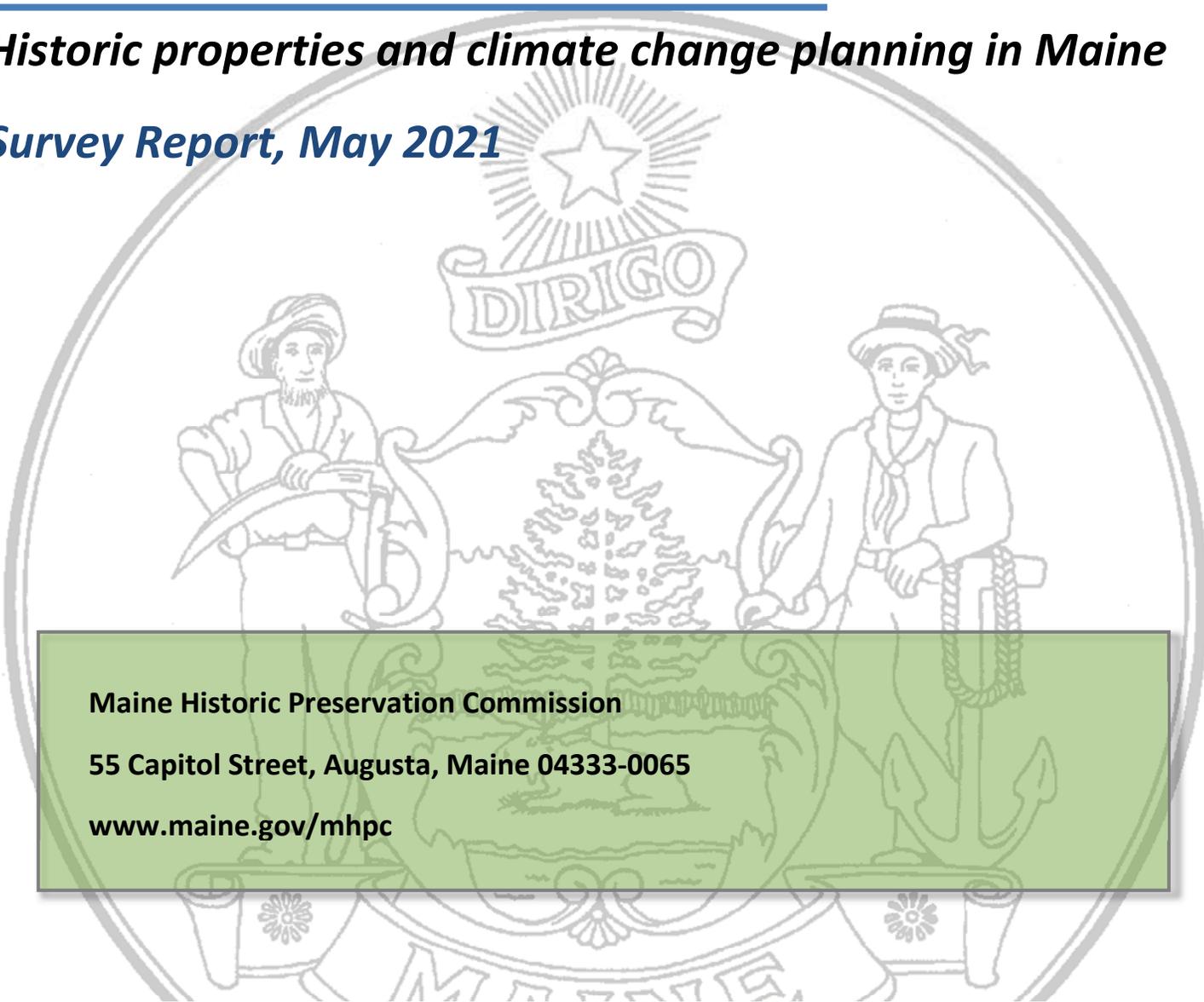
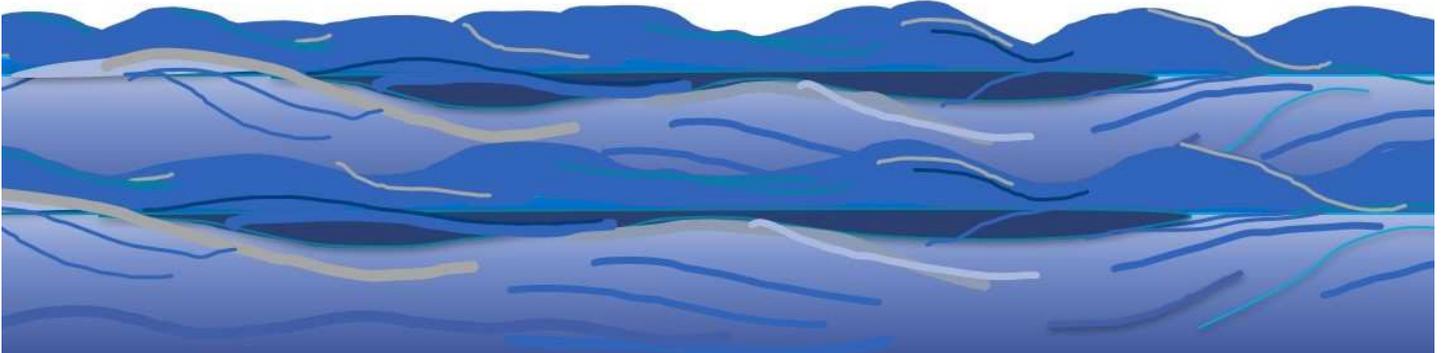


WEATHERING MAINE:

Historic properties and climate change planning in Maine Survey Report, May 2021

The background of the page features a large, faint watermark of the Maine State Seal. The seal is circular and contains a five-pointed star at the top with radiating lines. Below the star is a banner with the word "DIRIGO". In the center is a pine tree. On either side of the tree are two figures: on the left, a man in a hat and coat holding a scythe; on the right, a woman in a hat and coat holding a rope. At the bottom of the seal are two anchors. The seal is set against a light green background.

Maine Historic Preservation Commission
55 Capitol Street, Augusta, Maine 04333-0065
www.maine.gov/mhpc



WEATHERING MAINE:

Historic properties and climate change planning in Maine

CONTENTS

INTRODUCTION	4
EXECUTIVE SUMMARY	5
STATISTICS AND METHODS	8
RESULTS	11
GEOGRAPHIC SUMMARY OF RESPONSES	21
CONCLUSIONS	22
NEXT STEPS	23
APPENDIX A: RESPONDENTS	24
APPENDIX B: GOALS FOR THE FUTURE	25
APPENDIX C: THE SURVEY	27

Prepared by the

Maine Historic Preservation Commission

55 Capitol Street

State House Station 65

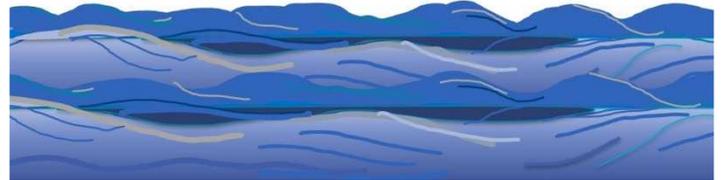
Augusta, Maine 04333-0065

(207) 287-2132

www.maine.gov/mhpc

INTRODUCTION

In Bar Harbor, Maine the monthly mean sea level has increased 6 1/8" since 1950¹. In Eastport the monthly mean sea level has increased 1" every 12.5 years since 1930.



In Boston Harbor, the monthly mean sea level has increased one inch every 9 years since 1950. The rate of sea level rise in Portland Harbor is less, but not insignificant: one inch in 13.5 years. Extreme precipitation events – with rain measured in inches per hour – are flooding buildings and infrastructure, and eroding roads, riverbanks and shore-side archaeology.

The future of historic properties is often overlooked in the complex process of planning for the effects of climate change, yet historic properties will also be physically affected by wind, water, heat and fire. Much like parks or schools or town buildings, a community's historic properties help create a unique sense of place. Community members, municipal officials, planners, preservationists, scientists and visionaries all need to be part of the discussion of how - and which – historic properties can be protected. But due to their materials, designs or siting, some historic properties may require specialized approaches

to protect them from water, wind, waves, heat or erosion.

