

# Content Characterization of the New Chesapeake Monitoring Cooperative's *Chesapeake Data Explorer* Database

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# Over View

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Overall View of the data contribution by jurisdiction

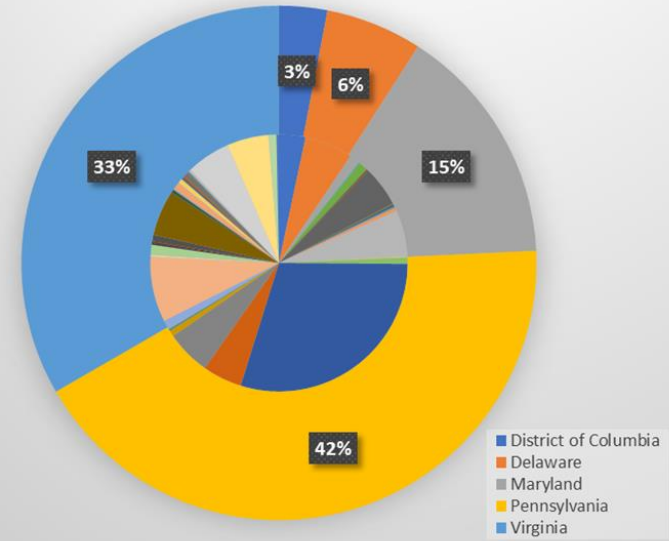
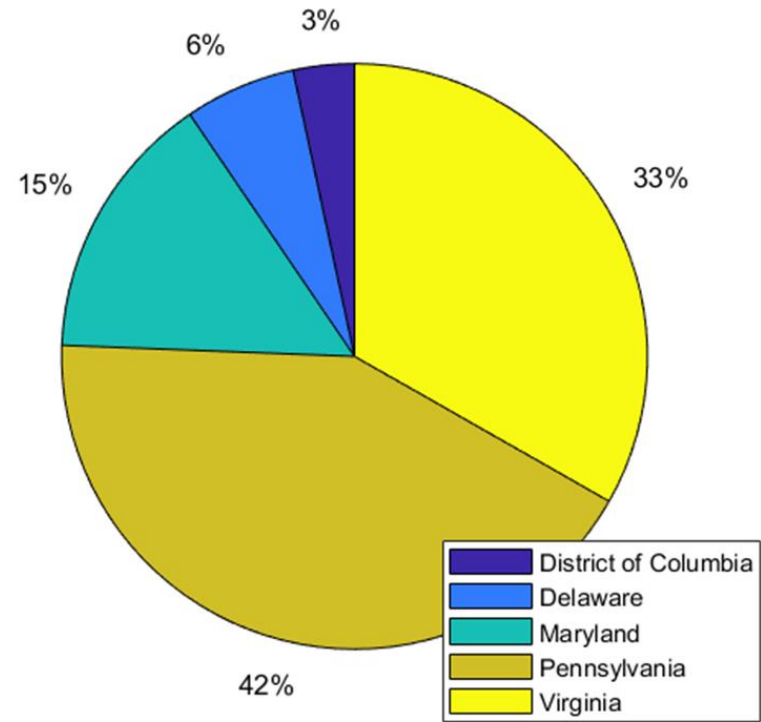
Overall View of data over time by jurisdiction

