Een laagrempeling meetsysteem als aanvulling op FEWS voorspellingen

Max Radermacher, Ph.D., M.Sc.
Director and co-founder of Obscape

22 June 2021
FEWS NL User Days

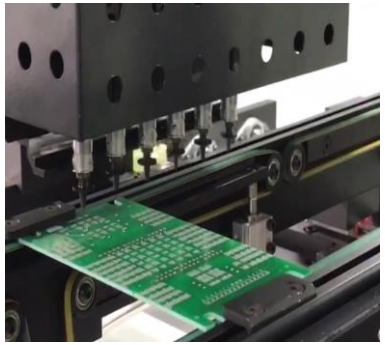
OBSCAPE | ENVIRONMENTAL OBSERVATIONS

About us

Our mission is to make real-time environmental observations available to anyone who needs it.

We develop and sell environmental monitoring equipment:

- R&D (electronics, housings, software)
- Production
- Sales
- (Field observations)



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Obscape company history

- 2014: Max meets Zane
- 2015: Wave buoy development
- 2016: Start of business
- 2019: Obscape founded
- 2020: Launch of the PTM

Offices in Delft (NL)
and Durban (SA)

Max Radermacher

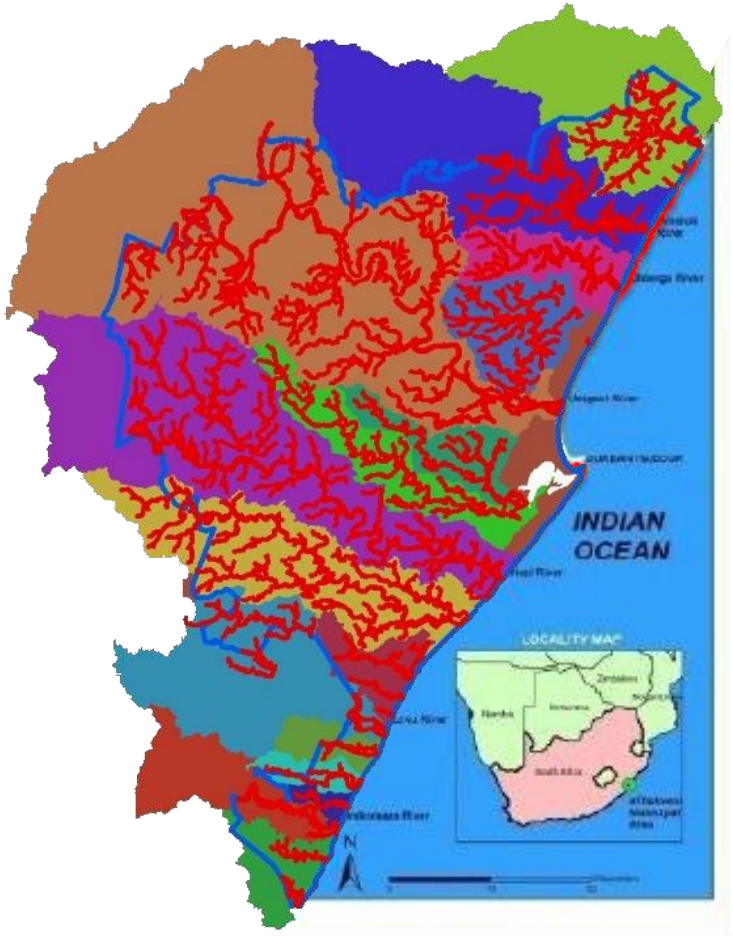
Zane Thackeray

eThekwini Municipality

- Area: 2297 km^2
- Inhabitants: 3.7 million

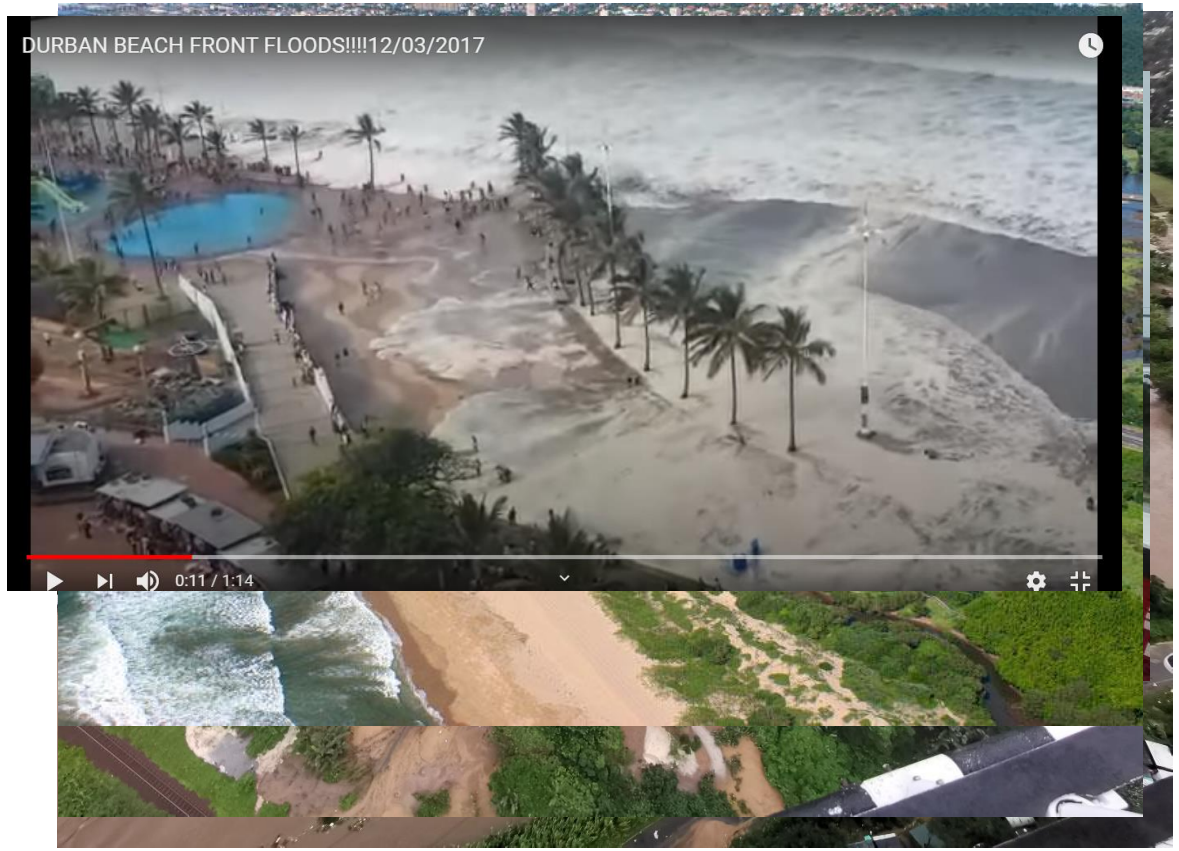
Complex environment:

- Rivers: 4000 km
- Catchments: 18
- Estuaries: 17
- Coastline: 100 km
- Culverts: 200 km

