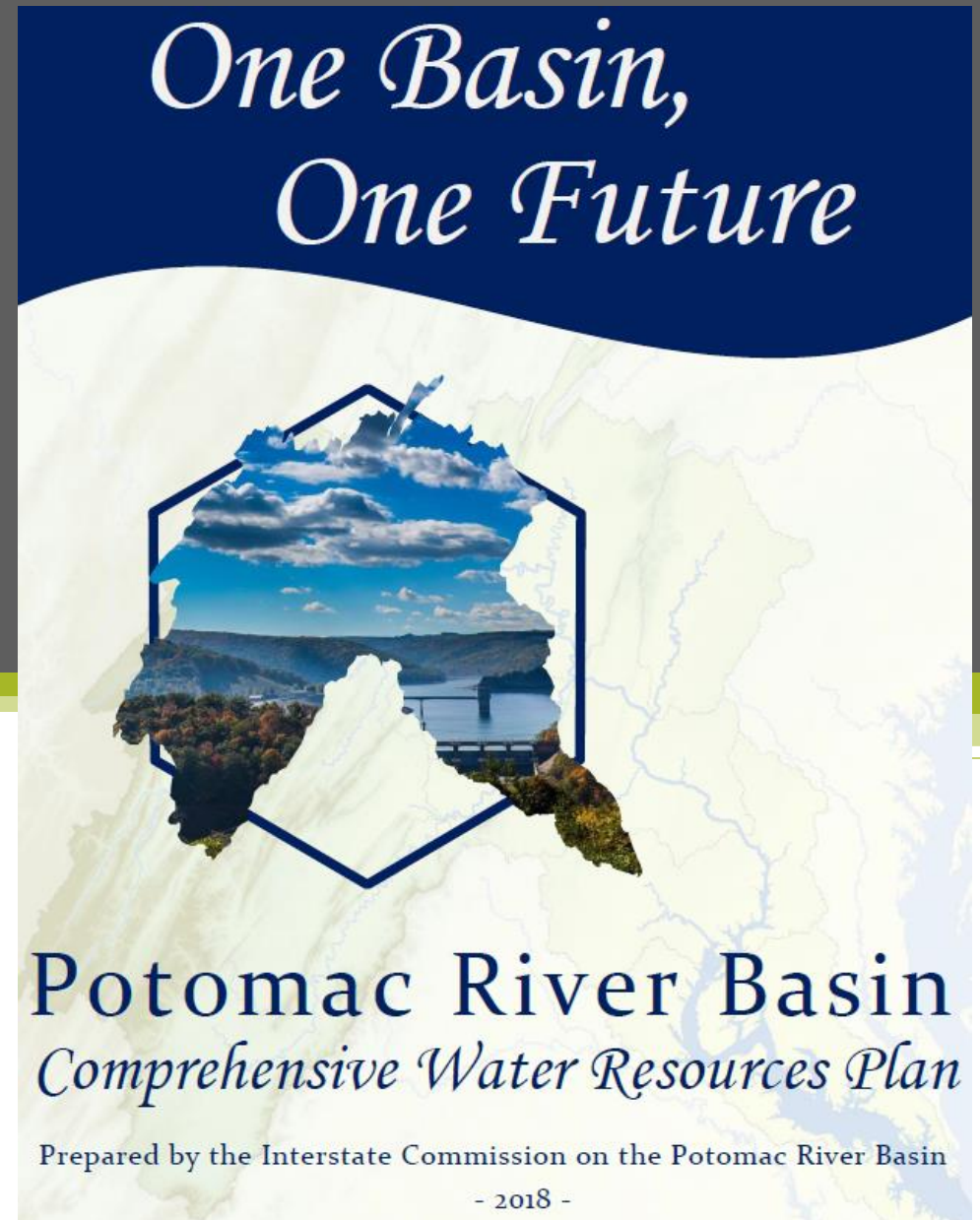


# Potomac Basin Comprehensive Water Resources Plan

DWSPP Quarterly Meeting  
February 6, 2019



Interstate Commission  
on the  
Potomac River Basin



Plan cover photo by Robyn Phillips Photography.

