

# Delaware River Basin Commission

## Status Update on Water Quality Assessment Report

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Water Quality Advisory Committee  
April 30, 2020

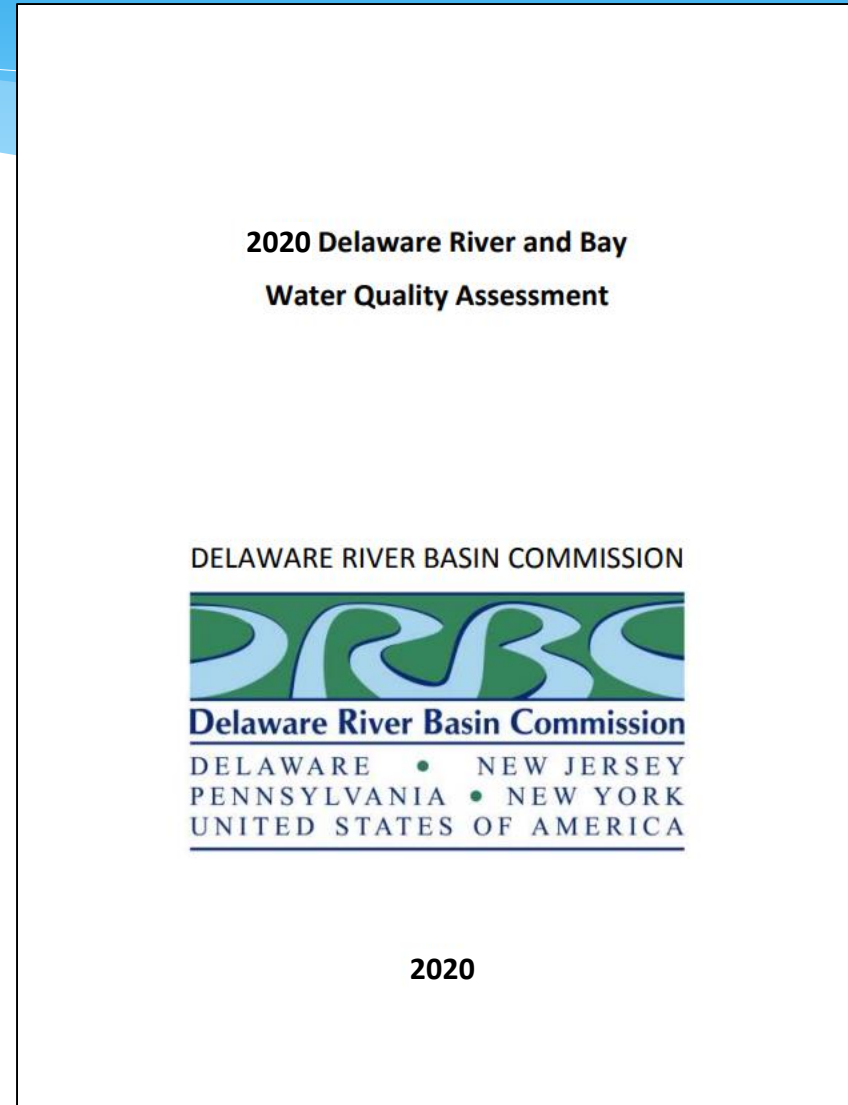


Presented to an advisory committee of the DRBC on April 30, 2020. Contents should not be published or re-posted in whole or in part without permission of DRBC

# Overview

- Background
- Automation
- Status
- Preliminary Results
- Next Steps

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# Background

- Every two years, the DRBC compiles a Delaware River and Bay Water Quality Assessment Report, which provides an assessment of the Delaware River and Bay's support of various uses during previous years
  - Maintenance of aquatic life
  - Providing a raw water source for human consumption
  - Swimming and recreation
  - Fish consumption
  - Shellfish consumption