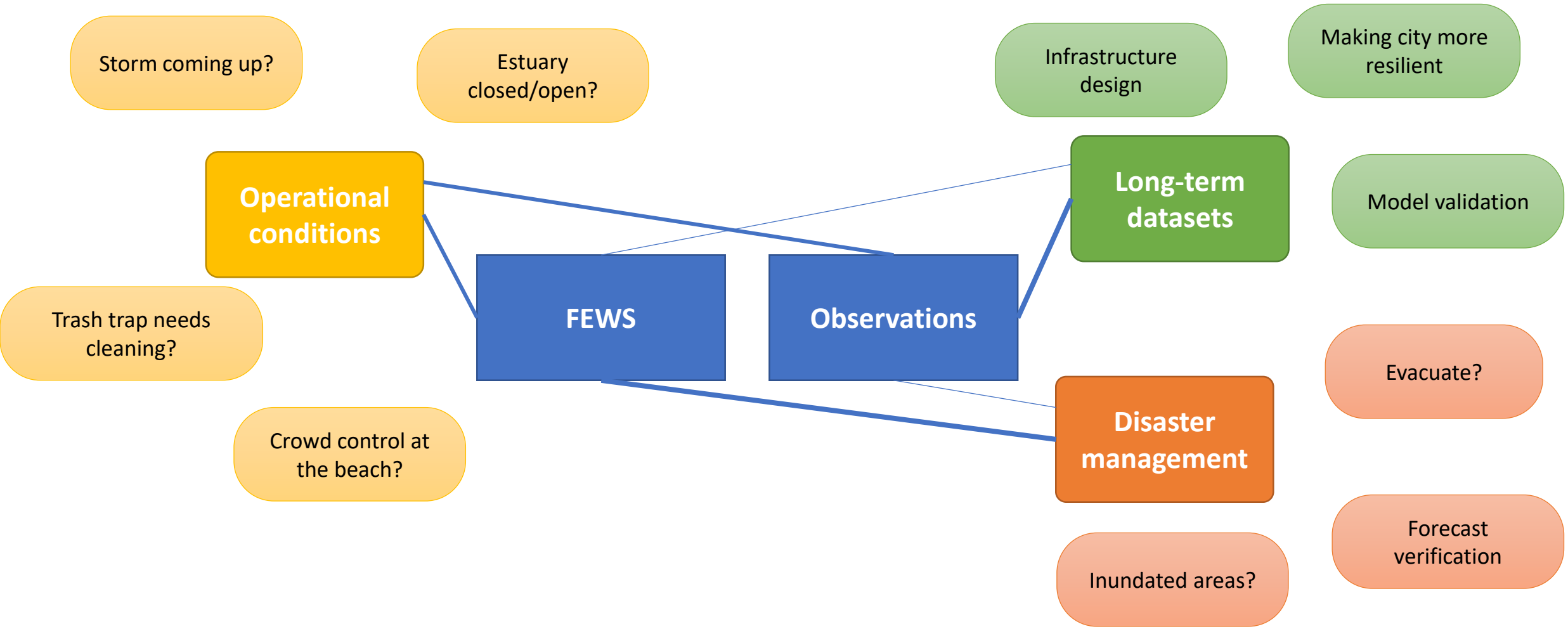


Challenges & calamities

- Flash floods
  - Settlements
  - Infrastructure
  - Land slides
  - Debris/pollution
- Coastal flooding
- Estuarine dynamics



Solution: forecasting & monitoring



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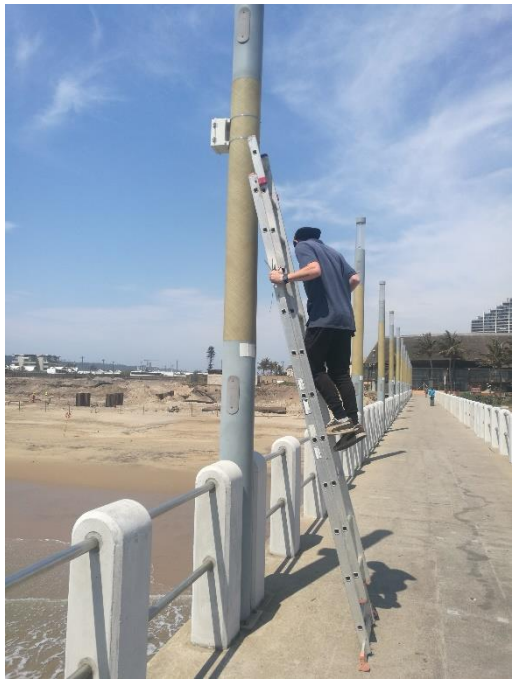
Real-time monitoring

- Extensive monitoring
  - Around 200 sites
  - Wide range of sensors
- Limited budget
- Small field team



Solution:

Develop new equipment!

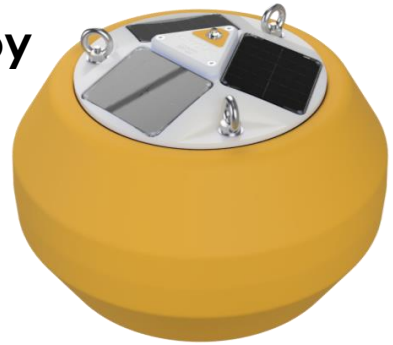
Started 13 years ago…

Obscape product development

Design criteria:

- Affordable
- Real-time
- Wireless
- Low maintenance

Wave Buoy



Level Gauge

Weather Station

Rain Gauge

Water Quality

Time-Lapse Camera

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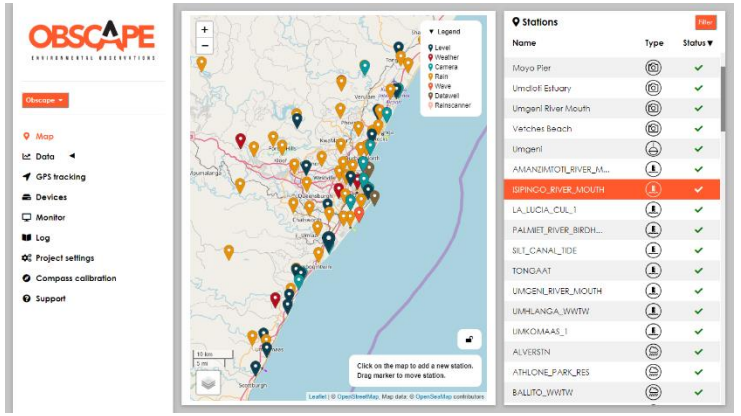
Obscape product development

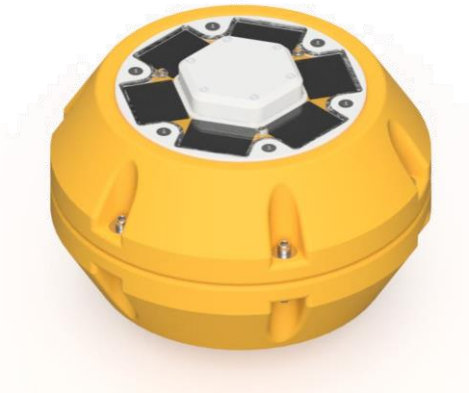
Features:

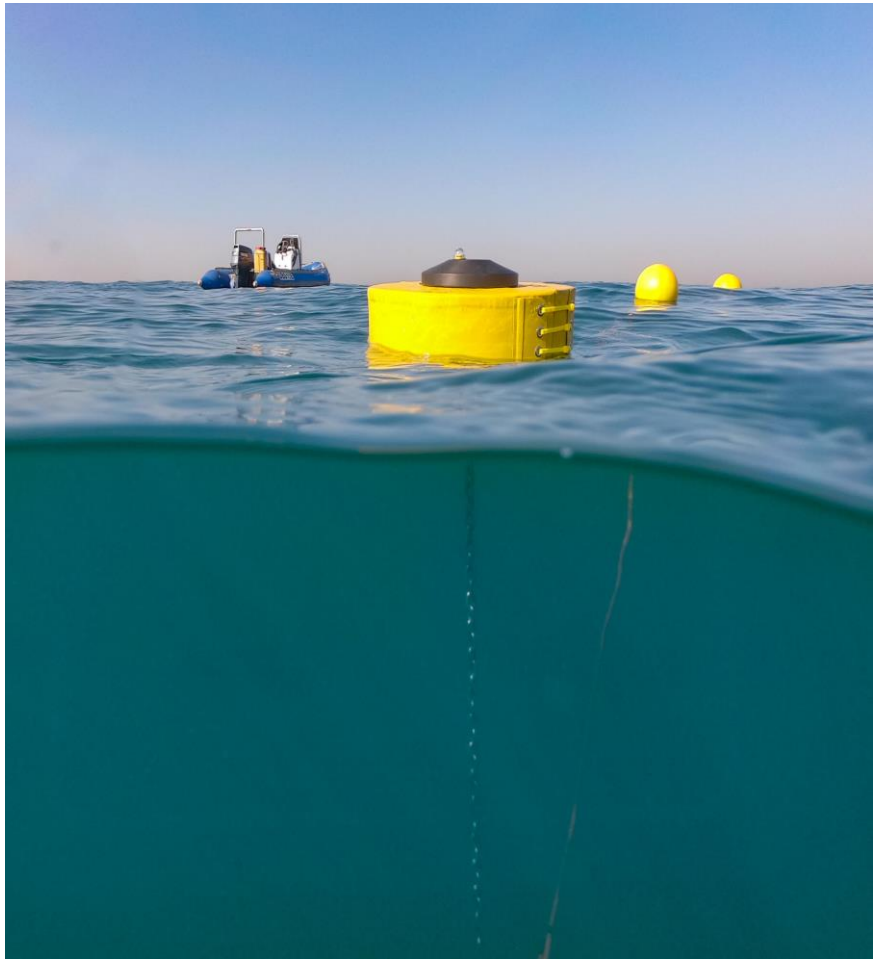
- 4G and satellite connection
- Solar-powered
- Real-time settings & firmware
- 3rd party sensor interface
- Free Data Portal



Obscape Wave Buoy

- Fully directional wave buoy
- Real-time directional wave spectra
- GPS-tracked
- Solar-powered





Obscape Level Gauge

- Radar sensor integrated in housing
- No submerged parts
- Solar-powered
- Range up to 40 m
- Real-time conversion to water levels

Coming soon:

- Wave analysis

Obscape Time-Lapse Camera

- Visual inspection of project site
- User-selectable interval
- Solar-powered
- Movie downloads
- Camouflage kit

