

## The science of cloud seeding

## June 1 2016

Experiments to seed clouds and coax them to produce more rain started 70 years ago. Early practitioners claimed a 10 percent boost in precipitation, but their studies lacked statistical rigor. The science of rainmaking has evolved since then—but how reliable is it now? An article in *Chemical & Engineering News (C&EN)*, the weekly newsmagazine of the American Chemical Society, takes a look.

Janet Pelley, a contributing editor at *C&EN*, reports that for cloud seeding science to come into its own, it needs to address some major challenges. To start, scientists have yet to understand a critical step in natural rainmaking: ice nucleation. This process involves water vapor freezing onto particles, which leads to precipitation. Another significant glitch in experimenting with seeding is the difficulty with running controlled experiments in real clouds. Once a cloud is treated, scientists can't measure how much <u>rain</u> it would have produced if left alone.

To chip away at these obstacles, scientists have developed more sophisticated experiments and simulations using sensing tools and computer models. Recent multi-year studies have found hints that seeding might yield a boost in precipitation. But results weren't statistically significant. Remote sensing is giving scientists a better view into cloud dynamics in real time and could help advance the <u>science</u>. As dozens of countries invest millions of U.S. dollars in cloud seeding, the new studies could be well worth the effort.

**More information:** "Firm footing for cloud seeding" <u>cen.acs.org/articles/94/i22/Do ... ing-really-work.html</u>



## Provided by American Chemical Society

Citation: The science of cloud seeding (2016, June 1) retrieved 30 April 2024 from <u>https://phys.org/news/2016-06-science-cloud-seeding.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.