GULF CONFERENCE 2026

2026 Tools Café Descriptions

ArcGIS Hub AI Assistant for Ocean Data

Presenter: Keith Van Graafeiland[1], Summer Bingaman[1], Julia Bayer[1]
[1] Esri

WEB: https://www.esri.com/en-us/home

OVERVIEW
This tool demonstrates the use of agentic AI to answer ocean and coastal geospatial questions built from the ArcGIS Hub AI Assistant.

INTENDED AUDIENCE
This tool is designed for the General Public.

MAIN USE
The main purpose is to use an AI agent in order to answer geospatial questions. This tool would be used to gain deeper understanding about the ocean and coastal area. This tool demonstrates the application of AI assistant with ArcGIS hub. Tool features global data and is available online.

GEOGRAPHY & SCALE
Global.

ACCESSIBILITY
Online at https://www.esri.com/en-us/home

BlueValue

Presenters: Kara Coffey, Harte Research Institute

WEB: www.bluevalue.org

OVERVIEW
BlueValue is a searchable database of simplified and useful ecosystem valuation information. BlueValue offers quick and easy access to actual ecosystem values in numbers. It houses literature from around the world that users can download, cite, bring to meetings, and share with others.

INTENDED AUDIENCE
This tool is designed for the General Public.

MAIN USE
The natural world supports, sustains, and enriches human life in numerous ways. Scientists and resource managers refer to these benefits as "ecosystem services". The newly updated BlueValue, previously known as GecoServ, is a searchable online database of ecosystem service valuation studies relevant to coastal habitats in the Gulf region. Although ecosystem services are critical to human well-being, cases in which they have been successfully applied to real policies and decisions are rare. For society to make informed decisions about sustainable use of the environment, directly linking the valuation—or quantification—of ecosystem services to society's needs, is necessary. BlueValue is that link. Many scientists, economists, practitioners, and others around the world have conducted ecosystem valuation studies. However, it can be difficult and time-consuming for decision-makers to find and access the results of those studies. BlueValue offers quick and easy access to actual ecosystem values in numbers. It houses literature from around the world that users can download, cite, bring to meetings, and share with others. Data stored in BlueValue can be used to inform management decisions when the option to conduct a primary valuation study is not possible due to monetary or time constraints. The main goals of BlueValue are to allow for the distribution and sharing of information on ecosystem service valuation, facilitate the application of the value transfer methodology, help managers include ecosystem services in the decision-making process, and identify current gaps in ecosystem service literature. The BlueValue database is an international powerhouse of information concerning the economic value of coastal habitat ecosystem services. The previous version was GecoServ (Gulf of Mexico Ecosystem Services Valuation Database), which was originally launched in 2011 and was supported by the United States Environmental Protection Agency's Gulf of Mexico Program, National Oceanic and Atmospheric Administration (NOAA), and the Harte Research Institute.

GEOGRAPHY & SCALE
The tool's geographic area is focused on worldwide data with the focus on coastal habitats.

ACCESSIBILITY
Online at www.bluevalue.org

Using Mechanistic Models to Maximize Ecosystem Service Benefits from Oyster Reefs

Presenters: Eldon C. (Don) Blancher II, Moffat and Nichol

WEB: https://www.epa.gov/hydrowq/aquatox

OVERVIEW
AQUATOX Release 3.2 was designed to extend the existing AQUATOX estuarine version to include improved capabilities for situations encountered in the nearshore marine environment. It has been successfully applied to oyster reef to calculate annual productivity in multiple locations.

INTENDED AUDIENCE
Restoration Scientists; Ecosystem Modelers, Oyster Resource Managers

MAIN USE
USEPA's AQUATOX 3.2 was calibrated for Northern Gulf Coast coastal submerged habitats along Mississippi and Alabama, and used to predict both the baseline productivity and injury from DWH oil. The model has been extensively calibrated for different oyster reef habitats, especially for Mobile Bay and Mississippi Sound. The calibrated model can be used to simulate both physical changes (such as increase reef complexity or marsh edge) as well as typical estuarine ecological forcing functions such as temperature, salinity, total suspended solids or oxygen. We will present a comparison to Soniat's habitat suitability model, and the advantages of providing not only the qualitative success factors, but its ability to predict quantitative oyster success in annual productivity, using temperature and salinity as the primary drivers.

GEOGRAPHY & SCALE
Gulfwide, Atlantic Coast, Virginian and Carolinian provinces

ACCESSIBILITY
Online at https://www.epa.gov/hydrowq/aquatox

Southeast Aquaculture Communication Collaborative (SACC) Resource Hub

Presenters: Emily Riewestahl, Florida Sea Grant at the University of Florida

WEB: southeastaquaculture.org

OVERVIEW
The SACC Resource Hub is a centralized online platform that provides educators and communicators with curated aquaculture materials such as lesson plans, videos, and fact sheets. It simplifies access to science-based resources, making aquaculture education more accessible and efficient for audiences across the Southeastern United States.

INTENDED AUDIENCE
The resource hub is designed for informal and formal educators, extension professionals, industry and communicators across the Southeastern U.S. A key audience is informal and K–12 educators.

MAIN USE
The hub's purpose is to simplify access to aquaculture outreach materials and reduce barriers to aquaculture literacy. It curates and amplifies fact-based content in formats such as lesson plans, videos, and fact sheets originally developed by Sea Grant programs, universities, and nonprofits. The main reason this audience would use the tool is to make aquaculture education more accessible and efficient to implement in classrooms, aquariums/museums, community programs, etc.

GEOGRAPHY & SCALE
The tool covers the Southeastern United States (TX, LA, AL, MS, FL, GA, SC, NC, PR/UVI) and is designed to serve educators and communicators working within this region. The hub currently has 200+ resources spanning the entire region.

