

zemědělská univerzita



Background and objectives

- on the inferred causal structure.
- streamflow response to temperature.

Method



Response Types

Type 05 (Double-phase pattern): Upward trend at lower temperatures; positive seasonality; indicates snow storage; wet with high mean precipitation. Type 06 (Double-phase pattern): Consistently wet; lowest aridity index; wet with high mean precipitation. Type 08 (Double-phase pattern): Driest group; highest aridity index, minimal snow fraction; highest frequency of both low and high flow events. Type 10 (Triple-phase pattern): Strong positive precipitation seasonality, higher snow fraction, highest baseflow index, lowest variability in flow. Type 11 (Triple-phase pattern): Positive precipitation seasonality; stable regime with moderate runoff and climate characteristics compared to other groups. Type 12 (Triple-phase pattern): Stable regime with more pronounced upward trend, wetter conditions, lower aridity index, and higher precipitation than Type 11. No CE: Catchments with no direct causal effect of temperature on streamflow; temperature effects are mediated through precipitation. Excluded from the analysis.

Influence of Temperature on Streamflow Dynamics: A Multi-Catchment Analysis Using the PCMCI+ Causal Discovery Algorithm Hossein Abbasizadeh, Petr Maca, and Martin Hanel

Czech University of Life Sciences Prague, Faculty of Environmental Sciences, Department of Water Resources and Environmental Modelling



time series datasets. In Conference on Uncertainty in Artificial Intelligence (pp. 1388-1397). Pmlr.