NOTICE OF SHORELINE TASK FORCE REGULAR MEETING
CITY OF SOUTH PADRE ISLAND

TUESDAY, MARCH 10, 2026

3:00 PM AT THE MUNICIPAL BUILDING, CITY COUNCIL CHAMBERS, 2ND FLOOR 4601 PADRE BOULEVARD, SOUTH PADRE ISLAND, TEXAS

1. Call to Order

2. Pledge of Allegiance

3. Public Comments and Announcements
   This is an opportunity for citizens to speak to the board relating to agenda or non-agenda items. Speakers are required to address the board at the podium and give their name before addressing their concerns. [Note: State law will not permit the board to discuss, debate or consider items that are not on the agenda. Citizen comments may be referred to City Staff or may be placed on the agenda of a future Shoreline Task Force meeting]

4. Consent Agenda

   4.1. Approval of the minutes from the regular meeting on January 27, 2026. (Kornblum)

5. Regular Agenda

   5.1. Discussion and action to make a recommendation to City Council regarding the statements of qualifications received for beach and dune monitoring.

6. Adjourn

NOTE:
One or more members of the City of South Padre Island City Council may attend this meeting; if so, this statement satisfies the requirements of the OPEN MEETINGS ACT.

DATED MARCH 4TH, 2026

Angelique Soto, City Secretary

I, THE UNDERSIGNED AUTHORITY, DO HEREBY CERTIFY THAT THE ABOVE NOTICE OF MEETING OF THE SHORELINE TASK FORCE OF THE CITY OF SOUTH PADRE ISLAND, TEXAS IS A TRUE AND CORRECT COPY OF SAID NOTICE AND THAT I POSTED A TRUE AND CORRECT COPY OF SAID NOTICE ON THE BULLETIN BOARD AT CITY HALL/MUNICIPAL BUILDING AND ON THE CITY'S WEBSITE AT WWW.MYSPI.ORG ON **MARCH 4TH, 2026**, AT/OR BEFORE 5:00PM AND REMAINED SO POSTED CONTINUOUSLY FOR AT LEAST 3 BUSINESS DAYS PRECEDING THE SCHEDULED TIME OF SAID MEETING.

Angelique Soto, City Secretary

THIS FACILITY IS WHEELCHAIR ACCESSIBLE, AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR ACCOMMODATIONS OR INTERPRETIVE SERVICES MUST BE MADE 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT CHIEF BUILDING OFFICIAL, FILIBERTO ALBA JR. (956) 761-8103

CITY OF SOUTH PADRE ISLAND
SHORELINE TASK FORCE
AGENDA REQUEST FORM

MEETING DATE: March 10, 2026

NAME & TITLE: Emily Kornblum,

DEPARTMENT: Shoreline Department

ITEM
Approval of the minutes from the regular meeting on January 27, 2026. (Kornblum)

ITEM BACKGROUND
N/A

BUDGET/FINANCIAL SUMMARY
N/A

COMPREHENSIVE PLAN GOAL
N/A

LEGAL REVIEW
Sent to Legal:
Approved by Legal:

RECOMMENDATIONS/COMMENTS:

NOTICE OF SHORELINE TASK FORCE REGULAR MEETING
CITY OF SOUTH PADRE ISLAND

TUESDAY, JANUARY 27, 2026

3:00 PM AT THE MUNICIPAL BUILDING, CITY COUNCIL CHAMBERS, 2ND FLOOR 4601 PADRE BOULEVARD, SOUTH PADRE ISLAND, TEXAS

1. Call to Order

The Shoreline Task Force of the City of South Padre Island, Texas, held a regular meeting on Tuesday, January 27th, 2026, at the Municipal Complex Building, 2nd Floor, 4601 Padre Boulevard, South Padre Island, Texas.

Chairman Stormy Wall called the meeting to order at 3:01 p.m. A quorum was present with Vice Chairman Abbie Mahan and Task Force Members Stephen Murphy, Michael Sularz, Chuck Fox, and new members Denise Franke and Sarah McKinlay.

City Council members present were Aarin Hartwell.

City staff present were Shoreline Director Kristina Boburka and Coastal Coordinator Emily Kornblum.

2. Pledge of Allegiance

Chairman Wall led the Pledge of Allegiance.

3. Public Comments and Announcements

Chairman Stormy Wall welcomed new Task Force members and complemented the progress on the Marisol boat ramp construction.

4. Consent Agenda

4.1. Approval of the minutes from the special meeting on December 16, 2025. (Kornblum)

Vice Chairman Mahan motioned to approve the consent agenda, seconded by Task Force Member Fox. The motion passed unanimously.

5. Regular Agenda

5.1. Discussion and action to appoint a Chairperson and a Vice Chairperson for 2026. (Boburka)

Task Force Member Sularz motioned to keep Stormy as Chairman and Abbie as Vice Chairman, seconded by Task Force Member Fox. The motion passed unanimously.

5.2. Discussion and overview on the Shoreline Task Force's responsibilities. (Boburka)

Shoreline Director Kristina Boburka welcomed the new members and thanked leaving Task Force Member Todd Williams for his time. She then outlined the responsibilities of the Shoreline Task Force and its members.

5.3. Updates on departmental grants and projects (Boburka):

- **Coastal Management Program (CMP) Cycles 29 and 31**
- **Coastal Erosion Planning and Response Act (CEPRA) Cycles 13 and 14**
- **National Fish and Wildlife Foundation (NFWF)**
- **RESTORE Act**
- **Wind and Water Sports Venue**

Shoreline Director Kristina Boburka gave an update presentation on current grants and projects that the Shoreline Department are currently working on.

6. Adjourn

There being no further business, Chairman Wall adjourned the meeting at 3:31.

_____ _____

Emily Kornblum, Coastal Coordinator Stormy Wall, Chairman

CITY OF SOUTH PADRE ISLAND
SHORELINE TASK FORCE
AGENDA REQUEST FORM

MEETING DATE: March 10, 2026

NAME & TITLE: Kristina Boburka, Shoreline Director

DEPARTMENT: Shoreline Department

ITEM
Discussion and action to make a recommendation to City Council regarding the statements of qualifications received for beach and dune monitoring.

ITEM BACKGROUND
The City was awarded funding through the Coastal Erosion Planning and Response Act (CEPRA) Cycle 14 to perform seasonal beach and dune monitoring over a two-year period. This projects goal is to expand upon the current, but inconsistent, annual surveys the City and GLO have completed. Seasonal surveying by capturing high-resolution data through the use of LiDAR will allow for a better understanding of how the beach not only shifts year to year but also seasonally.

A Request For Qualifications (RFQ) was posted to solicit qualified firms for this type of work. Additionally, the RFQ requested qualified firms who would be able to perform event-based (storm) and restoration/mitigation monitoring, as well as the ability to capture bathymetry.

One statement of qualification (SOQ) was received from RCOAST. A scoring committee consisted of Shoreline Department staff as well as members from the Shoreline Task Force. The committee determined RCOAST as a well-qualified to perform the requested work for the City and recommends approval to move forward.

BUDGET/FINANCIAL SUMMARY
Funding for this work would come from the City's Beach Renourishment Fund and is partially funded through the CEPRA program.

COMPREHENSIVE PLAN GOAL
Chapter 9: Shoreline

LEGAL REVIEW
Sent to Legal:
Approved by Legal:

RECOMMENDATIONS/COMMENTS:

RCOAST

coastal intelligence for every community

RCOAST, Inc.
612 Andrew Higgins Dr, 2nd Floor
New Orleans, LA 70130

February 23, 2026

City of South Padre Island
ATTN: City Secretary
4601 Padre Blvd.
South Padre Island, TX 78597

Dear Selection Committee:

On behalf of RCOAST, Inc., I am pleased to submit our statement of qualifications in response to **RFQ 2026-SL01** for Beach and Dune Monitoring services for the City of South Padre Island.

We understand that the City of South Padre Island faces critical challenges from increasingly frequent and intense storm events that threaten the public beach - a vital asset for both tourism and coastal protection. The City seeks to enhance its monitoring efforts to develop a comprehensive understanding of the beach and dune system's seasonal dynamics, morphologic changes, and recovery patterns over time.

RCOAST, Inc. recognizes that the City requires a collaborative partner capable of delivering data-driven insights that support evidence-based decision-making for coastal management, mitigation assessment, and renourishment planning. We are committed to providing high-resolution seasonal and pre/post-storm monitoring utilizing advanced LiDAR, RGB imagery, bathymetry, and multispectral sensors to track shoreline movements, elevation changes, dune development, vegetation health, and mitigation effectiveness. Our approach emphasizes delivering comprehensive, actionable reports that enable the City to justify funding requests and make informed decisions for long-term coastal resilience.

I, Dr. Christy Swann, will be the primary point of contact and will work collaboratively with City staff and ensure we meet the requirements of state and federal funding partners to support South Padre Island's coastal management objectives.

Sincerely,

Dr. Christy Swann
CEO, RCOAST, Inc.
Email: swann@r-coast.com
Phone: (979) 436 - 4316

RCOAST
coastal intelligence for every community

2. RCOAST Firm Profile

Year Founded	June 2022
Company Website	www.r-coast.com
Company Size	7 Core Employees, 4 remote pilots
Locations	Remote company with offices in: • New Orleans, LA • St. Petersburg, FL • Wilmington, NC
Blue-Compliant UAS	RCOAST drones are listed on the Department of War Blue Cleared List.
FAA Part 107 Certification	RCOAST unmanned aircraft system (UAS) pilots hold current FAA Part 107 Remote Pilot Certificates and operate in full compliance with applicable federal regulations. Our team maintains strict adherence to all Federal Aviation Administration requirements, ensuring that all flight operations conducted as part of this engagement are performed safely, lawfully, and in accordance with established standards.

