Empowering Real-Time Flood Monitoring with In-Situ's Rapid-Deployable System

Brock Houston, Florida Regional Sales Manager

In-Situ | water simplified.

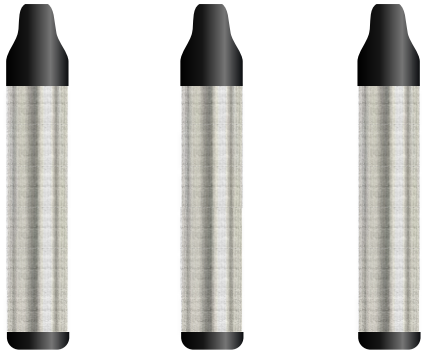
Challenges of Flood Preparedness

In-Situ's Mission

We develop innovative technologies used to monitor and protect the world's water resources

Level Portfolio

Rugged TROLL®



100 200 Baro

Level TROLL®

400 500 700 700h Baro

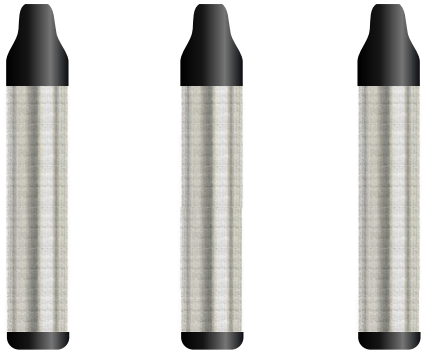
Aqua TROLL®

100 200

INTR ING!!

Level Portfolio

Rugged TROLL®

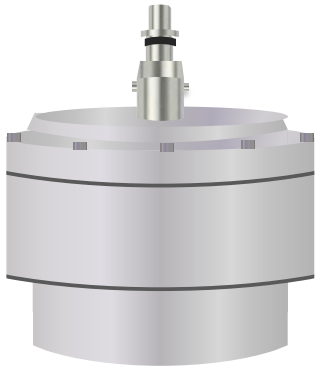


100 200 Baro

Level TROLL®

400 500 700 700h Baro

Available now!



NEW!!

Non-Contact

Aqua TROLL®

100 200

Introducing: Level TROLL NC!!

Non-contact radar device for measuring water level

High-quality radar integrated into In-Situ’s ecosystem

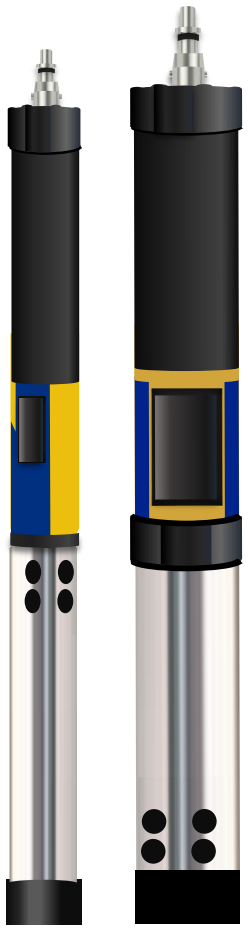
Quick and Easy Deployments

Available in three ranges:

- 15 m [49 ft]
- 30 m [98 ft]
- 50 m [164 ft]

Environmental Applications

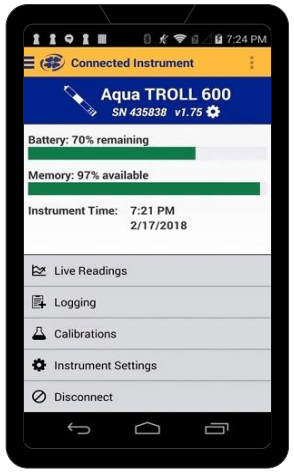
- Flood Management – real-time water level and warnings
- Stream Gaging – stage height in creeks, streams, canals, rivers, and waterways
- Stormwater – water level and flow through culverts and combined sewer overflows (CSOs)
- Surface Water Monitoring – reservoir and lake stage
- Tide Gauging – water surface elevation
- Flow Estimate – simple and stable cross sections



