



# Massachusetts Climate Change Assessment: Prioritize Statewide Climate Impacts and Discuss Regional Concerns

Massachusetts Executive Office  
of Energy and Environmental  
Affairs

**2022**  
MASSACHUSETTS  
CLIMATE CHANGE  
ASSESSMENT

# Welcome!

- Welcome! Please select your preferred language by clicking on the interpretation icon on at the bottom of your screen. **(English speakers must also select English.)**
- ¡Bienvenido! Si necesita interpretación, seleccione el idioma que prefiera haciendo clic en el botón de interpretación situado en la parte inferior de la pantalla. 🌐
- Benvindu! Si bu meste servissus di interpretason, pur favor klika na ikoni/boton di lingua di bu preferensia ki sta na parti di fin di bu ekran/tela. 🌐
- Byenveni! Si ou bezwen tradiksyon nan bouch (entèpretasyon), tanpri chwazi lang ou pi pito a lè ou klike sou desen entèpretasyon an ki anba ekran ou an. 🌐
- 歡迎！如果您需要口譯服務，請選擇您的首選語言，請點按位於熒幕下方的口譯圖標。🌐
- Chào mừng! Nếu quý vị cần được thông dịch, vui lòng chọn ngôn ngữ mong muốn của quý vị bằng cách nhấp vào biểu tượng thông dịch ở dưới cùng màn hình của quý vị. 🌐

## Zoom logistics

- Stay **muted**.
- Use **video** if you like.
- Use **Chat** function ask questions.
- **Raise hand** in "Reactions" if you want to speak
- Chat ERG Zoom host **Morgan Collins (Tech Support)** with technical issues.



# Language access

- We did not receive interpretation requests for this meeting. However, if you need language interpretation accommodations to participate, please email Carolyn Meklenburg <[Carolyn.Meklenburg@mass.gov](mailto:Carolyn.Meklenburg@mass.gov)> to request a separate conversation with interpretation. We would be glad to follow up with you and hear your input.
- Nu ka ressebe ninhun pididu pa servissus di interpretason pa es reunion. Si bu meste servissus di interpretason pa bu partissipa na otu lígua ki ka for na Spanhol, pur favor manda un email pa Carolyn na [carolyn.meklenburg@mass.gov](mailto:carolyn.meklenburg@mass.gov) ku indikason di língua ki bu ta prefiri y un ta ranja alternativu. Bu pode tanbé responde nos kistionáriu ki sta traduzidu pa Spanhol, Portugues, Xinês Sinplifikadu, Xinês Tradissional, Kriolu di Haiti, Kriolu di Cabu Verdi, Vietnamita, Khmer, Russu y Arabi.
- Chúng tôi không nhận được yêu cầu dịch vụ thông dịch nào cho cuộc họp này. Nếu quý vị cần các dịch vụ thông dịch để tham gia bằng những ngôn ngữ khác ngoài Tiếng Tây Ban Nha, vui lòng gửi email cho Carolyn theo địa chỉ [carolyn.meklenburg@mass.gov](mailto:carolyn.meklenburg@mass.gov) bằng ngôn ngữ ưa thích của quý vị và chúng tôi sẽ sắp xếp thay thế. Quý vị cũng được hoan nghênh tham gia khảo sát của chúng tôi, khảo sát này được dịch sang Tiếng Tây Ban Nha, Tiếng Bồ Đào Nha, Tiếng Trung Giản Thể, Tiếng Trung Phồn Thể, Tiếng Creole Haiti, Tiếng Creole của Cabo Verde, Tiếng Việt, Tiếng Khmer, Tiếng Nga & Tiếng Ả Rập.
- Nou pa te resevwa okenn demand pou sèvis tradiksyon nan bouch pou reyinyon sa a. Si ou bezwen sèvis tradiksyon nan bouch pou patisipe nan yon lang ki pa Panyòl, tanpri voye yon imèl ba Carolyn nan [carolyn.meklenburg@mass.gov](mailto:carolyn.meklenburg@mass.gov) ak lang ou pito a epi nou pral fè lòt aranjanman. Nou envite w tou pou ranpli sondaj nou an ki tradwi an Panyòl, Pòtigè, Chinwa Senplifye, Chinwa Tradisyonèl, Kreyòl Ayisyen, Kreyòl Kap Vè, Vyetnamyen, Khmè, Ris ak Arab.
- Não recebemos nenhum pedido de interpretação para esta reunião. Se você precisar de serviços de interpretação para idiomas diferentes do espanhol para poder participar, envie uma mensagem para Carolyn pelo e-mail [carolyn.meklenburg@mass.gov](mailto:carolyn.meklenburg@mass.gov) com seu idioma preferido e faremos preparativos alternativos. Também o convidamos a responder à nossa pesquisa, que está traduzida para espanhol, português, chinês simplificado, chinês tradicional, crioulo haitiano, crioulo cabo-verdiano, vietnamita, khmer, russo e árabe.
- 我们没有收到本次会议的口译服务请求。如果您需要口译服务以便使用西班牙语以外的其他语言, 请发电子邮件至 [Carolyn.meklenburg@mass.gov](mailto:Carolyn.meklenburg@mass.gov), 说明您的首选语言, 我们将做出相应的安排。我们还欢迎您完成我们的调查问卷, 该调查问卷已翻译成西班牙