Deeper Dive into data over time by jurisdiction

Deeper Dive into data contribution by parameter within jurisdictions

Data Explorer and Next Steps

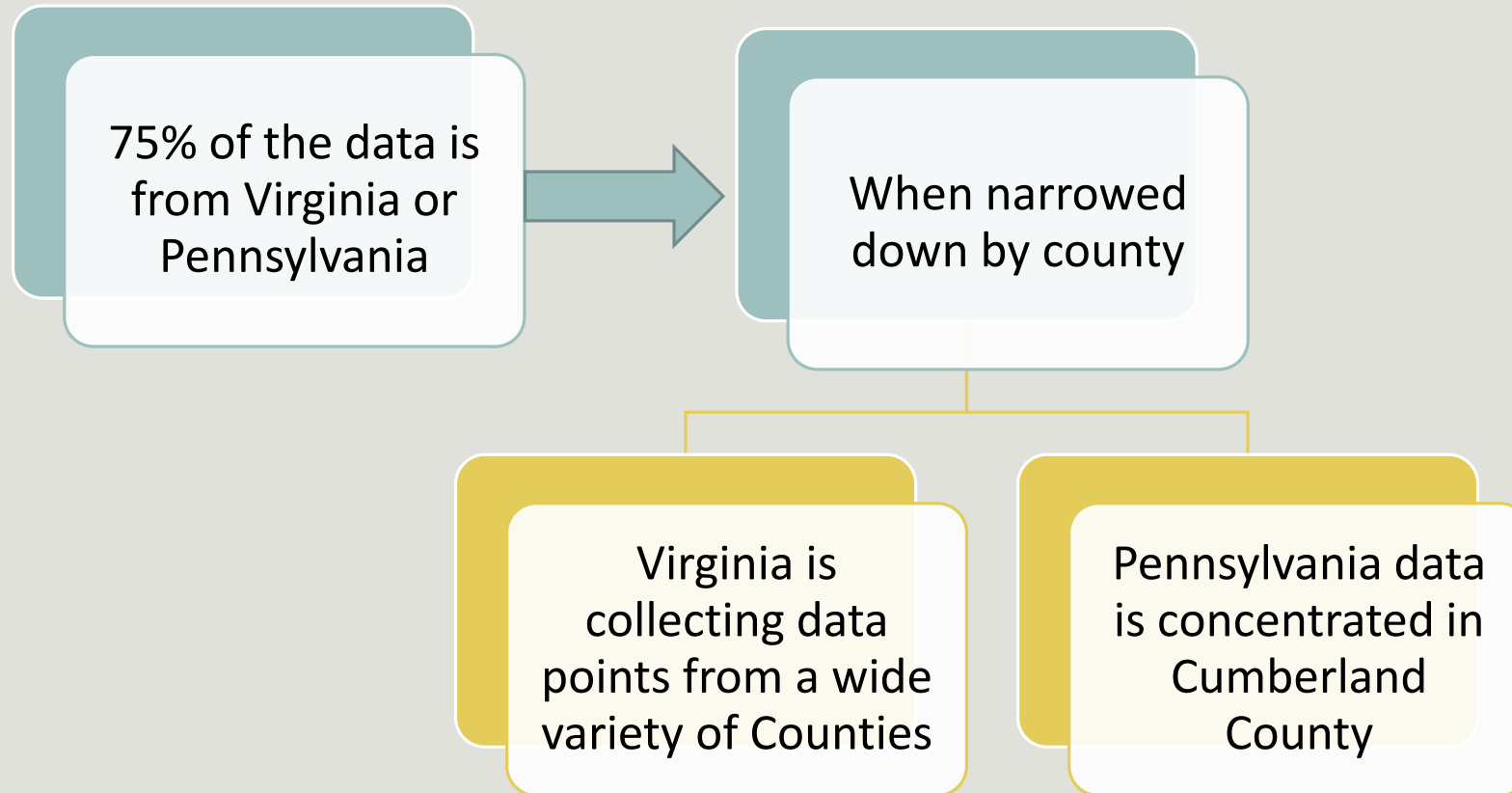
Contribution to Database per State



# Overall Contribution by Jurisdiction

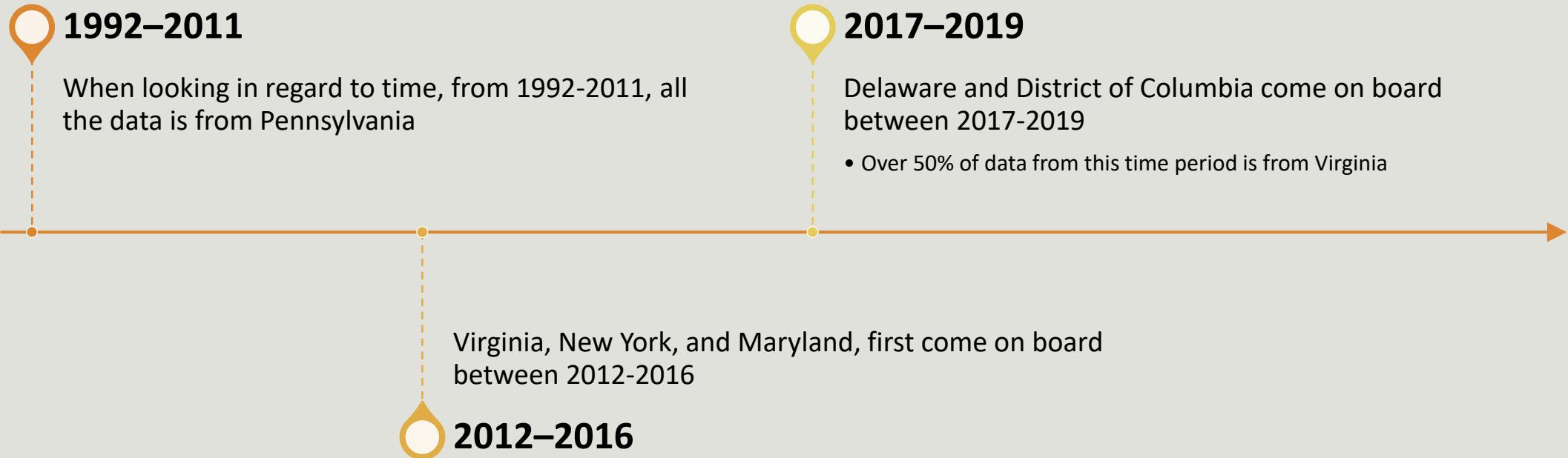
# Overall Contribution by Jurisdiction

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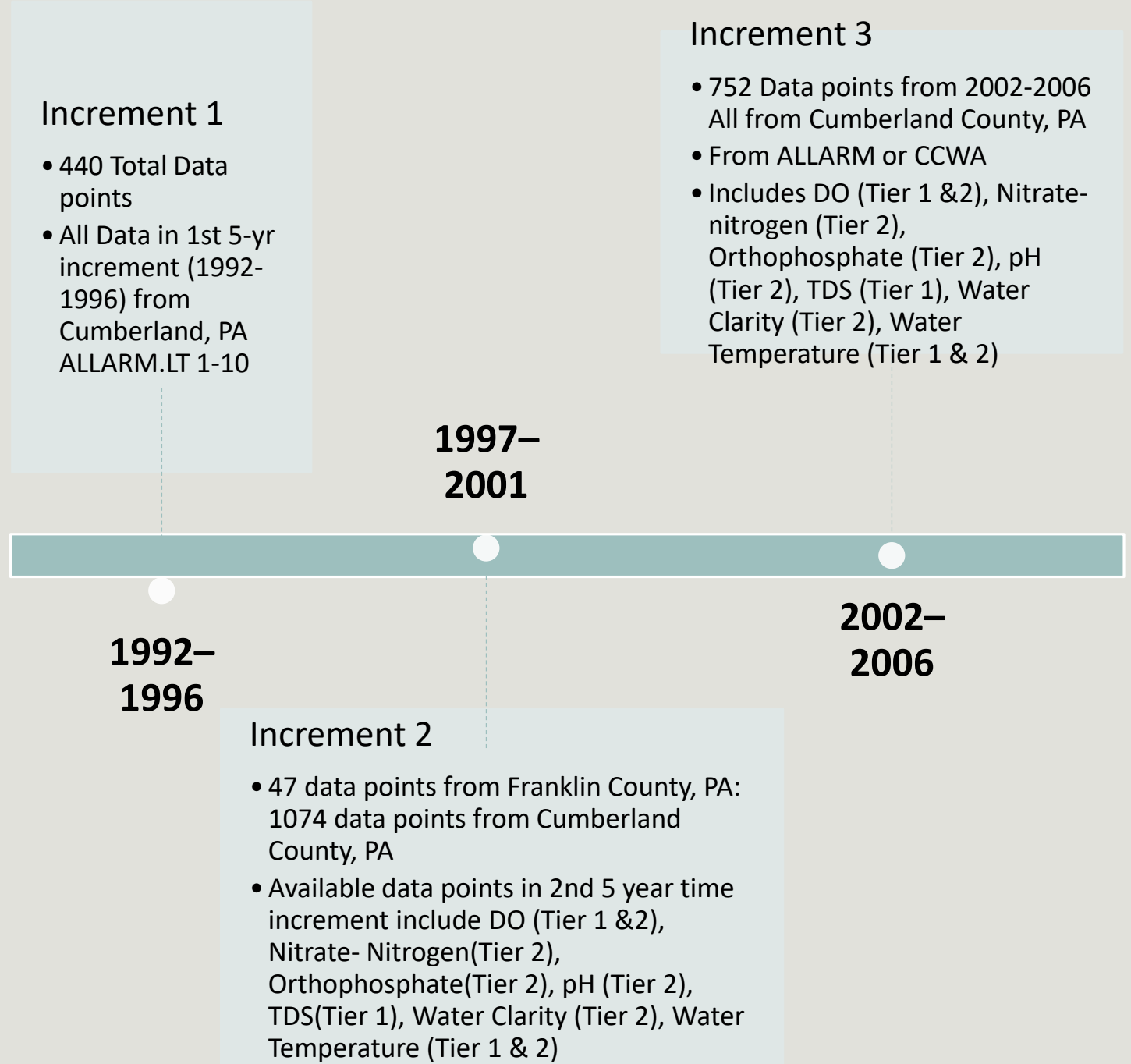


