

Capacity Building 1 Final Report

GULF RESEARCH PROGRAM

Project Title: Expanding coastal community capacity for climate change Adaptation

Award Amount: \$359,278

Awardee: Gulf of Mexico Alliance Award Start Date: 05/01/17 Award End Date: 07/31/19 NAS Grant ID: 2000008166

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Project Key Personnel:

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I. PROJECT SUMMARY (from proposal)

Gulf communities are beginning to recognize the importance of adapting to increased flooding and inundation. Coastal flooding can have a negative impact on the built environment, natural systems, and the overall economy. In many cases, having the capacity to respond to such events requires technical expertise, knowledge, and resources from a variety of organizations and entities. Expanding the capacity of coastal communities to identify and address issues related to these problems will greatly increase their resilience. The Gulf of Mexico Climate Community of Practice (CoP) is a network of coastal communities and outreach and extension professionals working together to adapt to climate change in the coastal zone through the exchange of ideas, opportunities, and expertise. At the 2016 Annual CoP meeting, 67 attendees from 36 organizations worked together to identify key challenges associated with the impacts of saltwater intrusion, increased localized flooding, and the subsequent economic consequences to businesses and communities. Many of the next steps to address these key challenges focused on: 1) outreach activities, (trainings, roadshows, documenting case studies and lessons learned), 2) higher regulatory standards at the local level (ordinance changes, participation in the Community Rating System), and 3) synthesizing tools and scientific data into accessible formats. The proposed project will develop an online survey to rank recommended actions identified by CoP members, form working groups, work with local communities to execute "next steps" that improve capacity to address flooding and coastal inundation, and develop video case studies to share lessons learned and best practices.

II. PROJECT SUMMARY (from final report)

The Gulf of Mexico Climate and Resilience Community of Practice (CoP) is a network of coastal communities and outreach and extension professionals working together to adapt to climate change in the coastal zone through the exchange of ideas, opportunities, and expertise. The goal of our project is to increase local community capacity to prepare for and adapt to changing climate conditions, to lessen

the impacts of localized flooding and effects of saltwater intrusion, and to communicate a clear and science-informed message to aid in future decision making. Our work is based on local needs assessments and directly benefits municipalities in five states.

III. PROJECT RESULTS

Accomplishments

Through the Climate and Resilience Community of Practice, we created working groups to address three high priority topic areas (built environment, green infrastructure, and economy) and developed a series of actionable steps to work on together in teams. We integrated the latest climate science to inform solutions proposed in each of the teams and made that science accessible in formats all team members could use to communicate that science to the audiences they serve. We worked directly with three communities (Tangipahoa Parish, City of Orange Beach, and City of Covington) in the working groups to create action plans and implement recommendations from that plan. Finally, we developed seven video documentaries of the climate adaptation success stories and made them broadly available.

Solutions proposed in each of the teams and made that science accessible in formats all team members could use to communicate that science to the audiences they serve. We worked directly with three communities (Tangipahoa Parish, City of Orange Beach, and City of Covington) in the working groups to create action plans and implement recommendations from that plan. Finally, we develop seven video documentaries of the climate adaptation success stories and make them broadly available.

The Green Infrastructure Work Group of the Climate and Resilience Community of Practice compiled a catalog of available living shoreline resources to help stakeholders across the Gulf find information on design and construction, cost, and permitting. Target audiences included environmental consultants, engineers, and landscape architects; installation contractors and suppliers; realtors and property developers; researchers; resource managers and local land use planners; and property owners. There are five state specific catalogs and five audience specific one pagers which can all be found here: http://masgc.org/climate-resilience-community-of-practice/green-infrastructure-work-group

More specifically:

Texas Living Shoreline Resource Catalog:

http://masgc.org/assets/uploads/documents/TX_Living_Shorelines_Singles.pdf

Louisiana Living Shoreline Resource Catalog:

http://masgc.org/assets/uploads/documents/LA Living Shorelines Singles.pdf

Mississippi Living Shoreline Resource Catalog:

http://masgc.org/assets/uploads/documents/MS Living Shorelines Singles.pdf

Alabama Living Shoreline Resource Catalog:

http://masgc.org/assets/uploads/documents/AL Living Shorelines Singles.pdf

Florida Living Shoreline Resource Catalog:

http://masgc.org/assets/uploads/documents/FL_Living_Shorelines_Singles.pdf

Environmental Consultant, Engineer, and Landscape Architect Two-Pager:

http://masgc.org/assets/uploads/documents/Environmental_Consultant%2C_Engineer%2C_LandscapeArchitect.pdf

Installer, Contractor, Supplier Two-Pager:

http://masgc.org/assets/uploads/documents/Installer%2C_Contractor%2C_Supplier.pdf

