

Prioritizing Climate Change Impacts and Action Strategies

Chesapeake Bay Program STAC

December 8, 2015



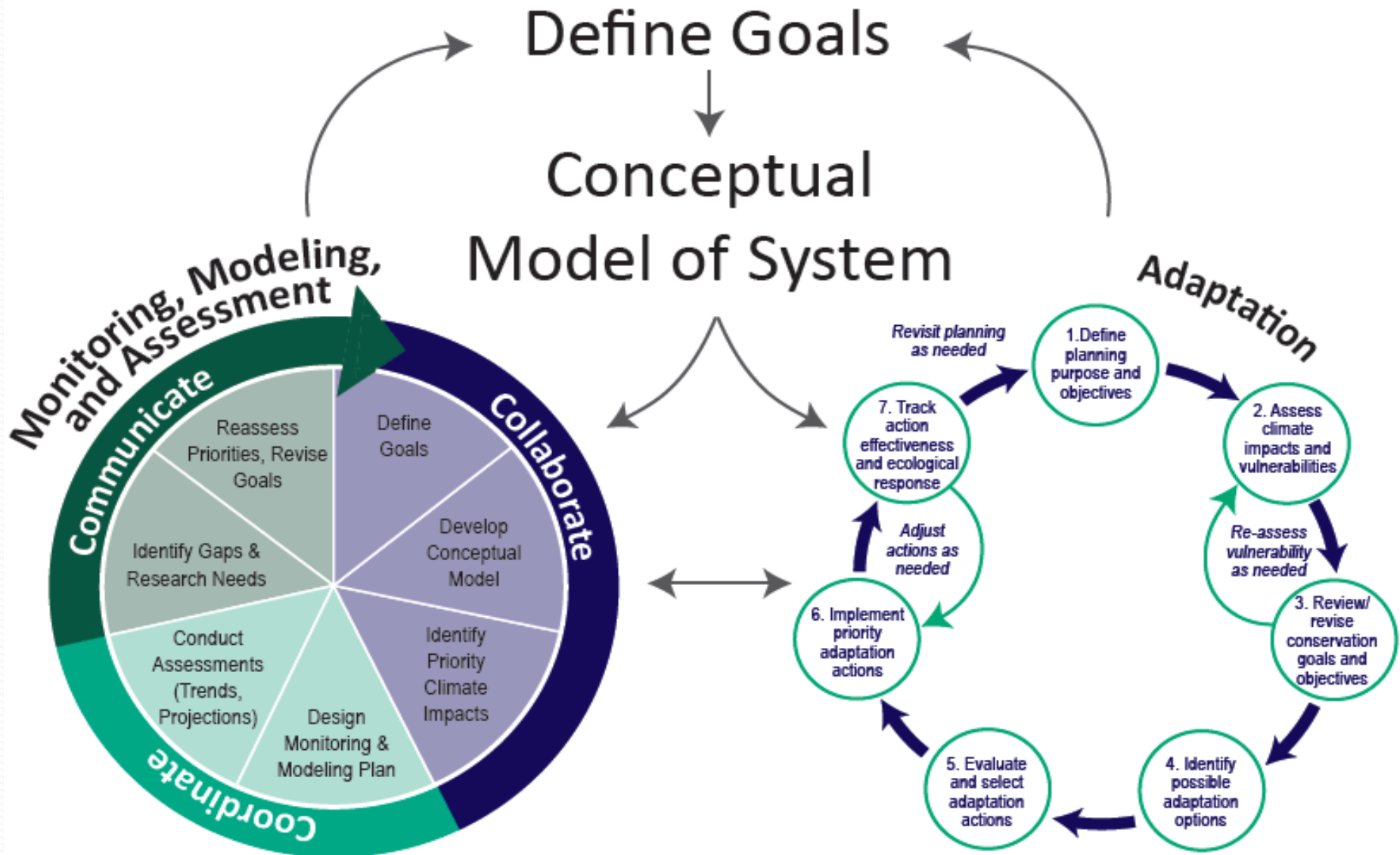
2014 Chesapeake Bay Agreement

CLIMATE RESILIENCY

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.

Management Approach



MANAGEMENT APPROACH

Develop a framework for engaging one-on-one with CB Partnership Goal Implementation Teams on climate related management needs.

