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Change in precipitation variability induced by the absence of glaciers in the Alpine Region of north Italy.

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The Alpine region in the north of Italy is characterized by the presence of many glaciers. Glaciers of different sizes and as an extreme the disappearance of them can have an important role in the hydrometeorological cycle. In this work a preliminary results of a case study on the effects of glaciers that are present in the Alpine region in north Italy is presented. In particular we want to investigate the change in variability of precipitation induced by the absence of the glaciers and we want to analyse the hydrological effects in the North of Italy using an hydrological model (CHyM, CETEMPS Hydrological Model). We present results of a three month simulation by using the Pennsylvania State/National Center for Atmospheric Research Mesoscale Model (MM5). MM5 is a limited-area model designed to simulate mesoscale and regional-scale atmospheric circulation and in the latest version includes several features that are important for climate applications.