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# Background

- Parameters evaluated include:
  - Dissolved oxygen
  - pH
  - Water temperature
  - Total dissolved solids
  - Alkalinity
  - Hardness
  - Chlorides
  - Odor
  - Phenols
  - Sodium
  - Turbidity
  - Bacteria
  - Toxics
  - Biological community
  - Consumption advisories

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# Background

- Data window for the 2020 report will be 10/1/2014 – 9/30/2019
- Data sources include:
  - DRBC
  - NJDEP
  - PADEP
  - NYSDEC
  - USGS
  - EPA
  - NOAA
  - NPS

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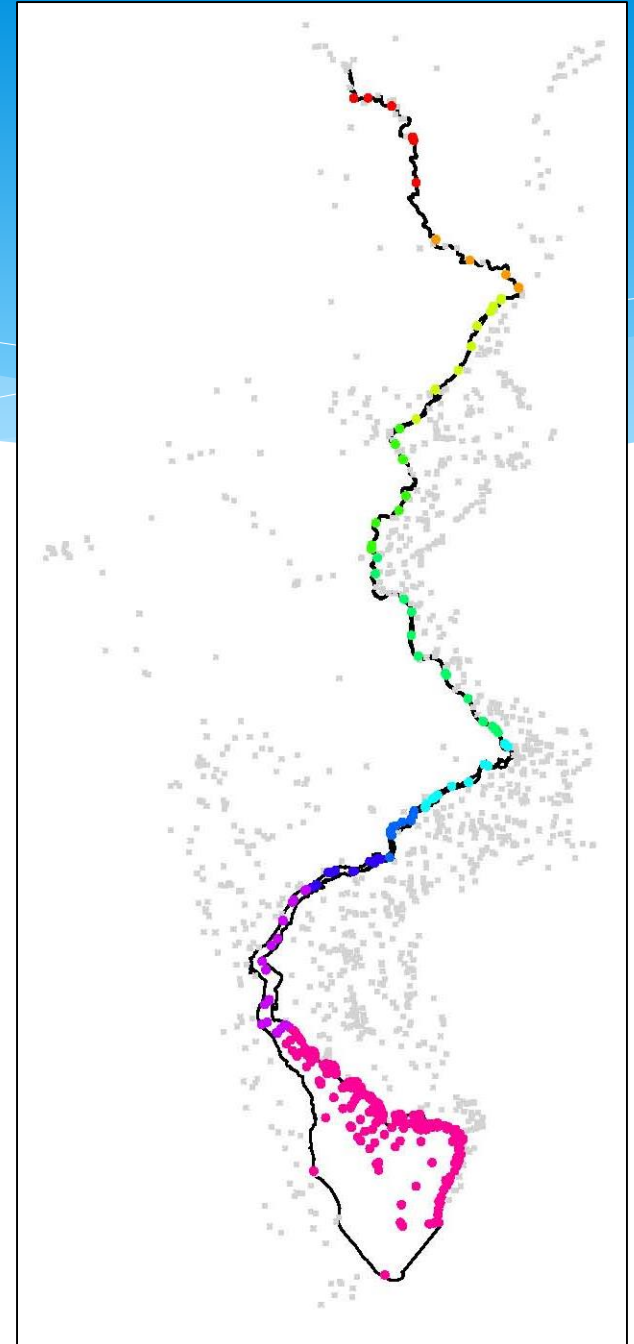
# Automation

- The 2020 assessment report is being produced using an automated set of R scripts
- Goal
  - Increase efficiency
    - Data acquisition
    - QAQC
    - Production of report results
    - Dissemination of results to the public

