

# Climate Action Plan

## Maryland's Advancing Strategy

A Presentation for  
CBP Climate Resiliency Workgroup  
October 21, 2019



**Maryland**  
Department of  
the Environment



Climate Change is Non-Stationary

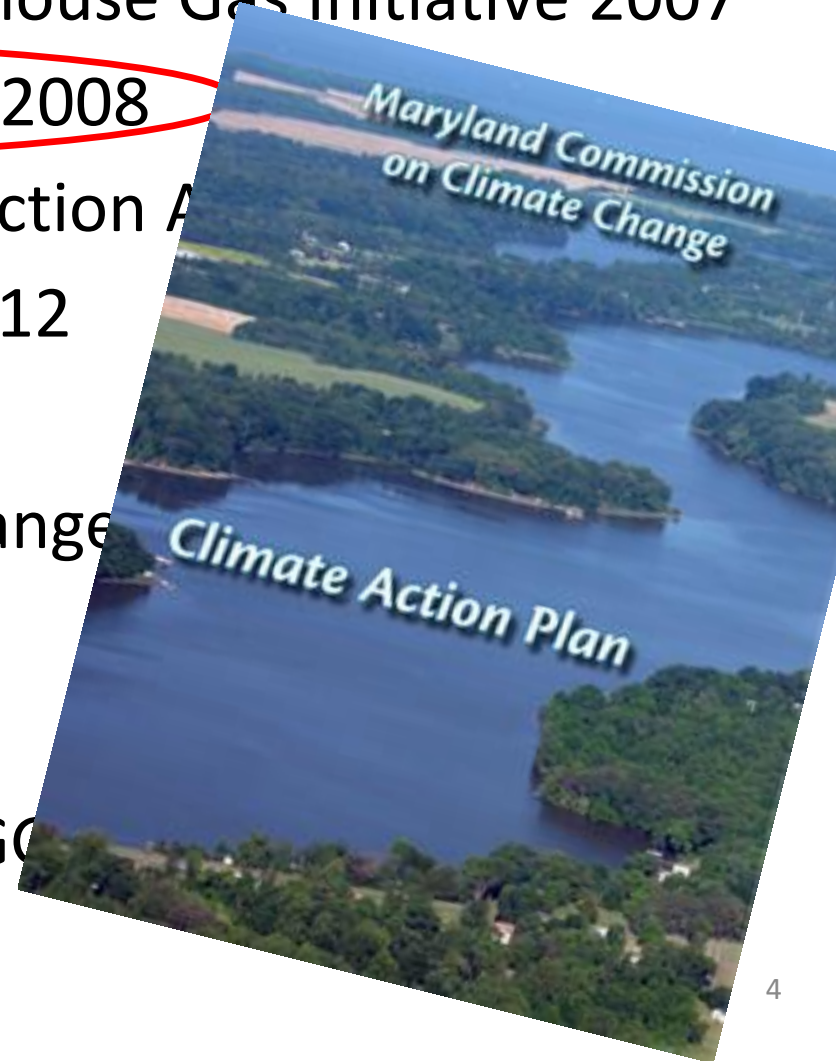
Maryland's Climate Change Actions  
are Non-Stationary

# Maryland Climate Action: Overview Timeline

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# 2008 Climate Action Strategy

- Science: Impacts & The Cost of Inaction
- Mitigation: Greenhouse Gas & Carbon Reduction
- Adaptation: Comprehensive Strategy
- Building Federal-State Partnership
- Implementation through MCCC
  - Four Workgroup Governance Framework

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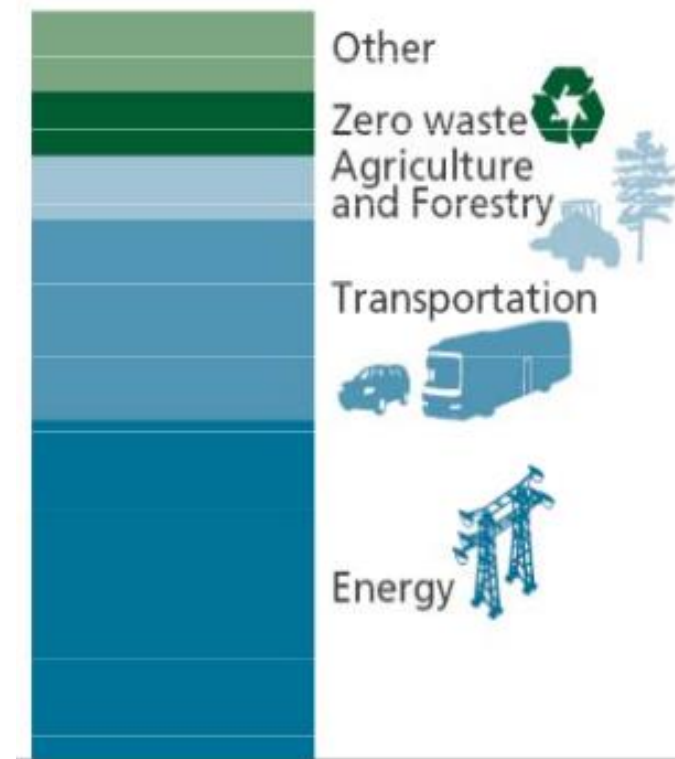
# Mitigation: Greenhouse & Carbon Reduction