Coming soon:

- Geo-referencing / rectification
- Automated image analysis

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eThekwini deployments

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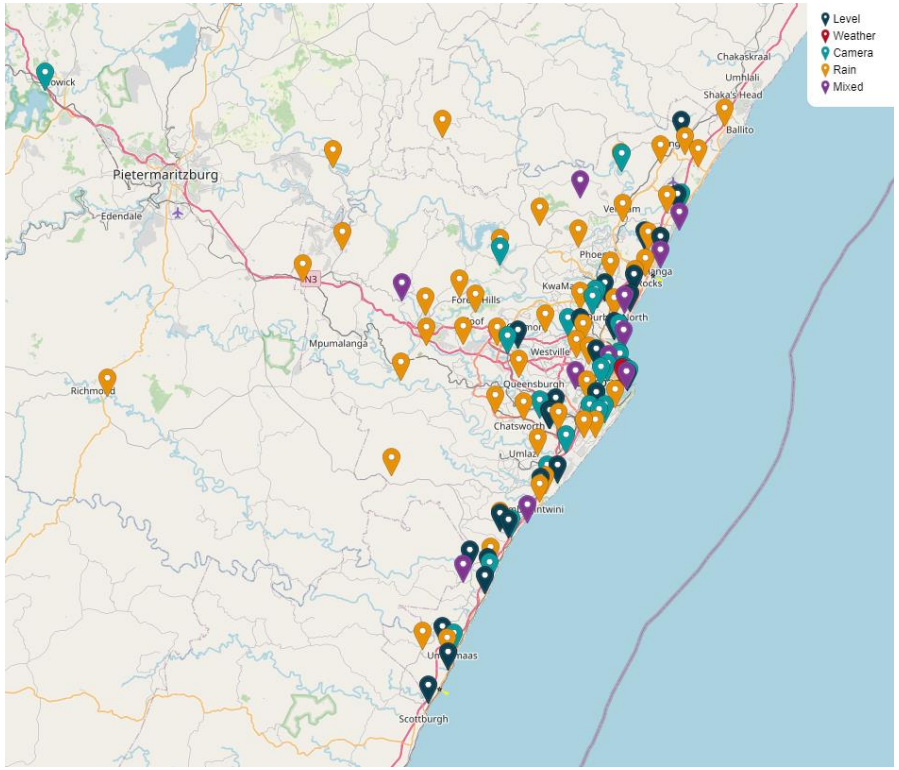
eThekwini deployments

Instrument type	
Level Gauges	24
Time-lapse Cameras	28
Rain Gauges	55
Weather Stations	7
Wave Buoys	4
Total:	118



Umdloti Estuary breach

Umdloti Estuary

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Umdloti Estuary breach

2020-04-29 06:00 [Africa/Johannesburg] Umdloti Estuary

Umdloti Estuary breach

2020-04-29 17:00 [Africa/Johannesburg] Umdloti Estuary

2020-04-30 06:30 [Africa/Johannesburg] Umdloti Estuary

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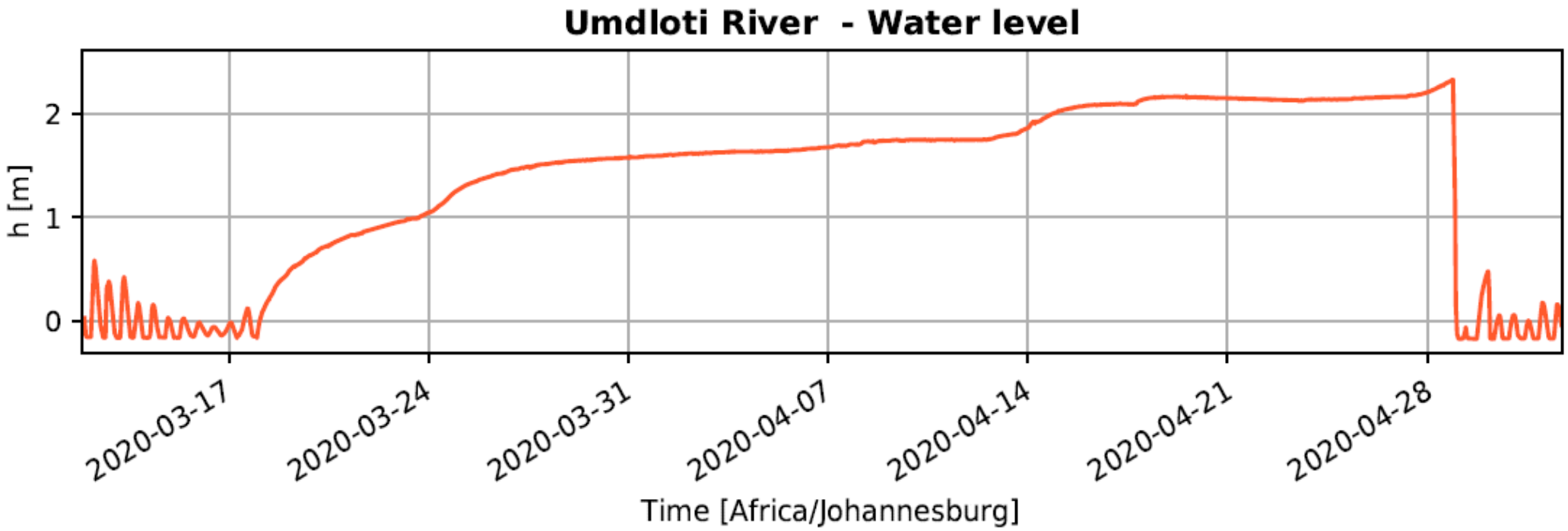
Umdloti Estuary breach



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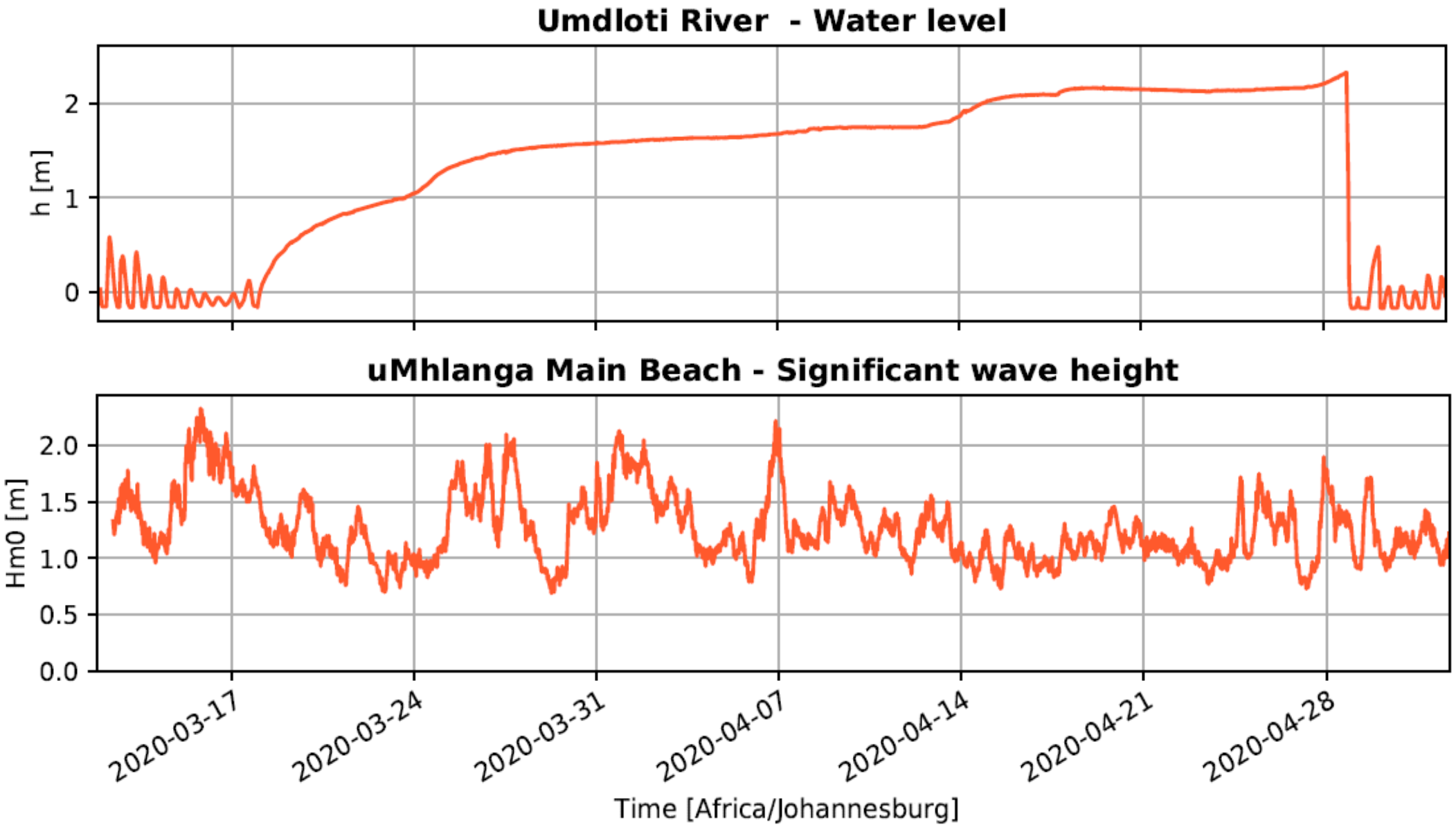