Primary Services
RCOAST specializes in comprehensive coastal monitoring and geospatial data collection, providing data-driven insights necessary to support informed coastal management decisions. Our core services are mapping coastal change to address the dynamic beach/dune management challenges facing municipalities, states and federal agencies. This includes measuring morphologic change, assessing mitigation performance, and planning long-term resiliency.

Our team conducts seasonal and event-based topographic and bathymetric mapping using high-resolution LiDAR, RGB, multispectral imaging and single-beam hydrographic sensors to capture the 4D morphologic change in coastal communities (3D + time). Data are georeferenced and validated through rigorous ground control point, check point, and RTK transects to ensure the highest levels of accuracy and repeatability. We are equipped to mobilize rapidly for pre- and post-storm monitoring to capture critical change data within 48-72 hours of storm events. Rapid response scans, or surveys, coupled with seasonal mapping events give us the ability to establish clean digital timelines of mitigation performance, recovery periods, short- and long-term storm impacts, and quantify sand loss and gain.

RCOAST provides full volumetric and sediment budget analysis by calculating sediment gain and loss within coastal systems and tracking morphologic evolution over time through

scan-to-scan comparison. Our analyses of elevation change and shoreline position are used to evaluate beach recovery and mitigation performance, providing defensible, evidence-based data to guide and justify coastal management decisions and funding allocations.

Our capabilities extend to 2D and 3D characterization of dune features, including the assessment of engineered interventions such as renourishment, sand fencing, and vegetation planting. We provide bathymetric maps from nearshore to the depth of closure to calculate littoral sediment budget and distinguish between onshore loss and offshore storage, a key component of renourishment planning and erosion hotspot management.

Complementing our physical mapping and change analysis capabilities, RCOAST performs multispectral data collection to assess vegetation density, distribution and health within dune systems, providing a holistic understanding of ecosystem resilience and recovery and the performance of sand fencing and vegetation planting mitigation design and implementation.

RCOAST key deliverables include:

- Seasonal and event-based coastal monitoring,
- Sediment budget and volumetric change analyses,
- Mitigation performance metrics,
- Digital data library of mapped and derived products, and
- Comprehensive reports synthesizing the state and evolution of the beach and dune system.

Analyses include shoreline position, beach width, elevation, dune volume, dune width, dune crest and toe, dune height, beach slope, in addition to how each of these variables change over time. With these data, and an understanding of the local partner's mitigation goals, we provide an evaluation of mitigation performance, estimated lifecycle, and likely maintenance needs. All produced figures, data products, 3D interactive digital maps, and individual libraries can be used for regulatory reporting and when submitting funding proposals to state and federal partners.

RCOAST supports municipalities, states, and NGOs through high-resolution data collection and mitigation performance analyses, serving as a trusted partner for shoreline directors, management teams, and coastal decision-makers. Our team brings deep industry knowledge, scientific expertise, and a forward-thinking, cost-effective approach to managing coastal erosion through five core areas of expertise: (1) High-Resolution Coastal Mapping, (2) Rapid Storm Response and Change Detection, (3) Mitigation Performance Assessments, (4) Dune and Marsh Vegetation Monitoring, and (5) Building Data Libraries, Communication Graphics, and Collaborative Support.

Areas of Expertise

1. **High-Resolution Coastal Mapping** - Seasonal and event-based drone-based LiDAR, RGB and multispectral data collection in compliance with USGS Quality Level 0 (QL0) standards: ≤5 cm vertical accuracy (RMSEz), ≤0.35 m nominal pulse spacing, ≥8 points

per square meter nominal pulse density, and 0.5 m digital elevation model (DEM) cell size. Bathymetric mapping using single-beam or multi-beam systems from the nearshore to the depth of closure. Integration of topographic and bathymetric data to create continuous digital elevation models for the entire littoral zone.

2. **Rapid Storm Response and Change Detection** - Pre- and post-storm monitoring with 48 - 72 hour mobilization capability to capture baseline conditions and quantify storm impacts. We complete scan-to-scan volumetric change analysis to calculate sediment gain and loss in order to track morphologic change over time, recovery time periods, directly measure mitigation performance, and provide management with post-disaster data to support time-sensitive management decisions.
3. **Mitigation Performance Assessment** - Directly measuring the performance of erosion mitigation, including sand fence, vegetation planting, (re)nourishment, living shorelines, rock revetments, seawalls, 3D printed wave attenuation devices, and breakwaters. Our mitigation performance assessment tracks the rate of sand gain and loss before, during, and after mitigation implementation and measures the lifecycle and maintenance of different mitigation strategies, as well as their response to storm or high water level events.
4. **Dune and Marsh Vegetation Monitoring** - Multispectral data collection to assess vegetation density, distribution, and health within dune and marsh system to provide insight into survivability, seasonal changes, and losses due to overwash, inundation, salinity increases, human activity, and ecosystem destabilization events. Normalized Difference Vegetation Index (NDVI), a measure of 'greenness' for plant species, is calculated for each multispectral scan, associated with species when possible, and tracked to directly measure natural and anthropogenic changes of vegetation.
5. **Data Libraries and Visualization Packages, Report Generation, and Collaborative Support** - Easily accessible digital libraries of raw, cleaned, and analyzed LiDAR, RGB and Multispectral data along with all created data products (e.g. digital elevation/terrain models, orthomosaics, satellite imagery, change analyses, QGIS shapefiles, and interactive 3D maps). All products are provided and available for use in regulatory compliance, state and federal funding proposals, and long-term coastal management decision-making in partnership with municipal staff and county, state, and federal agencies.

Relevant Experience from Previous Municipal and Public Sector Projects

RCOAST has substantial experience working with municipal and public sector clients, providing data-driven mitigation performance assessments to inform coastal management decisions. Below, we outline similar projects completed or on-going for other municipalities and public sector entities, including previous work done in the City of South Padre Island, Texas. Links to key deliverables for each of these projects are provided in the digital copy of the RCOAST Statement of Qualification.

RCOAST

coastal intelligence for every community

1. **South Padre Island Relevant Deliverables**
   To support the City of South Padre Island coastal resilience efforts, RCOAST evaluated the maintenance and performance of sand fencing and vegetation planting and performed high-resolution topographic monitoring to establish a comprehensive baseline and track beach-dune recovery after a series of storms eroded the shoreline. We directly measured 426 dump trucks of sand deposited into South Padre Island's coastal dunes, demonstrating strong performance of the implemented mitigation measures. RCOAST synthesized and presented findings to the City of South Padre management and Town Council and provided documentation for the Shoreline Director to support continued monitoring and inform future coastal management decisions.
   a. City of South Padre Island Report
   b. Community Digital Library
   c. Town Council Presentation
   d. 3D Interactive Map from **July 2024** UAS Scan
   e. 3D Interactive Map from **December 2024** UAS Scan

2. **Town of Duck (On-Going: 2024 - Present)**
   To support The Town of Duck, RCOAST performed high-resolution topographic and vegetation monitoring of a $4M Living Shoreline project. RCOAST conducted seasonal surveys in October 2024, August 2025, and October 2025 using drone-based LiDAR, RGB, and multispectral sensors to satisfy local and state regulatory requirements for monitoring the efficacy of mitigation. Conducting performance analyses over time, RCOAST quantified deposition and erosion patterns across the living shoreline, documenting 112 cubic meters of net deposition between October 2024 and October 2025, and identified and classified 2,647 individual plants across 12 species using multispectral data collection, revealing that vegetation covers 81% of the living shoreline area. RCOAST delivered comprehensive reports, interactive 3D models, high-resolution orthomosaics, digital elevation models, and a tailored QGIS data package with vegetation species distributions, change detection rasters, and shoreline metrics to support long-term performance monitoring of this nature-based coastal resilience project.
   a. Town of Duck Report
   b. Community Digital Library

3. **Post-Storm Mapping of Texas Communities: Matagorda Island and Follet's Island**
   In partnership with Boston College, RCOAST was contracted by the National Science Foundation RAPID program to directly measure the impact of Hurricane Beryl and Tropical Storm Alberto damage across several barrier island systems on the Texas coast. RCOAST conducted high-resolution LiDAR and RGB scans over three field sites on Matagorda Island and Follet's Island and quantified damage to the beach-dune systems, documenting shoreline erosion, new inlet formation, and overwash. Post-storm data were synthesized and provided in a report, a digital library of damage, 3D interactive maps of damage across the three sites, and a QGIS package for easy interpretation of storm damage.

a. NSF Rapid Report
b. Digital Library

4. **Neptune Pass (On-Going: 2022 - Present)**
   In support of the Coastal Protection and Restoration Authority of Louisiana (CPRA) and the National Wildlife Federation, RCOAST was contracted to map the geomorphic response and effectiveness of management decisions surrounding the rapid expansion of Neptune Pass. Since 2022, RCOAST has captured land building from terrace installation, tracked sediment budgets associated with the widening and scour of Neptune Pass, and calculated the effects of mitigation measures on sediment accumulation in Bay Denesse and Quarantine Bay.
   a. Project Summary
   b. Publication of Findings
   c. Digital Library

