Precipitation and Flash Flood Prediction from Minutes to Days



Contribution ID: 44

Type: Oral presentation

The PDE-based hydrologic model ParFlow performance in flash-flood nowcast

Wednesday, October 7, 2020 10:00 AM (20 minutes)

We present a framework for flash flood nowcasting using the partial differential equation (PDE)-based ParFlow hydrologic model forced with quantitative radar precipitation estimates and nowcasts. The prelimiar results for a small 18.5 km 2 headwater catchment in Germany is chosen to illustrate the application of such framework for 2 aims: the first is to verify the applicability of PDE-based models in the context of flash floods of poorly gauged watersheds and the second is to use the framework to evaluate improvements of precipitation products, within the Research Unit RealPEP. For comparison, a commonly used conceptual model (HBV) was applied over the same catchment. Finally, the model lead time improvements when forced with precipitation nowcasts will be presented.

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Session Classification: Flash Flood Prediction