ACCESSIBILITY
The resource hub is a centralized, web-based platform. Users can access it free online through an intuitive website that allows them to search, filter, and find curated aquaculture education materials. Online at southeastaquaculture.org

CPRA's Coastal Information Management System (CIMS)

Presenters: Rocky Wager, Louisiana Coastal Protection and Restoration Authority (CPRA)

WEB: https://cims.coastal.la.gov/

OVERVIEW
The Coastal Information Management System (CIMS) is a comprehensive web framework developed to support CPRA's coastal resource management and decision-making in Louisiana's coastal area. The system integrates various data sources, on-line tools, and technologies to provide stakeholders with timely and accurate information related to the state's coastal protection and restoration initiatives. The platform serves as a centralized hub to access a wide range of resources (e.g., GIS, reports, analysis tools) for effective coastal protection and restoration planning.

INTENDED AUDIENCE
CIMS is publicly accessible and designed for a diverse group of stakeholders who are involved in coastal resource management, protection, restoration, and policy-making in Louisiana. Stakeholders consist of local, state, and federal agencies for coastal management, non-governmental organizations, scientists, students, researchers, the general public and more.

MAIN USE
The primary purpose of CIMS is to facilitate effective data driven coastal resource management and decision-making in coastal Louisiana. CIMS offers a robust data repository along with powerful visualization tools designed to help users interpret and understand complex coastal data through graphical and interactive representations.

GEOGRAPHY & SCALE
CIMS supports large-scale geographic and temporal analysis of Louisiana's coastal environment, including 35 parishes within CPRA's coastal jurisdiction area: Acadia, Allen, Ascension, Assumption, Avoyelles, Beauregard, Calcasieu, Cameron, Concordia, East Baton Rouge, East Feliciana, Evangeline, Iberia, Iberville, Jefferson, Jefferson Davis, Lafayette, Lafourche, Livingston, Orleans, Plaquemines, Pointe Coupee, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Landry, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, West Baton Rouge, and West Feliciana. Geophysical data is also available offshore extending into federal waters.

CIMS encompasses the entire Louisiana coastal area spanning from the Texas border to the Mississippi state line and offers a wide range of both spatial and temporal data at various scales. From local bayous and marshes to large river basins and regional coastal areas CIMS provides both historical and real-time data.

ACCESSIBILITY
Online at https://cims.coastal.la.gov/. CIMS has been formatted to function on tablets and mobile devices. To promote user accessibility, CIMS contains FAQs, along with video tutorials to help users navigate.

Evaluating Nature Based Solutions in the Context of Compound Flooding and Sea Level Rise Scenarios in Mobile Bay

Presenters: Javier Robles Camacho[1], Munjurul Haque[1], University of Alabama; Christine Buckel[2], Rebecca Atkins[2], Larisa Lee[3]
[1] University of Alabama
[2] NOAA
[3] Mississippi State University

WEB: https://experience.arcgis.com/experience/4f891230727d4c0b9689eb9d8cf98da9

OVERVIEW
This data delivery dashboard shares project results and information that deliver new insights into compound flood risk in the Mobile Bay area and evaluates how nature-based solutions (NBS) can help reduce the risk of compound coastal flooding under current and future conditions.

INTENDED AUDIENCE
Natural resource managers, coastal decision-makers, those interested in visualizations of compound flooding under various sea-level rise scenarios in Mobile Bay, AL and those implementing NBS or living shoreline projects.

MAIN USE
This interactive map product is designed to visualize compound flood events under different sea-level rise scenarios in Mobile Bay, AL. Users can explore not only depth and extent of compound flooding, but also the impact of NBS projects on floodwater characteristics such as water velocity. Further, floodwater velocity data has been used to develop instability indices for vehicles and pedestrians on roadways which could aid in route planning or road closure decisions. The dashboard also contains map layers for salt marsh productivity under current and future conditions.

GEOGRAPHY & SCALE
Mobile Bay, AL

ACCESSIBILITY
Online at https://experience.arcgis.com/experience/4f891230727d4c0b9689eb9d8cf98da9

Predicting Enterococcus Counts in Texas Beaches

Presenters: Edama Sathwika[1], Felimon Gayanilo[1], Lucy Flores[2]
[1] Harte Research Institute, Texas A&M University-Corpus Christi
[2] Texas General Land Office

WEB: https://enterococcus.today/

OVERVIEW

The ePredictor is an AI-enabled system that can predict Enterococcus counts a week forward for the 177 sampling sites monitored by the Texas Beach Watch of the Texas General Land Office since 2009, using seven independent AI/ML algorithms.

INTENDED AUDIENCE

Beach-goers in Texas

MAIN USE

The Texas General Land Office (TGLO) operates the Texas Beach Watch Program, which has monitored water quality at 177 beach sites since 2009 using laboratory methods to determine Enterococcus concentrations. After the successful development, deployment, and evaluation of the AI-enabled Enterococcus predictor (ePredictor) presented at GOMCON 2024, TGLO and the Harte Research Institute at Texas A&M University–Corpus Christi expanded the system for statewide operational use.

The modeling framework employs Univariate and Multivariate Multi-Step configurations, now incorporating additional environmental variables such as precipitation, in addition to previously used environmental parameters like salinity and water temperature. To enhance predictive accuracy, the project also evaluated algorithms, including Random Forest.

To improve accessibility and decision support for beach managers and the public, an interactive statewide heat map was developed to visualize high-alert beach locations in real time. The project has published ePredictor for mobile devices that also provides an application that integrates prediction and mapping features, enabling authorized users to access site-specific forecasts and risk levels on mobile devices.

GEOGRAPHY & SCALE

Beach sites along the Texas coast.

ACCESSIBILITY

An Android version is in testing, and automated alert emails are being implemented to notify subscribers when predictions indicate elevated bacterial risk. Online at https://enterococcus.today/

GRIIDC - Coastal and Marine Science Data Repository

Presenters: Rosalie Rossi[1], Deborah LeBel[1],
[1] Harte Research Institute, Texas A&M University - Corpus Christi

WEB: www.griidc.org

OVERVIEW
GRIIDC is a multidisciplinary data repository that serves data to the research community. The site contains data management applications that assist with planning, documenting, and submitting data to GRIIDC. The system allows data submissions to be tracked through the data package workflow by investigators and program administration via the dataset monitoring page. The GRIIDC search and dataset landing pages are designed for anyone who is interested in obtaining coastal and marine data.