RCOAST
coastal intelligence for every community

3. Project Team

Leadership & Project Oversight:

Dr. Christy Swann, CEO (Dr. Swann Data Room Folder)
Dr. Hilary Stockdon, CSO (Dr. Stockdon Data Room Folder)

Data Collection, Processing & Analysis

Dallon Weathers
Lauren Tango
Ian Adkins
Jacob Stasiewicz

Office Administration & Communication

Lindsey Hubbard

Dr. Christy Swann, Founder & Chief Executive Officer

Dr. Christy Swann is a coastal scientist with over 20 years experience mapping coastal change and studying sediment transport across diverse coastal communities, from barrier islands across the continental U.S. to international field sites in Brazil and the Netherlands. Dr. Swann has held positions at federal agencies aiming to improve coastal resilience for the public sector: USACE Coastal Hydraulics Laboratory and the Naval Research Laboratory. She has authored ~30 scientific publications and won two prestigious national awards for fundamentally changing our understanding of how sand moves on Mars. Dr. Swann's expertise is centered on field data collection, leading engineering teams to build first-generation sensors to measure windblown sand on beaches, measure turbulence on coastal barrier islands, and map coastal change over time. During her Ph.D. at Texas A&M University, she designed the first instrument capable of measuring the minimum wind speed needed to mobilize sand particles—a discovery that caught NASA's attention when the Curiosity rover team couldn't explain Mars observations using existing models. Dr. Swann was awarded both the G.K. Gilbert Award and the Alan Berman Award for redefining the minimum wind speed threshold for sand mobilization on Mars.

As a research scientist at the Naval Research Laboratory's (NRL) Ocean Sciences Division, Dr. Swann was a Principal Investigator leading teams of engineers and coastal scientists to improve the Navy's ability to predict coastal change and improve the resilience of coastal installations. While at NRL, Dr. Swann was a Technical Committee Member for the Resource Conservation and Resiliency Focus Area for SERDP and ESTCP programs funding the next generation of applied science to improve installation resilience across diverse coastlines. In addition to serving on advisory committees, Dr. Swann led a team of engineers and scientists to develop the first field-based particle tracking velocimetry system, capturing the first-ever 3D measurements of atmospheric turbulence on beaches. Throughout her career, she has written data processing scripts that accelerated analysis workflows and built comprehensive libraries of windblown sand data spanning terrestrial and Martian environments. Dr. Swann has advised numerous graduate students, served as Associate or Guest Editor for high-impact journals, and

evaluated proposals for NASA and DoD. She has delivered talks at Caltech, Stanford, and astronomical societies, and designed a Mars lander with JPL, Stanford, Planetary Science Institute, and Cornell.

A data-driven scientist and innovator, Dr. Swann founded RCOAST to work directly with communities and states to build the first 4D data library of coastal mitigation performance and train machine learning models that improve coastal resilience. She has assembled an award-winning team of scientists, internationally-recognized thought-leaders, and data processors to build an intelligence platform safeguarding coastal economies through intelligent adaptation.

Dr. Hilary Stockdon, Chief Science Officer
Dr. Hilary Stockdon is a nationally recognized coastal scientist and strategic leader whose work has shaped how the United States understands, forecasts, and manages coastal hazards. Throughout her career, Dr. Stockdon has bridged science, policy, and decision-making, advising at the White House, Congressional, and federal levels while building high-performing teams that convert innovation into measurable resilience outcomes. With more than 25 years of experience advancing coastal science at national scale, she brings a rare combination of scientific authority, operational execution, and executive leadership to her role as Chief Science Officer at RCOAST.

Dr. Stockdon has built and led complex, mission-driven science enterprises that translate cutting-edge research into real-world impact. Most recently, she directed the U.S. Geological Survey's Coastal-Marine Hazards and Resources Program, a $45+ million annual portfolio supporting more than 300 scientists and staff across three science centers. In this role, she defined national research priorities, guided federal appropriations and disaster supplemental investments, and ensured delivery of actionable science aligned with Congressional, Administration and stakeholder needs.

A prolific and influential researcher, Dr. Stockdon has authored more than 75 peer-reviewed publications advancing coastal process modeling and hazard forecasting. She pioneered the Stockdon Equation (2006), a globally adopted empirical parameterization for wave runup cited more than 1,700 times and widely implemented as a foundational component of coastal early warning systems, risk assessments, and adaptation planning. While at USGS, she was part of the team, with NASA and NOAA, that initiated the use LiDAR for coastal surveys, and she published the first methods for extracting coastal change measures from this unique dataset. Her scientific contributions underpin modern understanding of storm-driven coastal change and have directly informed infrastructure design, flood risk mapping, and resilience investments.

Beyond foundational science, Dr. Stockdon has demonstrated a consistent ability to operationalize innovation. She also established and led the USGS Coastal Change Hazards focus area, overseeing $17 million annually in appropriations and coordinating a nine-member leadership team to deliver national-scale hazard products. She envisioned and led the

development of the first national operational forecasts of coastal total water levels and erosion, created in partnership with NOAA and now used by federal, state, and local emergency managers. She also co-led the development of the USGS Coastal Change Hazards Portal, delivering authoritative, accessible hazard information on storms, sea level rise, and long-term erosion to decision-makers and the public. Under her leadership, federally funded research was converted into real-time forecast products and national hazard services that support emergency response and long-term planning.

Dallon Weathers (M.S.), Database Management
Dallon Weathers is a coastal geologist and product leader with deep expertise in high-resolution data capture, processing, automation, and delivery. With a master's degree in coastal geology and years of hands-on industry experience, Dallon has built a reputation for transforming raw coastal data into mission-critical intelligence for engineering firms, research institutions, and coastal communities. Before joining RCOAST, Dallon founded and ran Delta GeoMarine, a coastal surveying company specializing in high-accuracy bathymetric mapping and advanced data processing. He has led large-scale coastal data programs for major players including The Water Institute and Lanier & Associates Engineering, earning a reputation for precision, speed, and technical excellence. At RCOAST, Dallon brings leadership, ownership, and a relentless drive for innovation. He oversees our data collection strategy, database architecture, and product development—ensuring that RCOAST delivers the fastest, cleanest, and most actionable coastal intelligence in the industry.

Lauren Tango (M.S.), Project Management & Remote Sensing Analyst
Lauren Tango is a remote sensing scientist—a geomorphologist and geographer with expertise in topographic measurements and change detection, quantitative analysis, and data presentation. She utilizes a range of remote sensing technologies (airborne and terrestrial lidar, satellite imagery, photogrammetry), and field instruments (total stations, GPS and RTK) to monitor geomorphic processes. Lauren has a master's degree in Remote Sensing and Fluvial Geomorphology and has worked with the U.S. Geological Survey monitoring changes to sand dunes in the Grand Canyon to inform land managers how to better preserve archaeological resources. She joined the RCOAST team to bring sound science to communities invested in coastline resilience, and promoting the health of the natural world and the humans that inhabit it. Her passion is informing data-driven decision-making by collecting, processing, and interpreting data to promote restoration actions and resource protection.

Ian Adkins (M.S.), Data Collection, Processing
Ian Adkins is a mathematician and engineer currently focused on building whole-system approaches to coastal resilience. He is completing his System Engineering PhD at the University of South Alabama where he is developing a low-cost, real-time, nearshore monitoring network to address the need for accessible environmental data in coastal communities. Ian builds end-to-end data solutions, including the design of a cloud-hosted server that automates data storage, real-time visualization, cleaning, and asset tracking. He brings over 10 years of experience programming, with a background in applying statistical methods to clean noise from

LiDAR dataset and developing custom spatial segmentation and 3D mesh generation algorithms. He holds a B.S. in Mathematics from Florida State University, a B.S. in Civil Engineering from the University of South Alabama, and a M.S. in Mathematics and Statistics from the University of West Florida.

Jacob Stasiewicz, Data Collection, Processing
Jacob Stasiewicz is a coastal researcher and engineer specializing in field data collection, LiDAR processing, and applied robotics for coastal environments. His experience spans geotechnical surveys, UAV-based Structure-from-Motion (SfM), and both terrestrial and aerial LiDAR scanning for high-resolution coastal mapping. He has worked directly in and alongside coastal communities, applying advanced surveying and data-processing techniques to address real-world shoreline and infrastructure challenges. His research focuses on developing machine learning workflows that transform field-collected data into deployable edge-based systems for coastal sensors and autonomous robotics. Jacob earned his B.S. in Coastal Engineering from the University of North Carolina Wilmington and is currently pursuing a M.S. in Robotics at the University of Delaware. He holds a Part 107 Remote Pilot Certificate.

2-page Curriculum Vitae: Drs. Christy Swann and Hilary Stockdon

CHRISTY SWANN, Ph.D.

swann@r-coast.com • +1 (979) 436-4316 • Wilmington, NC | New Orleans, LA

RCOAST

PROFESSIONAL SUMMARY

Coastal scientist and geomorphologist with 20+ years of expertise in aeolian and coastal processes, with a distinguished record of translating fundamental science into operational solutions for naval operations, coastal resilience planning, and decision-making. Deep specialization in measuring and modeling wind-driven sediment transport, dune morphodynamics, and beach-dune system response. Proven ability to design and deploy novel field instrumentation, lead multi-million-dollar research programs for the U.S. Navy and federal partners, and deliver science-based tools that inform real-world action. Founder of RCOAST Inc., a coastal innovation company building next-generation erosion analytics to empower communities, cities and states with the intelligence needed to protect coastlines.

