

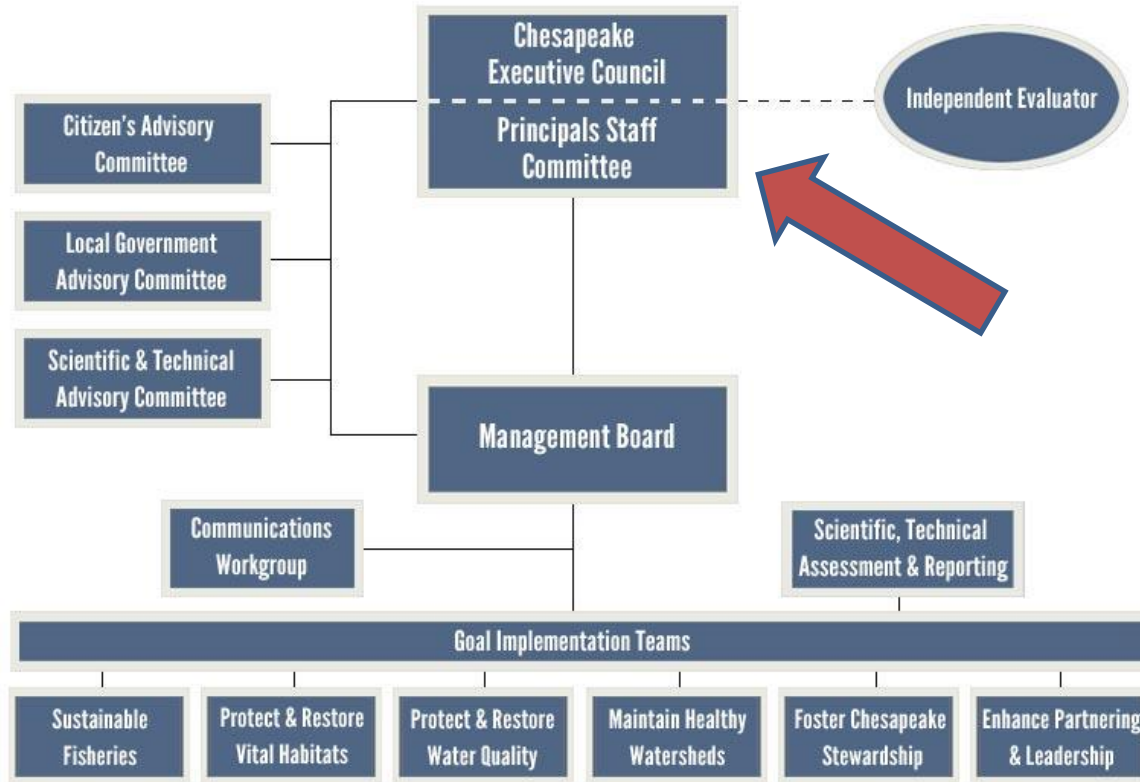
Chesapeake Bay Program Climate Change Modeling 2.0

Scientific and Technical Advisory Committee Workshop

September 24-25, 2018



Motivation for this Workshop



Background:

