

Mountain reference sites in ESM-SnowMIP

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The Earth System Model-Snow Model Intercomparison Project (ESM-SnowMIP) is a WCRP/CliC initiative to assess the strengths and weaknesses of snow simulations by models contributing to the next phases of the Coupled Model Intercomparison Project (CMIP6) and the Global Soil Wetness Project (GSWP3). Because data for evaluation of global snow simulations are limited and it is difficult to separate snow model errors from global driving data errors, a key contribution of ESM SnowMIP will be a detailed investigation of model behaviour using driving and evaluation data from well-instrumented snow research sites, including high-elevation sites that are also contributing to INARCH. Comparison between reference-site simulations and global simulations will not be straightforward because these sites tend to lie high above the elevations of the corresponding coarse-resolution global model grid boxes. We wish to engage INARCH expertise in the challenge of connecting snow process understanding across scales in mountainous regions.