

HIGHLIGHTS OF JYS CLOUD SEEDING TECHNICAL ADVISORY GROUP
MEETING
May 21, 2004

The fourth monthly meeting of the TAG was held May 21 at the Santa Fe Home Builders Association offices. Attendees were Scot Johnson, Bill LeMay, Francis West, Bob Vocke, Mary Helen Follingstad, John Brown, Phil Pohl, Wayne Bundy, Walt Chapman, Sig Silber and Roy Stoesz (Chair).

Agenda Item 1) Discussion of mission/goals: Bill LeMay and Mary Helen Follingstad
Bill presented a more complete statement of mission/goals/tasks prepared by him and Mary Helen. Several helpful suggestions were made. Bill and Mary Helen will report back with a revised draft next month.

Agenda Item 2) Summary of Funding & Operating Committee activities and plans: Sig Silber
The F&O Committee has met with several private sector organizations, the Espanola City Council and Rio Arriba County staff. No commitments for funds have yet been made. Sig invites suggestions from all on where money might be available and how to haul it in.

Agenda Item 3) Discussion of benefit/cost calculations: John Brown
John has examined topographic maps and has totaled the area included in each of six major drainage basins on the west slope of the Sangre de Cristo Mountains. (Santa Fe River, Rio Pojuaque/Tesuque, Gallisteo Creek, Santa Cruz River, Rio de Truches & associated arroyos and Rio Embudo). The areas total 354,000 acres (552 sq. mi.) above 2250 m (7425 ft.) and 158,000 acres (247 sq. mi.) above 2750 m (9075 ft.). Rounding down, about 55% of the total area is between 7450 and 9075 ft. and 45% is above 9075 ft. He plans to measure areas of west slope drainage basins to the north, as far as Wheeler Peak, and then look at drainage basins on the east slope of the Sangre de Cristos, the Pecos River and Canadian River Basins.

Agenda Item 4) Discussion of precipitation/stream runoff: Francis West
Francis gave some numbers that put into perspective stream runoff during periods of drought. In an Upper Rio Grande study, a 10% decrease in precipitation led to a 30% decrease in stream runoff. The time to fill a reservoir during periods of average precipitation was 3.5 years; with a 10% decrease in precipitation it would take 14 years to fill the same reservoir. The lowest flow measured at Otowi gauge in the years before reservoirs were built was 60cfs. (makes you wonder what the Buckman diversion project would do for water if we saw a repeat of years like that).

A chart of annual flow on the Santa Cruz River showed a distinct correlation between the negative PDO (Pacific Decadal Oscillation---periodic heating and cooling of waters in the north Pacific) from about 1947-1976 and stream flow, which was lower than average during the same period. The ensuing 21 years (positive PDO) had significantly higher average stream flow.

Provisional data from a paired basin study in the Santa Fe River Basin showed that the bulk of stream runoff coincides with snow melt beginning in March. As expected, summer rains did not result in measurable runoff, except for two periods in the control area coinciding with the summer monsoon in 2002; frequent rainstorms apparently saturated the soil reservoir which

allowed for significant runoff. If this pattern (frequent rainstorms with surface runoff during the monsoon season) can be documented elsewhere, it gives us hope that we may be able to justify a late summer seeding program in those areas.

Maps of the JyS area showed average precipitation during three winter months (Dec-Febr) and three summer months (June-Aug) shows that we experience about three times as much precipitation in the three summer months as in the three winter months. Another reason to keep summer cloud seeding on the table.

Agenda Item 5) Time-line for legislative process: Mary Helen Follingstad

Mary Helen offered the following schedule for the legislative appropriation process:

- Find a legislator from the Jemez y Sangre region to sponsor a bill.
- Schedule a meeting with Gordon Meeks, staff to the Water and Natural Resources Interim Committee (WNRC) and staff to the Legislative Council Services to draft a bill.
- Presentations to the WNRC are scheduled by Gordon Meeks.
- ISC Weather Modification Committee may wish to support the legislation and also make a presentation to the WNRC.
- Bills to be sponsored by the WNRC are decided in November, if the bill does not already have a sponsor.

Agenda Item 6) SAHRA: Bob Vocke

There was no time for discussion so Bob gave us handout material on SAHRA (Sustainability of semi-Arid Hydrologic and Riparian Areas). This is a consortium of 17 universities, labs and government agencies whose mission statement is the question “How can SAHRA use science to help communities manage their resources in a sustainable manner?” SAHRA plans a hydrogeologic study that includes a transect from the Valles Caldera through Los Alamos, down to the Rio Grande, with detailed water balance measurements along the transect. They have access to streamflow and precipitation data that should assist in assessing the results of NCAR’s (National Center for Atmospheric Research) planned summer cloud seeding project in ‘06/’07. We need to monitor these very important projects because they may provide data to justify summer cloud seeding in the JyS area.

Agenda Item 7) Cloud seeding program at Oct. 22 Santa Fe Air Show?: Sig Silber

Discussion of this item was deferred to a later TAG meeting.

Agenda Item 8) Other

The Chair announced that Dr. Joe Warburton from the Desert Research Institute at Reno has accepted our invitation to address us at our June meeting on the subject of chemical tracers. Dr. Bill Woodley will also be here and will talk about tracing AgI in assessing the Denver cloud seeding project. This is a subject that is vital to our planning, and we are delighted that these two experts will be here to talk to us.

Agenda Item 9) Next Meeting

We will meet again June 17 at 9:00 AM at the Santa Fe Home Builders Association offices at 1409, Suite A. Instructions (hopefully better than the last ones) will be included in a later announcement.