Chesapeake Bay TMDL Accountability Framework

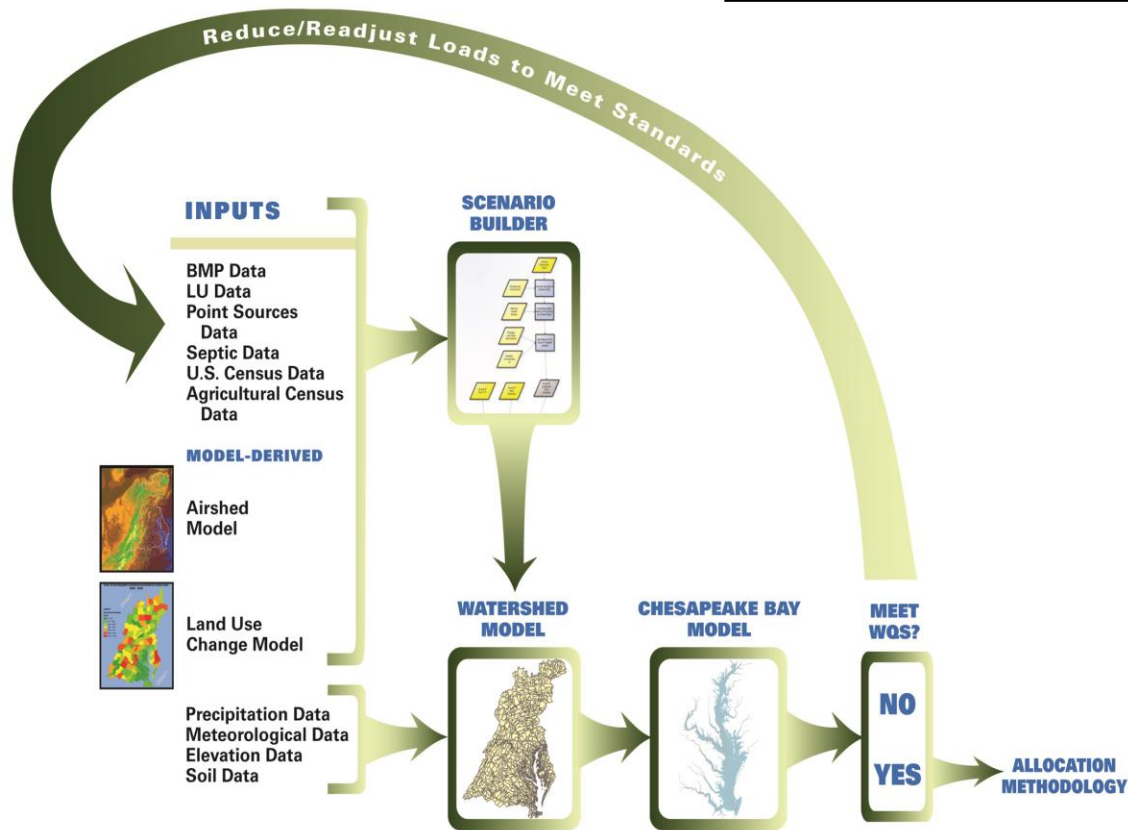


Background:

