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Supplement of

Effects of climate anomalies on warm-season low flows in Switzerland

Marius G. Floriancic et al.

Correspondence to: Marius G. Floriancic (floriancic@ifu.baug.ethz.ch)

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Supplementary Material S1:

This supplementary information file contains three Figures and a table with links / contact information to all authorities where gauging data can be accessed. The processed data supporting the findings presented in the manuscript can be accessed through the ETH open access library: https://www.research-collection.ethz.ch/handle/20.500.11850/377752.

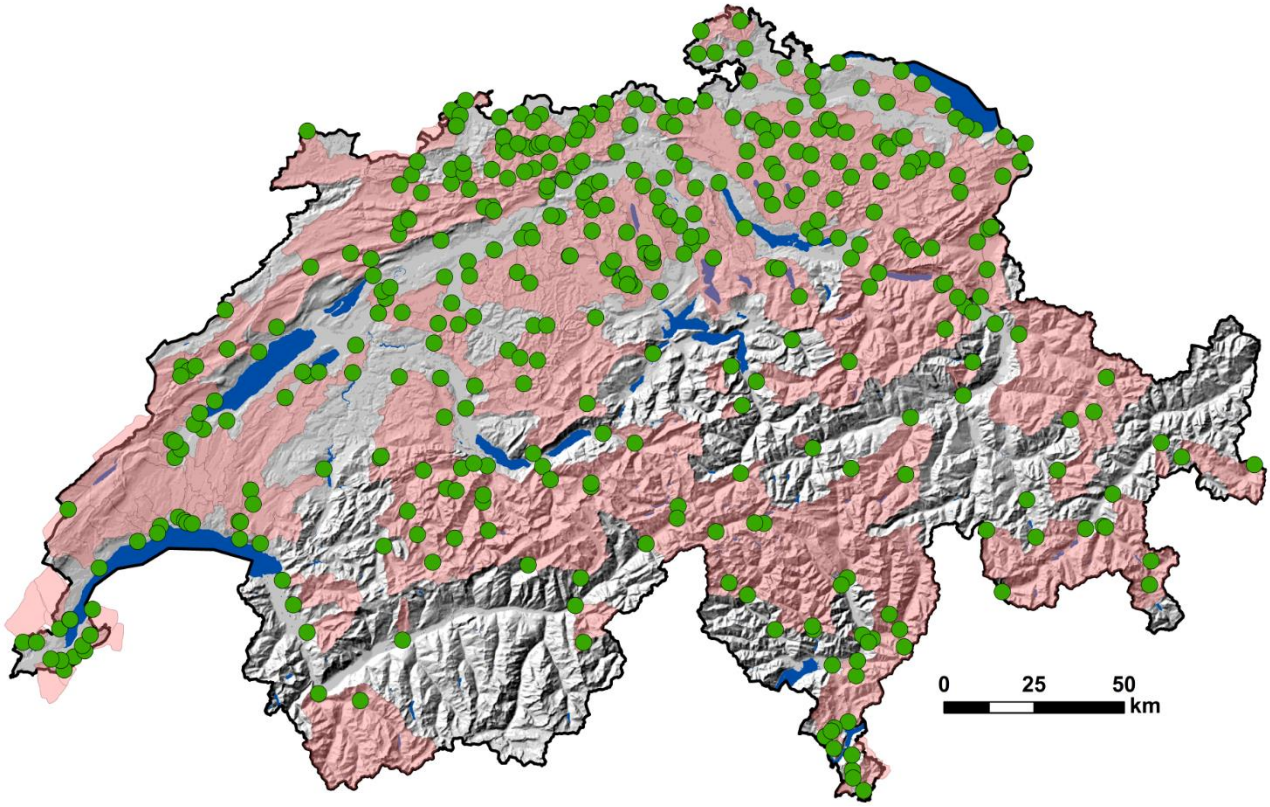

Figure S1: Locations of the gauging stations across Switzerland.

