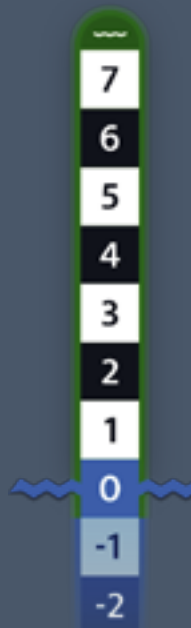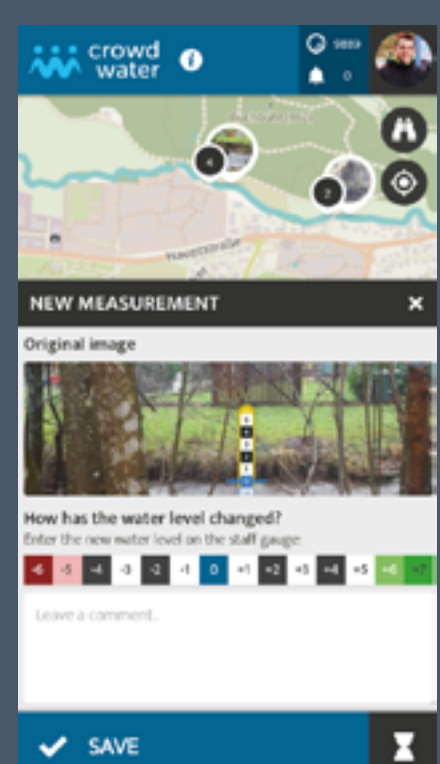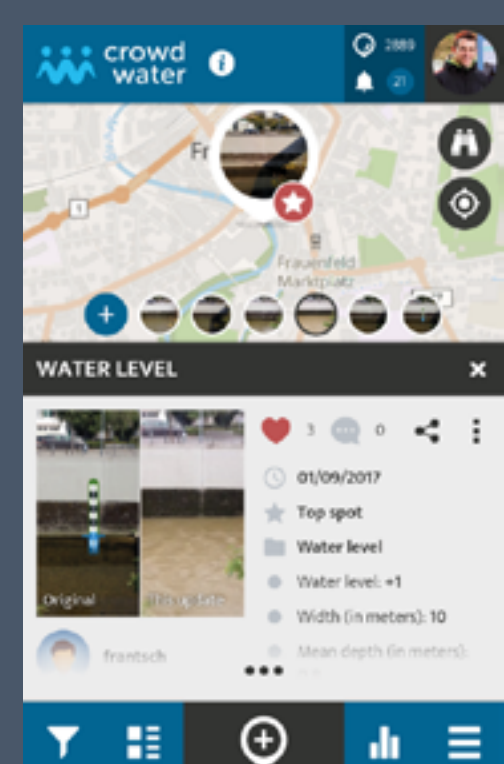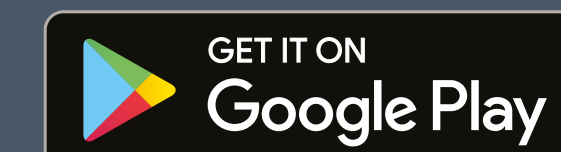# Next Level Hydrometry
Accuracy of crowdsourced water level classes

Simon Etter, Barbara Strobl, Ilja (H. J.) van Meerveld, Jan Seibert