Aqua TROLL

Level TROLL

VuSitu®



HydroVu™

Rugged Cable

RuggedCable® Splitter

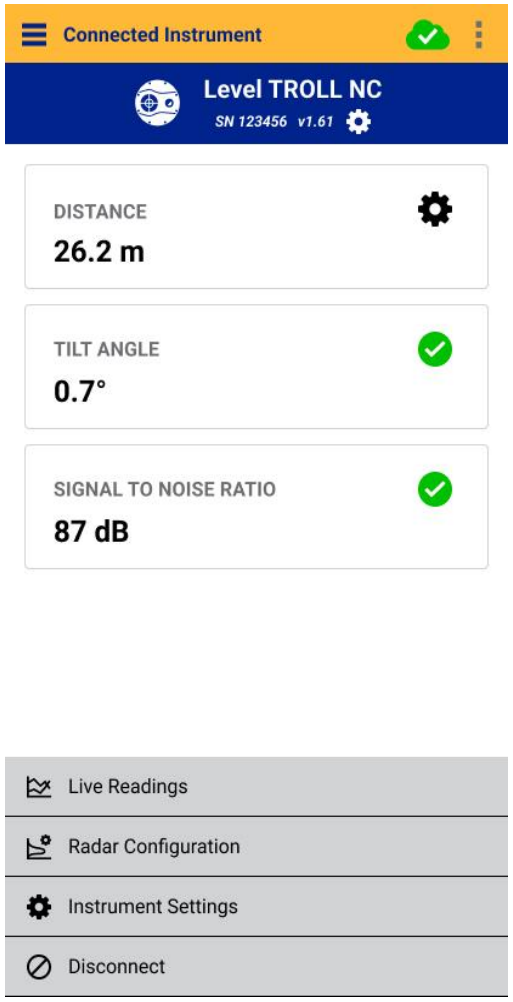
Desiccant

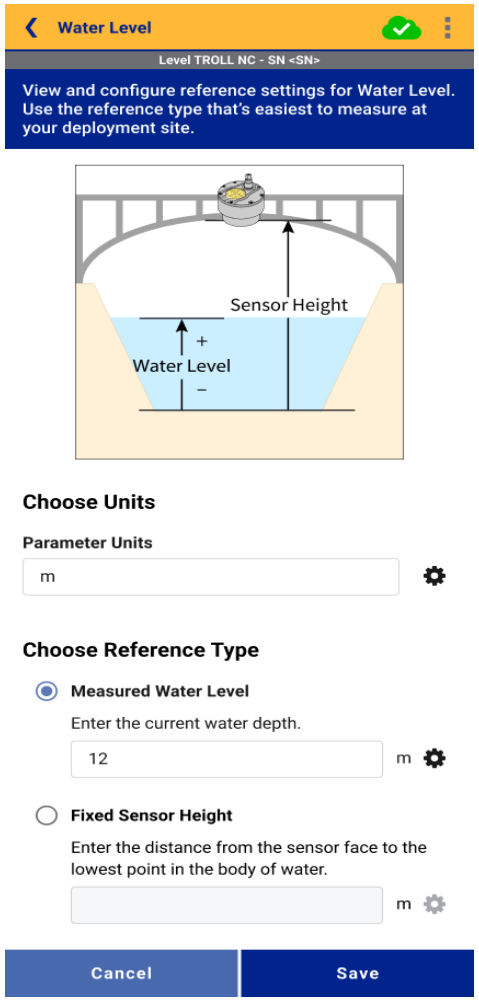
TROLL® Com Plus

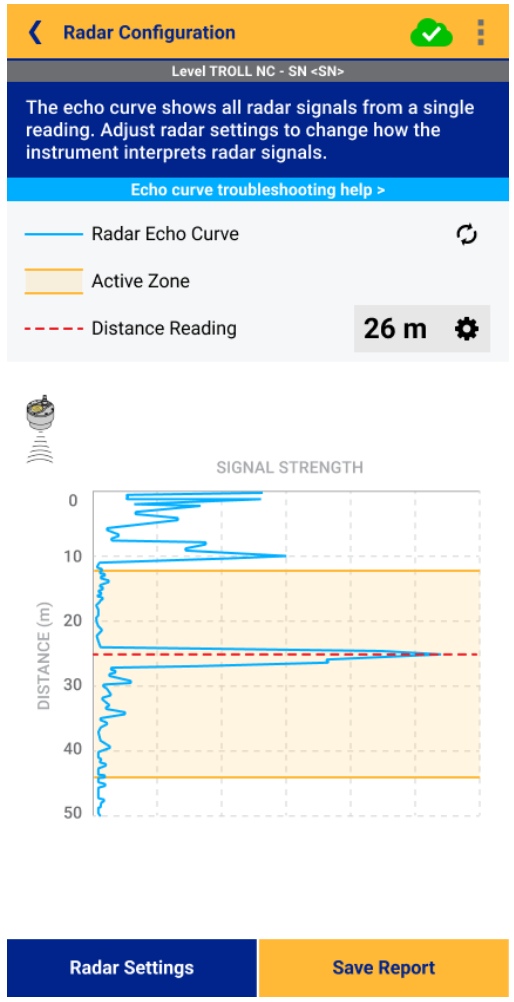
VuLink

Simple Interface - VuSitu

VuSitu Mobile App



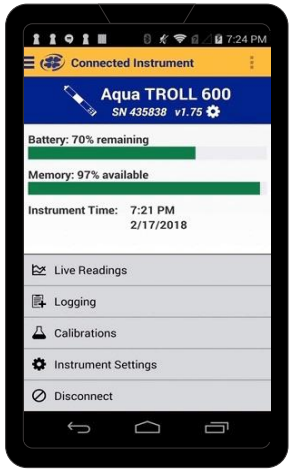




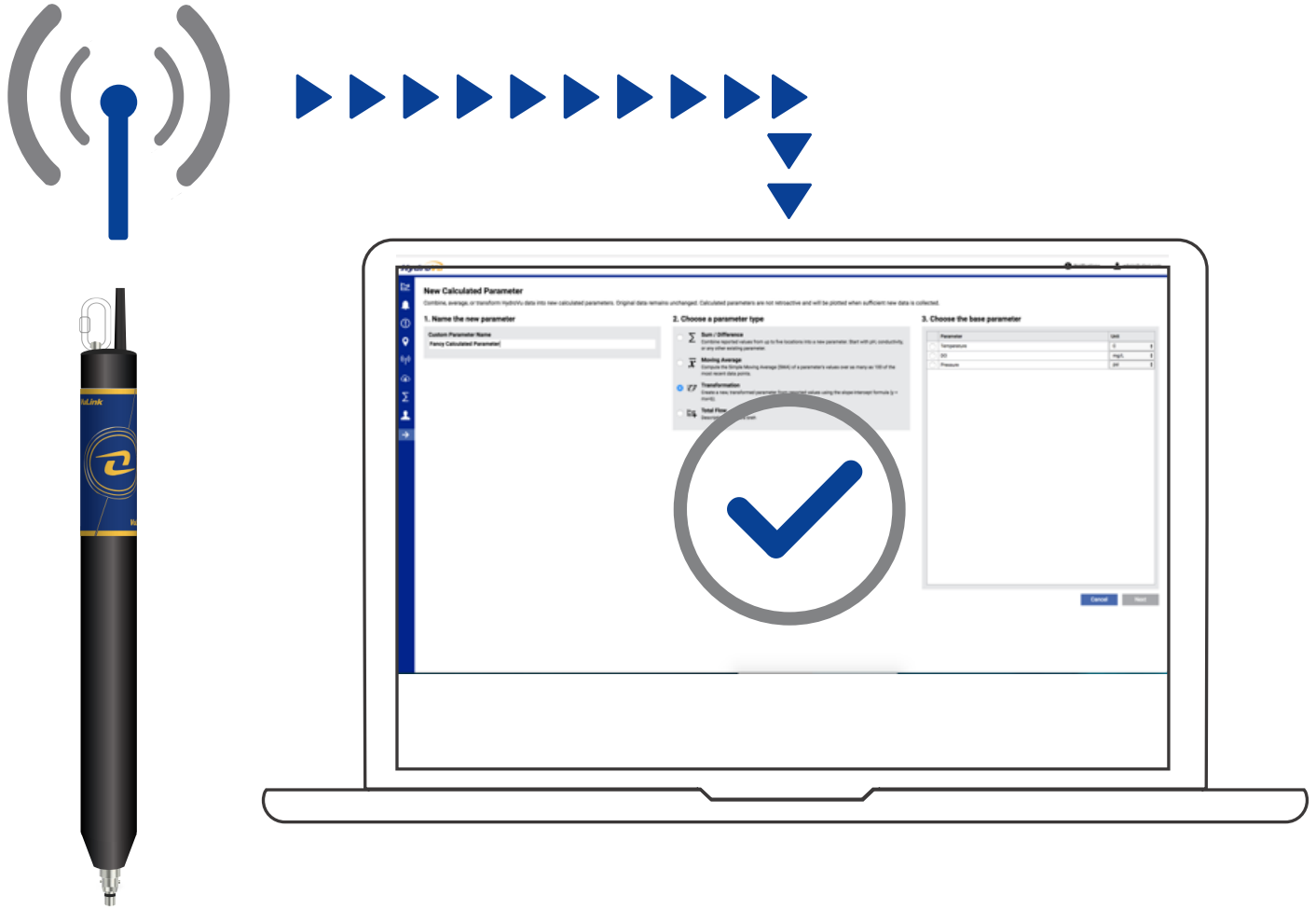
Low Maintenance and Easy to Deploy

- The Level TROLL NC is easy to setup, requires little to no maintenance, and is quick to deploy
- No recalibration required
- The bubble level on top paired with the In-Situ mounting bracket makes leveling the radar even easier
  - Built-in leveling bolts
  - Multiple mounting holes allow for a variety of deployment needs

