Cloud seeding has been conducted in the Sierra Nevada since the 1950s and in the Lake Tahoe area since the 1960’s. As a form of weather modification, wintertime cloud seeding is aimed at enhancing snowfall in mountainous regions to increase the snowpack, resulting in more spring runoff and water supplies to the surrounding areas.

Cloud seeding research is still being conducted, but the scientific basis for wintertime cloud seeding evolved mainly from detailed investigations of clouds and their response to various seeding materials in the 1980s and 1990s.

Significant results from several of these research efforts will be presented to explain how the conceptual model for seeding winter storms came about, and how it is being applied today in areas like the Tahoe Basin.

DRI scientists have played a major role in cloud seeding research and a specific DRI evaluation method using ultra trace chemical analysis of snow samples continues to be applied in ongoing research and operational seeding projects. Some examples of this unique evaluation method will also be presented.