As a first step in determining how the Maine Historic Preservation Commission (Commission) can best assist municipal and regional entities to identify, assess, prioritize and protect historic and cultural resources that may be threatened by the increasing effects of climatic changes the Commission developed a short, eight question survey relative to the inclusion of historic properties and cultural resources in local climate change planning efforts. The survey is found starting on page twenty-six.

¹ The monthly mean sea level statics cited are without the regular seasonal fluctuations due to coastal ocean temperatures, salinities, winds, atmospheric

pressures, and ocean currents. Data from NOAA <https://tidesandcurrents.noaa.gov/stations.html?type=Water+Levels> .

I. EXECUTIVE SUMMARY

The Weathering Maine Survey was sent to members of Maine’s cultural/preservation community in May 2018, followed by a much wider release to municipal officials in December of that year. Responses could be entered via Survey Monkey or through the postal system. The survey closed on March 1, 2019.

This survey was designed to answer the following questions:

- Have communities taken historic and cultural resources into consideration when planning for the effects of a changing climate?
- What are the biggest types of threats to historic and cultural resources?
- What forms of assistance are communities looking for?
- Are there trends in communities with similar geographic locations?
- Is there a difference in perception of climate change threats and the types of assistance needed between communities that have started to plan and those that have not?

Overall, 22% of the communities responding have started planning “to prepare for physical effects associated with extreme weather events or changing climate”.

But only 11 of these towns have specifically considered cultural and historic resources.

Eight of these towns are oceanfront, on tidal water or are on rivers.

Winter storms were seen as the biggest threats to historic properties (89/120), followed by summer storms (84/120) and flooding (80/120). Wildfire and erosion/landslides were concerns of roughly 25% of the respondents, but only two of the 134 respondents were concerned about the effects of drought on historic properties.² Earthquakes were a concern to 16 respondents, and the communities they represent were widely distributed throughout the state.³ The threats to cultural resources were expressed in similar proportions (as compared to historic properties) except that almost one-third of the respondents (36/115) were concerned about landslides in the vicinity of their cultural resources.



Ninety-seven respondents answered question five “Are there any historic properties or cultural resources in your community of specific concern?”. Thirty-two of these respondents (33%) identified no specific historic or cultural properties of concern. Review of the properties mentioned reveal that 1. some respondents listed properties that appear to be of general concern rather than specifically tied to the effects of climate change and 2. some respondents seem to have simply listed the National Register of Historic Places properties in their town.

Downtowns and residential neighborhoods, churches, coastal infrastructure, and museums were the most frequently cited historic properties of concern, followed by cemeteries, parks, and archaeological sites.



² New Sharon, Northfield

³ Byron, Stockholm, Harpswell, Presque Isle, Appleton, South Berwick, Amherst, Limerick, Bath, Northfield, Randolph, Winslow, Philips, Greenville, Lille and Yarmouth

Overall, more than half of the respondents indicated that ‘funding for studies or projects’ (57.76%), ‘help with identification of threatened historic properties or cultural resources’ (51.72%), or ‘information on climate change resources’ (50.86%) would help their community to prepare for the physical effects associated with extreme weather events or changing climate. Forty-three percent would welcome ‘services/consultation/advice’ and almost forty-percent wanted ‘information on adaptation, mitigation or resilience strategies’. The less frequently chosen categories of assistance were help with ‘identifying the range of adaptive strategies for specific threats’ (34.48%) or ‘outreach/communication/education’ (31.90%).

Both the geographical location and the status of the local planning process are reflected in the respondents' answers. Communities that had started to plan for the effects of climate change were more focused in their needs and the identification of threats. Respondents that lived in communities on the coast, on a river, or adjacent to tidal waters were most concerned about threats that resulted from flooding.

Limitations of the Survey

1. This survey does not shed any light on whether communities that have identified historic properties threatened by climate change – or have even started to discuss the topic – acknowledge that some historic properties may require special levels or types of protection or mitigation or adaptation.
2. The types of threats that may affect historic properties focused on events (storms, wildfire, hurricanes) not the agent causing the damage (water, wind, ice, loss of electricity, fire). A property may feel

the immediate effects of a winter storm (snow, freezing, ice, melt) differently than a summer storm (water, erosion, wind, lightening, waves). A storm may be the event that results in damage, but the agent of damage is the water that floods the basement, the wind that topples trees and rips off roofs, and the ice that collapses the power lines. Preparing for the effects of climate change on historic and cultural resources requires preparing for “storms” and “flooding” in general as well as preparing specifically to mitigate for water, wind, ice, and fire. Questions 2 and 3 should be refined if the survey is conducted again.

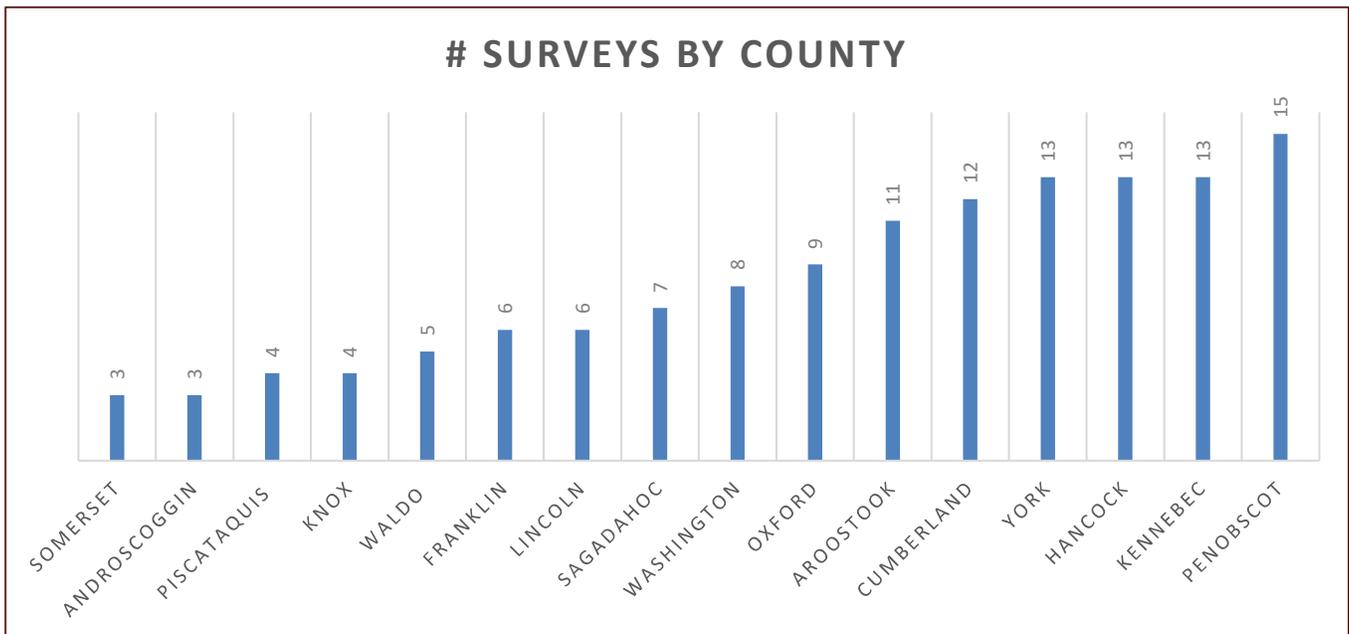
II. STATISTICS AND METHODS

A. Outreach

The Weathering Maine Survey was initially released in May 2018 at a regional meeting on climate change held in Augusta, Maine. This was followed up by e-mails to municipal staff associated with Certified Local Governments⁴, preservation partner organizations (staff), appointed members of the Commission, Commission staff, and the MCulture List serve. This yielded 20 responses. In early December a printed version of the survey was mailed to the Chair of the Planning Board and Code Enforcement Officer in every incorporated municipality in Maine, with the option of completing the survey on-line or via mail.⁵ This yielded 114 responses through the end of February, after which the on-line survey was closed. Completed surveys received by mail were entered into Survey Monkey by Commission staff. Five surveys received by mail after the 1st of March are not included in this analysis.

