

Chesapeake Bay Program
Climate Narrative
Water Quality GIT

In February 2020, the Chesapeake Bay Program's Water Quality Goal Implementation Team (WQGIT) decided to offset impacts from climate change during the period 1995 through 2025 by asking the seven watershed jurisdictions (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia) to have additional nitrogen and phosphorus (nutrients) pollutant reduction practices in place across the watershed by 2025. This decision was approved by the Management Board in October 2020.

The WQGIT reviewed modeling scenarios to provide insight on how climate change will impact the Chesapeake Bay watershed in the future. Scenarios were run for the years 2035, 2045 and 2055, while showing the impacts from different competing climatic influences (e.g. sea-level rise, temperature changes). The overall assessment predicts that future climate change impacts will continue to worsen and accelerate over the near-term, increasing the need for additional pollutant reduction efforts.

As a result of these findings, the WQGIT decided that the current 2035 estimates should be documented and quantified at the watershed-scale in each jurisdiction's 2022-23 milestones. During this time, the partnership will continue to refine its climate modeling and assessment framework in order to update the 2035 estimates in 2025.

As an example of what is needed to offset these additional pollutant loads, the climate change impacts from 1995-2025 on water quality require addressing an additional five million pounds of nutrient reductions beyond what is called for in the Chesapeake Bay Total Maximum Daily Load. In 2035, this amount will grow to approximately 10 million pounds that needs to be offset, which is double the amount required by 2025. Beyond 2035, the 2025-2035 increase rate of 5 million additional pounds is expected to continue for each subsequent decade. Based on this current estimate, substantive efforts are needed after 2025 to address how climate change will impact Chesapeake Bay water quality.

When the 2035 estimates are reassessed in 2025, they will benefit from updated tools, methods and data, as well as a shorter projection into the future for impacts such as temperature, precipitation and sea-level rise. The partnership expects that an improved capability to assess shallow water and open water designated use will be available by this time. Additionally, revisions to the water quality standard may be considered, which would impact attainment assessments.

Revisions to the Watershed Model and the 2035 climate impact assessment will be accomplished by the Chesapeake Bay Program's Modeling Workgroup, along with input from myriad workgroups across the partnership and other experts. The results will be presented to the WQGIT in 2025, and at that time, the group will explore all available and practical approaches in allocating additional pollutant loads while pursuing consensus-based implementation recommendations.