INTENDED AUDIENCE
Dsigned for anyone who is interested in obtaining data, including academic researchers, natural resource managers, policy makers, emergency responders, non-governmental organizations, and the public.

MAIN USE
GRIIDC is a multidisciplinary data repository that stores and disseminates data. The data management applications that assist with planning, documenting, and submitting data to GRIIDC are designed for investigators and data managers. GRIIDC issues a DOI for discrete data packages that provides researchers with a citable reference for their efforts. The system allows data submissions to be tracked through the data package workflow by both investigators and program administration via the dataset monitoring application. The GRIIDC program is also developing new partnerships to continue our mission of ensuring a data and information legacy that promotes continual scientific discovery and public awareness of coastal and marine ecosystems. Potential partnerships with research institutions, oil and gas industry, and others will allow more investigators to use these tools to manage and share their data using the GRIIDC system.

GEOGRAPHY & SCALE
Gulf-wide

ACCESSIBILITY
Online at www.griidc.org

Master Plan Data Access Portal (MP-DAP)

Presenters: Ashley Cobb, Louisiana Coastal Protection and Restoration Authority (CPRA)

WEB: https://mpdv.coastal.la.gov; https://mpdap.coastal.la.gov/

OVERVIEW
The Master Plan Data Access Portal (MP-DAP), an interactive data tool developed to enable online visualization and download access, serves as a central location for all of the modeling data sets used to develop the 2023 Coastal Master Plan. The MP-DAP will be updated as new modeling data sets become available.

INTENDED AUDIENCE
The MP-DAP is intended for those who already have a good grasp on the types of master plan data and their application allowing researchers, academics, and practitioners of all types to be able to dig deeper into the data and select a variety of variables for online visualization.

MAIN USE
The MP-DAP is a new interactive data tool and central location for all of the modeling data sets used to develop the 2023 Coastal Master Plan. The MP-DAP builds off of the Master Plan Data Viewer and further enhances data access and transparency. The portal is intended for those who already have a good grasp on the types of master plan data and their application allowing researchers, academics, and practitioners of all types to be able to dig deeper into the data and select a variety of variables for online visualization. These images are able to be exported, or users can download the data and create graphics to meet their specific needs.

Examples of currently available data includes land change, vegetation type, flood depth, storm surge-related damages, salinity, and water level. The portal also includes documentation to explain metadata, links to reference documents, and model geometries. Further data sets and functionality will be forthcoming.

The MP-DAP address the GOAA Priority Issues of Coastal Resilience; Education and Engagement; and Conservation, Restoration, and Resilience Planning.

GEOGRAPHY & SCALE
The MP-DAP provide information for coastal Louisiana, including 24 parishes (all or portions of the parish): Acadia, Ascension, Assumption, Calcasieu, Cameron, Iberia, Iberville, Jefferson, Jefferson Davis, Lafayette, Lafourche, Livingston, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, and Vermilion.

ACCESSIBILITY
Online at https://mpdv.coastal.la.gov; https://mpdap.coastal.la.gov/. All 2023 Coastal Master Plan color schemes have been updated in order to allow for increased legibility for those who experience a color vision deficiency. CPRA promoted the tool during its development in a series of public meetings across the coast and continues to share and train partners on how to use and communicate about the MP-DAP and the master plan data sets.

Southern Regional Climate Center Climate Tools Portal

Presenters: Alison Tarter[1], Madgellen Cleary[2]
[1] Southern Regional Climate Center
[2] Texas Sea Grant

WEB: https://www.srcc.tamu.edu/

OVERVIEW
The SRCC tools portal contains a suite of tools at that provides users with climate data.

INTENDED AUDIENCE
This tool is designed for the General Public

MAIN USE
The SRCC tools portal contains a suite of tools that provide users with climate data in several states located in the Southern Continental United States, including:

- Integrated Water Portal (used in assessing drought conditions); Fingerprint Plot Tool; Tropical Desk (used to track past and current tropical storm activity); Storm Reports Portal (storm reports can be filtered by location and storm type); Extremes Tool (daily, monthly, and all-time record heat / rainfall);
- Ranking Tool provides monthly, quarterly, and annual rankings at the state and regional levels for the Southern Region, allowing the user to place the current conditions relative to the historical extremes (1895-present);
- Monthly Summaries tool provides climate information at the monthly time scale at the station level; organized by state and climate division. The Monthly Graphs tool allows the user to plot monthly data at the climate division or state level for temperature and precipitation from 1895 to the most recent full month;
- Climate Station Search tool allows users to search for historical climate information filtering by state, the station name, or station ID number;
- Climate Normals tool allows users to view the most recent 30-year climate normals for each state through a map and table interface. The variables available for the Climate Normals tool are Maximum Temperature, Minimum Temperature, Average Temperature, and Precipitation.
- Current Weather tool allows users to see the current conditions at hourly stations across the Southern Region from the National Weather Service. Several water-related tools are also available including information on Drought Status (Drought Tool), information of river/streamflow information (Waterway and Drought), as well as historical storm surge information from tropical systems (Surge Tool).

GEOGRAPHY & SCALE
Texas, Oklahoma, Arkansas, Louisiana, Mississippi, and Tennessee.

ACCESSIBILITY
Accessible with mobile phones. Online at https://www.srcc.tamu.edu/

Deepwater Horizon Project Tracker

Presenters: Jes Skillman[1], Wes Shaw[2]
[1] Ducks Unlimited
[2] Blue Urchin LLC

WEB: www.dwhprojecttracker.org

OVERVIEW
The Deepwater Horizon Project Tracker provides an easy and comprehensive way to track restoration, research, and recovery projects resulting from the 2010 Deepwater Horizon oil spill.

INTENDED AUDIENCE
Conservation planners, project implementers, funders, general public.

MAIN USE
To map and provide key information about research, restoration, and recovery projects funded by the Deepwater Horizon oil spill settlements, fines, and other payouts in the Gulf region.