Management Strategy	Baseline	Factor Influencing Success	Current Efforts & Gaps	Management Approach	Cross-Outcome Collaboration and Mutual Benefit	Adaptive Mgmt. & Monitoring Progress	No Mention	Rating
Water Quality		x		x	x	x		4
Black Duck		x	x	x		x		4
Brook Trout		x	x	x		x		4
Wetlands		x	x	x				3
Protected Lands		x	x	x				3
Public Access		x		x				2
Healthy Watersheds		x		x				2
Urban Tree Canopy			x	x				2
Blue Crab		x			x			2
Oyster Restoration		x			x			2
Fish Habitat		x			x			2
SAV		x						1
Diversity				x				1
Local Leadership		x						1
Fish Passage		x						1
Forage Fish		x						1
Toxics Research	x							1
Stream Health							x	0
Land Use Methods and Metrics							x	0
Land Use Options Evaluations							x	0
Citizen Stewardship							x	0
Environmental Literacy							x	0
Toxics Prevention and Policy							x	0
Forest Buffer							x	0

x = climate change related element

Key Management Actions

STAC Involvement

1. Inform prioritization of climate change impacts (those most important to goal attainment).
2. Develop research priorities and research agenda; both will be necessary to address critical needs and gaps (i.e., data, tools, capacity).
3. Assess current and future monitoring needs at workgroup and watershed scale (e.g., geography, habitat or BMP).
4. Inform scientific analysis to be used to review and/or revise conservation, restoration and protections goals, outcomes and BMP's.
5. Inform and review CBP approach to factor climate change considerations into the 2017 Chesapeake Bay TMDL Midpoint Assessment.

Breakout Session

- Q1 and Q2: 11:20 –11:50
- Q3 and Q4: 11:50 –12:20
- Report Out: 12:25 – 12:45

Discussion Question

1. What ecological impacts are of most concern to the resources managed by the Chesapeake Bay Program?
2. Which specific Chesapeake Bay Agreement Goals and Outcomes will be affected most?
3. Where is there the greatest potential to increase resiliency through specific adaptation strategies?
4. What are the biggest monitoring and/or research gaps?

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Discussion Question	Framing
1. What ecological impacts are of most concern to the resources managed by the Chesapeake Bay Program?	Rank resource vulnerability (low, medium, high) over time (25, 50, 100-years).
2. Which specific Chesapeake Bay Agreement Goals and Outcomes will be affected most?	Factor of risk (low, medium, high) in terms of the influence of impact on “goal attainment.”

Black Duck Outcome



Vital Habitats Goal: Restore, enhance and protect a network of land and water habitats to support fish and wildlife, and to afford other public benefits, including water quality, recreational uses and scenic value across the watershed.

Black Duck Outcome: By 2025, restore, enhance and preserve wetland habitats that support a wintering population of 100,000 black ducks, a species representative of the health of tidal marshes across the watershed. Refine population targets through 2025 based on best available science.

Factors Influencing Ability to Meet Goal:

1. Habitat loss, degradation and fragmentation (Priority Factors)
2. Food availability - affected by competition and proximity to disturbance (i.e. developed lands)
3. Shoreline disturbance (dredging, marina/housing development)
4. Invasive species
5. Climate impacts
 - Sea level rise
 - Flooding (habitat availability)
 - Salt marsh migration/salinity changes
 - Large storm events
 - Migration pattern and/or wintering range shift
6. Habitat loss and fragmentation at other ends of the Atlantic flyway population's range

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Discussion Question	Framing
3. Where is there the greatest potential to increase resiliency through specific adaptation strategies?	Identify ecological impacts for which there could be a moderate to high degree of responsiveness to changes in management techniques?
4. What are the biggest monitoring and/or research gaps?	Assess current understanding of ecological impacts and adequacy of monitoring; Identify priority research and data gaps.

Wetlands Outcome



Vital Habitats Goal

Restore, enhance and protect a network of land and water habitats to support fish and wildlife, and to afford other public benefits, including water quality, recreational uses and scenic value across the watershed.

Wetlands Outcome

Continually increase the capacity of wetlands to provide water quality and habitat benefits throughout the watershed. Create or reestablish 85,000 acres of tidal and nontidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025. These activities may occur in any land use (including urban) but primarily occur in agricultural or natural landscapes.