## 2009 Greenhouse Gas Reduction Act (GGRA)

- 25% reduction from 2006 baseline by 2020

## 2016 Greenhouse Gas Reduction Act

- 40% reduction by 2030



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# Comprehensive Adaptation Strategy

## *Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change:*

1. *Phase I: Sea Level Rise and Coastal Storms* (Johnson, 2008).
2. *Phase II: Building Societal, Economic and Ecological Resilience* (Boicourt, 2010):
  - Human Health
  - Agriculture
  - Forests & Terrestrial Ecosystems
  - Bay and Aquatic Ecosystems
  - Water Resources
  - Population Growth and Infrastructure

# Comprehensive Adaptation Strategy

## Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change

### Phase I: Sea-level rise and coastal storms



**REPORT OF THE MARYLAND COMMISSION ON CLIMATE CHANGE  
ADAPTATION AND RESPONSE WORKING GROUP**

## Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change

### Phase II: Building societal, economic, and ecological resilience



**REPORT OF THE MARYLAND COMMISSION ON CLIMATE CHANGE  
ADAPTATION AND RESPONSE AND SCIENTIFIC AND TECHNICAL WORKING GROUPS**

# Adaptation Strategy Tracking

	A	B	C	D	E	F	G	H
1			Implementation Priority: L (Low); M (Medium); H (High – Needs Immediate Action); TBD (To Be Determined)					
2	Implementation Guidance Table - 2018 Review of Progress		Implementation Timeframe: Ongoing (a component of an existing program); Short (1 -3 years); Medium (3 – 5 years); Long-Term (5 + years); TBD (To Be Determined)					
3	Phase I: Sea-Level Rise and Coastal Storms		Implementation Cost: Low (\$0 - \$100,000); Medium (\$100,000 - \$200,000); High (\$200,000 +); TBD (To Be Determined)					
4	Phase II: Building Societal, Economic and Ecological Resilience		Major Progress    Some Progress    No Progress					
5								
6	Priority Recommendations	Action Strategies	Lead Agency	Key Partners	Implementation Priority	Implementation Timeframe	2018-2019 Progress Update	
7	PHASE I: Sea-Level Rise and Coastal Storms							
8	Reduce Impact to Existing and Future Growth and Development							
9	Take action now to protect human habitat and infrastructure from future risks	Require the integration of coastal erosion, coastal storm, and sea level rise adaptation and response strategies into existing state and local policies and programs.	DNR/MDP	MDE, MDOT, DHCD, local governments	High	Ongoing	Local adaptation planning: in 2017 MDP conducted an assessment of the extent to which County Comprehensive Plans addressed climate change. As of 2018 it is still not a requirement; MDP supports encouraging but not mandating adaptation planning in county comprehensive plans. MHT has developed a guidance document for flooding and historic properties that addresses adaptation options; the guidance is complete and awaiting approval for rollout.	
10		Develop and implement State and local adaptation policies (i.e., protect, retreat, abandon) for vulnerable public and private sector infrastructure.	DNR	MDP, MDE, MDOT, local governments	High	Ongoing	State adaptation planning: the Coast Smart Council siting and design requirements help to meet this action strategy.	
11		Strengthen building codes and construction techniques for new infrastructure and buildings in vulnerable coastal areas.	DHCD/DNR	MDP, MDOT, MDE, local governments	High	Ongoing	Local adaptation policies: MDP worked with Eastern Shore Land Conservancy to develop a model Coastal Resilience Element that can be used by local governments to develop adaptation policies.	
12	Financial and Economic Well-Being							
13	Minimize risks and shift to sustainable economies and investments	Develop and implement long-range plans to minimize the economic impacts of sea level rise to natural resource-based industries.	Department of Commerce	DNR	Medium	Long	The Maryland Outdoor Recreation Economic (MORE) Commission is scoping out the spectrum of outdoor recreation industries and needs in Maryland. This is co-chaired between DoC and DNR. DNR is also conducting a state lands climate vulnerability assessment to assess risk.	
14		Establish an independent Blue Ribbon Advisory Committee to advise the State of the risks that climate change poses to the availability and affordability of insurance.	MIA	DNR	High	Complete	What were the outcomes? Is there any future need?	
15		Recruit, foster, and promote market opportunities related to climate change adaptation and response.	Department of Commerce	DNR	Low	Long	Preliminary discussions with insurance industry during ARWG May 2018 meeting.	
16	Protection of Human Health, Safety and Welfare							
17	Guarantee the safety and well-being of Maryland's citizens in times of foreseen and unforeseen risk	Strengthen coordination and management across Agencies responsible for human health and safety.	MDH	MDA/DNR	High	Complete	MEMA leading development of a state Consequence Management Operations Plan (CMOP). Each Agency is then creating an annex for the plan called a State Coordinating Functional Plan (SCF).	
18		Conduct Health Impact Assessments to evaluate the public health consequences of climate change and sea level rise-related projects and/or policies.	MDH	MDA/MDE/DNR/MDP	High	Medium	Climate Health Profile	
19		Develop a coordinated plan to assure adequacy of Vector-borne Surveillance and Control Programs.	MDH/MDA	DNR/MDE	High	Medium	Follow up with MDH	
20	Natural Resource Protection							
21	Retain and expand forests, wetlands and beaches to protect us from coastal flooding	Identify high priority protection areas and strategically and cost-effectively direct protection and restoration actions.	DNR	MDE	High	Ongoing	In 2017 DNR worked with the Nature Conservancy and other state, federal and non-governmental partners to complete a Coastal Resiliency Assessment. The assessment identified statewide priorities for conservation and restoration where coastal habitats provide risk-reduction to vulnerable communities.	
22		Develop and implement a package of appropriate regulations, financial incentives, educational, outreach, and enforcement approaches to retain and expand forests and wetlands in areas suitable for long-term survival.	DNR	MDE	High	Ongoing	Info Request into Denise C. (J. George)	
23		Promote and support sustainable shoreline and buffer area management practices.	DNR	MDE	High	Ongoing	In 2018 MDE secured two grants to support the refinement of shoreline restoration and stabilization permitting procedures with the goal of increasing the adoption of soft engineering (living shoreline) techniques. First, in collaboration with Virginia and Delaware, MDE helped secure a Bay Program grant for social marketing research into barriers, incentives and communications that affect the decisions of shoreline property owners and marine contractors. Second, a Wetlands Program Development grant from the US EPA was secured to evaluate and map the suitability of shorelines for using soft engineering techniques. This will be combined with the evaluation of previous	