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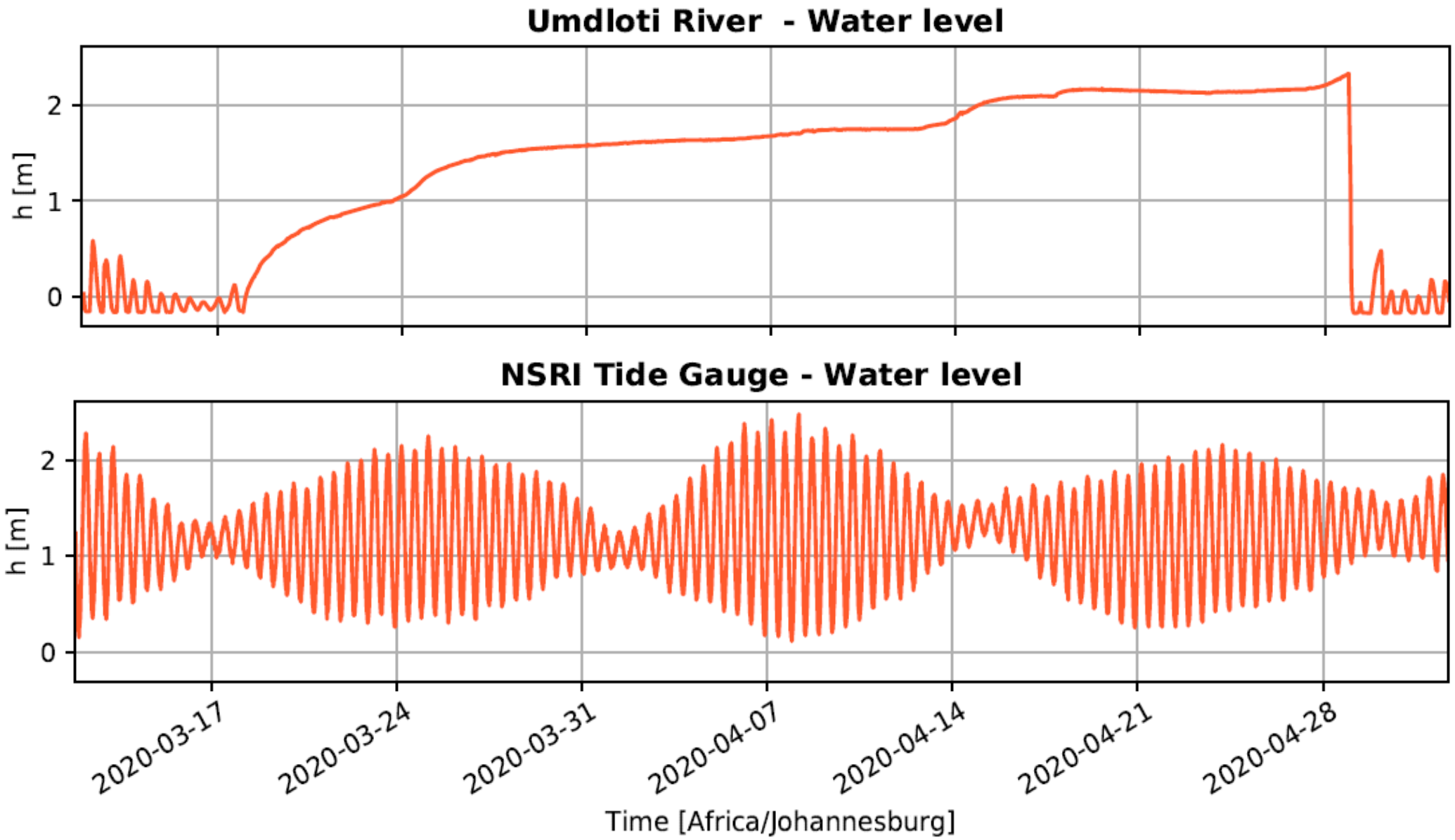

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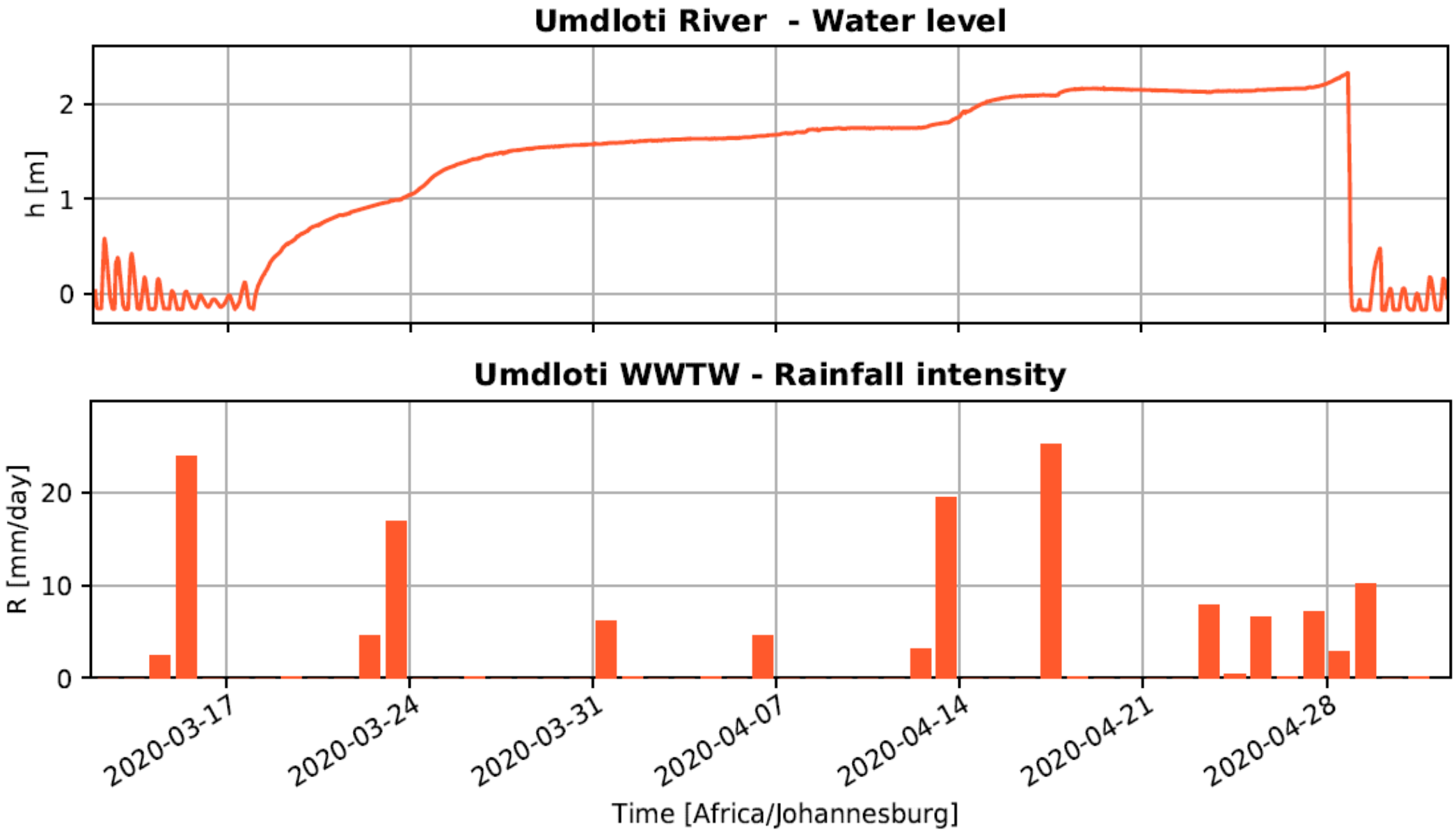