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Citizen scientists collected more than 4500 water level class observations with the **CrowdWater | SPOTTERON smartphone application**. There are already 36 water level spots with more than 25 observations. We selected data from spots where water levels were measured continuously.
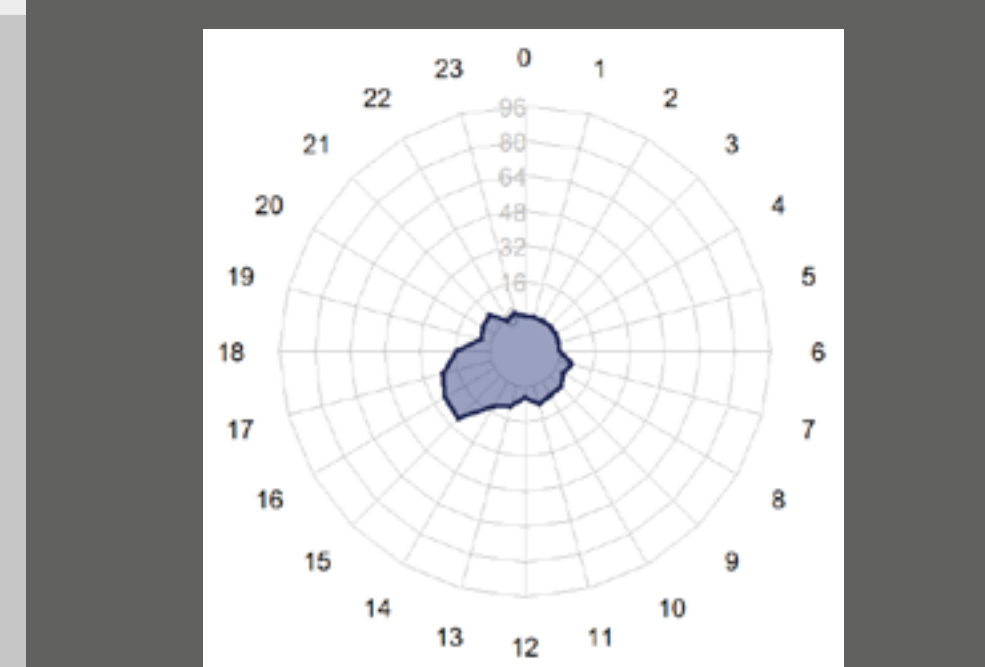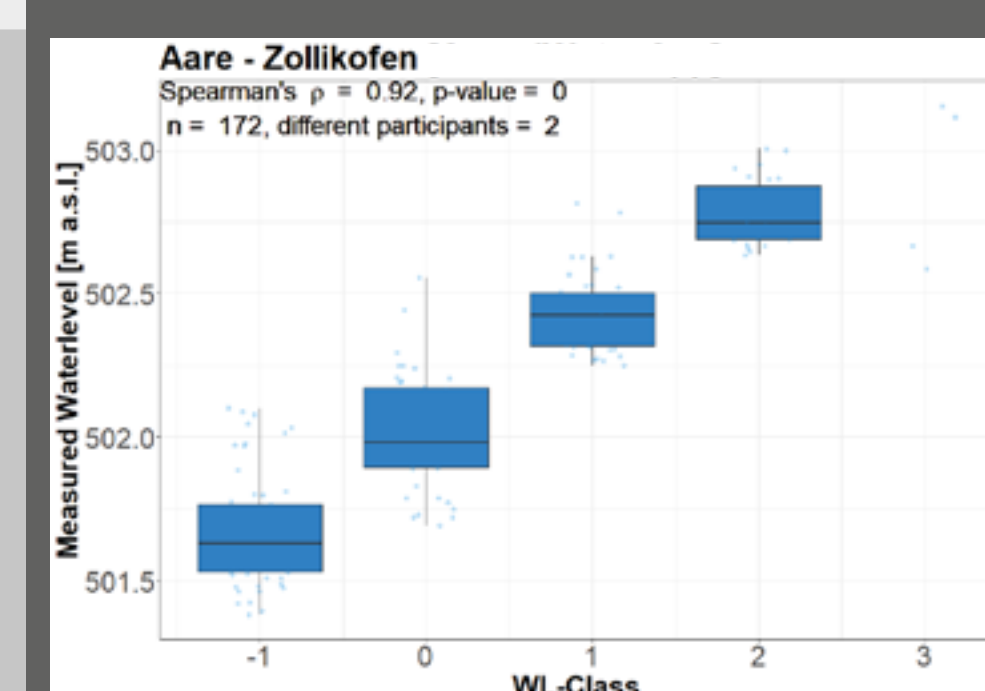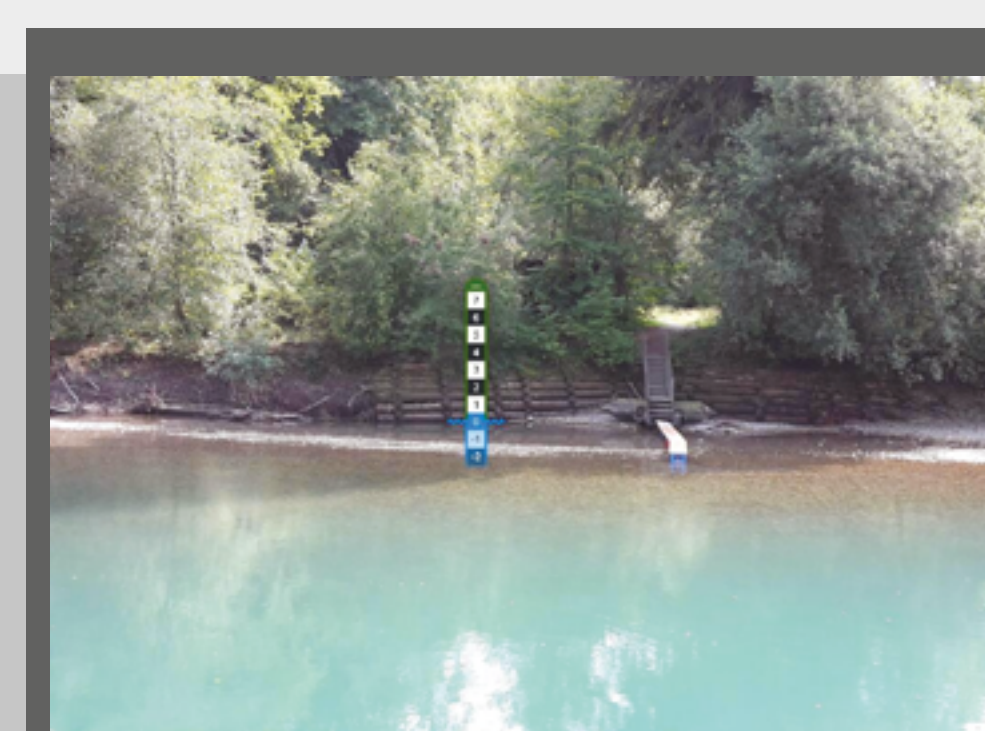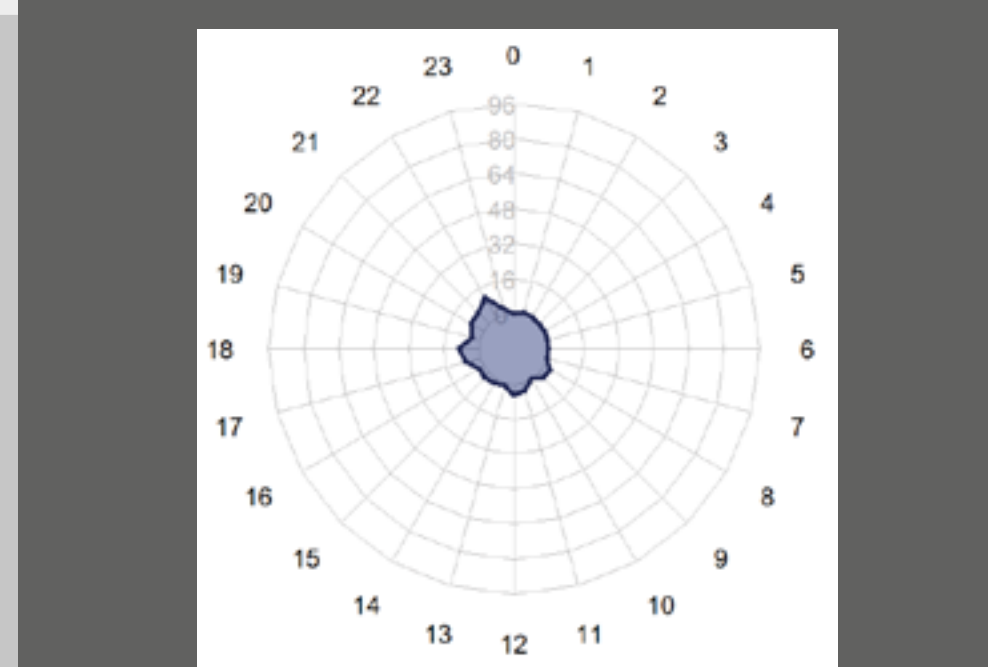
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CrowdWater App Spots