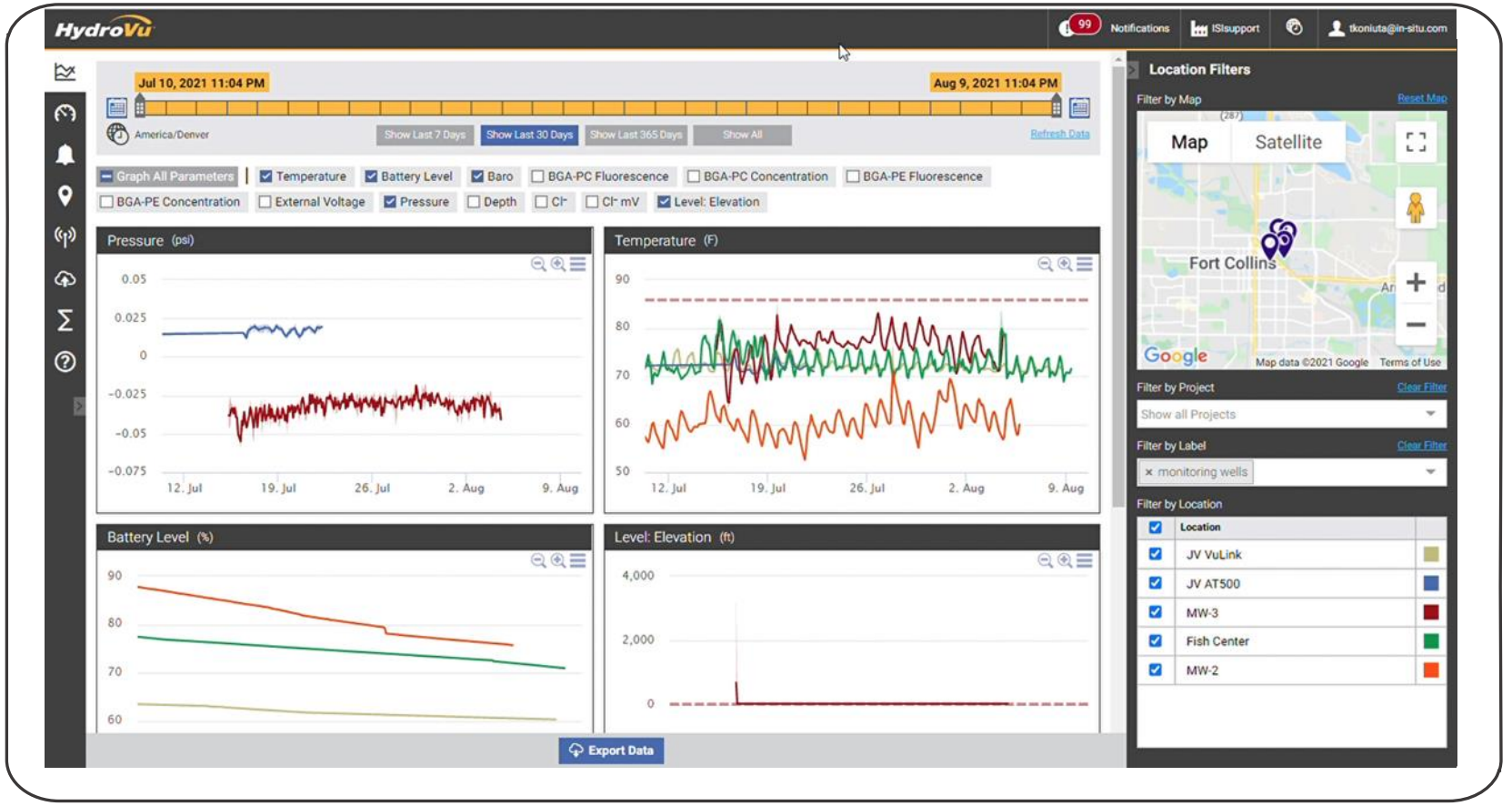
Required Equipment



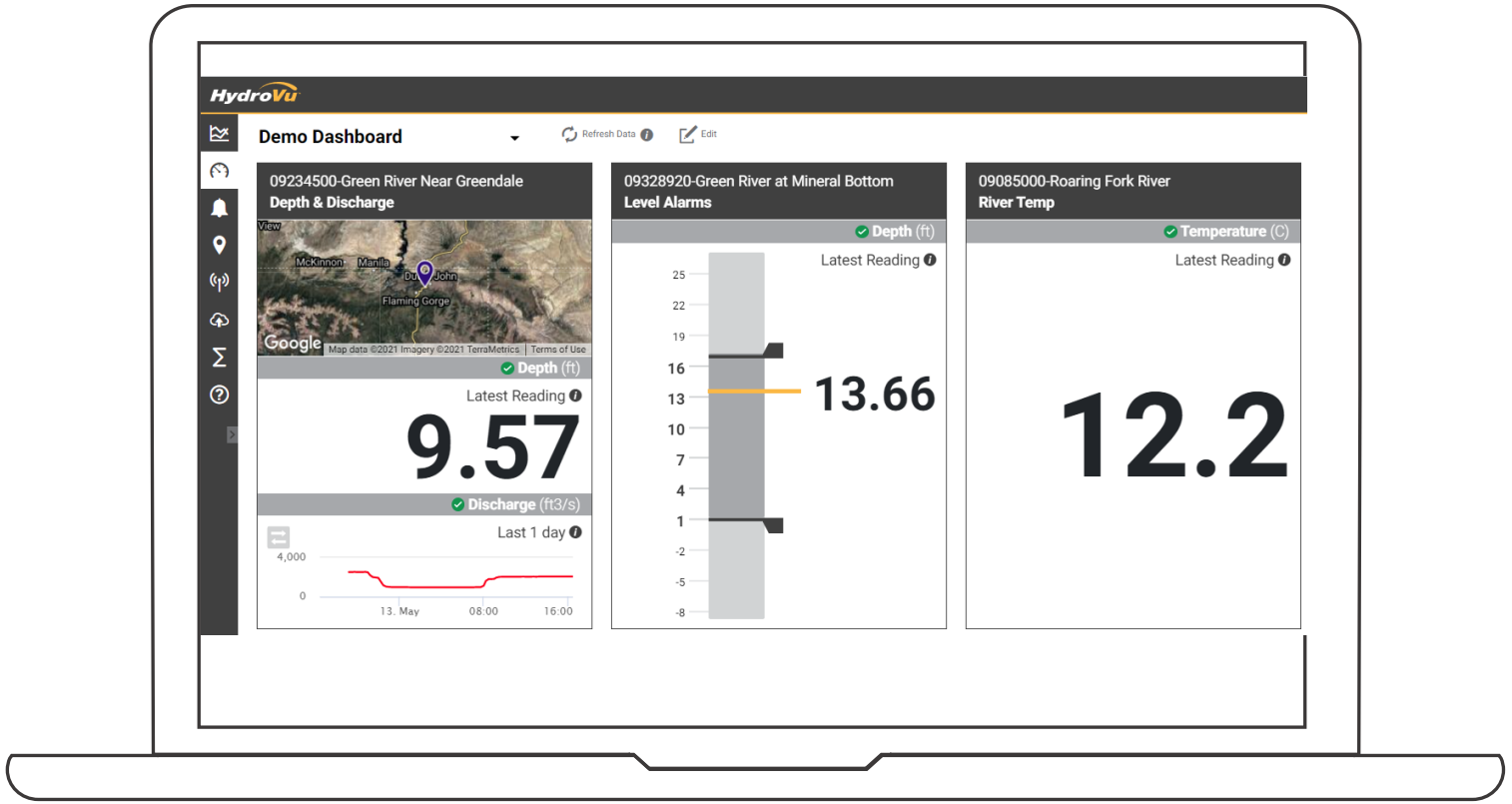
Cellular Connection to the Cloud



