Final Report for *Adapting to a Changing Gulf Region: An Online Course*

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Grantee: Florida Fish and Wildlife Conservation Commission

Project: Adapting to a Changing Gulf Region: An Online Course

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Progress Report Narrative:

I.   Cumulative Progress to Date

With the goal of developing a Gulf Coast Adaptation and Resilience Plan (GCARP) at the forefront, this project was primarily a capacity building endeavor. By developing and offering a new interactive, online course: "Adapting to a Changing Gulf Region" (ACGR), our team sought to both build knowledge capacity and lay the groundwork for making valuable regional connections among a group of 100 natural resource professionals tasked with addressing changing climate conditions in the Gulf of Mexico (GoM) region. Climate change is both an imminent direct threat and an accelerator of non-climatic stressors and the low-lying coastal communities and wildlands of the GoM are on the front lines. To implement effective climate change adaptation and resilience solutions, resource managers must possess both foundational knowledge and understanding of proven strategies and methods. A strong network of regional connections and partnerships is also invaluable. In response to these pressing needs and in support of a future GCARP, we designed, launched and administered a virtual course with nine webinar sessions and an interactive discussion board between December 2019 and January 2021.

During the first reporting period of this grant, our team adapted to the unprecedented global shifts brought on by the COVID-19 pandemic and tailored the project to remain on track with respect to timeline and original intention. The web-based course was originally intended to follow a hybrid in-person model, with each session hosted live in a different location across a

GoM region. Following this model, the sessions would have been virtually streamed to the entire group, with participants near the host location invited to attend in-person. The original goal was to vary the location broadly enough so that every participant would have at least one opportunity to attend in-person. We planned for the live sessions to include field trips and social outings for participants in the area, as a strategy to bolster and deepen the interactive components of the course. Although the shift to a fully web-based course was natural to the design of the project, preserving our original intentions of a highly interactive course was a top priority for our team. During the second and final reporting period of the grant, we worked to maximize opportunity for participant engagement and connection to compensate for the lost interactive in-person component. While maximizing interactivity in a fully virtual environment introduced some challenges, we also noted benefits including a wider availability of potential speakers and interested participants.

Over the 14 months of this project, we designed a course following a pedagogy that combines instruction in core climate change adaptation concepts with illustrative regional case studies, adapted the course to fit within the unique challenges and constraints of the pandemic while delivering value to participants, launched and administered the 17 week course between June and October of 2020, and worked to reflect upon and summarize this endeavor for possible future applications. To provide more substantive context for our progress across the entire span of the project, we can summarize the areas of focus, primary tasks undertaken, and results of the progress in three distinct phases: (1) Course Development, (2) Course Administration, and (3) Course Evaluation:

Phase 1 - Course Development

The introductory phase of the of this project included the following components:

- Administrative project set up including hiring a coordinator for the course, establishing an internal project team and contacts at partner organizations, and purchasing the necessary software platforms for the course.
- Course content development including designing and creating a syllabus, aligning regionally relevant topics in climate change adaptation for natural resources to a foundational knowledge and core competencies framework, identifying case studies and speakers, and building a resource library.
- Course outreach including advertising the course across a wide regional network and developing a registration process.

Phase 2 - Course Administration

The course implementation phase of the of the project included the following components:

- Building and administering the virtual course platform using Adobe Captivate Prime and Adobe Connect.
- Launching course registration and recruiting and managing applications for registration.
- Planning, hosting and facilitating nine two-hour webinar sessions for the course
- Managing course logistics including technical support, speaker logistics, and participant questions.
- Providing learning support for all enrolled course participants including posting and commenting on discussion boards, curating and elevating content to maintain engagement, and providing one-on-one training support as needed.

Phase 3 - Course Evaluation

The wrap-up phase of the of the project included the following components:

- Conducting course evaluations to collect participant feedback and measure success.
- Reviewing and compiling final project materials and distributing to course participants.
- Finalizing and distributing certificates of completion, digital badges, and trial ASAP memberships to all participants who completed the course requirements.
- Compiling and packaging all final project deliverables.

