Chesapeake Bay Program Principals' Staff Committee

Accounting for Climate Change

July 19th, 2018

AgWG Discussion

Principals' Staff Committee (PSC)

March 2, 2018 Decision: Accounting for Climate Change

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

1. Incorporate Climate Change in the Phase III WIPs
2. Understand the Science
3. Incorporate into Milestones

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1. Incorporate Climate Change in the Phase III WIPs

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1. Incorporate Climate Change in the Phase III WIPs

Include a narrative strategy in the Phase III WIPs that describes the state and local jurisdictions' current action plans and strategies to address climate change and commit to adopting climate change targets by 2021, employing the Partnership's suite of models that factor in climate change and other relevant local information. Acknowledging the challenges that lie ahead, reference the preliminary modeling estimates attributable to climate change by 2025 to be roughly an additional 9 million pounds of nitrogen and 0.5 million pounds of phosphorus[1] .

[1] The jurisdictional distributions of these preliminary load estimates are in the CBP Climate Resiliency Workgroup Chair's presentation to the PSC.

1. Incorporate Climate Change in the Phase III WIPs

In other words:

Phase III WIPs to include a narrative strategy:

- state/local jurisdictions' current action plans/strategies to address climate change and commit to adopting climate change targets by 2021
  - employing Partnership's suite of models that factor in climate change and other relevant local information.
  - referencing preliminary modeling estimates attributable to climate change by 2025
    - ~ additional 9 million pounds of nitrogen
    - ~ additional 0.5 million pounds of phosphorus[1]

[1] The jurisdictional distributions of these preliminary load estimates are in the CBP Climate Resiliency Workgroup Chair's presentation to the PSC.

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1. Incorporate Climate Change in the Phase III WIPs
2. **Understand the Science**
3. Incorporate into Milestones

2. 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 resilient BMPs, to better address climate change conditions such as increased storm intensity.
- In March 2021, the Partnership will consider results of updated methods, techniques, and studies and refine estimated loads due to climate change for each jurisdiction.
- 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 2-year milestones beginning in 2022.

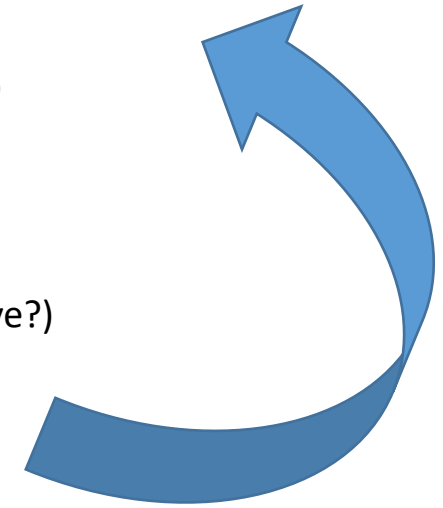
2. Understand the Science

In other words:

- Improve understanding (via modeling & assessment framework):
  - Science
  - Impacts of climate change
  - Research gaps and needs
- Estimate pollutant load changes (N, P, SS) due to 2025 climate change conditions.
- Improve understanding of…
  - BMP responses (including new, enhanced, and resilient BMPs)

    …to better address
  - climate change conditions (e.g., storm intensity)
- March 2021
  - Partnership considers results from…(meaning everything above?)
    - updated methods, techniques, and studies

      … and refines
    - estimated loads due to climate change for each jurisdiction.
- September 2021
  - Jurisdictions account for additional nutrient and sediment pollutant loads due to 2025 climate change conditions in a Phase III WIP addendum and/or 2-year milestones beginning in 2022.



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1. Incorporate Climate Change in the Phase III WIPs
2. Understand the Science
3. **Incorporate into Milestones**

3. Incorporate into Milestones

Starting with the *2022-2023* milestones:

the Partnership will determine how climate change will impact the BMPs included in the WIPs and address these vulnerabilities in the two-year milestones.

Addendum to the PSC Decision

The District of Columbia raised the point that even though the original Climate Resiliency Workgroup references to "the jurisdiction specific nutrient and sediment pollution loadings due to the 2025 climate change conditions" was removed from the PSC approved language, the jurisdictions still have the option to include these specific targets within their Phase III WIPs and work towards them if they choose to do so. The PSC agreed that jurisdictions may still consider that option.

In other words:

Jurisdictions *can choose to* include and work towards estimated load targets due to 2025 climate change conditions, as determined by the Partnership, within their Phase III WIPs.

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

2. Understand the Science

- Develop a better understanding of BMP responses, including new, enhanced and resilient BMPs, to better address climate change conditions such as increased storm intensity.
  - Improve understanding of…
    - BMP responses (including new, enhanced, and resilient BMPs)

    …to better address

    - climate change conditions (e.g., storm intensity)

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

2. Understand the Science: USDA-NRCS

- USDA-NRCS is currently working with USGS and other Federal agencies to represent the latest weather trends and climate change projections.
- Regularly updated region-specific hydrologic data will be used to update NRCS Conservation Practice (CP) engineering designs to address local climate change impacts to agricultural practices, such as increased storm intensity.
- Newly implemented CPs moving forward will automatically reflect the latest science on climate change as it becomes available through the base data used for engineered designs.

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

In other words:

2. Understand the Science: USDA-NRCS

- USDA-NRCS, USGS & Federal agencies
  - Representation of latest weather trends and climate change projections
- NRCS Conservation Practice (CP) engineering designs
  - Regular updates region-specific hydrologic data
    - Addressing local climate change impacts to ag BMPs
- Newly implemented CPs
  - Will reflect climate change science, as available, via engineering designs

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

2. Understand the Science: RI BMPs

- Previously implemented CPs based on the older USDA-NRCS standards, were designed based on historic weather trend data, and likely do not account for climate change impacts.
- CPs which do not meet the current design criteria of USDA-NRCS, may fall under the partnership's definition of Resource Improvement (RI) BMPs, which typically have a similar credit but a reduced practice lifespan as compared to a practice which meets the USDA-NRCS standards.
- The AgWG is responsible for periodically evaluating all agricultural BMPs to incorporate the latest science in the practice definitions and effectiveness values. RI BMPs will not automatically reflect the latest science on climate change, requiring action by the AgWG to reevaluate this suite of BMPs.

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

In other words:

2. Understand the Science: RI BMPs

- Previously implemented CPs
  - likely do not account for climate change impacts.
  - may fall under the partnership's definition of RI BMPs
    - RI BMPs typically similar in credit
    - RI BMPs reduced practice lifespan
- Role of the AgWG
  - Periodic evaluation of ag BMPs to incorporate the latest science
    - RI BMPs will not automatically reflect the latest science on climate change
      - requiring action by the AgWG to reevaluate this suite of BMPs

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

2. Understand the Science: RI BMPs

- A reevaluation of RI BMPs by a future expert panel may be required to fully account for climate change impacts on older BMPs, or those practices which were designed based on older hydrologic data.
- In the future, RI BMPs potentially could be redefined as not only having typically shortened practice lifespans, but potentially adjusted effectiveness values too, as compared to newer practices incorporating designs based on weather data accounting for climate change trends.

What is the Role of the AgWG in Climate Change?

Factoring Climate Change Considerations into the Phase III Watershed Implementation Plans

In other words:

2. Understand the Science: RI BMPs

- Reevaluation of RI BMPs
  - fully account for climate change impacts on older BMPs
  - potential to be redefined with
    - shortened practice lifespans
    - adjusted effectiveness values

What is the Role of the AgWG in Climate Change?

Short-term ACTION ITEM?

OR

REVISIT at a later date?