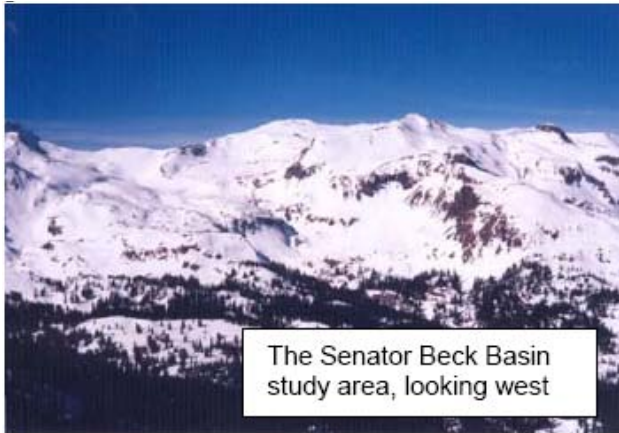
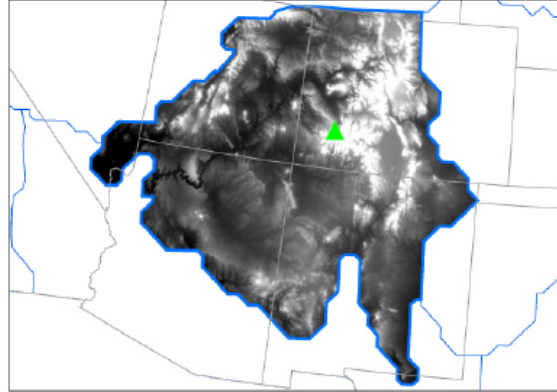


Senator Beck Basin (SBB)

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The Senator Beck Basin study area (SBB) is operated by the Center for Snow and Avalanche Studies (CSAS), of Silverton, CO as a mountain system observatory with an emphasis on the role of the seasonal snowcover in driving mountain system behaviors. SBB is an alpine 'catchment' located in the western San Juan Mountains of Southwest Colorado, at the headwaters of the Uncompahgre River. The San Juan Mountains have been described as a "radiation snow climate", where highly dynamic energy balance fluctuations dominate snowpack processes. The 290 ha SBB exhibits physical and climatological attributes that reflect its continental position, high elevation, and comparatively southerly latitude. Elevations range from 4,118 m (13,510') to 3,362 m (11,030'). SBB stream flow ranges from peaks of 10-20 cfs to a base flow of 0.5-1 cfs. Further, the San Juan Mountains exhibit a bimodal precipitation regime, with winter snow (65- 75% annual) and summer monsoon (25-35% annual) peaks.



The SBB contains several small tarns as well as a lobate rock glacier that may remain active and may contain an ice core. SBB land cover is typical of alpine basins throughout the San Juan Mountains with approx. 75% in tundra or bare rock, and 25% in sub-alpine forest or krummholz. Unlike adjoining basins, no active roads are present in SBB and early 20th Century mining activity resulted in only minor disturbances. SBB is operated under a Special Use Permit issued to the CSAS by the Uncompahgre National Forest. SBBSA infrastructure includes two extensively instrumented study plots, a stream gauge at the basin pour-point, a nearby third station for

'free air' wind measurements just east of SBB, and a plant community baseline study performed in 2004 with 138 species identified (only one invasive). In-basin study sites (SBSP at 3,719 m and SASP at 3,368 m) include typical micromet sensors as well as long- and short-wave radiation sensors (for incoming, outgoing, and diffuse incoming), snowpack depth, snow temperature arrays, precipitation (at lower, sheltered site only), and soil temperature, soil heat flux, and soil moisture sensors. Stream stage, water temperature, and water conductivity are measured at the SBSG stream gauge (3,362 m). Wind speed and direction, air temperature, and RH are measured at the 'free air' site (3,757 m). Data are acquired via radiotelemetry. All sites are solar powered. All sites are accessed on foot in summer or by skis or snowshoes in winter. US Hwy 550 affords access to SBB approaches.