Although ACGR joins several established training programs in climate change adaptation and resilience available to natural resource professionals, this course included many novel elements in its design and objectives. First, the course featured a curriculum aligned to a nationally recognized framework in foundational climate change adaptation concepts, mapped to content curated for natural resource managers and supported by regionally focused case studies. The course was also unique in its emphasis on and commitment to peer learning. Through designing and integrating a rich social learning environment during the course, we expected that participants would learn from each other as they learned from course speakers and resources, and

we aimed to lay the building blocks for a regional network of peer support extending well beyond the duration of the course. Finally, future replicability was a priority throughout this project and as such, we developed materials and resources for this course in a manner conducive to similar efforts in the future. Cultivating and developing these unique elements was a primary focus of our work throughout this project and we are pleased with the outcome.

Ahead of our first session on June 17th, 2020, we enrolled 97 participants in ACGR out of the 100 available seats. Of the 97 enrolled, 63 were from Florida with 34 from other states. While the majority of non-Florida applicants were from one of the four other United States Gulf Coast states, we notably received 3 applications from the Caribbean and 3 applications from far outside of the region (British Columbia, California, and Colorado). Following our first session, we hosted live sessions every other week without interruption through our ninth session on October 7th, 2020. Each of the nine sessions focused on a distinct theme in climate change adaptation and resilience (Appendices 1,2&3) and typically followed a format of a conceptual presentation followed by regionally relevant case studies. During the curriculum development phase, we prioritized a broad regional representation across featured case studies. All five of the US Gulf Coast states were highlighted and we strove to represent a range of landscapes and conservation scales. Although the course was decidedly natural resource-focused, we integrated content focused on the built environment and human communities across multiple sessions. In keeping with our goal of weaving connections between participants working in conservation across the region, we focused on elevating the work of course participants in the final two sessions through a panel discussion in Session 8 and a lightning presentation round in Session 9 (Appendices 2&3). In between biweekly sessions, we assigned required readings through our LMS, Adobe Captivate Prime (ACP) and moderated discussion on our course boards, available through ACP's social learning feature. We provide a detailed accounting of the steps we followed to develop and administer this course, framed as a how-to guide for someone offering this or a similar course, in Appendix 4.

Online courses have an exceptionally poor retention rate across all fields and industries - 40-80% of learners drop out of a course in which they enroll. The retention rate is known to be even poorer for zero cost virtual courses such as ACGR. Especially given the less-than-optimal industry standards for success, we were pleased with the retention and completion rates for AGCR. Across all nine sessions, a minimum of 75 participants attended, with over 90 of 97 attending on more than one occasion. As our sessions were open to the public, attendance exceeded 115 people in three of the nine sessions. Ultimately 71 out of the original 97 participants enrolled attended at least seven of the nine AGCR sessions (72%). Our team defined

successfully meeting all course requirements for completion as 1) attending (or making up with an excused absence) all nine sessions, 2) turning in a final project, and 3) meeting the participation requirements outlined in the syllabus (Appendix 1). Of these requirements, participants had by far the most difficulty meeting course participation requirements (asking questions during a session or posting on the discussion board at least four times per session). We relaxed our participant requirements to an average of two questions, posts, or comments per session in order to determine a final participant completion outcome. A total of 29 of 97 participants met the requirements for official course completion and received certificates, digital badges, and discounted ASAP memberships (30%). When measured by the number of participants meeting all course requirements for completion, ACGR had a similar retention rate to industry standards. However, we are thrilled with the 72% of participants who consistently attended course sessions and by the feedback we received in mid and post course evaluations, which indicate that participants derived value from ACGR regardless of whether they fulfilled all completion requirements.

We asked ACGR participants to complete three evaluations throughout the course, one following the third session (55 responded), a second following the sixth session (48 responded), and a third and more comprehensive final evaluation at conclusion of the course (31 responded). All three course evaluations were instrumental in providing feedback our team could use to make adjustments along the way or reflect upon with an eye toward a future effort hosted by FWC or another organization (Appendices 10A-10F). At a high-level glance, AGCR was well-received based on course evaluation feedback. Course participants gained knowledge of both overarching adaptation and resilience concepts (Figure 1) and specific regional case studies (Figure 2). The majority of course participants found the sessions engaging, the presenters well-prepared, and the connections made meaningful. Feedback on the technical aspects of the course was lukewarm, with some noting difficulty using our LMS, Adobe Captivate Prime or disappointment with the discussion boards.

