

THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management

Weather Modification: A Global Interest

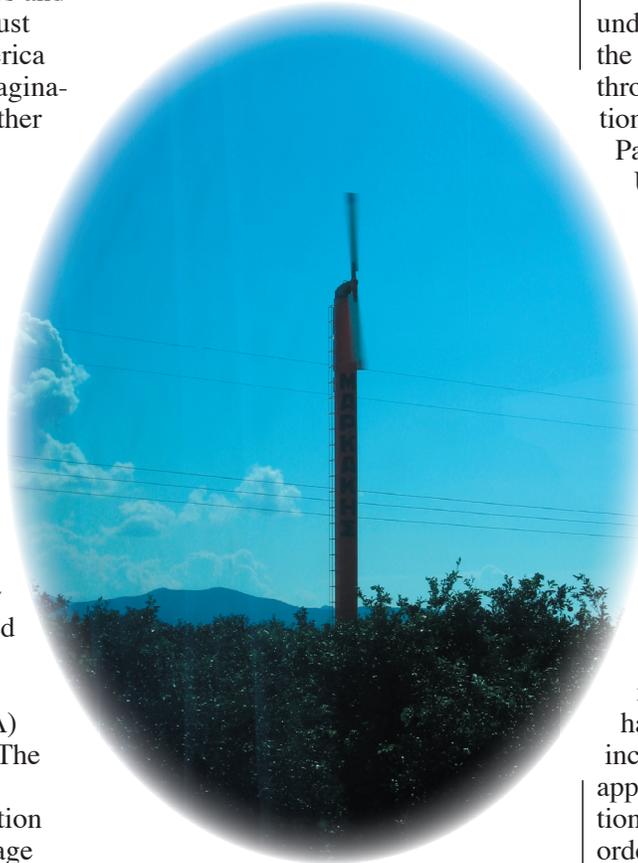
By Aaron Gilstad

Another season of cloud seeding has ended in North Dakota, but others throughout the United States and the world are in full swing or just getting started. No, North America is not, by any stretch of the imagination, the only place where weather modification and associated research is done. Nor is cloud seeding the only method of weather modification used.

The Weather Modification Association (WMA) is an organization of scientists, operators, and individuals interested in weather modification and its scientific advancement. Although there have been many international members in the WMA for several years, the vast majority of members reside in the United States. But, after an invitation from the Hellenic Agriculture Insurance Organization (ELGA) in Greece, that would change. The WMA, in an effort to bring the international weather modification community together to encourage the exchange of knowledge and new ideas, held a forum and workshop in Athens on September 22-23, 2005. All tolled the technical forum, spanning two days, drew 120 attendees from approximately 20 different countries. Presentations came from 12 different countries and covered many important topics in the field of weather modification, including operations, research, economics, and associated problems.

Operational projects for hail

suppression and rain enhancement in Greece, Spain, France, Italy, Croatia, Germany, the United States and Berkina Faso, Africa were discussed.



In Greece, fans are used to protect orchards from frost damage.

Many different seeding and protection methods were used ranging from hail nets, sonic cannons, and ground based seeding generators to seeding aircraft and rockets. Protection from frost was also discussed. In Greece, when conditions are right, large fans are used to pull the warm air above down through the colder air below to prevent frost. Further discussion brought about the realization that the

Argentineans use much the same method, except they use helicopters as mobile fans.

Other presenters endeavor to understand how we are affecting the weather whether intentionally, through cloud seeding, or unintentionally, through our very existence.

Papers representing research in the United Arab Emirates and the United States on decreased precipitation due to dust storms or pollution were presented. Others from Tasmania and France presented talks on the economic benefit of seeding in their regions of operation and just how complex a question it can be.

People throughout the world struggle with similar weather related problems, whether severe hail, frost, or water supply issues. It was quite interesting to hear that although half a world away, precipitation increases were still on the order of approximately 10 percent and reduction in crop hail losses were on the order of 40-50 percent; very similar to what we see on the North Dakota project. It will take more research dollars to make improvements in these numbers, but advancements may occur much more quickly by working together internationally.

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