CORE SKILLS & EXPERTISE

Coastal Science Research and Innovation

- Pioneered experimental methods and field instrumentation for measuring coastal change, with applications to dune resilience, enhancing windblown sand deposition, beach trafficability, and community decisions.
- Authored 20+ peer-reviewed publications advancing understanding of aeolian and coastal geomorphology, including chapters in the 2nd Edition of the Treatise on Geomorphology (Elsevier), and being a Guest Editor for a Special Issue on Coastal and Aeolian Dynamics.
- Developed automated methods to extract aeolian processes from LiDAR measurements to assess coastal foredune resilience and inform coastal management decisions.
- Conducted groundbreaking low-pressure wind tunnel experiments under simulated Martian atmospheric conditions, demonstrating sand transport thresholds on Mars are lower than previously predicted by a factor of 1.6–2.5 (Swann et al., 2020, GRL; 2020 G.K. Gilbert Award & Alan Berman Research Award).

Program Leadership & Funding

- Acted as a Principal Investigator research at the U.S. Naval Research Laboratory (2016-2023) and led a team of scientists and engineers to build resilience for coastal installations and within the battlespace change.
- Founded RCOAST Inc., a climate-tech startup delivering high-resolution coastal erosion analytics and actionable intelligence to municipalities.
- Won the 2025 QBE AcceliCITY Resilience Challenge grand prize (City Solution of the Year) from a global pool of 820+ competitors across 71 countries, securing a $100,000 pilot program award.
- Served as Associate Editor for Aeolian Research (Elsevier, 2019–2023), shaping the direction of peer-reviewed aeolian science.

Instrumentation Development & Field Science

- Designed and built novel sand traps, bedload traps, and automated aeolian monitoring systems for deployment in challenging coastal and planetary analog environments.
- Developed the world's first field-based Particle Tracking Velocimetry (PTV) system to non-intrusively measure turbulent velocity fields in the aeolian boundary layer.
- field campaigns at the USACE Field Research Facility (Duck, NC) and coastal sites to characterize aeolian transport processes across diverse beach and dune morphologies.
- Collaborated with NASA Ames Research Center (MARSWIT wind tunnel) to simulate Martian surface conditions and redefine fundamental planetary aeolian transport thresholds.

Stakeholder Engagement & Science Translation

- Experienced communicator and public speaker translating cutting-edge coastal science into tools and insights for military, municipal, insurance, and public stakeholders.
- Co-developed the ATTRACS (Aeolian Turbulence and Transport Rapid Computational Suite) MATLAB/Python tool to streamline aeolian turbulence data processing for research and operational users.
- Engaged scouts and youth through ONR-funded STEM outreach programs in coastal science and engineering (Storming the Beach, $150,000 award).

PROFESSIONAL ROLES

RCOAST Inc.

- Founder & CEO / Coastal Scientist (2023–present)

U.S. Naval Research Laboratory, Stennis Space Center

- Principal Investigator, Marine Geosciences Division (2016–2023)

Aeolian Research (Elsevier)

- Associate Editor (2019–2023)

Texas A&M University, Dept. of Geology & Geophysics

- NASA-funded Postdoctoral Fellow (November 2014 – August 2016)

USACE Field Research Facility, Duck, NC

- Pathway's Intern, Coastal Hydraulics Lab (May 2013 – May 2014)

AWARDS & RECOGNITION

- 2025 QBE AcceliCITY Resilience Challenge Grand Prize Winner (City Solution of the Year) — $100,000 city pilot award; selected from 820+ entries across 71 countries.
- 2021 NRL Alan Berman Publication Award — Naval Research Laboratory, for 'Experimentally-derived thresholds for windblown sand on Mars,' Geophysical Research Letters.
- 2020 G.K. Gilbert Excellence in Research Award — Geomorphology Specialty Group, American Association of Geographers, for 'Experimentally-derived thresholds for windblown sand on Mars,' Geophysical Research Letters.

SELECTED PUBLICATIONS

Recent (2022–2025)

Kelley, M.M., Walker, I.J., Schmeeckle, M., Swann, C. 2025. Changes in aeolian saltation cloud properties with wind speed and ripples. Aeolian Research, 74 (100996).

Sherman, D.J., Bae, J., Ellis, J.T., Swann, C., Partelli, E.J.R., et al. 2025. Aeolian saltation flux profiles: Comparison of Representation and Measurement Methods. Geosciences, 15(8), 323.

Farrell, E., Delgado-Fernandez, I., Li, B., Smyth, T., Swann, C. 2024. Contemporary research in coastal dunes and aeolian processes. Earth Surface Processes and Landforms, 49(1), 108–116.

Farrell, E., Delgado-Fernandez, I., Li, B., Smyth, T., Swann, C. 2023. Coastal dunes: Links between aeolian processes and landform dynamics. Earth Surface Processes and Landforms.

Swann, C. 2022. The Coastal Geomorphology of Mars. In: Eds. Doug Sherman, 2nd Edition of the Treatise on Geomorphology, Elsevier.

Foundational & Highly Cited

Swann, C., Lee, D., Trimble, S., Key, C. 2021. Aeolian transport over a wet, sandy beach. Aeolian Research, 51: 100712.

Swann, C., Sherman, D.J., Ewing, R. 2020. Experimentally-derived thresholds for windblown sand on Mars. Geophysical Research Letters, 47: DOI: 10.1029/2019GL084484.

Sherman, D.J., Li, B., Ellis, J.T., Swann, C. 2018. Intermittent Aeolian Saltation: A protocol for quantification. Geographical Review 108(2): 296–314.

Swann, C., Brodie, K. & Spore, N.J. 2015. Coastal Foredunes: Identifying coastal, aeolian and management interactions driving morphologic state change. USACE ERDC CHL Report, p. 56.

Sherman, D.J., Swann, C., Barron, J.D. 2014. A high-efficiency low-cost aeolian sand trap. Aeolian Research 13: 31–34.

Swann, C., Sherman, D.J. 2013. A bedload trap for aeolian sand transport. Aeolian Research 11: 61–66.

EDUCATION

- Ph.D., Geography — Texas A&M University (2014) | Dissertation: Wind-blown Sand: Threshold of Motion
- M.A., Geography — East Carolina University (2009) | Thesis: Magnitude and Frequency of Wind Events
- B.S., Geography — East Carolina University (2007)

HILARY STOCKDON, Ph.D.

hstockdon@r-coast.com • 727-427-1670 • www.linkedin.com/in/hilary-stockdon-943b559b

Professional Summary

Internationally recognized scientific leader, advisor, and researcher with 25+ years of experience building and directing coastal and climate science programs of national scope and international reach. Expertise in strategic development, interagency collaboration, and science application to inform resilience, risk reduction, and ecosystem restoration. Proven ability to lead complex organizations, manage multimillion-dollar budgets, and align national science priorities with stakeholder needs.

Core Skills & Expertise

Strategic and Program Leadership

- Directed and grew a national coastal and ocean science program – USGS Coastal-Marine Hazards and Resources - exceeding $40M annually, supporting 300+ staff across three science centers.
- Developed and executed strategic vision for federal coastal/ocean hazards and resources research, defining federal priorities that support Congressional, Administration, and stakeholder needs.
- Co-founded, led, and grew the U.S. Coastal Research Program, guiding $15M+ in research investments and linking academia, NGOs, and government partners.
- Established the USGS Coastal Change Hazards focus area, directing $17m in annual appropriations and leading a nine-person leadership team to deliver national-scale coastal hazards products.
- Set national priorities and ran federal funding processes (appropriations, disaster supplements, solicitations), portfolio accountability and milestone tracking for multi-million-dollar programs.

Scientific Research and Innovation

- Published 75+ scientific papers, advancing coastal process modeling and coastal change hazard forecasting.
- Pioneered the Stockdon Equation (Stockdon, et al., 2006), a globally adopted empirical parameterization for wave runup, cited 1700+ times and widely implemented as a foundational piece of coastal early warning systems, risk assessment, and adaptation planning.
- Envisioned and led research team to create the first national, operational forecasts of coastal total water levels and erosion (with NOAA), now used by federal, state, and local emergency managers. (https://coastal.er.usgs.gov/hurricanes/research/twlviewer/)
- Co-created the USGS Coastal Change Hazards Portal to widely share coastal hazards information related to storms, sea level rise, and long-term erosion. (https://marine.usgs.gov/coastalchangehazardsportal/)
    - Led development of the first-ever national assessment of storm-driven coastal change hazards, providing a comprehensive, updatable synthesis of likely erosion for generalized storm scenarios.
    - Led creation and delivery of real-time forecasts of likely coastal change during hurricane landfall, giving advance warning to emergency managers and federal officials.

Interagency Collaboration and Policy Engagement

- Served as bureau and Department lead on White House, DOI, U.S. Global Change Research Program, and interagency task forces addressing sea level rise, coastal resilience, and marine minerals.

- Briefed Congress, OMB, and senior Administration officials on coastal and ocean science issues, user needs, and federal priorities.
- Envisioned and co-developed the Interagency Task Force on Sea Level Change, bringing together federal agencies to deliver nationally consistent, authoritative information at local scales, for private sector planning and investment.
- Advised on the development of the White House Ocean Climate Action Plan and National Strategy for a Sustainable Ocean Economy, providing scientific input on hazards, risk, resilience, and resources in coastal and ocean environments.