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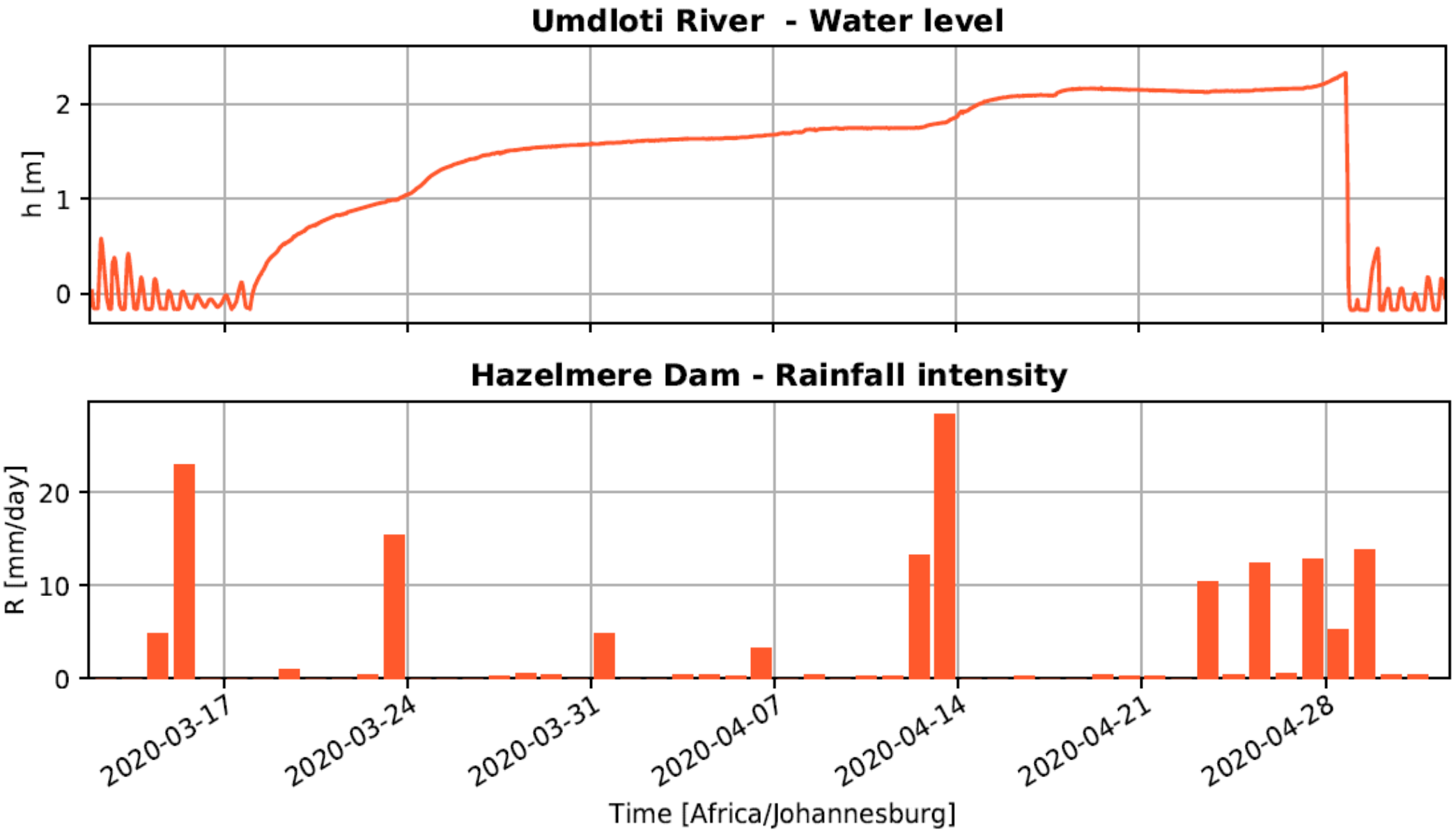

April 2019 flooding

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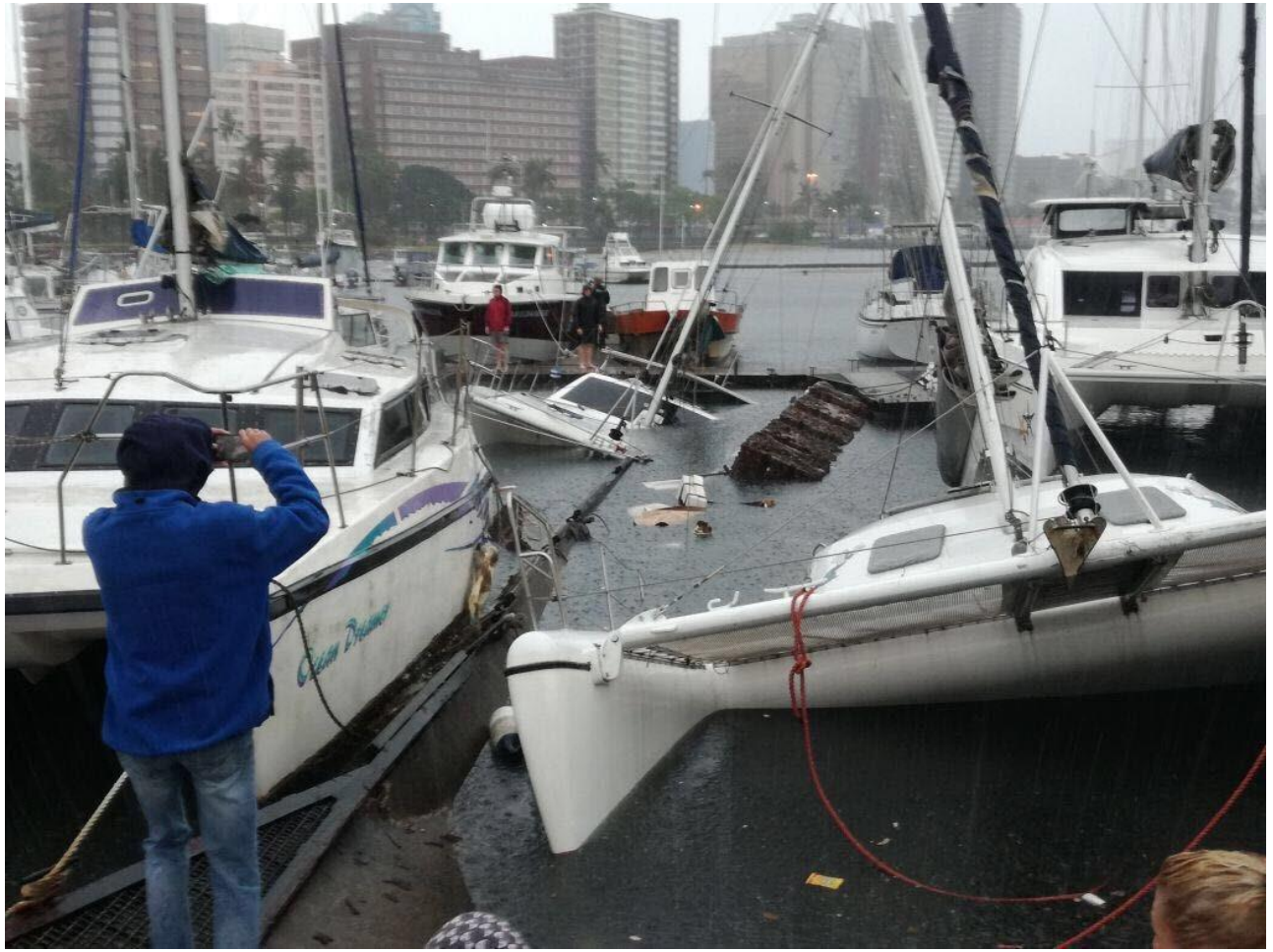
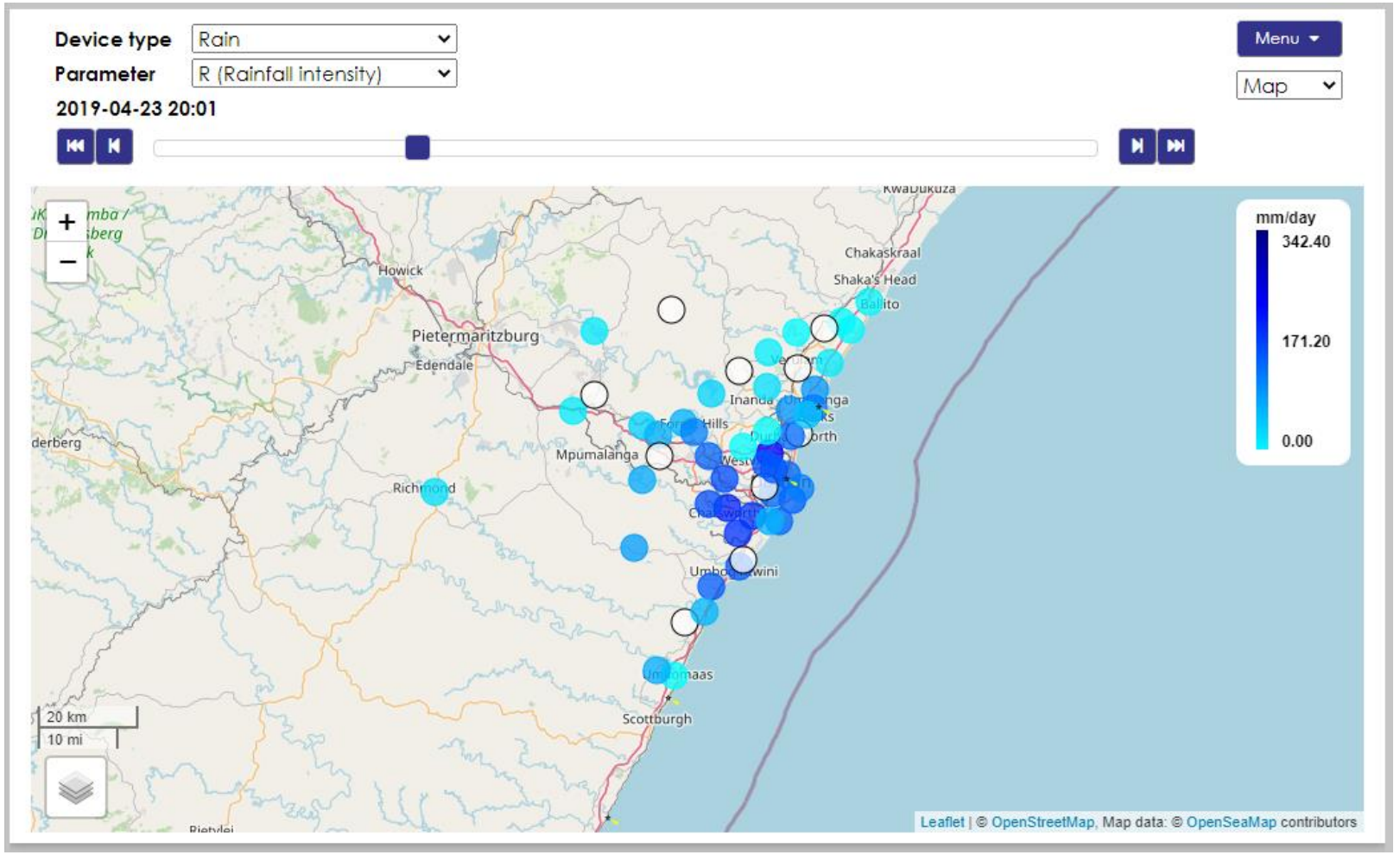
April 2019 flooding



