

# Will Congress Act to Support Weather Modification?

Tom DeFelice – I.M. Systems Group Inc.

According to the United Nations World Water Assessment Programme (UN/WWAP, 2003), over the next 20 years the average global water supply per person is expected to drop by one-third, and by 2050, two to seven billion people will experience severe shortage of water. Water conservation schemes and desalination might minimize the shortage but would have little if any effect on the only input in the global water budget: rainfall.

Cloud seeding technologies increase the efficiency of the rain process under certain atmospheric conditions. Thus, they may be used to effectively increase water resources and help alleviate or prevent severe water shortages or drought. Societal need and recent technological advances provide an impetus for developing systems and technologies that monitor and manage

atmospheric events such as hurricanes, orographic precipitation, and drought, and warrant the creation of a national weather modification program (NWMP). An NWMP was developed, presented to the scientific community, and proposed to Congress. The program would administer the resources for all applied research and development efforts directed toward optimizing current cloud-seeding technologies in order to help provide sustainable water supplies and minimize atmospheric hazards.

Congressional legislation to establish the NWMP (the Hutchison Bill, S517, in the Senate and a companion bill introduced by Congressman Udall) stalled in the 2006 Congress, and will be re-introduced in 2007. If passed, this legislation would support and extend existing research efforts and could lead to such benefits as relief from drought or severe water shortage, increased

ability to generate hydroelectric power, and reduced destruction from hurricanes.

The proposed 10-year NWMP encompasses a comprehensive agenda of applied research and development efforts that optimize existing technologies used to manage “treatable” atmospheric processes and conditions, and to allow the development of relevant innovative technologies. The NWMP encompasses many lessons learned during the past 60 years, the recommendations of high-level researchers, and the near-term needs of the weather modification community. Its mission would concentrate on three areas: 1) monitoring atmospheric water resource management parameters; 2) applied research and development of the scientific basis of seeding technologies; and 3) public outreach and professional development, fostering cooperation between NOAA and other federal agencies, state agencies, universities, relevant commercial organizations, private groups, and the general public. The NWMP implementation plan calls for interdisciplinary development of monitoring capabilities and technologies based on well-understood winter orographic systems. Software modules would simulate the introduction of seed materials in the best available physical and numerical models (especially in the case of severe storm modification efforts), verifying outputs and transforming these models to work in operational and academic settings. In this way, relevant seed strategies could be developed to enhance the likelihood of their operational success. The NWMP also aims to develop: better dispersion techniques; higher-yield cloud seeding agents; physical, chemical, and statistical evaluation method developments; and improved cloud seeding program evaluations. These efforts will require reliable data, which may be obtained through carefully designed cooperative efforts.

Contact Tom DeFelice at [defelice@img.com](mailto:defelice@img.com).

## Reference.....

UN/WWAP (United Nations/World Water Assessment Programme), 2003. *UN World Water Development Report: Water for People, Water for Life*.

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