WEATHER IT TOGETHER

The Annapolis Model for Cultural Resource Hazard Mitigation Planning
Weather It Together is the Annapolis model for community-based planning that addresses the impacts of flooding, subsidence and sea level rise on historic and cultural resources.

Project Partners

City of Annapolis ▪ Annapolis Chamber of Commerce ▪ Chesapeake Bay Foundation ▪ Federal Emergency Management Agency ▪ Maryland Emergency Management Agency ▪ Maryland Department of Natural Resources ▪ Maryland Dept. of the Environment ▪ Maryland Historical Trust ▪ National League of Cities ▪ National Park Service ▪ Michael Baker International ▪ National Oceanic and Atmospheric Administration ▪ National Trust for Historic Preservation ▪ Preservation Maryland ▪ SERVPRO ▪ Union of Concerned Scientists ▪ United States Naval Academy ▪ United States Army Corps of Engineers ▪ US ICOMOS ▪ Urban Land Institute
A comprehensive strategy for reducing Maryland’s climate vulnerability through measures that state and local governments use to plan for and adapt to more extreme weather and a rise in sea levels.
Livelihoods in rural communities & small towns are more climate sensitive, particularly those with low-income, informal hourly jobs which are afforded little protection against flood-related employment disruptions.
Weather It Together

Building Resilience: A Climate Action Plan Priority

• Increase public and private partnerships
• **Vulnerable communities** disproportionately impacted
• Impacts on the state’s **economy, revenues** and investment decisions
• Deliver and refine **tools and assistance** for local governments
The recession of the northern glaciers is growing... the long trend is toward a warmer earth; the pendulum is swinging.

- Rachel Carson, scientist, ecologist and writer – The Sea Around Us (1952)
We call on policy-makers and government decision-makers at all levels to support communities in planning for a resilient future, including making informed choices, and assessing the costs of action and failure to act.
"Ice melts at 32 degrees. It doesn’t care if you are a Republican or a Democrat."

John Englander, oceanographer and author of High Tide on Main Street
Annapolis has experienced the greatest increase in nuisance flooding in the past 50 years (925%) with a current average of 39.3 days per year. In the next 50 years, nuisance flooding will be a daily occurrence.
Within the next 100 years, sea level rise is estimated to reach 44 inches. To date, 13 islands have been lost in the Chesapeake.
Historic Annapolis

History: A Colonial Capital

- Nicholson lays out plan for Colonial Capital - 1695
- St. John’s College (3rd oldest U.S. College) - 1696
- Alex Haley’s Kunta Kinte arrives Lord Ligonier - 1767
- Maryland State House (oldest state capitol) - 1772
- Home to Maryland’s 4 signers of the Declaration of Independence - Carroll, Chase, Paca & Stone
- General George Washington Resigns Commission - 1783
- First peacetime Capital - 1783 to 1784
- U.S. Naval Academy established - 1845
City of Annapolis / USNA
Risk Assessment: FEMA Flood Insurance Rate Map
Current FIRM

Blue shading 1% annual chance (100-year) flood
Orange shading is 0.2% annual chance (500-yr) flood
Flood elevation 8.2 ft.
1% annual chance flood (4.5') plus 3.7 feet for sea level rise by 2100
Hazard mitigation planning is the process of determining how to reduce or eliminate the loss of life and property damage resulting from natural and manmade hazards.

1. Organizing your efforts to develop a mitigation plan;
2. Identifying hazards and assessing losses to your community;
3. Setting mitigation priorities and goals and writing the plan;
4. Implementing the mitigation plan, including project funding.
Step 1 - Organize Resources

Develop a “Core Team” of Stakeholders

- Gov’t Agencies
- Preservation / Heritage Org.
- Cultural Institutions
- Business Associations - Main Street, Chamber, etc.
- Resident Associations
- Heritage Area
- Tourism / Hospitality
- Environmental
- Maritime
- Architecture / Engineering
- Archaeology
- Media
- Education
- Health Care
- Religious / Spiritual Institutions
Step 1 - Organize Resources

Research: Flood Mitigation Studies

Study downtown to determine the costs and benefits of public decision-making in mitigating property damage.
Annapolis City Dock Master Plan
A Framework to Guide Improvements & Redevelopment

“...development of a Hazard Mitigation Plan to protect historic resources... the City will explore and present for consideration several strategies for addressing the 100-year flood and sea level rise...
Step 1 – Organize Resources