Reference image with the virtual staff gauge

Comparison with measured water levels

Contribution times
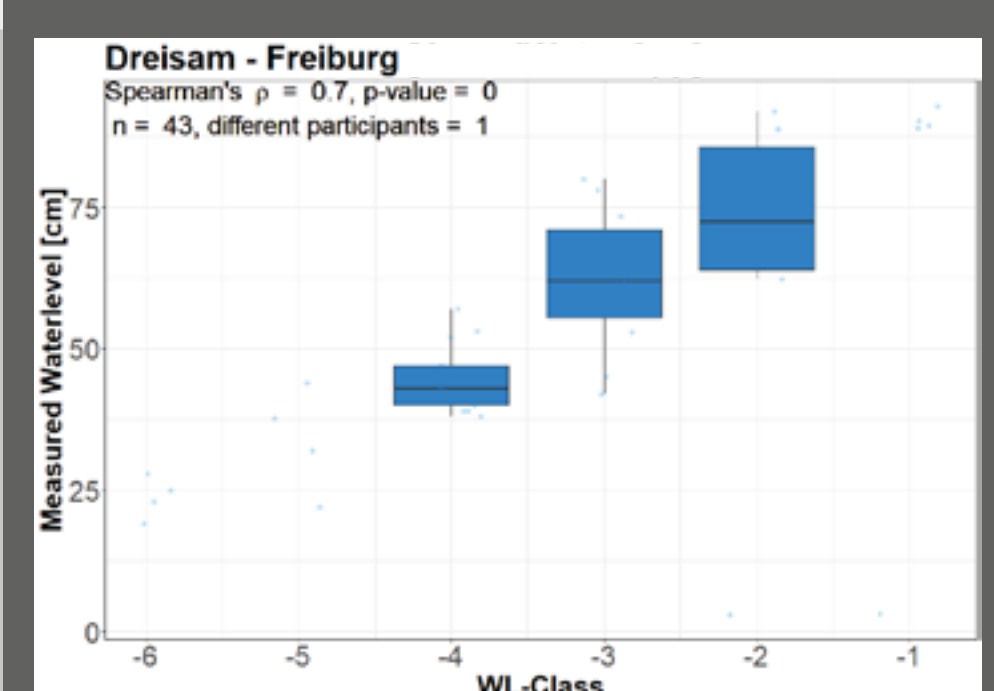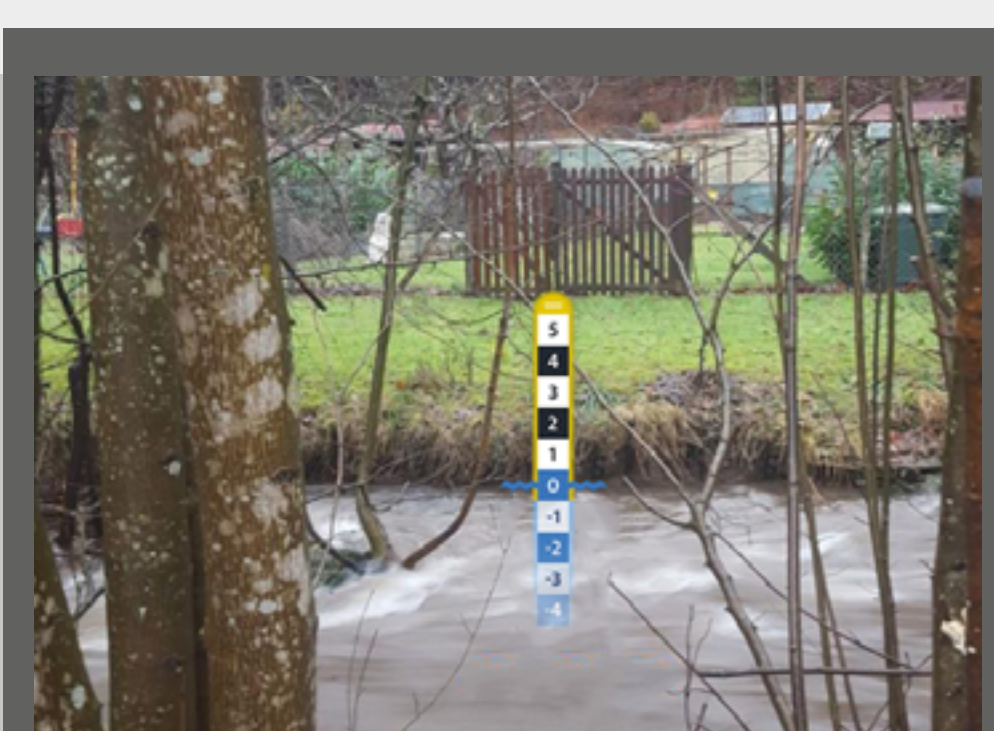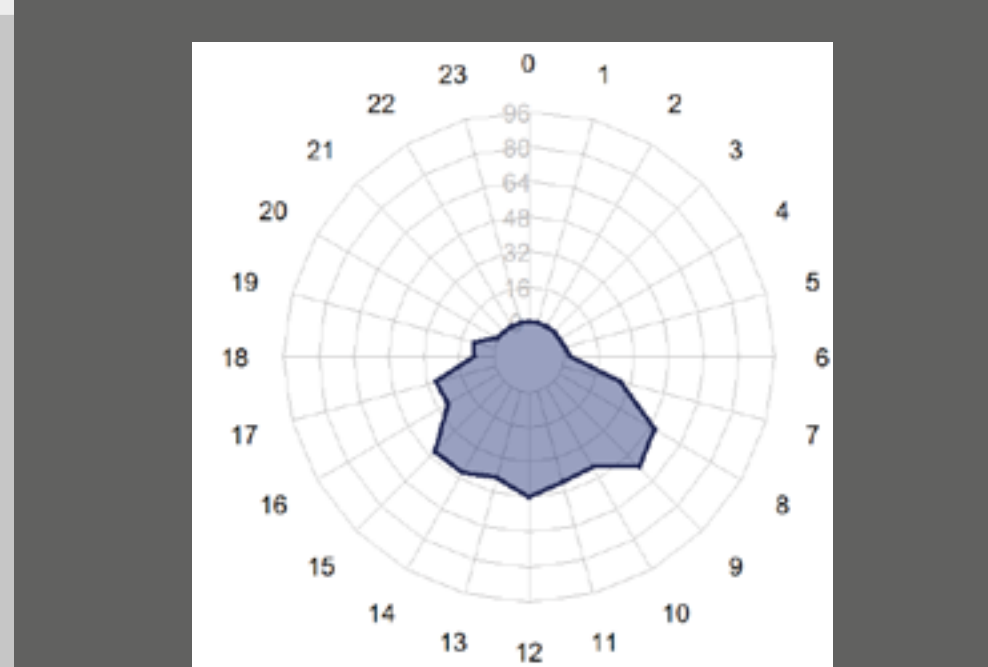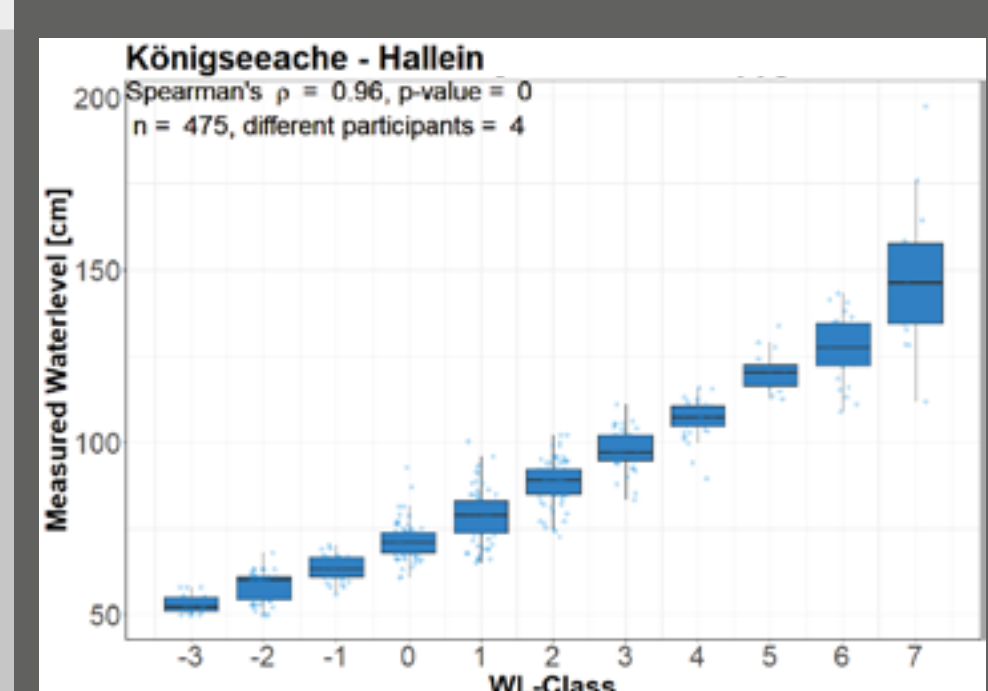