"Adapting to a Changing Gulf Region" has advanced my knowledge of broad themes and topics in the climate change adaptation and resilience fields.
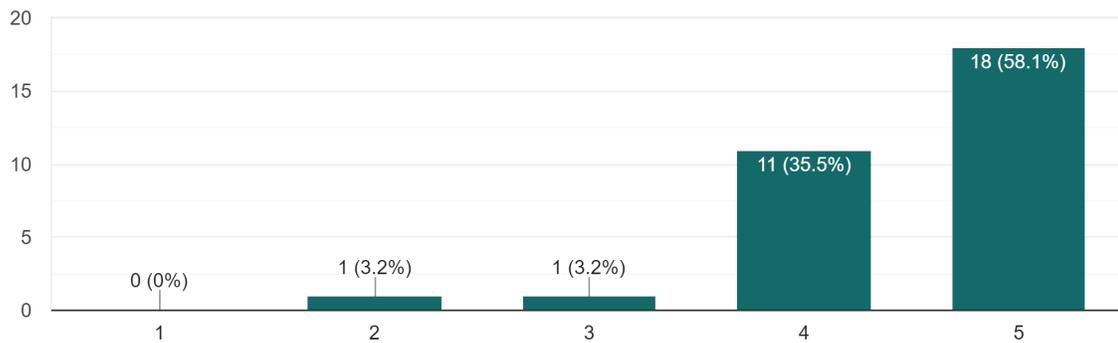
31 responses
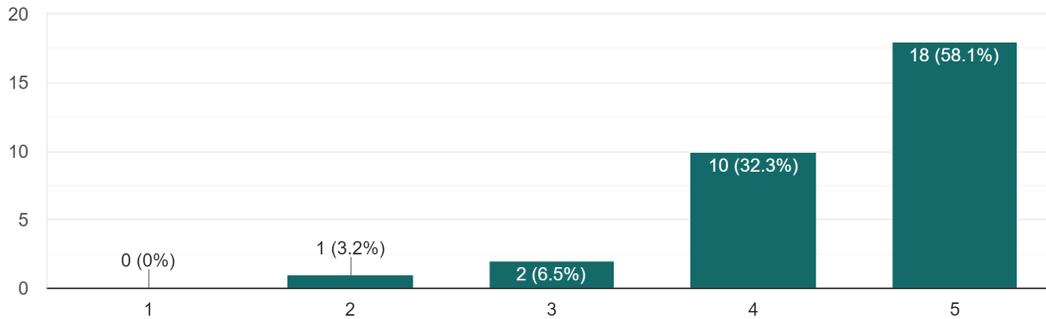
Figure 1. Course participant feedback from the final course evaluation on broad knowledge gained in ACGR where "1" is strongly disagree and "5" is strongly agree. The complete evaluation summary results are detailed in Appendix 10 F.

This course has advanced my knowledge of specific recent and/or ongoing climate change adaptation and resilience efforts and projects in the United States Gulf Coast region.

31 responses

Figure 2. Course participant feedback from the final course evaluation on specific knowledge gained in ACGR where "1" is strongly disagree and "5" is strongly agree. See the complete evaluation summary results in Appendix 10 F.

Perhaps even more significant than numbers on a course evaluation Likert scale, retention and completion rates, or any metric, is what we heard from participants throughout the course. A number of course participants shared feedback on the value of connections made in the course through email exchanges, comments on the discussion boards, and our evaluations:

> *I also tracked down one Cohort 1 member "in real life" to connect, and we have a great call Friday to discuss opportunities to partner on restoration. So even if that wasn't "officially captured", I wanted to share other beneficial outcomes of the program.*

> *I think the connections we build are extremely important. It's always nice to have someone to reach out to ask questions, get feedback or just chat about ongoing projects, etc.*

More generally, participants shared positive feedback on their experience in the course overall, and the value they gained from taking part in it:

> *I thoroughly enjoyed the course, especially the lectures. I feel that may participation will benefit the agency and hopefully the Florida wildlife and landscape*