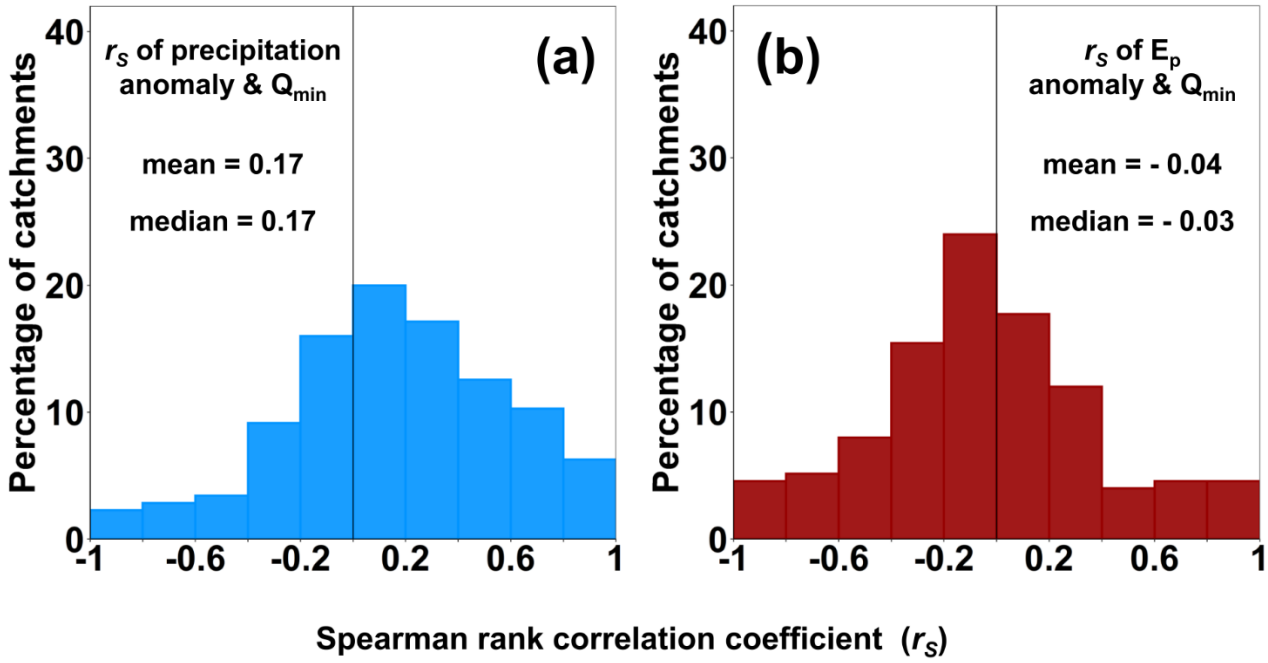

Figure S2: Histograms of rank correlations between anomalies of precipitation (a) and potential evapotranspiration (b) and low-flow magnitudes for cold-season (December through April) low flows across Swiss catchments. The overall rank correlations are much weaker compared to those of warm-season low flows. 30-day precipitation anomalies have less impact and 30-day E_p anomalies have almost no impact on cold-season low flows across Swiss catchments.