April 2019 flooding



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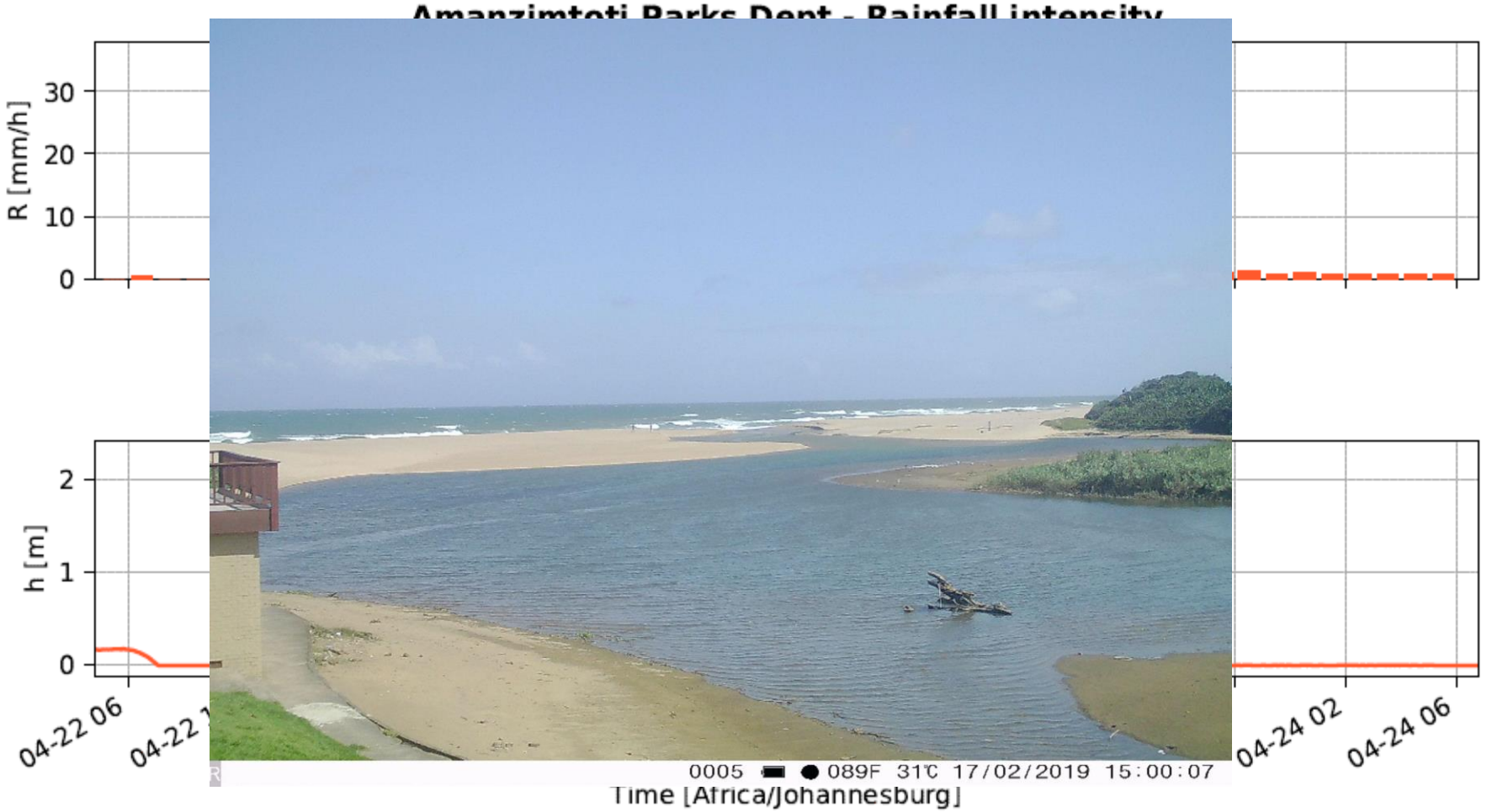
April 2019 flooding: Amanzimtoti Estuary



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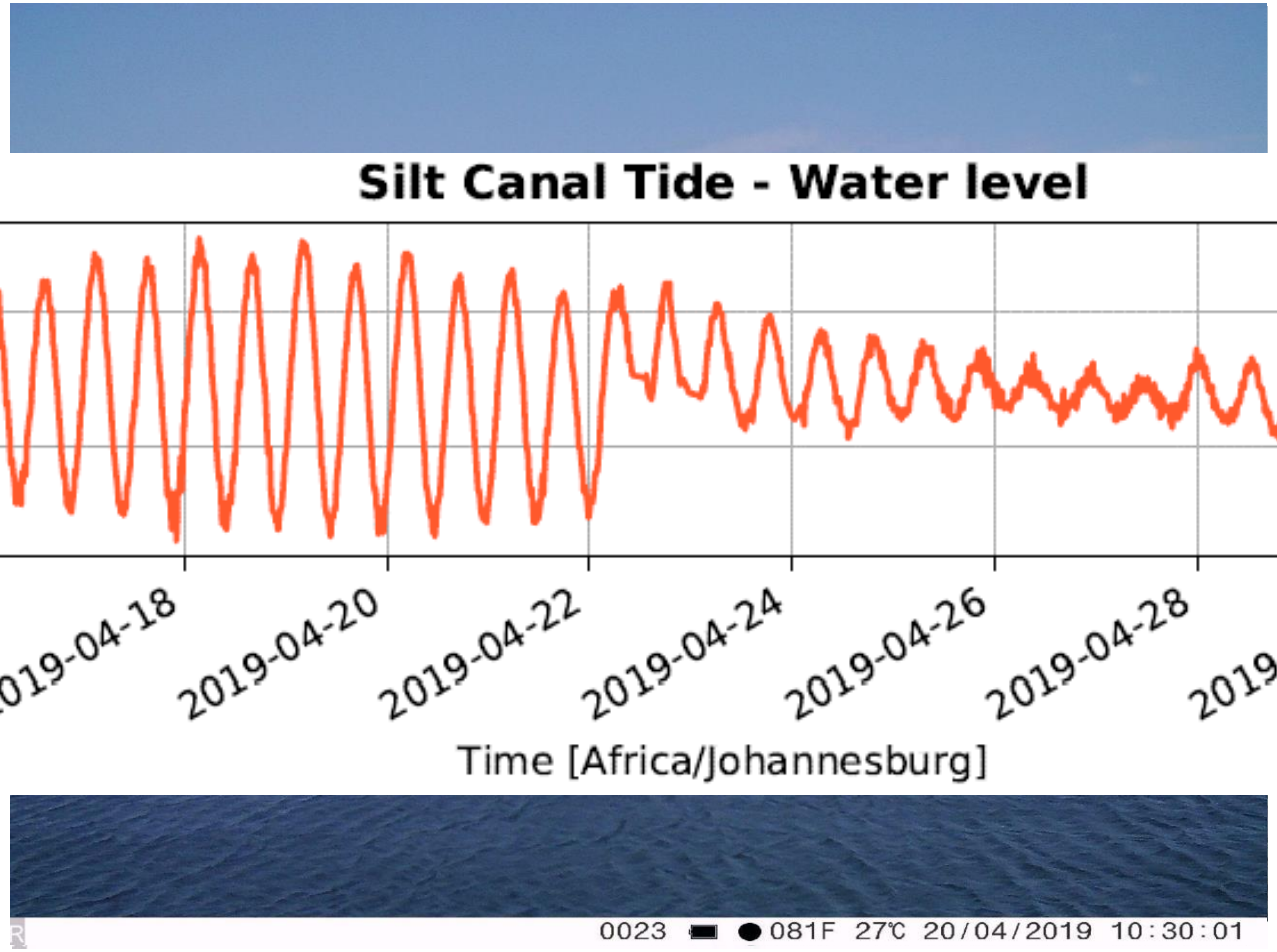
April 2019 flooding: Umbilo canal



