

Gauging Flash-Floods — Automated Measurement of Flood Events in Mountain Torrents

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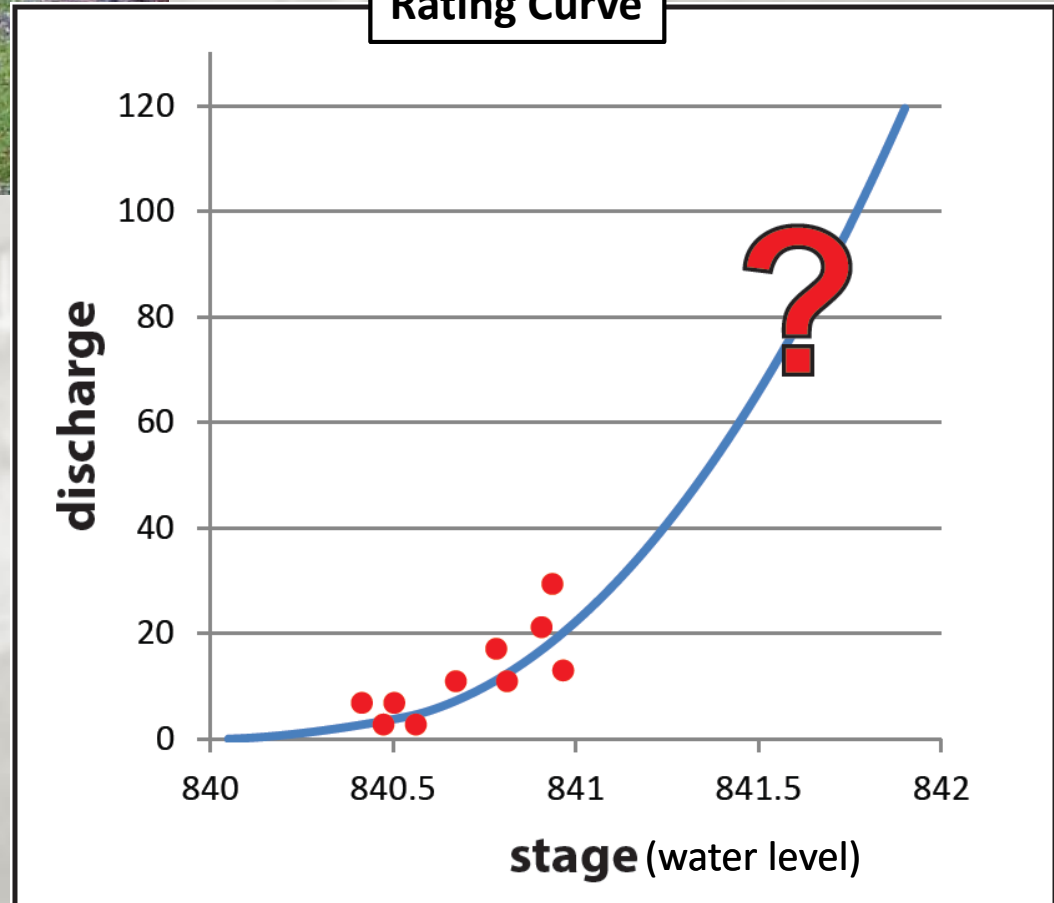
MOXXI Dec. 4th 2017, WMO Geneva