HydroVu - Network-Wide Visibility

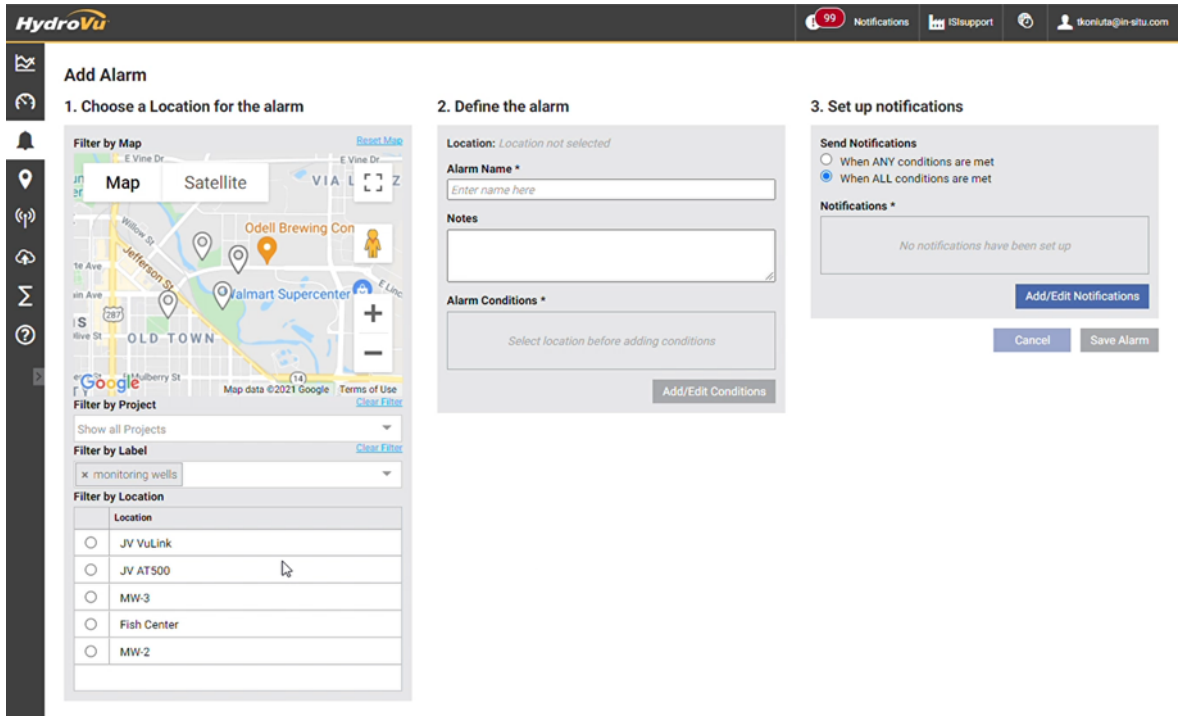


HydroVu - Dashboards

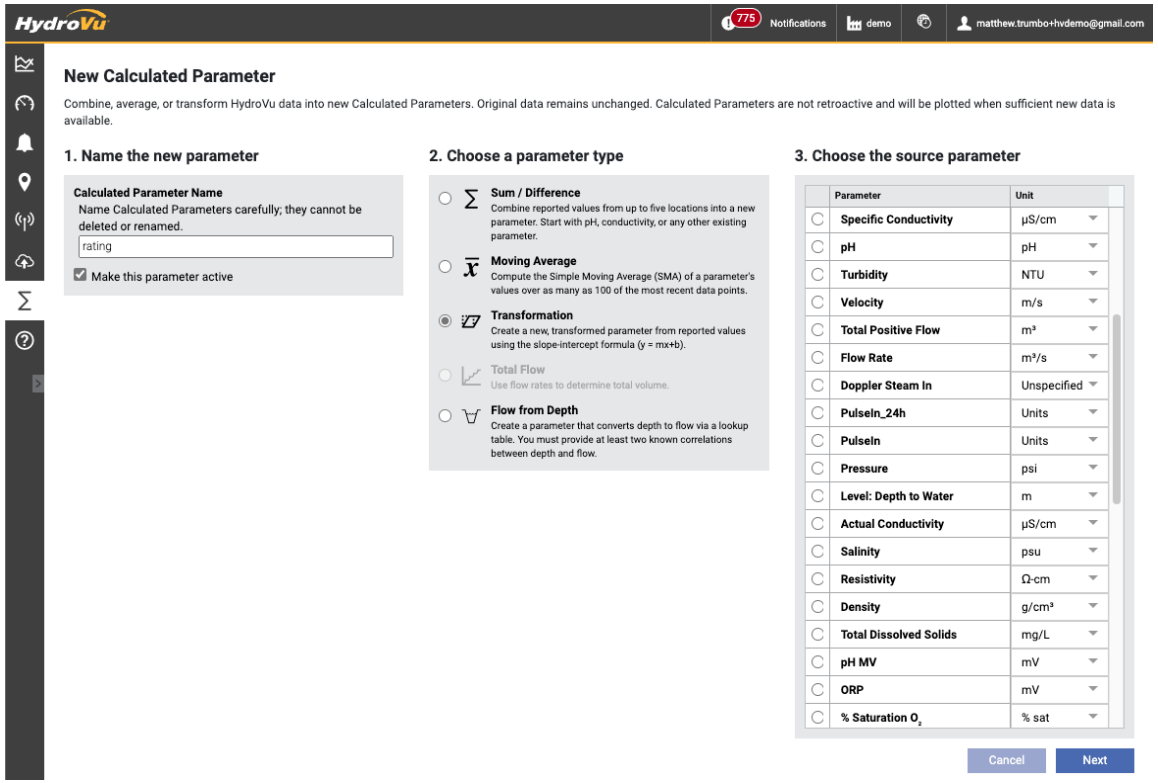


