Capacity Building 1
Final Report

Project Title: Using Island Institute Cross Boundary Connections to Build Disaster Preparedness in Maine and Beyond
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Project Key Personnel:

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I. PROJECT SUMMARY (from proposal)

This project will increase the resiliency of Maine's 144 island and coastal communities and provide similar communities elsewhere with lessons learned, inspiration, and solutions.

Maine's coastal and island communities are mostly small (40 to 2,500 residents), isolated, and highly dependent on fisheries. Community leaders and decision-makers know that they face an increased risk of damage from storms, flooding, and salt-water intrusion given projected sea level rise (SLR). Communities have asked Island Institute for support in understanding the specific threats they face, their options for increasing resiliency, and how to finance projects. In response, Island Institute, a 34-year-old, Maine-based community development non-profit, has designed a cross-boundary partnership approach to ensure local communities can tackle this challenge.

Project objectives are:
1) increase scientific literacy and develop shared understanding of specific risks amongst 150 network participants;
2) document and disseminate compelling multi-media stories about at least three small U.S. fishing communities who are increasing their resiliency to coastal hazards;

3) provide flexible, community-tailored support, materials, facilitation, and leadership training to catalyze local community planning and preparedness initiatives in at least five Maine island and coastal communities;
4) evaluate and document project impact and lessons learned, and disseminate through interconnected national networks. The project will help ensure that fishing communities in Maine and elsewhere can continue to make their living from the sea throughout this century.

II. PROJECT SUMMARY (from final report)

Sea level rise is a persistent and long-term problem. The predicted impacts on homes, businesses, and critical infrastructure could structurally change the communities and economies along the Maine coast. At the Island Institute, we are working to connect communities with the technical experts and one another to facilitate information sharing and help provide the tools and skills communities need to better understand implications of sea level rise so that they can make informed adaptation decisions. Through fact sheets, convenings, leadership trainings, small grants, field trips, community meetings, conference sessions, multi-media products, GIS and economic analysis, and supporting legislation, we are building capacity, particularly within small, remote communities that may not otherwise have the resources to plan for rising seas. We produced a three-minute animated video that describes the science behind sea level rise, the threats posed to Maine's island and coastal communities, as well as the need for innovative mitigation and adaptation strategies. The comical nature of the video and the fan-base of the producers allowed us to reach an audience who might not ordinarily watch a short documentary film. We conducted an analysis of economic exposure to rising seas for three municipalities with the goal of creating a narrative to help prompt citizens, municipalities, and the state understand the urgency of addressing sea level rise. Specifically, we investigate the impacts of inundation on municipal finance and create story maps that show impacts of inundation under 3 SLR scenarios and discuss risks to livelihoods and infrastructure.

III. PROJECT RESULTS

Accomplishments

To address the complex problems associated with sea level rise and increased flooding, we took a multifaceted approach. In Year 1, we established our advisory council, did a lot of listening on community needs, and focused on education and network building. In Year 2, we provided technical assistance in the form of bringing technical experts to communities, policy support at the state-level, GIS and economic analysis to spur action, and continued to build awareness of the issue through the creation of multimedia products.

Major Year 1 events (which are described in detail in our annual report) included our November 2017 symposium, entitled "Staying Above High Water - Helping Prepare Maine's Coastal Communities for Coastal Flooding and Sea Level Rise." We also hosted a session entitled, "ShoreUp Maine - Building Economic and Societal Resiliency to Sea Level Rise and Coastal Flooding" at the Maine Sustainability and Water Conference, and a leadership training course to help community leaders build skills, comfort and confidence in their ability to lead and participate in disaster preparedness and risk mitigation activities in their communities.