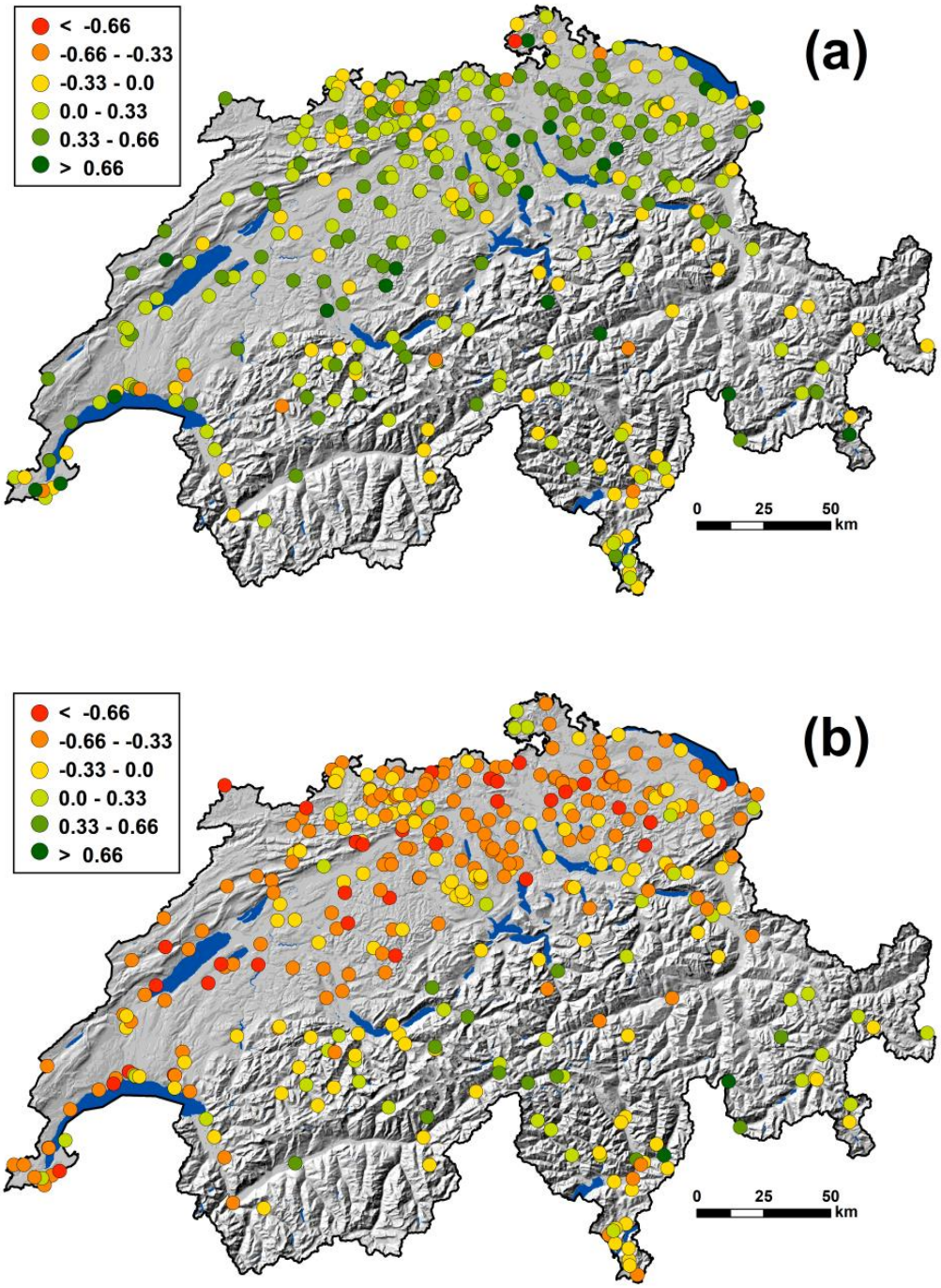

Figure S3: Spatial distribution of the Spearman rank correlation coefficients between precipitation (a) and E_p (b) anomalies and the magnitude of annual low flows. No strong regional patterns were observed across the 380 Swiss catchments, r_S of precipitation and Q_{min} does not correlate with elevation ($R^2 = 0.08$), and correlations of r_S of E_p and Q_{min} are weak ($R^2 = 0.33$).

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Table S1: Contact information of authorities where Swiss gauging and climate data can be accessed

Gauging Data	
Datasource	**Webpage / Contact Information**
FOEN - Federal Office of the Environment	https://www.hydrodaten.admin.ch/
Kanton Aargau	https://www.ag.ch/app/hydrometrie/station/
Kanton Basel Landschaft	https://hydro-jb.bl.ch/main_hydro.htm
Kanton Bern	https://www.bve.be.ch/bve/de/index/wasser/wasser/messdaten/fliessgewaesser.html
Kanton Geneva	https://www.vhg.ch/xt_vh/index.php
Kanton Graubünden	https://www.seba-hydrocenter.de/projects/index.php?user=anuchurpub
Kanton Luzern	https://uwe.lu.ch/themen/gewaesser/hydrometrie/abfluss_und_seepegel
Kanton Neuchatel	https://www.vhne.ch/xt_vh/index.php
Kanton Schaffhausen	http://www.hydrodaten.tg.ch/app/index.html#Abfluss
Kanton Solothurn	https://so.ch/verwaltung/bau-und-justizdepartement/amt-fuer-umwelt/umweltdaten/wasser/hydrometrie/daten/#
Kanton St.Gallen	http://www.hydrodaten.sg.ch/#Abfluss
Kanton Thurgau	http://www.hydrodaten.tg.ch/app/index.html#Abfluss
Kanton Ticino	https://www4.ti.ch/dt/dc/uca/temi/corsi-dacqua/corsi-dacqua/compiti/idrologia-e-pericoli-naturali/idrologia/
Kanton Vaud	https://vhv.tetrahydro.ch/xt_vh/index.php
Kanton Zürich	https://awel.zh.ch/internet/baudirektion/awel/de/wasser/messdaten/abfluss_wasserstand/jb_abfluss.html

Climate Data	
Datasource	**Webpage / Contact Information**
Meteoswiss gridded temperature, precipitation data	https://www.meteoswiss.admin.ch/home/measurement-and-forecasting-systems/datenmanagement.html