

Excerpts from Washington Post article

Mexico Results Spur New Look at Rainmaking

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Last week, weather modification scientists and practitioners gathering here for the American Meteorological Society meeting heard results from a new experiment in Mexico that has rekindled interest in cloud seeding.

In the new experiments, scientists claimed to produce on average 30 percent to 50 percent more rain from the individual clouds they seeded. The technique involved flying an airplane just beneath a growing storm cloud and seeding the cloud with tiny particles from burning flares mounted on the plane's wings. The particles are swept into the cloud by the rising updraft of heated air.

The significance of the experiment was not the amount of rainfall it produced, although it exceeded the 10 percent rainfall increase typically cited for other seeding methods. What matters to researchers is that this experiment reached the same result as a similar one conducted in South Africa in the early 1990s.

"This is the first time that a major cloud-seeding experiment has been replicated," said Harold Orville of the South Dakota School of Mines and Technology. "The fact that essentially identical results were reached in two different parts of the world where conditions are different is very impressive.

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Many researchers remain unconvinced that cloud seeding has been conclusively shown to produce a major boost in rainfall. Peter Hobbs of the University of Washington, who served on the last National Academy of Sciences review of weather modification technology in the early 1970s, points out that other claims of positive rainmaking results, using both hygroscopic and silver-iodide seeding methods, have not stood up to subsequent independent analysis.

John Hallett, a cloud physicist at the Desert Research Institute in Reno, Nev., agrees. "If we can't predict natural precipitation all that well -- how much rain will fall in a specific place at a specific time -- how can we predict the change in rainfall from seeding?"<<

That lack of scientific certainty, however, hasn't stopped attempts to use this technology to increase rainfall and snowfall. Ten western U.S. states have ongoing cloud-seeding programs, and China is reportedly investing as much as \$100 million in rainmaking.<<

Nevertheless, cloud seeding and other forms of weather modification are getting a serious second look. Early reports of the Mexico results have generated renewed scientific interest. "I am convinced that research in this area is needed," said D. James Baker, head of the National Oceanographic and Atmospheric Administration. "There really is a lot of promise here."

Baker requested a scientific workshop last November to present the new results from this experiment and other weather modification efforts, including hail suppression and tornado modification. Orville, who chaired that workshop, also believes the time is right to revisit the field.

"With the advances in observational and computing technology in the last 20 years, this is now a much more manageable scientific problem," Orville said. "Before we were working largely in the dark because of our limited ability to see or understand the detailed cloud microphysics."

This month, the National Academy of Science initiated a new, full-scale review of weather modification, which is supported by NOAA. The fast-tracked study will be completed early next year, according to academy representative Vaughan Turekian.