Major Year 2 events included Dr. Arnold's public talk, entitled, "Confronting Rising Seas on Island and Coastal Communities" as part of the Island Institute's summer lecture series that had a waiting list and reached 50 people. In October 2018, the Island Institute SLR team hosted Teresa Crean from the University of Rhode Island Coastal Resources Center/RI Sea Grant for a week in order for her to share progress and lessons learned from Rhode Island's vast experience in tackling sea level rise. During the week, we were joined by several of our SLR technical advisors for site visits to Monhegan and Vinalhaven to listen, learn and provide information and resources around the sea level rise-related challenges these communities are facing. We also used this time to define the scope of our larger vulnerability study, described in more detail below.

Island Institute staff and advisory council members attended the Northern New England American Planning Association's Planner Conference in Northport, Maine, in October 2018 where we heard again that the obstacle to taking action mostly appears to be financing projects, and the need to investigate public-private partnerships was identified.

Because financing is an issue that came up repeatedly during this work, the Island Institute's Sea Level Rise Technical Assistance Fund (TAF) was set up to provide flexible funding for communities to plan for the assistance they need and start taking the steps that are right for their communities. The TAF is designed to support information gathering, planning, education, or infrastructure projects. We supported five communities with NAS funds directed towards our TAF, including: Monhegan, Milbridge, Machiasport, Eastport, and Biddeford (summaries of work funded have been already provided).

In January 2019, we kicked off our vulnerability study with the hiring of a multidisciplinary consultant team of Judy Colby George (Spatial Alternatives - GIS expertise), Mike LeVert (Stepwise Solutions - economist), and Liz Hertz (Blue Sky Planning Solutions - planner). After much discussion with communities and our advisory council, we determined that the rapid vulnerability assessment originally envisioned would not produce new information and would not enable us to reach our goal of prompting action. Furthermore, the State of Maine Coastal Program embarked on a Risk, Vulnerability & Adaptation Study (a NOAA Project of Special Merit), on which we are advisors. This project is working with ten coastal communities to identify vulnerabilities and adaptation strategies for important working waterfront infrastructure. Additionally, we heard repeatedly that we need to tap into a municipality's vulnerability from an economic perspective in order to get people to pay attention. Thus, we chose three communities that represent a southern Maine, 1) a more low-lying, densely populated community-Scarborough, 2) an island community-Vinalhaven, and 3) a small downeast, natural resource-dependent community-Stonington, to conduct an assessment of the economic risks of sea level rise. The goal is to help prompt citizens, municipalities, and the state to understand the urgency of addressing sea level rise and coastal flooding. Specifically, the team is investigating the impacts of inundation on municipal finance - for example, the loss of revenue to towns or a shift in the tax burden due to inundated properties being taken off the tax roll. J. Colby George cleaned digitized parcel maps and assessors data and created a GIS tool that shows impacts of inundation under 3 SLR scenarios (1.6, 3.9, 6.1 ft.) on property in several ways [looking at land/building (commercial, residential, government) value at risk, total number of properties/buildings at risk, etc]. Economist M. LeVert engaged in conversations with community leaders on Vinalhaven to do a deeper dive into infrastructure and livelihoods that are at risk as well as particular issues a town may have. Results to date include a story

map together with the GIS data and figures and we are currently adding the potential economic exposure narrative for each community.
Continuing on with our education and awareness raising efforts, we partnered with O'Chang Studios, a local animated video production company, to create a 3-minute animated comic about sea level rise and the associated risks for coastal Maine residents. We debuted the animation in front of 300 people at our annual Waypoints Community Data Forum in February 2019. The animation has now reached 54,500 people. Please view it here: https://www.youtube.com/watch?v=fJSGvxoHV3g.
In May, the Island Institute hosted four colleagues from NOAA OCM to conduct a joint workshop on using NAICS data to better understand local marine economies. Day Two of the workshop brought in leaders from local organizations who shared information about accessing resources to analyze, synthesize, and secure funding for problems associated with sea level rise. Representatives from thirteen different communities attended the event. Connections were made between many of the presenters, Island Institute Staff, and community representatives.