# Outline

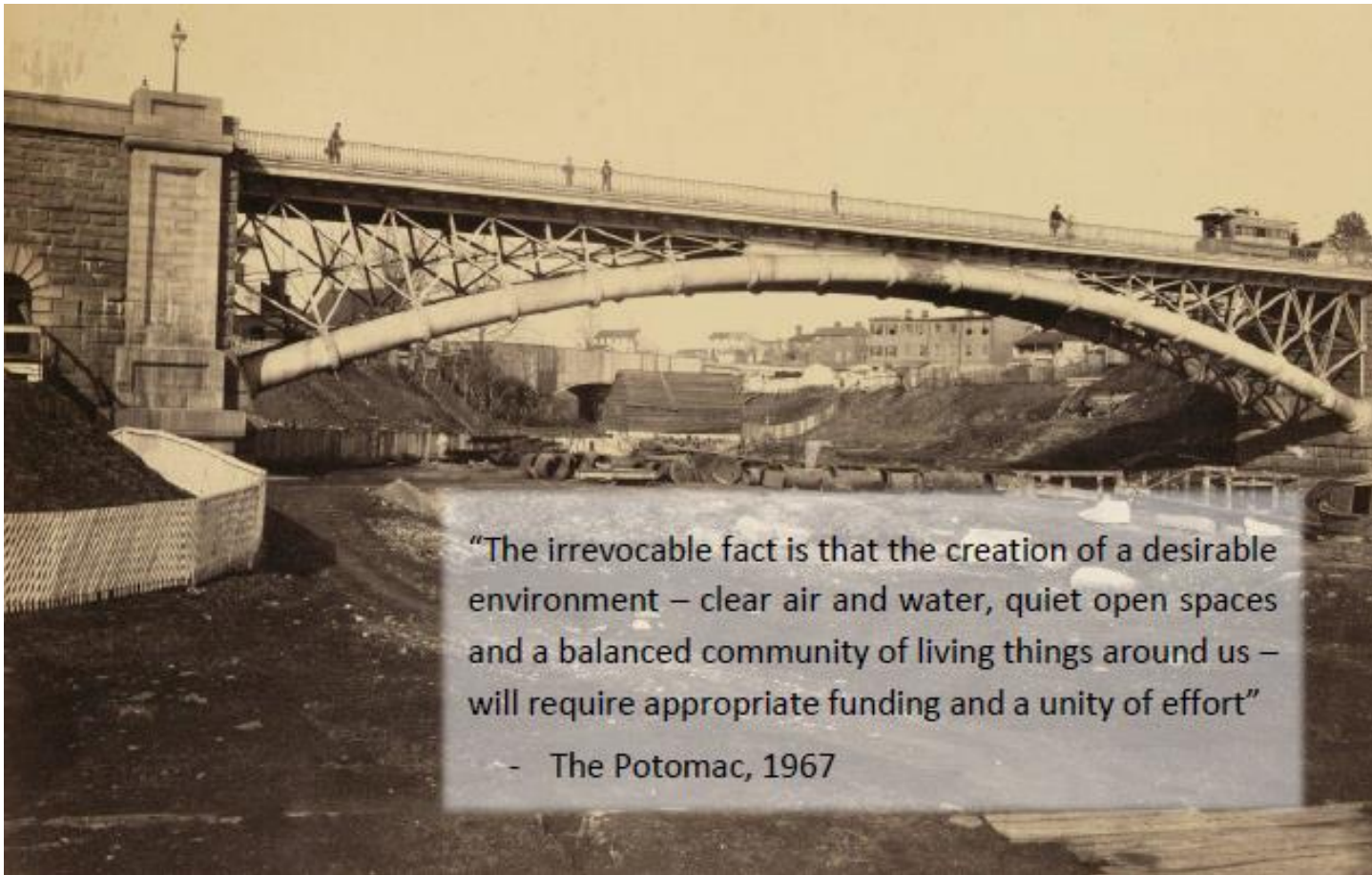


Photo from the Library of Congress.

- Website
- Sections of the Plan
- Timeline
- Example Implementation Activities
- DIME



# Check Out the Website!

[www.potomacriver.org](http://www.potomacriver.org)

Interstate Commission on the Potomac River Basin

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f in t w i n

ABOUT ICPRB - POTOMAC BASIN FACTS - FOCUS AREAS - RESOURCES

## Basin-Wide Comprehensive Plan

Working towards a roadmap to achieving our shared vision that the Potomac River Basin will serve as a national model for water resources management that fulfills human and ecological needs for current and future generations.

[LEARN MORE](#) [ADVISORY COMMITTEE](#)

### FOCUS AREAS

[LEARN MORE ABOUT ICPRB](#)

	<b>Drinking Water &amp; Water Resources</b> Cooperative planning and management through CO-OP, Potomac Drinking Water Source Protection Partnership, and other water resource initiatives. <a href="#">Learn More</a>
	<b>Water Quality</b> Evaluate and report on water quality conditions in the Potomac River basin. <a href="#">Learn More</a>
	<b>Aquatic Life</b> Evaluate and report on biological communities and their responses to stream & river conditions. <a href="#">Learn More</a>
	<b>Communication &amp; Education</b> Educate and engage basin residents and organizations on critical issues in the watershed. <a href="#">Learn More</a>

### Resources & Maps

ICPRB provides maps, reports, and newsletters to support the public's understanding of the Potomac River and watershed.

- [Calendar of Events](#)
- [Newsletters, Publications, and Library Resources](#)
- [Map of the Potomac River Basin](#)
- [Map of USGS Potomac Watershed Stream Gages](#)

### News & Events

Latest News		Upcoming Events	
Jan 24	Potomac News Reservoir, January 24, 2019		
Jan 18	Potomac News Reservoir, January 17, 2019		
Jan 04	Potomac News Reservoir, January 3, 2019		

[VIEW MORE NEWS](#)

