High fidelity measurements of precipitation yields from operations.



Is cloud seeding safe and effective? How do we know?

Increases of up to 20%

in total wintertime precipitation

According to the World Meteorological Organization, cloud seeding can deliver hundreds of thousands of gallons of water per seeding mission.

5 orders of magnitude

Below levels of environmental safety

Chemical concentrations following multi-year seeding fall 5 orders of magnitude below international safety standards for human and environmental health.

80 Years

of Extensive Field Research

The science and safety of cloud seeding has been extensively validated by research in over 50 countries across nearly 80 years.

Then why isn't cloud seeding used more widely and frequently?

Complex measurement and validation of outcomes

The complexity and natural variability of clouds make it difficult to precisely measure yield and attribute precipitation outcomes to cloud seeding operations.

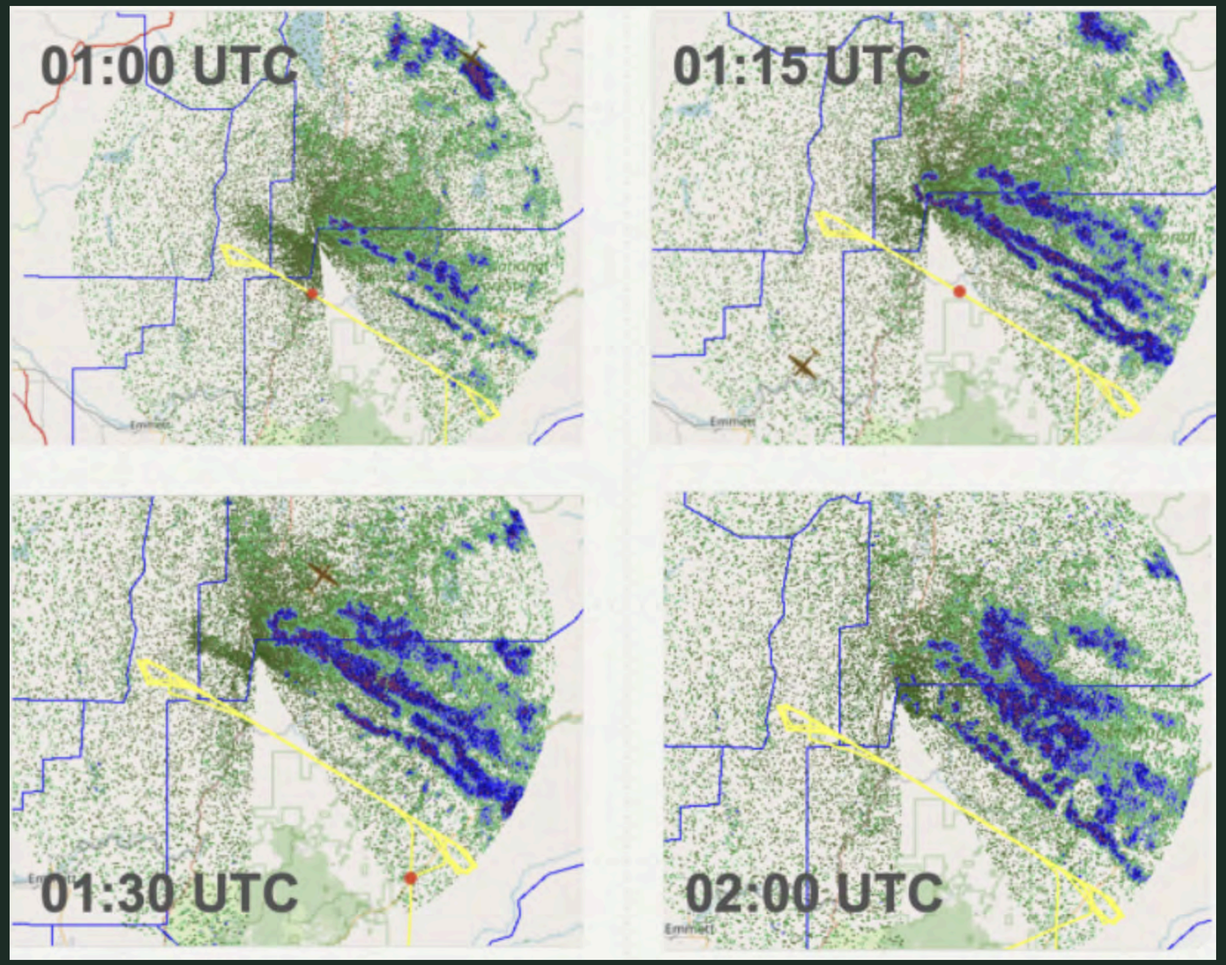
Ineffective, imprecise, and expensive hardware

Piloted aircraft are expensive, slow, and dangerous, requiring pilots on season-long standby at nearby airports.

Outdated and inadequate software and sensing

Limited integration of advanced weather data to forecast optimal conditions and target clouds, plus limited used of onboard sensors for precise targeting and measurement.

A New Era of Radar-Based Validation



NCAR's SNOWIE research campaign (2017) proved, for the first time, that **manmade precipitation can be detected and quantified** using dual-pol radar and signal processing.

Rainmaker builds on this foundation, obtaining seeding signatures and quantitative precipitation estimation (QPE) across its operating areas.

Why It Matters

Protecting Our Waterways

Reduced Risk:

- Cloud seeding can improve snowpack & soil moisture, two primary indicators of wildfire risk
- $1 : $13 cost-benefit ratio for preventative spending

Ecosystem Health:

- Cloud seeding can boost streamflow by ~5%
- Higher flow provides more usable area for river species, supports diversity, improves water quality, and strengthens overall ecosystem resilience

Recreation Economy:

- Supports Henry's Fork $50M recreational fishery

OUR MISSION

Making Earth Habitable

For more information, please visit
www.rainmaker.com.