Supplemental figures showing the nature of each signature used in the study:

Table A1. Contains signatures used in the cluster analysis, including USGS gage number, Runoff Ratio (R_{QP}), Baseflow Index (I_{BF}), Slope of the FDC (S_{FDC}), Streamflow Elasticity (E_{QP}), Ratio of Snow Days (R_{SD}), and Rising Limb Density (R_{LD}).

Figure A1. Bar graph of annual totals of precipitation and streamflow of two selected catchments over the decade analyzed. Graph (a) shows the catchment with the lowest value for Runoff Ratio, R_{QP} = 0.02. Graph (b) shows the catchment that has the highest value of R_{QP} (0.69).

Figure A2. Semi-log plot of flow duration curves of two selected catchments. The vertical axis represents streamflow values normalized by the mean streamflow value of each catchment. Plot (a) shows the catchment with the lowest value for S_{FDC} (0.0087), while plot (b) shows the highest (0.093). Hydrographs of both catchments for example years are shown in plot (c).

Figure A3. Plot of hydrographs and filer-based baseflow separation for one example year for two selected catchments with very different I_{BF} values. Graph (a) shows the catchment with the lowest value for I_{BF} (0.31), while graph (b) shows the catchment that has the highest value of IBF (0.9) in the dataset used.

Figure A4. Bar graphs of differences in inter-annual precipitation and in inter-annual streamflow of two selected catchments normalized by mean precipitation and mean streamflow, respectively. Delta Precipitation represents the change in precipitation between two years normalized by the average value of precipitation over those years (using hydrologic rather than calendar years). Delta Streamflow represents the change in precipitation between 2 years normalized by the average value of streamflow over those years. The median value of these ratios, used as estimate of streamflow elasticity, for each catchment is highlighted by a dotted black box.

Figure A5. Figure showing plots of precipitation, normalized streamflow and temperature for two catchments of which one has basically no snow storage (a), while the other one shows extensive snow storage (b) throughout much of the year where the temperature is close to zero or even below.

Figure A6. Figure showing plots of precipitation and streamflow for two catchments of which one (a) has the highest R_{LD} (0.65) and very flashy response, while the other (b) has the lowest RLD (0.15) and a very gradual response.