

Sensor Web Achievements - Eventing & Clients -

Christian Malewski, Verena Kirstein, Christian Förster

GEFÖRDERT VOM



Bundesministerium
für Bildung
und Forschung



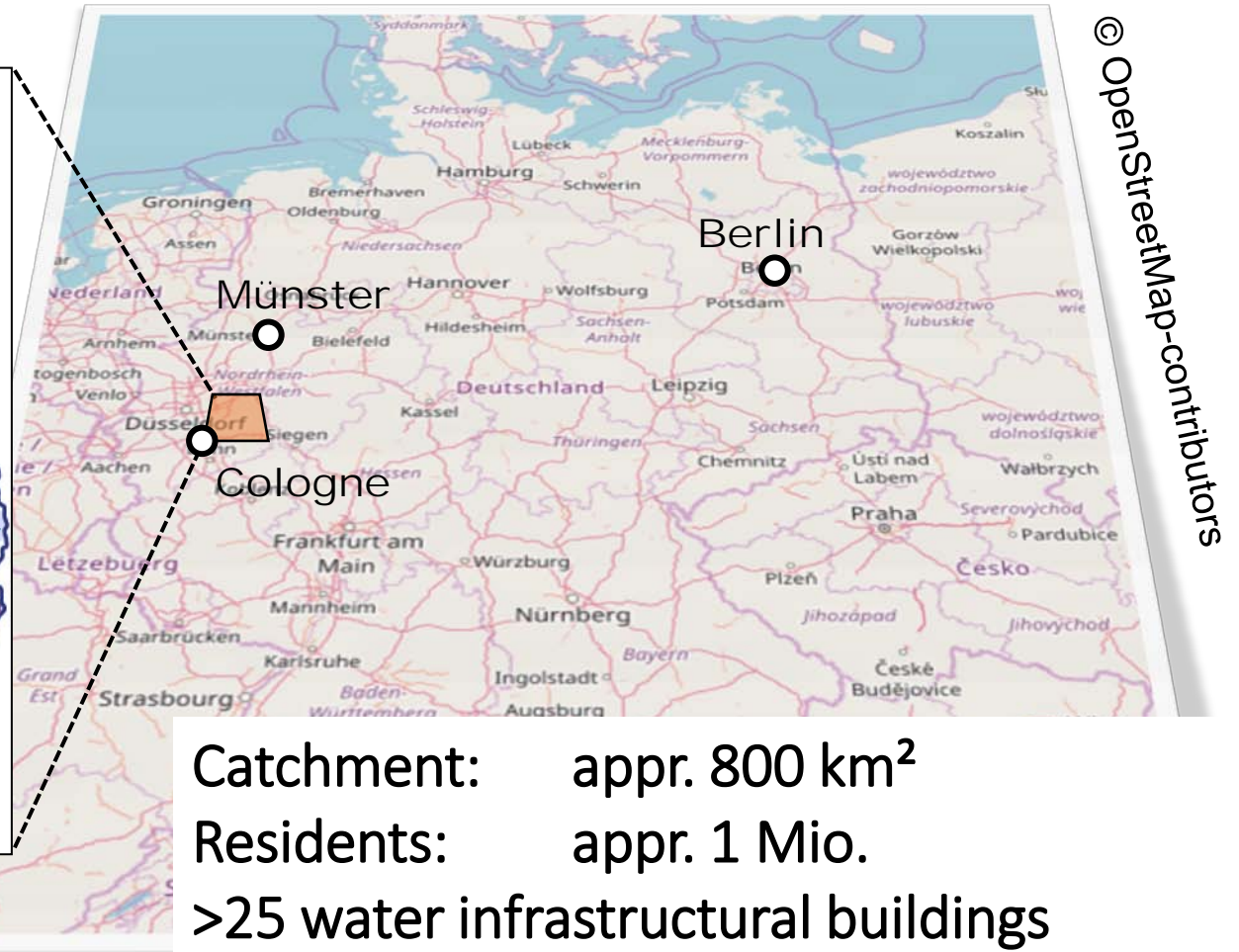
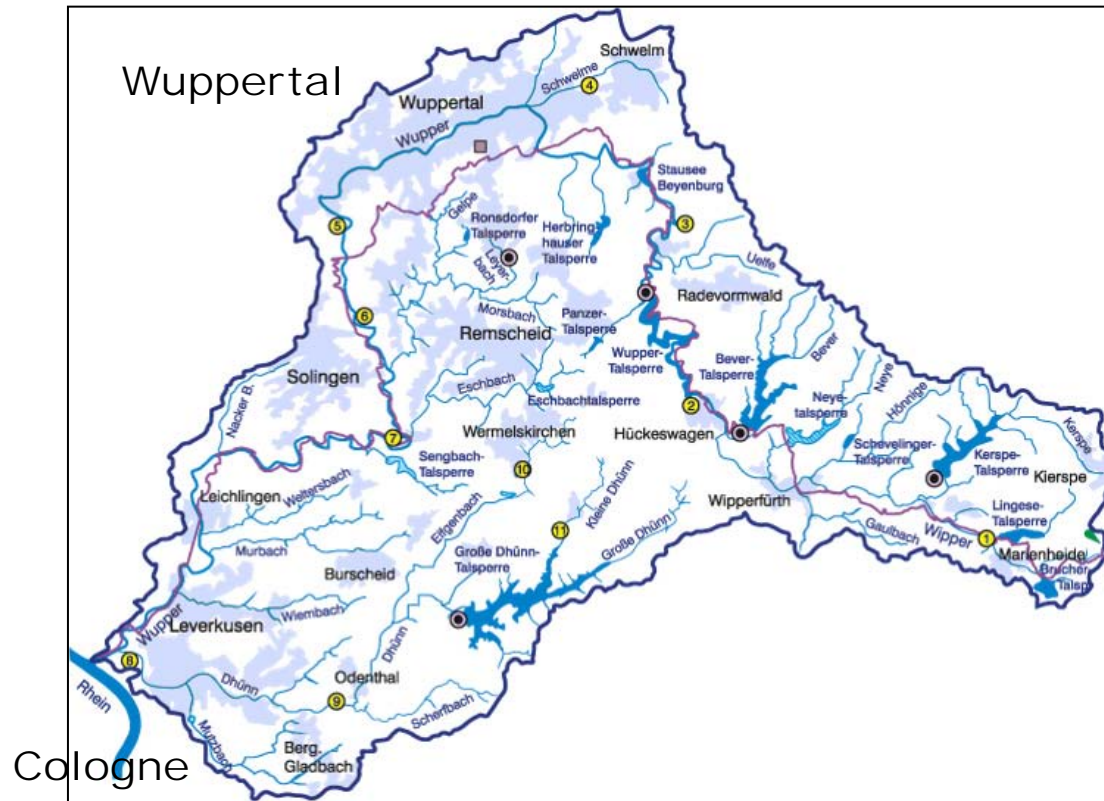
MuDak-WRM



