Sample Narrative Template
(Developed by the Climate Resiliency Workgroup and Water Quality Goal Implementation Team)

Background: Programmatic "qualitative" (and optional quantitative) Policy Approach: Optimize Phase III WIP Development and Adaptively Manage Implementation Practices

Description: The Partnership will consider new information on the performance of management practices, including the contributions of seasonal, inter-annual climate variability, and weather extremes. It will do this within a practical time-period applicable to an individual source sector, initiative or action but no later than 2022. Management practices may include all wastewater treatment programs and practices in addition to non-point source best management practices (BMPs) on agricultural lands, developed lands and open spaces. Jurisdictions will assess this information and their support programs and adjust their Phase III Watershed Implementation Plans (WIPs) through the two-year milestone process to better mitigate anticipated increases in nitrogen, phosphorus, or sediment due to climate change.

Jurisdictions will provide a narrative that describes their programmatic commitments to address the impacts of climate change on water quality goals in their Phase III WIPs. In developing their narrative strategies, jurisdictions should reference the following approved Climate Resiliency Guiding Principles:

1. *Capitalize on Co-Benefits* – Maximize BMP selection to increase climate or coastal resiliency, soil health, flood attenuation, habitat restoration, carbon sequestration, or socio-economic and quality of life benefits.
2. *Account for and integrate planning and consideration of existing stressors* – Consider existing stressors such as future increase in the amount of paved or impervious area, future population growth, and land-use change in establishing reduction targets or selection/prioritizing BMPs.
3. *Align with existing climate resiliency plans and strategies* where feasible– Align with implementation of existing greenhouse gas reduction strategies; coastal/climate adaptation strategies; hazard mitigation plans; floodplain management programs; DoD Installation Natural Resource Management Plans (INRMPs); fisheries/habitat restoration programs, etc.
4. *Manage for risk* and p*lan for uncertainty* – Employ iterative risk management and develop robust and flexible implementation plans to achieve and maintain the established water quality standards in changing, often difficult-to-predict conditions.
5. *Engage Federal and Local Agencies and Leaders* – Work cooperatively with agencies, elected officials, and staff at the local level to provide the best available data on local impacts from climate change and facilitate the modification of existing WIPs to account for these impacts.

In developing their narrative strategies, jurisdictions should also identify and address how climate change impacts may affect the operation, maintenance, and resiliency of BMPs as well as wastewater treatment management practices, such as conventional wastewater treatment plant processes, land treatment (e.g. spray irrigation), biosolids management; and the implications for

collection systems and combined sewer systems. This evaluation should also assess, at a minimum, how changes in temperature and precipitation will affect operational performance for all wastewater sector practices, including associated impacts on runoff that finds its way into wastewater collection systems.

Implementation Considerations: The Chesapeake Bay Program (CBP) relayed its *preliminary* modeling results of climate change in 2025 to the jurisdictions at the March 2018 Principals Staff Committee (PSC) meeting (see Table 1 below).[1] The jurisdictions will document these preliminary numeric targets in their respective Phase III WIPs and will include a narrative strategy, outlining their programmatic and/or numeric commitments to address projected impacts consistent with the Guiding Principles, outlined below (approved by the PSC on December 13, 2016).[2] Narrative strategies could vary across jurisdictions; however, by following a "narrative template," strategies could be standardized or harmonized to provide for transparency, accountability, and consistency. EPA can potentially use the guiding principles as a guide to evaluate the proposed narrative strategies in the Phase III WIPs.

Table 1

Climate Change Loads: Nitrogen

Jurisdiction	1985 Baseline	2013 Progress	Climate Change	Phase III Planning Target
NY	18.71	15.44	0.400 (3.8%)	11.59
PA	122.41	99.28	4.135 (5.7%)	73.18
MD	83.56	55.89	2.194 (4.8%)	45.30
WV	8.73	8.06	0.236 (3.7%)	8.35
DC	6.48	1.75	0.006 (0.3%)	2.43
DE	6.97	6.59	0.397 (8.5%)	4.59
VA	84.29	61.53	1.722 (3.1%)	55.82
Basinwide	331.15	248.54	9.09 (4.6%)	201.25

*Units: millions of pounds

[1] Presentation to the PSC , March 2, 2018: https://www.chesapeakebay.net/channel_files/26045/v._2025_chesapeake_bay_climate_change_load_projections_explanation_revised_02.28.18.pdf

[2] Jurisdictions should also reference Chesapeake Bay TMDL, Section 7: Reasonable Assurance and Accountability Framework; and, Section 10: Implementation and Adaptive Management for guidance on developing narrative strategies.

Table 2

Climate Change Loads: Phosphorus

Jurisdiction	1985 Baseline	2013 Progress	Climate Change	Phase III Planning Target
NY	1.198	0.710	0.014 (2.9%)	0.606
PA	6.282	3.749	0.141 (4.7%)	3.073
MD	7.495	3.942	0.114 (3.2%)	3.604
WV	0.902	0.617	0.019 (3.9%)	0.456
DC	0.090	0.062	0.001 (0.8%)	0.130
DE	0.225	0.116	0.006 (5.1%)	0.120
VA	14.244	6.751	0.193 (3.0%)	6.186
Basinwide	30.44	15.95	0.489 (3.4%)	14.173

*Units: millions of pounds

To inform long-term implementation, the Partnership expects to facilitate the collection and evaluation of management practice performance data. The Partnership will learn more about management practice performance and the sensitivity of management practices that are attributable to climate change, to allow for consideration of these factors while adaptively managing for long-term change. Periodically, in support of this action, the CBP Partnership could compile and assess the latest climate and ecosystem science, research, or data, and relay this information to the jurisdictions. The PSC agreed that, in September 2021, jurisdictions will account for additional nutrient and sediment pollutant loads due to 2025 climate change conditions in a Phase III WIP addendum and/or two-year milestones beginning in 2022.

