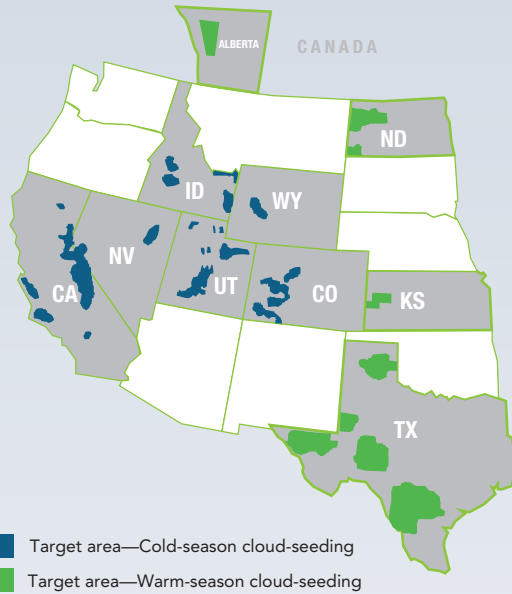


Cloud seeding—a form of weather modification—is a safe, scientific, time-tested, and proven set of technologies used to enhance rain and snow, reduce hail damage, and alleviate fog. The benefits of cloud seeding can be measured in additional water for cities and agriculture, as well as the reduction of damage from severe weather.



Aircraft or ground-based generators are used to burn a silver iodide solution to release microscopic silver-iodide particles that can assist in the formation of ice crystals in clouds.



NAWMC Members

- California Department of Water Resources
- Colorado Water Conservation Board
- Desert Research Institute
- North Dakota Atmospheric Resource Board
- Texas Department of Licensing and Regulation
- Utah Division of Water Resources
- Wyoming Water Development Office

NAWMC Associate Members

- Central Arizona Water Conservation District
- Idaho Power Company
- Metropolitan Water District of Southern California
- North Dakota Weather Modification Association
- Sandy Land Underground Water Conservation District
- Santa Barbara County Water Agency

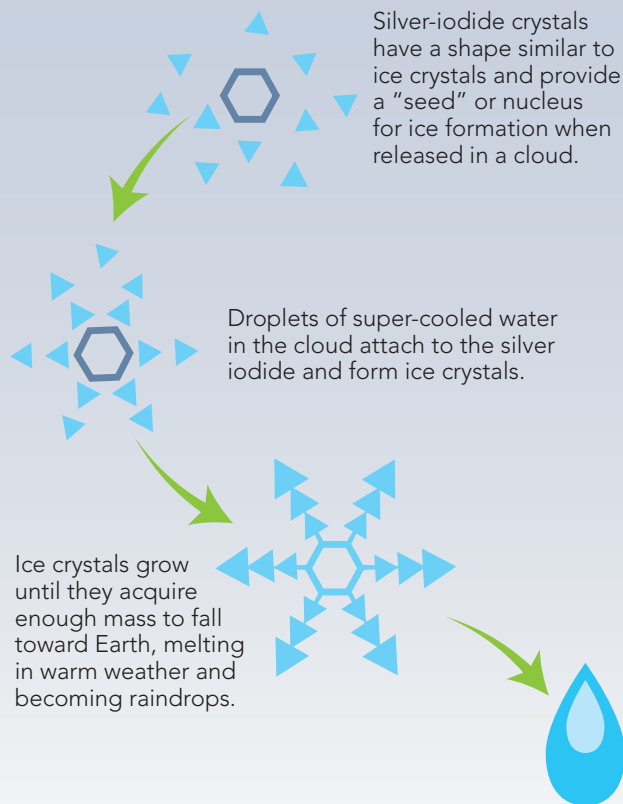


Cloud Seeding

THE ENVIRONMENT & THE CLIMATE



Inducing the formation of ice crystals in a cloud



WEATHER MODIFICATION

Cloud Seeding

The Science

The cloud-seeding process aids precipitation formation by enhancing ice crystal or raindrop production in clouds. This is accomplished by using glaciogenic (ice-forming) agents, such as silver iodide or dry ice, or hygroscopic (water attracting) agents such as salt. As seeding accelerates the precipitation process, the seeded cloud becomes a more efficient producer of precipitation.

