Nestmoreland Conservation District

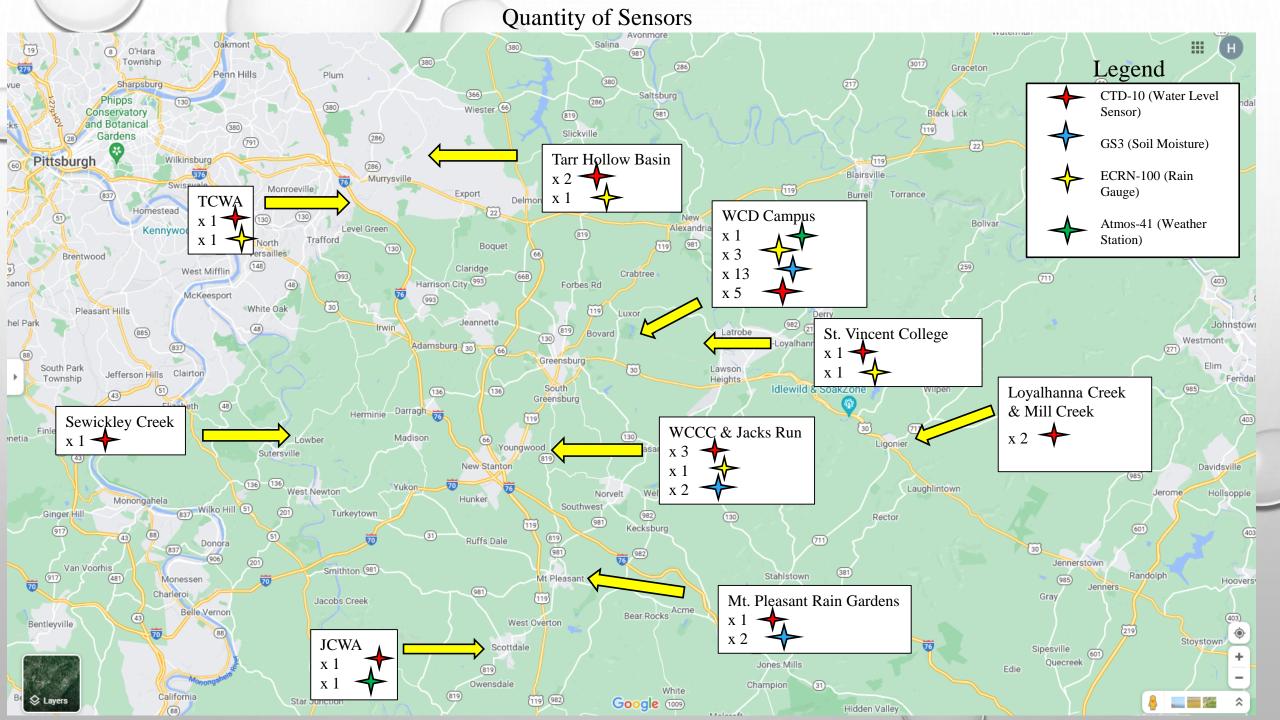
MONITORING PROGRAM 2022



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 Salina Oakmont O'Hara Township (380) (3017) Graceton Penn Hills Plum Sharpsburg (286) Vintonda Wiester 66 819 (981) Black Lick Wehrum and Botanical Dilltown (119) Slickville Gardens (791) Armagh (22) Clyde Pittsburgh Wilkinsburg (119) (286) (56) Blairsville Murrysville Swissvale Monroeville (837) Torrance Seward 711 Delmont (48) (982) [22] (130) Bolivar Alexandria Kennywood 4 (819) Trafford North 981 (119) Boquet New Florence (66) Versailles* Brentwood (148) West Mifflin Crabtree 993 (66B) Harrison City 993 (403) (48) Forbes Rd New Derry McKeesport (993) (30) Pleasant Hills Jeannette 982 (217) (48) Irwin (819) (885) Latrobe (130) Westmont chesneytown-Loyalhanna Adamsburg (30) (66) Greensburg Elim South Park Lawson Jefferson Hills Clairton Township Heights South Idlewild & SoakZone (985) (136) Wilpen (136) Greensburg (48) Elizabeth Herminie Darragh (271) Laurel Ridge 981) Whitney Finleyville State Park (130) Madison (66) Pleasant Unity (88) Sutersville New Stantoi Davidsville (985) 136 136 Yukon Laughlintown Weltytown Jerome Hollsopple Norvelt Hunker Monongahela (837) Wilko Hill (51) Southwest Turkeytown Ginger Hill (982) Rector 981 Kecksburg (601) (31) (711) Ruffs Dale Donora (30) (837) (982) Jennerstown Van Voorhis Smithton 981 Mt Pleasant Stahlstown Randolph Monessen (985) Hoovers Jenners: (981) Charleroi Gray Jacobs Creek Bear Rocks Acme (403) West Overton Bentleyville (219) Donegal Whitsett Stoystown (711) Sipesville (601) Quecreek Jones Mills Perryopolis (819) Owensdale Champion California 119 982 Star Junction Google 1009 (88) Hidden Valley