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10	Take action now to protect and infrastructure from						
11							
12	Financial and Economic						
13							
14	Minimize risks and shift economies and invest						
15							
16	Protection of Human Health						
17							
18	Guarantee the safety of Maryland's citizens in the event of and unforeseen risk						
19							
20	Natural Resource Protection						
21							
22	Retain and expand forested beaches to protect us from flooding						
23		Promote and support sustainable shoreline and buffer area management practices.	DNR	MDE	High	Ongoing	By increasing the adoption of soft engineering (living shoreline) techniques. First, in collaboration with Virginia and Delaware, MDE helped secure a Bay Program grant for social marketing research into barriers, incentives and communications that affect the decisions of shoreline property owners and marine contractors. Second, a Wetlands Program Development grant from the US EPA was secured to evaluate and map the suitability of shorelines for using soft engineering techniques. This will be combined with the evaluation of previous

~ 40 Recommendations

~ 100 Action Strategies

- Lead Agencies are Identified
- Key Partners are Identified
- Implementation Priorities are set
- Status at-a-glance
- Narrative Status
- Adopted in Maryland's WIP

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# Coast Smart Climate Resiliency Framework

- Coast Smart Council
- Construction Siting & Design Criteria
- Criteria for Using State Funds for Mitigation Projects
- Saltwater Intrusion Adaptation Plan
- Local Nuisance Flooding Plans



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# Maryland Climate Commission Law

## HB 514 (2015)

- Codifies Commission on Climate Change
- Codifies Sea Level Rise Estimate every 5-years
- Calls on State agencies to:

... Review its planning, regulatory, and fiscal programs to identify and recommend actions to fully integrate the consideration of ...the impacts of climate change. Including:

- Sea Level Rise
- Storm Surges and Flooding
- Increased Precipitation
- Extreme Weather Events



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# Maryland WIP & Climate Change

## WIP Strategies that Address Climate Change

1. Climate Science & Research
2. Local Engagement and Education
3. Incentives and Funding
4. Accountability
5. WIP Climate Change Strategy Highlights by Source Sector

# Thank You

## Questions? Comments?