

**Arlen W. Huggins**  
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### **Education**

B. S.	1969	Kansas State University	Physics
Graduate Study	1972-75	Colorado State University	Atmospheric Science

### **Professional Interest**

Mr. Huggins has an active interest in applied research in both summer convective storms and wintertime storms. He has used ground-based microwave radiometers and radars, aircraft data and precipitation data to study the evolution of winter storms over mountainous terrain, including field projects in the Sierra Nevada of California and Nevada, the Wasatch Mountains of Utah and the Victorian Alps and Snowy Mountains of Australia. As a researcher on U.S. Bureau of Reclamation and NOAA-sponsored weather modification projects, Mr. Huggins has studied the physical effects of both airborne and ground-based cloud seeding on winter storm clouds, and produced several publications documenting the effects of seeding from cloud to ground. He is the Director of the Nevada State Weather Modification Program, which is designed to augment snowfall in selected mountainous regions of Nevada. Recent work includes evaluation of the Nevada program using plume dispersion modeling, radiometric measurements, ultra trace chemistry analysis of snowfall and hydrologic modeling to assess the impacts of snowfall enhancement on streamflow.

### **Professional Experience**

1987 - Present	Associate Research Scientist, Desert Research Institute, Division of Atmospheric Sciences, Reno, Nevada
1979 - 1987	Research Meteorologist/Principal Investigator, Sierra Cooperative Pilot Project (SCPP), Electronic Techniques, Inc., Fort Collins, Colorado
1975 - 1979	Support Scientist, National Hail Research Experiment (NHRE), National Center for Atmospheric Research, Boulder, Colorado
1972 - 1975	Graduate Research Assistant, Colorado State University, Fort Collins

### **Professional Memberships**

American Meteorology Society,  
Committee on Weather Modification (1990-1993, 2006-present)  
Weather Modification Association,  
Committee on Public Information (1995-present), University Trustee (2002-2005)  
North American Interstate Weather Modification Council  
Chair (2005-2007) and Secretary-Treasurer (2007-present)

### **Five Most Relevant Publications**

Boyle, D. P., G. W. Lamorey and A. W. Huggins, 2006: Application of a hydrologic model to assess the effects of cloud seeding in the Walker River Basin of Nevada. *J. Weather Mod.*, **38**, 66-76.

Deshler T., D.W. Reynolds and A.W. Huggins, 1990: Physical response of winter orographic clouds over the Sierra Nevada to airborne seeding using dry ice or silver iodide. *J. Appl. Meteor.*, **29**, 288-330.

Huggins, A. W., 2007: Another wintertime cloud seeding case study with strong evidence of seeding effects. *J. Weather Mod.*, **39**, 9-36.

Super, A. B. and A. W. Huggins, 1992: Investigations of the targeting of ground-released silver iodide in Utah – Part I: Ground observations of silver-in-snow and ice nuclei. *J. Weather Mod.*, **24**, 19-34.

Super, A. B. and A. W. Huggins, 1992: Investigations of the targeting of ground-released silver iodide in Utah – Part II: Aircraft observations. *J. Weather Mod.*, **24**, 35-48.

### **Five Other Significant Publications**

Campistron, B.A., A.W. Huggins and A.B. Long, 1991: Investigations of a winter mountain storm in Utah. Part III: Single Doppler radar measurements of turbulence. *J. Atmos. Sci.*, **48**, 1306-1318.

Huggins, A. W., 1995: Mobile microwave radiometer observations: Spatial characteristics of supercooled cloud water and cloud seeding implications. *J. Appl. Meteor.*, **34**, 432-446.

Long, A.B., B.A. Campistron and A.W. Huggins, 1990: Investigations of a winter mountain storm in Utah. Part I: Synoptic analyses, mesoscale kinematics, and water release rates. *J. Atmos. Sci.*, **47**, 1302-1322.

Mitchell, D.L., A.W. Huggins and V. Grubišić, 2006: A new snow growth model with application to radar precipitation estimates. *Atmos. Res.*, **82**, 2-18.

Sassen, K., A.W. Huggins, A.B. Long, J.B. Snider and R.J. Meitin, 1990: Investigations of a winter mountain storm in Utah. Part II: Mesoscale structure, supercooled liquid water development, and precipitation processes. *J. Atmos. Sci.*, **47**, 1323-1350.

### **Scientists Collaborated With During Last 48 Months**

Dr. P. Ross Edwards, Desert Research Institute (DRI); Dr. Douglas Boyle, DRI; Dr. Steven Chai, DRI; Dr. Darko Koracin, DRI; Dr. David Mitchell, DRI