

Delivering Climate Services to Coastal & Marine Stakeholders

Dave Reidmiller, Ph.D.

Director, Climate Center

31 March 2022

Maine Sustainability & Water Conference



**Gulf of Maine
Research Institute**

Science. Education. Community.



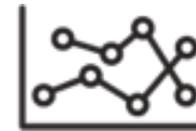
Locally
Focused



Globally
Relevant



Integrated
Approach:
Science,
Education,
Community



Independent,
Objective,
Nonpartisan



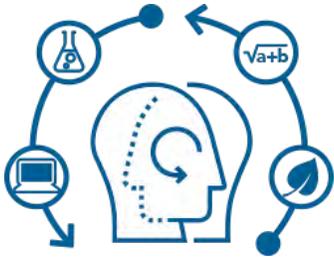
Inclusive and
Collaborative

Foundational Commitments



Science

Increase understanding of the Gulf of Maine ecosystem and economy through interdisciplinary, collaborative, and action-oriented research.



Education

Build Maine middle school students' critical thinking skills and understanding of the nature of science through participation in authentic science experiences.



Community

Engage marine stakeholders to share knowledge, learn, and make decisions that nurture ecologic and economic resilience in the Gulf of Maine.

Strategic Initiatives



Engaged Public

Broaden our program offerings to the interested public to deepen their understanding of the Gulf of Maine and its watershed.



Seafood Growth

Accelerate the growth of a diverse seafood economy in coastal communities through increasing and integrating farmed fisheries with our wild fishery.



Adaptive Communities

Assist marine communities to assess their climate risks and act on opportunities to adapt and thrive.



North Atlantic

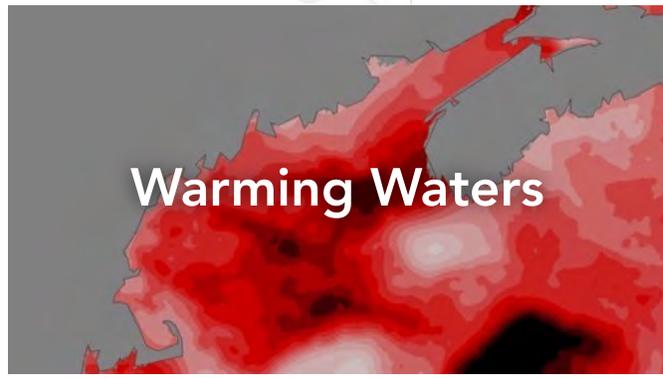
Build relationships around the North Atlantic to increase our understanding and contributions beyond the Gulf of Maine.



