

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

Westmoreland Conservation District

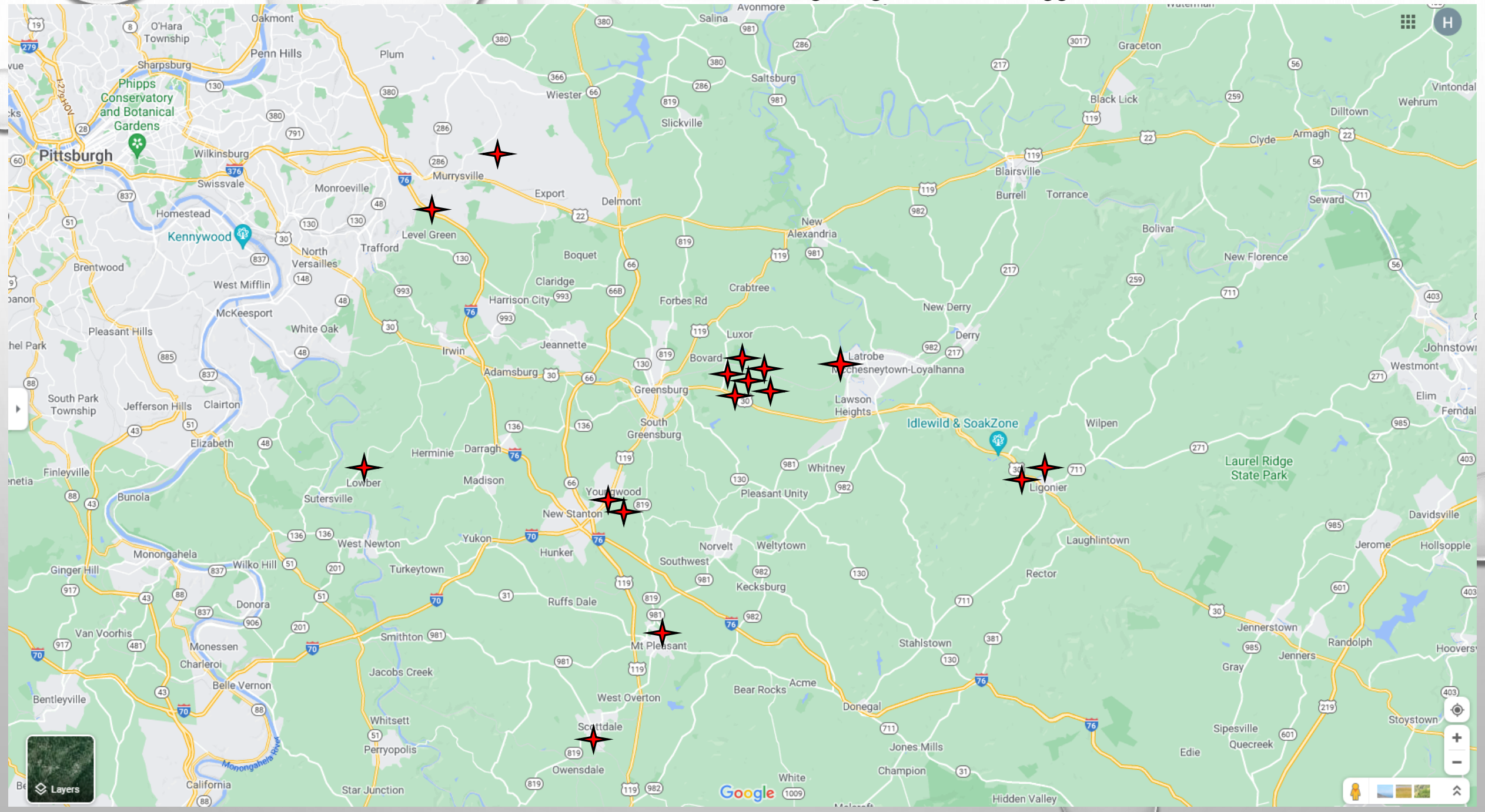
A stylized graphic consisting of three horizontal, wavy lines. The top line is blue, the middle line is green, and the bottom line is teal. The lines are slightly curved and overlap, creating a sense of movement and water.