# Overall Timeline

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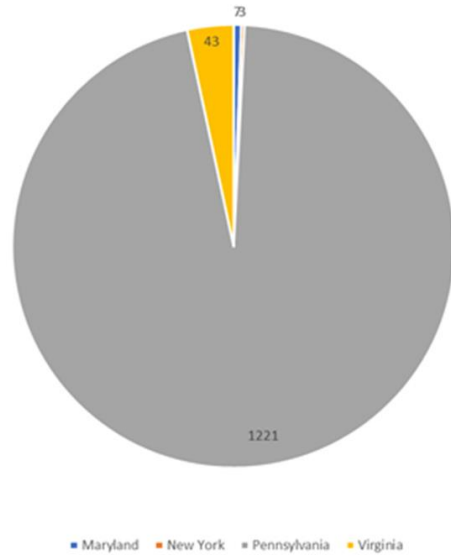


# Deeper Dive: Timeline

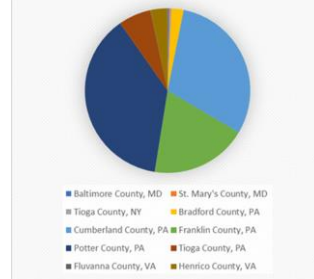


# Deeper Dive: Timeline

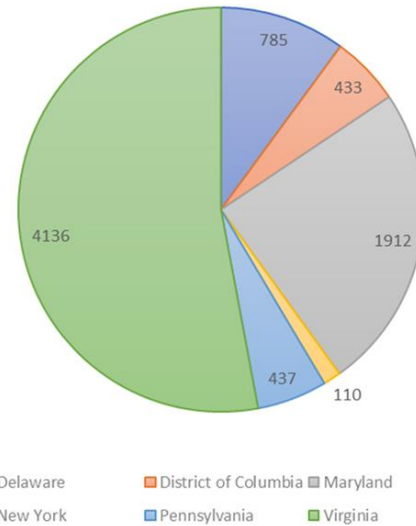
Contributions to increment 5 by State



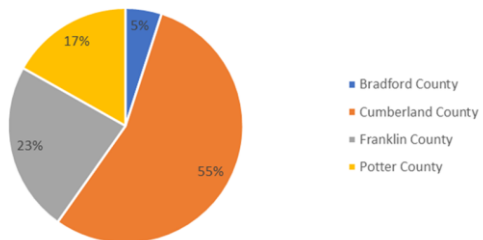
Contributions to increment 5  
By County



Contribution to Increment 6 by State



Contributions to increment 4 by County



## Increment 4

- All data only in PA (Bradford County, Cumberland County, Franklin County, Potter County)
- 1490 total data points

## Increment 6

- 7813 data contributions
- 6 Jurisdictions in the database all show up

2012–2016

2007–2011

2017–2019

## Increment 5

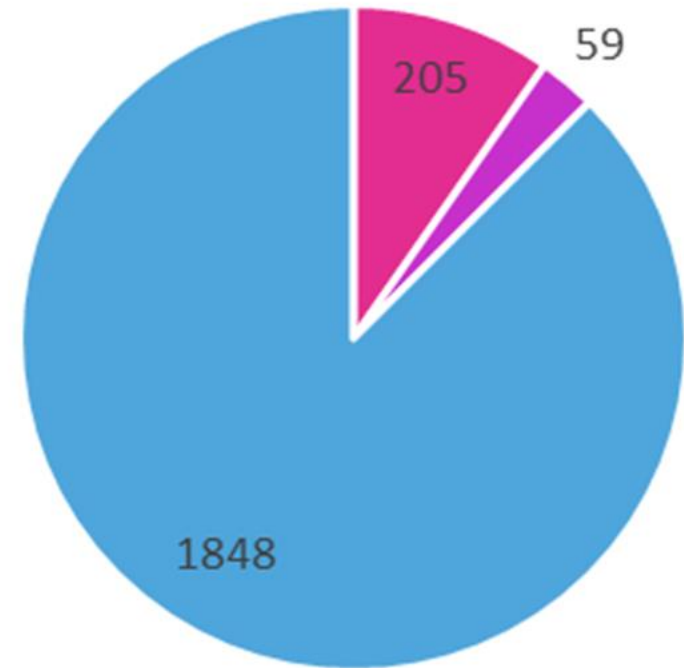
- 1267 total data points
- Data starts appearing from a wider variety of Jurisdictions

## Deeper dive: Looking at parameter by jurisdiction

By Parameter - Air Temperature

- 100% Tier 2
- 2112 available data points

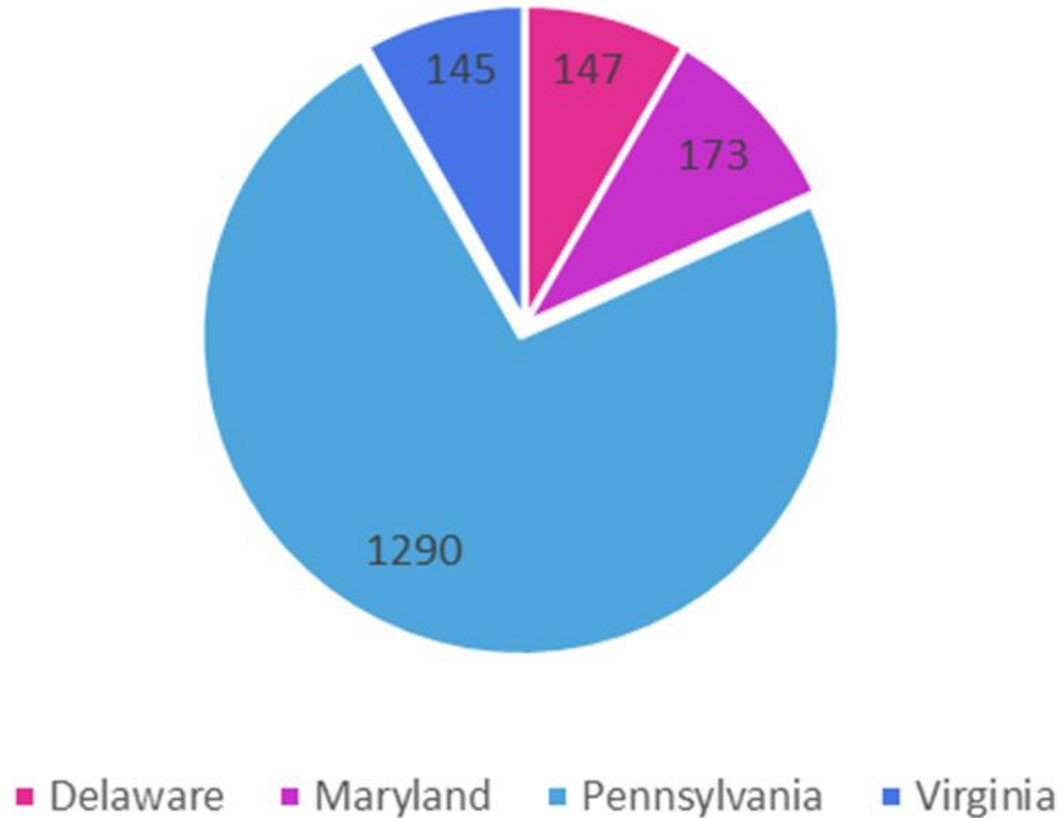
### Contributions to Air Temperature Data by State