Throughout the project lifespan, the Island Institute team endeavored to share this work through our website including posting fact sheets, presentations and What Works entries, public presentations, social media, Island Journal magazine articles, newspaper articles in the Working Waterfront newspaper and others press. These are documented in the attached Information Management Report.

Implications

The implications of this work are that we have a robust network, currently 134 participants in our ShoreUp Maine Google Group, and many more engaged in other ways. New partnerships and collaborations have resulted. For instance, we have plans to share our Economic Vulnerability study at events this fall with The Nature Conservancy's Coastal Risk Explorer tool. Connecting the narrative of both of these projects creates an even stronger message for coastal communities to prioritize adaptation to sea level rise.

Already, our partners are leveraging the time and thought put into the methodology of our Economic Vulnerability Study. We are supporting a Southern Maine Planning and Development Commission's (SMPDC) proposal to the Coastal Communities Grant Program to work with southern Maine coastal towns to assess local economic impacts of sea level rise and storm surge hazards on coastal private property values, evaluate associated implications for the municipal tax base and budget, and investigate novel and creative regulatory and non-regulatory strategies for protecting existing and future development, people, and municipal assets from coastal flood hazards. We also plan to fundraise to add additional communities to our analysis and add their stories to our Story Map.

The project also enabled us to build the expertise and connections in order to effectively engage in the policy discussion around preparing for coastal risks and hazards at the state level. Our team submitted testimony on three pieces of state legislation that focused on SLR adaptation, including the formation of the Maine Governor's Climate Council, which will have a focus on coastal issues. Between the Governor's Climate Council (to be appointed this summer) and our ongoing, publicly accessible ShoreUp Network, we are confident we will keep a sustained and coordinated focus on the issue in Maine.
In April 2019, Dr. Arnold was invited to give a keynote at the NOAA Climate Variability Meeting in Norfolk, VA, on Sea Level Rise Hotspots from Florida to Maine (attendance paid for by NOAA). S. Belknap

attended the National Adaptation Forum, where he discussed our work with Sentinel Site Cooperative Partners and administrators in NOAA, presented our SLR info pager and animated video informally to 12 participants from various organizations including NOAA, Union of Concerned Scientists, Adaptation International, and EcoAdapt (travel not paid for by NAS). Attending these meetings enabled networking with scientists, practitioners, and municipal staff tackling sea level rise around the country and created multiple follow-up conversations and potential collaborations. Additionally, being invited to give a keynote is a testament to the success of our capacity building efforts in Maine.
We continue to build capacity around funding mechanisms for sea level rise adaptation projects. We met with NOAA Office of Coastal Management staff who are working to complete a needs assessment and market analysis on adaptation finance options for coastal communities and coastal managers. We shared the status of finance options in Maine and ideas on what is needed or could be useful to advance resources in this area. We are also in communication with staff at the Casco Bay Estuary Partnership, the Maine Planning Assistance Program, the New England Environmental Finance Center, and Resilience Works LLC about collaborating on a conference on "Financing Costal Resilience: Past, Present and Future".

Also, from a funding perspective, we leveraged the success of ShoreUp Maine Technical Assistance fund to create an ongoing fund, the Tom Glenn Community Impact Fund, to empower communities to invest in enduring solutions. This fund was made possible through a grant from the Wilbur and Hilda Glenn Family foundation and honors the family's commitment to strengthening communities by supporting community infrastructure projects and small businesses.

With the success and popularity of the SLR animated video, we received funding from a private family foundation to share the film with policymakers and through in person meetings in coastal communities. A critical first step in mounting a response to sea level rise is convincing a community's citizens and decision-makers that it is a priority amongst all of the other competing municipal concerns requiring urgent attention. The animation is a first step to get people to pay attention. We think a better understanding of the science and threats posed by sea level rise, combined with local examples of more frequent flooding that we can all point to in our communities, will put communities in a stronger position to improve their resilience to rising seas. Additionally, we are entering the animation into several film festivals including but not limited to the Camden International Film Festival, the Maine International Film Festival, and the Maine International Maritime Film Fest.