HydroVu

Multi-Condition Alarms



Calculated Parameters



Customer Beta Examples

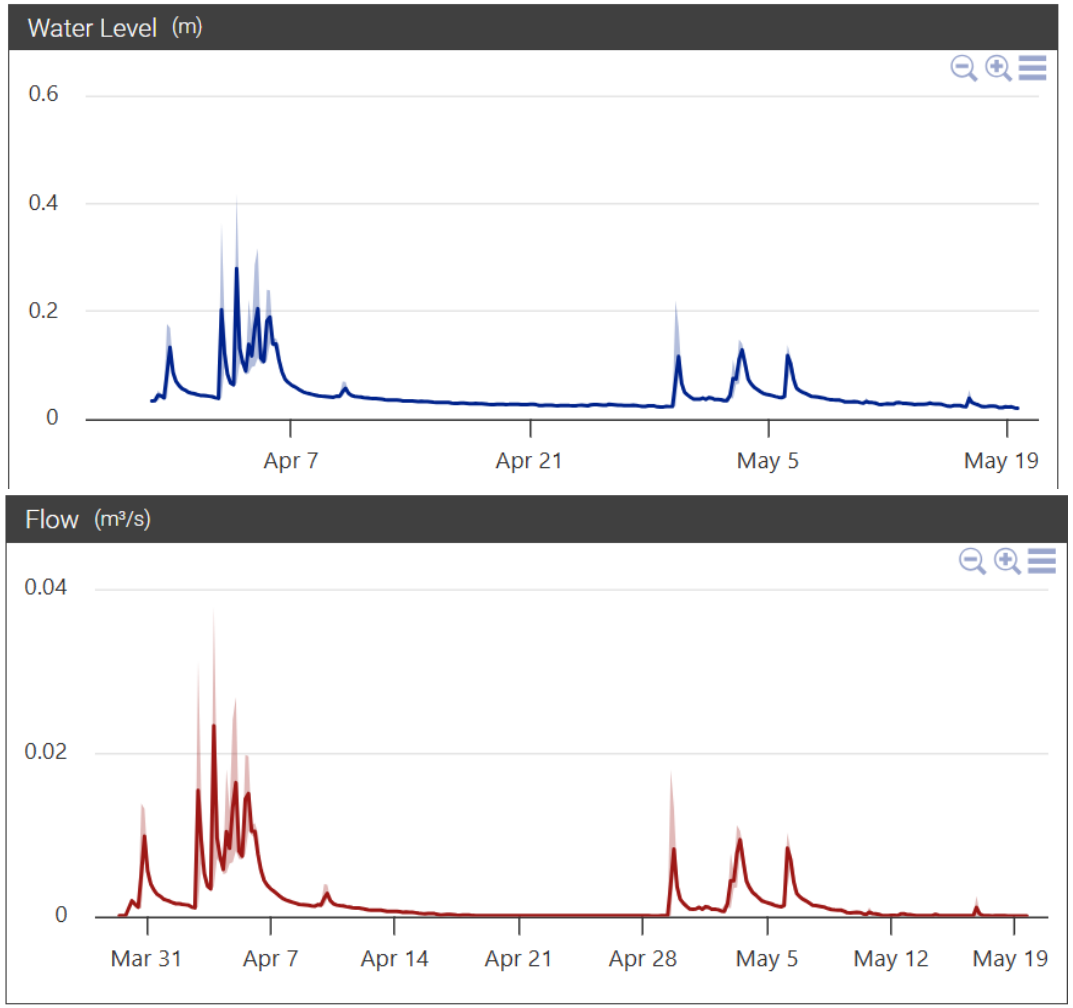
Stormwater Flow