WUPPERVERBAND

für Wasser, Mensch und Umwelt

The Wupperverband



© OpenStreetMap-contributors

Catchment: appr. 800 km²
Residents: appr. 1 Mio.
>25 water infrastructural buildings
(reservoirs and sewage treatment plants)



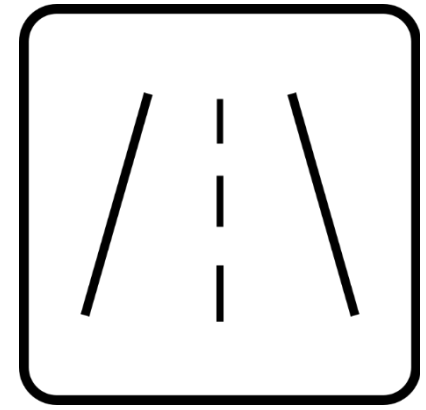
Eventing



Clients



Manual Inputs



Roadmap

Heavy rain event in Wuppertal (June 2018)



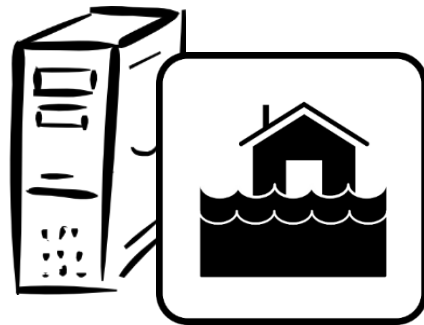
Eventing Strategy



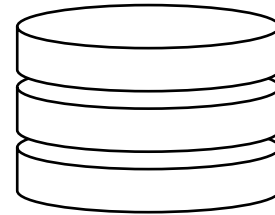
• Sensor



• Expert System



• SWE Database



• Eventing API

/events

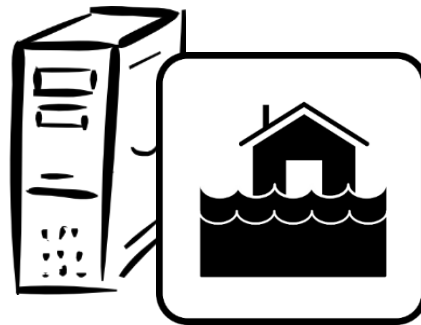
Eventing Strategy



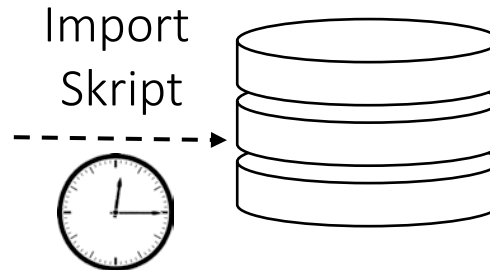
• Sensor



• Expert System



• SWE Database



• Eventing API

/events

Eventing Strategy



Event detection



• Sensor

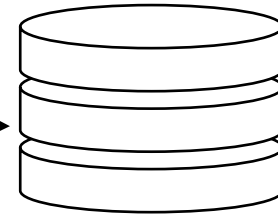
• Expert System