# Thank you for joining us!

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## Agenda:

- Welcome
- Assessment Overview & Progress to Date
  - Exploring range of climate impacts and who and what is affected
  - Understanding how climate change affects sectors
- Discussion Groups in Regions: Community Priorities and Input
- Next Steps and Closing



## Guiding principles for today's discussion

- Be present
- Be aware of intent vs. impact
- Make space/take space
- No technical expertise is needed and no question is bad or silly to ask!

Ask questions in chat at any time. We'll also pause for Q&A.





# Why we're here

## Purpose of the Climate Assessment



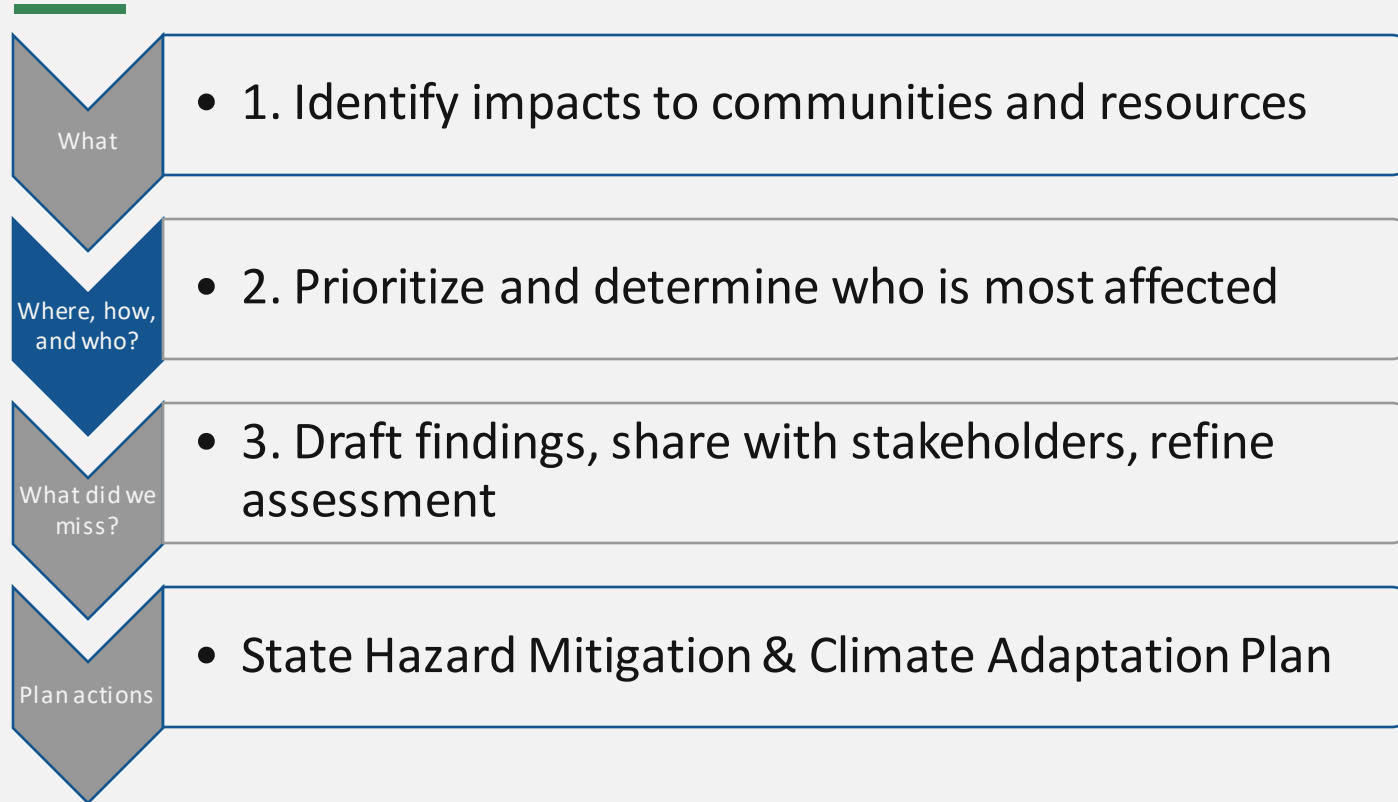
- Develop fuller picture of climate impacts and how they affect communities

