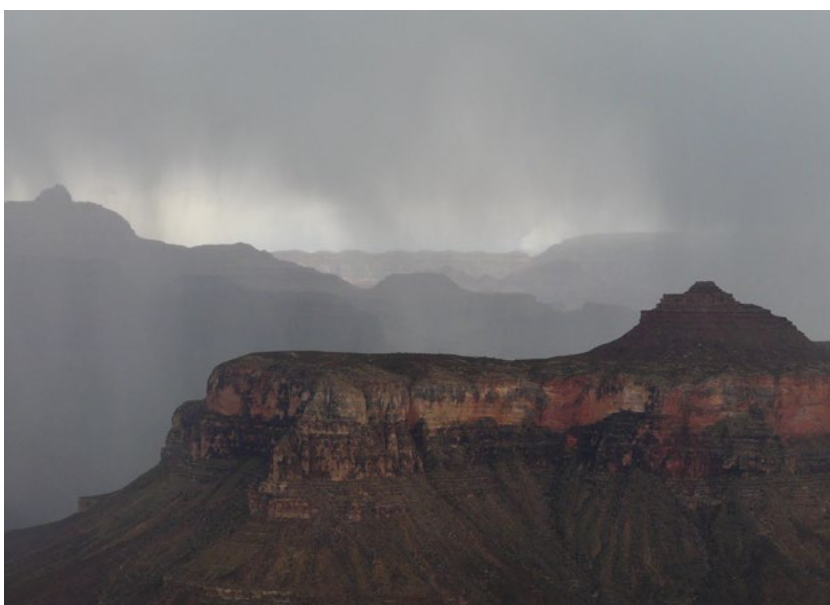# WAVELET PRECIPITATION KIT

SUMMARY

Rainfall is one of the most important stages of the water resource cycle, and therefore a criticial segment of setting up a smart water network. Rainfall identification of a specific geographic area or ecosystem is essential to management of water resources such as rivers and reservoirs, irrigation, and weather forecasting.

There are also larger scale impacts to monitoring the Earth's rainfall, such as contribution to scientific understanding of the hydrologic cycle, global water balance and atmospheric modeling. Wavelet Precipitation Kits have a small footprint, minimal environmental visual impact, and are an autonomous, robust, easy to install solution for setting up continuous rainfall data collection stations in remote locations.
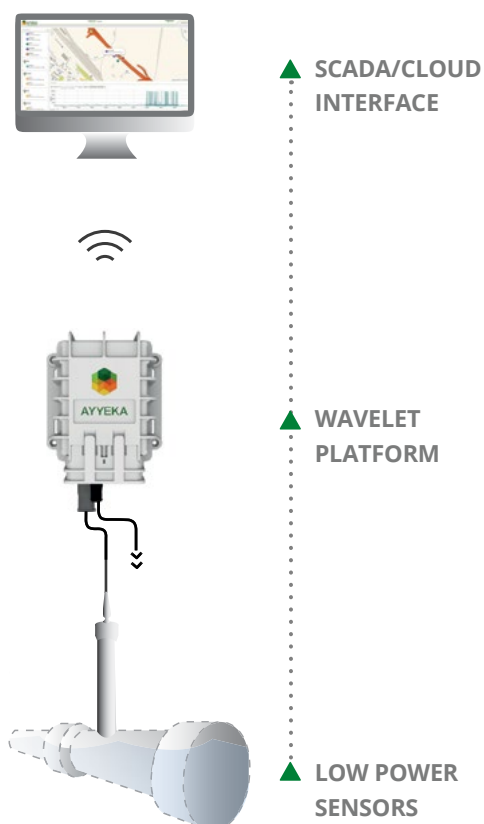
WAVELET PLATFORM FEATURES

- ▶ **PLUG-AND-PLAY**
- ▶ **BUILT-IN SCADA INTERFACE**
- ▶ **CYBER-SECURITY**
- ▶ **USER-FRIENDLY DATA VISUALIZATION**
- ▶ **CLOUD-BASED DATA STORAGE**
- ▶ **REMOTE NETWORK MANAGEMENT**
- ▶ **GLOBAL GSM CELLULAR SERVICE**
- ▶ **PROGRAMMABLE THRESHOLDS**
- ▶ **E-MAIL & SMS ALERTS**
- ▶ **GPS TIME & LOCATION SYNC**
- ▶ **LOW POWER CONSUMPTION**
- ▶ **AUTONOMOUS OPERATION**

THE WAVELET PLATFORM

Wavelet brings together end-to-end, turnkey solutions that cover all of your continuous remote monitoring needs. Starting from the smart sensors, across the transmission platform, through data management, we have created unique monitoring kits to measure and monitor a range of water supply, water quality, wastewater and hydrologic parameters. Wavelet Kits are all designed to help facilitate more effective water network management.