MONITORING PROGRAM 2022

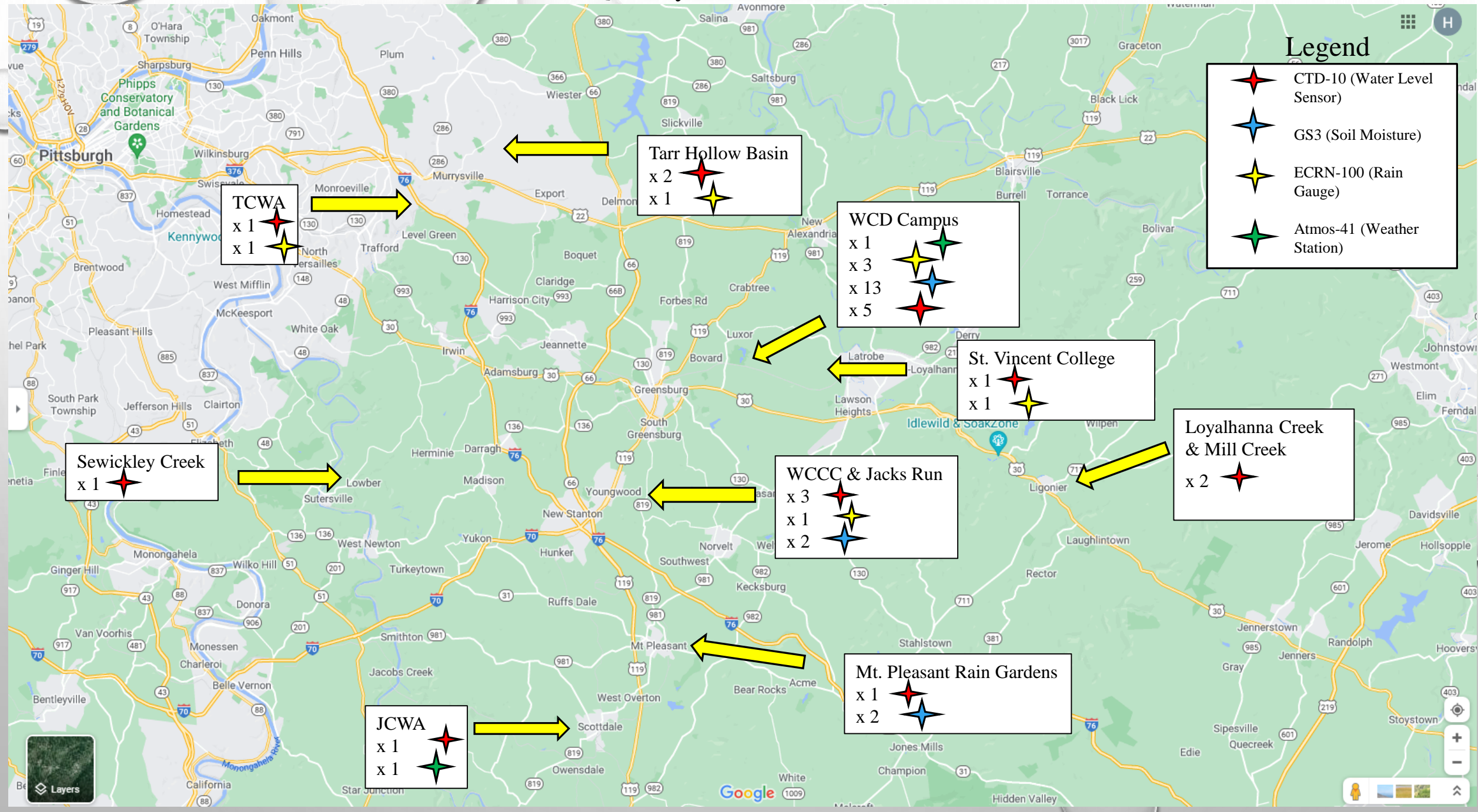
OVERVIEW

- 16 DATA LOGGERS AROUND WESTMORELAND COUNTY
- 42 TOTAL SENSORS
- WATER LEVEL SENSORS (CTD-10), SOIL MOISTURE SENSORS (GS3), RAIN GAUGES (ECRN-100), AND WEATHER STATIONS (ATMOS-41)

Westmoreland Conservation District Monitoring Program : Data Logger Locations



Quantity of Sensors



GOALS

- RECORD AND REPORT WATER RESOURCE DATA
- INVESTIGATE EFFECTIVENESS OF BMPS
- PROVIDE DATA FOR WATERSHED ASSOCIATIONS, ENGINEERS, MUNICIPALITIES

DATA LOGGERS



ZL6

- Measurement recordings every 5 min
- Online reporting every hour
- 3G and 4G communication
- 6 sensor imports
- Rechargeable Solar Battery