# Automation

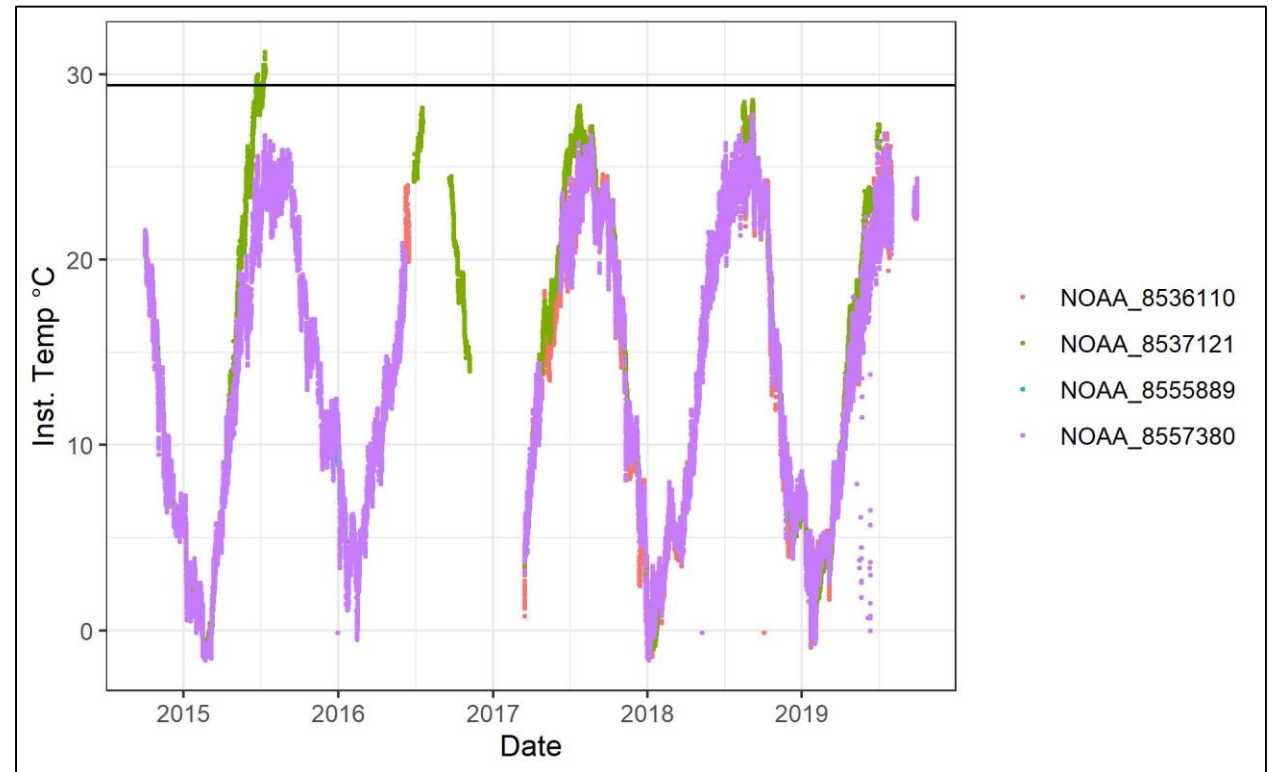
- Data acquisition
  - A series of R scripts pull data from the following sources
    - Mainstem Delaware River USGS gages
    - Water Quality Portal
    - NOAA Ports Gages
  - The various datasets are then compiled based off which water quality zone they fall in

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# Automation

- QAQC
  - Automation allows for increased efficiency in QAQC
    - Scripts to check for unrealistic values
    - Automate the generation of plots to visually inspect



