

Too hot to handle?

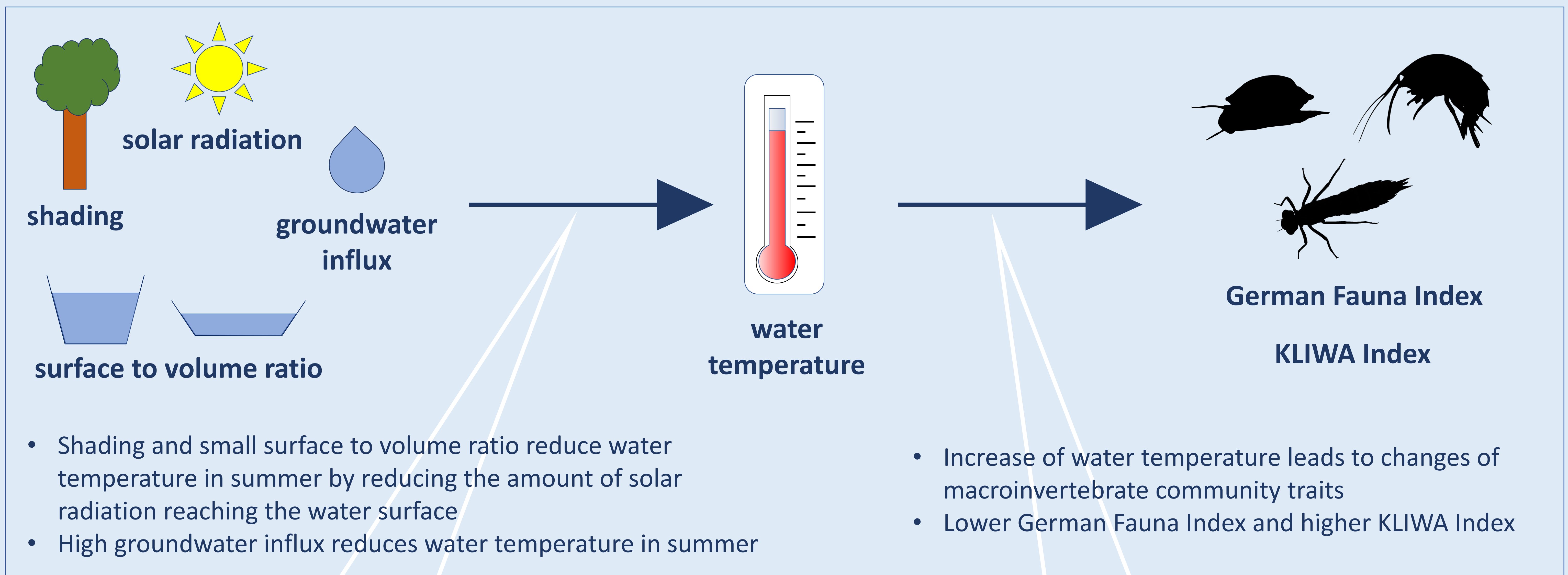
Natural stream characteristics mitigate negative effects of extreme low-flows on macroinvertebrates

Hannah-Marie Stappert¹, Jochem Kail¹, Daniel Hering¹

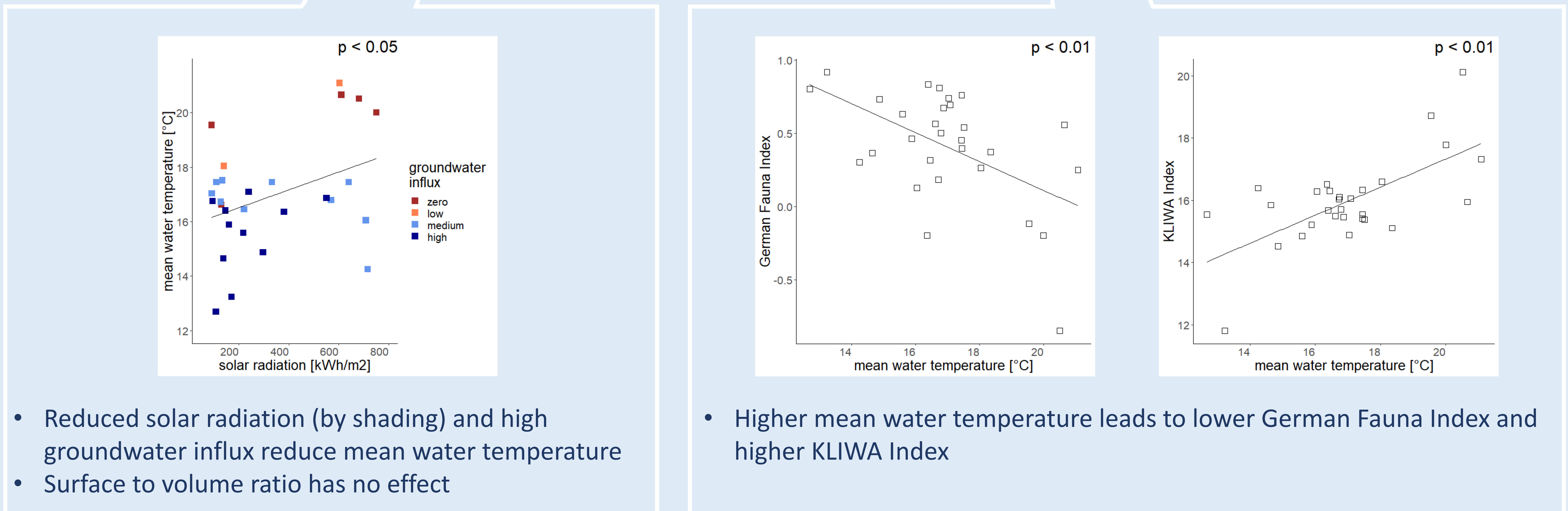
Methods

- 34 sampling sites in sand-bed streams (type 14) located in a lowland region in Germany
- Solar radiation on water surface calculated via drone images implementing shading
- Representative stream cross-sections measured to calculate surface to volume ratio
- Groundwater influx estimated based on expert knowledge; will be modelled in the future
- Water temperature measured every 20 minutes in summer prior to macroinvertebrate sampling
- Macroinvertebrates sampled in late summer 2022, directly after three months of a heavy drought, via multi habitat sampling

Hypotheses



Results



Conclusion

Measures that

- decrease solar radiation input by shading
- increase groundwater influx ...

... decrease water temperature ...

... and may help to mitigate climate change effects on macroinvertebrate communities

Reference

<https://www.phylopic.org/>

