NASA SnowEX 2019/20

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ABSTRACT

The NASA SnowEx Mission is a multi-year effort to evaluate and improve our ability to measure and monitor snow water equivalent (SWE) and other snow characteristics. The NASA SnowEx19/20 Campaign consists of coordinated airborne and field-based experiments in the Western U.S., from the fall of 2019, through the spring of 2020. This effort includes two major components: 1) a detailed experiment on Grand Mesa, Colorado, and 2) a time series experiment over 13 sites, spanning 5 states, with biweekly field and airborne observations. These observations are aligned with the SnowEx Science Plan (Durand *et al*., 2018) and address gaps in snow estimation capabilities in various land cover types and snow classes (forest, mountain, prairie and maritime), and throughout the snow season (accumulation and melt), as well as characterize the snow surface energetics. The specific goals of these measurements are to: quantify accuracy and limitations of L-band InSAR retrievals of change in SWE, in preparation for NISAR; test and validate SWE retrieval from a multi-frequency radar and radiometer sensor package; test Ka-band InSAR for snow depth retrieval and quantify bias due to penetration; quantify the subpixel variability in thermal IR signatures, and the effect on coarse resolution spaceborne IR (GOES16); and integrate *in situ* and airborne data with modeling (e.g. THP16 SEUP, NOHRSC SNODAS). In this presentation we provide an overview of the SnowEx 2019/20 science objectives, experimental plan, and schedule.

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