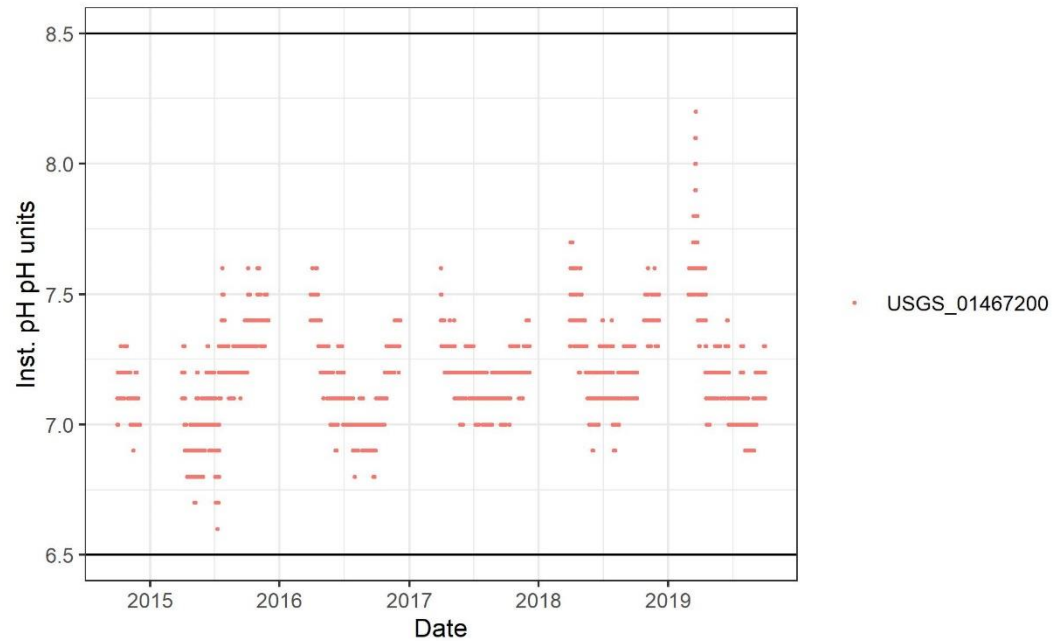


# Automation

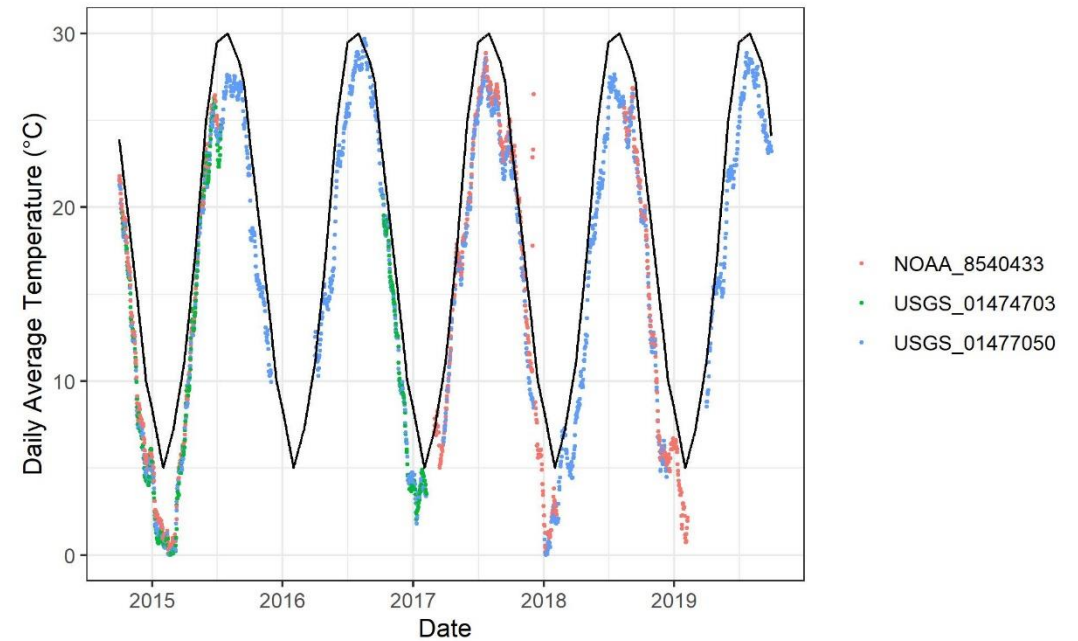
- Production of report results
  - Once data is pulled in and cleaned, scripts can be run to calculate report results

# Example Results

## Zone 3 pH



## Zone 4 Temp – Historical Gradient



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# Next Steps

- Complete Scripting of Analysis
- Perform QAQC
- Dissemination of results to public
  - Traditional report
  - Online mapping interface
- Questions?