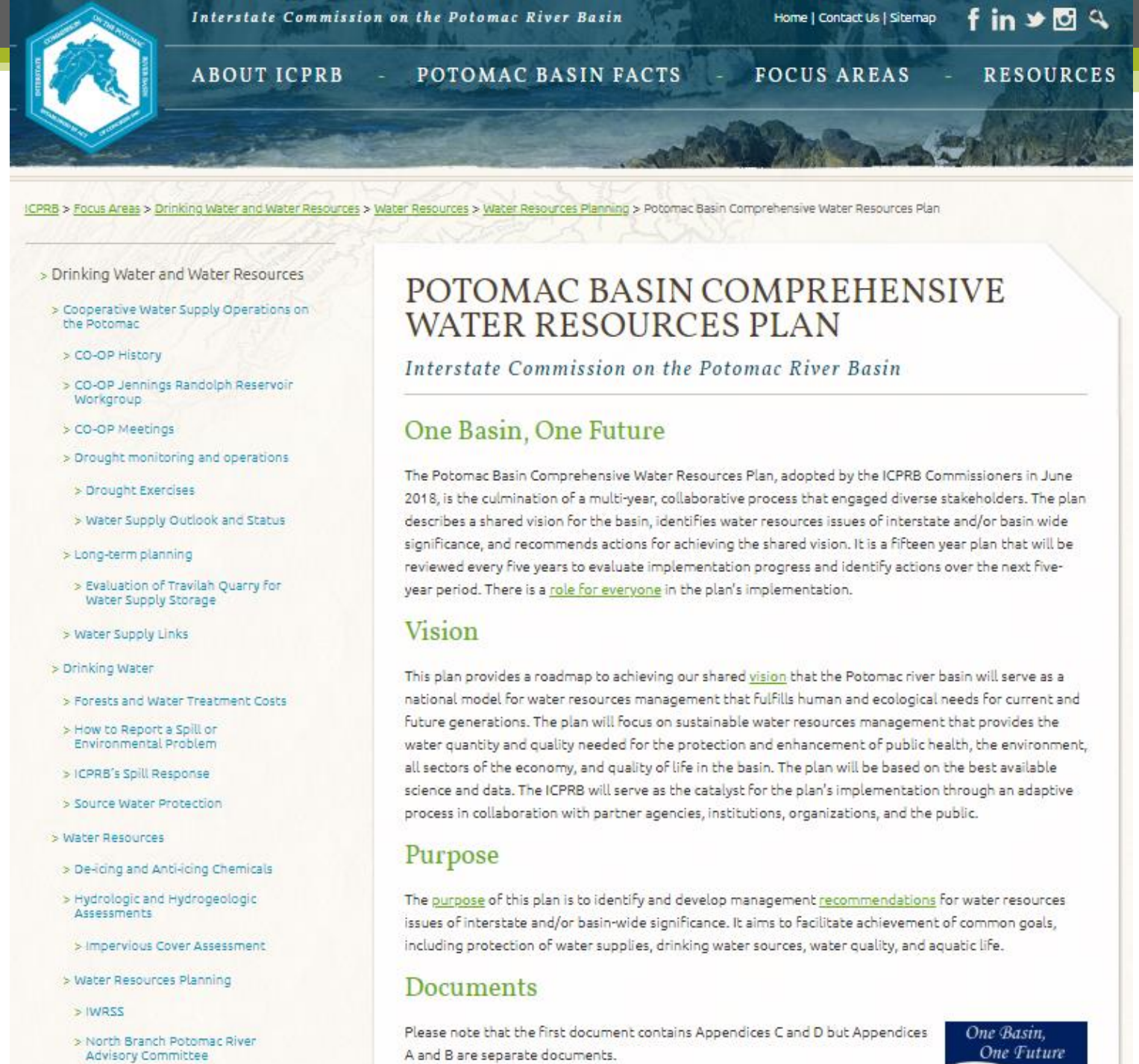
### Basin-Wide Comprehensive Plan

A National Model for Water Resources Management

Over 6 million people and diverse ecosystems depend

# Comp Plan Website

bit.ly/basin\_plan



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f in t i

ABOUT ICPRB - POTOMAC BASIN FACTS - FOCUS AREAS - RESOURCES

ICPRB > Focus Areas > Drinking Water and Water Resources > Water Resources > Water Resources Planning > Potomac Basin Comprehensive Water Resources Plan

- > Drinking Water and Water Resources
  - > Cooperative Water Supply Operations on the Potomac
    - > CO-OP History
    - > CO-OP Jennings Randolph Reservoir Workgroup
    - > CO-OP Meetings
    - > Drought monitoring and operations
      - > Drought Exercises
      - > Water Supply Outlook and Status
    - > Long-term planning
      - > Evaluation of Travilah Quarry for Water Supply Storage
    - > Water Supply Links
  - > Drinking Water
    - > Forests and Water Treatment Costs
    - > How to Report a Spill or Environmental Problem
    - > ICPRB's Spill Response
    - > Source Water Protection
  - > Water Resources
    - > De-icing and Anti-icing Chemicals
    - > Hydrologic and Hydrogeologic Assessments
      - > Impervious Cover Assessment
    - > Water Resources Planning
      - > IWRSS
      - > North Branch Potomac River Advisory Committee

## POTOMAC BASIN COMPREHENSIVE WATER RESOURCES PLAN

*Interstate Commission on the Potomac River Basin*

### One Basin, One Future

The Potomac Basin Comprehensive Water Resources Plan, adopted by the ICPRB Commissioners in June 2018, is the culmination of a multi-year, collaborative process that engaged diverse stakeholders. The plan describes a shared vision for the basin, identifies water resources issues of interstate and/or basin wide significance, and recommends actions for achieving the shared vision. It is a fifteen year plan that will be reviewed every five years to evaluate implementation progress and identify actions over the next five-year period. There is a [role for everyone](#) in the plan's implementation.

### Vision

This plan provides a roadmap to achieving our shared [vision](#) that the Potomac river basin will serve as a national model for water resources management that fulfills human and ecological needs for current and future generations. The plan will focus on sustainable water resources management that provides the water quantity and quality needed for the protection and enhancement of public health, the environment, all sectors of the economy, and quality of life in the basin. The plan will be based on the best available science and data. The ICPRB will serve as the catalyst for the plan's implementation through an adaptive process in collaboration with partner agencies, institutions, organizations, and the public.

### Purpose

The [purpose](#) of this plan is to identify and develop management [recommendations](#) for water resources issues of interstate and/or basin-wide significance. It aims to facilitate achievement of common goals, including protection of water supplies, drinking water sources, water quality, and aquatic life.

### Documents

Please note that the first document contains Appendices C and D but Appendices A and B are separate documents.

*One Basin, One Future*





# Major Sections of Plan Document

- Introductory Materials
- Potomac Basin Description
- Challenges and Recommendations
- Implementation
- Strategy for Adaptive Implementation



Photo by John Wirts.