The cross-boundary network and associated educational programming supported by this project has resulted in a wealth of new and deepened relationships between and amongst local community members, researchers, technical experts, local, county, state, and federal agency staff, private and public funding agencies, and supportive non-profits. These relationships are a critical output of this project and are resulting in long-lasting benefits for participants.

The technical assistance funds provided to under-resourced communities for planning have enabled communities to take a step towards coastal resiliency and have leveraged state funds, such as Coastal Community Grants, to fund larger resiliency projects.

Our Economic Vulnerability analysis provides a platform for discussion at the community and state level to explain the urgency of addressing coastal hazards, by identifying the infrastructure at risk and putting numbers to the jobs and dollars that will be affected.

Unexpected Results

We did not have a lot of expectations at the onset of the consulting project, but we were struck by the complexity involved in trying to quantify the economic repercussions of sea level rise. In our study, we stop short of estimating mitigation costs, or estimating economic losses under the assumption of no mitigation, which is complex, hypothetical, and probably not very realistic (e.g., the ferry and lobstering industry go away). However, even without a single "number" that we can point to as the economic impact of SLR for a community, we have made a solid contribution to the conversation, both in terms of mapping the scenarios and putting some numbers to the economic vulnerabilities.

Project Relevance

The following audiences would be most interested in the results of this project:

- Researchers
- Educators
- Community Leaders
- Local Government Officials
- State Government Officials
- Federal Government Officials
- Non-Profit Private Sector
- For-Profit Private Sector

For the reasons described above, we see all of these audiences being interested in the results of our project. We have all of these groups represented in the ShoreUp Maine Network.

Education and Training

Number of students, postdoctoral scholars, or educational components involved in the project:

- Undergraduate students: 0
- Graduate students: 0
- Postdoctoral scholars: 0
- Other educational components: 1,125

Our project was heavily focused on educational components, particularly in Year 1 as you read in our annual report. Over the course of the two year project, we created an online network called ShoreUp with over 130 participants, hosted a large state-wide symposium, hosted a 2-day leadership training course for municipal staff and community leaders, hosted a NOAA data training, hosted regional planning organization meetings, hosted site visits for advisors, technical experts, and community members, presented at numerous conferences, schools and other venues, designed What Works entries and fact sheets for our website, wrote newspaper and magazine articles, informed coastal risk and hazard legislation at the state level, created an animated comic on sea level rise in Maine that has over 54,000 views (not included in the number above), and more. While no students or post docs were formally involved in the project, they were certainly in attendance at many of our events and presentations and were targets of our outreach materials.

IV. DATA AND INFORMATION PRODUCTS

This project produced data and information products of the following types:

- Information Products
- Scholarly publications, reports or monographs, workshop summaries or conference proceedings
- Websites or data portals
- GIS applications
- Models or simulations
- Software packages or digital tools, or other interactive media

DATA

Data Management Report:
N/A

Relationships Between Data Sets:
N/A

Additional Documentation Produced to Describe Data:
N/A

Other Activities to Make Data Discoverable:
N/A

Sensitive, Confidential, or Proprietary Data:
N/A

INFORMATION PRODUCTS

Information Products Report:
See attached Information Products Report.

Citations for Project Publications, Reports and Monographs, and Workshop and Conference Proceedings:
These are listed in the Information Management Report attached.

Websites and Data Portals:
These are listed in the Information Management Report attached.

The project website and products will be maintain indefinitely online. We have no intention to archive them.