> *The course development and facilitation team have done an amazing job adapting to feedback and ensuring that this course remains a valuable opportunity for practitioners and researchers across the Gulf Coast! Thank you!*

> *Thanks again for this AMAZING class. The case studies have been most helpful to me and hearing 1st hand experiences is always great.*

During the final phase of this project, our team has shifted focus to packing course resources and materials for reuse, extending the value of this project far beyond the original 97 participants involved. To that end, we have prepared the following deliverables to be included with this report:

- Syllabus of topics including session agendas and lesson plans organized by course session (Appendices 1, 2, 3)
- Edited recordings of each webinar session (Included in a publicly-accessible Google drive created for the course archives)

- Digital copies of suggested readings (Also included in a [publicly-accessible Google drive](#) created for the course archives)
- Exported PDF of the discussion board topics – packaged for reuse (Appendix 3)
- How-to guide/framework on developing the same or similar web-based course (Appendix 4)

II.   Project Partners

Partner collaboration was an essential aspect of ACGR. Our team coordinated with GOMA to ensure that course content and outreach reflects the Alliance's priorities and we look forward to continuing to work in partnership with GOMA following the conclusion of this project. This project also relies on a strong partnership with American Society of Adaptation Professionals (ASAP). With guidance and leadership from a "Member Advisory Committee on Professional Education," ASAP has developed a draft [Knowledge and Competencies Framework for Climate Change Adaptation and Resilience Professionals](#) (K&C Framework) to which ACGR's curriculum was aligned. The K&C Framework includes foundational knowledge concepts and associated core competencies that all adaptation professionals must possess regardless of sector, specialty, or stage of career. This framework has undergone multiple internal and external reviews and represents ASAP's first step toward developing a certification program for adaptation professionals.

Aligning a regionally relevant, natural resource-focused curriculum to a broad, foundational framework in climate change adaptation was one of the most unique aspects of this course and ensured that participants received training in the foundational concepts that represent the current, best thinking in the field. Regional case studies supporting this foundational backbone of course content then allowed participants to connect core concepts to their practice. The partnership with ASAP and the K&C Framework aligned content also served as an incentive for participants who value recognition for completing a course with an element of national certification. While not yet an official certification for adaptation professionals, participants who complete the course will receive a certificate with acknowledgement from all partner organizations, an ASAP sponsored digital badge, and a heavily discounted ASAP membership to mark their accomplishments.

In practice, our partnership with ASAP on this project included the following specific components:

8

- ASAP reviewed the course syllabus ahead of the finalization and provided feedback
- ASAP suggested potential speakers and project case studies
- ASAP presented in one webinar session of the course
- Course Coordinator served on ASAP's Member Advisory Committee on Professional Education
- FWC worked with ASAP to share lessons learned in developing and administering this K&C Framework-aligned course
- ASAP promoted the course through their communications channels

III. Project Timeline

This project began in December 2019 and was completed in December 2020 (Figure 3). In summary, the first six months (December 2019 - May 2020) of the project were dedicated to building the course and setting up the administrative framework necessary for launching it, the second five months (June - October 2020) were spent administering the course, and the final three months of the project (November 2020 - January 2021) involved collecting and compiling post-course evaluations, distributing course incentives, and preparing final deliverables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Month	Dec '19	Jan '20	Feb '20	Mar '20	Apr '20	May '20	Jun '20	Jul '20	Aug '20	Sep '20	Oct '20	Nov '20	Dec '20	Jan '20
Phase 1: Course Development	Hire Coordinator													
		Purchase LMS												
			Develop Syllabus											
				Partner Content Review										
			Initial Course Outreach											
Phase 2: Course Administration					Launch Registration									
					Build Virtual Platform									
					Finalize Speakers									
					Develop and Curate Content									
							Administer 9 Webinar Sessions and Virtual Learning							
Phase 3: Course Evaluation											Conduct Evaluations			
												Finalize Course Deliverables		

Figure 3. Visual project timeline for the three phases of developing and implementing ACGR.