Property Owner Two-Pager: http://masgc.org/assets/uploads/documents/Property_Owners.pdf
Realtor, Property Developer Two-Pager:

http://masgc.org/assets/uploads/documents/Realtor%2C_Property_Developer.pdf

Resource Manager, Land Use Planner Two-Pager:

http://masgc.org/assets/uploads/documents/Resource Manager%2C Land Use Planner.pdf

The Education/Outreach/Economy Working Group selected two communities to work with to implement cost savings through the Community Rating System: 1) Orange Beach-a community already well-versed in CRS and a leader in resilience and 2) Covington-a community that is still in the early stages of CRS, but motivated to improve their score. The City of Orange Beach developed a Program for Public Information (PPI) which is a new requirement under the Community Rating System (CRS). There are two distinct components of the city's PPI: 1) a PPI report or document detailing the city's plan for circulating critical flood messages and 2) an activities sheet that lists the different flood outreach projects the city and other local agencies are engaged in. The document has already been given a courtesy review by the FEMA contractor assigned to score this activity to ensure the PPI has all of the required components. The next step is for the city to get the PPI approved by City Council and then the city will be eligible for additional points to assist them in their CRS score resulting in a reduction in their flood insurance premiums. The grant team worked with the city of Orange Beach to convene and facilitate meetings of the Community Resilience Working Group (CRWG). The CRWG consists of key stakeholders throughout the city such as lenders, real estate agents, and insurance agents. The group is a city led initiative that will provide Orange Beach with critical public input on city projects and plans.

Implications

Tangipahoa Parish partnered with Louisiana State University to conduct a gap analysis of the current stormwater management planning. This partnership provided benefits to the parish in accessing a center with a breadth and depth of experience in this area to identify holes and update the plan. The partnership also benefited students involved with the sustainability studio, providing a real-world learning opportunity and equipping students with skills needed after graduation.

Unexpected Results

The growth of the Working Groups progressed quickly and the number of projects identified were numerous. We expected good participation but there is an expectation now to continue these Working Groups because they have been so productive. We will continue to seek funding to carry out the important work the groups have prioritized.

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

Community Leaders & Local Government Officials - would be interested in resources for implementing green infrastructure projects and could use the videos and one-pagers to share with a variety of audiences who are not familiar with living shorelines and nature-based solutions.

Educators - (especially extension professionals) would be interested in the case study videos and how similar challenges have been addressed in other parts of the Gulf (i.e. stormwater management, risk communication, ordinance updates and review, Community Rating System assistance).

All audiences - would be interested in understanding more about the benefits of working together through a Community of Practice to identify, prioritize, and solve problems. See this in action here:

Photos: https://www.flickr.com/photos/126185895@N03/albums/72157677575702757

Video: https://vimeo.com/332456338

Education and Training

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

- Undergraduate students: 0
- Graduate students: 2
- Postdoctoral scholars: 0
- Other educational components: 5

5 NAS Fellows participated in our Working Groups.

IV. DATA AND INFORMATION PRODUCTS

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

- Information Products
- Websites or data portals
- Curricula for education and training

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:

N/A

Websites and Data Portals:

Living Shoreline Resource Catalogs and Videos: (Green Infrastructure Work Group)
http://masgc.org/climate-resilience-community-of-practice/green-infrastructure-work-group

Gulf of Mexico Videos: (Case studies from the community projects) https://vimeo.com/gulfofmexico

The Green Infrastructure Work Group page will continue to be maintained by the Mississippi-Alabama Sea Grant Consortium and the Climate and Resilience Community of Practice in perpetuity. The resource catalogs and deliverables have also been given a publication number and have been uploaded into the National Sea Grant Library (also online). The Vimeo site will be maintained for two years after the end of the project and then the contents will be moved to both the Mississippi-Alabama Sea Grant Consortium Climate and Resilience Community of Practice page as well as the Gulf of Mexico Alliance YouTube videos page or embedded into the GOMA website under the appropriate team (Resilience & Habitat).

Additional Documentation Produced to Describe Information Products:

N/A

Other Activities to Make Information Products Accessible and Discoverable:

The living shorelines resources were made available through the Living Shorelines Academy (https://www.livingshorelinesacademy.org/). They were also made available for the Climate and Resilience Community of Practice (https://masgc.org/climate-resilience-community-of-practice/green-infrastructurework-group). The Working Groups held webinars, conducted roadshows in each of the five states, gave presentations at local, state, and national professional meetings, and made resources available on partner websites.

Confidential, Proprietary, Specially Licensed Information Products:

N/A

V. PUBLIC INTEREST AND COMMUNICATIONS

Most Unique or Innovative Aspect of the Project

The video case studies and informational clips that can be used for a variety of purposes including: presentations at local and national conferences, sharing of best practices between communities, educating local elected officials and county commissioners, used as examples for other regions to see how communities are solving problems in the Gulf, and proof of concept for other CoPs that are looking for an innovative way to document implementation projects.