GEOGRAPHY & SCALE
North America, focusing on the Gulf region, migratory flyways of birds impacted by the oil spill, and cities in which relevant research and policy work are occurring. The scale varies depending on the project / projects of interest to the user.

ACCESSIBILITY
Online at www.dwhprojecttracker.org ; tabular and GIS downloads, online maps, tables, and summaries, map service.

Colony Island Network Design and Implementation (CINDI)

Presenters: David Essian, Harte Research Institute, Texas A&M University - Corpus Christi

WEB: N/A

OVERVIEW
The CINDI Tool is a GIS-based decision-support platform that uses data on bird nesting movements, and habitat selection and socioeconomic factors to help guide cost-effective conservation efforts for colonial waterbirds. It is currently expanding with new decision-making functionality and coast-wide coverage.

INTENDED AUDIENCE
The CINDI Tool is a preliminary decision-support platform designed to guide the restoration and creation of rookery islands along the Texas coast.

MAIN USE
Managers can use a spatial data viewer to assess the landscape context of island restoration projects using spatial data layers such as historic island boundaries, recreational boating disturbance, prey density, wetlands, oil and gas infrastructure, elevation, land cover, sea level rise, and managed areas. Further, a new multi-criteria decision-making application is under development to help managers prioritize restoration efforts based on four restoration objectives related to the overall goal of increasing breeding population size; to restore islands with the greatest probability of colony persistence and high breeding abundance; to restore islands where focal species will have a high probability of reproductive success; to restore islands that to restore islands with access to large areas of suitable foraging habitat; and to limit restoration costs. We use an objective function to state these objectives mathematically, providing managers with a transparent and repeatable measure of restoration benefits that identifies colonies that maximize persistence, nest survival, and access to high-quality foraging habitat while minimizing project costs.

GEOGRAPHY & SCALE
Bird colony islands ranging from the Rio Grande to Galveston Bay, Texas.

ACCESSIBILITY
Once completed, the tool will be freely available to all users online at birdislands.org. As the application is under development, access is currently restricted.

Burning for Birds: Tools and Guidelines for the Application of Prescribed Fire in High Marsh Habitats of the Northern Gulf Coast

Presenters: Mark S. Woodrey[1], Auriel M. V. Fournier[2]
[1] Coastal Research & Extension Center, Mississippi State University
[2] Illinois Natural History Survey

WEB: https://www.ideals.illinois.edu/items/137934

OVERVIEW
This manual provides specific guidance for the application of prescribed fire in high marshes across the northern Gulf Coast. The focus is on the management of four bird species of conservation concern found in high marshes and provides guidance specifically for Mottled Duck, Yellow and Black Rail, and Seaside Sparrow.

INTENDED AUDIENCE
Land managers and natural resource professionals.

MAIN USE
This prescribed fire manual is primarily aimed at certified fire practitioners trained in the fundamental issues associated with the safe application of prescribed fire. However, the manual provides valuable information that can also be used by land managers and natural resource professionals more broadly. For example, the guidelines provide specific recommendations for season of burning which can help guide land managers to include prescribed fire in their

management plans although they are not practitioners themselves. The main purpose of the manual is to provide guidance around the five key factors that fire managers consider when conducting a prescribed burn and discuss their effects on Mottled Ducks, Yellow and Black Rails, and Seaside Sparrows. The five factors considered in this manual are (1) the frequency with which the management unit is burned, (2) the season in which a unit it burned, (3) the extent of the management unit burned, (4) the specific weather conditions under which a burn is initiated, and (5) the ignition techniques used to burn a management unit. Given the content of this manual, users will be able to determine the safest and most effective approach to conduct successful and effective prescribed fires to produce the best management outcomes for the species considered here.

GEOGRAPHY & SCALE
Entirety of the northern Gulf coast from around the Tampa, FL area around the Gulf to the Corpus Christi area of Texas.

ACCESSIBILITY
This tool is readily accessible in a digital format via the Illinois Natural History Survey while printed hard copies can be secured by contacting the authors of the manual. Online at https://www.ideals.illinois.edu/items/137934

Strategic Conservation Vision (SCV) Tool

Presenters: Vance Crain[1], John Cartwright[2], John van der Zwaag[2], Andrew Nagel[2], Kristine Evans[2]
[1] Gulf Partnership for Land Conservation
[2] Mississippi State University

WEB: https://geoproject.hpc.msstate.edu/SCVTool/

OVERVIEW
The Strategic Conservation Vision (SCV) is an online, science-based planning and mapping tool designed to support strategic land and water conservation across the U.S. Gulf Coast. It integrates six conservation measures (longleaf pine priority areas, wetlands (>10 ha), migratory bird strongholds, at-risk working lands, natural land connectivity, and riparian zone composition) into a multilayered spatial model that produces a tiered prioritization of conservation lands.

INTENDED AUDIENCE
Conservation planners and managers, government agencies, and funders or grant programs seeking to support strategic conservation decision-making.

MAIN USE
The tool's primary use is to spatially prioritize conservation and restoration actions across the Gulf Coast and direct activities for the Project Assistance Fund, which provides financial support for permanent land protection projects.

GEOGRAPHY & SCALE
The SCV Tool's geography and scale span the states of Texas, Louisiana, Mississippi, Alabama, Georgia, and Florida, using a hexagonal spatial index with an approximate planar area of 1 km² (or ~0.75 km² geodesic) to enable consistent regional analysis.

ACCESSIBILITY
Online at https://geoproject.hpc.msstate.edu/SCVTool/

GeoCoast Tools

Presenters: John van der Zwaag[1], John Cartwright[1], Andrew Nagel[1]
[1] Mississippi State University

WEB: https://geoproject.hpc.msstate.edu/geocoast/

OVERVIEW
GeoCoast Tools is a suite of applications designed to educate users about flood risk and support decision-making related to impacts on infrastructure, transportation, and communities. The suite includes GeoCoast3D, GeoPanorama, and GeoInundation. GeoCoast3D visualizes flooding effects on buildings, terrain, and roads in 3D, while GeoPanorama and GeoInundation enhance analysis through immersive 360° panoramas, virtual reality, and realistic 3D models derived from LiDAR and imagery.

