

# DATA TO SAVE LIVES

The **critical** role of data during flooding events

In the US, population size is growing and concentrated in urban areas. This urbanization is leading to natural areas being replaced by impervious surfaces that promote surface water runoff, increasing flood risk. Coupled with the impacts of climate change and increasing frequency of precipitation, the current scale of urban flooding is worsening.



Impervious surfaces cover 50% across the watershed in urban areas

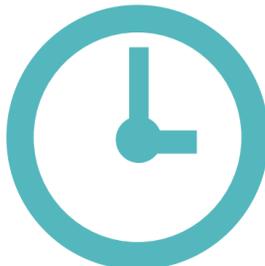
8.7 million

8.7 million structures will be built in special flood hazard areas by 2022

## Flood Warning systems and management plans require customized solutions

### MINUTES MATTER

In a flooding event you need data in **5 minutes or less** and more often. Precipitation and water level measurements provide critical information needed by first responders and the decisions makers issuing flood warnings and deciding needed actions.



### When Floods Strike

During Hurricane Harvey, about 80 OTT HydroMet sensors deployed around Houston (in the flood warning network) worked flawlessly. Two of the OTT RLS, radar level sensors, were submerged in a 40 ft. rise – right in downtown Houston – but data resumed once levels receded.

33 inches

of RAIN IN 4 DAYS

## A Customizable Solution for DATA YOU NEED!



### OTT RLS



#### Low Maintenance with High Performance

- Measurements are unaffected by air temperature, humidity, flood events, floating debris, or contaminated water; reduces the likelihood of missing data and reduces data post processing.
- No need to enter water to install or maintain; virtually maintenance free.

### OTT CBS



#### Accurate Complete Solution

- Desiccant and drift free measurement of water level.
- Combining the CBS with EPS-50 bubble chamber reduces the influence of wave action and prevents unnecessary noise in your data.

### OTT PLS



#### Rugged Vented Pressure Probe

- The robust ceramic pressure cell offers industry-leading accuracy and does not deform over time like membrane technology, providing long-term measurement stability.
- Ceramic pressure cell resistant to physical force (5x burst pressure) and enclosure made of high-quality saltwater resistant steel for use in coastal environments.

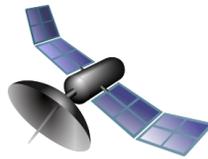
## Solutions with Modern Communication Technologies

### CELLULAR



The use of data collection using methods such as short message service (SMS) and high speed data transmission services using IP are becoming ever more popular. Cellular based solutions have improved speed and coverage in recent years, all while dropping significantly in monthly fee costs.

### IRIDIUM



Iridium network of 66 satellites provides message delivery within 5-10 seconds when satellite is in view. Iridium's call path is highly secure and disaster proof. Data seamlessly transmits over inter-satellite links, never relying on ground transport.

## TWO-WAY COMMUNICATION

The added value of **remote communication** is even higher during flooding events. Remote access to your station could help you collect more data and more often.

Two-way communication allows you to remotely make requests, send configurations, and more back to your station without having to make an additional field visit. You can ask the datalogger to send data, including diagnostic data that may not be regularly transmitted.

Two-way communication gives you:

- Complete network management – move from single station management to network management
- Improved data capture and prevented data gaps by asking for data that may be missing
- Reduced maintenance cost with remote user access

### Sources:

<https://www.nap.edu/read/25381/chapter/8>

<https://www.climatechange.com/news/2017/1/25/green-versus-engineering-climate-proofing-urban-st/>

\*Resources have not been verified for accuracy



## About OTT HydroMet

OTT HydroMet delivers valuable insights for experts in water and weather applications. Proudly formed from seven strong brands: OTT, Lufft, Kipp & Zonen, SUTRON, ADCON, HYDROLAB® and MeteoStar, OTT HydroMet offers the combined strength and expertise of leaders in the water quality, quantity, surface weather, solar radiation measurement and telemetry fields with over 500 years of combined experience.



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