# Vision

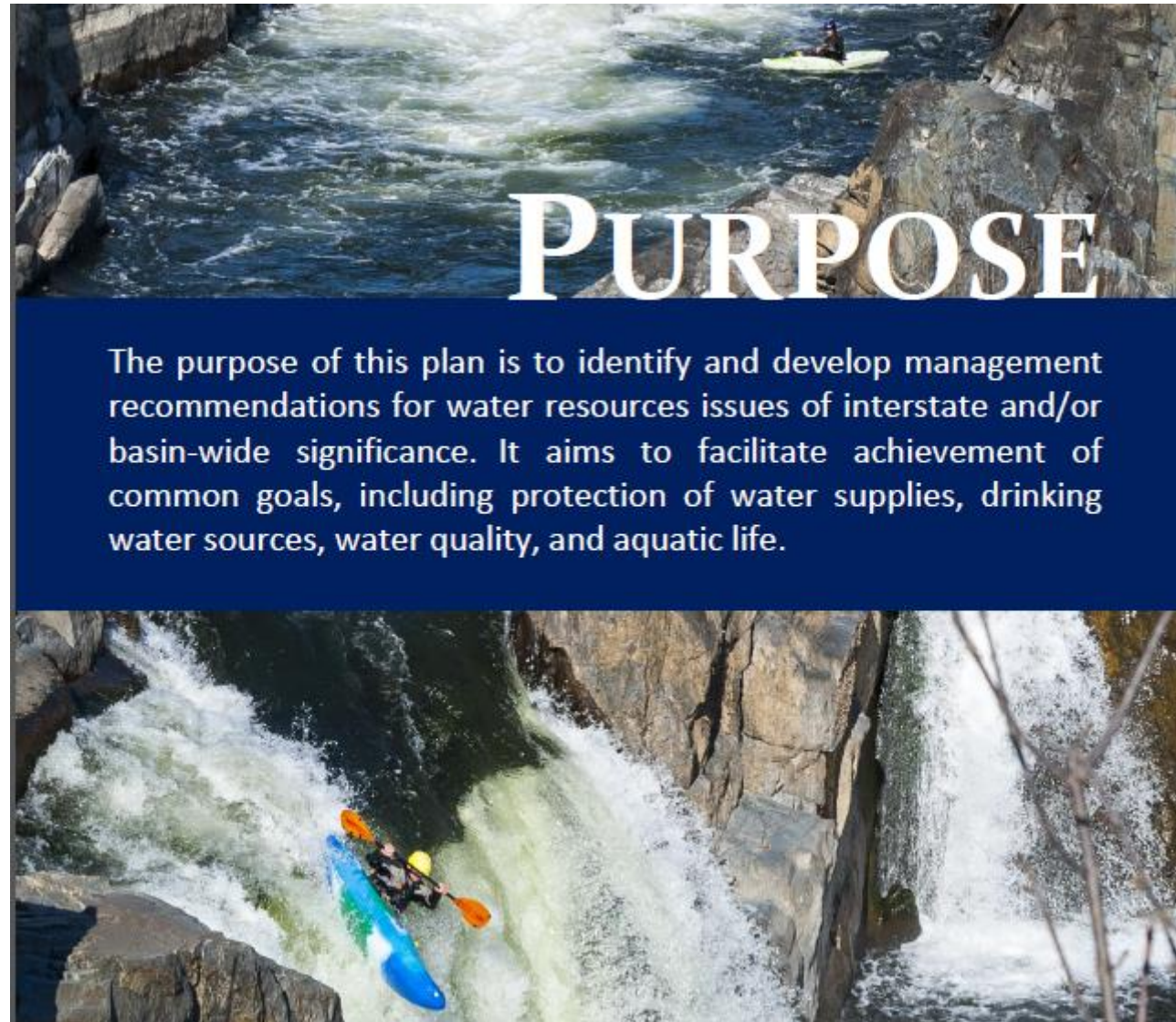


## VISION

This plan provides a roadmap to achieving our shared vision that the Potomac River basin will serve as a national model for water resources management that fulfills human and ecological needs for current and future generations. The plan will focus on sustainable water resources management that provides the water quantity and quality needed for the protection and enhancement of public health, the environment, all sectors of the economy, and quality of life in the basin. The plan will be based on the best available science and data. The ICPRB will serve as the catalyst for the plan's implementation through an adaptive process in collaboration with partner agencies, institutions, organizations, and the public.



# Purpose



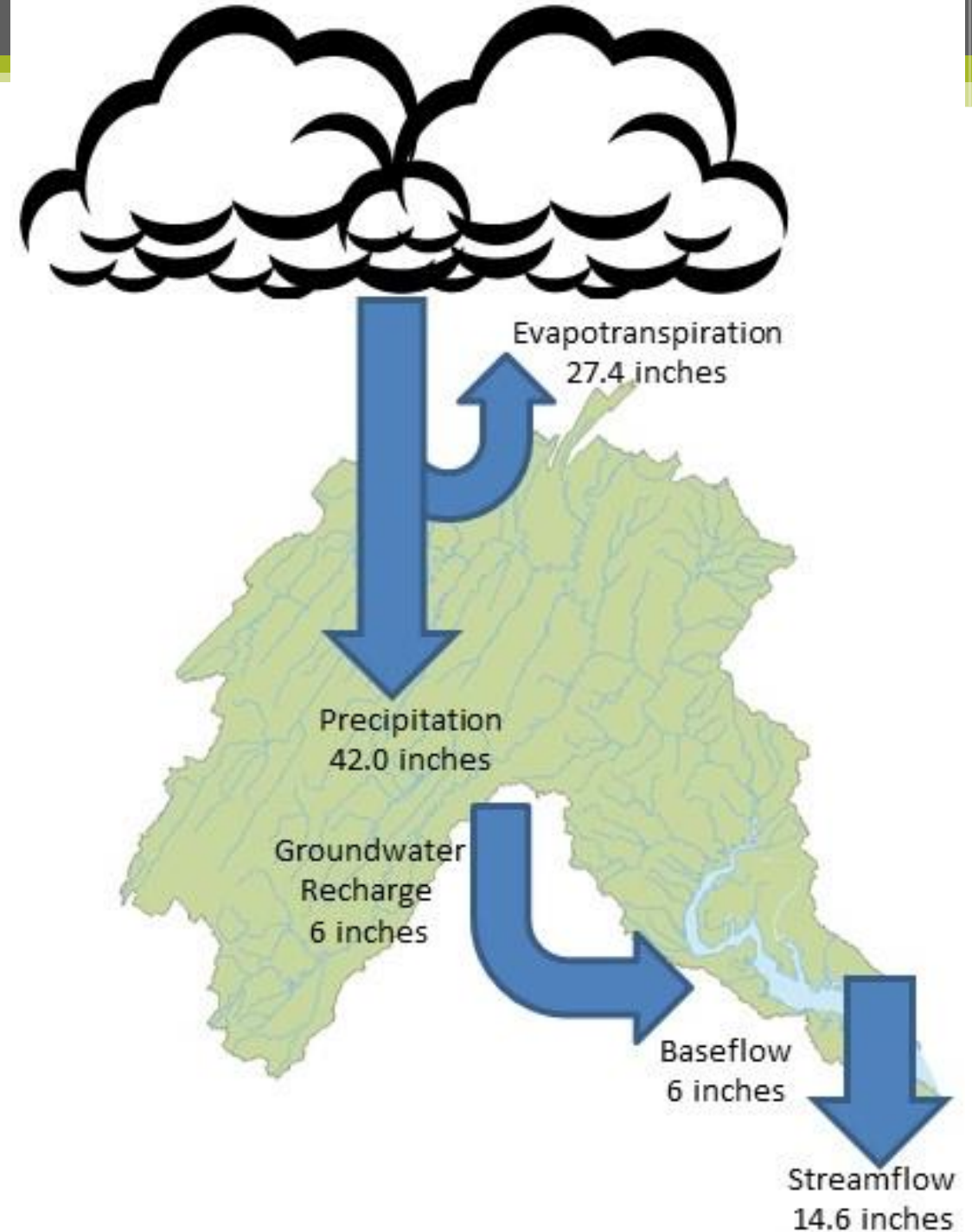
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Photo by Jim Palmer.