Today

- Refine understanding of regional impacts
- Prioritize climate impacts to address in State Hazard Mitigation and Climate Adaptation Plan
  - including those that fall most heavily on environmental justice and socially vulnerable communities

# Climate Change Assessment Overview & Progress to Date

# Assessment Process and Community Input





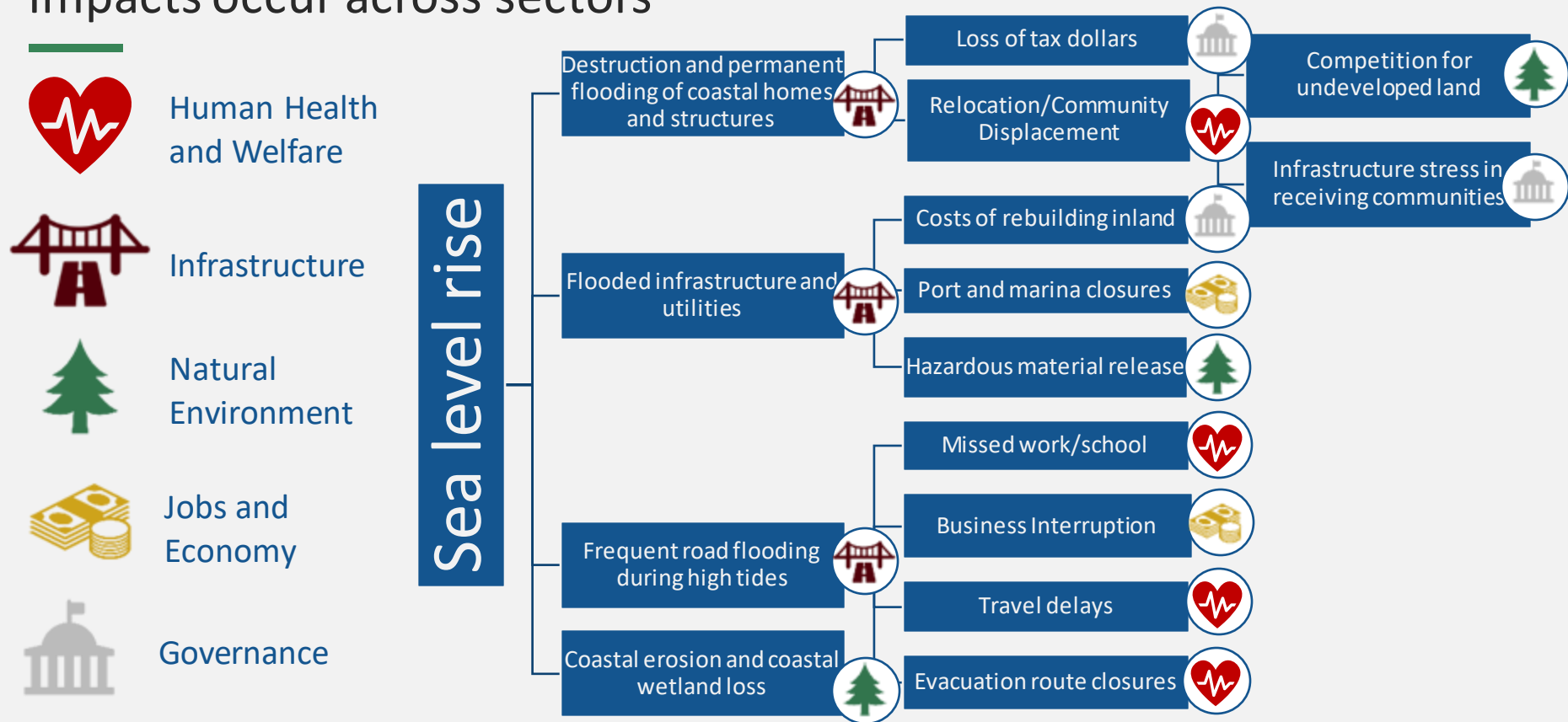
## Key climate hazards for Massachusetts