• SWE Database

• Eventing API



Import
Skript



/events

Eventing Strategy



Event detection



• Sensor

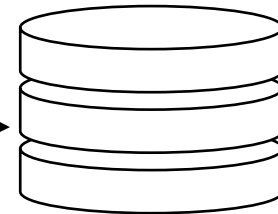
• Expert System

• SWE Database

• Eventing API



Import
Skript



/events

Appr. 300 events / day
24k events since last 6 month

Eventing API

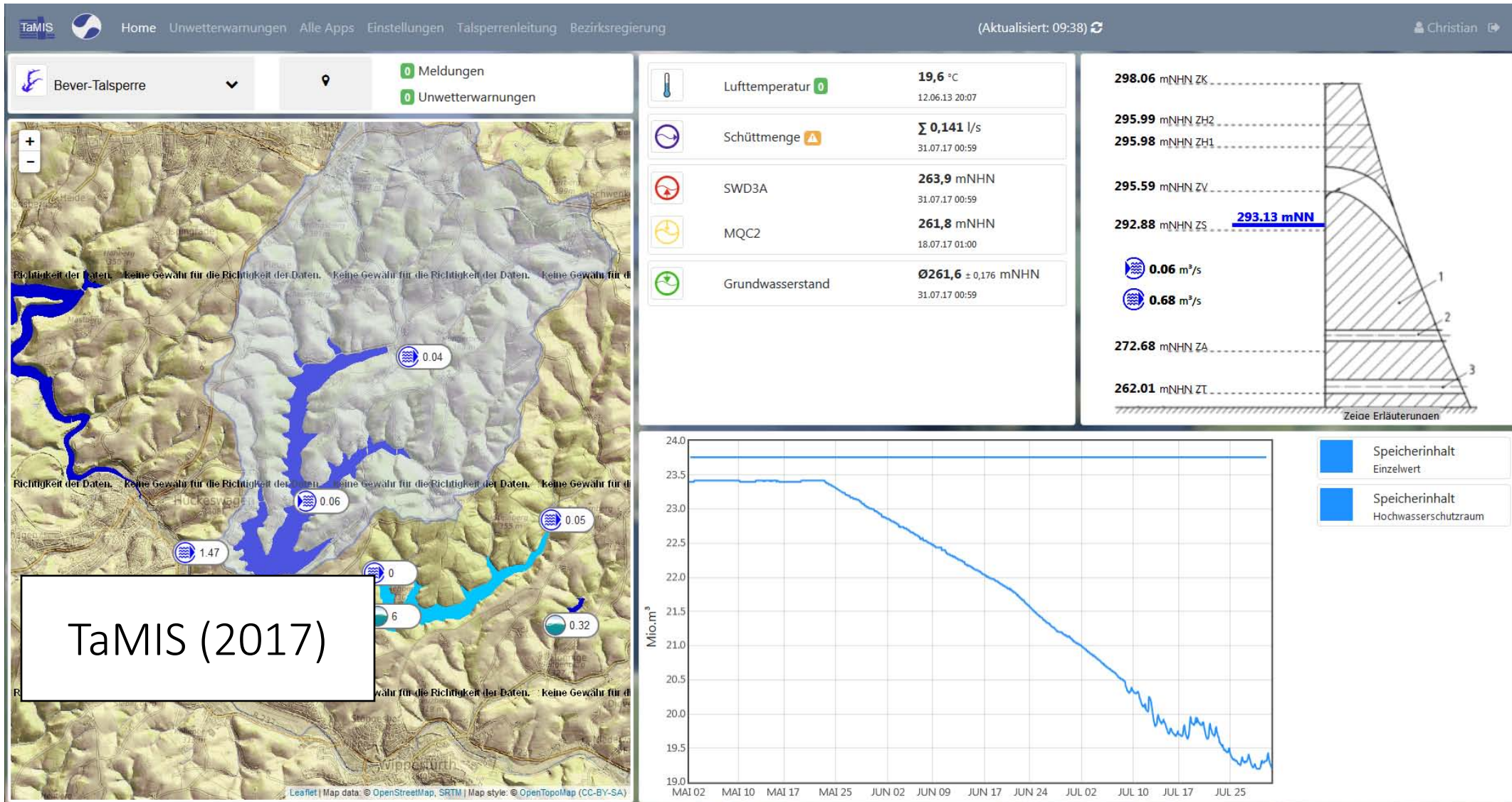


- Version 1.0 recently deployed
- Uses concepts of OGC Pub/Sub Standard
- First stable and robust Eventing API since 7 years in the Sensor Web Domain?
- User and user group specific events and subscriptions

Issues

- Medium performance (2.5 secs for latest 100 events)
- Penderous registration process
- Develop helgoland-toolbox components and deploy clients
- Harmonize Series API and Eventing API (Paging, Patterns)

Client development



Client development



Problem:

