



Does it really always rain on the weekend? - Weekly precipitation cycles in Switzerland

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It sure feels that it always rains on the weekend or at least more than during the week, but actually this might be the truth. For individual stations weekly cycles of precipitation amounts and frequencies have been reported recently. A possible explanation of these variations effects are weekly cycles in the concentration of aerosols and their direct and indirect impacts on precipitation. In this study we analyzed data from 376 precipitation stations in Switzerland for potential weekly cycles and looked for spatial patterns. Furthermore we used data from a few stations with long-term records to investigate temporal trends. Finally we used discharge data to study the impacts of weekly precipitation cycles on streamflow. Preliminary results indicated that there are indeed weekly cycles in precipitation with 10 to 20 % more precipitation during certain weekdays. However, the weekdays with the largest precipitation amounts or the most frequent precipitation events varied between different regions in Switzerland. While North of the Alps mainly Saturday was the day with most precipitation, South of the Alps most precipitation was observed on Thursdays. For the long-term records from Basel, Zurich and Geneve there was a clear increase in the strength of the weekly cycle between 1950 and 1990. While the weekly signal was less obvious in the streamflow data, a tendency of more streamflow during the weekend could be detected for some catchments North of the Alps.