Tide Gauging

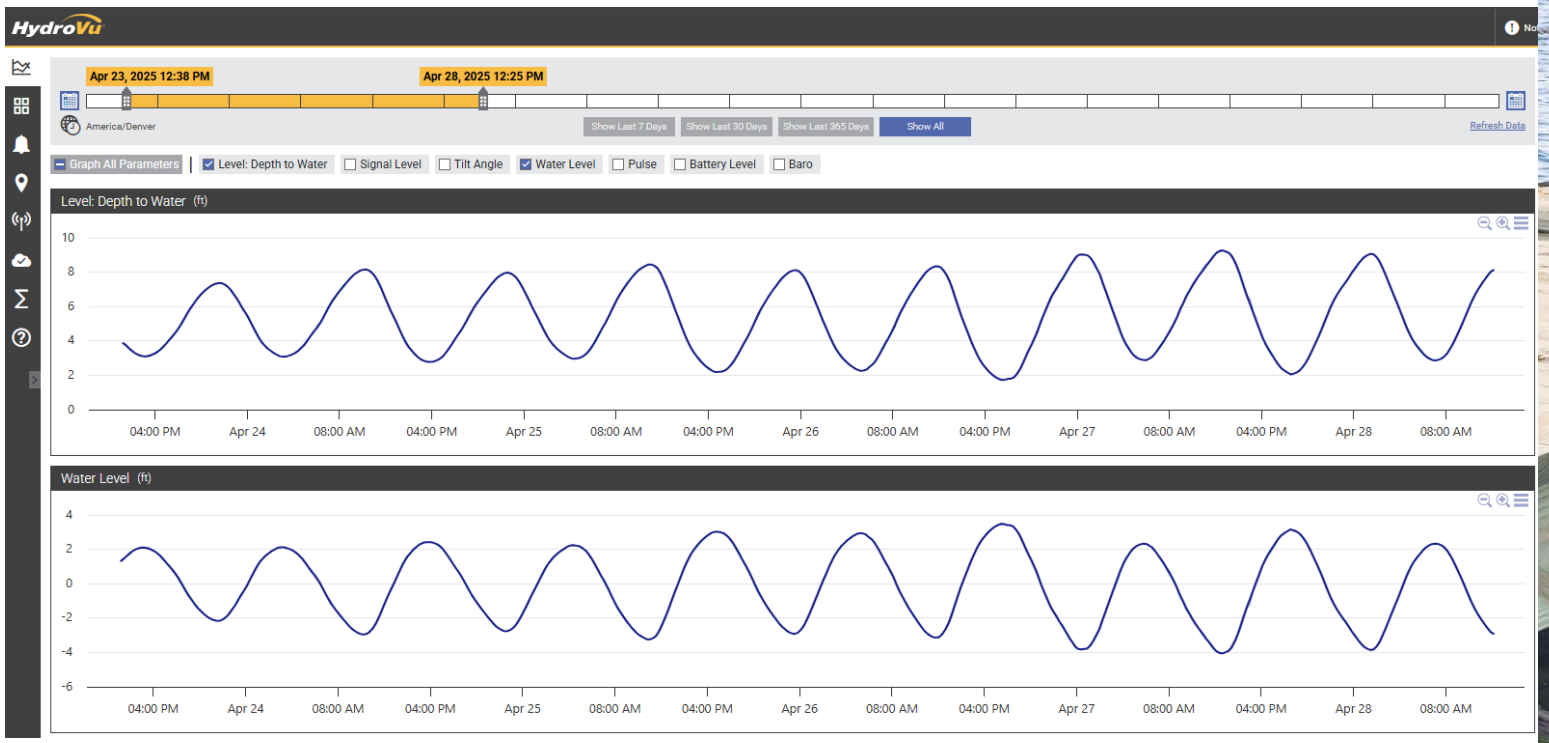
Effluent Monitoring

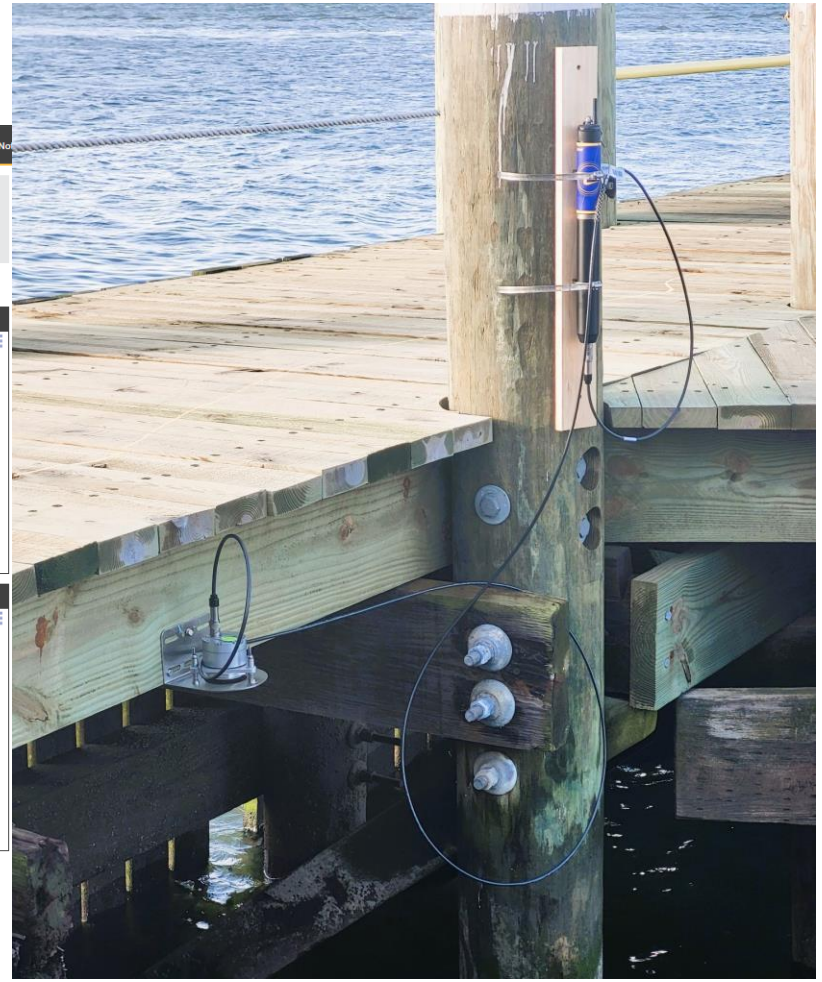
In-Situ | water simplified.