■ District of Columbia ■ Maryland ■ Virginia



## Data Contributions for Conductivity by State



Deeper dive: Looking at parameter by jurisdiction

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### By Parameter- Conductivity

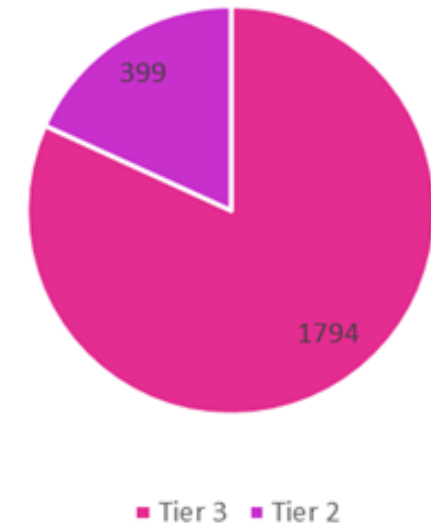
- 100% Tier 2
- 1755 available data points

# Deeper dive: Looking at parameter by jurisdiction

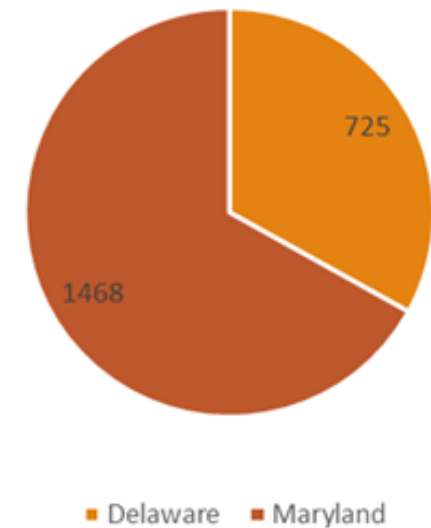
By Parameter- DO Sat %

- 2193 Available Data Points

Data Contribution for DO Sat by Tier



Data Contribution for DO Sat by State



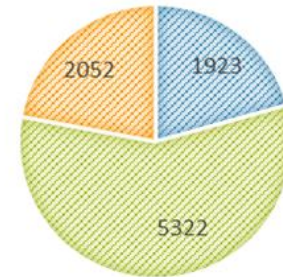
# Deeper dive: Looking at parameter by jurisdiction

By Parameter- Dissolved Oxygen

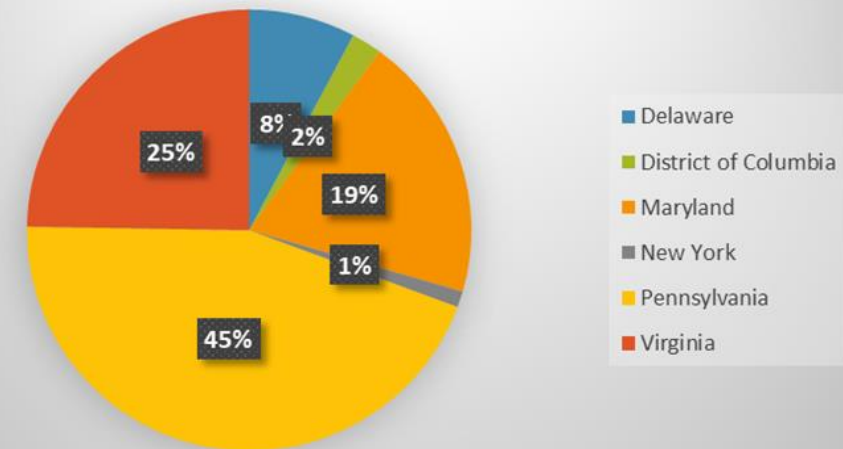
- Tier 3 Data found only in DE and MD
- 9297 Total Data Points

