

Impact of Initialized Land Temperature and Snowpack on Sub-Seasonal to Seasonal Prediction (LS4P)

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The LS4P project was initiated during the Second Pan-GASS meeting in Lorne, Australia, 26 February–2 March, 2018 and started during the 2018 GEWEX Science Conference, Canmore, Alberta, Canada, 6–11 May 2018. This is a community effort to test the impact of initializing land surface temperature (LST) and subsurface soil temperature (SUBT) in high mountain regions in climate models on Sub-seasonal to Seasonal (S2S) prediction. More than 40 institutions, including many major climate centers worldwide, are participating in this project. Because of the high elevation of the Tibetan Plateau (TP), its significant areal coverage, and the comprehensive field measurements there, the LS4P Phase I focuses on the first order effects most related to TP land temperature. The TP LST and SUBT are used as predictors of spring/summer precipitation events. The LS4P Phase I has accomplished most of its goal. One groups paper has been published in GMD (see attachment), another paper for BAMS is currently under the 2nd revision. Two group papers for the LS4P ESM results and one group paper for the LS4P RCM results will be submitted to the Special Issue “Sub-seasonal to Seasonal (S2S) predictability and Land-induced Forcing” in *Climate Dynamics*, which is organized by the LS4P project. In addition, a number of papers from the LS4P individual group have been published on-line, under review, or under preparation for the special issue.

The LS4P Phase II will kick off late this year. Phase II will focus on the LST/SUBT in the Rocky Mountains region and the interactions of LST/SUBT in the Rocky Mountains and Tibetan Plateau. This LS4P meeting in the Breakout Group session will be a prelude for the kickoff of the LS4P Phase II. In this meeting, we will briefly present some key results from the LS4P Phase I and some prototype results in the preparation of the LS4P Phase II, and discuss the plan for LS4P Phase II kickoff. Everyone is welcome to attend this meeting and your contribution will be highly appreciated.

Reference: Xue, Y. et al., 2021: Impact of Initialized Land Surface Temperature and Snowpack on Subseasonal to Seasonal Prediction Project, Phase I (LS4P-I): Organization and Experimental design, *Geosci. Model Dev.*, 14, 4465–4494, <https://doi.org/10.5194/gmd-14-4465-2021>.