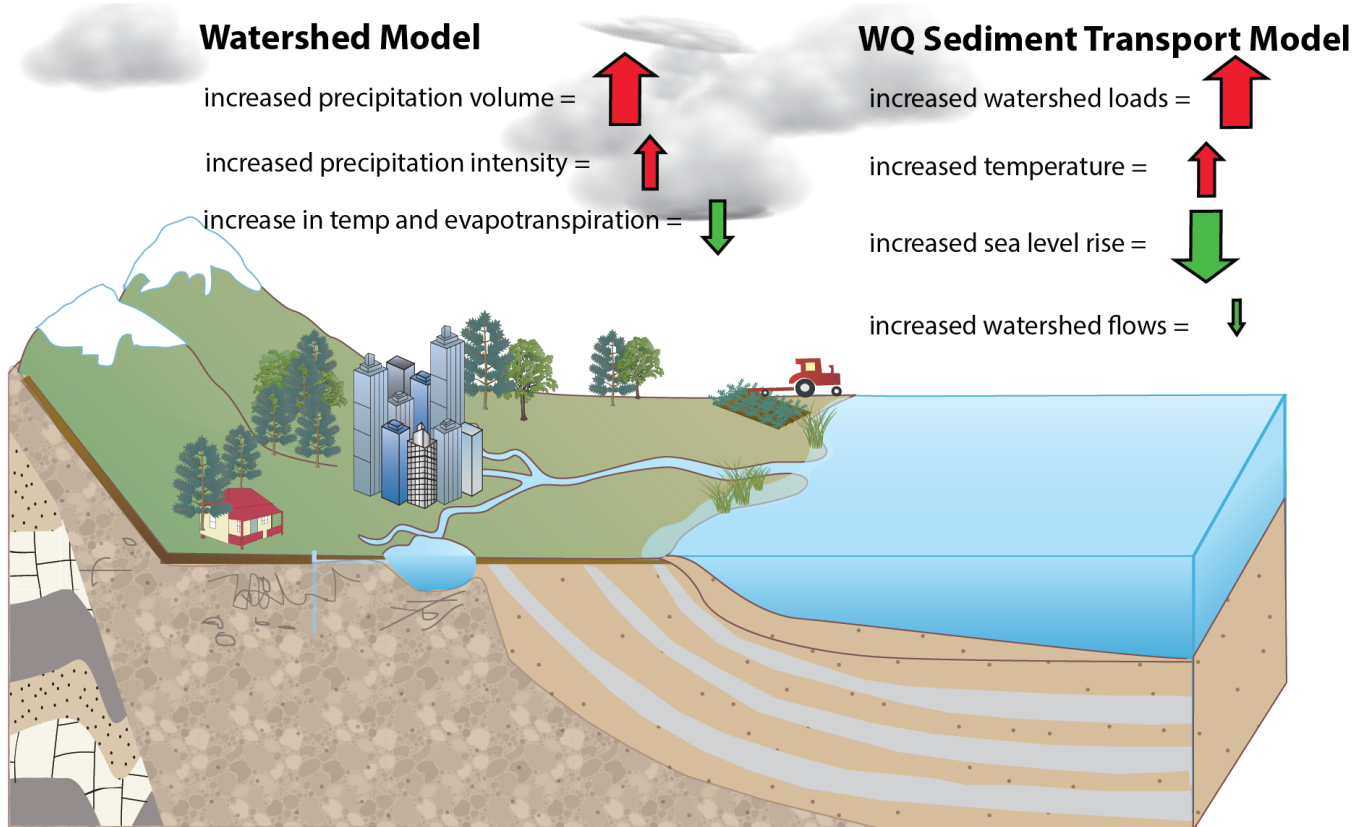
Phase III WIP Expectations

- Released by EPA in June 2019 after extensive partnership review
- Top 5
 - Programmatic and numeric implementation commitments for 2018-2025
 - Strategies for engagement of local, regional and federal partners in implementation
 - Account for changed conditions: climate change and growth
 - Develop, implement local planning goals below the state-major basin scales
 - Consideration of co-benefits

Phase 6 Suite of Partnership Models Approved by PSC and are in use in Phase III WIP



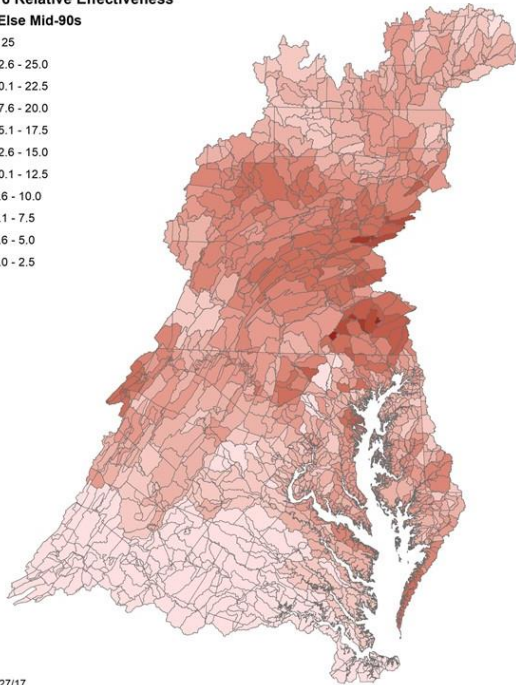
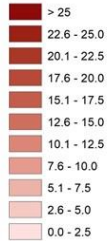
2017 Climate Assessment to PSC