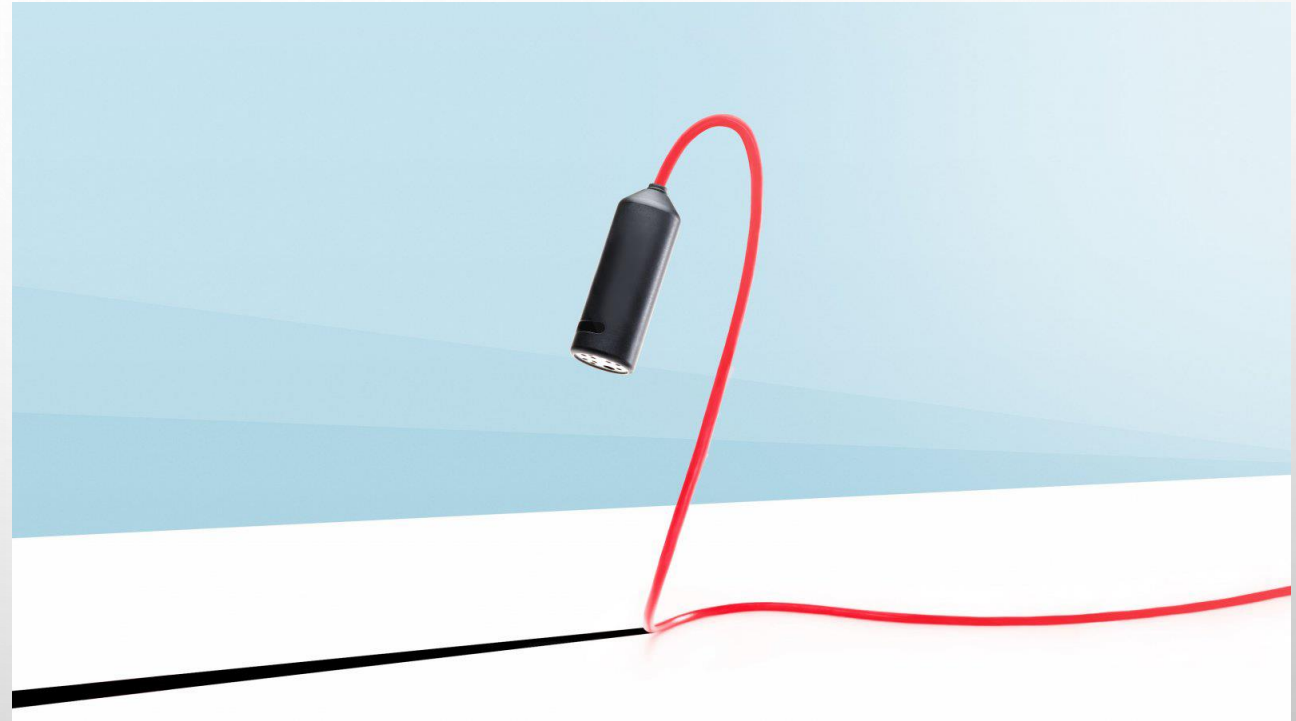
CTD-10 WATER LEVEL SENSOR

Data Measurements:

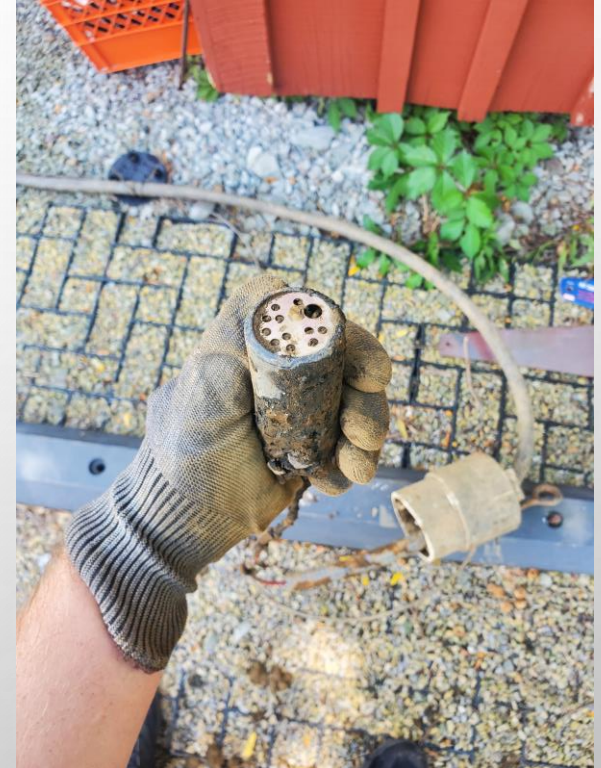
Water depth (mm)