## DATA CONTRIBUTIONS FOR DO BY TIER

■ Tier 1 ■ Tier 2 ■ Tier 3



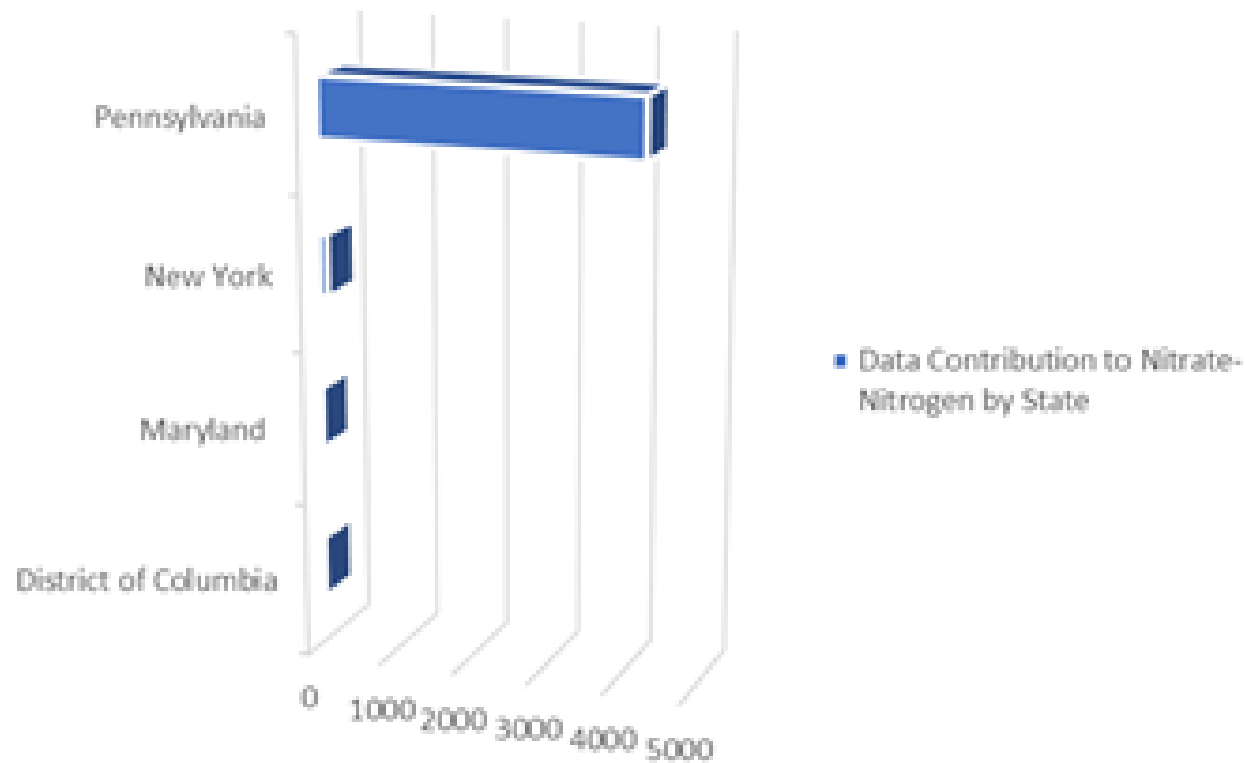
## Data Contributions for DO by State



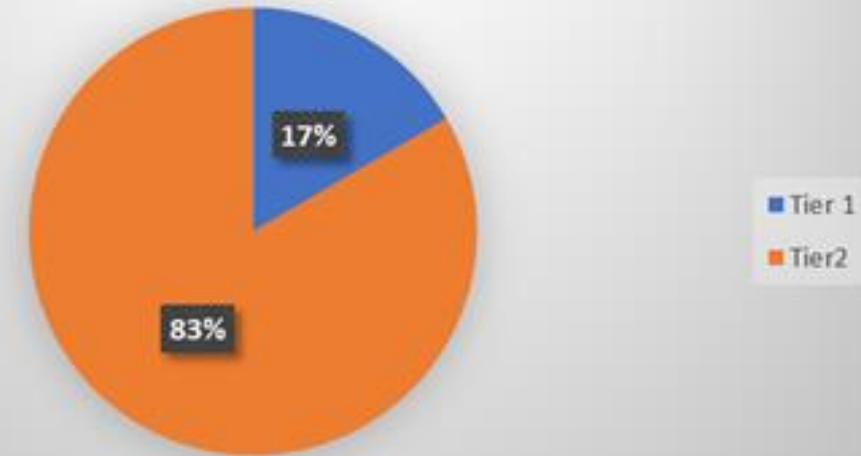
# Deeper dive: Looking at parameter by jurisdiction

By Parameter- Nitrate-Nitrogen

- 4428 Total Data Points



## Data Contributions to Nitrate-Nitrogen by Tier



# Deeper dive: Looking at parameter by jurisdiction

By Parameter- Orthophosphate

- 4459 Total data points

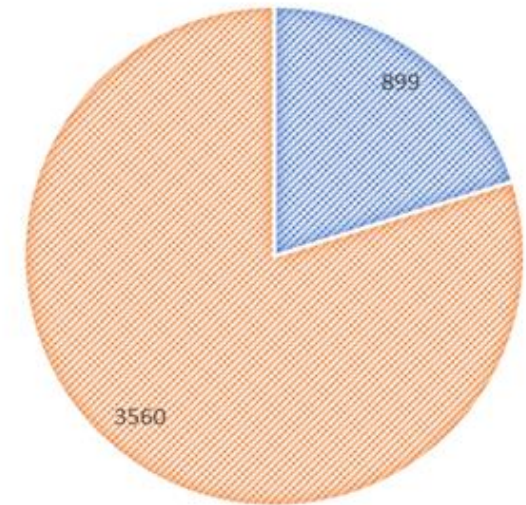
**Data Contributions for  
Orthophosphate by State**