Comparison with measured data
- App contributions (with single contributors) are more consistent
- Water level classes of subcatchment can be representative for entire catchment (e.g. Dreisam)

Contribution Times
- Information signs: most contributions are made in the afternoon
- App contribution times are spread more, even though it is often a single person
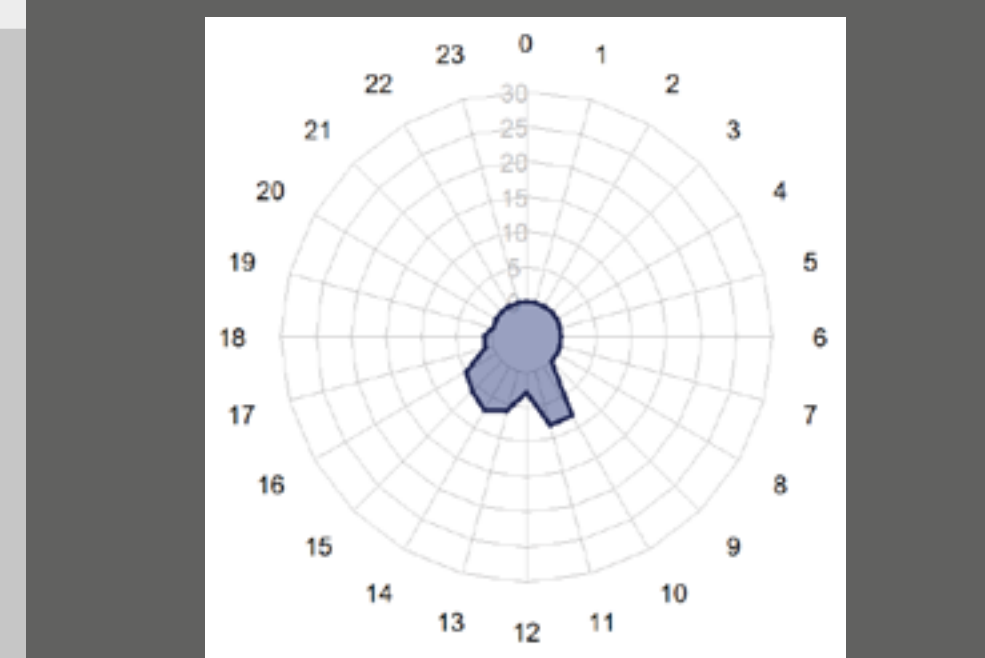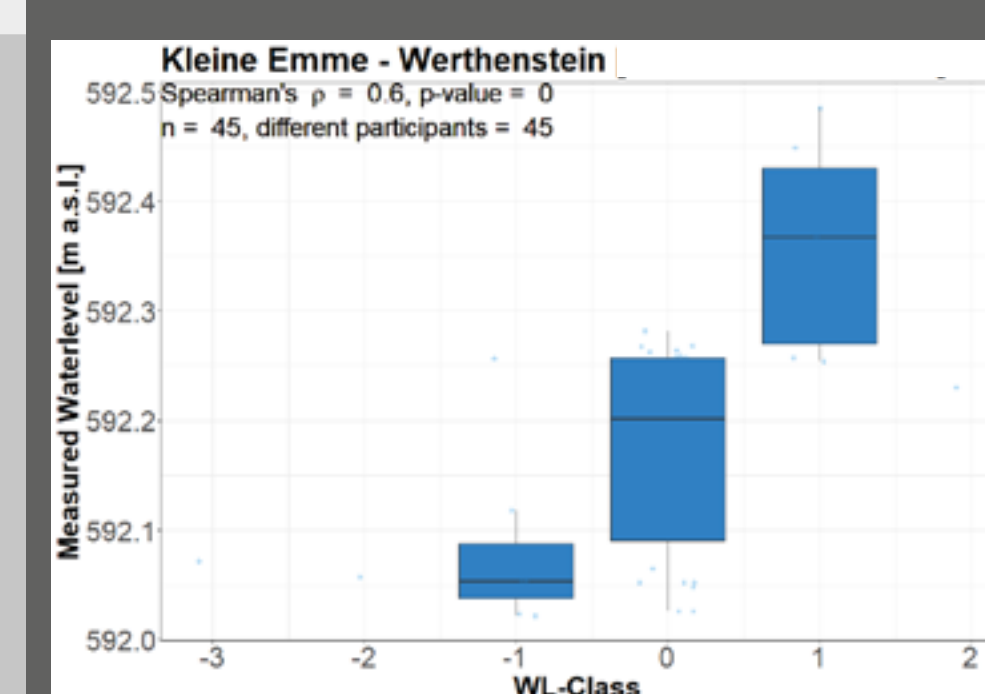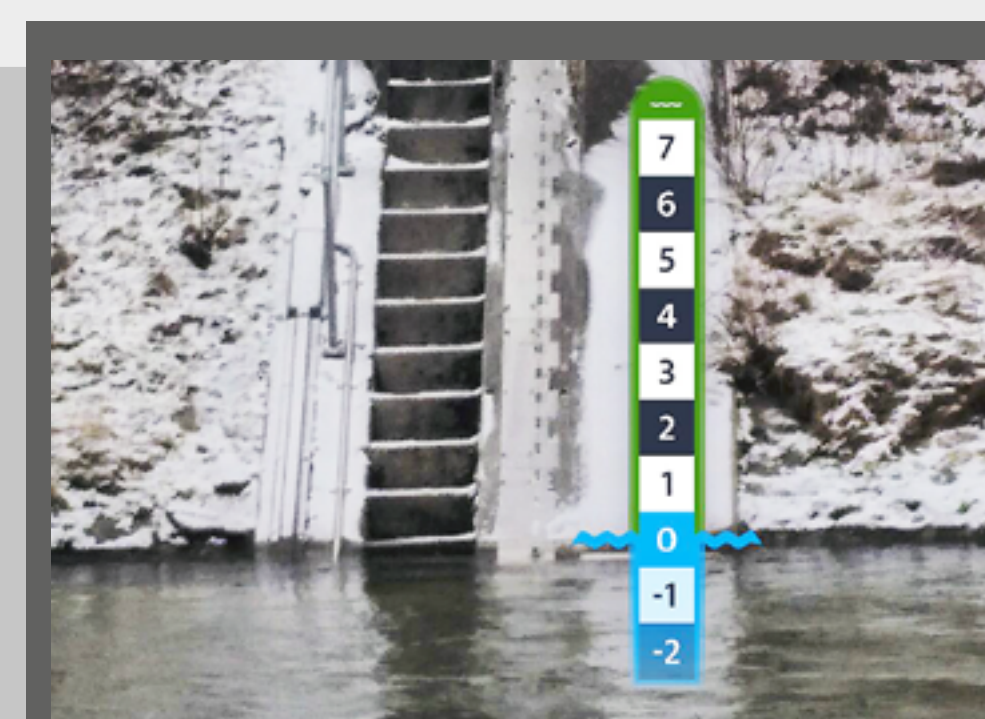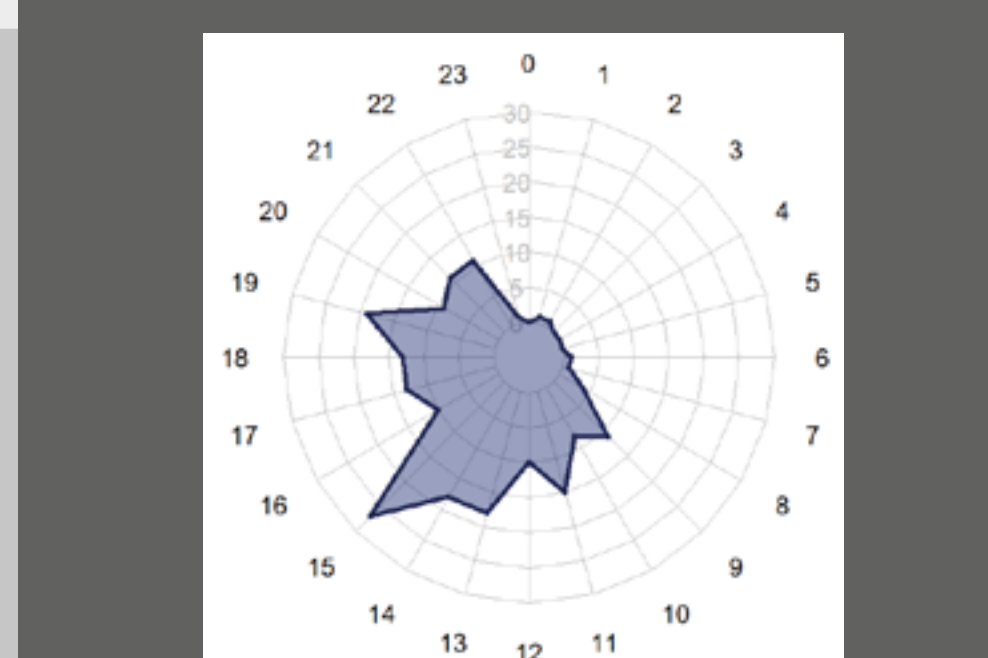
What makes a good spot?
