

P6 Investigating a precipitation event over the Taylor Park watershed using a multiphysics and stochastic ensemble

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The United States Bureau of Reclamation is responsible for the safety of the Taylor Park Dam, located in central Colorado at an elevation of 9300 feet. A key aspect of dam safety is anticipating extreme precipitation, runoff and the associated inflow of water to the reservoir. This study investigates the utility of a 12 member ensemble to recreate an observed precipitation event that occurred 16-20 June 1995 over the Taylor Park watershed. The ensemble includes a control run, 5 members with different microphysics schemes and 6 members utilizing the Stochastic Kinetic Energy Backscatter Scheme (SKEBS). Of particular concern is the simulation of precipitation, temperature and precipitation type. Small ensemble spread beyond 48 hours will necessitate the addition of lateral boundary condition perturbations driven by the NOAA Global Ensemble Forecast System Reforecast, Version 2 (GEFS/R2).