■ District of Columbia ■ Maryland ■ New York ■ Pennsylvania ■ Virginia

**DATA CONTRIBUTIONS FOR  
ORTHOPHOSPHATE BY STATE**

■ Tier 1 ■ Tier 2

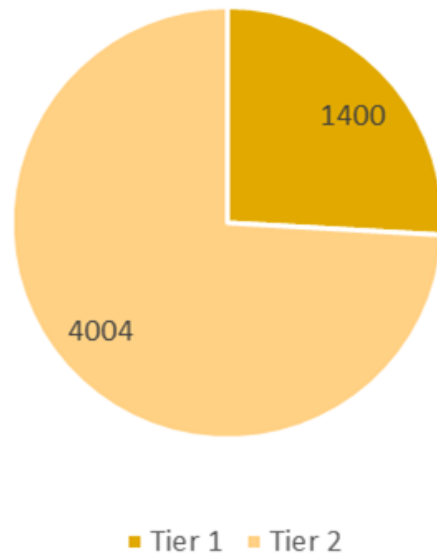


# Deeper Dive: Looking at Parameter by Jurisdiction

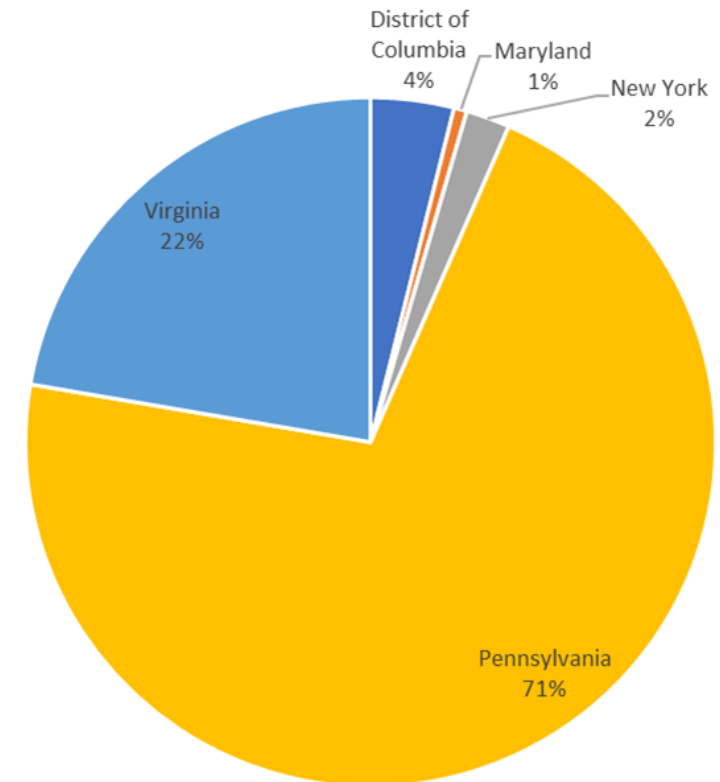
## By Parameter- pH

- 5404 data points available

Data Contributions for pH by Tier



Data Contributions for pH by State

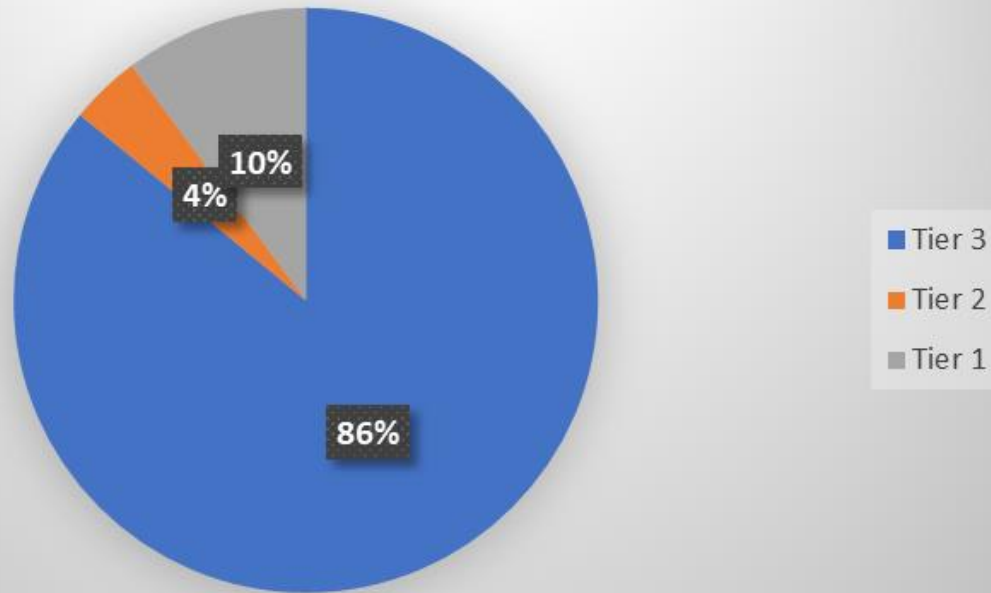


# Deeper Dive: Looking at Parameter by Jurisdiction

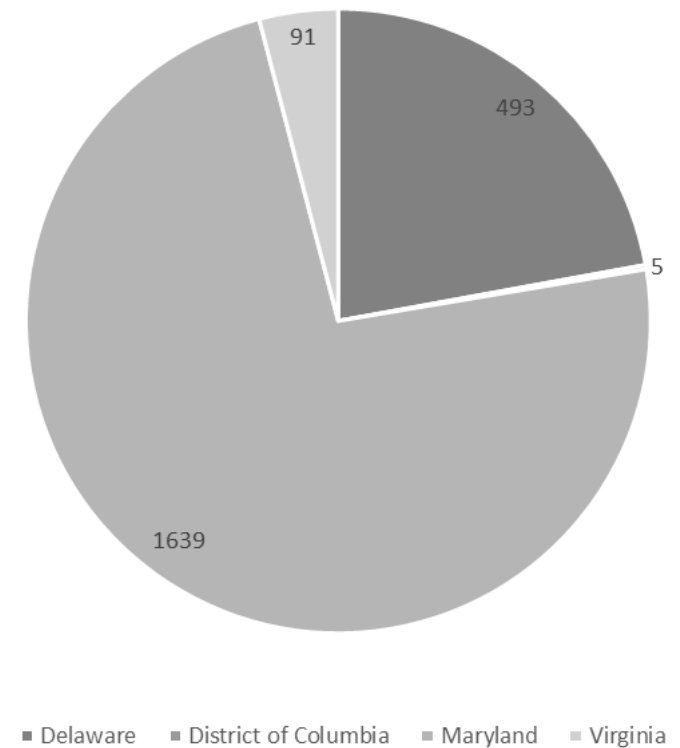
## By Parameter- Salinity

- 2228 Available Data Points

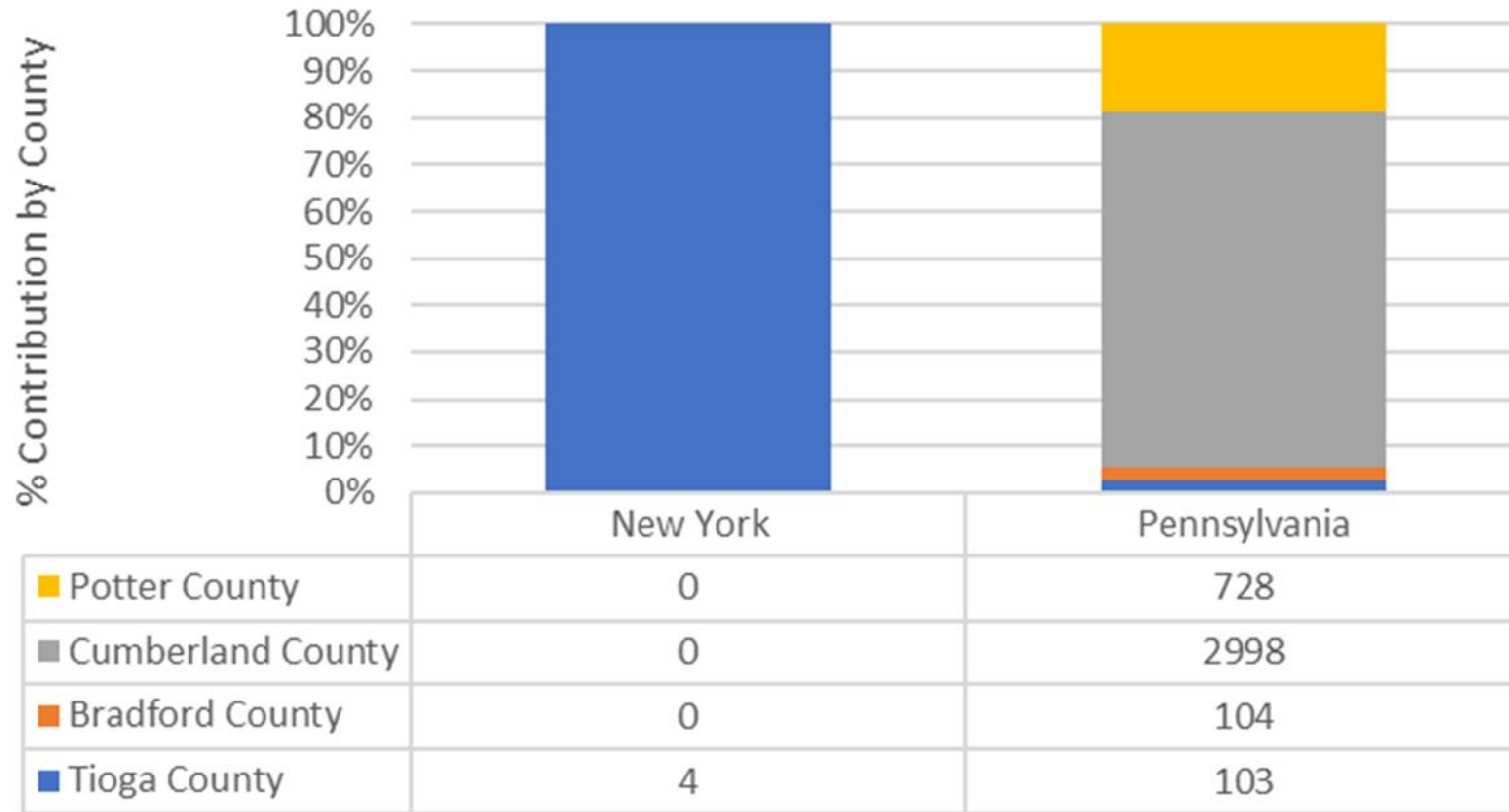
### Contribution to Salinity by Tier



### Contribution to Salinity by State



## Contribution to Total Dissolved Solids by State



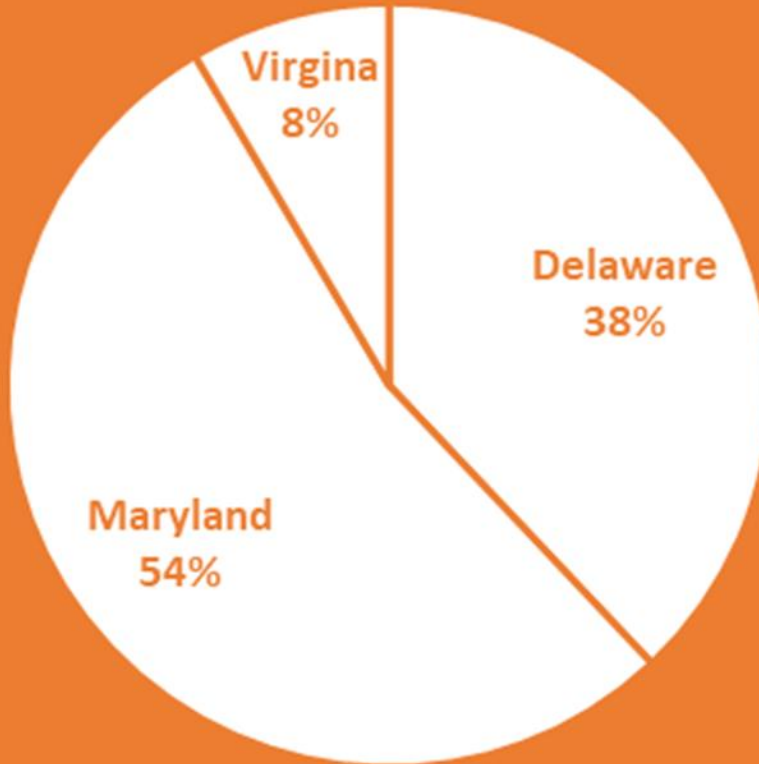