Breakout Groups	Outcome
GIT 1: Sustainable Fisheries	Blue Crab Abundance
	Blue Crab Management
	Oyster
	Forage Fish
	Fish Habitat
GIT 2: Vital Habitats	Wetlands
	Black Duck
	Stream Health
	Brook Trout
	Fish Passage
	Submerged Aquatic Vegetation (SAV)
	Forest Buffer
Tree Canopy	

Breakout Groups	Outcome
GIT 3: Water Quality	2017 Watershed Implementation Plans (WIP)
	2025 WIP Outcome
	Water Quality Standards Attainment and Monitoring
GIT 4: Healthy Watersheds	Healthy Watersheds
	Land Use Methods and Metrics Development

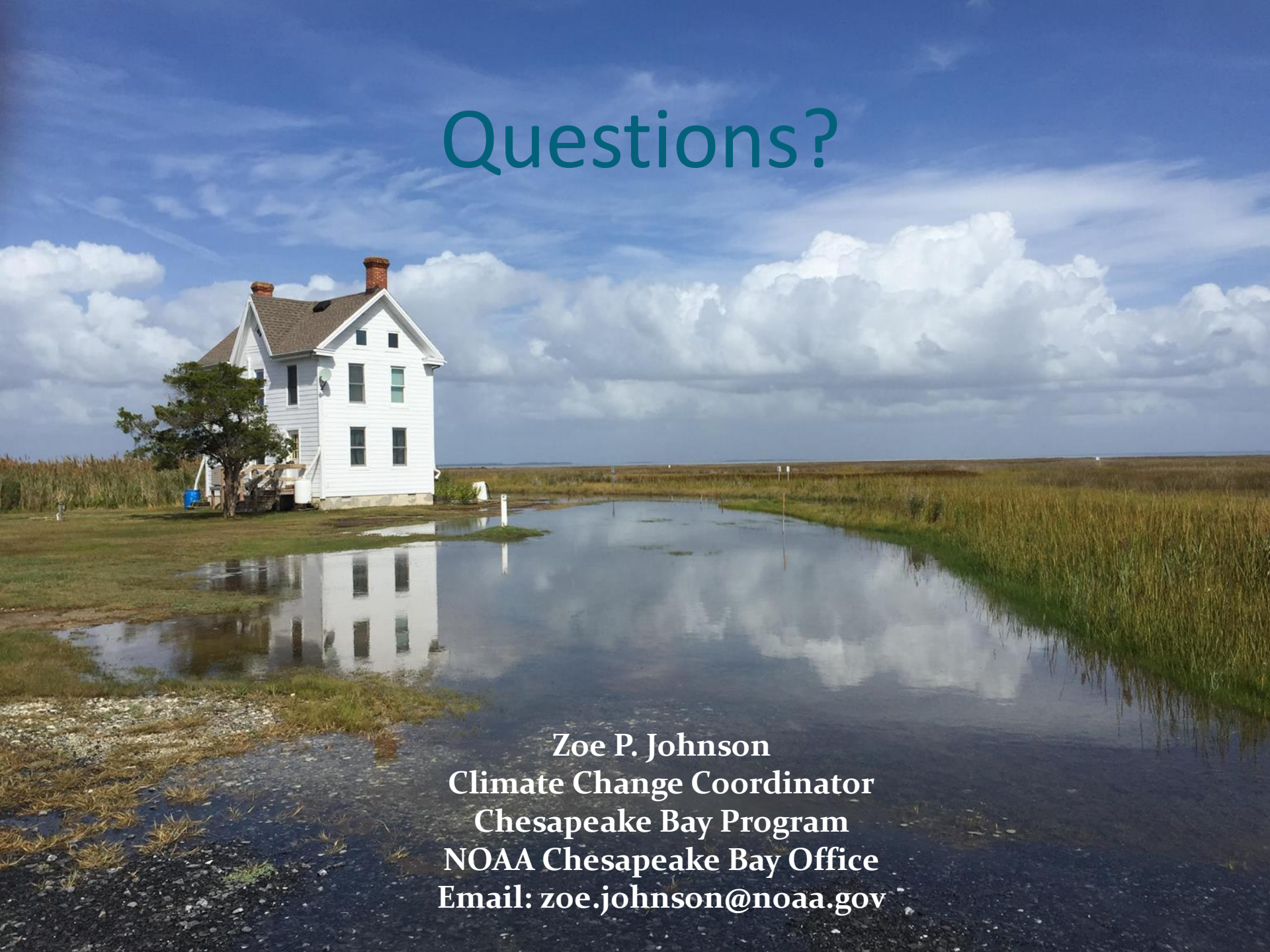
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Questions?



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