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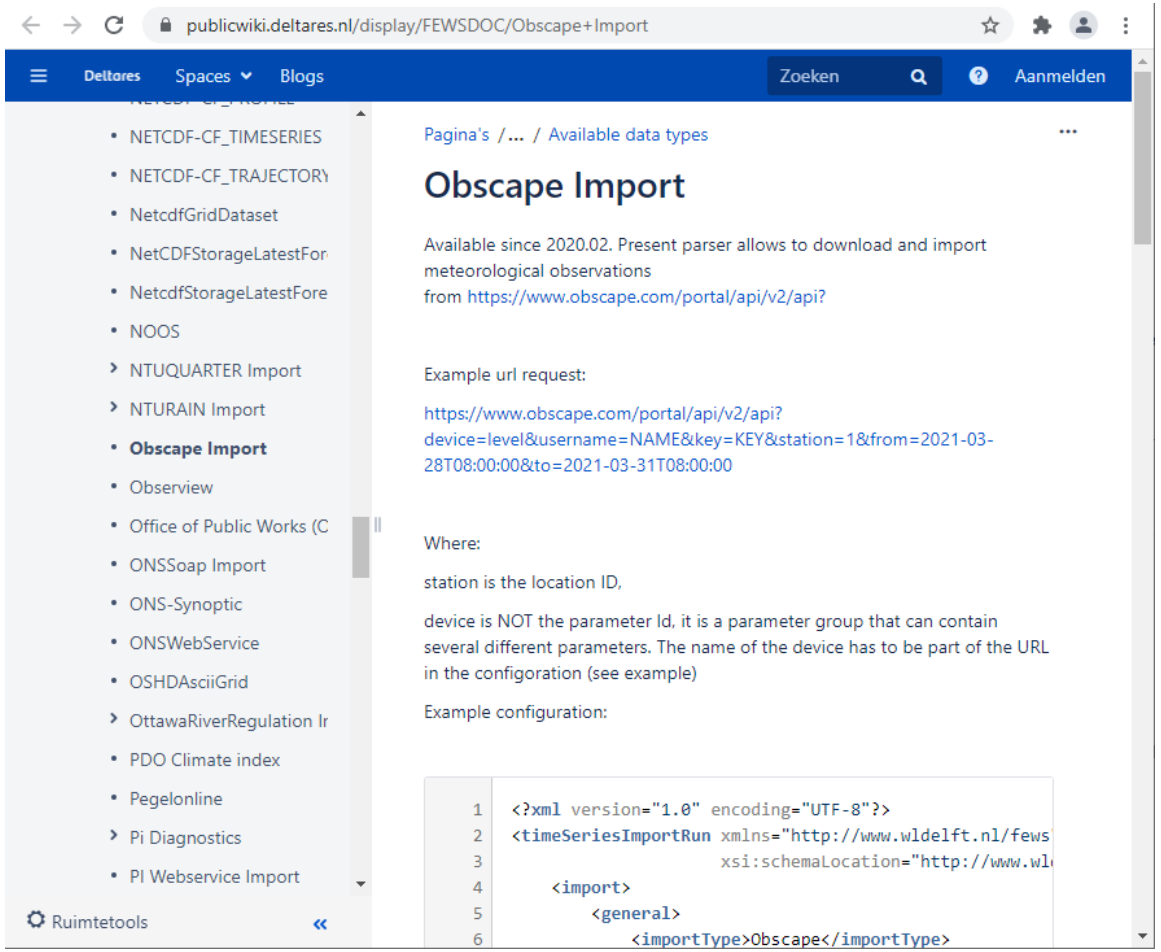
April 2019 flooding: Debris at the beach

FEWS + Obscape

Obscape Import

Integration of Obscape API into FEWS



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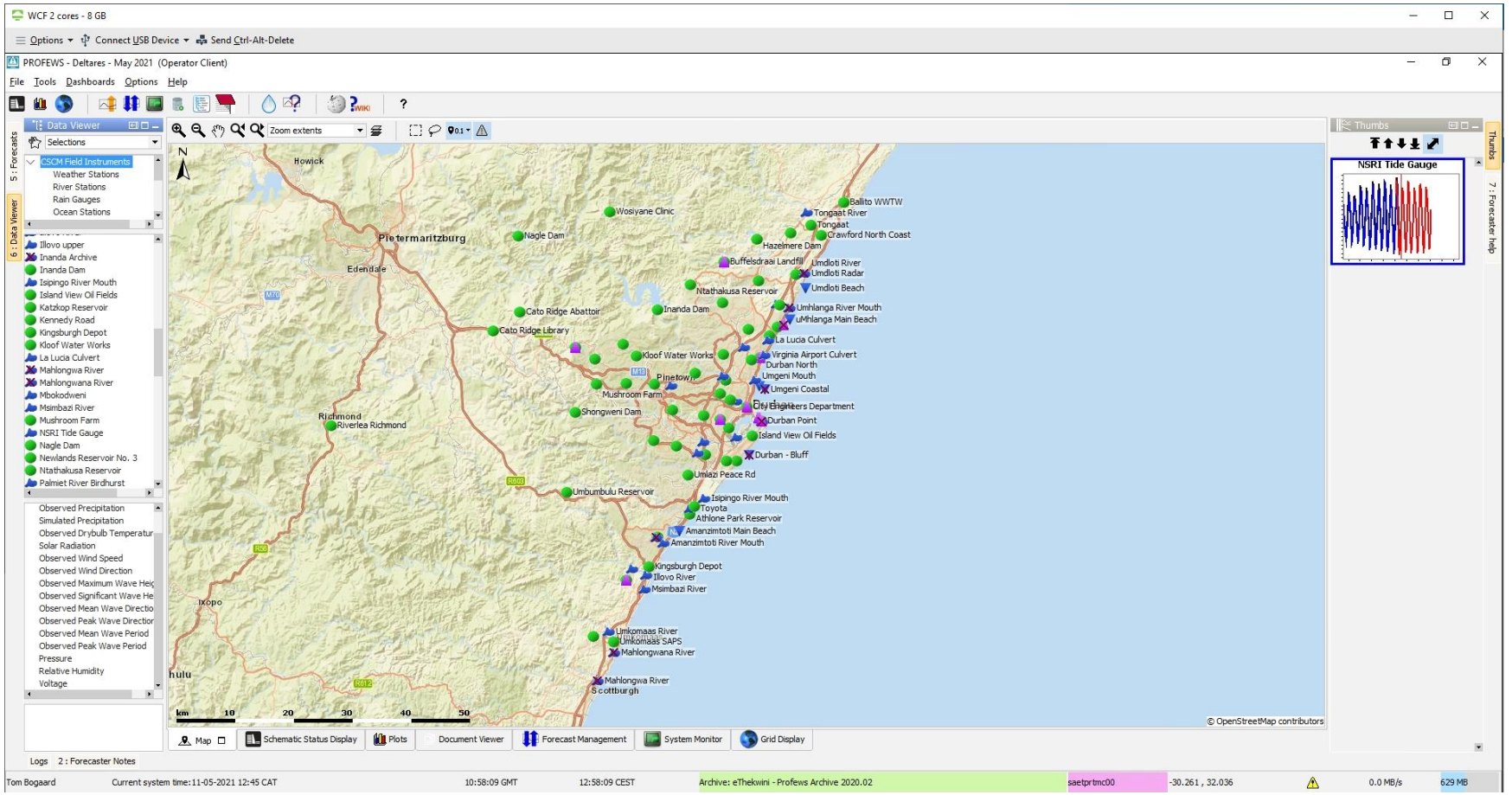
FEWS + Obscape