Ayyeka's Wavelet Kit features a fully integrated, plug-and-play monitoring solution that fits seamlessly onto any water infrastructure and sends the data securely to you. Our Kits provide you with total visibility of your networks. The Kits are easy to setup and use, and will save valuable time and money.

▲ **SCADA/CLOUD INTERFACE**

▲ **WAVELET PLATFORM**

▲ **LOW POWER SENSORS**

METEOROLOGICAL RAIN GAUGE HIGHLIGHTS

▶ World standard 200 mm (8 inch) catch
▶ Accuracy not affected by rainfall intensity
▶ Long-term stable calibration
▶ Leaf filter resists blocking
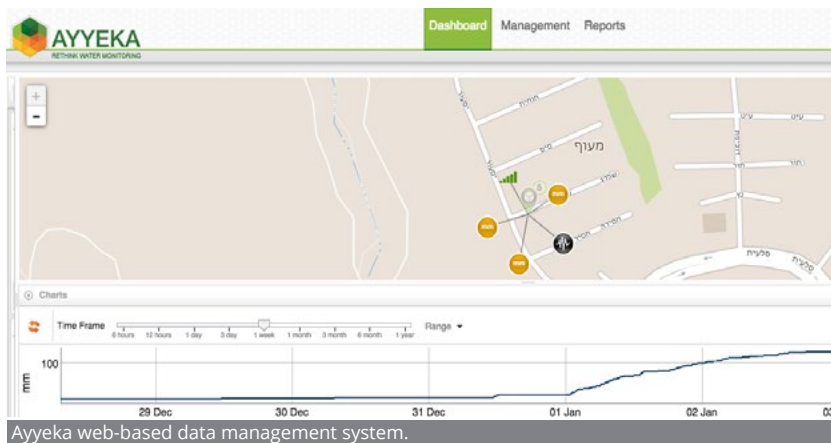▶ Easy to service with low maintenance requirements

RAIN GAUGE SPECIFICATIONS

Type	Tipping bucket with syphon
Receiver	200 mm (7.8 in.) +/- 0.3 diameter heavy duty cast aluminum, powder coated
Bucket Capacity	Plastic: 0.2 mm, 0.5 mm, 0.01 inch of rainfall Metal: 1.0 mm of rainfall
Sensitivity	One tip
Max. Intensity	700 mm/hr (28 in./hr)
Humidity	0 to 100%
Temperature	-20°C to 70°C (-4°F to 158°F)
Syphon	0.4 mm (12 ml) capacity of rainfall
Height/Weight	315 mm / 2 kg (12.5 in. / 4.4 lbs)
Accuracy	+/- 2% up to 250 mm/hr (10 in./hr) +/- 3% from 250 – 500 mm/hr (10 – 20 in./hr)

The rain gauge is well suited for high accuracy applications.

CASE STUDY

▶ **Description:** A university meteorological department searched for a low maintenance, autonomous, research grade remote monitoring solution for difficult to reach locations as a part of desert rainfall research effort.

▶ **Solution:** Ayyeka's Wavelet Precipitation Kit was deployed due to its small footprint and low profile, no external power supply, and ability to directly connect and provide data to the university SCADA systems.

Ayyeka web-based data management system.

WAVELET PLATFORM SPECIFICATIONS

▶ **DATA & SOFTWARE**

Ayyeka Data Server	Ayyeka Private Cloud and/or Customer On-Premises Server
User Interface	Web-Based, Tablet & Mobile
Data Export Options	Excel, CSV
SCADA & 3rd Party Integration	OPC/DNP3/API
Data Encryption	AES 256
Internal Memory	32 GB

▶ **CONNECTIVITY & INTERFACE**

Cellular Network	Multi-Cellular Carrier: 2G, 3G and CDMA (Verizon)
Data Transmission Profiles	Periodic, Data Dependent
Event Driven Alerts	SMS, E-Mail, API
Configuration & Upgrades	Remotely Over-The-Air, USB PC Connection
Antenna	Internal or External
SIM Card	Included

▶ **POWER**

Primary Power Supply	Internal Lithium Battery
Operational Run Time	3,500+ Transmissions per Battery Pack, Field Replaceable Battery
External Power Supply (Optional)	4.5V-28V, Automatic Power Source Switching
Battery Level Notifications	Included

Ayyeka provides cyber-secure, plug-and-play, remote monitoring solutions designed for various markets. Founded in 2011, Ayyeka has an installed base in challenging locations and earned a reputation for excellent customer service. Bringing together a state-of-the-art hardware and cloud-based software package, Ayyeka's solutions are leading the infrastructure monitoring sector into the future.