Protection Measure

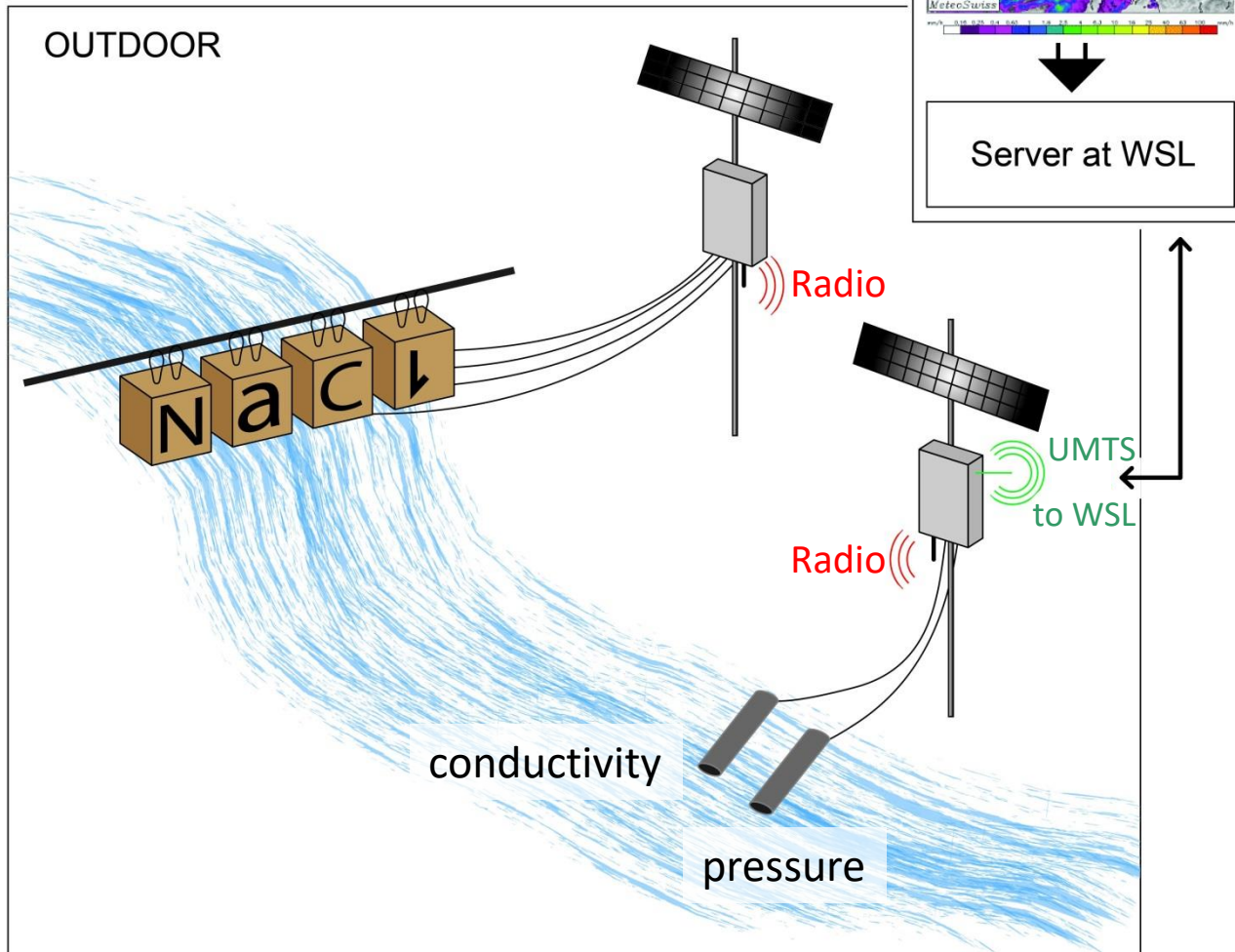


Foto: Schubiger AG

Rating Curve



The Automated Flood Measurement System



Action Tree

IF Radar QPE > Threshold

Activate Station via SMS
(Sample water level and
conductivity at 1min int.)

IF water level threshold reached
AND
IF water level peak reached
(decrease over 2 min)

Increase sampling interval (1s)

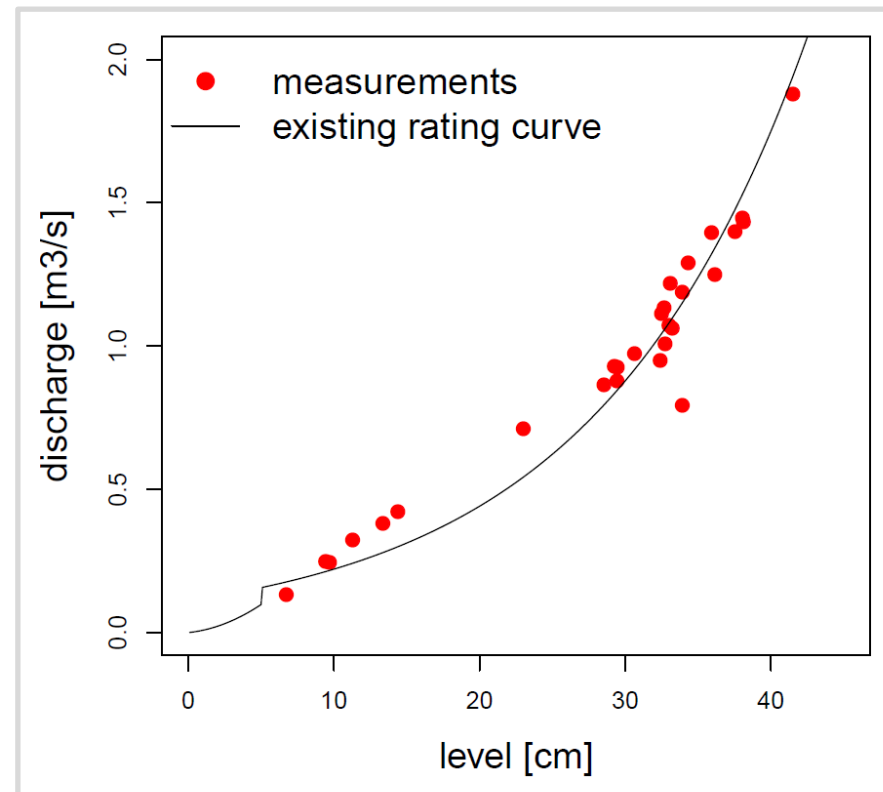
release appropriate amount
of salt after 2 min

keep sampling for 30 min

Results

New automatic measurements vs. existing rating curve:

- 27 reliable measurements taken since 2014.
- Good fit to pre-existing rating curve.



Conclusion

- Valid method to establish and validate rating curves for turbulent mountain torrents
- Independent of date and time
- Safe – nobody needs to be in the field during floods
- Low power demand