- Visible changes in water levels
- Stable riverbed
- Salient reference structures
- Well placed virtual staff gauge
- A dedicated citizen scientist

Information Signs

Reference image with the virtual staff gauge

Comparison with measured water levels
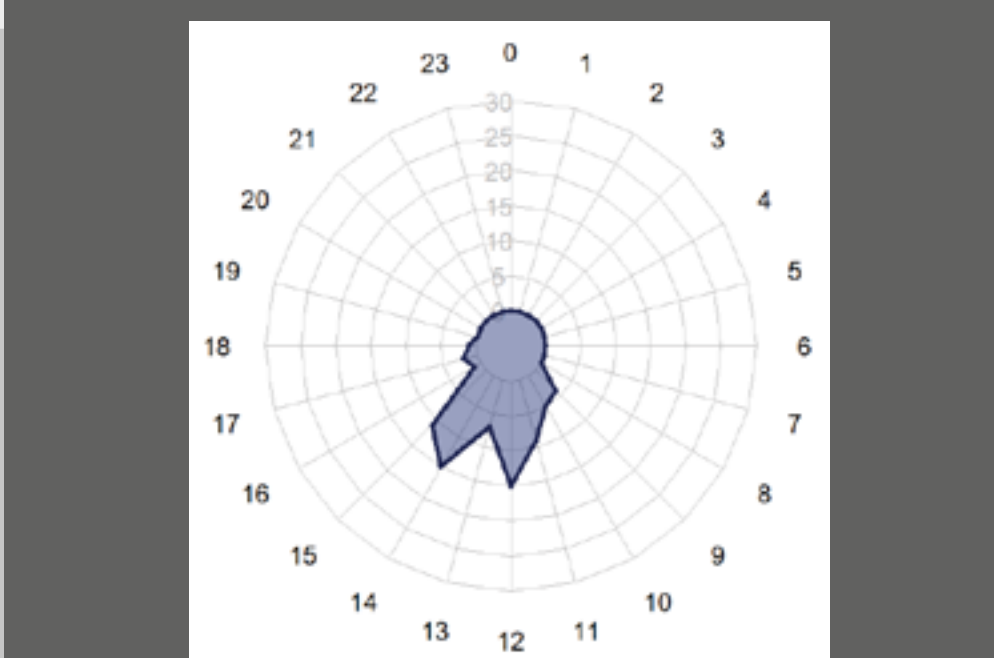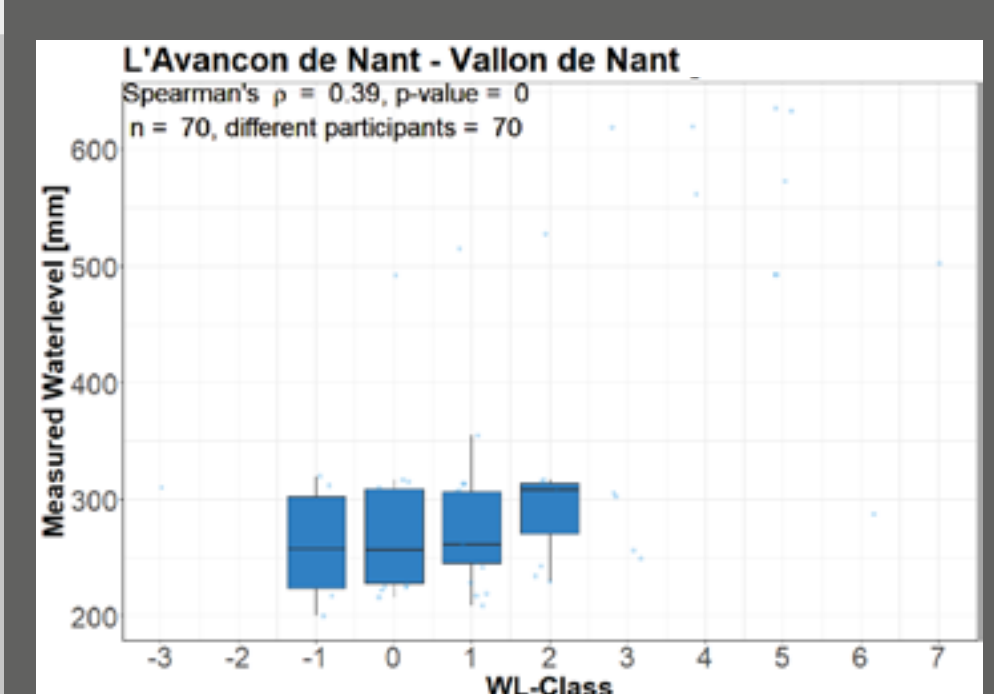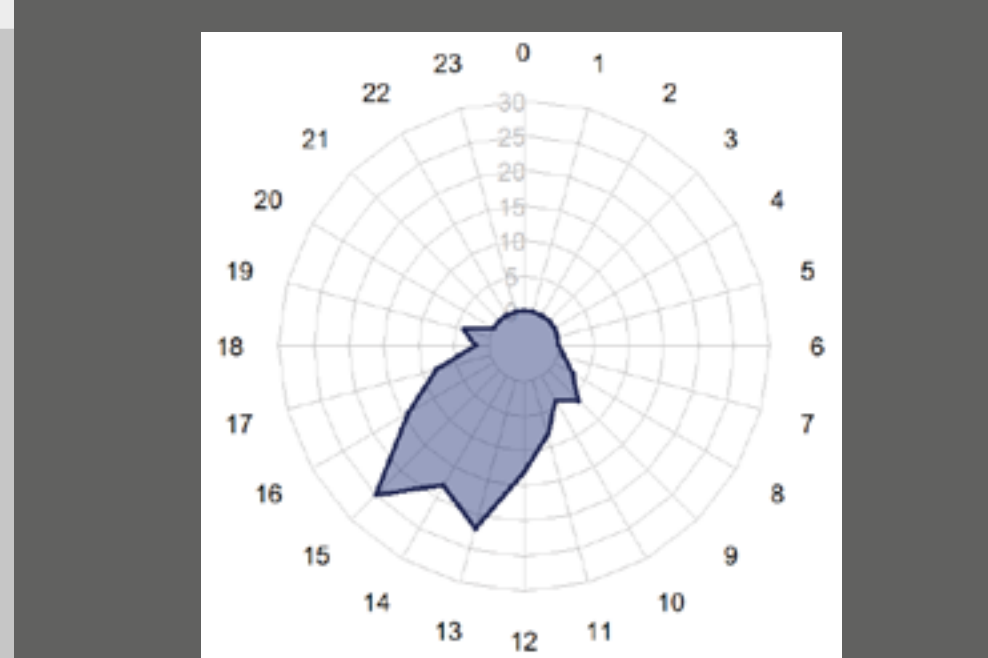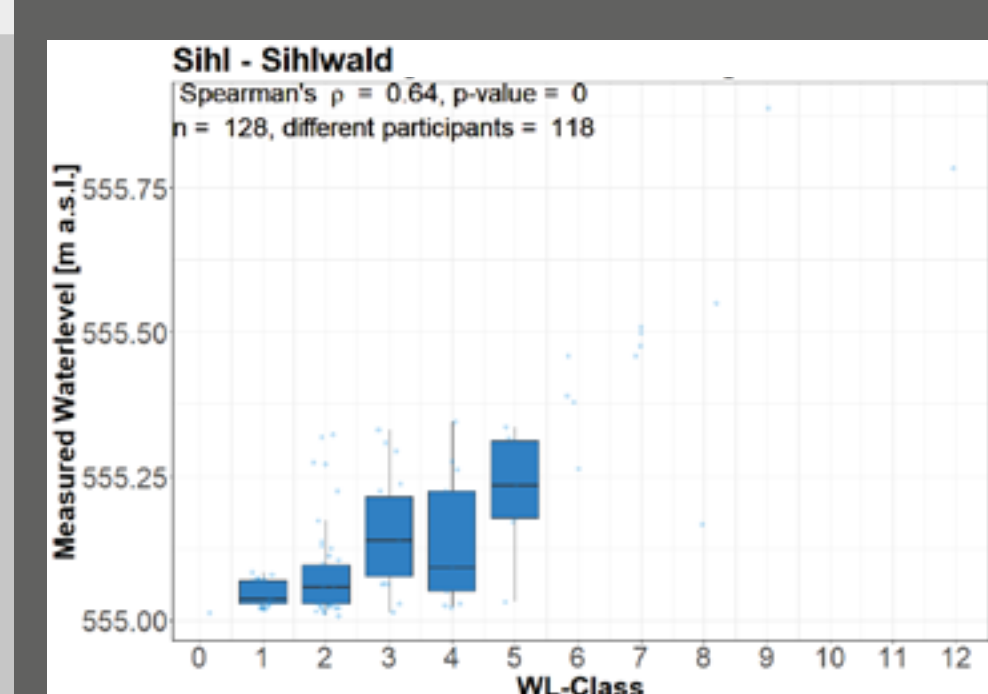
Contribution times

We installed eleven **information signs** with a reference image and the virtual staff gauge. Pedestrians estimated the water level class by comparing the referecence image to the stream and then filled in a paper form. Here we compared these estimates to simultaneously measured water levels.

University of Zurich UZH

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crowd water

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