Sample Narrative Phase III WIP Template:

I. Background

a) The CBP Partnership relayed preliminary modeling results of climate change in 2025 in the form of nutrient load projections as part of the Midpoint Assessment completed in July 2018. Jurisdictions will document those preliminary numeric load targets due to 2025 climate change impacts in their Phase III WIPs with support from the Modeling Workgroup and Climate Resiliency Workgroup (CRWG).

b) The Partnership also committed to the following strategy to address climate change between now and 2025:
Understand the Science
• By refining the climate modeling and assessment framework, continue to sharpen the understanding of the science, the impacts of climate change, and any research gaps and needs.
• Develop an estimate of pollutant load changes (nitrogen, phosphorus, and sediment) due to 2025 climate change conditions.
• Develop a better understanding of BMP responses, including new, enhanced, and climate resilient BMPs.

• In March 2021, the CBP partnership will consider results of updated methods, techniques, and studies and refine estimated loads due to climate change for each jurisdiction.

• The PSC agreed that in September 2021, jurisdictions will account for additional nutrient and sediment pollutant loads due to 2025 climate change conditions in a Phase III WIP addendum and/or two-year milestones beginning in 2022.

c) Finally, in developing the narrative strategy, the following CBP Partnership approved Guiding Principles were considered:
    1. *Capitalize on Co-Benefits* – Maximize BMP selection to increase climate or coastal resiliency, soil health, flood attenuation, habitat restoration, carbon sequestration, or socio-economic and quality of life benefits.
    2. *Account for and integrate planning and consideration of existing stressors* – Consider existing stressors such as future increase in the amount of paved or impervious area, future population growth, and land-use change in establishing reduction targets or selection/prioritizing BMPs.
    3. *Align with existing climate resiliency plans and strategies* where feasible– Align with implementation of existing greenhouse gas reduction strategies; coastal/climate adaptation strategies; hazard mitigation plans; floodplain management programs; DoD Installation Natural Resource Management Plans (INRMPs); fisheries/habitat restoration programs, etc.
    4. *Manage for risk* and p*lan for uncertainty* – Employ iterative risk management and develop robust and flexible implementation plans to achieve and maintain the established water quality standards in changing, often difficult-to-predict conditions.
    5. *Engage Federal and Local Agencies and Leaders* – Work cooperatively with agencies, elected officials, and staff at the local level to provide the best available data on local impacts from climate change and facilitate the modification of existing WIPs to account for these impacts.

II. Programmatic and Numeric Commitments

a) Consistent with EPA's Phase III WIP expectations document, describe current action plans and strategies at both the state and local levels to address climate change. Jurisdictions should use local expertise and knowledge along with the latest climate information and science to inform their programmatic and/or numeric commitments.
b) Commitments may vary across jurisdictions but could include activities such as undertaking demonstration projects; prioritizing implementation of climate-resilient practices; assessing vulnerability of planned management practices; or enhancing plans, policies, regulations or on-the-ground efforts to address impacts, etc.
c) Jurisdictions could also pursue management practices with clear co-benefits and climate change-related positive impacts (e.g., habitat restoration and flood control).
d) Jurisdictions have the flexibility to go beyond just documenting efforts addressing additional loads due to 2025 climate change impacts and making numeric commitments.

In choosing to make a numeric commitment, jurisdictions should identify programmatically how the commitment will be met.

III. Phase III WIP Implementation: BMP Evaluation Process[3]

a) Describe any process that might be used by the jurisdiction to implement WIP programmatic and/or numeric commitments, including qualitative and/or quantitative evaluation of and implementation of BMPs, in accordance with the approved Climate Resiliency Guiding Principles: WIP Implementation. It is acknowledged that issues related to BMP efficiency and vulnerability will be taken on by the partnership, however, individual jurisdictions are encouraged to incorporate into their WIP any actions along these lines that they may be taking.

1. *Reduce vulnerability* - Use "Climate-Smart" principles to site and design BMP's to reduce future impact of sea level rise, coastal storms, increased temperature, and extreme events on BMP performance over time. Vulnerability should be evaluated based on the factor of risk (i.e. consequence x probability) in combination with determined levels of risk tolerance, over the intended design-life of the proposed practice.
2. *Build in flexibility and adaptability* - Allow for adjustments in BMP implementation in order to consider a wider range of potential uncertainties and a richer set of response options (load allocations, BMP selections, BMP redesign). Use existing WIP development, implementation and reporting procedures, as well as monitoring results and local feedback on performance, to guide this process.

[3] See Johnson, Z. et. al. In-Press. *STAC Workshop Report: Monitoring and Assessing Impacts of Changes in Weather Patterns and Extreme Events on BMP Siting and Design.* (in press) for more information and guidance on implementation.