Deeper dive: Looking at parameter by jurisdiction

### By Parameter - TDS

- 100% Tier 1
- 3933 Available Data Points



## CONTRIBUTION TO TOTAL NITROGEN BY STATE



Deeper dive: Looking at parameter by jurisdiction

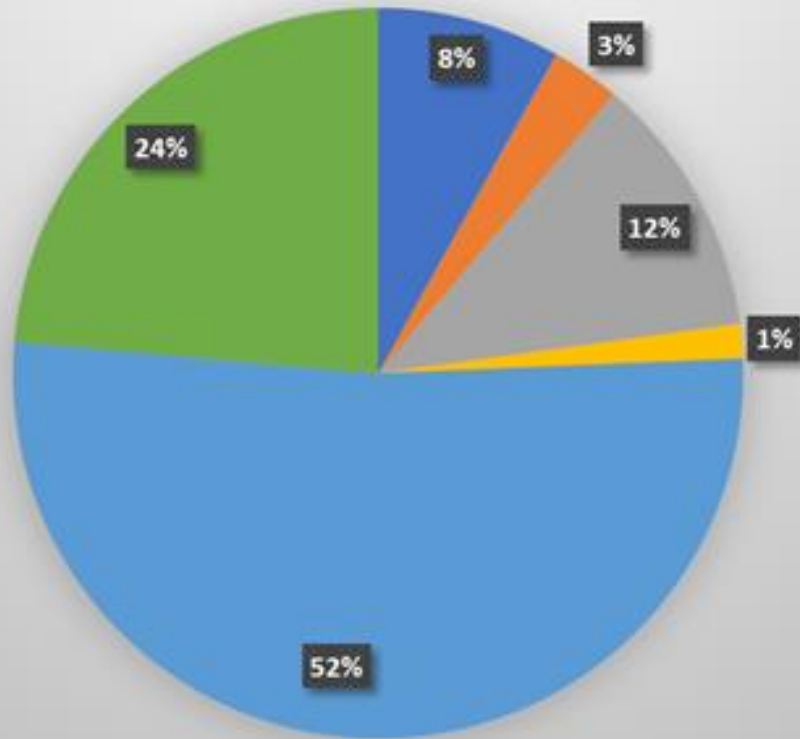
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By Parameter- Total Nitrogen

- 100% Tier 2
- 1299 total data points

## Contributions to Water Clarity by State

■ Delaware ■ District of Columbia ■ Maryland  
■ New York ■ Pennsylvania ■ Virginia

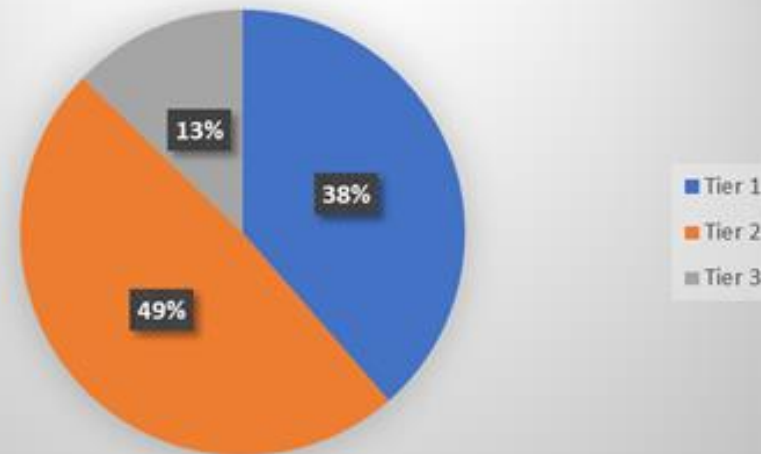


## Deeper dive: Looking at parameter by jurisdiction

### By Parameter - Water Clarity

- All Tier 3 Data in Delaware or Maryland (Caroline, Wicomico, Dorchester Counties)
- Total data= 7005