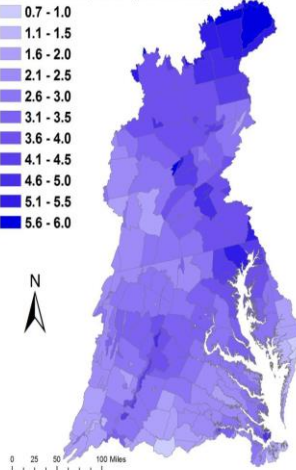
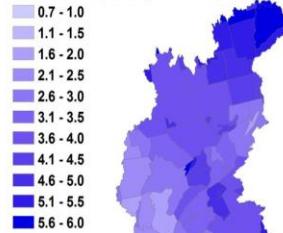
PSC will need to determine how additional reductions will be assigned

Phase 6 Relative Effectiveness

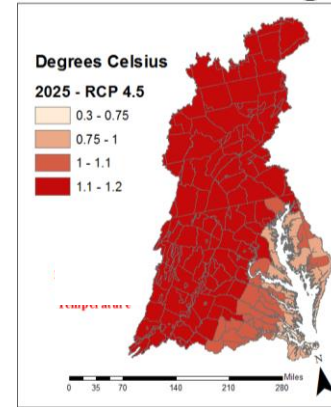
TN All Else Mid-90s



2025 Rainfall Projection (percent change)

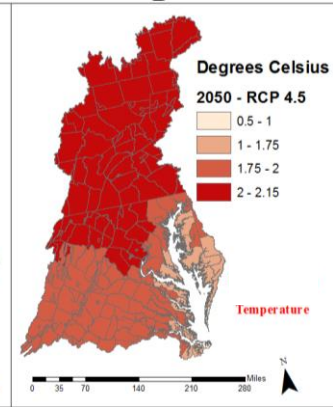


1995-2025

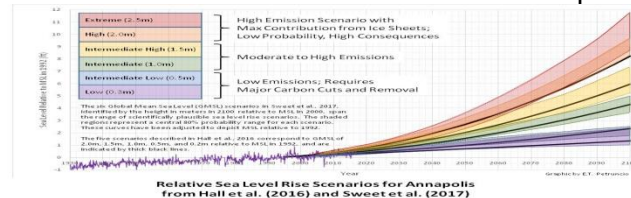


1.98° F / 1.1° C
Increase in Average
Annual Temp

1995-2050



3.5° F / 1.94° C
Increase in Average
Annual Temp



PSC looking for the “best” solutions?