Surveys mailed:	877	Surveys returned by March 5, 2019:	134 ⁶
-----------------	-----	------------------------------------	------------------

B. Where were the respondents from? *For the list of towns see Appendix A*



⁴ Certified Local Governments have been certified by the National Park Service to have developed historic preservation programs in their communities that meet the Secretary of the Interior’s requirements. These communities have review boards and historic preservation ordinances.

⁵ Some municipalities have multiple Code Enforcement Officers, while in other cases a Code Enforcement Officer serves multiple communities.

⁶ The December mailing yielded a 12.9% response rate, but it is not possible to determine a response rate for the May email and conference survey release.

The respondents were almost evenly split between those that live in inland counties and those that live in coastal counties.⁷

INLAND COUNTIES	# SURVEYS
Somerset	3
Androscoggin	3
Piscataquis	4
Franklin	6
Oxford	9
Aroostook	11
Kennebec	13
Penobscot	15
In Inland Counties 64	

COASTAL COUNTIES	# SURVEYS
Knox	4
Waldo	5
Lincoln	6
Sagadahoc	7
Washington	8
Cumberland	12
York	13
Hancock	13
In Coastal Counties 68	

C. Geographic Characteristics

Communities were assigned one or more tags to describe their geographic features.

“Inland”	Communities are not located directly on the ocean.	81 respondents
“Ocean”	Communities are located directly on the ocean	40 respondents
“Tidal”	Communities may be inland or on the ocean and are affected by tidal waters	21 respondents
“Riverine”	Communities may be inland or on the coast but also have a significant river	60 respondents

⁷ Two respondents did not identify their town.

Some communities are in Ocean, Tidal and Riverine categories (i.e. Saco) and others could be tagged as Inland, Riverine and Tidal (i.e. Gardiner). Assigning multiple tags was done because the risks associated with each tag are somewhat different. Based on their risks, four (or more) sets of information may need to be developed to assist any one community.



III. RESULTS

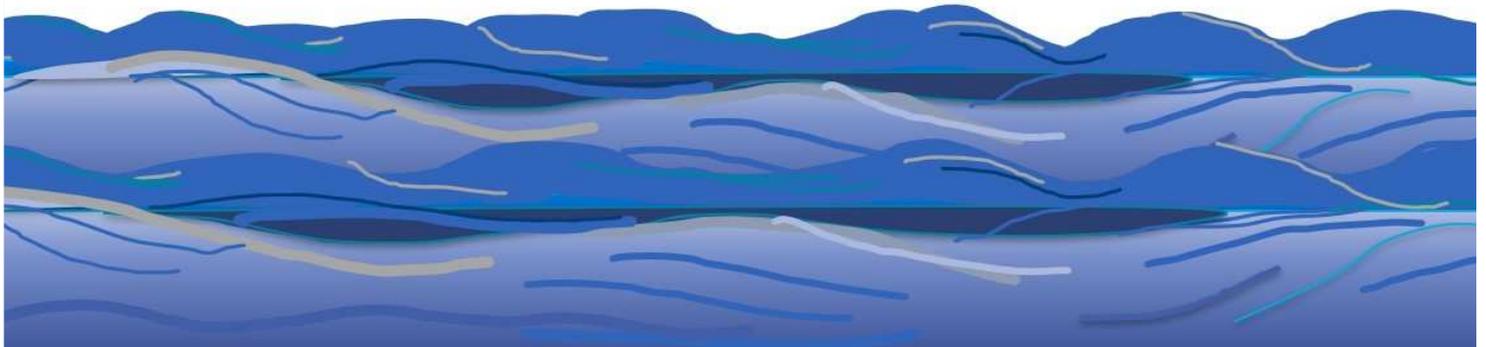
A. How many communities have started to plan for climate change?

Twenty nine of the 131 respondents that answered this question indicated that their community had started to plan for climate change. (22%)

Where are these towns located?

(Some towns are located in more than one geographic zone.)

Location	Count	Names
Inland	10	Veazie, Monmouth, Kingsbury Plantation, Sangerville, Presque Isle, Buckfield, Topsham, Norway, Gardiner, Topsham
Ocean	16	Islesboro, South Portland, Wells, Kennebunkport, Belfast, Castine, Saco, Kittery, Scarborough, Chebeague Island, Bristol, York, Kennebunkport, Camden, Freeport, Monhegan
Tidal	4	Machias, Damariscotta, Saco, Gardiner
Riverine	10	Veazie, Machias, Sangerville, Presque Isle, Saco, Damariscotta, Topsham, York, Gardiner, Topsham



B. What does “starting to plan” mean?

Not all respondents provided information on how their community had “undertaken any actions, discussion, or studies, or formed a group or committee associated with extreme weather events or changing climate. Of those that did, responses ranged from “informal discussions” about protecting an island community’s water supply to establishing definitions of high water in land use ordinances to including climate change in municipal comprehensive plans to appointing a local task force on resiliency.

A few communities had more robust planning efforts: Damariscotta had worked with the Lincoln County Planning Association to create an *Adaptation Planning Study* for their historic downtown

and Gardiner had worked with the Army Corps of Engineers to complete a *Nonstructural Flood Mitigation Assessment* for their flood-prone historic downtown.

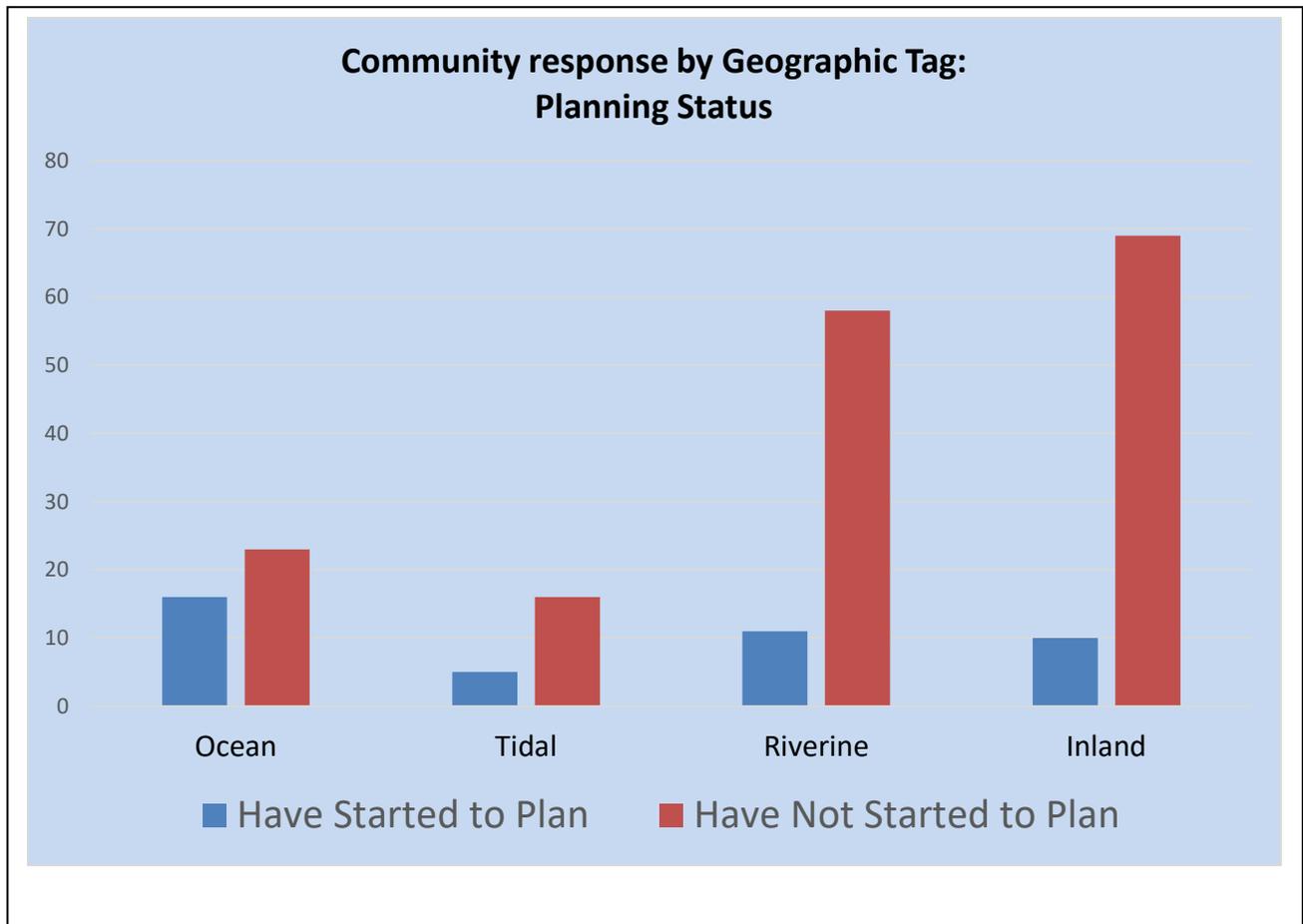
A regional effort by Saco, Biddeford, Scarborough and Old Orchard Beach established in 2010 a Sea Level Adaption Working Group to study climate change issues based on sea level rise and storm surge impact. Both larger cities (South Portland) and smaller towns (Belfast, Harpswell and Freeport) cited municipal committees focusing on energy, climate change/sea level rise, sustainability or resiliency. Even Kingsbury Plantation, population 26 and located well inland in Piscataquis County, invested in measures to strengthen the local dam to prepare for extreme weather events.