Penderous re-usability of SWE UI-components

Requirement for library / toolbox
for easy re-usage of SWE-UI components

TaMIS (201

52n helgoland-toolbox

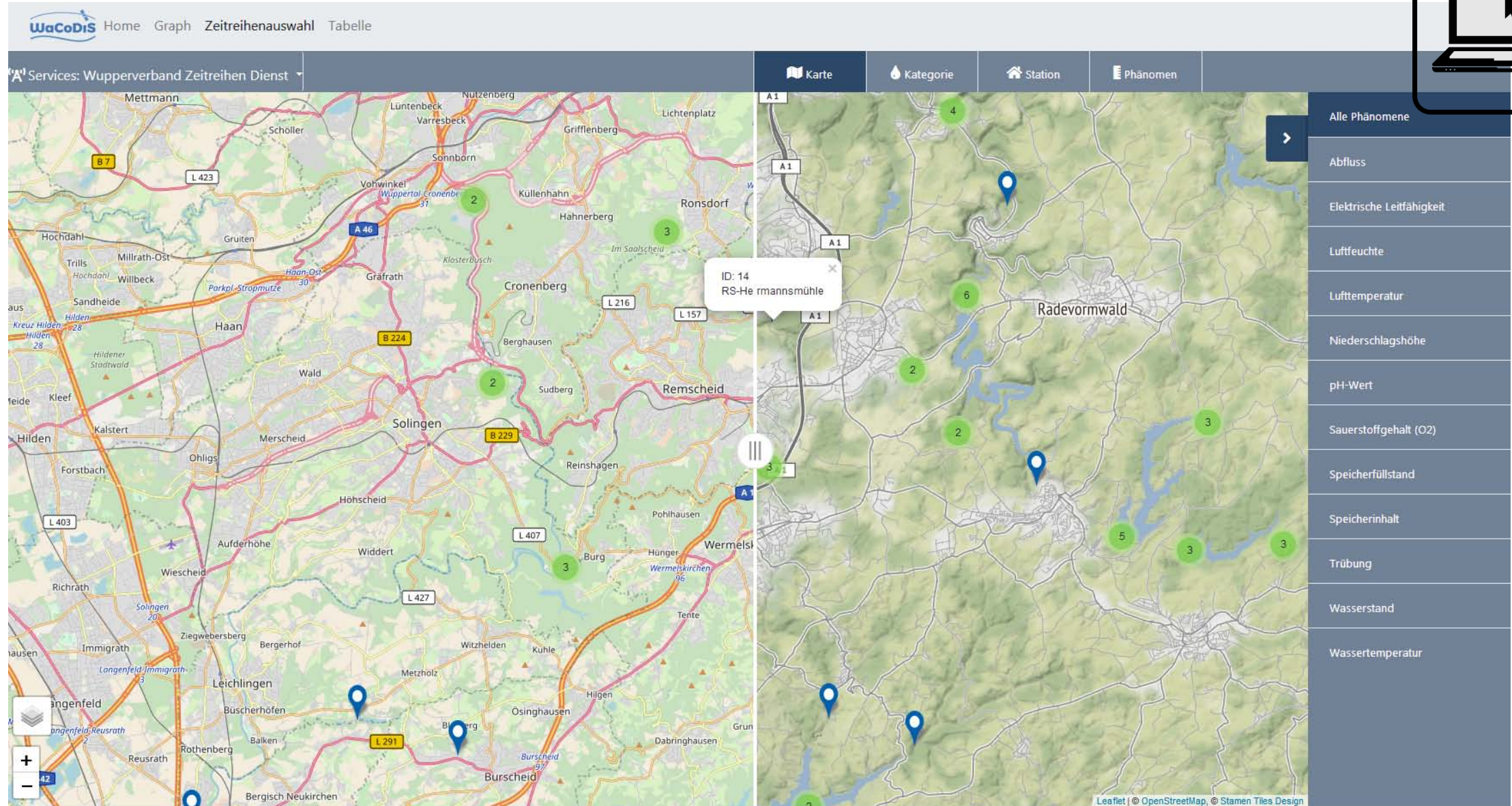
52n helgoland-toolbox




```
npm install @helgoland/core
```

<https://github.com/52North/helgoland-toolbox>

Usage in Wacodis



Usage in TaMIS



Bever-Talsperre

HomeWebcamsHandeingabenMesskalender

Christian Mulewski

← → 16.08.2018







← → 13:30

Erfassung abbrechen

Editiermodus ein

Bearbeiter:cmi

LufttemperaturWassertemperaturNiederschlagSickerwasserSohlbohrungMQAMQBMQCMQDEFSWD_I SWD_IIGrundwasser


Einklappen	Messwert [l] / Zeitraum [s]	Handmessung	Autom. Messung	Bemerkung
 S1 HAND	<input type="text"/> / <input type="text"/>	kein Wert l/s	0.015 l/s (15.08.2018)	<input type="text"/>
 S2 HAND	<input type="text"/> / <input type="text"/>	kein Wert l/s	0.068 l/s (15.08.2018)	<input type="text"/>
 S3 HAND	<input type="text"/> / <input type="text"/>	kein Wert l/s	0 l/s (15.08.2018)	<input type="text"/>
 S4 HAND	<input type="text"/> / <input type="text"/>	kein Wert l/s	0.008 l/s (15.08.2018)	<input type="text"/>
 S2A HAND	<input type="text"/> / <input type="text"/>	kein Wert l/s	0.024 l/s (15.08.2018)	<input type="text"/>
S2A HAND L	<input type="text"/> / <input type="text"/>			
S2A HAND R	<input type="text"/> / <input type="text"/>			
 S2B HAND	<input type="text"/> / <input type="text"/>	kein Wert l/s	0.014 l/s (15.08.2018)	<input type="text"/>
S2B HAND L	<input type="text"/> / <input type="text"/>			
S2B HAND R	<input type="text"/> / <input type="text"/>			