Water Temperature ($^{\circ}\text{C}$)

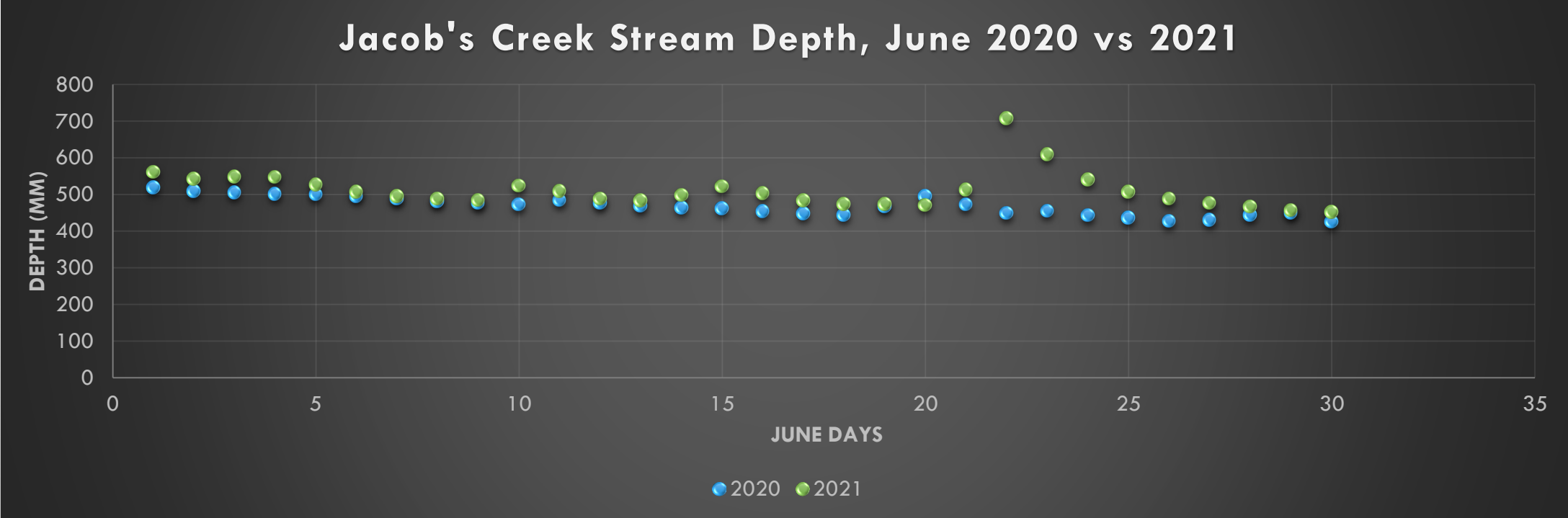
Water Conductivity (mS/cm)



Defective Water Level Sensor
Lifespan: 5 Years



APPLICATIONS OF DATA



GS3 SOIL MOISTURE SENSOR

Data Measurements:

Water Content (m^3/m^3)

Soil Temperature ($^{\circ}\text{C}$)

Soil Conductivity (mS/cm)



ECRN-100 RAIN GAUGE

Data Measurements:
Precipitation (mm)



ATMOS-41 WEATHER STATION

Data Measurements:

Wind Speed (m/s)

Air Pressure (kPa)

Air Temp ($^{\circ}\text{C}$)

Solar Radiation (W/m^2)



FUTURE GOALS

- REPLACE/REMOVE DEFECTIVE WATER LEVEL SENSORS (LOYALHANNA CREEK, MILL CREEK)
- UPGRADE OLD DATA LOGGERS TO UPDATED VERSIONS (MT. PLEASANT RAIN GARDENS & LOYALHANNA CREEK)
- INTEGRATE DATA TO WCD'S WEBSITE
- CONTINUE MONITOR INSTALLS FOR INTERESTED MUNICIPALITIES AND ORGANIZATIONS

PROGRESS OF FUTURE GOALS

- WESTERN PA CONSERVANCY AWARDED TURTLE CREEK WATERSHED ASSOCIATION WITH A WATERSHED MINI GRANT. TCWA AND WCD WILL WORK TOWARDS INSTALLING A NEW MONITOR WITHIN THE TURTLE CREEK WATERSHED
- BEGINNING STAGES OF COMMUNICATION BETWEEN WCD AND A WEB DEVELOPER TO INTEGRATE DATA ONTO WCD'S WEBSITE. [HTTPS://WWW.VIABLE.IO/](https://www.viable.io/)