INTENDED AUDIENCE
Coastal planners and managers, emergency management and transportation agencies, infrastructure and resilience decision-makers, researchers, and educators. While designed to support professional flood risk assessment, the tools are also suitable for public outreach and stakeholder engagement to improve understanding of coastal flooding hazards.

MAIN USE
The primary use of GeoCoast Tools is to assess, visualize, and communicate coastal flooding and inundation impacts. By illustrating effects on infrastructure, transportation networks, and communities, the suite supports risk evaluation, resilience planning, and clear communication to both technical and non-technical audiences. High-resolution spatial data such as LiDAR, satellite imagery, and ground-based observations are used to model flooding impacts at the level of individual buildings, roads, and terrain.

GEOGRAPHY & SCALE
Focus on United States Gulf Coast coastal environments, with applications at local and site-specific scales.

ACCESSIBILITY
Online at https://geoproject.hpc.msstate.edu/geocoast/

Gulf Online Mapping Open Data Platform (GOMOD)

Presenters: Drew Stephens[1], Anthony Resinger[2]
[1] The GIS Institute
[2] GOAA Contractoed GIS Specialist

WEB: https://gmod-portal-gomalliance.hub.arcgis.com/

OVERVIEW
The Gulf Online Mapping Open Data Platform (GOMOD) is an established ArcGIS Hub site for sharing data across the GOAA membership and beyond.

INTENDED AUDIENCE
Intended to increase access to geospatial data across Gulf of America Alliance Priority Teams, researchers, students, and the public at large.

MAIN USE
The Gulf Online Mapping Open Data Platform (GOMOD) is an established ArcGIS Hub site for sharing data across the GOAA membership and beyond. GOMOD includes a variety of data layers presented in Theme Maps that cover the NOAA Coastal Watershed Counties, the coastal zone, and areas well offshore in the Gulf of America.

GEOGRAPHY & SCALE
Gulf-wide

ACCESSIBILITY
Online at https://gmod-portal-gomalliance.hub.arcgis.com/

Avian Data Monitoring Portal

Presenters: Jessica Henkel[1], Jon Wiebe[2]
[1] The Water Institute
[2] Louisiana Department of Wildlife and Fisheries

WEB: www.avianmonitoring.com

OVERVIEW
The Avian Data Monitoring Portal is a publicly available website that allows users to explore and download colonial waterbird aerial survey data collected from 2010-2024 across the northern Gulf. The portal includes a geospatial dashboard that allows users to explore data by geographic areas, year, watershed and/or species.

INTENDED AUDIENCE
Natural resource managers.

MAIN USE
Since 2010 the Deepwater Horizon Regionwide Trustee Implementation Group (TIG), and Louisiana TIG have monitored colonial waterbird species through aerial photographic nest surveys. Surveys are carried out from a fixed-wing aircraft, with two photographers taking photographs of individual nesting colonies. Nests are then manually dotted (i.e., counted) on individual photographs and assigned to species and the nesting status, allowing for the enumeration of nests and nesting pairs by species within a defined area. Aerial surveys began in 2010, resulting in nine years of surveys, with the survey range varying from across to the Gulf of Mexico to only the Louisiana coast. To date, more than 400,000 photos have been captured.

To fully leverage the utility of the data generated by this project, the Gulf of Mexico Avian Data Monitoring Portal has been developed through funding from the Louisiana and Regionwide TIGs. This portal, which is publicly available online at avianmonitoring.com, includes a geospatial dashboard powered by Environmental Systems Research Institute (Esri) Enterprise Geographic Information Systems (GIS) software linked to a Web Mapping Service (WMS). The dashboard ingests the intersected multiyear dataset and displays important data-driven components as visualizations including a graphical depiction of species counts by year as well as counts of total nests and total birds observed. The dashboard can be interactively modified by query selection. The data portal also allows users to download the full datasets, high-resolution images and geodata.

GEOGRAPHY & SCALE
Louisiana.

ACCESSIBILITY
Online at www.avianmonitoring.com

Enhancing Watershed Collaboration through the Apalachicola Watershed Coordination Blueprint (AWCB) StoryMap and ARCS Digital Hub

Presenters: Laila Racevskis[1], Amy Bainbridge[1]
[1] The Balmoral Group

WEB: N/A

OVERVIEW
The AWCB StoryMap and ARCS Hub are two complementary digital tools that support restoration planning and engagement efforts by centralizing data, documents, and conversations across the Apalachicola Watershed. Together, they promote knowledge-sharing, transparency, and long-term coordination in environmental planning and management.

INTENDED AUDIENCE
Coastal scientists and resource managers. Federal, state, and local agency staff. Nonprofits and community leaders. Researchers and educators. Anyone exploring cross-sector collaboration tools

MAIN USE
The AWCB StoryMap and ARCS Digital Hub are designed to improve communication, coordination, and transparency in watershed restoration planning and decision-making. Together, they enable users to organize and visualize restoration projects across time and geography, centralize scientific research, management plans, and funding opportunities, and facilitate collaboration among diverse groups of interested parties. By pairing a public-facing StoryMap for outreach and knowledge sharing with an invitation-based collaboration space for internal coordination and discussion, the tools support tailored engagement for different audiences while fostering shared understanding and long-term alignment across the watershed.

GEOGRAPHY & SCALE
These tools are focused on the Apalachicola River Watershed and Bay system, encompassing Northwest Florida and adjacent Gulf ecosystems.

ACCESSIBILITY
TBA. The StoryMap is freely accessible online and optimized for use by a broad audience with varying levels of technical expertise.

