The Gin Flat automated snow-telemetry site, at 7,050 feet above sea level in Yosemite National Park, has been augmented in the past two years to measure components of the water and radiation budgets of the snowpack in addition to the precipitation, temperatures, and snow-water content (SWC) measurements typical of such sites. New measurements at Gin Flat include cosmic-ray-based SWC measurements, snow thickness, incoming solar radiation, and net radiation above the surface. Together, measurements at Gin Flat characterize gross water and radiative-heat budgets of the winter snowpack and snow density. During 2002, temperatures within the snowpack also were monitored at one- to two-foot vertical intervals (some loggers failed), as indicators of the time and depth varying thermodynamics of the snowpack. Cosmic-ray SWC measurements continue to track the snow pillow well.

Additional instrumentation at Gin Flat is proving robust to the elements and is providing new insights into the workings of the Sierra Nevada snowpack. Augmentations have now been added at several more sites, including Tuolumne Meadows, Tioga Pass, and Dana Flat.