Additional Documentation Produced to Describe Information Products:
N/A

Other Activities to Make Information Products Accessible and Discoverable:
Printed materials (e.g. Sea Level Rise 101 and other handouts) are shared at Island Institute events, community meetings, and trainings. Symposium videos were shared with conference attendees and the ShoreUp Network, and promoted in our email blast reaching 12,000 readers, on the Climate Impacts web page (149,389 views). Facebook posts highlighting flooding and storm surge photos reach 4,934 followers and the largest boosted Sea Level Rise post reached 24,565 people. The Working Waterfront newspaper publishes monthly and is distributed to 55,000 readers along the 3,500-mile coast of Maine and inserted into the subscriber issues of the Portland Press Herald and the Bangor Daily news (articles are listed in the Information Management document). The Working Waterfront e-news also features these stories and reaches 12,000 weekly readers. Our SLR animated video is available on our website, Facebook page, and YouTube channel. After less than one week of being posted to our Island Institute Facebook page, it had 23,000 views, 393 shares, and had reached 53,273 people (not including views on our YouTube channel or Island Institute website)! The animation has now reached 54,500 people.

After consultations with our community stakeholders on the interesting questions about the economic impacts of sea level rise, the data was collected, cleaned, and analyzed. The final product was visualized using ArcGIS Online Story Maps. This story map was created to be interactive and was made fully available to the public. It gives users, like community members, access to the data in a clear and simple-to-use format that conveys more information than a spreadsheet. Story Maps are an ideal way to share this type of data because they allow for multimedia (statistics, maps, short text, pictures, etc.) to be shared and help tell the story.

Confidential, Proprietary, Specially Licensed Information Products:
N/A

V. PUBLIC INTEREST AND COMMUNICATIONS

Most Unique or Innovative Aspect of the Project
We partnered with O'Chang Studios, a local animated video production company to create a 3-minute animated comic about sea level rise and the associated risks for coastal Maine residents. We brainstormed scenes, wrote the script, and coordinated with project advisors on review of the content. The intent was to reach the O'Chang Studios' large fan-base, a group that may not ordinarily choose to watch an educational documentary. We debuted the animation in front of 300 people at our annual Waypoints Community Data Forum in February 2019, and it was streamed live to 3,474 viewers. It has since reached 56,475 people on our Facebook page and YouTube channel. The animation was recently used to kick off the Beaches Conference in Maine, in front of 225 people. K. Tagai and S. Belknap attended the International Community Development Conference in Dundee, Scotland (not paid for by NAS) and hosted a session where they showed the animation and facilitated a discussion on using media to get people to engage in sea level rise conversations. We are regularly informed of partners and others showing the video, including schools, where it never fails to make students chuckle. Please view it here: https://www.youtube.com/watch?v=fJSGvxoHV3g

Most Exciting or Surprising Thing Learned During the Project

Island Institute's sea level rise team commissioned a team of consultants to conduct an assessment of the economic risks of SLR to municipalities. The goal was to help prompt citizens, municipalities, and the state to understand the urgency of addressing sea level rise and coastal flooding. In Vinalhaven, we are working with the Town Manager (Andrew Dorr), Community Development & Engagement Coordinator (Gabe McPhail), and SLR Committee. Specifically, the team is investigating the impacts of inundation on municipal finance, for example, the loss of revenue to the town or a shift in the tax burden due to inundated properties being taken off the tax roll. We are adding information to a story map that shows impacts of inundation under 3 SLR scenarios (1.6, 3.9, 6.1 ft.) and discusses risks to infrastructure, livelihoods, and town-specific issues like the flooding of the Vinalhaven ferry terminal. The story map gives users, like community members, access to the data in a clear and simple-to-use format that conveys more information than a spreadsheet. We see this as an exciting platform to share this type of data because it allows for multimedia (statistics, maps, short text, pictures, etc.) to be added as more data becomes available.

Most Important Outcome or Benefit of Project

The most important outcome of our project may be the progress made by our network to build momentum in the state to address coastal risks and hazards. We are now viewed as leaders in the state. For example, we recently had the staff person who is charged with making recommendations for content and appointees to the recently passed Governor's Climate Council contact us to see if she could attend our most recent trip out to Vinalhaven to discuss our economic vulnerability project. Subsequently, we were invited to Augusta (state capital) to make further recommendations on the Climate Council. This interaction illustrates the relevancy and importance of our work to the state of Maine.