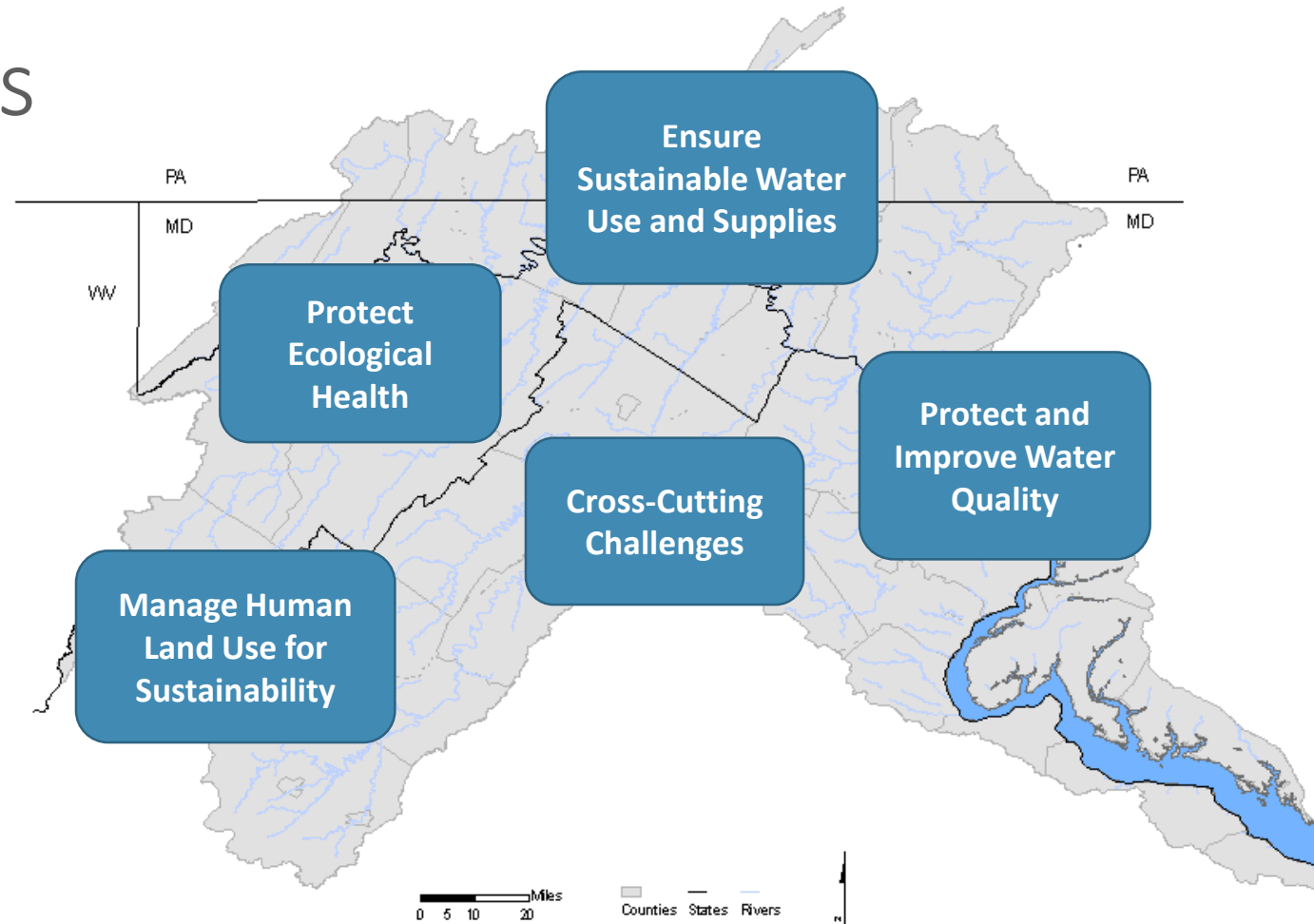


# Basin Description

- Physiography
- Hydrology
- Population
- Land Use
- Water Use
- Water Quality
- Aquatic Life



# Challenge Areas



Challenge areas include issues of basin-wide and/or interstate concern.



# Cross-Cutting Challenges

Cross-cutting themes that transcend any one particular challenge area

Floods and Droughts



Occoquan Reservoir during 1960s drought.

Climate Change

Water-Energy Nexus

Source Water Protection



Oil spill on the Anacostia River, early 1990s.

# Recommendations

## ACTION ITEMS Simple Actions We Can Do To Make a Difference



### EVERYONE

- Pick up after your pet
- Leave no trace
- Properly dispose of pharmaceuticals
- Minimize use of deicing salts

### KIDS

- Take care to close faucets tightly after each use
- Tell a teacher or parent if you see a water leak or pollution entering a waterway
- Volunteer with an adult to plant trees, monitor water quality, or pick up trash
- Get involved in your community



### HOMEOWNERS

- Regularly pump your septic tank
- Properly dispose of household chemicals
- Conserve water by fixing leaks and replacing old toilets, dishwashers, and washing machines
- Use native, drought-tolerant species when landscaping

### NON-PROFIT/BUSINESS

- Participate in local land-use planning
- Obtain a green business certification
- Promote environmentally sound decision-making by clients and customers



### AGRICULTURE

- Keep cows out of streams
- Install and/or protect vegetated buffers
- Talk to your state about financial incentives for new equipment, planting trees, and other conservation techniques
- Plant a cover crop

### GOVERNMENT

- Promote rain gardens, green infrastructure, and low impact development
- Encourage environmentally friendly landscaping
- Promote community wastewater treatment rather than individual septic systems
- Conduct contingency planning to respond to emergencies



# Recommendations

## RECOMMENDATIONS BY Challenge Areas



### ENSURE SUSTAINABLE WATER USES AND SUPPLIES

- Report on basin-wide water uses, projected demands, and consumptive demands
- Conduct additional studies on water uses that fall below state water reporting thresholds
- Develop an inventory of roles, responsibilities, and areas of authority and discuss how effectively current programs and activities are being carried out
- Pursue a range of complementary actions that would contribute to a more sustainable and resilient water supply

### PROTECT AND IMPROVE WATER QUALITY

- Promote water quality information sharing
- Educate citizens and professionals about water quality in the Potomac basin
- Develop an inventory of roles, responsibilities, and areas of authority and discuss how effectively current programs and activities are being carried out
- Pursue a range of complementary actions that would contribute to protecting and improving water quality

### MANAGE HUMAN LAND USE FOR SUSTAINABILITY

- Research timely land use related information for decision-making
- Effectively disseminate scientific data and information compiled by ongoing research
- Develop an inventory of roles, responsibilities, and areas of authority and discuss how effectively current programs and activities are being carried out
- Pursue a range of complementary actions that would contribute to managing human land use for sustainability

### PROTECT ECOLOGICAL HEALTH

- Share across jurisdictions data, analysis results, and information on successful restoration approaches
- Coordinate across jurisdictions plans and programs that protect ecological value
- Support and coordinate programs that identify, protect, conserve, restore, enhance, and connect natural areas, especially along waterways
- Pursue a range of complementary actions that would contribute to protecting ecological health