Neue Werte übernehmen


Neue Werte verwerfen

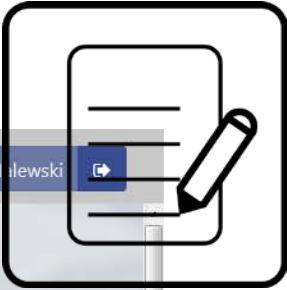
EinklappenSickerwasser S1, S2, S3, S4

Letzten MonatLetzten 3 MonateLetzten 12 Monate

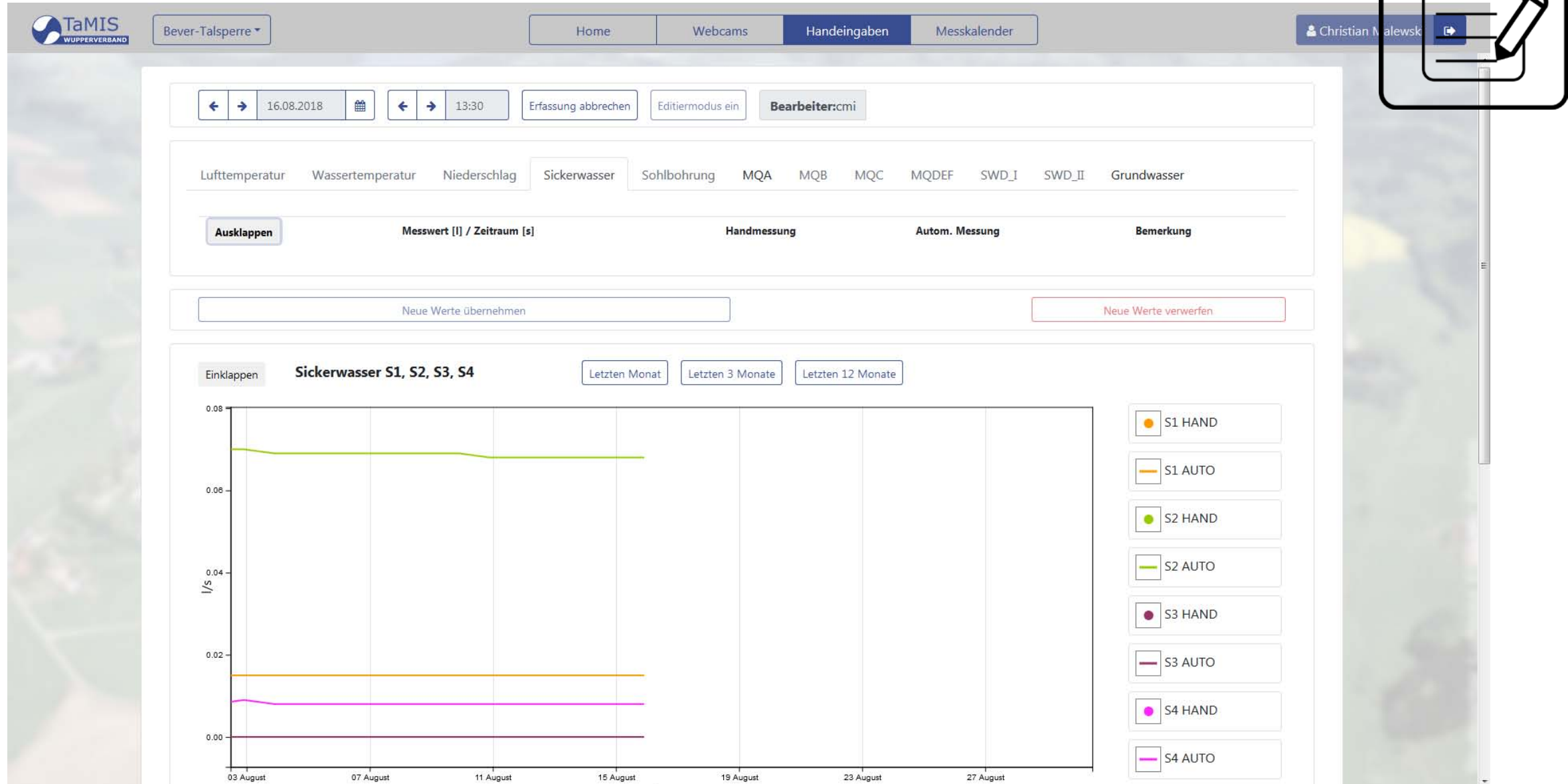


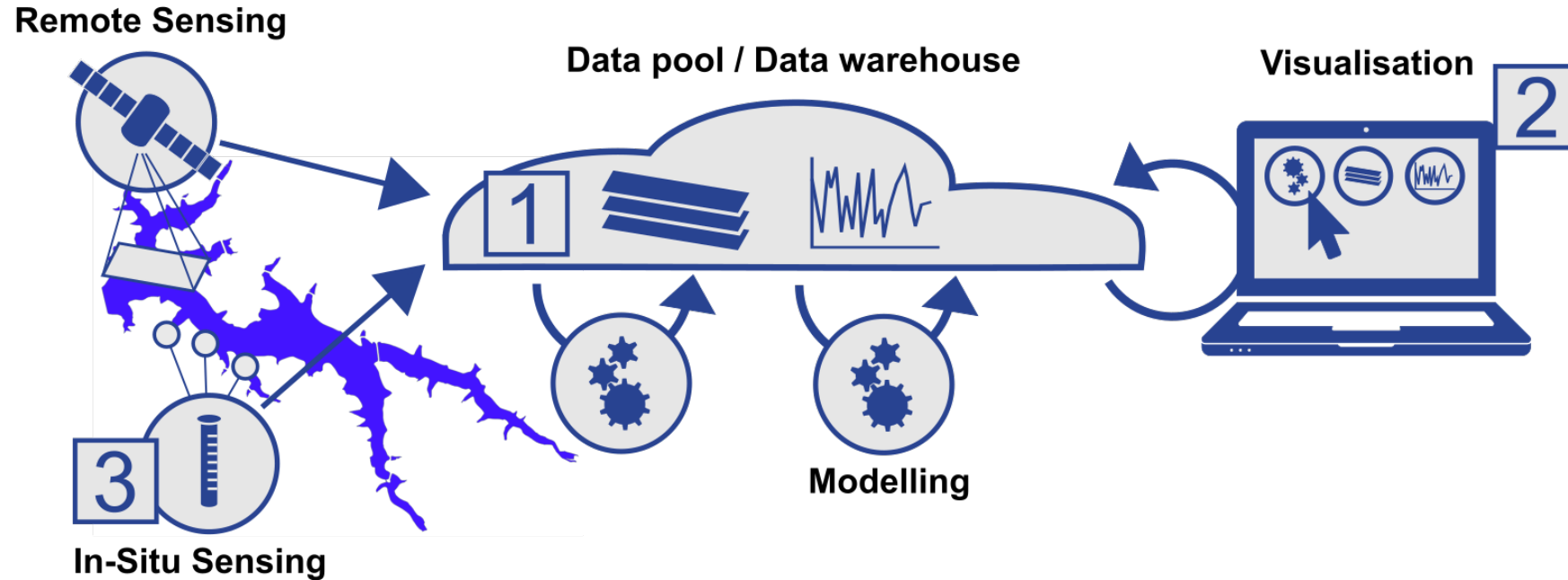
 S1 HAND

 S1 AUTO



Usage in TaMIS





- 1** Development of a project-plattform for data exchange and enhancement of reusable Sensor Web components
- 2** Development of the Helgoland-Toolbox with componentens to visualize water quality
- 3** Integration of remote sensing data analysis results with the Sensor Web

Activities until Sep-2019



- How to composite our current series based database schema with redumentary (not continous) campaign observations?
- How to integrate satellite remote sensing data in our sensor web infrastructure?
- How to realize transactional functionality of Timeseries API?
- Improve Clients and Eventing

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