

Peer Review Plan for “Literature Review and Scientific Synthesis on the Efficacy of Winter Orographic Cloud Seeding,” prepared by University of Colorado – Cooperative Institute for Research in Environmental Sciences, sponsored by Bureau of Reclamation Research & Development Office

Scope and Charge to Reviewers

From the 1960s through the 1980s Reclamation was involved in a variety of weather modification initiatives in the west including Project Skywater which included the Colorado River Basin Pilot Project, the High Plains Experiment, and the Sierra Cooperative Pilot Project to name a few. After significant decline in activity through the 1990s, Congress authorized funding within the Weather Damage Modification Program in 2002 and 2003. The Bureau of Reclamation primarily stopped participating in weather modification, or cloud seeding, activities in 2005 because of lack of programmatic appropriations specified for the activity in addition to uncertainties about scientific efficacy as described within the National Research Council’s 2003 report, “Critical Issues in Weather Modification” (NRC 2003) as well as questions about legal and liability issues.

Continuing drought conditions and stakeholder interest has led Reclamation to take an updated look at the effectiveness of cloud seeding for the enhancement of winter precipitation and snowpack in the western United States.

Reclamation’s Science Advisor through the Research and Development Office is leading the process to take this updated look. A key component involves developing a science synthesis from recent literature, and evaluating progress to address key scientific uncertainties described in NRC 2003. The purpose of this Peer Review Plan is to facilitate public and expert review of the draft science synthesis which may be used within future decision processes amongst Reclamation leadership. It is important to note that all of the papers involved in the literature review and science synthesis have gone through some level of previous peer review.

This review will disseminate influential scientific information, as defined in the Office of Management and Budget’s issuance of “Final Information Quality Bulletin for Peer Review” (M-05-03, 16 December 2004).

Methodology of Review

The peer review will be posted from February 9 until March 6. The review will take place on Reclamation’s Peer Review Agenda website. Inquiries concerning the website may be addressed to Levi Brekke, Reclamation’s Chief of Research and Development (lbrekke@usbr.gov).

Expert and public review will occur concurrently. For public comments, we plan to work with Public Affairs on announcing the review. For expert review, we plan to send targeted invitations to the science and industry community members who attended Reclamation's 25 November 2014 workshop, "Recent Weather Modification Efforts to Enhance Winter Precipitation in the Western United States," in Denver, CO. These targeted workshop attendees collectively have expertise in the following areas relevant to the science synthesis: Synoptic Meteorology, Radar Meteorology, Cloud Physics, Aerosol Dispersion, Cloud Chemistry, Weather Modification, Numerical Weather Modelling, and Statistics. It is expected that there will be over 10 expert peer reviewers, they will be given attribution for their work and not remain anonymous. It is not anticipated that Reclamation will seek out any professional or scientific societies to nominate potential peer reviewers.