

CHESAPEAKE BAY TRUST

Scope #11: Cross-Goal Climate Resiliency
Analysis and Decision-Making Matrix and Implementation
Methodology



Climate Resiliency Goal

GOAL: Increase the resiliency of the Chesapeake Bay watershed, including its living resources, habitats, public infrastructure and communities, to withstand adverse impacts from changing environmental and climate conditions.

- ***Monitoring and Assessment Outcome:*** *Continually monitor and assess the trends and likely impacts of changing climatic and sea level conditions on the Chesapeake Bay ecosystem, including the effectiveness of restoration and protection policies, programs and projects.*
- ***Adaptation Outcome:*** *Continually pursue, design and construct restoration and protection projects to enhance the resiliency of Bay and aquatic ecosystems from the impacts of coastal erosion, coastal flooding, more intense and more frequent storms and sea level rise.*

Project Goals

- Advance outcomes from the Chesapeake Bay Agreement with regard to climate change goals
- Develop a structured, science-based framework through which the principles of climate-smart adaptation planning can be effectively applied to the existing 29 management strategies in the Watershed Agreement
- Engage one-on-one with GITs to identify, assess, evaluate and revise climate-related elements of individual management strategies

General Approach

- Tailor the concepts of Climate Smart Conservation Framework to incorporate consideration of climate change vulnerabilities into planned Chesapeake Bay management strategies and restoration actions
 - *Utilize CCAP Adaptation Design Tool and framework as a starting point*
- Use 2 workgroups as pilots to develop the approach:
 - *Black Duck/Tidal Wetlands*
 - *Submerged Aquatic Vegetation*
- Facilitate a structured approach (e.g., modified SDM) in a set of workshops to work through the process with each pilot workgroup
 - *2-day workshop held in November, 2016*
- Modify approach based on workshop results and pilot revised methodology with one additional CBP Workgroup in early June – July, 2017

Goal/Outcome

- **Toxic Contaminants Goal:** Ensure that the Bay and its rivers are free of effects of toxic contaminants on living resources and human health.
 - **Research Outcome:** *Continually increase our understanding of the impacts and mitigation options for toxic contaminants. Develop a research agenda and further characterize the occurrence, concentrations, sources and effects of mercury, PCBs and other contaminants of emerging and widespread concern. In addition, identify which best management practices might provide multiple benefits of reducing nutrient and sediment pollution as well as toxic contaminants in waterways.*
 - **Toxic Contaminants Policy and Prevention Outcome:** *Continually improve practices and controls that reduce and prevent the effects of toxic contaminants below levels that harm aquatic systems and humans. Build on existing programs to reduce the amount and effects of PCBs in the Bay and watershed. Use research findings to evaluate the implementation of additional policies, programs and practices for other contaminants that need to be further reduced or eliminated.*

STAC Workshop: The Development of Climate Projections for Use in CBP Assessments

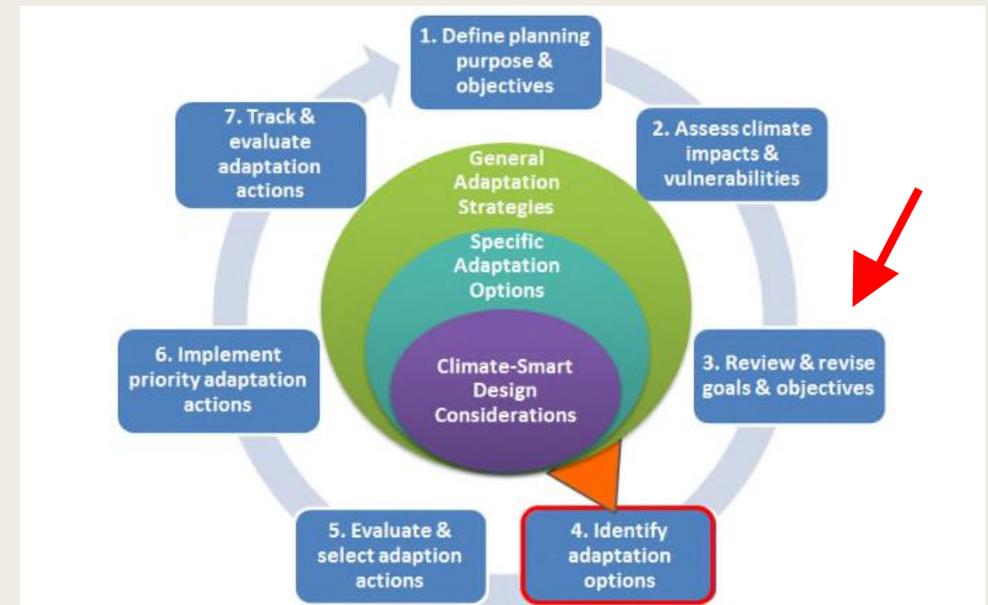


Take Home Messages

- The Northeast US has gotten warmer and wetter
- Precipitation has become more intense
- Trends will continue in the coming decades
- There is a large sensitivity to emissions scenarios, but not until mid-century
- Natural variability is important, particularly for precipitation
- Sea levels are rising faster than the global average and rates are increasing
- Need to build the capacity within the Partnership to ensure ready access to data, scenario outputs, indicators and to be able to continue to evaluate, learn, and adapt.

CCAP Design Tool

- Developed to apply Climate Smart principles to coral reef adaptation plans, but highly applicable for incorporating climate change vulnerability considerations into Chesapeake Bay management strategies
- A structured approach, using a series of related matrices that guide managers/ stakeholders through the process
- Focuses on developing “climate-smart design considerations,” two categories of questions related to how climate change is likely to:
 - *impact both the stressors influencing or being managed by an action; and*
 - *the effectiveness of the action itself*
- Based on the Black Duck/SAV Workshop results, the Design Tool was modified to include 3 levels for application of the matrix:
 - *Goals/Outcomes*
 - *Management Strategies/Approaches*
 - *Work Plans/Key Actions*



Interactions with Toxics Contaminants Workgroup

- Approve request for Toxic Contaminants “Climate Smart” Pilot project
 - *Commit to actively participate in 2-day structured decision-making workshop*
- Identify core steering group
- Project Team to work with core steering group to:
 - *Inform selection of levels for application of the matrix:*
 - Goals/Outcomes
 - Management Strategies/Approaches
 - Work Plans/Key Actions
 - *Identify and gather relevant Chesapeake Bay climate change vulnerability research/data*
 - *Select Workshop dates, location and workshop invitees*

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