Several respondents equated planning for the effects of climate change with planning for and mitigating emergencies. County-level Emergency Management Agents (or Agency) were cited by several towns as the entities planning for the effects of climate change. Others reference hazard mitigation plans and floodplain management ordinances as the focus of local activities.

C. Does starting to plan for climate change vary by geography?

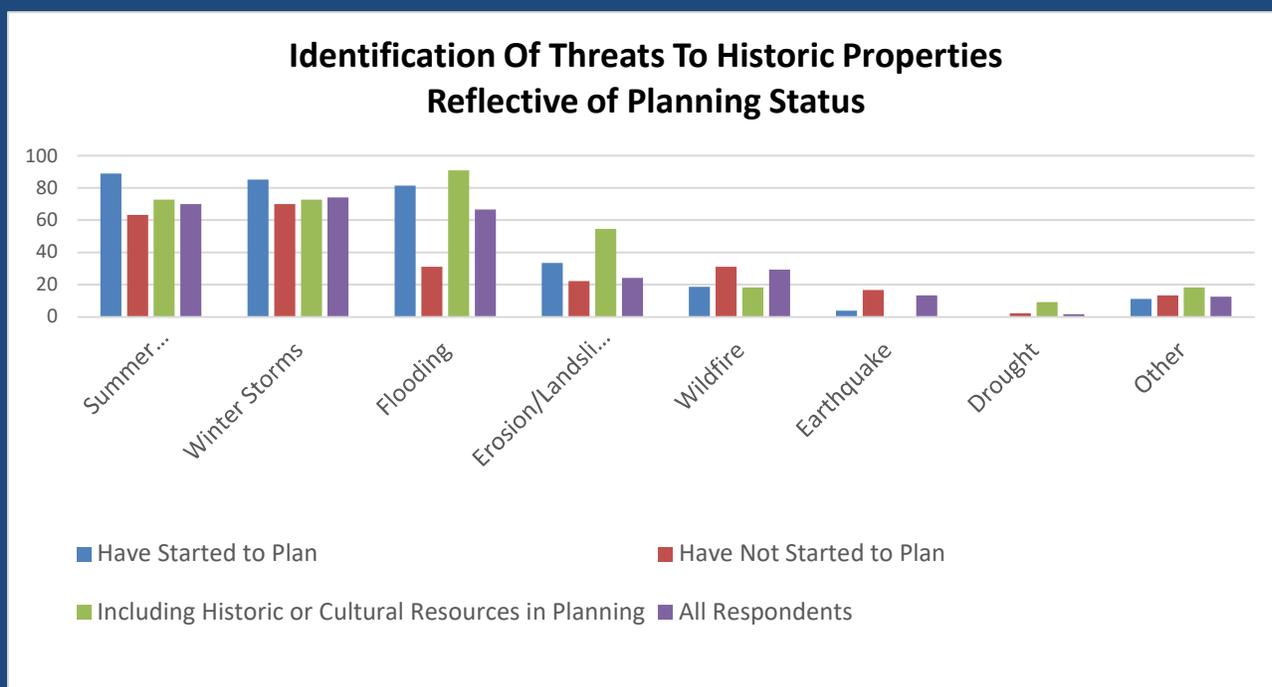
Yes. The small sample of communities that have started to plan for climate change are located both inland and along the coast, but a larger percentage of communities characterized as riverine or inland have not started to plan for climate change. When compared to inland or riverine communities it appears that being on the coast or in a tidal area increases the chance of planning for the effects of climate change.

Inland	12.7% planning	87% not planning
Ocean	41% planning	59% not planning
Tidal	23% planning	77% not planning
Riverine	16% planning	84% not planning



D. Do the concerns of those communities that have started to plan for climate change vary much from those that have not?

Yes. Those communities that have started to plan more strongly identify flooding, summer storms and winter storms as threats to their historic and cultural properties. Communities that have not started to plan still identify summer storms and winter storms as their top threats but to a lesser extent; conversely, they choose the remaining categories at a higher percentage.

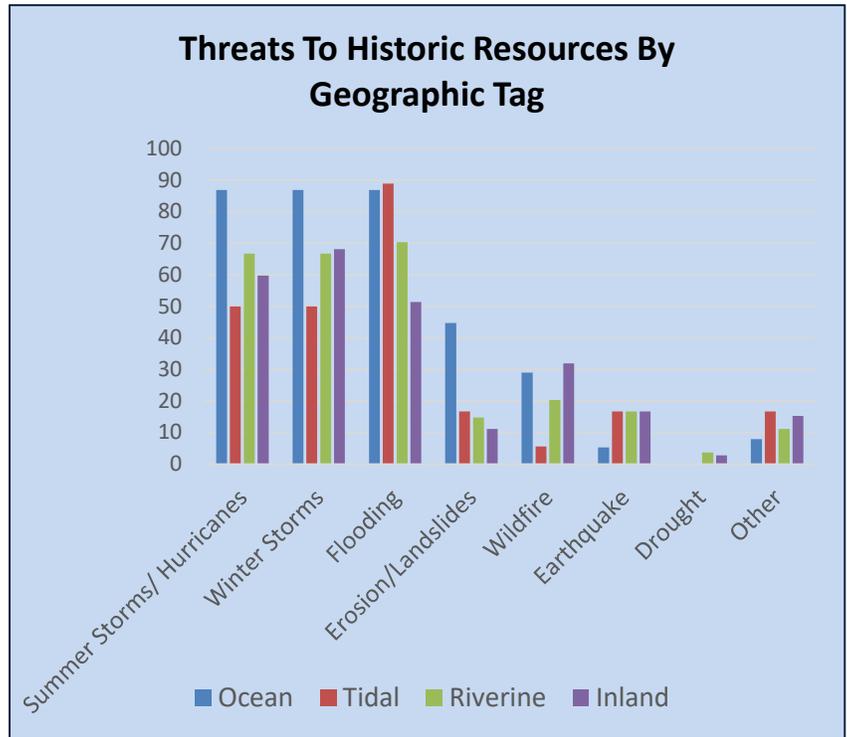


This may suggest that the planning process winnows down the range of threats. However, it could be that the communities that have started to plan share similar threats as compared to communities that have not started to plan.