Stakeholder Outcomes and Translation to Action

- Experienced public speaker and trusted communicator for diverse audiences—Congress, federal/state/local agencies, media, universities, and the public – translating cutting edge science into decision-ready guidance.
- Trusted advisor to FEMA, NASA, Florida Flood Hub, state groups, and others on resilience planning and adaptation science.
- Converted federally funded research into operational forecast products and national hazard services used by emergency managers and resource planners.

Professional Roles

RCOAST – Chief Science Office (present)

U.S. Coastal Research Program

- Co-Executive Director (2016–2023)
- Science Advisor (present)

U.S. Geological Survey

- Program Coordinator, Coastal-Marine Hazards & Resources (2022–2025)
- Senior Science Advisor for Coastal Hazards, Risk, and Resilience (2023)
- Associate Program Coordinator for Science, Coastal-Marine Hazards & Resources (2017-2022)
- Research Oceanographer, St. Petersburg Coastal & Marine Science Center (1998–2021)

Additional leadership and advisory roles:

- White House Subcommittee on Ocean Science and Technology – USGS lead (2022-2025)
- Department of Interior Senior Ocean Policy Team – USGS lead (2022-2025)
- Extended Continental Shelf Task Force - Co-vice chair (2023-2025)
- National Climate Assessment, Coastal Effects – Agency Chapter Lead Author (2021-2023)
- Intergovernmental Panel on Climate Change - Government Review Panel (2021)

Education

- Ph.D., Oceanography — Oregon State University (2006)
- M.S., Oceanography — Oregon State University (1997)
- B.S., Geology — Duke University (1993)

4. Proposed Work Plan

The City of South Padre Island requires a qualified firm to conduct seasonal and rapid-response monitoring of the beach and dune system to assess mitigation performance, support renourishment planning, measure and record changes in local sediment budgets, and understand post-storm recovery time periods of their beach-dune equilibrium profile. RCOAST has created a comprehensive monitoring and analysis work plan designed in direct response to the City of South Padre Island's Scope of Work outlined in RFQ 2026-SL01.

Our approach integrates high-resolution drone-based LiDAR, RGB imagery and multispectral sensing with vessel-mounted single-beam data to deliver insights that inform coastal management decisions, justify mitigation investments, and support long-term resilience planning for the City of South Padre Island. At its core, the RCOAST work plan precisely maps seasonal and post-storm topographic and bathymetric beach-dune states and how those states change over time. The RCOAST workplan directly aligns with the RFQ 2026-SL01 Scope of Work, and is centered around four key objectives:

A. **Seasonal and Event-based Monitoring**
B. **Sediment Budget and Volumetric Change Analyses**
C. **Mitigation Performance Tracking**
D. **Comprehensive Reporting, Digital Data Libraries, and Collaborative Support for City managers**

Below, we expand on how we will execute each of these objectives and our deliverable schedule for the City of South Padre Island.

A. Seasonal and Event-based Monitoring

RCOAST will conduct quarterly seasonal monitoring scans to establish a baseline of beach and dune morphology and capture the natural variability of the South Padre Island coastal system. Rapid-response post-storm scans will occur within 48-72 hours of the passage of the storm event. For each scan, we will deploy a federally-compliant drone (the Department of War Blue Cleared List) equipped with LiDAR, RGB and multispectral sensors to map the subaerial topography of South Padre Island's beach-dune system, and a vessel-mounted single-beam sensing system to measure the subaqueous bathymetry of South Padre Island. LiDAR will collect point densities exceeding 1,000 points per square meter, meeting USGS Quality Level 0 (QL0) standards with vertical accuracy of ≤5 cm and 0.25-meter digital elevation model resolution. Concurrent RGB and multispectral aerial imagery will be captured at 2-3 cm per pixel resolution to produce georeferenced orthomosaics and interactive 3D photogrammetry models. Multispectral sensors will map vegetation density, distribution, and health within the dune system. All data will be validated and georegistered using ground control points and check

points in accordance with ASPRS Positional Accuracy Standards for Digital Geospatial Data. Topographic RTK beach-dune transects will correspond to bathymetry transects.

Single-beam bathymetric will be mapped at 500-meter intervals using a full motion-compensated dual-frequency fathometer system (e.g., Odom CV200/E20 operating at 24-33 kHz and 200 kHz) with shore-perpendicular transects extending from the nearshore to the depth of closure, complementing UAS LiDAR topographic data to distinguish between system-wide volumetric change and ephemeral cross-shore sediment transfer between the subaerial beach and subtidal shoreface. Positioning will be provided by L1/L2 survey-grade GNSS receivers (e.g., Trimble R8/SPS851) with real-time VRS corrections and post-processed kinematic solutions, achieving horizontal accuracy of 1-2 cm and vertical accuracy of 2-3 cm, while motion compensation via MRU (measuring roll/pitch to 0.25° RMS and heave to 5 cm) will correct for vessel-induced artifacts, with all data processed in hydrographic software (e.g., Hypack) and rendered to match UAS LiDAR horizontal and vertical datums (NAD83(2011) / Texas South and NAVD88 Geoid 12b).

B. Sediment Budget and Volumetric Change Analysis

To satisfy the City's need to understand the amount of sediment gained or lost within their beach-dune system relative to natural or human-induced morphologic change, RCOAST will calculate sediment budgets to track morphologic evolution of the beach-dune system over time. Volumetric change detection will be calculated using M3C2 (Multiscale Model to Model Cloud Comparison) algorithms and 2.5D DEMs of Difference. Transect-based change metrics will be derived at 10-meter intervals alongshore to quantify beach width, dune volume, dune height, dune crest and toe elevation, beach slope, position of nearshore bars, and volume of sediment stored in the nearshore. Shoreline position will be tracked using the Mean Higher High Water (MHHW) elevation contour to measure seaward or landward migration. Alongshore variability of volume over time will be used to identify locations of persistent hotspots of erosion, where the island is recovering more quickly, and where mitigation is needed to enhance recovery and proactively mitigate for future storm events. Net sediment budget changes over time will be calculated to provide the City with an estimate of sediment loss over time (from the dunes to the depth of closure), and reported to the township for fiscal planning of nourishment projects. Volumetric change maps, sediment budget tables, transect-based metrics of change, and long-term trend analyses comparing current conditions to historical baselines will be provided with each monitoring event. Accompanying graphics will be provided to city managers to use in funding requests to state and federal partners for short- and long-term planning efforts.

C. Mitigation Performance Tracking

To directly assess mitigation performance and guide coastal management decisions, RCOAST will perform comprehensive pre- and post-mitigation analyses to quantify reductions in erosion

rates and changes in sediment volume over time. Continuous seasonal monitoring combined with rapid pre- and post-storm scans will enable RCOAST to measure mitigation lifecycles, track performance degradation or enhancement over time, and assess the geographic reach of positive or negative mitigation impacts. Performance and lifecycle metrics will be calculated for each individual and concurrent, multi-mitigation strategies, with performance analyses tailored to the specific mitigation type. Beach nourishment, sand fence and vegetation planting are often deployed concurrently. Thus, RCOAST will discretize data for individual mitigation strategies and the resulting system-wide effect of combined strategies. For example, sand fences often degrade over time as burial reduces the height fencing is exposed to wind, thereby decreasing its sediment trapping capacity. RCOAST will quantify this degradation through volumetric change analysis at fence locations. Similarly, the performance of beach nourishment often changes over time as sediment is redistributed alongshore or is transported beyond the depth of closure. RCOAST bathymetric mapping over time will distinguish between system-wide sediment loss and temporary offshore storage. Vegetation planting performance and survivability will be measured using high-resolution multispectral data to calculate the Normalized Difference Vegetation Index (NDVI). RCOAST will assess species-specific sediment capture rates, quantify sand volume accumulated in vegetated versus non-vegetated dunes, and evaluate vegetation survival following storm-induced saltwater inundation events. Understanding sediment budgets, recovery timescales, and mitigation performance is critical for demonstrating the resilience of South Padre Island's beach-dune system and securing state and federal funding for long-term coastal management.

D. Comprehensive Reporting, Digital Data Libraries, and Collaborative Support for City managers

RCOAST will provide comprehensive digital reports following each monitoring event, synthesizing the monitoring data, sediment budget analysis, and mitigation performance metrics for the South Padre Island beach-dune system. All raw, cleaned, and analyzed data will be organized in an accessible digital data library, with 3D interactive maps to facilitate communication of beach-dune change over time, erosion hot spots, areas of enhanced recovery, and mitigation performance to local, state and federal partners. RCOAST will integrate all publicly available datasets, including historical LiDAR, satellite and aerial imagery, to establish erosion rates, track changes in shoreline position, and vegetation density, and quantify patterns of erosion and accretion within the beach-dune system. A City-specific QGIS package with all data products, maps of change within the beach-dune system, and mitigation performance measures will be provided quarterly.

Seasonal mitigation performance summaries will be delivered to City managers along with presentation-ready graphics designed for communication with state and federal shoreline protection partners, regulatory agencies, and funding organizations. All reports and data products will be structured to support evidence-based decision-making for funding proposals, resource allocation, and regulatory compliance. RCOAST will meet quarterly with City officials to

present findings and will remain available for ongoing collaboration and technical support as needed by City managers throughout the monitoring program

Summary of Proposed Work Plan

RCOAST has the qualifications and experience required to deliver the services outlined in the City of South Padre Island's RFQ 2026-SL01 Scope of Work. Our proposed work plan includes seasonal and rapid-response monitoring, using high-resolution LiDAR, RGB, and multispectral sensors, and bathymetric data collection to quantify morphologic change, assess mitigation performance, and support City managers with insights for short- and long-term resilience planning. RCOAST will work collaboratively with City managers to develop flight plans and map transect locations, secure necessary FAA waivers, and provide quarterly progress meetings and ongoing technical support throughout the monitoring program.