GOALS

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



DATA LOGGERS



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



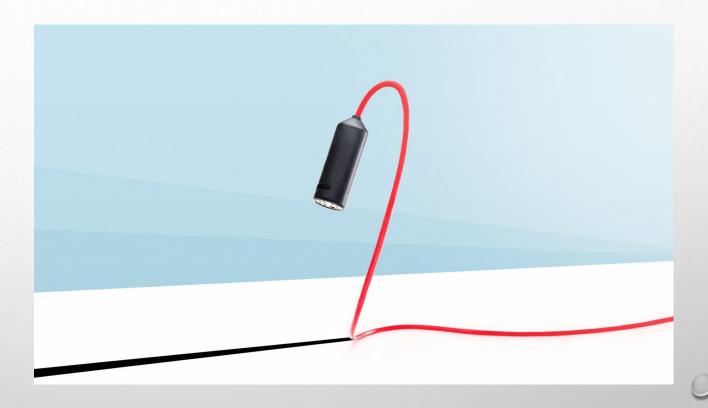
CTD-10 WATER LEVEL SENSOR

Data Measurements:

Water depth (mm)

Water Temperature (°C)

Water Conductivity (mS/cm)



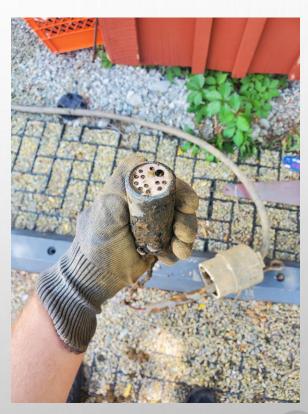


Defective Water Level Sensor Lifespan: 5 Years

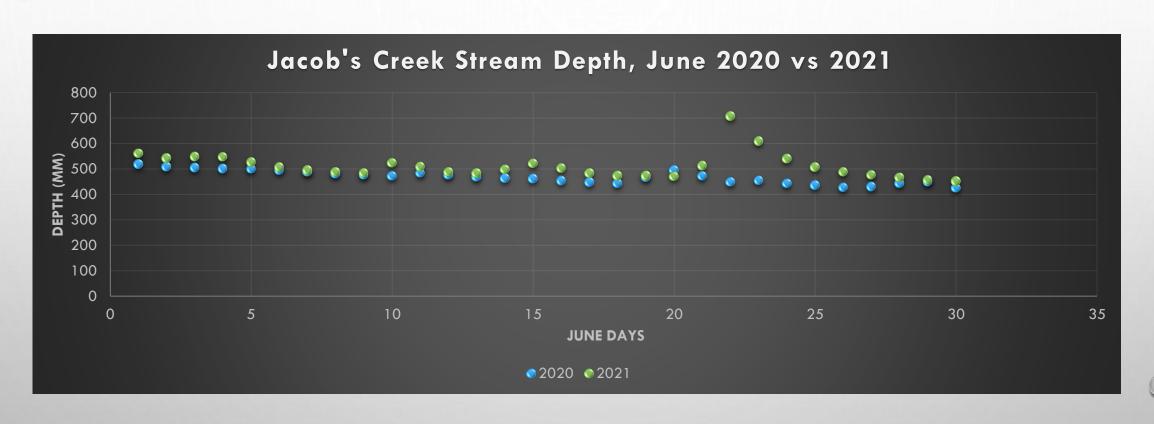








APPLICATIONS OF DATA





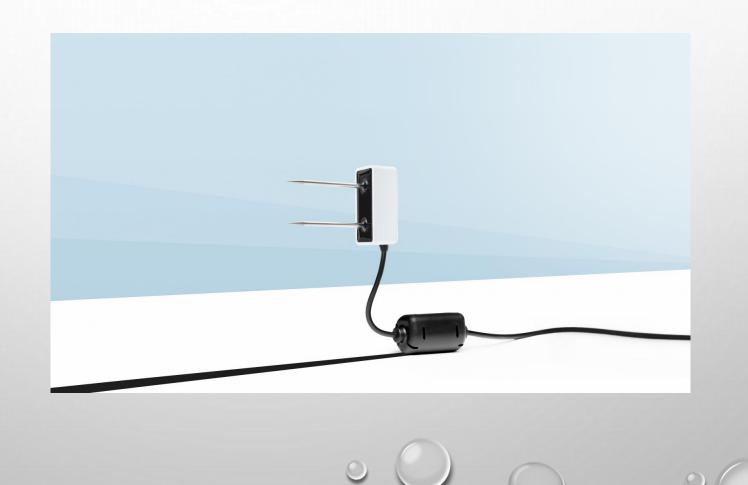
GS3 SOIL MOISTURE SENSOR

Data Measurements:

Water Content (m^3/m^3)

Soil Temperature (°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 (°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/