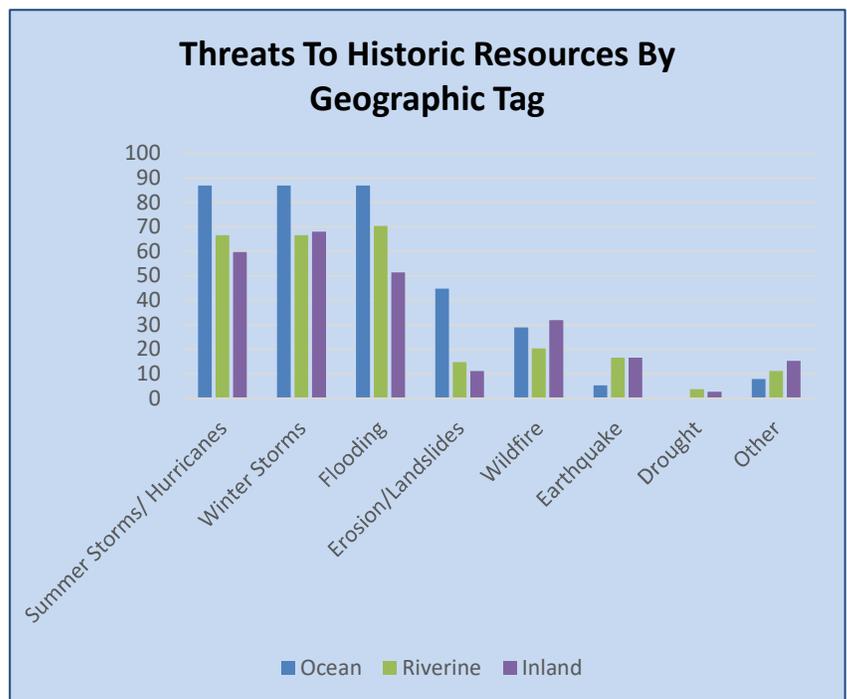
Summer Storms/Hurricanes, Winter Storms, Flooding and Erosion/Land slides are the biggest concerns for those communities that have included Historic or Cultural resources in their planning activities.

E. How does the identification of threats vary by geographic location?

Communities that are tidal, whether on a river or not, were concerned about storm flooding more than any other group. This may be indicative of the current presence of nuisance flooding due to tides or rising water tables. Because 20 of the 21 tidal communities are located along significant rivers, it could also reflect the potential for damage from river flooding, high tides, or storms, either together or separately.

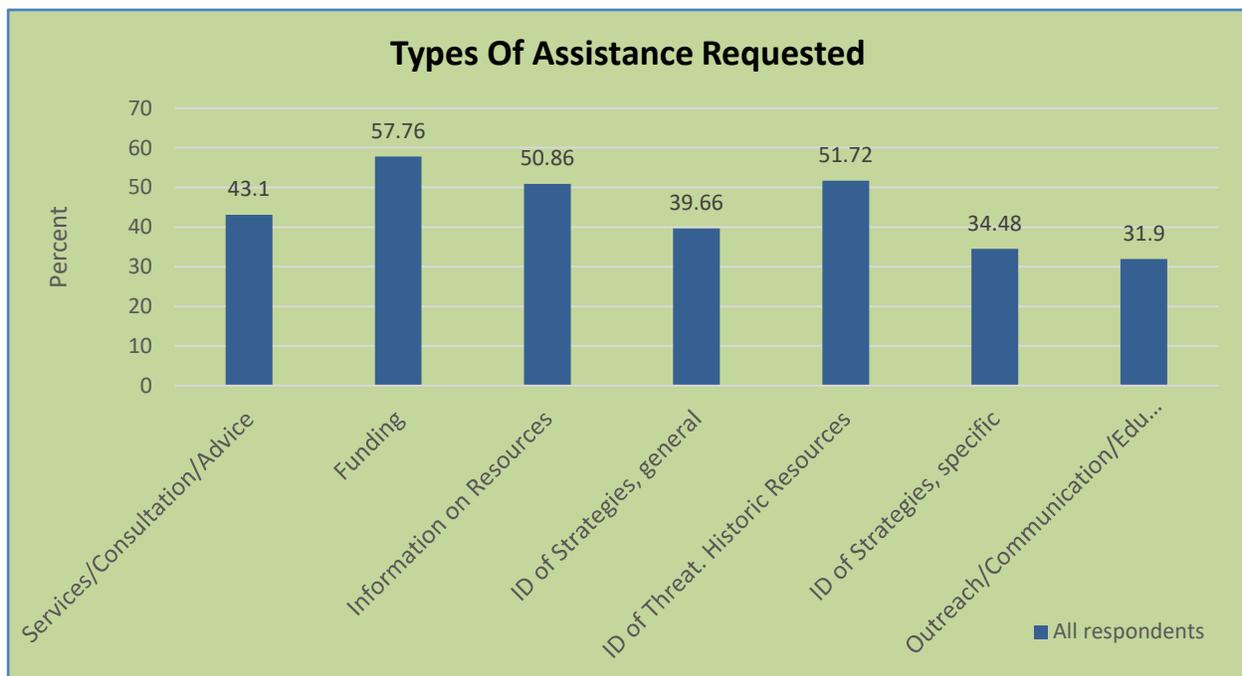


Removing tidal from the analysis changes the scenario somewhat. The inland communities are less concerned about flooding and erosion (although they are still concerned about storms) and more concerned than ocean or riverine communities about wildfire, earthquake, drought or other.

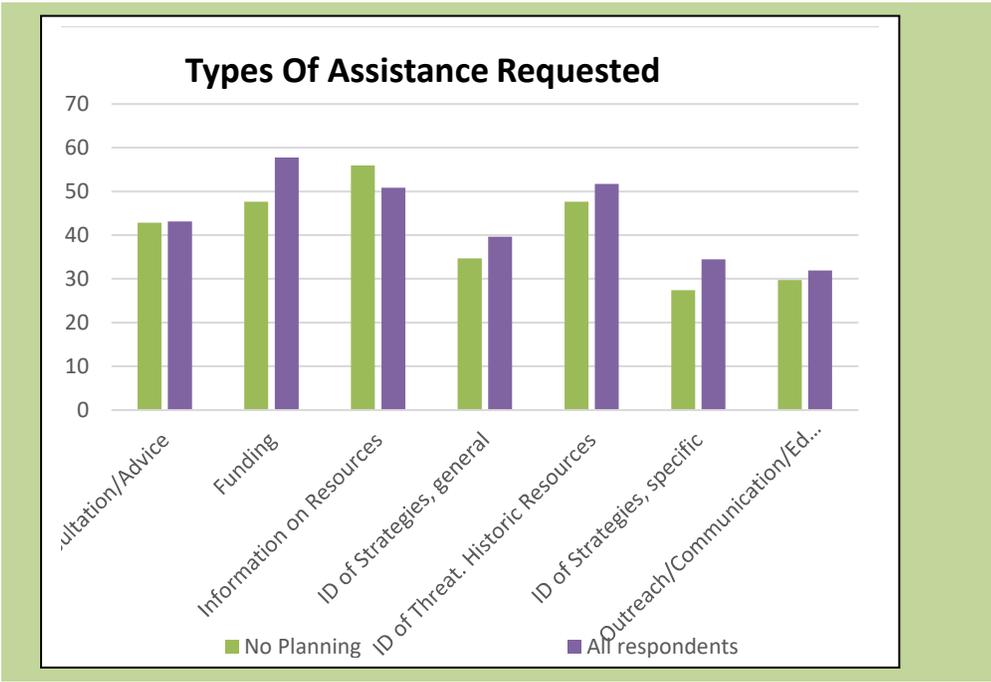


F. Overall, what types of assistance do respondents want?

Overall, the respondents identified funding for studies or projects as the most desirable type of assistance that the Commission could provide to help prepare for the effects of extreme weather events or climate change on historic or cultural properties. That being said, because so many of the respondents have not started the planning process (or if they had, did not specifically consider historic or cultural properties), it is possible that this answer is less about historic or cultural properties, but more about funding for general studies or projects. The same might be true of the 50% of the respondents that identified “information on resources” as desirable, or the 43.1 percent who requested “services/consultation/advice”.