### Contribution to Water Clarity by Tier

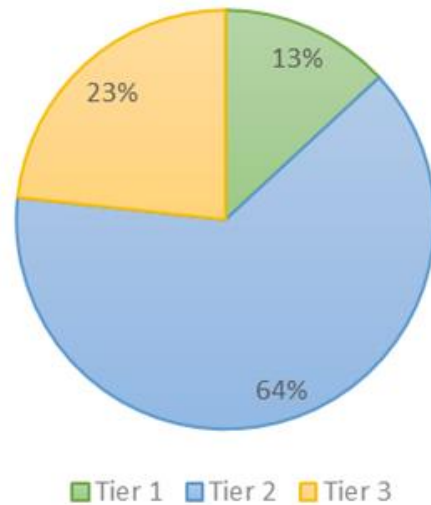


# Deeper dive: Looking at parameter by jurisdiction

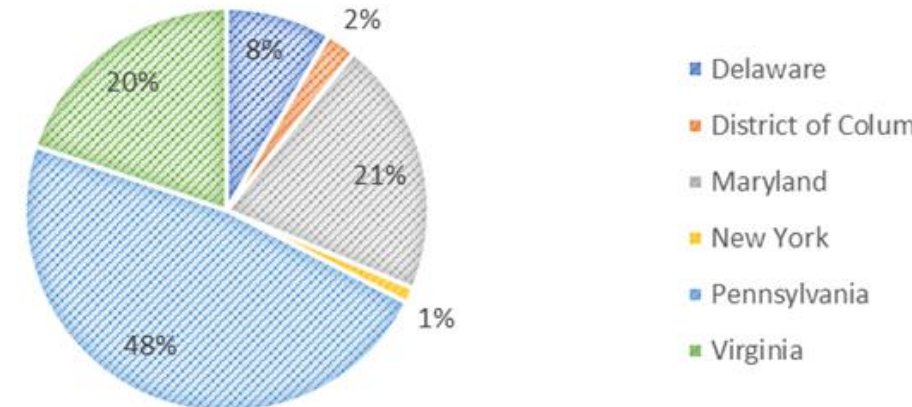
## By Parameter: Water Temperature

- All Tier 3 data is from Delaware and Maryland (Anne Arundel, Baltimore, Caroline, Dorchester, Cecil, Charles, Kent, Queen Anne, Somerset, St. Mary's, Talbot, Wicomico Counties)
- 8872 Total Data Points

Contributions to Water Temperature Data by Tier



CONTRIBUTIONS TO WATER TEMPERATURE DATA BY STATE

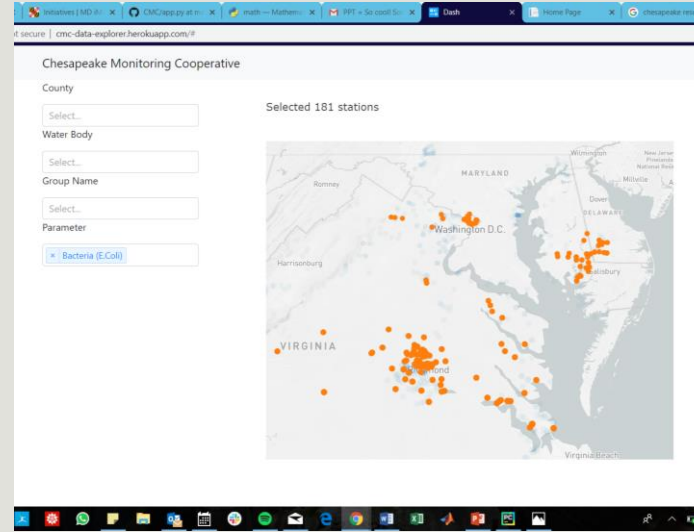
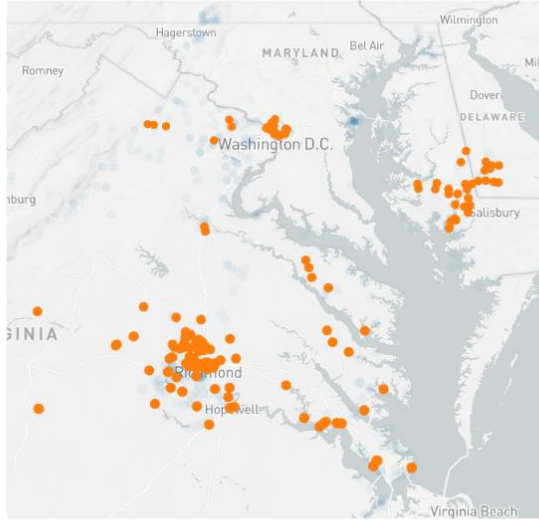


## Deeper dive: Looking at parameter by jurisdiction

Other parameters that are collected, but have less than 1,000 data points

- Alkalinity, Ammonia-Nitrogen, Enterococcus, Nitrate-Nitrite, TKN
- These are also charted out in regard to where these parameters are being collected, but is not displayed within this presentation

Selected 181 stations



# Next Steps Data- Explorer

# Next Steps Data- Explorer

The data explorer allows for a deeper dive into water quality data by parameter

The data explorer also propagates plots with the available data for that parameter

- Currently all plots for all parameters are always shown

# Next Steps

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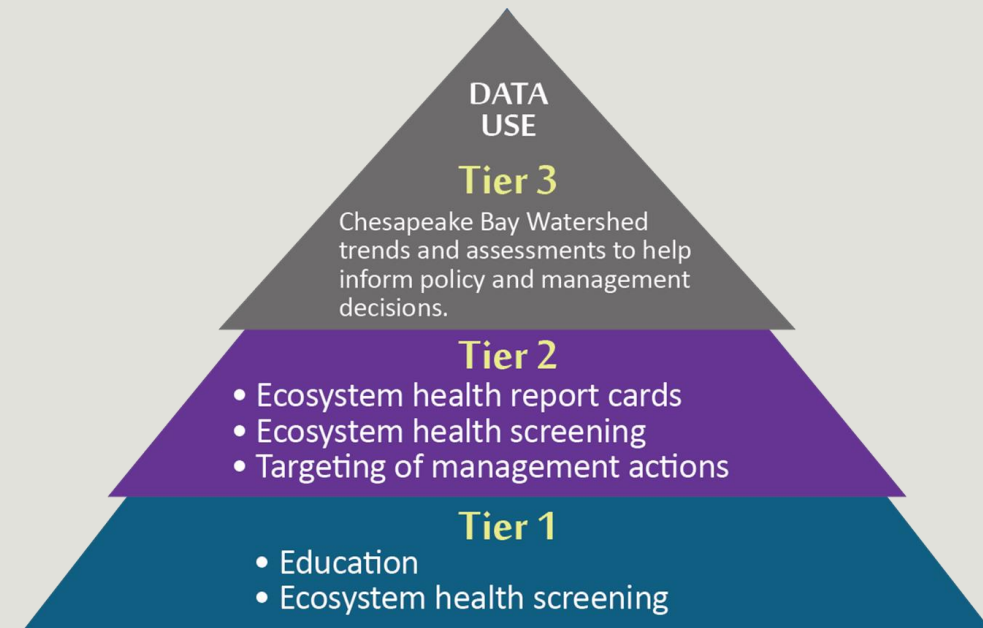
There is a lot of incredibly useful data in this database!!!

There are data represented across all 3-tiers in the database

A wide majority of the information today is Tier 2 or Tier 3 data

## Current next steps

- Doing more to interpret current Nontidal Benthic Macroinvertebrate data
- Assisting in updates to the data explorer
- Mapping extremes of water temperature data as an example showing how the data can be used



CMC 3-tier framework of data characterization