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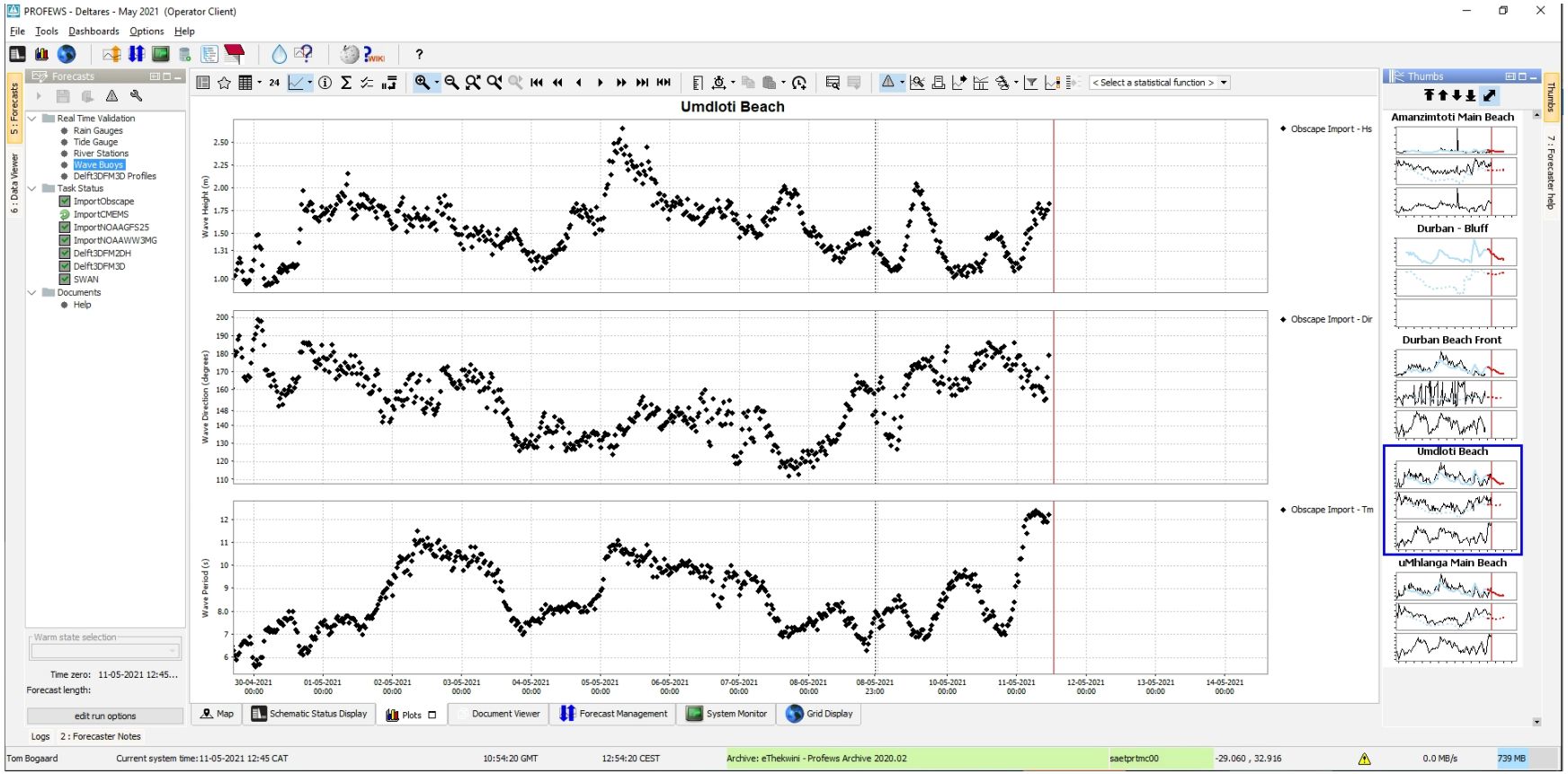
FEWS + Obscape



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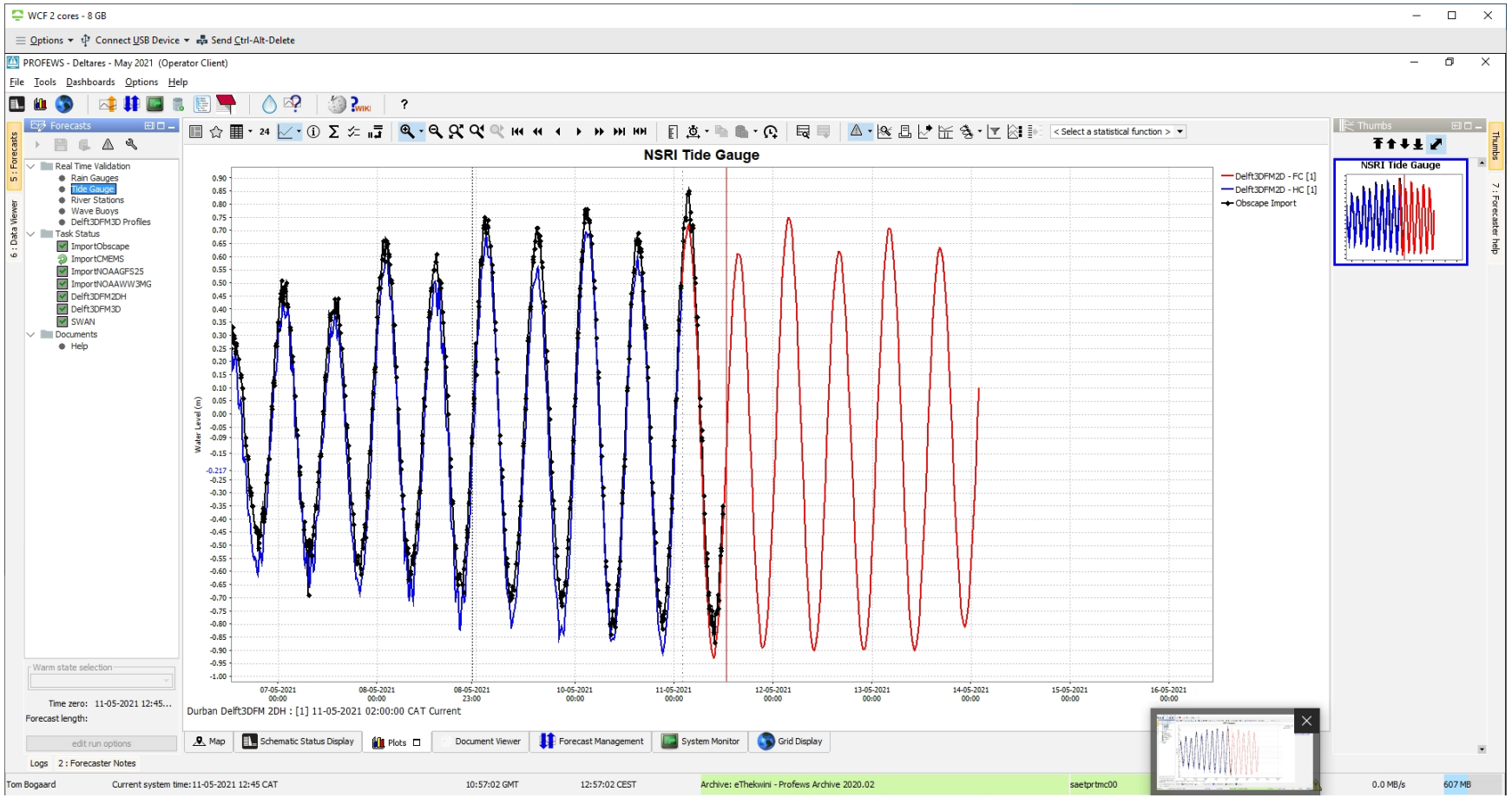
FEWS + Obscape



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FEWS + Obscape

Amend FEWS forecasts with Obscape environmental monitoring

Benefits:

- Model calibration & validation
- "Boots on the ground"
- Turn-key robust monitoring solution
- Seamless integration into FEWS

Thank you!

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