GCOOS Suite of Tools

Presenters: Chris Simoniello[1,2], Megan Howson[1,2], Felimon Gayanilo[1,3], Grant Craig[1], Bob Currier[1,2], Xiao Qi[1,2], Jorge Brenner[1,2], Devanarayana Rao[4,5], Brian Dzwonkowski[4,5]

Institutions
[1] Gulf of America Coastal Ocean Observing System Regional Association
[2] Texas A&M University
[3] Texas A&M University-Corpus Christi
[4] Dauphin Island Sea Lab
[5] University of South Alabama

WEB: https://seaturtleatlas.gcoos.org/; https://mhw.gcoos.org; https://gandalf.gcoos.org/; https://ntl.gcoos.org/

OVERVIEW
Tools in the GCOOS demonstration will include two new and two upgraded products developed over the past year. New products include the Sea Turtle Atlas and Marine Heat Wave webpages. Upgraded tools include GANDALF 2.0 and the BSEE/NTL Data Repository and Registry.

INTENDED AUDIENCE
Academics and researchers, military, natural resource managers, General Public.

MAIN USE
The Gulf of America Coastal Ocean Observing System (GCOOS) is one of 11 Regional Coastal Ocean Observing Systems nested in the U.S. Integrated Ocean Observing System. It is a stakeholder-driven, data sharing organization dedicated to aggregating and disseminating the

region's near real-time oceanographic information that encompasses 1,783 sensors providing ocean data from 296 regional stations and 158 federal stations—all of this made possible through 62 data-sharing partners across the government, military, industry, NGOs, academia, education and the general public. The evolution of GCOOS has been more than two decades in the making—nearly all of it on the cutting edge of data aggregation and integration, technology innovations and user-driven service delivery--the focus of the Tools Café demonstrations.

Four tools in the GCOOS collection will be showcased during the Tools Cafe:
1) The Sea Turtle Atlas hosts population data and pertinent anthropogenic and environmental data on all five Gulf species in one centralized location resulting in easy data access for researchers, restoration managers and the general public. The geographic scale extends throughout the Gulf of America with some coverage of the southern Atlantic and Caribbean.

2) Marine Heat Wave resources recently developed for researchers, resource managers and environmental forecasters visualize, track and analyze marine heatwave events using consistent historical and near–real-time buoy and satellite SST data. The Gulf-wide tool provides MHW reports, news updates, data downloads and statistical summaries to support research, situational awareness, and management discussions.

3) GANDALF 2.0: Upgrades to the new autonomous vehicle piloting tool GANDALF 2.0 were made to meet the needs of glider pilots by providing near real-time vehicle tracking, mission visualization, environmental context layers and post-processing of mission data, while enabling researchers to access, visualize and compare in situ observations with satellite and model products. The tool primarily serves missions in the Gulf and Caribbean Sea with extended coverage into parts of the Atlantic and Pacific Oceans.

4) The BSEE/NTL Data Repository and Registry was developed for metocean scientists and researchers. The tool includes the collection, processing and reporting of oceanographic data from offshore lessees in near real-time. There are 51 active stations and 94 Mobile Oil Drilling Units (MODU) reporting data to the repository that now holds over 700M data records on Gulf of America ocean currents alone.

GEOGRAPHY & SCALE
Gulf-wide

ACCESSIBILITY
Online at https://seaturtleatlas.gcoos.org/; https://mhw.gcoos.org; https://gandalf.gcoos.org/; https://ntl.gcoos.org/

NOAA Atlas 15 Volume 1

Presenters: Joelle Godwin[1], Alexandria Smith[1]
[1] NOAA Contractor

WEB: N/A

OVERVIEW
NOAA Atlas 15 Volume 1 is the new authoritative, spatially continuous National Precipitation Frequency Atlas of the United States, developed by NOAA National Weather Service (NWS) Office of Water Prediction (OWP).

INTENDED AUDIENCE
This tool is designed for the General Public.

MAIN USE
NOAA Atlas 15 provides spatially independent estimates of expected precipitation depth (or intensity) for a specified storm duration, at a particular location of interest. The statistically expected precipitation estimates are presented as exceedance probabilities ranging from 50% average annual exceedance to 0.1%, and cover storm durations ranging from 5 minutes to 60 days. NOAA Atlas 15 Volume 1 provides spatially continuous coverage over the entire United States. NOAA Atlas 15 is the authoritative source for precipitation frequency information across the continental United States, available online for anyone to use. Like the current standard, NOAA Atlas 14, which is referenced in many engineering design standards and floodplain regulations published by entities outside of NOAA, it is expected that engineers and other practitioners will use NOAA Atlas 15 Volume 1 to update and/or establish standards and regulations to make local decisions (designs for drainage infrastructure, city and regional planning, etc.).

GEOGRAPHY & SCALE
Global

ACCESSIBILITY
In beta testing.

Comprehensive Aquatic Systems Model (CASM)

Presenters: Sharon Ewe[1], Steve Bartell[1], Carl Ferraro[1]
[1] Stantec Inc.

WEB: N/A

OVERVIEW
The Comprehensive Aquatic Systems Model (CASM) is an integrated aquatic food web productivity–habitat quality–water quality model used in ecosystem management and restoration. It can be customized to forecast ecological risks and benefits from physical habitat modifications, alterations in water quality, and modifications of food web structure. The model can simulate daily values of population biomass, indices of habitat quality, and water quality parameters for up to 50 years into the future.

INTENDED AUDIENCE
Designed to help managers, decision-makers, the technical community and stakeholders understand the expected outcomes and risks/benefits of specific ecosystem restoration projects with a focus on coastal wetlands and nearshore marine environments.

MAIN USE
The primary use of the coastal marine CASM is to simulate the expected outcomes of management and restoration actions. The model forecasts the effects of specific projects or combinations of projects on selected water quality factors, habitat quality indicators, and productivity of user-selected populations of aquatic plants, invertebrates, and fish. Food web dynamics are based on bioenergetics formulations of growth for individual modeled populations. The basic computational platform outputs daily values of population biomass (carbon) for each user-specified food web component, dissolved inorganic nitrogen and phosphorus, dissolved oxygen, and dissolved and particulate organic carbon.