Climate Resiliency Principles for Phase III Watershed Implementation Plans

Protecting People and Infrastructure

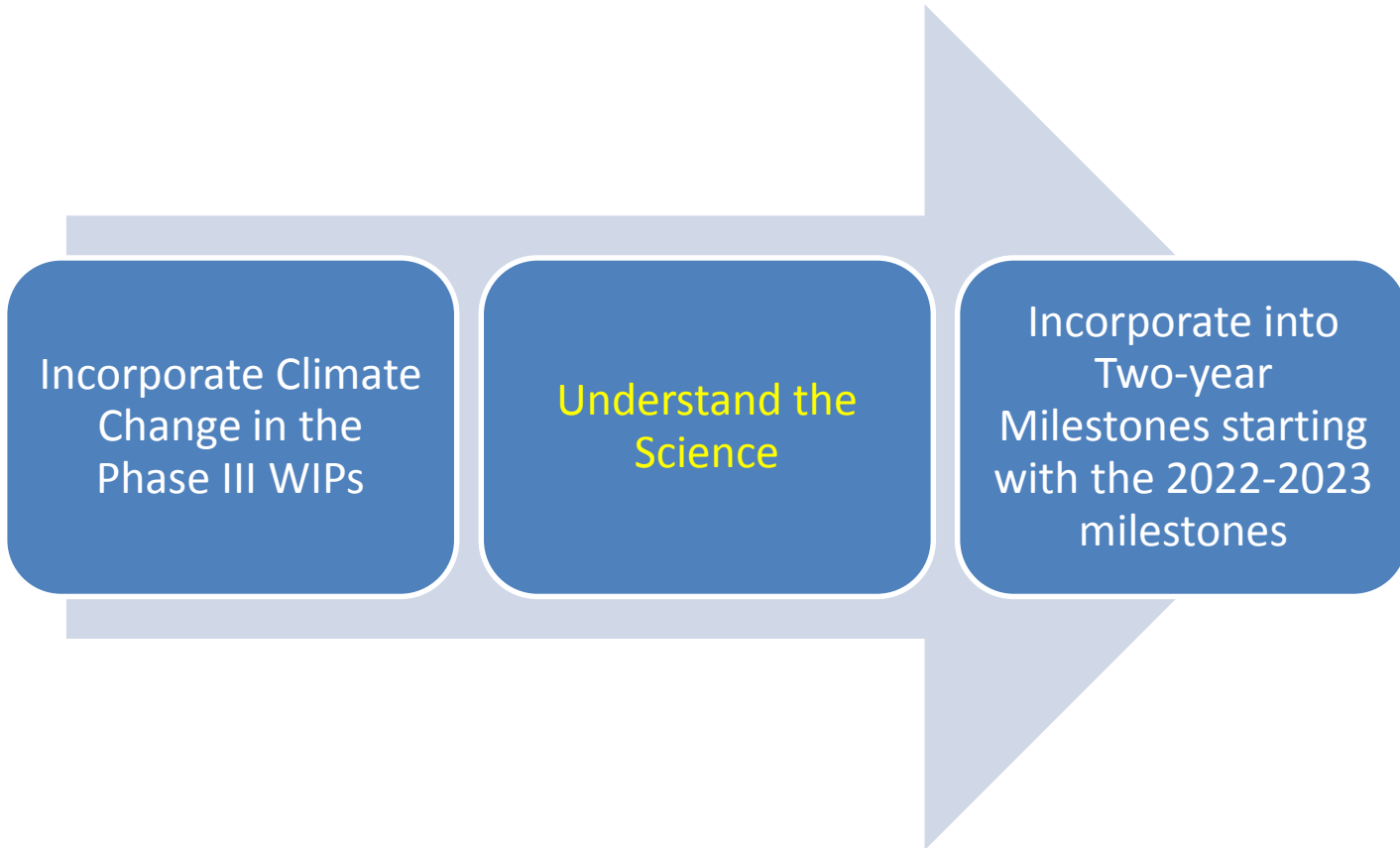
Best Management Practices with Resiliency in Mind

In addition to water quality benefits, several suites of BMPs can aid with natural hazard risk reduction (riverine and coastal flood, heat and drought). See the table* below for BMPs that have several co-benefits.

Best Management Practice	Climate Adaptation	Additional Co-Benefits	
		Energy Efficiency	Flood Risk Mitigation
Urban Shoreline Management	4	0.5	1
Urban Forest Buffers	3.5	4	3.5
Forest Conservation	3.5	3	3.5
Urban Stream Restoration	2.5	2.5	3.5
Agriculture Forest Buffer	2.5	0.5	3.5
Urban Tree Planting	2	4.5	2
Bioretention, Raingardens, Bioswales	2	3	3.5
Wetland Restoration	2	1	3.5
Agriculture Shoreline Management	0	0	4