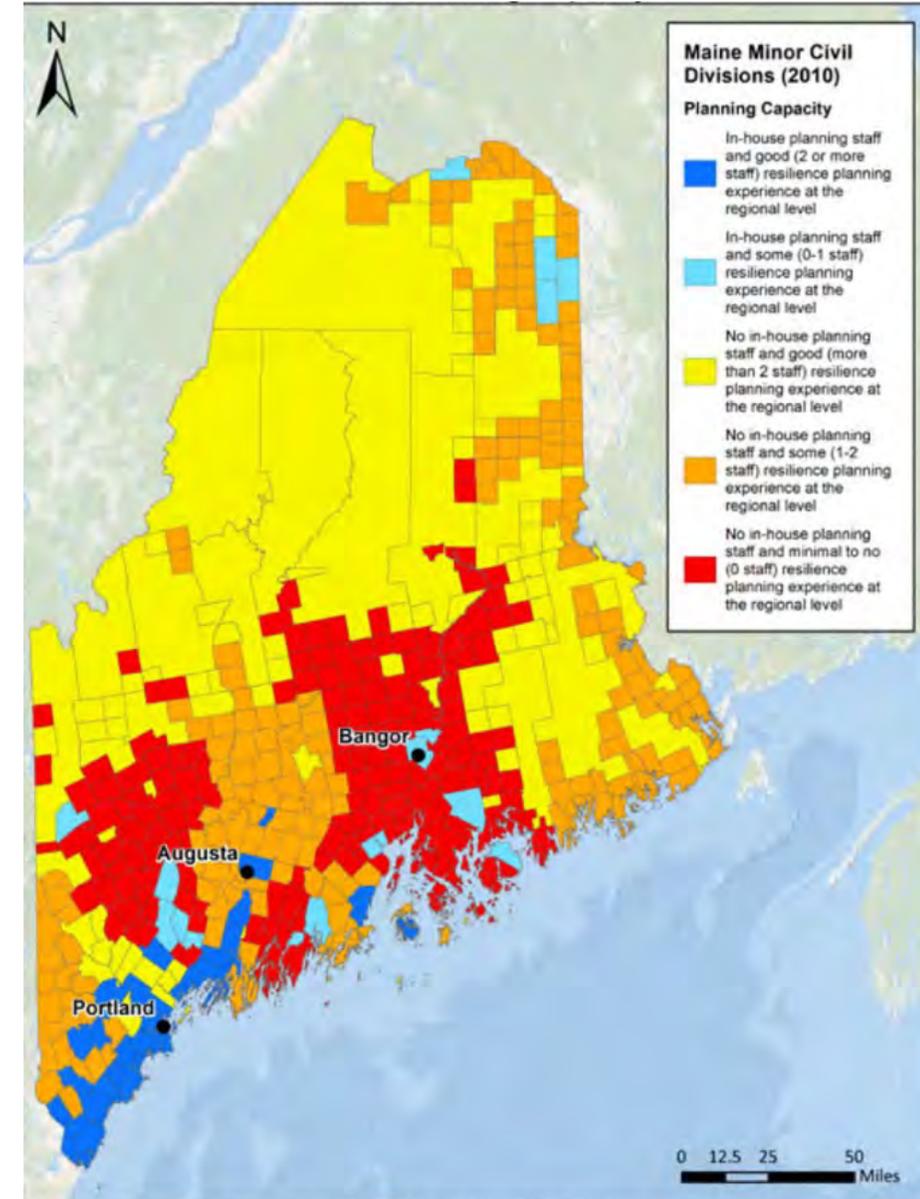
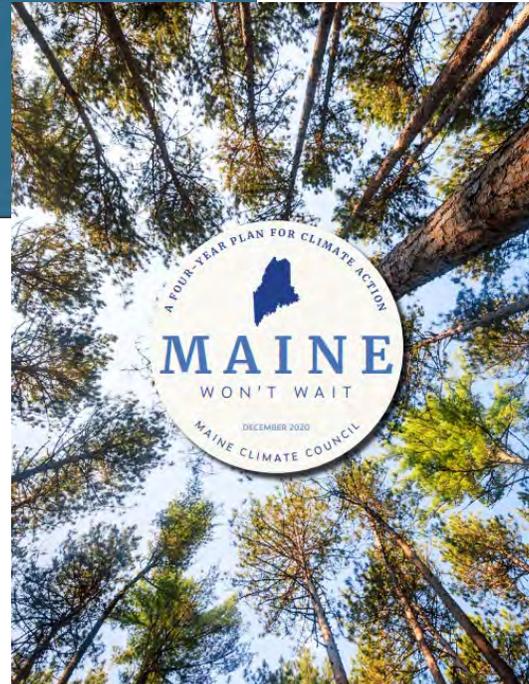
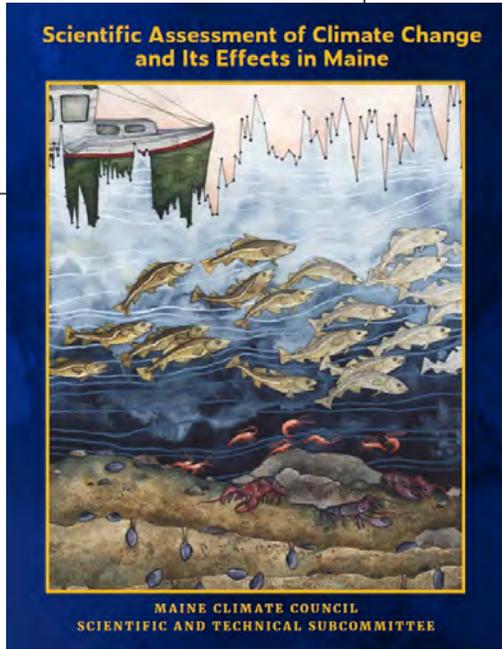
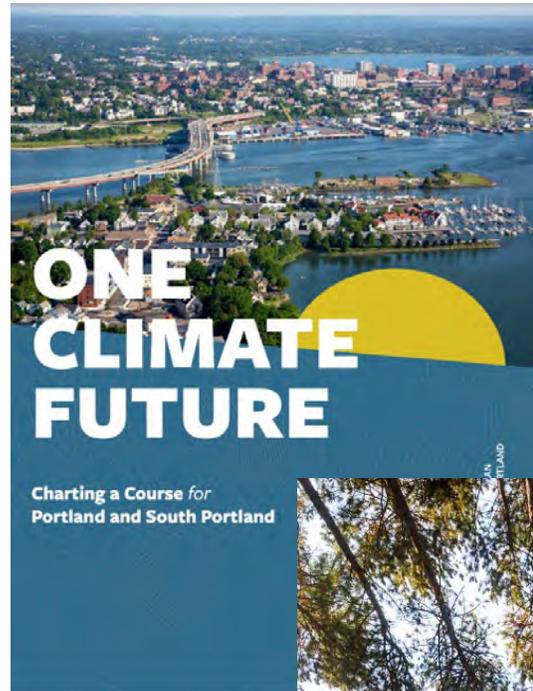
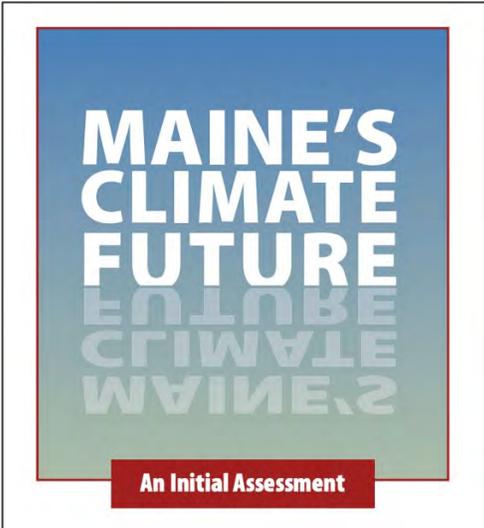
Impact Investment