# Implementation

- Roles and Responsibilities
- Potential Funding Sources
- Integration with Other Plans

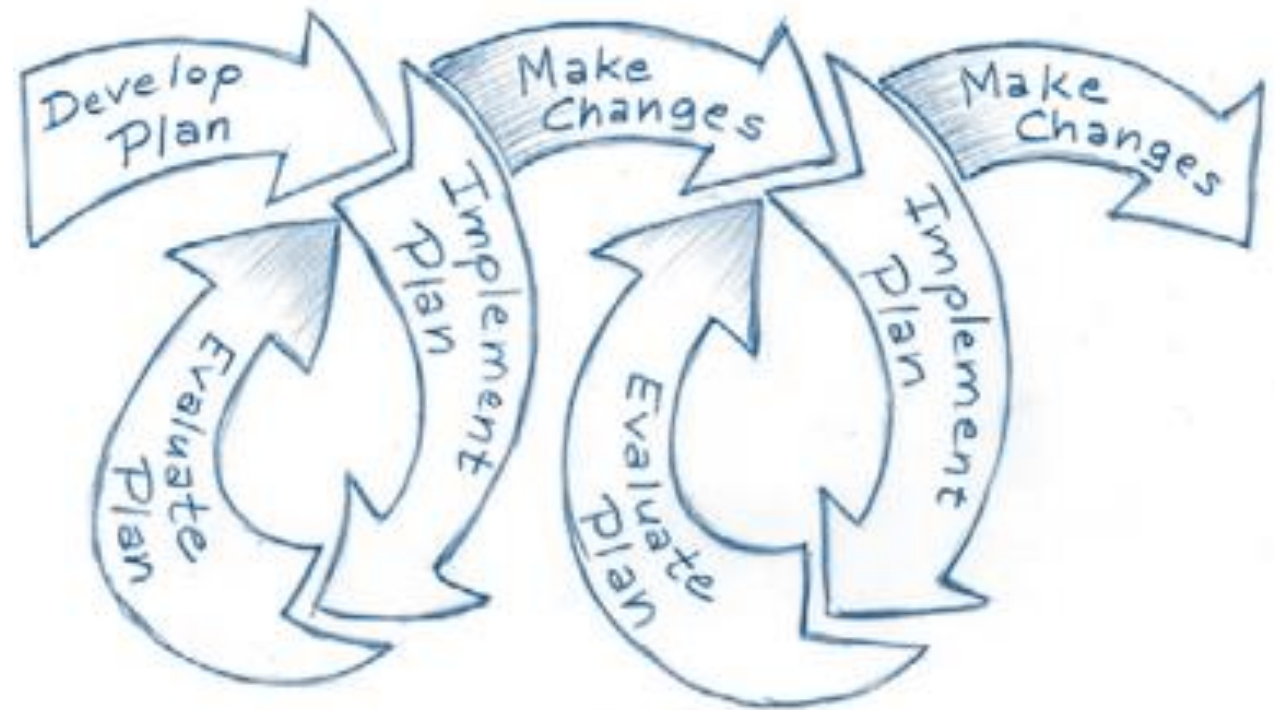


Photo by John Wirts.



# Adaptive Implementation

- Milestones
- Measures of Success
- Review Process
- Communications Plan



Source: EPA

# Timeline

- Plan adopted by the Commissioners in June 2018
- Stakeholder roll-out underway
  - Website, social media, press release, presentations
- Implementation underway, 2- and 5-year goals
- Review of milestones and measures of success in 2023



# Examples of Current Implementation Activities

- Workshop prep
  - Planning for workshop(s) to identify roles and responsibilities and areas of authority of basin organizations related to water quality, water use/supplies, and human land use
  - Your participation in the workshop(s) is encouraged! More information forthcoming!
- Basin-wide water uses, projected demands, and consumptive demands
  - Draft scope of work available
- Unreported water uses
  - Irrigation, livestock, unconventional oil and gas, thermoelectric, self-supplied domestic, aquaculture, and mining
- Potomac Data Inventory, Mapping, and Exploration (DIME)

# Potomac Data Inventory, Mapping, and Exploration (DIME)

Portal to diverse Potomac-related data and information

- Quick access through ICPRB website
- Draws from other online databases and ICPRB in-house datasets
- Interactive tools to view and download data
  - . . . for ICPRB staff and water resource professionals
  - . . . to promote information & data sharing and more interdisciplinary, integrative analyses of the basin's waters



## Water Quality Explorer

### Query by:

- ☐ Parameter  
☒ Site

### HUC 8

All HUCs

### Site

USGS-01603000

### Parameter

PH

### Units: SU

Outliers Removed: 0

Censored Data: 0% (n = 0)

Available Parameters: CA\_F, CL\_F, FE\_W,  
HARD, HARD\_NONCARB, MG\_F, MN\_W,  
NA\_F, PH, SO4\_F, SPCOND, TALK, TDS, TEMP