Most Exciting or Surprising Thing Learned During the Project

We had more high priority projects/topics identified for implementation than we could do within the scope and budget of the project. The Working Groups proved to be highly effective and grew in size over the course of the grant period. We retained many of the Working Group members at the annual CoP meeting in Fairhope, AL in April of 2019. Now, we are hoping to keep the momentum going as we select new projects to tackle. NOAA's Office for Coastal Management has given the CoP a small amount of funding (\$30K per year) to continue to fund at least one community project over the next three years doing similar work that was started under this grant.

The reasons people gave for their participation in the CoP Working Groups were varied. Some wanted to gain experience in implementing on-the-ground projects, others were looking to learn best management practices, while some were looking for compelling case studies to get their community to move toward action or find ways to leverage funds. By the end of the project, not only had participants had opportunities to share, but the communities that worked alongside of them gave special presentations at the annual meeting to showcase the growth that had occurred.

Most Important Outcome or Benefit of Project

Economic Benefit- we were able to directly benefit the flood insurance premiums for residents living in Orange Beach, AL and Covington, LA. Once these two communities have their FEMA Cycle Visit, it is expected their CRS rating will decrease (lower is better) by at least one point. This will lead to a direct savings for the policy holders in these communities. In addition, the mitigation efforts will decrease future damages to the community (a cost savings we are unable to calculate at this time).

Living Shorelines Resource Catalogs- we have already had requests for additional roadshows to disseminate these catalogs and couple it with presentations on the benefits of living shorelines and the actual costs a property owner can expect to incur. We plan to offer this in the future with a field trip to a local demonstration site and offer these for the audiences specified in the one-pagers (property owner, realtor, developer, environmental consultant, landscape architect land use planner, etc.).

Community Projects- each of the three communities we worked with were able to express the direct benefits to them in terms of updating ordinances, improving stormwater drainage, improving hydrology and watershed studies, reducing flood damage, and enhancing risk communication. These stories are documented in the video case studies.

Communications, Outreach, and Dissemination Activities of Project

New Resources for Living Shorelines: (News article on the Gulf of Mexico website) https://gulfofmexicoalliance.org/2019/08/new-resources-for-living-shorelines/

Gulf of Mexico Alliance Grant Helps to Improve Stormwater Drainage in Covington, LA: https://gulfofmexicoalliance.org/2019/07/improving-stormwater-drainage-in-covington-louisiana/

City of Orange Beach Develops Risk Communication Plan:

https://gulfofmexicoalliance.org/2019/05/city-of-orange-beach-develops-risk-communication-pla