Communications, Outreach, and Dissemination Activities of Project

These are all listed in the Information Management Report attached.

Information Products Report

DataType	DigitalResourceType	Title	FileName	Creators	PointofContact	PublicationYear	RepositoryName	DOIorPersistentURL	Keywords	Publications
Education and Training	Text	Sea Level Rise 101	SeaLevelRiseand CoastalFlooding.PDF	Abernathy, Marydale		2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/II%20Pager%20-%20Sea%20Level%20Rise.pdf	Sea Level Rise Basics, Coastal Flooding,	
Education and Training	Text	Climate Impacts		Abernathy, Marydale		2017	www.islandinstitute.org	http://www.islandinstitute.org/program/climate-impacts	Climate impacts	
Education and Training	Text	Shore-Up Google Group		Arnold, Susie		2017	https://groups.google.com/forum/?utm_medium=email&utm_source=footer#!forum/shoreup-maine	https://groups.google.com/forum/?utm_medium=email&utm_source=footer#!forum/shoreup-maine	Shore-Up Resiliency Network	
Education and Training	Text	Technical Assistance Fund for Communities Addressing Sea Level Rise	SLR_RFP_20180315.pdf	Arnold, Susie				http://www.islandinstitute.org/sites/default/files/SLR_RFP_20180315.pdf		
Education and Training	Text	Sea Level Rise Symposium Agenda	SLR_symp_agenda.pdf	Arnold, Susie		2017	www.islandinstitute.org	http://www.islandinstitute.org/sea-level-rise-symposium	Sea Level Rise Symposium	
Education and Training	Text	Communicating Social Vulnerability	Eileen_Johnson_CommunicatingSocialVulnerability.pdf	Johnson, Eileen			www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Eileen_Johnson_CommunicatingSocialVulnerability.pdf		
Education and Training	Text	ILEAD pager	ILEAD_SLR_pager.pdf	Tagai, Kate		2018	www.islandinstitute.org	http://www.islandinstitute.org/program/climate-impacts/ilead		
Education and Training	Text	Federal and State Map Viewers to support municipal resiliency	Carter_Slovinsky_Map_20Viewer.pdf	Sloveinsky, Peter and Carter, Jamie			www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Carter_Slovinsky_Map%20Viewer.pdf		
Education and Training	Text	Latest trends in sea level rise and storm surges in Maine	Pete_Slovinsky_SLR_Historic_Storm_Surge.pdf	SLoveinsky, Peter		2018	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Pete_%20Slovinsky_SLR_Historic%20Storm%20Surge.pdf		
Education and Training	Text	The "Who, What, When, Where and Why" of Coastal Storms	John_Cannon.pdf	Cannon, John		2018	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/John_Cannon.pdf		
Education and Training	Text	Introduction to the National Flood Insurance Program	Sue_Baker_NFIP_Flood_Maps.pdf	Baker, Sue		2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Sue%20Baker_NFIP_Flood%20Maps.pdf		
Education and Training	Text	NOAA/DACF Maine Flood Resiliency Checklist	Lee_Jay_Feldman_Flood_Resiliency_Presentation.pdf	Feldman, Lee Jay		2017-2018	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Lee%20Jay%20Feldman_Flood%20Resiliency%20Presentation.pdf		
Education and Training	Text	CRISE project: Community Resilience Informed by Science and Experience	GMRI_CRISE.pdf	Bowness, Gail		2017-2018	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Gayle%20Bowness%29%20GMRI_CRISE.pdf		
Education and Training	Text	Vinalhaven Vulnerability Assessment and Climate Adaptation	Andy_Dorr_Nov_20_2017_20SLR_0.pdf	Dorr, Andy		2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Andy_Dorr_Nov%202017%20SLR_0.pdf		
Education and Training	Text	Vinalhaven Vulnerability Assessment and Climate Adaptation	Garrett_Corbin_MMASurvey_of_2012_Coastal_Munis.pdf	Corbin, Garrett		2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Garrett%20Corbin_%20MMA%20Survey%20of%20122%20Coastal%20Muni%27s.pdf		
Education and Training	Text	Climate Adaptation Planning in Lincoln County	Bob_Faunce_Lincoln_County_Climate-Related_Projects_0.pdf	Faunce, Bob		2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Bob%20Faunce_Lincoln%20County%20Climate-Related%20Projects_0.pdf		
Education and Training	Text	Advancing Coastal Resilience: What Do We Know from Elsewhere?	Adrianne_Harrison_NOAA-Advancing_Coastal_Resilience_0.pdf	Harrison, Adrianne		2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Adrianne%20Harrison_NOAA-Advancing%20Coastal%20Resilience_0.pdf		