RCOAST
coastal intelligence for every community

5. Relevant Experience

RCOAST has established a proven track record in coastal monitoring and change detection across diverse coastal environments, with active projects spanning over 4,000 acres of shoreline in Texas, Louisiana, Florida, New York, and North Carolina.

In Florida, RCOAST is actively monitoring coastal dune recovery after storm events in American Beach and supporting the Amelia Island Plantation Community Association in managing their eroding oceanfront and marsh shorelines through high-resolution topographic and bathymetric surveys. We have conducted living shoreline performance assessments for the Town of Duck, North Carolina, tracking the effectiveness of nature-based coastal resilience strategies over time. In Louisiana, RCOAST mapped land-building events at Neptune Pass in support of the state Coastal Protection and Restoration Authority (CPRA) and the National Wildlife Federation, quantifying sediment accretion and ecosystem recovery in critical deltaic environments. This portfolio demonstrates our capacity to deliver actionable, data-driven insights across a range of coastal management challenges, from erosion mitigation and storm recovery to long-term monitoring of dynamic beach, dune, and marsh systems in partnership with municipal, state, and federal agencies.

In Texas, RCOAST has monitored coastal change and mapped storm damage on Texas barrier islands, including Matagorda Island, Follet's Island, and, **of particular relevance to this RFQ, South Padre Island.** . Here, RCOAST performed a seasonal beach and dune monitoring to measure the performance of sand fencing and beach nourishment as the system recovered from inundation during two consecutive storm events: Tropical Storm Alberto and Hurricane Beryl. Deliverables provided to Coastal Transplants and the City of South Padre Island included:

a. Report
b. Community Digital Library
c. Community Presentation
d. 3D Interactive Map from **July 2024** UAS Scan
e. 3D Interactive Map from **December 2024** UAS Scan
f. Machine Learning

RCOAST performed high-resolution drone-based monitoring of South Padre Island using drone-based LiDAR and RGB sensors to establish a post-storm baseline and track coastal recovery of the beach-dune system over two seasons in 2024. The 3D photogrammetry model of the December 2024 drone-based scan is shown in Figure 1. Analysis of volumetric and 2D change revealed a complex spatial pattern of erosion and accretion with a net sediment gain of +5,632 cubic meters (Figure 2). RCOAST directly measured the performance of sand fencing and vegetation planting as an recovery enhancement mitigation strategy by documenting sand accumulation at the dune-beach interface and providing 2D/3D characterization of dune features including dune toe, crest, height, and alongshore variability (Figure 3a). The change maps (Figure 3b) provided critical information on storm impacts, following Tropical Storm

Alberto, Hurricane Beryl, and Tropical Storm Francine. This demonstrates RCOAST's rapid mobilization capabilities and ability to establish recovery baselines for time-sensitive coastal management decisions.

Following each monitoring event, RCOAST delivered comprehensive reports with scan-to-scan comparisons, a tailored QGIS data package with shapefiles (beach width, shoreline position, dune metrics, elevation/volume change rasters, sand fencing locations), cleaned point cloud data, high-resolution orthomosaics (2 cm/pixel), and interactive 3D photogrammetry models accessible through a web-based viewer for stakeholder communication (Figure 4). Seaward and landward migration of the dune toe and MHHW shoreline elevation contour were mapped and associated with vegetation maps, beach width, and change over time (Figures 5a-5b). Using this change over time, RCOAST trained a machine learning model on the South Padre Island data to predict the volume of sand deposited during recovery by sand fencing, vegetation planting, and beach nourishment (digitally linked above). All deliverables were provided in formats suitable for regulatory reporting, state and federal funding proposals, and long-term coastal management decision-making in partnership with municipal staff and agencies.



Figure 1: South Padre Island captured in December 2024. Click this link to this Interactive 3D photogrammetry model of December 2024 UAS Scan.

RCOAST

coastal intelligence for every community

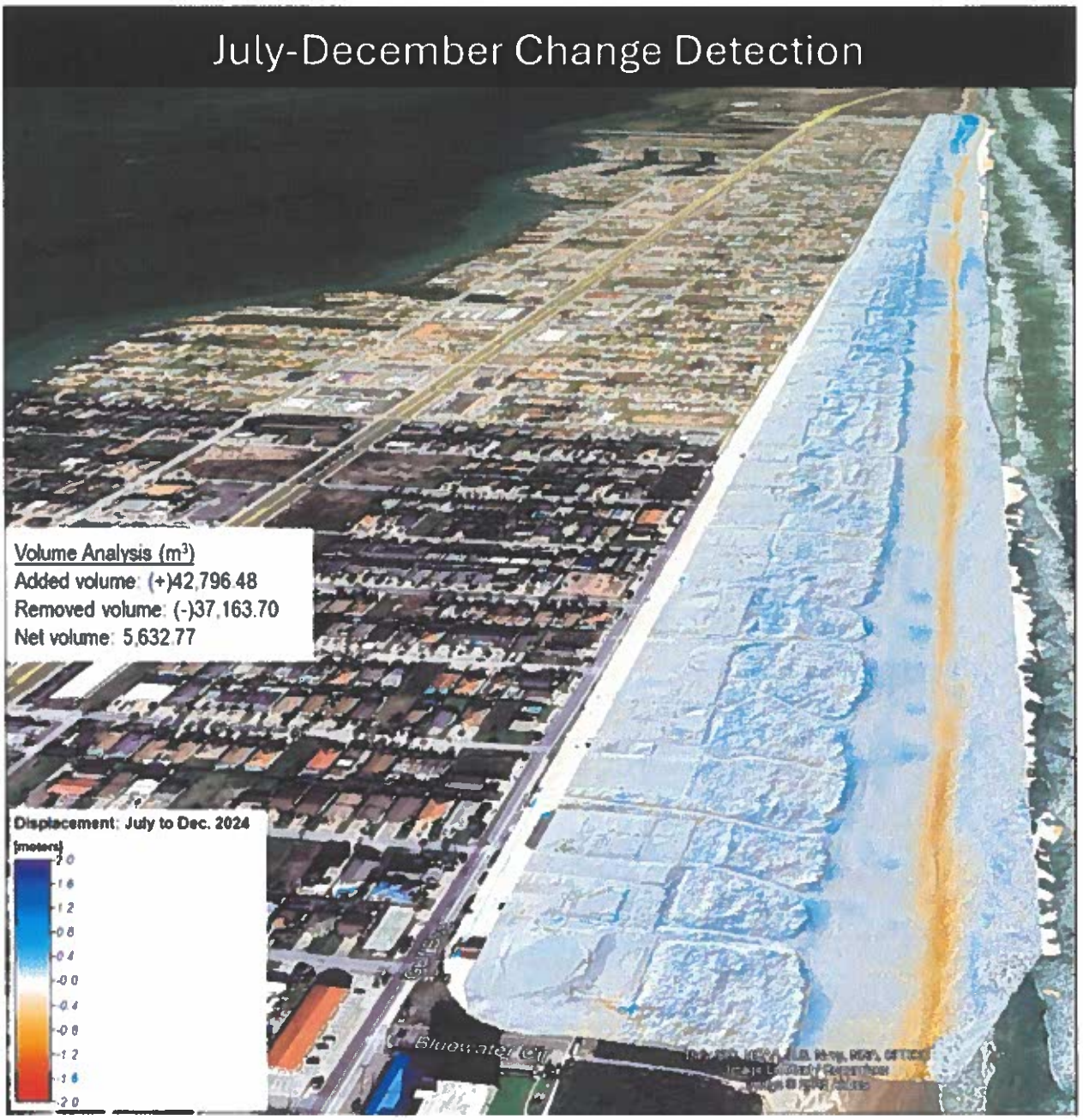


Figure 2: Volumetric change between July 2024 and December 2024, highlight the alongshore variability of recovery in South Padre Island.

