



Center for Snow and Avalanche Studies Needs Stakeholder Funding

The Center for Snow and Avalanche Studies was established in Silverton, Colorado in October 2002. IRS 501(c)(3) status was obtained shortly thereafter. CSAS's director (Landry) bootstrapped the startup, contributing his first full year's time and effort and \$20,700 in weather instrumentation, and raising another \$5,000 in seed money. By fall 2003 the 720 acre Senator Beck Basin Study Area (SBBSA) at Red Mountain Pass had been permitted by the USFS, initial instrumentation was installed, and CSAS had received \$75,000 in USFS Rural Development funding. A year later the CSAS received its first National Science Foundation research grant to study dust-on-snow. CSAS has operated and enhanced SBBSA since then, collecting an integrative set of "mountain system" data 24/7/365, in support of both active research and our climate change monitoring missions. Four arrays of highly sophisticated instrumentation capture SBBSA weather, snowpack, hydrologic, soils, radiative regime, and plant community data that, in their totality, are unique in the Colorado River Basin. Although these data have already supported breakthrough research in the effects of desert dust on snow hydrology, and 8 years worth of data are archived and available, SBBSA's greatest potential value is in sustained data capture of actual regional climate change effects. However, although hosted academic researchers do provide nominal support, and we also receive some private and outdoor industry support, due to our chronic lack of adequate general operating support, for operation of Senator Beck Basin, SBBSA operations and CSAS staff may be terminated in summer 2012.

To prevent that, CSAS needs new commitments totaling \$100,000 in sustained annual operating support in order to continue high quality data collection at Senator Beck Basin. Numerous federal agencies – USGS, USFS-GMUG, NOAA/NWS/CBRFC, NASA/JPL, USACE, Army CRREL, BLM, and NRCS-Snotel – are among those already receiving and using, or seeking to use, SBBSA data and facilities. The Colorado Water Conservation Board and Colorado Avalanche Information Center also use SBBSA data. All of these agencies understand the scarcity and value of long-term, high quality, integrative datasets which holistically capture systemic mountain system behaviors like snowmelt, at a tractable spatial scale, and the challenges of operating an alpine study area like SBBSA. None of them would prefer to operate their own SBBSA; supporting CSAS is clearly the much more cost-effective way to ensure that these data are available. (Programs like our Colorado Dust-on-Snow work for the Colorado water management community require additional funding, on top of that \$100,000 in general operating support, to support the direct costs of those program activities).

Given the absence of federal agency grant programs (including NSF) or private foundations that will fund long-term mountain system monitoring (the equivalent of general operations funding in our case), we have proposed to our federal agency stakeholders that one or several of them provide sustained annual funding totaling \$100,000, per year, to contract with CSAS to operate Senator Beck Basin, conduct 24/7/365 mountain system monitoring, and provide those data to their agencies. Because there are no grant programs calling for such a proposal, and because the SBBSA product is such a unique "deliverable", there may be a need to enable non-compete awards of discretionary funds that sole source the CSAS for these services. Again, in the absence of commitments of this level of stakeholder funding in the near term, the board of directors has determined that CSAS is not viable, as an organization, and anticipates terminating SBBSA operations and staff in summer 2012.

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