IV.   Outreach Activities

Project outreach was a critical component of promoting ACGR at all phases of the project. Peer to peer learning during the course and establishing the foundations of a regional network after the course, both key priorities of this project, were largely dependent on casting a wide regional net to spread the word effectively about the course. Project outreach began with presenting the proposed project and was quickly followed by advertising the upcoming course and launching registration. Outreach activities continued long after course registration closed to spread the word about course webinars throughout the summer and fall of 2020. With final grant deliverables prepared and course resources packaged, we anticipate continuing project outreach beyond conclusion of this grant. Our team will continue to work to share outcomes of this project across our networks and ensure that course materials are shared widely with partners and interested colleagues.

Throughout the project, we engaged in the following specific outreach activities:

- Presentation of project proposal at GOMA mid-year meeting in January 2020
- Public presentation on project at Florida State University Museum of Fine Art in February 2020
- Presentation to ASAP's Member Advisory Committee on Professional Education in April 2020
- Advertised the course in all partner organization newsletters with a total audience of over 25,000
- Wrote a blog post for ASAP and multiple articles for FWC internal and external newsletters
- Developed marketing materials for dissemination through team member professional networks and social media channels
- Coordinated with organizations including EcoAdapt, NOAA, the Southeast Climate Adaptation Science Center, and AFWA to advertise across a wider network

V. Supporting Materials

We include all the deliverables identified in the project proposal with this report in addition to detailed course evaluations, outreach materials, and a compendium of final projects. Digital copies of all course readings and links to edited webinar recordings are packaged in a publicly-accessible Google drive. The following specific supporting materials are included as appendices:

- Appendix 1. Course Syllabus
- Appendix 2: Process Agendas for Nine ACGR Sessions
- Appendix 3: Course Planning Map (lesson plans), Including Discussion Board Topics
- Appendix 4: Virtual Course How-To Guide
- Appendix 5: Course Registration Form
- Appendix 6: Course Outreach Flyer
- Appendix 7: ACGR Outreach Presentation
- Appendix 8: ACGR Outreach Blog Post
- Appendix 9: Compendium of Participant Final Projects
- Appendix 10A: Course Evaluation 1 Form
- Appendix 10B: Course Evaluation 1 Summary Results
- Appendix 10C: Course Evaluation 2 Form
- Appendix 10D: Course Evaluation 2 Summary Results
- Appendix 10E: Final Course Evaluation Form
- Appendix 10F: Final Course Evaluation Summary Results
- Appendix 11: Links to YouTube videos of each of the nine course sessions

Project Metrics (any of the following as pertinent to the project)

1. Number of students enrolled: 97 out of space for 100

2. Number of students attending all sessions (71)

3. Number of students successfully completed all course materials:29. Success is defined as:

   a. attending all 9 session or with excused absence

b. completed the final project which consisted of (describing how the course materials were integrated into their work)
c. meeting participation requirements outlined in course syllabus (4 social media posts per session)

- **Copies of all reports, surveys, and environmental testing results; and**

We surveyed the course participants to ascertain their perception of the value of the course to their professional work activities. The results are presented as Course Evaluation 1 Form (Appendix 10A), Course Evaluation 1(Appendix 10B), Course Evaluation 2 Form (Appendix 10C), Course Evaluation 2 Summary Results (Appendix 10D): Final Course Evaluation Form (Appendix 10E), and Final Course Evaluation Summary Results (Appendix 10F)

- **Copies of all publications, press releases, outreach materials, test results, and other products produced as a result of the Grant funding during the Grant Period.**

We developed a number of outreach materials associated with this project including a Course Outreach Flyer (Appendix 6), an ACGR Outreach Presentation (Appendix 7), and ACGR Outreach Blog Post (Appendix 8).

All relevant project-derived material (data, metadata, reports, products, etc.) must be publicly available by the completion of the project. Project coordinator should consult with the GOMA Data and Monitoring Team to determine the appropriate data discovery, access, dissemination and archival measures

● Appendix 3: Course Planning Map (lesson plans), Including Discussion Board Topics
● Appendix 4: Virtual Course How-To Guide

The YouTube links to the videos of all nine sessions including a playlist are included as Appendix 11. All the course background reading and reference materials are included on the project's publicly-accessible Google drive.