Build the Planning Team

Organize your efforts to develop an effective mitigation plan... bringing together the appropriate planning team, consultants, technology, community support and financial resources.
Develop a database of historic survey, risk assessment and elevation information for City Dock and Eastport cultural resources.
Step 1 – Organize Resources

Secure the Necessary Financial / In-Kind Resources

Maryland Historical Trust/SHPO ($25,000)
National Trust for Historic Preservation ($25,000)
Preservation Maryland ($4,000)
MD Dept. of Natural Resources/NOAA ($48,000)
Urban Land Institute, Baltimore Chapter ($20,000)
USACE (est. $120,000+ in-kind)
MEMA/FEMA ($106,000)
National League of Cities – ($10,000+)
Step 2 – Identify Hazards
Identify & Map the Floodplain Study Area
## Step 2 – Survey / Assess Risks

### Assess Property Vulnerability

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<th>Use</th>
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<th>Lowest Elevation</th>
<th>Total Square Footage</th>
<th>Number of Stories</th>
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### 147 Properties

- Property Vulnerability (High, Med, Low)
- Loss to Structure ($)
- Loss to Contents ($)
- Loss of Function / Use ($)
- Displacement Cost ($)

**Total Projected Loss/Cost - $288.5 million**
Step 2 – Survey / Assess Risks

Complete a Non-Structural Mitigation Assessment

Nonstructural Mitigation Assessment for the City of Annapolis Historic District
Annapolis, Maryland

Prepared for: City of Annapolis
145 Gorman Street, 3rd Floor
Annapolis, Maryland 21401

Prepared by: Planning Division
U.S. Army Corps of Engineers, Baltimore District
P.O. Box 1715
Baltimore, Maryland 21203-1715

DECEMBER 2014

Figure 2-1 Building elevation survey point types

Lowest adjacent grade in this example is the front left corner, the lowest point closest to where the water is coming from. Low opening in this example is the basement window, where water would first enter the building during flooding. First floor opening here is the front door, where the most damage would typically occur if flood waters reached this elevation.
Step 3 – Set Priorities
Determine Community Value

List the name and address of vulnerable historic properties and cultural assets. For each asset (row), fill in Columns 1 to 6. Define High, Medium, and Low for Columns 3, 4, 5, 6, and 7 at the bottom of this worksheet (optional). Fill in Column 7 by qualitatively adding Columns 3 to 6. Enter the results of Column 7 in Column 16 of Worksheet #3.

<table>
<thead>
<tr>
<th>Name and Address of Asset</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
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Worksheet #4
- Historic Designation (NR, Local)
- Geographic Context of Significance
- Level of Significance (H/M/L)
- Public Sentiment (H/M/L)
- Economic Importance (H/M/L)
- Degree of Integrity (H/M/L)

= Total Level of Community Value
Step 3 – Set Priorities
Assess Public Sentiment – Survey

The city needs to start immediately to create a plan to address the flooding, natural hazard issues.

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WHAT PLACES MATTER MOST TO YOU?

www.Annapolis.gov/WeatherItTogether
Step 3 – Write the Plan

Adaptation: Public Engagement – Graphic Recording

www.Annapolis.gov/WeatherItTogether
Step 3 – Write the Plan

Establish a Vision, Goals & Objectives

By implementing *Weather It Together*, the Cultural Resource Hazard Adaptation and Mitigation Plan for the City of Annapolis, our historic Chesapeake Bay community will survive and thrive by building resilience, embracing sustainable development and adapting to hazards and natural disasters that threaten our Capital City’s cultural and natural heritage.
Step 3 – Write the Plan

8 Adaptation Alternatives for Annapolis

- Land Use Planning & Economic Development
- Building Codes & Regulations
- Cultural Resource Protection
- Natural Resource Protection
- Private Property Improvements
- Public Property Improvements
- Public Awareness
- Economic Incentives
City property tax credit applied to certified expenses for hazard mitigation / adaptation equal to 25% of rehabilitation cost on residential and income-producing properties (including interior improvements)
“MHT is funding the project in part so that we can use it as a model for other communities throughout the state that have cultural resources threatened by sea-level rise.” – Nell Ziehl, Chief of Planning
Step 4 – Implement the Plan

Engage the Public

Oct. 29 – Nov. 1, 2017
Annapolis Waterfront Hotel
HistoryAboveWater.org/2017-conference

Keeping History Above Water: Annapolis will bring together hundreds of regional, national and international experts on issues ranging from environmental/earth science to preservation practices, from adaption for national security to disaster preparedness for flooding hazards.
WEATHER IT TOGETHER

Lisa Craig
lmcraig@Annapolis.gov