Stormwater Level and Flow



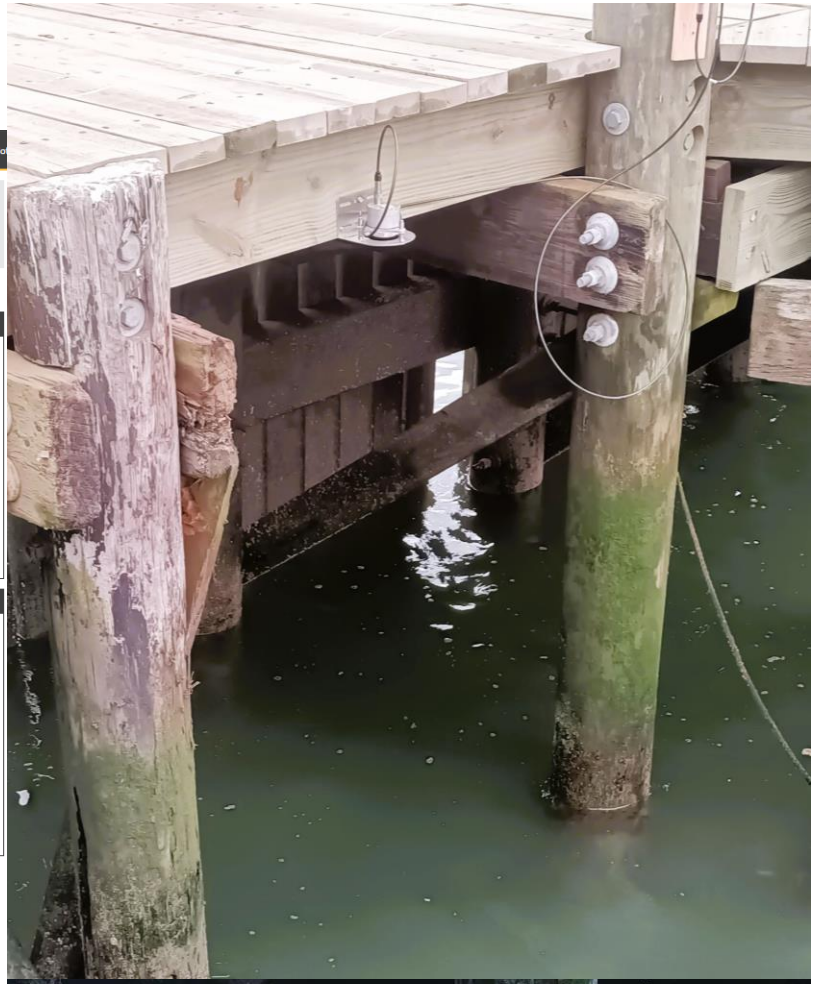
Tide Gauging





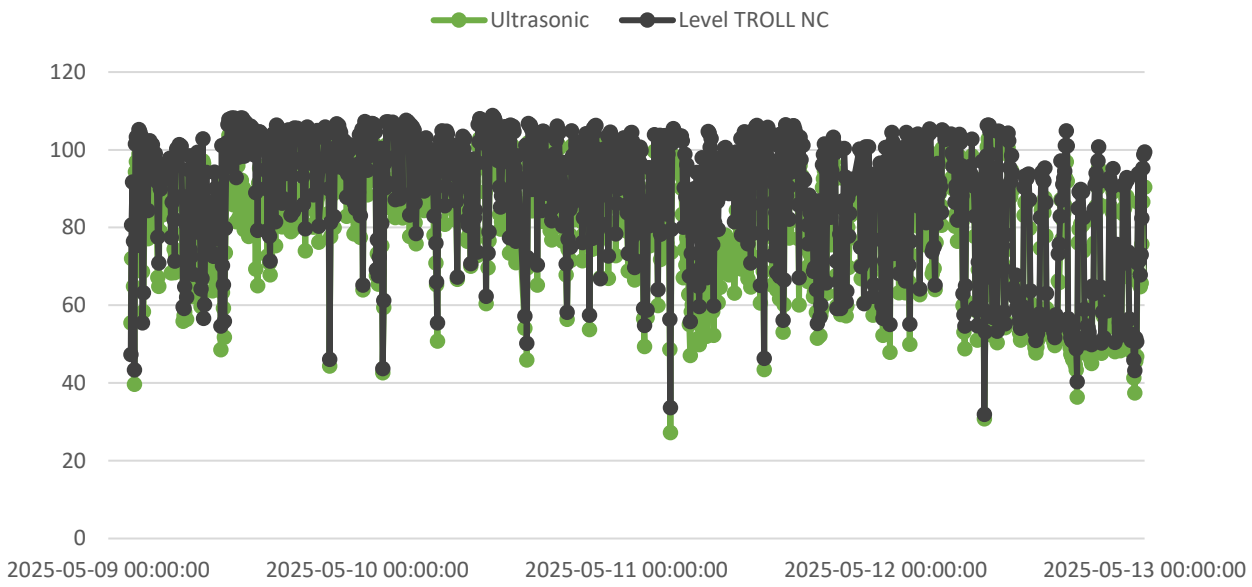
1-minute Surface Water Elevation data for Tide Gauging

Tide Gauging



1-minute Surface Water Elevation data for Tide Gauging

Effluent Monitoring Comparison



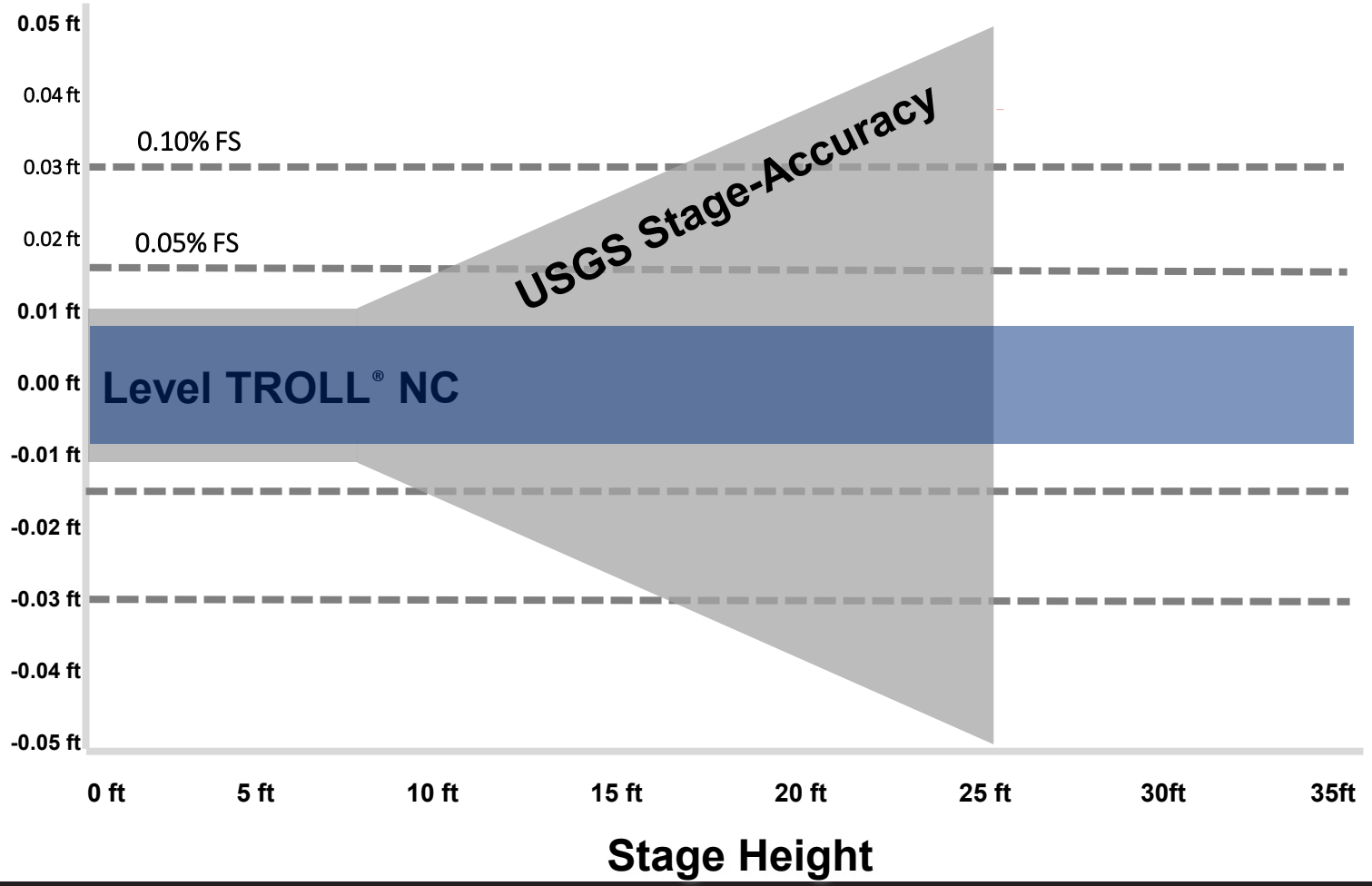
- Level TROLL NC against competitor Ultrasonic
- Beta Customer: "*The Level TROLL is a bit more stable*" and requires much less maintenance
  - Ultrasonic requires weekly troubleshooting and calibration

Questions?

In-Situ | water simplified.

USGS Stage Accuracy

https://pubs.usgs.gov/tm/tm3-a7/tm3a7.pdf



- Office of Surface Water Stage-Accuracy Requirements
  - 0.01 ft or 0.10% of the effective stage
- The Level TROLL® NC exceeds the USGS surface water specification
  - Accuracy: ±0.006 ft (±2 mm) FS
  - Resolution: 0.001 ft (0.5 mm)