1. Heat
2. Flooding
3. Drought
4. Storms/extreme weather
5. Sea level rise



"Hurricane Sandy & Marblehead [Front Stre]" (CC BY 2.0) by Brian Birke

# Impacts occur across sectors



# Climate Impacts on Sectors: What we Heard

Assessment looks at impacts across five sectors:



**Human Health and Welfare**



**Infrastructure**



**Natural Environment**



**Governance**



**Jobs and Economy**



# Human Health and Welfare



## Health Effects of Climate

Health Effects from Degraded Air Quality

Health and Cognitive Effects from Extreme Heat

Increase in Vector Borne Diseases Incidence and Bacterial Infections

Health Effects from Aeroallergens and Mold

Increase in Mental Health Stressors

## Public Welfare

Reduction in the Availability of Affordable Housing

Emergency Service Response Delays and Evacuation Disruptions

## Public Safety

Health Effects of Extreme Storms and Power Outages

Reduction in Food Safety and Security

Damage to Cultural Resources

# Infrastructure



## Energy

Damage to Electric Transmission and Distribution Infrastructure

Loss of Energy Production and Resources

## Built Environment

Damage to Inland Buildings

Damage to Coastal Buildings and Ports

## Water Resources

Reduction in Clean Water Supply

Increased Risk of Dam Overtopping or Failure

## Transportation

Damage to Roads and Loss of Road Service

Damage to Rails and Loss of Rail/Transit Service

# Natural Environment



## Terrestrial Environments

Freshwater Ecosystem Degradation

Forest Health Degradation

Loss of Urban Tree Cover

Soil Erosion

## Coastal Environments

Coastal Wetland Degradation

Marine Water Ecosystem Degradation

Coastal Erosion

## Species Impacts

Shifting Distribution of Native and Invasive Species

## Economy



### Impacts from Infrastructure Damage

Economic Losses from Damages to Places of Business

Extreme Weather Business Interruptions

### Impacts from Natural Environment Damage

Decrease in Agricultural Productivity

Decrease in Marine Fisheries and Aquaculture Productivity

Damage to Tourist Attractions and Recreation Amenities

### Impacts from Human (Health) Damage

Reduced Ability to Work



# Governance



## Government Buildings and Land

Damage to Inland State and Municipal Buildings and Land

Damage to Coastal State and Municipal Buildings and Land

## Government Revenue

Reduction in State and Municipal Revenues

## Government Expenditures

Increase in State and Municipal Expenditures on Government Services

Increase in State and Municipal Expenditures on Policy Review

Increase in State and Municipal Expenditures to Provide Adaptation Coordination

Increase in Costs of Responding to Climate Migration

## • 2. Prioritize and determine who is most affected across sectors and regions

- **Severe:** Impacts expected to be big
- **Disproportionate:** Impacts or burdens will fall most heavily on socially vulnerable communities
- **More action needed now:** Action will help and not enough is being done to adapt



Severity	+ Disproportionality	+ Adaptation Gap	= Urgency
Extreme	Disproportionate Exposure	High Gap	100
Major			
Moderate	Potential for Disproportionate Exposure	Medium Gap	
Minimal			
Insignificant	Limited to no disproportionate exposure	Low Gap	0

→ Use the survey to help us refine and further prioritize

# Questions?



# Community Priorities and Input on Regional Impacts



# Discussion Groups in Regions

What **culturally important places, resources, or activities** are you most concerned about being affected by climate change?

- Historical locations and monuments
- Natural environments or resources
- Culturally significant activities



["Tapping Maple Trees" \(CC BY 2.0\)](#) by [Audubon Center of the North Woods](#)

## Consider example impacts:

- Changes to seasons affect ecology and how we interact with nature
- Flooding, heat, or extreme weather make places inaccessible or unsafe
- Economic pressures or business closures affect recreation opportunities



["Backyard Garden 2012" \(CC BY 2.0\)](#) by [Lori L. Stalter](#)



## Next Steps

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- Provide more input in this phase:
  - Share feedback via post-meeting evaluation
- Complete Survey: <https://bit.ly/38X3Rvp>
- Get more information: <https://www.mass.gov/info-details/ma-climate-change-assessment>

- **September:** Public comment period
- **October:** Assessment report finalized
- **Fall into 2023:** Hazard Mitigation & Climate Adaptation Plan Update Process

Thank you for joining!



# Assessment Regions

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