The spatial resolution of the model is 1 m2. Values are output for each spatial node used to spatially characterize specific CASM applications. Individual spatial nodes that spatially define CASM implementation are computationally interconnected by physical transport dynamics provided by hydrological and hydrodynamic models that are run independently from the CASM. The model can aggregate node-specific results into computed system-wide annual carbon sequestration in sediments and biota, nutrient assimilation, and measures of guild-specific biodiversity. The CASM also offers the ability to examine the implications of climate change (temperature, precipitation, salinity), physical habitat degradation, changes in hydrology, and toxic chemicals (e.g., excessive nutrients, agrochemicals, oil spills, mercury and other trace metals) on achieving management goals and objects for ecosystem management and restoration projects. The model can forecast management and restoration scenarios for up to 50 years.

GEOGRAPHY & SCALE
Previous applications have focused on coastal Louisiana ecosystems, managed Florida wetlands, and Old Tampa Bay. The model has been applied to systems ranging in size from lower order Midwestern streams to large river systems (Mississippi River, Columbia River, Sacramento River), Lake Erie, and the northern Gulf. The CASM has also been used to help estimate impacts on ecological resources in response to various environmental stressors in support of Natural Resources Damage Assessments (NRDA), including the Deepwater Horizon spill.

ACCESSIBILITY
The CASM is available through contracted project applications with Stantec. Upon completion of model applications customized to user needs, model code and supporting data and documentation will be provided to the client.

Coastal Homeowner's Handbook

Presenters: Michael Christopher[1], Robert Gruba[2]
[1] Elemental Methods LLC
[2] Mississippi Department of Marine Resources

WEB: www.gulfcoasthomeownershandbook.org

OVERVIEW

Designed specifically for homeowners, the "Coastal Homeowner's Handbook" is a critical resource for anyone wanting to reduce the risks to their family and property from natural hazards. The mobile application covers essential information on emergency preparedness, evacuation planning, flood/wind insurance, and steps to protect life and property.

INTENDED AUDIENCE

Homeowners.

MAIN USE

The original Coastal Homeowner Handbooks were developed in 2010 as a project of the GOAA Coastal Community Resilience Team, a partnership of federal, state, and local organizations that share a vision for healthy and resilient communities. The handbooks were designed specifically for homeowners in the Gulf Coast states (MS, AL, LA, TX, FL), to promote individual resilience; thereby creating a fortified community. The handbook covers essential information on emergency preparedness, evacuation planning, flood/wind insurance, and steps to protect life and property.

In 2023, the "Coastal Homeowner's Handbook" mobile application was developed to expand the reach and usability of the tool by incorporating mobile technology and taking advantage of the proliferation of smartphone use in the United States. According to data obtained in ongoing studies by Pew Research, a substantial majority of Americans are cellphone owners. In 2021, 85% of Americans owned smartphones. This represents a substantial, and still-growing, majority of citizens across a wide range of demographic groups. While smartphone ownership exhibits disparities based on age, household income, and educational attainment, the gaps are declining. Mobile technology use among rural adults and minorities has also risen rapidly, with the share of those owning smartphones increasing sharply since 2011.

GEOGRAPHY & SCALE

Gulf Coast states (Mississippi, Alabama, Louisiana, Texas, and Florida)

ACCESSIBILITY

Online at www.gulfcoasthomeownershandbook.org. The implementation of the "Coastal Homeowner's Handbook" on smartphones provides new opportunities to reach and assist the public and communities in preparing for and responding to disasters. The incorporation of electronic messaging in the application allows communities to have constant contact with the public. In 2025, the "Coastal Homeowner's Handbook" mobile application was enhanced to include Spanish and Vietnamese language versions of the handbooks for Mississippi homeowners.

ClimateInsight

Presenters: Tonya Graham, Geos Institute

WEB: N/A

OVERVIEW
ClimateInsight is an AI-powered tool that searches existing municipal plans for strategies known to move climate adaptation and mitigation goals forward. By identifying climate-related strategies in plans that have already been approved, such as comprehensive or general plans, hazard mitigation plans, and transportation plans, communities can jumpstart their climate efforts while formulating a climate plan. The tool also helps climate planners identify the climate-related strategies already present in a community's municipal plans.

INTENDED AUDIENCE
Communities and practitioners developing climate adaptation, mitigation, or resilience plans

MAIN USE
The main use of ClimateInsight is to help Climate Ready America communities focus the energy of their Navigators on existing, approved strategies that have a strong climate nexus while they engage in a more comprehensive planning process. This tool has multiple uses across the climate field, however, as scanning existing plans is a standard element of climate planning processes. The tool reduces the manual labor and expertise needed to identify existing climate strategies in climate planning processes and helps any community that uses it focus immediate attention on climate-related strategies that do not need additional government approvals.

GEOGRAPHY & SCALE
There are no geographic boundaries within the U.S. for the use of ClimateInsight. The tool will work for any city, town, county, council or government, or planning district. Because the tool identifies the source plan and page where the strategy is mentioned, outputs of the tool can be organized across large jurisdictions. However, very large jurisdictions will find that more effort is needed to organize the output of the tool than the effort needed in smaller jurisdictions.

ACCESSIBILITY
The tool is available through Climate Ready America Navigators and will soon be available by licensing agreement.

Sea Level Calculator

Presenters: Marian Hanisko, NOAA Office for Coastal Management

WEB: https://coast.noaa.gov/sealevelcalculator

OVERVIEW
The Sea Level Calculator can be used to explore how sea levels and coastal flooding have changed in frequency and magnitude for a chosen location. The information provided by this product can be used to make decisions about strategic adaptation investments.

INTENDED AUDIENCE
Local governments, consultants, engineers, planners, resilience officers, floodplain managers, natural resource managers, and other practitioners can use this information to make informed decisions about strategic adaptation investments.

MAIN USE
NOAA's Sea Level Calculator produces location-specific scenarios for sea level and flooding, as well as information about present-day and past conditions. The product incorporates data, maps, and visualizations and produces automated, location-specific reports. This tool has recently undergone a series of enhancements informed by user and stakeholder feedback. The Tools Cafe demonstration will highlight recent improvements to the tool and share a complementary video webinar series that provides a technical, in-depth exploration of the Calculator's Quick Views.