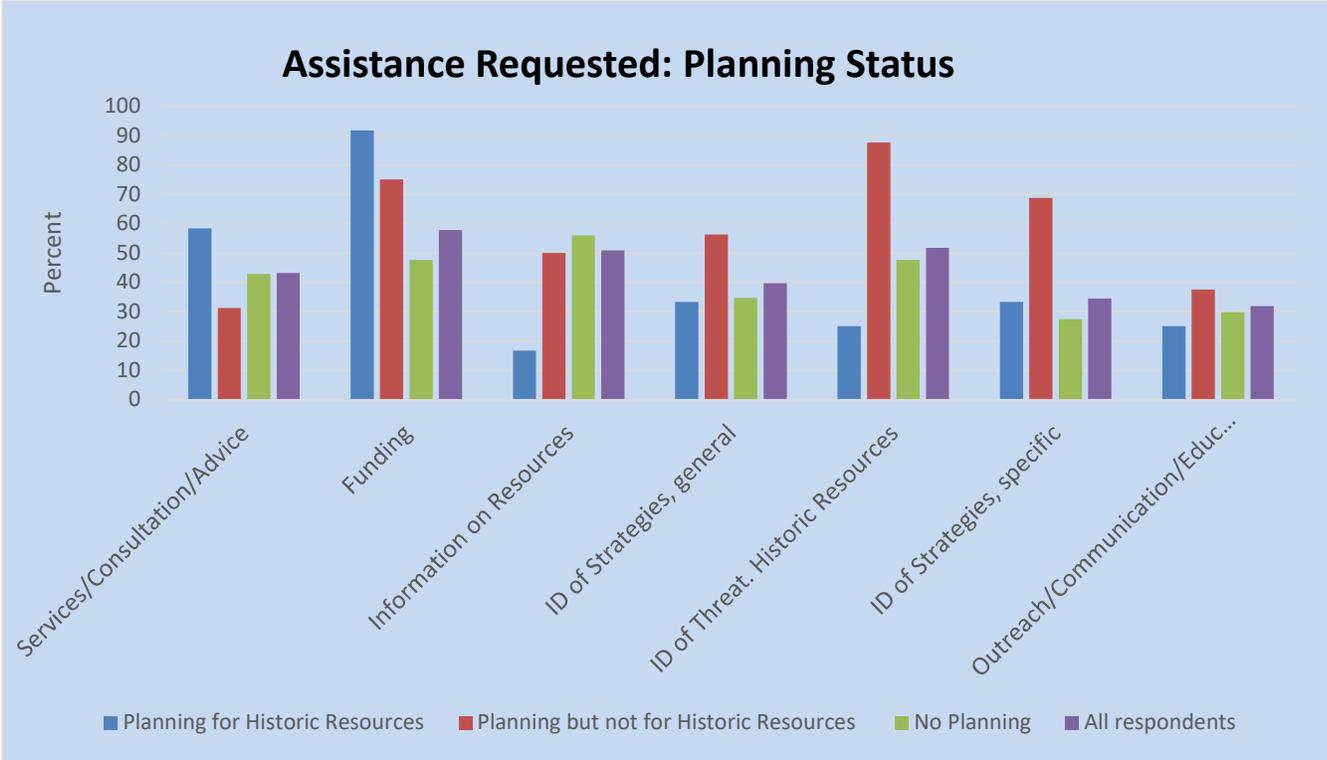


The data for all respondents is very similar to the data for those who were in communities that had not started planning for the effects of climate change or other extreme weather events.



G. Does the type of assistance requested reflect the planning status?

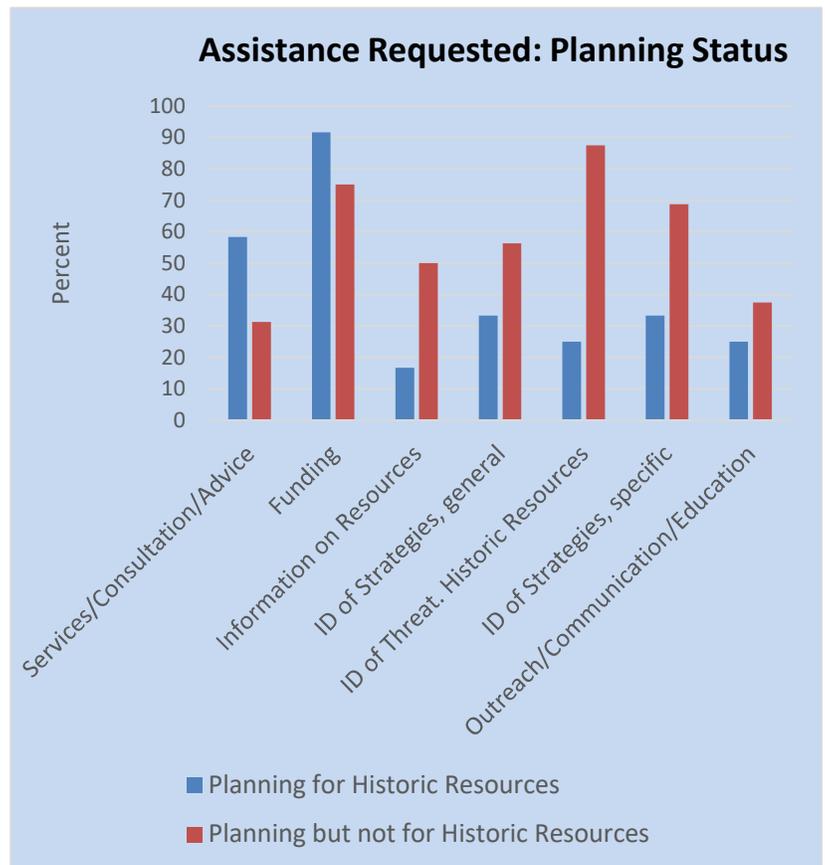
Yes, to some extent, the type of assistance that respondents want appears to reflect the state of the local planning process.



More specific to historic or cultural properties, 51.72% of the respondents chose “help with identification of threatened historic properties or cultural resources”.

Breaking this down further, there is a big difference between the types of assistance requested between respondents who have started planning and have taken historic or cultural properties into consideration and those who have not.

Communities that have started planning and considered historic or cultural properties already overwhelmingly identified funding for studies or projects as their highest priority. Those communities that have not yet considered historic or cultural properties specifically are looking for assistance in identifying threatened historic properties or cultural resources.



This suggests that the assistance that the Commission could provide varies based on where in the planning process a community is. When a community is starting out in the planning process, they need a broad range of services and information to help them get started – and they specifically need information about how to fit historic and cultural properties into the mix. Once they have started planning the largest need is that of identifying historic and cultural properties that are in harm’s way. After they have a handle on what the threats are, and where threatened historic or cultural properties are located the greatest need is funding for studies and projects. Surprisingly, none of the groups identified help with community outreach or education as a priority need.