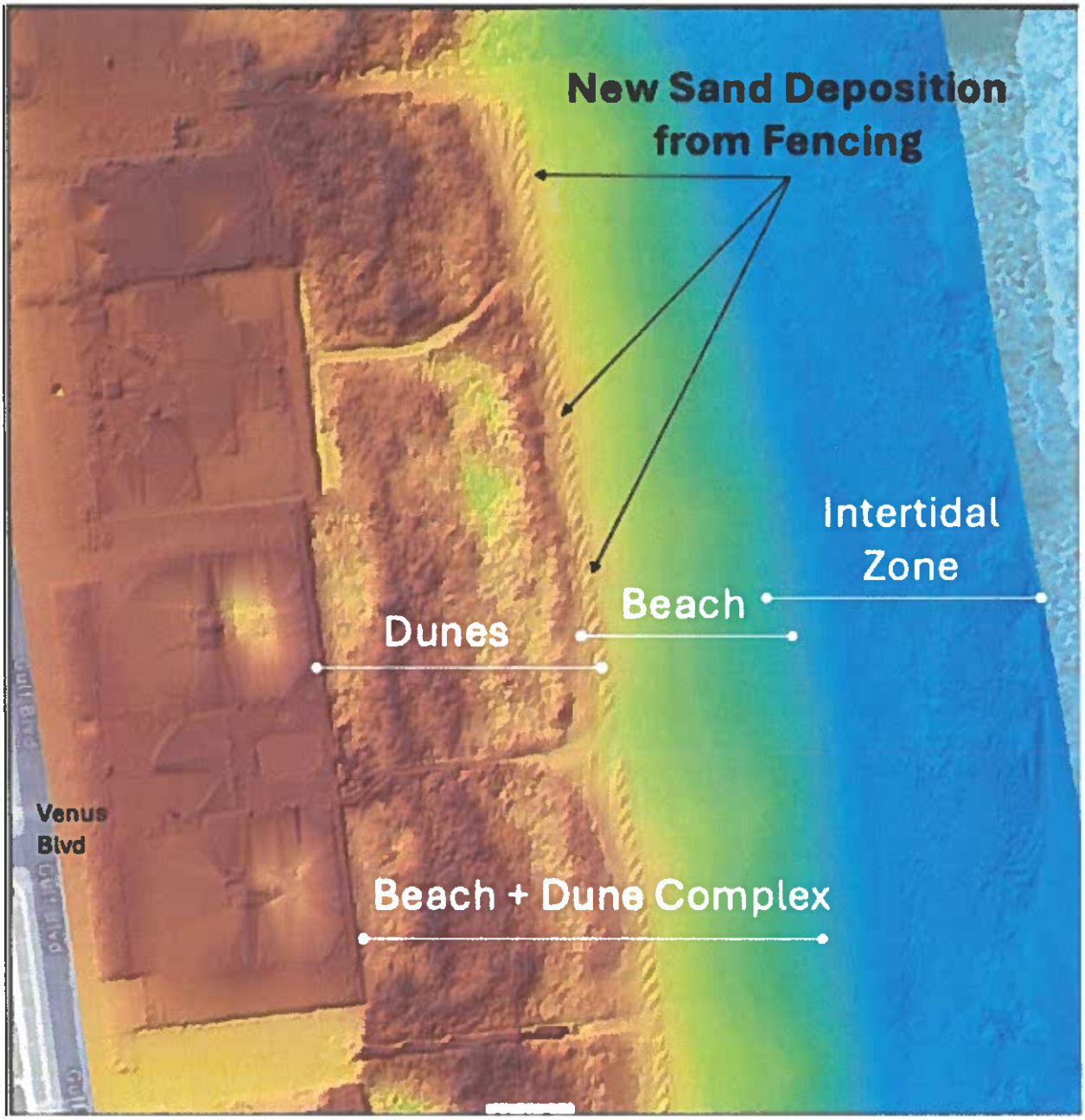


Figure 3a: 3D map of South Padre Island beach-dune system.

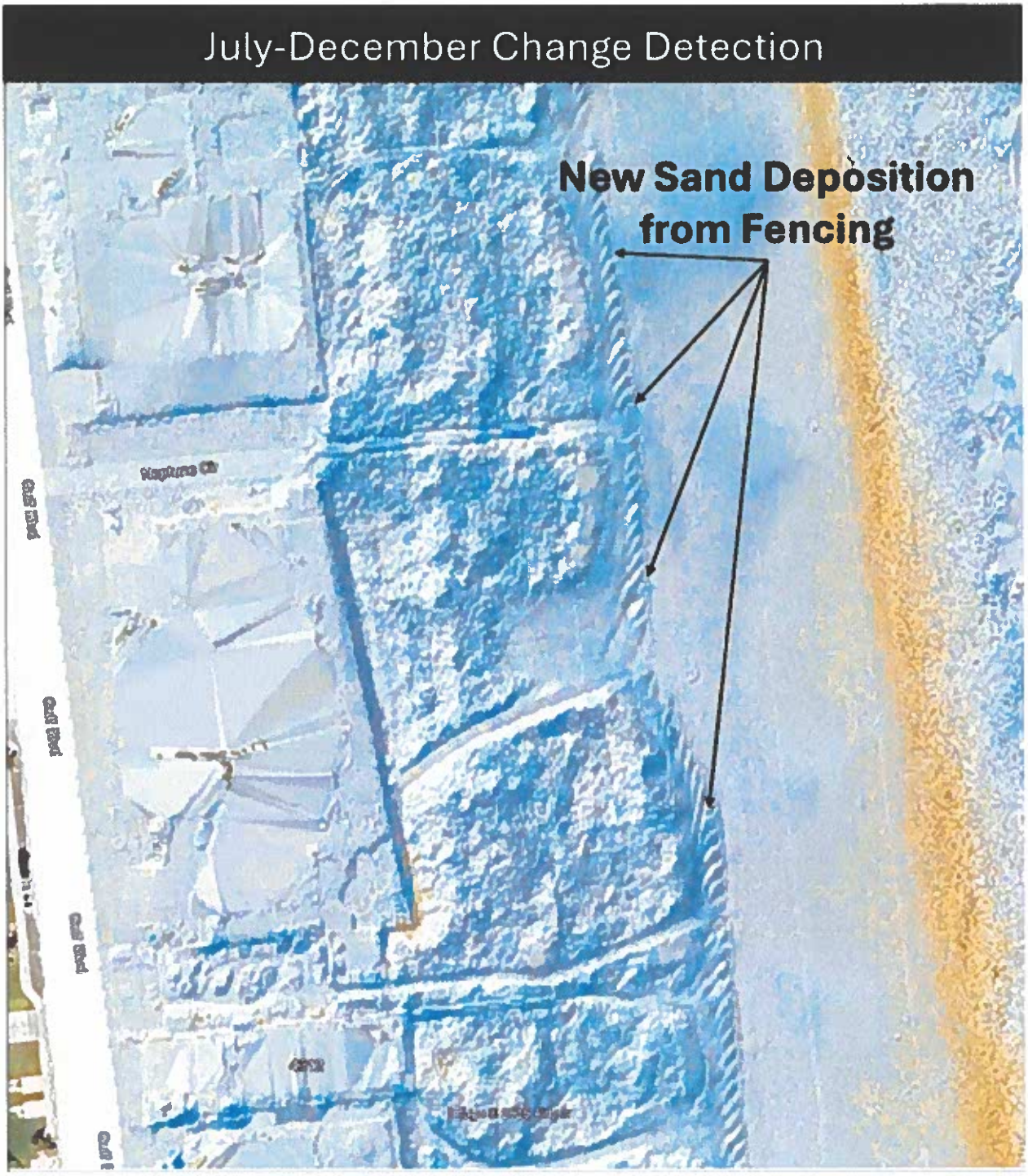


Figure 3b: 3D map of change between July 2024 and December 2024 within the South Padre Island beach-dune system, blue indicates sand gain and orange indicates sand loss. Most deposition occurs in the coastal dunes in conjunction with sand fencing and vegetation planting.

RCOAST
coastal intelligence for every community



Figure 4: QGIS Package created for Coastal Transplants and the City of South Padre Island highlighting the change detection of shoreline, dune toe, and vegetation between July and December 2024.

RCOAST
coastal intelligence for every community



Figure 5a: QGIS Package highlighting the dynamics of change. In this figure, RCOAST highlighted a loss of shoreline, but a seaward migration of the dune toe between July and December 2024.

RCOAST
coastal intelligence for every community



Figure 5b: QGIS Package highlighting the dynamics of change. In this figure, RCOAST highlighted the seaward migration of the shoreline, with landward migration of the dune toe between July and December 2024.

RCOAST
coastal intelligence for every community

6. RCOAST Public Sector Client References

Client Reference #1	**Sandy Cross, Town of Duck**
Position:	Planning and Permits Manager CAMA LPO/CZO/CFM
Address:	P.O. Box 8369 Duck, NC 27949
Phone:	(252) 254-5954
Email:	scross@ducknc.gov

Client Reference #2	**Alisha Renfro, National Wildlife Federation**
Position:	Sr Manager, Science & Policy, Gulf Program
Address:	2021 Lakeshore Drive, Suite 210 New Orleans, LA 70122
Phone:	(504) 943-1565
Email:	RenfroA@nwf.org

Client Reference #3	**Department of Earth and Environmental Sciences, University of New Orleans - POC: Dr. Madeline Foster-Martinez**
Position:	Assistant Professor
Address:	2000 Lakeshore Drive New Orleans, LA 70148
Phone:	(504) 280-4747
Email:	mrfoster@uno.edu

RCOAST
coastal intelligence for every community

7. Proof of Insurance and Licensing

Statement of Insurance:

RCOAST currently holds **General Liability Insurance** with **Hired Non-owned Automobile** coverage, **Aircraft and Commercial General Aviation Liability Insurance**, and **Worker's Compensation Insurance**. The Certificates of Insurance with endorsements and exclusions are provided herein. RCOAST will furnish Certificates of Insurance and endorsements as outlined in the RFQ upon execution of the Agreement.