The Seeds

Silver iodide and dry ice have been selected for their environmental safety and superior efficiency in producing ice in clouds. Various salt compounds comprise another class of substances known as hygroscopic (water attracting) that serve as optimal condensation nuclei for cloud water. These are released over a spectrum of different size particles to enhance the cloud's ability to produce raindrops. Ground-based and aircraft-borne technologies can be used to add the particles to the clouds.

Published scientific literature shows no environmentally harmful effects from cloud seeding with silver-iodide aerosols. Samples of snow can be collected and sent to labs to analyze how much silver is in different layers of snowpack to determine effectiveness. The concentration of silver in the resulting rain or snow is far below the acceptable level of silver in drinking water as regulated by the U.S. Environmental Protection Agency. Silver-iodide is used in such small quantities that it is sometimes difficult to detect at all using today's most advanced trace chemistry analysis methods.

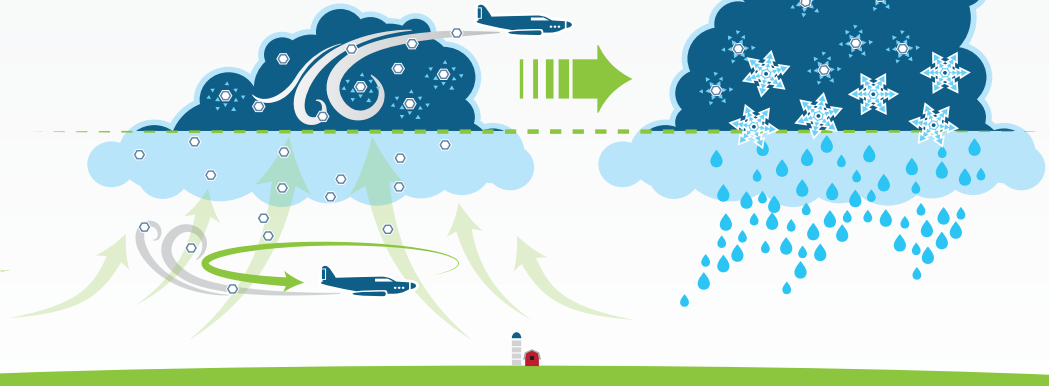
There is no discernable difference between the snow and rain from seeded clouds as compared to non-seeded clouds.



Cold Season Cloud Seeding



Warm Season Cloud Seeding



Snowpack Augmentation

Rain Enhancement

Hail Suppression

Fog Dispersion

The Climate

Cloud seeding modifies clouds individually or as part of a given storm system. Cloud seeding provides an additional "spark" for the formation of snowflakes or raindrops, but only under the correct conditions. Cloud seeding can supplement expected natural precipitation with potential improvements instead of providing a remedy for drought or other long-term weather patterns.

Downwind Effects

Cloud seeding provides increased precipitation in a target area. Data suggests a slight increase in precipitation downwind from these target areas, diminishing as distance increases. There is no data to suggest that cloud seeding produces dry conditions downwind from target areas.

Who Conducts Cloud Seeding?

In North America, cloud-seeding programs are conducted in California, Colorado, Idaho, Nevada, Utah, Wyoming, Kansas, North Dakota, and Texas, as well as Alberta, Canada.

Cloud seeding is also conducted through major programs in the countries of Australia, Chile, China, France, Greece, India, Israel, Saudi Arabia, and Spain.

To find out more about weather modification and participating agencies, visit the Weather Modification Association online at www.weathermodification.org or the North American Weather Modification Council online at www.nawmc.org