Education and Training	Text	Adaptation Options: Regulatory and Ordinance Considerations	Bob_Faunce_Regulatory_Considerations.pdf	Faunce, Bob	2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Bob%20Faunce_Regulatory%20Considerations.pdf
Education and Training	Text	TRAPPD: Incorporating Risk Assessment into Asset Management	Judy_Gates_Transportation_0.pdf	Gates, Judy	2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Judy%20Gates_Transportation_0.pdf
Education and Training	Text	Reducing Flood Risk with Nature-Based Infrastructure	Jeremy_Bell_TNC_nature_based_infrastructure_0.pdf	Bell, Jeremy	2017	www.islandinstitute.org	http://www.islandinstitute.org/sites/default/files/Jeremy%20Bell_TNC%20nature%20based%20infrastructure_0.pdf
Education and Training	Video	Communicating Vulnerability		Johnson, Eileen	2017	You Tube	https://www.youtube.com/watch?v=e0xQTQS5pi0&feature=youtu.be
Education and Training	Video	Coastal Hazards 101		Slovinsky, Peter		You Tube	https://www.youtube.com/watch?v=lnlBRqZ1lf4&feature=youtu.be
Education and Training	Video	Adaptation Options		Faunce, Bob		You Tube	https://www.youtube.com/watch?v=2rFNTsH0Dk4&feature=youtu.be
Education and Training	Video	Sea Level Rise - 4- Case Studies		Corbin, Garrett Gordon, Ryan; Nadeau, Jim; Needleman, Bill		You Tube	https://www.youtube.com/watch?v=cWVrc6kgVxc&feature=youtu.be
Education and Training	Video	Secondary Impacts				You Tube	https://www.youtube.com/watch?v=fUFDyS8v9Ug&feature=youtu.be
Education and Training	Text	Working Waterfront Newspaper	see web links	Abernathy, Marydale	2017-2018	www.workingwaterfront.com	Published the following stories in the Working Waterfront Newspaper reaching 55,000 readers. 1) http://www.islandinstitute.org/working-waterfront/%E2%80%8Bmounting-weather-disaster-costs-make-case-preparation 2) http://www.islandinstitute.org/working-waterfront/planning-effects-changing-climate-maine%E2%80%99s-coast 3) http://www.islandinstitute.org/working-waterfront/maine-native-battles-trump-climate-resilience 4) http://www.islandinstitute.org/working-waterfront/wet-feet-problematic-places 5) http://www.islandinstitute.org/working-waterfront/estuary-beat-flooding-fish-migration-and-salt-marsh-restoration 6) http://www.islandinstitute.org/working-waterfront/maines-salt-marshes-are-disappearing 7) http://www.islandinstitute.org/working-waterfront/obama-climate-advisor-tells-mainers-he%E2%80%99s-%E2%80%98optimistic%E2%80%99 8) http://www.islandinstitute.org/working-waterfront/ancient-shell-middens-speak-climate-and-culture

9) http://www.islandinstitute.org/working-waterfront/maine-coastal-towns-expecting-preparing-rising-seas