Professional Licenses held by key personnel that relate to this project include:

Dr. Christy Swann: FAA Part 107 License 4952456
Jacob B. Stasiewicz: FAA Part 107 License 4992785

RCOAST

coastal intelligence for every community

General Liability Insurance with Hired Non-owned Automobile

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/20/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATIONIS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
SPECIALTY PROGRAM GROUP LLC/PHS 46508252 The Hartford Business Service Center 3600 Wiseman Blvd San Antonio, TX 78251	PHONE (A/C, No, Ext): (866) 467-8730	FAX (A/C, No):
	E-MAIL ADDRESS	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC#
Rcoast Inc 730 Julia Street unit 224 New Orleans LA 70130	INSURER A : Hartford Underwriters Insurance Company	30104
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED.NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR [X] General Liability GEN'L AGGREGATE LIMIT APPLIES PER POLICY [X] PRO-JECT [ ] LOC OTHER.			46 SBU BA0UY0	09/11/2025	09/11/2026	EACH OCCURRENCE	$1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$1,000,000
							MED EXP (Any one person)	$10,000
							PERSONAL & ADV INJURY	$1,000,000
							GENERAL AGGREGATE	$2,000,000
							PRODUCTS - COMP/OP AGG	$2,000,000
A	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS [ ] SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS			46 SBU BA0UY0	09/11/2025	09/11/2026	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
							BODILY INJURY (Per person)	
							BODILY INJURY (Per accident)	
							PROPERTY DAMAGE (Per accident)	
	UMBRELLA LIAB [ ] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [ ] RETENTION $						EACH OCCURRENCE	
							AGGREGATE	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					[ ] PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	
							E.L. DISEASE -EA EMPLOYEE	
							E.L. DISEASE - POLICY LIMIT	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Those usual to the Insured's Operations.

CERTIFICATE HOLDER	CANCELLATION
For Informational Purposes 730 Julia Street unit 224 New Orleans LA 70130	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Susan L. Castaneda

© 1988-2015 ACORD CORPORATION. All rights reserved.

RCOAST

coastal intelligence for every community

Aircraft and Commercial General Aviation Liability Insurance

CERTIFICATE OF INSURANCE

This certificate is given as a matter of information only and confers no rights upon the certificate addressee.

Date: February 20, 2026
This is to certify to:
To Whom It May Concern

That the following policy has been issued to:
RCOAST, Inc.
730 Julia Street
Unit 224
New Orleans, Louisiana 70130
USA

Policy No. 9036968 issued by one or more member companies of Global Aerospace Pool through Global Aerospace, Inc.

Policy Period: from February 22, 2026 to February 22, 2027 Policy Territory: Worldwide

AIRCRAFT AND COMMERCIAL GENERAL AVIATION LIABILITY

Coverages	Limits of Liability
Single Limit Bodily Injury and Property Damage	$500,000 Each Occurrence
Third Party War Liability	$500,000 Aggregate

AIRCRAFT PHYSICAL DAMAGE

Policy includes Physical Damage Coverage including war risk with insured values as set forth in the policy.

Solely as respects an occurrence arising out of the ownership, maintenance or use of an unmanned aircraft insured under this policy and solely to the extent required in an agreement with the Named Insured, the following provisions shall apply:

The WHO IS AN INSURED section of the policy is amended to include the certificate addressee as an insured, but only as respects the Named Insured's use of the aircraft and only with respect to the certificate addressee's liability because of acts or omissions of the Named Insured. However, no such person or organization is an Insured if he, she, or it, or any of his, her, or its agents or employees is engaged in the manufacture, maintenance, repair, or sale of aircraft, aircraft engines, components or accessories, or in the operation of any airport, hangar, flying school, flight service, or aircraft or piloting service, as respects any occurrence arising out of such activity.

The insurance, as to the interest of the certificate addressee, shall be primary without right of contribution by any other valid and collectible insurance available to the certificate addressee.

We waive any right of recovery we may have against the certificate addressee because of payments it makes for physical damage to aircraft described in this certificate, but only to the same extent that the Named Insured has waived its right for recovery for such physical damage against the certificate addressee.

Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies. This certificate does not amend, extend or otherwise alter the coverages afforded by the policies described herein. Limits may have been reduced by paid claims.

GLOBAL AEROSPACE, INC.
BY:

GLOBAL AEROSPACE

RCOAST

coastal intelligence for every community

Worker's Compensation Insurance

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 02/20/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATIONIS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
AP INTEGO INSURANCE GROUP LLC 76250846 PO BOX 31241 SALT LAKE CITY UT 84131	PHONE (A/C, No, Ext): (888) 289-2939	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC#
	INSURER A : Hartford Fire and its P&C Affiliates	00914
INSURED RCOAST INC 730 JULIA STREET UNIT 224 NEW ORLEANS LA 70130	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED.NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	
							MED EXP (Any one person)	
							PERSONAL & ADV INJURY	
	GEN'L AGGREGATE LIMIT APPLIES PER						GENERAL AGGREGATE	
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	
	OTHER							
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	
	ANY AUTO						BODILY INJURY (Per person)	
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	
	DED / RETENTION $							
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		76 WEG BW1K7M	09/17/2025	09/17/2026	X PER STATUTE / OTHER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE -EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Those usual to the Insured's Operations.

CERTIFICATE HOLDER	CANCELLATION
For Informational Purposes 730 Julia Street unit 224 New Orleans LA 70130	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Susan L Castaneda

© 1988-2015 ACORD CORPORATION. All rights reserved.

RCOAST
coastal intelligence for every community

8. Signed Certification and Acknowledgement

CERTIFICATION & ACKNOWLEDGEMENT

The undersigned affirms that they are duly authorized to submit this Proposal, that this Proposal has not been prepared in collusion with any other Respondent, and that the contents of this Proposal have not been communicated to any other Respondent prior to the official opening. To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Respondent certifies that it: i) does not boycott Israel; and ii) will not boycott Israel during the term of the Agreement.

Signed By: _____ Title: CEO, Founder

Typed Name: Dr. Christy Swann Company Name: RCOAST, Inc.

Phone No.: (979) 436 - 4316 Fax No.: N/A

Email: swann@r-coast.com

Bid Address: 612 Andrew Higgins, 2nd Floor New Orleans LA 70130
P.O. Box or Street City State Zip

Order Address: 612 Andrew Higgins, 2nd Floor New Orleans LA 70130
P.O. Box or Street City State Zip

Remit Address: 612 Andrew Higgins, 2nd Floor New Orleans LA 70130
P.O. Box or Street City State Zip

Federal Tax ID No.: 88-2961355

DUNS No.: 118926045

Date: 02/23/2026

RCOAST

coastal intelligence for every community

9.0 Acknowledgement of Addenda

The Firm hereby acknowledges that they searched for posted addenda through the deadline of February 18, 2026 at 3pm Central. No posted addenda for this RFQ were found.

Firm: RCOAST						**Firm:** RCOAST			
Reviewer: Kristina Boburka						**Reviewer:** Stormy Wall			
Date Reviewed: 02 March 2026						**Date Reviewed:** 02 March 2026			
Criteria	**Weight (%)**	**Score 1 - 5 (with 5 as the highest)**	**Total**			**Criteria**	**Weight (%)**	**Score 1 - 5 (with 5 as the highest)**	**Total**
Firm Experience & Qualifications: *Firm's overall qualifications and history of successful projects of a similar nature.*	50%	5	**2.5**			***Firm Experience & Qualifications:*** *Firm's overall qualifications and history of successful projects of a similar nature.*	50%	5	**2.5**
Project Team Experience & Qualifications: *The qualifications and expertise of the specific individuals who will be assigned to the project.*	30%	5	**1.5**			***Project Team Experience & Qualifications:*** *The qualifications and expertise of the specific individuals who will be assigned to the project.*	30%	5	**1.5**
Proposed Work Plan: Proposed Work Plan: *The quality, clarity, and effectiveness of the proposed work plan and approach.*	10%	4.5	**0.45**			***Proposed Work Plan: Proposed Work Plan:*** *The quality, clarity, and effectiveness of the proposed work plan and approach.*	10%	5	**0.5**
References & Past Performance: *Client references and the firm's past record of providing high-quality, reliable service.*	10%	5	**0.5**			***References & Past Performance:*** *Client references and the firm's past record of providing high-quality, reliable service.*	10%	5	**0.5**
TOTAL SCORE			**4.95**			**TOTAL SCORE**			**5**

Firm: RCOAST						**Firm:** RCOAST			
Reviewer: Emily Kornblum						**Reviewer:** Sarah McKinlay			
Date Reviewed: 02 March 2026						**Date Reviewed:** 02 March 2026			
Criteria	**Weight (%)**	**Score 1 - 5 (with 5 as the highest)**	**Total**			**Criteria**	**Weight (%)**	**Score 1 - 5 (with 5 as the highest)**	**Total**
Firm Experience & Qualifications: *Firm's overall qualifications and history of successful projects of a similar nature.*	50%	5	**2.5**			***Firm Experience & Qualifications:*** *Firm's overall qualifications and history of successful projects of a similar nature.*	50%	5	**2.5**
Project Team Experience & Qualifications: *The qualifications and expertise of the specific individuals who will be assigned to the project.*	30%	5	**1.5**			***Project Team Experience & Qualifications:*** *The qualifications and expertise of the specific individuals who will be assigned to the project.*	30%	5	**1.5**
Proposed Work Plan: Proposed Work Plan: *The quality, clarity, and effectiveness of the proposed work plan and approach.*	10%	5	**0.5**			***Proposed Work Plan: Proposed Work Plan:*** *The quality, clarity, and effectiveness of the proposed work plan and approach.*	10%	5	**0.5**
References & Past Performance: *Client references and the firm's past record of providing high-quality, reliable service.*	10%	5	**0.5**			***References & Past Performance:*** *Client references and the firm's past record of providing high-quality, reliable service.*	10%	5	**0.5**
TOTAL SCORE			**5**			**TOTAL SCORE**			**5**

RCOAST Average Score	**4.9875**