H. Does the type of assistance requested vary by geographic tag? By county? By inland vs. coastal?

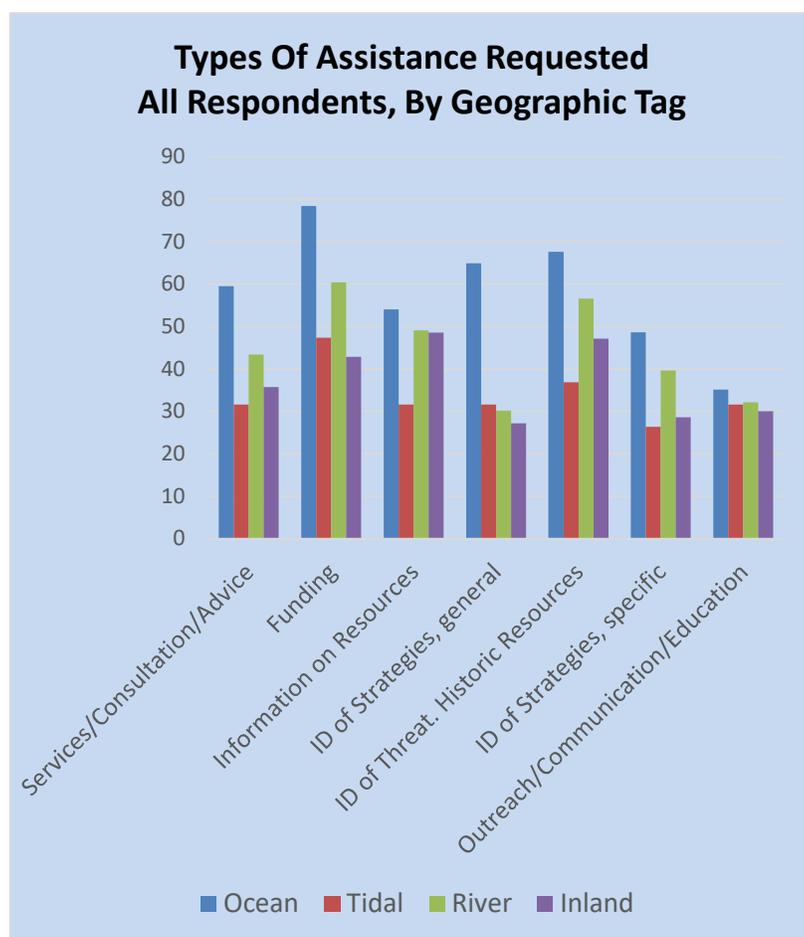
In a sense, yes.

The respondents that lived in **tidal** communities did not exhibit strong preferences for any one type of assistance – they need everything, but no more than 9 of the 19 respondents chose the same item (funding was the most frequently chosen item). The same general trend characterized the inland communities – just less than half of them agreed that they needed information on resources and help with identification of threatened historic properties.

For the **riverine** communities 32 out of 53 respondents agreed that funding was needed, and 30 of them indicated a need for help with identification of threatened properties. Far fewer expressed a need for general information on adaptation, mitigation or resiliency strategies (16 out of 53) or assistance with outreach/communication/education (17 respondents).

Respondents who lived in **ocean** communities saw the greatest need for assistance – and tended to be in agreement about the types of assistance they needed. Over 78% expressed interest in funding, 67% in help with identification of threatened properties, 64% need information on adaptation, mitigation or resiliency strategies and almost 60% would benefit from access to services, consultation and advice. As with the other communities, the need for outreach/communication/education assistance was a low priority and was chosen by only 13 of the 37 respondents.

Communities that had started planning for the effects of climate change and extreme weather events were more focused in terms of the threats they identified and what they needed as compared to communities that had not started to plan.



IV. GEOGRAPHIC SUMMARY OF RESPONSES

The most salient responses from each type of community, based on geographic location, are summarized in the following boxes.

INLAND, EXCLUSIVE OF RIVERINE

PLANNING: 10% percent of these communities had started to plan, but only 4 out of 37 communities had considered historic and cultural resources.

THREAT: Winter Storms (77%) were the greatest concern, followed by summer storms, and flooding.

ASSISTANCE NEEDED: Information on resources was expressed 52% of the respondents, followed by everything else.

RIVERINE

PLANNING: 18% of these communities had started to plan and 8 out of these 11 respondents had considered historic and cultural resources.

THREAT: Flooding (70%) was the greatest concern, followed by winter and summer storms (67% each).

ASSISTANCE NEEDED: Funding for studies or projects (60%), followed by help with identification of threatened historic and cultural resources (56.6%).

OCEAN

PLANNING: 41% percent of these communities had started to plan, but only 5 of 16 these respondents already included historic and cultural resources in their planning process.

THREAT: Floods and storms, in equal measure (86% each).

ASSISTANCE NEEDED: Funding for studies and projects (78%), followed by help with identification of threatened historic and cultural resources (67%) and information on adaptation, mitigation or resiliency strategies (64%).

TIDAL

PLANNING: 23%, but only 5 out of 12 communities are including historic and cultural resources in their planning process.

THREAT: Flooding (89%)!

ASSISTANCE NEEDED: Funding for studies and projects (47%) followed by help with the identification of threatened historic and cultural resources (37%). Just over a third of the respondents also requested services/consultation/advice, information on resources or on adaptation, mitigation or resilience strategies and for community outreach/education.

V. CONCLUSIONS

1. Some, but not many, communities have taken historic and cultural resources into consideration when planning for the effects of a changing climate. Twenty nine out of the 134 communities responding are actively planning for climate change but only 15 of those have specifically considered historic or cultural resources.

2. Across the state the greatest threats to historic or cultural resources were identified as winter storms (74%), summer storms (70%) and flooding (66%). This answer is geographically sensitive, with flooding being a greater concern for communities adjacent to a river, tidal area or the ocean. Summer storms/hurricanes and winter storms both generally contain precipitation, but summer storms may lead to immediate flooding, while it may take several months for the impact of winter storms to result in flooding due to snow melt. Storms may also include wind, lightning, hail, and heavy snow loads.

3. Respondents identified “funding for studies or projects related to planning for the effects of climate change” as the greatest need across the state. Many communities also need assistance with identifying those historic or cultural resources that might be affected by the results of climate change.

4. Respondents from ocean communities were more likely to live in municipalities that have started planning for the effects of climate change, they are in relative agreement about where the biggest threats lie (storms and flooding) and what kinds of assistance they need (funding, help with identification of historic properties, information on adaptation, mitigation or resiliency strategies and general services, consultation and advice). All of the ocean communities that had started planning for climate change and already had integrated historic and cultural properties into their planning process identified funding and services/consultation/advice as necessary to their process.

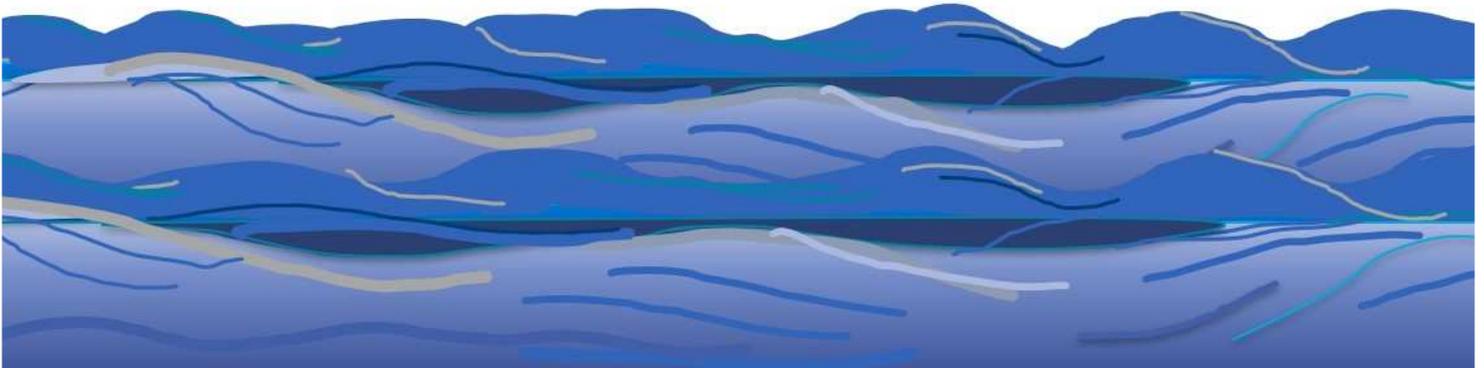
5. Communities that had started planning for the effects of climate change and extreme weather events were more focused in terms of the threats they identified and what they needed as compared to communities that had not started to plan.

VI. NEXT STEPS FOR THE MAINE HISTORIC PRESERVATION COMMISSION

- Meet with regional planners to discuss how the Commission could encourage integration of historic and cultural properties into planning for the effects of climate change.
- Develop an easy to use community focused survey form that combines the identification of historic resources with the identification of risks (vulnerability assessments).
- Create information to send with comprehensive planning data packets.