### Site Information

Site: USGS-01603000

Agency: USGS-MD

First Date: 01/04/1968

Last Date: 06/06/1994

State: Blank

Latitude: 39.6218056

Longitude: -78.7734167

Depth (m): Blank

Replicate: Blank

Composite: Absent

### Gage Information

Flow Gage: 1603000

Agency: USGS

Flow Gage Location: NORTH BRANCH

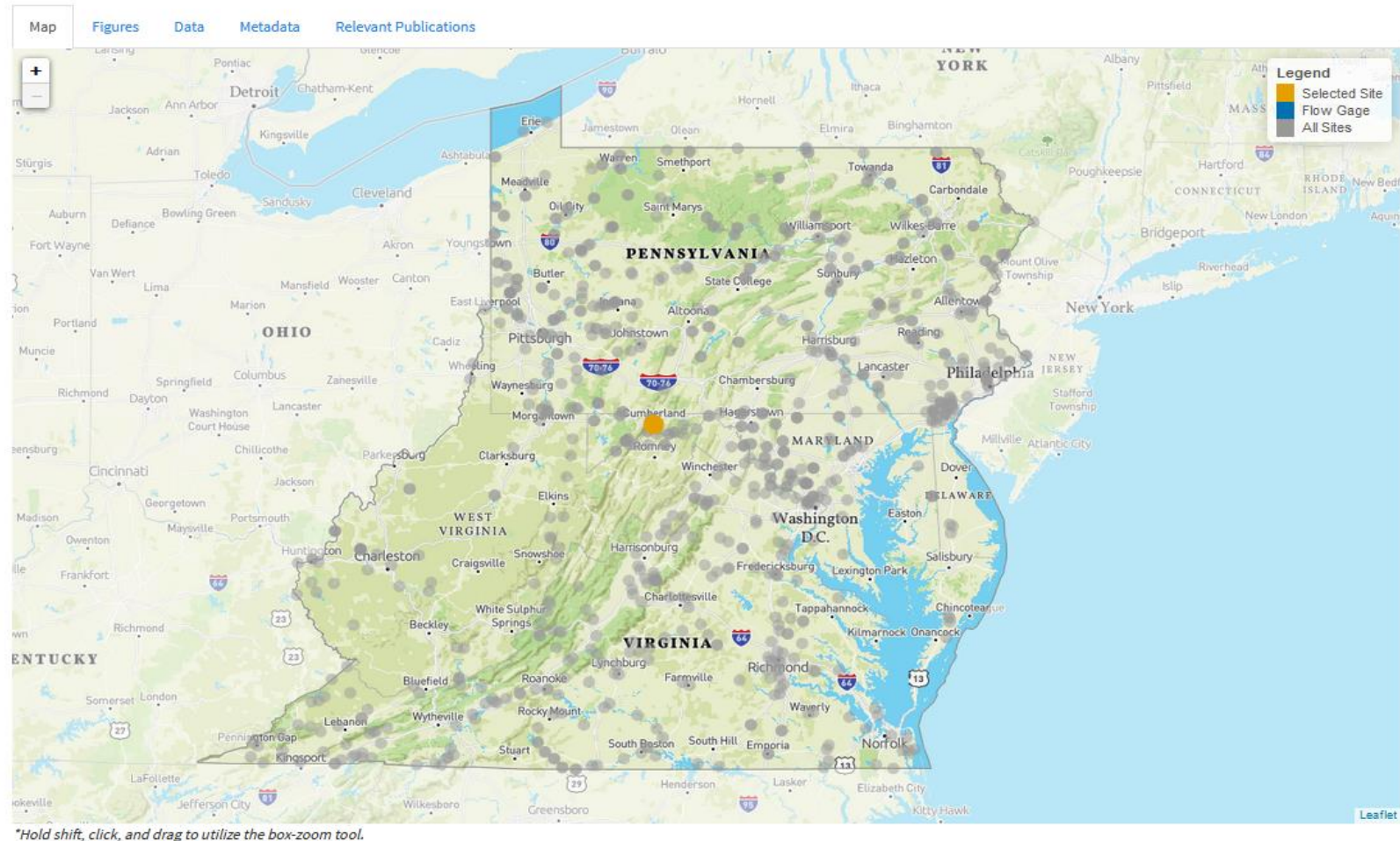
POTOMAC RIVER NEAR CUMBERLAND, MD

Latitude: 39.62180556

Longitude: -78.7734167

Download

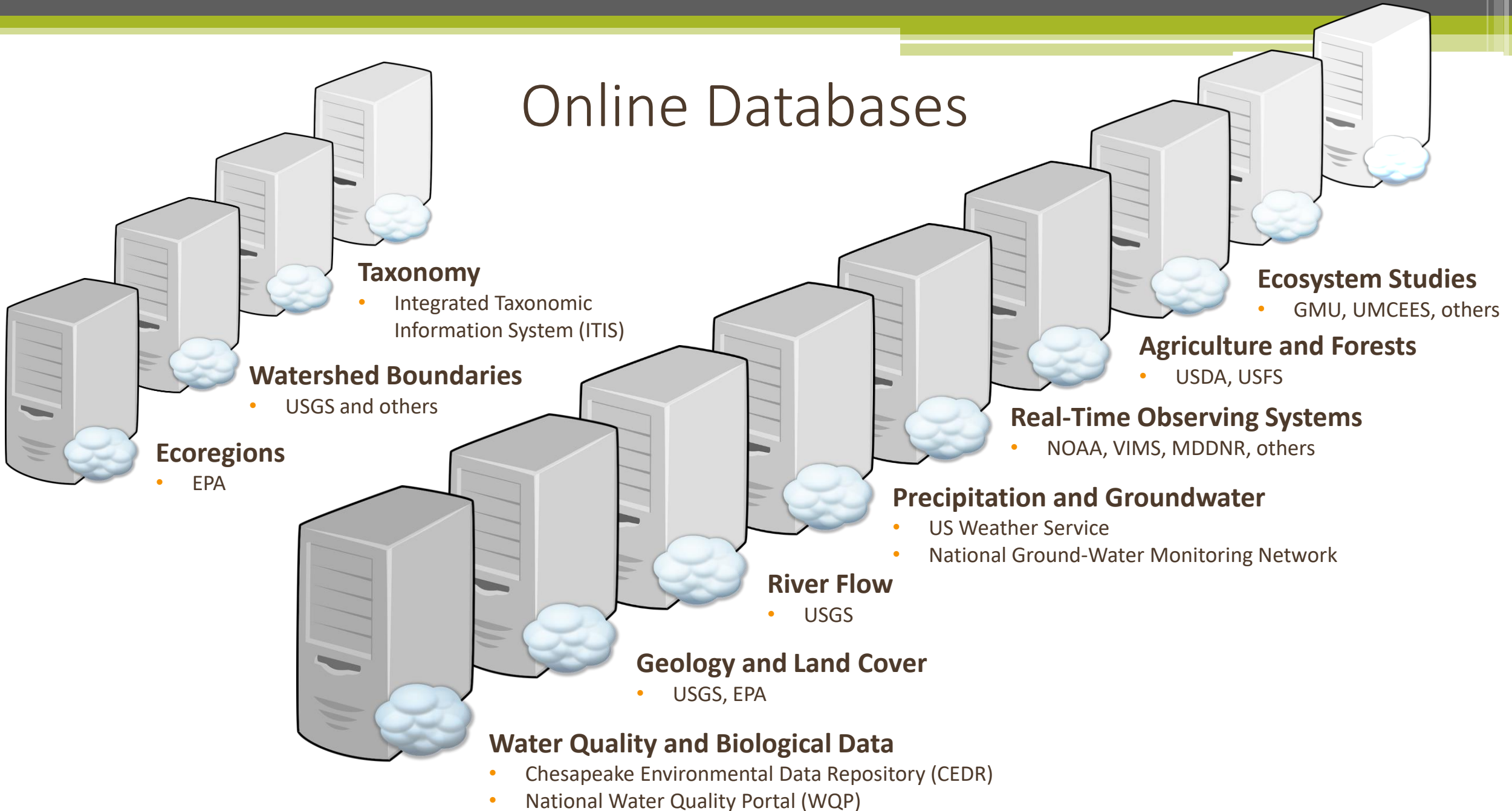
Download Plots



“Water Quality Explorer” built for the EPA3 Trends Project

. . . data downloaded from the nation’s STORET and Water Quality Portal systems

# Online Databases





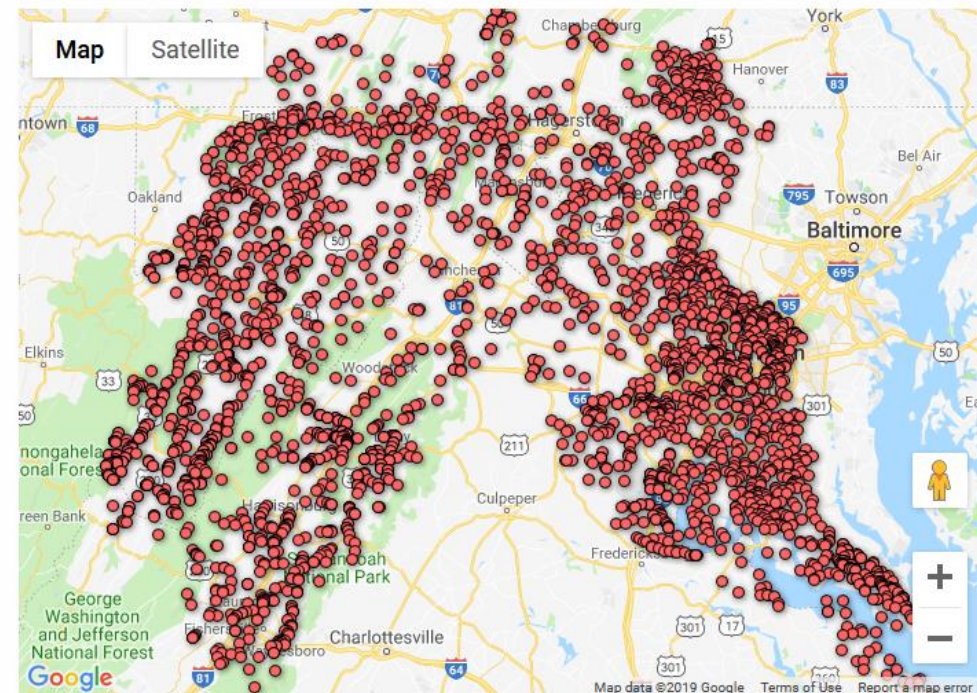
# ICPRB Online Products

## POTOMAC BASIN WATER QUALITY DATA INVENTORY

*Interstate Commission on the Potomac River Basin*

This mapping interface is available to assist users in identifying monitoring locations of interest. The map displays water quality data monitoring locations that are currently included in the inventory. A pop-up window appears for each location by clicking on the monitoring point. The pop-up window includes key information about the monitoring effort including either contact information or a web link to access the data. The search feature allows you to search by agency.