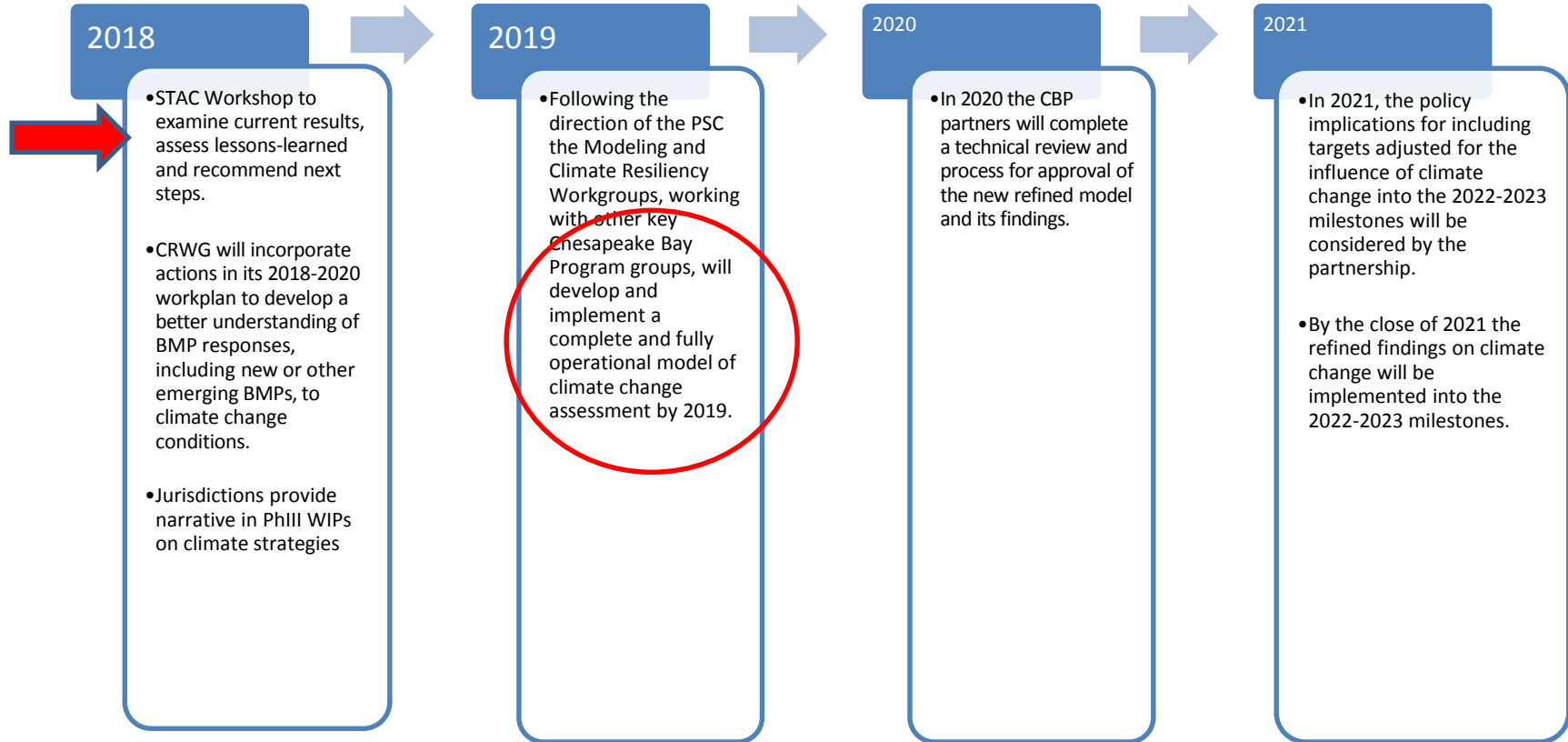
*Values were taken from the [Quantification of BMP Impact on the Chesapeake Bay Program Management Strategies](#) study by Tetra Tech. [Appendix E](#) Final Impact Scores evaluates BMP effects on outcomes on a scale of +5 (very beneficial) to -5 (very harmful). This table shows BMPs that scored a 3.5 or higher for the Climate Adaptation Outcome.

PSC Agreement – 3 Step Approach



Translating the PSC Decision into a Workplan

Factor Climate Change Impacts into the Phase III WIPs



... And Assess the CBP Climate Framework

- Implications past 2025, out to 2050
- Synthesis

Our Broad Plan Over the Next Two Days