Attract capital and develop new business models that benefit the marine communities we serve.

Climate Risks to the Gulf of Maine



State of Play in Maine



Climate Center Framework

THE PROCESS

Delivering climate services to coastal & marine stakeholders

ENGAGEMENT

STAKEHOLDERS

SCIENCE

SOLUTIONS

THE PROBLEM

Climate change is an existential threat to coastal communities as we know them.

THE OUTCOME

Local, state, national, and global climate actions empower coastal communities to thrive in a warmer world.

SCIENCE

- Fisheries Ecology
- Resource Economics
- Learning Sciences
- Sea Level Rise
- GHG Emissions
- Blue Carbon / Coastal Ecology
- Physical Oceanography
- Biological Oceanography
- Decision Science

ENGAGEMENT

- Fishermen
- Farmers
- Fisheries Managers
- Students
- K-12 teachers
- Informal Educators
- Municipal Leaders
- Elected Officials
- Marine Businesses

SOLUTIONS

- Ocean Data Products
- Sustainable Seafood
- Aquaculture
- Climate Finance
- Climate Risk
- Ocean Climate Policy
- Adaptation Engineering / Coastal Planning
- Climate Tech / Ventures

Affecting Change at the Local Level

Effective climate change adaptation means supporting community autonomy

Communities want to determine their own climate change adaptation strategies, and scientists and decision-makers should listen to them — both the equity and efficacy of climate change adaptation depend on it. We outline key lessons researchers and development actors can take to support communities and learn from them.

Anne C. Pisor, Xavier Basurto, Kristi
Jason M. Tylianakis, Ashley Hazel, M
Paul E. Smaldino, Thomas F. Thornt

The Role of Perceived Risk, Uncertainty, and Trust on Coastal Climate Change Adaptation Planning

Environment and Behavior
2016, Vol. 48(4) 579–606
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DOI: 10.1177/0013916514551049
eab.sagepub.com