To obtain more information about the data sources or to search specific parameters, users can open the [spreadsheet inventory](#) (1.5MB).

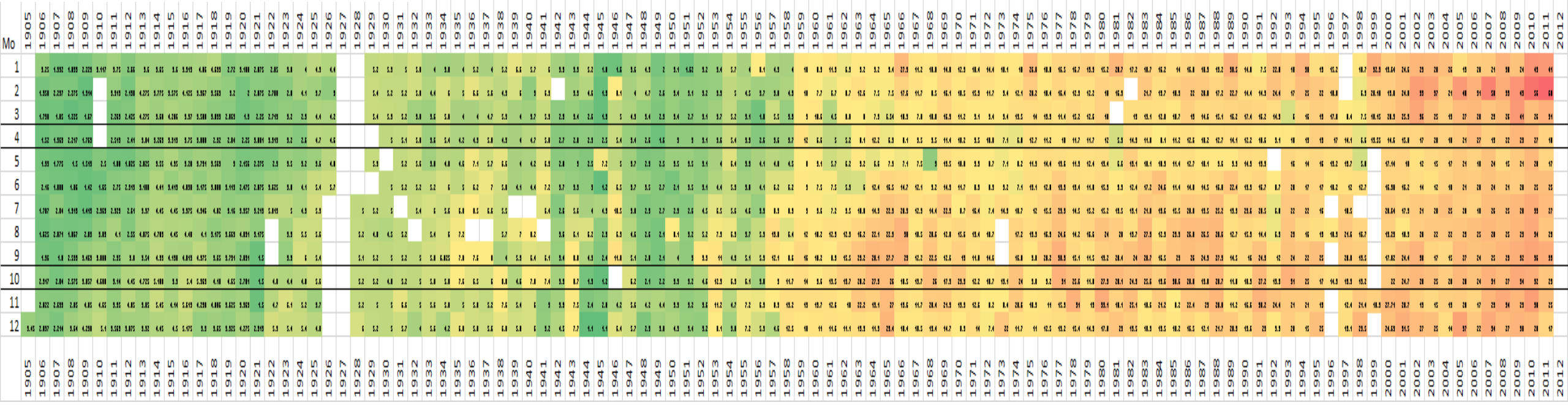




# High Value, Off-Line Datasets & GIS Layers

## Example: Dalecarlia Reservoir Raw Water, Washington Aqueduct

Chloride (range: 1.1 – 60 mg/liter)



1905 – 2011

# Design “architecture” of DIME webpage

Build online interactive tools to:

- view map of sample locations
- learn which parameters were collected, by whom, and how often
- create simple time series plots and “heat maps” on the fly
- use point-and-click to identify a location’s upstream catchments
- select and download data, GIS layers, and associated data documentation

Begin connecting to

- online real-time data
  - online static datasets
  - ICPRB water quality inventory
  - high-value, off-line datasets
- } QA’ed and managed by home agencies

Would Potomac DIME be useful to DWSPP members?

Would DWSPP members be willing to share raw water datasets?



# Questions?



2008 ICPRB River Ramble at Mount Vernon. Photo by ICPRB.

# Contacts

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301.274.8112