How is this Different than Conventional Snow Surveys?

Snow surveys were pioneered in the Sierra Nevada in 1917, consisting of a handful of permanent locations where snow was monitored on regular intervals. Beginning in 1929, the California Department of Public Works began using this data to estimate annual runoff patterns—the birth of the DWR Cooperative Snow Survey. Although the surveys have been expanded and improved over the past 100 years, a few point locations (31 exist in the San Joaquin Basin) are used to describe snow conditions for a large area (1,675 square miles above Lake Millerton).

Further, most snow falls within protected National Wilderness Areas where the surveys are prohibited or restricted heavily. The errors of the conventional approach can range from 20‐40 percent, which leads to conservative decision making.

Both DWR and Reclamation have begun using these forecasts, to the extent possible, for both forecasts and operations. Adoption of these surveys by DWR and Reclamation was a central requirement for Friant participation in this program.

The NASA ASO program overcomes the limitations of trying to extrapolate the Basin’s water supply from a few point locations. For example, water users in the Tuolumne Basin have used these surveys to predict total runoff within 2 percent of actual measurements. Further, these aerial surveys overcome restrictions placed on Wilderness Areas. Having a more complete picture of basin conditions with less error will allow for earlier and more accurate water supply allocations for the Friant Division.