Nathan P. Kettle^{1,2} and Kirstin Dow^{3,4}

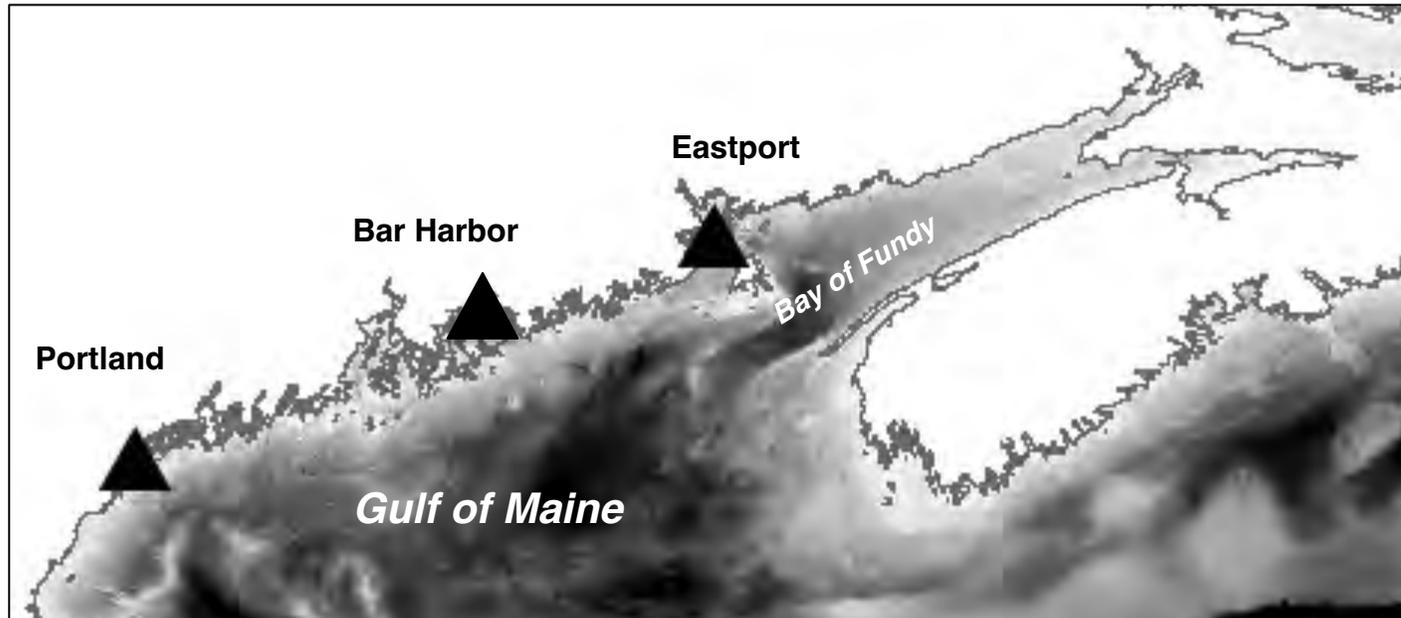


RESEARCH ARTICLE

Facilitating use of climate information for adaptation actions in small coastal communities

Vanessa R. Levesque^{1*}, Cameron Wake², and Julia M. Peterson³

- Do your homework
- Invest the time
- Be patient
- Listen, Listen, Listen
- Evaluate & Learn



- Quantify flood hazard for ungauged locations
- Quantify flood hazard in estuaries, where ocean and river processes can both cause flooding



- Build local climate knowledge & literacy (“K through gray”)
- Gather local data via community science
- Convene community leaders, decision makers, and resilience professionals
- Facilitate community-driven climate planning processes

Marsh creation with toe protection Portsmouth, NH

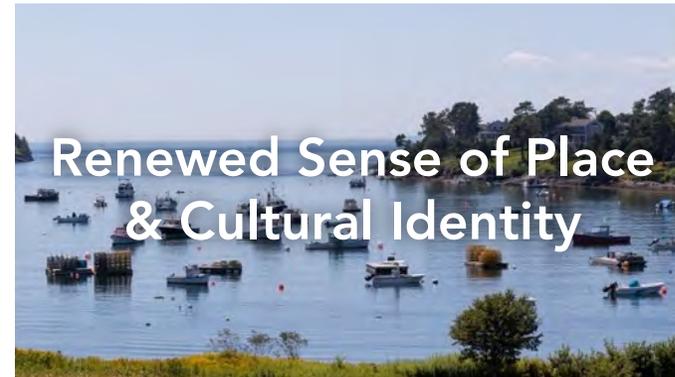


Resist & Accommodate Scituate, MA



- Accessing Finance
- Adaptation Engineering & Living Shorelines
- Coastal Planning & Climate-Smart Land Use
- “Managed Retreat”

Thriving Coastal Communities





Thank You!

dreidmiller@gmri.org
www.gmri.org/climate



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