This publication has been financed in part with Federal funds from the National Park Service, Department of the Interior. However, the contents and opinions do not necessarily reflect the views and policies of the Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior. The Maine Historic Preservation Commission receives Federal financial assistance for identification and protection of historic properties. Under Title VI of the Civil Rights Act of 1964 and section 504 of the Rehabilitation Act of 1973, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, or handicap in its federally assisted program. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to:

Office of Equal Opportunity
National Park Service
1849 C Street, N.W.
Washington, D. C. 20240



APPENDIX A

Communities Responding to the Survey

Amherst	Cherryfield	Howland	Nobleboro	South Portland
Appleton	Columbia	Islesboro	Northfield	St. Agatha
Auburn	Cranberry Isles (2)	Kennebunk	Norway	St. George
Augusta (2)	Cumberland	Kennebunkport	Ogunquit	Stockholm
Bangor (2)	Damariscotta	Kingsbury Plantation	Orono	Strong
Bar Harbor	Eagle lake	Kittery (2)	Orrington	Topsham (3)
Baring Plantation	East Machias	Lamoine	Otisfield	Trenton
Bath (2)	Eastport	Limerick	Paris	Unity
Belfast	Eustis	Limestone	Phillips	Unknown (2)
Bethel	Exeter	Linneus	Porter	Upton
Biddeford	Fayette	Litchfield	Portland area	Veazie
Blaine, Bridgewater, Westfield	Freeport	Livermore	Presque Isle	Verona Island
Bowdoin (2)	Frenchboro	Lubec	Prospect	Waldoboro
Bradley	Friendship	Machias	Randolph	Wallagrass
Bristol	Gardiner (3)	Manchester	Rangeley	Waterville
Brooks	Glenburn	Mariaville	Raymond	Wells
Buckfield	Gouldsboro	Mechanic Falls	Ripley	Westbrook
Byron	Grand Isle	Milbridge	Rumford	Weston
Cambridge	Greenville	Millinocket	Saco (2)	Westport
Camden	Hampden	Monhegan	Sangerville	Wilton
Caribou	Harpswell	Monmouth	Scarborough	Winslow
Castine	Hermon	New Portland	Sedgwick	Woodville
Chebeague Island (2)	Holden	New Sharon	Shirley	Yarmouth (2)
Chelsea	Hollis	Newburgh	South Berwick	York

Augusta, Bath, Bowdoin, Cranberry Isles, Chebeague Island, Kittery, Saco, and Yarmouth all had two respondents. Topsham and Gardiner each had three respondents. Two respondents did not indicate where they were from. All respondents were counted equally unless otherwise stated in this analysis.

APPENDIX B: Heritage for the Future, 2021-2026.

The purpose of the Statewide Historic Preservation Plan is to guide effective decision making on a general level; to coordinate preservation activities; and to communicate preservation policy, goals and values to the preservation constituency, decision-makers, and interested and affected parties throughout Maine. It provides general direction and guidance, rather than serving as a detailed blueprint for making place-specific or resource-specific decisions.

Goal: Resiliency and the Effects of Climate Change

Why is this important?

Maine's warming climate and the need to be resilient in a changing world were mentioned by many people responding to the plan survey, in listening sessions, and meetings. Of particular concern are the increasing number and severity of flood events, changing water levels, storm surge, and other natural disasters that damage and even destroy historic properties. Increased stewardship and new approaches are needed to preserve them in the 21st century and beyond.

Goal Five Objectives

1. Strengthen and expand common ground between historic preservation advocates and the many other entities addressing the effects of climate change in Maine.

Suggested Actions

- Collaborate with the Governor's Office of Policy, Innovation, and the Future, the Maine Climate Council, environmental and land trust groups, and regional and municipal planning professionals to discuss the importance of historic resources and the impacts of climate change on them.
- Work with partners in the natural resources field to discover shared solutions for stewarding resources such as cultural landscapes, archaeological sites, and farms.
- Expand the climate change / historic resources conversation from one that focuses only on protections needed to address climate change to one that also presents historic buildings as part of the solution.
- Work with organizations and agencies such as the Federal Emergency Management Agency and the Maine Emergency Management Agency to access funding for historic resources/climate change response and planning.

2. Better quantify and promote the role of re-using older buildings to help meet the state's climate action goals.

Suggested Actions

- Work with partners in the climate change field to solve the challenge of modeling the energy value of reusing existing buildings and their construction materials.
- Promote successful projects that reduce the energy footprint of older buildings, while enhancing human comfort and preserving historic character and features.
- Effectively make the case that historic preservation is climate friendly by using life cycle assessment factors such as the durability and repairability of historic materials and the energy costs of demolition and non-local replacement materials.

3. Provide greater protections for particularly vulnerable resources, including archaeological sites and maritime properties.

Suggested Actions

- Promote the use of *Weathering Maine: Mapping Threats to Maine's Historic and Cultural Resources* as a tool for planning for the effects of sea-level rise; expand and update the data sets as sea-level rise scenarios are revised.
- Provide communities with the historic resource information residents and decision-makers need to assess steps moving forward.
- Couple resource inventory information with emerging discussions of resilience and adaptation.
- Explore methods to speed up inventorying at-risk resources, using tools such as LIDAR, GPS, 3D scans, citizen science efforts, and alternative survey methods.
- Assess the effects of extreme weather events and what types of adaption measures are appropriate for historic properties.
- Develop a funding mechanism, team, and protocols for data collection in emergencies.
- Work with planning professionals to ensure historic resources are visible and included in all planning projects.
- With partners, develop programs, and find funding for professionally-lead data recovery from eroding archaeological sites to include volunteer opportunities and place-based heritage curricula as appropriate.

APPENDIX C: The Survey

Dear Municipal Official,

The Maine Historic Preservation Commission is asking for your help collecting information on historic or cultural properties in your town that may be threatened by the effects of a changing climate.

One of the goals of Maine's most recent statewide historic preservation plan is to identify and document historic and cultural resources that may be threatened by extreme weather events, rising sea levels or other climatic changes. As a first step in determining how the Maine Historic Preservation Commission can best address this goal the Commission has developed a short, eight question survey relative to the inclusion of historic properties and cultural resources in local climate change planning efforts.

Please help by taking this survey in one of two ways:

**1. Complete this form and mail it back to the Commission,
or**

2. Complete the survey at

<https://www.surveymonkey.com/r/W7FL9KD>

Thank you for your time and your participation.

Weathering Maine

A climate change and historic preservation survey from the Maine Historic Preservation Commission

“Historic Properties” as used in this survey means any district, site, object, building or structure that is listed in or eligible for listing in the National Register of Historic Places or is recognized on a local level as a historic building, structure, site, landmark, object or district.

“Cultural Resources” is used in this survey to refer broadly to museums, libraries, parks, monuments, performance spaces, social halls, cemeteries, and other venues important to the social and cultural life of the local community.

1. Has your community undertaken any actions, discussions, or studies, or formed a group or committee, to prepare for physical effects associated with extreme weather events or changing climate?

Yes

No

Please provide group or committee name or contact information:

2. If so, have they specifically included historic properties or cultural resources as a focus area?

Yes

No

3. Please indicate what, if any, threats may affect *historic properties* in your community.

- Flooding
- Summer storms/hurricanes
- Winter storms
- Erosion/landslides
- Wildfire
- Drought
- Earthquake
- Other (please specify):

4. Please indicate what, if any, threats may affect *cultural resources* in your community.

- Flooding
- Summer storms/hurricanes

- Winter storms
- Erosion/landslides
- Wildfire
- Drought
- Earthquake
- Other (please specify):

5. Please list any historic properties or cultural resources in your community of specific concern.

6. What would help your community to prepare for any physical effects to historic properties or cultural resources associated with extreme weather events or changing climate?

- Services / Consultation / Advice
- Funding for studies or projects
- Information on resources
- Information on adaptation, mitigation or resiliency strategies
- Help with identification of threatened historic properties or cultural resources
- Help with identification of range of adaptive strategies reflecting specific threats to historic properties or cultural resources
- Outreach/Communication/Education
- Other (please specify)

7. Please provide the name of your town or city.

8. Does your town or city have a Historic Preservation Ordinance?

- Yes No

THANK YOU