Information Products Report

InfoProductType	DigitalResourceType	Title	FileName	Creators	PublicationYear	Publisher	RepositoryName	DOIorPersistentURL	DatasetReference
			CoP Priorities Survey	Sempier, Tracie: Daigle.		Gulf of Mexico Alliance: Mississippi-			
Report or Monograph	Web Based Resource	CoP Priorities Survey	Summary_Sept 2017.pdf		2017; made available online only	Alabama Sea Grant Consortium Gulf of Mexico			https://www.surveymonkey.com/r esults/SM-N7WFJTKL8/
Report or Monograph	Text	Understanding the Challenges of Green Infrastructure	Green Infrastructure Engagement Call Notes	Brittany	2018; sent to working group members only	Alliance; Northern Gulf of Mexico	Gulf of Mexico Alliance		
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Texas Living Shorelines Resource		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		http://masgc.org/assets/upl oads/documents/TX Living	
Curricula (for education or training)	Web Based Resource	Catalog	Singles.pdf	listed in the back cover) Climate & Resilience CoP	2019; MASGP-19-058-05	Consortium Gulf of Mexico		Shorelines Singles.pdf	
				Green Infrastructure Working Group		Alliance; Mississippi-		http://masgc.org/assets/upl	
Curricula (for education or training)	Web Based Resource	Louisiana Living Shorelines Resource Catalog	LA_Living_Shorelines_ Singles.pdf	(contributing organizations listed in the back cover)	2019; MASGP-19-058-03	Alabama Sea Grant Consortium		oads/documents/LA Living Shorelines Singles.pdf	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Mississippi Living Shorelines	MS Living Shorelines	Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		http://masgc.org/assets/upl oads/documents/MS Living	
Curricula (for education or training)	Web Based Resource	Resource Catalog	Singles.pdf	listed in the back cover) Climate & Resilience CoP	2019; MASGP-19-058-04	Consortium		Shorelines Singles.pdf	
				Green Infrastructure		Gulf of Mexico			
		Alabama Living Shorelines	AL Living Shorelines	Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		http://masgc.org/assets/upl oads/documents/AL Living	
Curricula (for education or training)	Web Based Resource	Resource Catalog	Singles.pdf	listed in the back cover) Climate & Resilience CoP	2019; MASGP-19-058-01	Consortium		Shorelines Singles.pdf	
				Green Infrastructure		Gulf of Mexico			
		Florida Living Shorelines	FI Living Shorelines S	Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		http://masgc.org/assets/upl oads/documents/FL Living	
Curricula (for education or training)	Web Based Resource	Resource Catalog	ingles.pdf	listed in the back cover)	2019; MASGP-19-058-02	Consortium		Shorelines Singles.pdf	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico		http://masgc.org/assets/upl oads/documents/Environme	
		Living Shorelines Two-Pager:	Environmental_Consul			Alliance; Mississippi-		ntal Consultant%2C Engine	
Curricula (for education or training)	Web Based Resource	Environmental Consultant, Engineer, Lanscape Architect	pe_Architect.pdf	(contributing organizations listed in the back cover)	2019; MASGP-19-059-01	Alabama Sea Grant Consortium		er%2C Landscape Architect. pdf	•
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico		http://masgc.org/assets/upl	
				Working Group		Alliance; Mississippi-		oads/documents/Installer%2	
Curricula (for education or training)	Web Based Resource	Living Shorelines Two-Pager: Installer, Contractor, Supplier	Installer_Contractor_S upplier.pdf	(contributing organizations listed in the back cover)	2019: MASGP 19-059-02	Alabama Sea Grant Consortium		C Contractor%2C Supplier. pdf	
		,		Climate & Resilience CoP Green Infrastructure	,	Gulf of Mexico		_	
				Working Group		Alliance; Mississippi-		http://masgc.org/assets/upl	
Curricula (for education or training)	Web Based Resource	Living Shorelines Two-Pager: Property Owners	Property_Owners.pdf	(contributing organizations listed in the back cover)	2019; MASGP-19-059-05	Alabama Sea Grant Consortium		oads/documents/Property Owners.pdf	
		,	,,	Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
				Working Group		Alliance; Mississippi-		http://masgc.org/assets/upl	
Curricula (for education or training)	Web Based Resource	Living Shorelines Two-Pager: Realtor, Property Developer	Realtor_Property_Dev eloper.pdf	(contributing organizations listed in the back cover)	2019; MASGP-19-059-03	Alabama Sea Grant Consortium		oads/documents/Realtor%2 C Property Developer.pdf	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico		http://masgc.org/assets/upl	
		Living Shorelines Two-Pager: Resource Manager, Land Use		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		oads/documents/Resource Manager%2C Land Use Pla	
Curricula (for education or training)	Web Based Resource	Planner	nd_Use_Planner.pdf	listed in the back cover)	2019; MASGP-19-059-04	Consortium		nner.pdf	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Living Shorelines: A Contractor's		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		https://vimeo.com/3445810	
Curricula (for education or training)	Video	Perspective		listed at end of video)	2019; MASGP-19-054-06	Consortium		91	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Living Shorelines: An Environmental Consultant's		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		https://vimeo.com/3445817	
Curricula (for education or training)	Video	Perspective		listed at end of video)	2019; MASGP-19-054-05	Consortium		08	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Living Shorelines: A Property		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		https://vimeo.com/3445813	
Curricula (for education or training)	Video	Owner's Perspective		listed at end of video)	2019; MASGP-19-054-07	Consortium		47	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Working to Improve Community Rating System Scores in		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		https://vimeo.com/3445902	
Curricula (for education or training)	Video	Covington, Louisiana		listed at end of video)	2019; MASGP-19-054-03	Consortium		29	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Improving Stormwater Drainage		Working Group (contributing organizations		Alliance; Mississippi- Alabama Sea Grant		https://vimeo.com/3445888	
Curricula (for education or training)	Video	in Covington, Louisiana		listed at end of video)	2019; MASGP-19-054-02	Consortium		62	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Enhanced Floodplain and Stormwater Management in		Working Group (contributing organizations		Alliance; Mississippi- Alahama Sea Grant		https://vimeo.com/3445849	
Curricula (for education or training)	Video	Tangipahoa Parish, Louisiana		listed at end of video)	2019; MASGP-19-054-04	Consortium		56	
				Climate & Resilience CoP Green Infrastructure		Gulf of Mexico			
		Coastal Resilience: Orange Beach,		Working Group		Alliance; Mississippi- Alabama Sea Grant		https://vimeo.com/3394126	
Curricula (for education or training)	Video	AL Communicating Risk		(contributing organizations listed at end of video)	2019; MASGP-19-054-01	Consortium		91	
Curricula (for education or training)	Video	Climate and Resilience Community of Practice		Mohrman, Christina	2019	Gulf of Mexico Alliance		https://vimeo.com/3324563 38	
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