GEOGRAPHY & SCALE
Contiguous U.S. (except the Great Lakes), Hawaii, and the US. Pacific Territories.

ACCESSIBILITY
Online at https://coast.noaa.gov/sealevelcalculator

Coastal Risk Finder: Maps + Visuals for Gulf Flood Resilience

Presenters: Dan Rizza, Climate Central

WEB: https://app.climatecentral.org/coastal-risk-finder

OVERVIEW
Coastal Risk Finder is an interactive web tool that lets users customize sea level rise and coastal flood scenarios, see who and what is at risk, and share localized maps, statistics, and graphics for states, counties, municipalities, congressional districts, and state legislative districts across the contiguous United States. It also provides adaptation resources and state-specific resilience efforts. We'll also demo FloodVision - integrating into Coastal Risk Finder this year - which adds photorealistic, street-level flood visuals and entry floor elevation (FFE) data.

INTENDED AUDIENCE
Gulf coastal practitioners who need credible, screening-level local flood-risk information and compelling ways to communicate it - state/local officials and planners, floodplain managers/CRS coordinators, emergency managers, regional planning bodies, NGOs, educators, community leaders and more

MAIN USE
Coastal Risk Finder lets users explore "today + future" coastal flood risk by selecting sea level rise and coastal flood scenarios and instantly seeing localized impacts, maps, and shareable takeaways. It supports practical workflows like vulnerability assessments, public engagement, resilience planning, and CRS documentation. In the demo, we'll show the current Coastal Risk Finder experience and use cases, as well as FloodVision: photorealistic, street-level flood visuals and entry floor elevation (FFE) data that make localized risk more concrete for decision-makers and residents.

GEOGRAPHY & SCALE
The tool covers the contiguous United States with outputs available for states, counties, municipalities, congressional districts, and state legislative districts.

ACCESSIBILITY
Online at https://app.climatecentral.org/coastal-risk-finder

Barrier Island Comprehensive Monitoring (BICM) Program Habitat Reporting Tool

Presenters: Kimberly A. Thompson[1], Christina B. Hunnicutt[2], Anthony Kucyznski[3], Jason L. Dugas[2], Bree J. Landry[4], Bethanie M. Simons[1], Madison T. Chandler[1], and Nicholas M. Enwright[2]
[1] Cherokee Nation System Solutions, contracted to the U.S. Geological Survey, Wetland and Aquatic Research Center
[2] U.S. Geological Survey, Wetland and Aquatic Research Center
[3] University of Louisiana at Lafayette
[4] Lafayette, LA, contracted to the U.S. Geological Survey, Wetland and Aquatic Research Center

WEB: https://cims.coastal.louisiana.gov/bicm_hrt

OVERVIEW
In partnership with Louisiana's Coastal Protection and Restoration Authority (CPRA), the U.S. Geological Survey (USGS) developed the Barrier Island Comprehensive Monitoring (BICM) Program Habitat Reporting Tool. The purpose of this tool is to make BICM habitat classification and change maps broadly accessible without the need for Geographic Information System (GIS) software packages or expertise.

INTENDED AUDIENCE
General public, natural resource managers, and researchers.

MAIN USE
This tool allows users to visualize and compare two types of data: 1) periodic BICM habitat maps spanning 1996–2021, and 2) BICM habitat change maps illustrating changes between 2008–2015/16 and 2015/16–2021. In addition to visualizing these data, the Habitat Reporting Tool highlights differences in aerial coverage by class between maps, provides functionality to print standard reach-level maps, and offers options to display data through various charts and plots (e.g.,

stacked bar plots and scatter plots). Collectively, the data and functionality within the Habitat Reporting Tool help users to understand habitat coverage and changes over time. As noted earlier, this tool can be used by natural resource managers, coastal researchers, and the general public without requiring GIS software to be installed on their computer.

GEOGRAPHY & SCALE
The Habitat Reporting Tool provides data spanning Louisiana's Gulf of America shoreline. Most maps are vector-based products created at a spatial resolution of 1–2 m.
Accessibility: The Habitat Reporting Tool is available on the CPRA website (BICM Habitat Reporting Tool). The maps have been published as a USGS data release

ACCESSIBILITY
Online at https://cims.coastal.louisiana.gov/bicm_hrt. The maps have been published as a USGS data release (https://doi.org/10.3133/ofr20201030), and BICM products are featured in the most recent open file report (https://doi.org/10.3133/ofr20201030). The team is currently preparing a draft report that will highlight the latest mapping effort, including the 2021 habitat maps and habitat change maps from 2015/16 to 2021.

Ocean Justice AI: Live Community Mapping And Decision Support

Presenters: Germain Bebe[1], Que Simpson[1]
[1] Black In Marine Science (BIMS)

WEB: https://www.oceanjustice.ai/

OVERVIEW
Ocean Justice AI is a web-based platform that integrates environmental, health, and socio-economic data to support community-led decision-making. Users can visualize coastal risks, map community observations, prioritize habitats, and generate data-backed briefs for advocacy and restoration. The demo will show live mapping plus workflows to export maps and share actions.

INTENDED AUDIENCE
Communities.

MAIN USE
Main Use:
OJAI provides an interactive map and workflow builder to: integrate public and community data; screen environmental and social vulnerability; identify priority sites; track restoration projects; and produce shareable maps and briefs. Attendees will walk through uploading local data, layering Gulf datasets, and generating an action summary.

GEOGRAPHY & SCALE
Focus on the Gulf, upper east coast and western coastal regions with coverage from local neighborhoods to watershed and coastal-plain scales. Includes state and federal datasets and supports user-contributed data for site-specific analyses.

ACCESSIBILITY
Online at https://www.oceanjustice.ai/. Data and maps can be exported as images, shapefiles, and web-share links. Mobile-friendly viewer for community engagement. Documentation and quick-start tutorials included.

Intermediate Complexity Tools for Regional Monitoring and Modeling of Barrier Islands

Presenters: Travis Swanson[1], Soupy Dalyander[1]
[1] The Water Institute

WEB: N/A

OVERVIEW
This tool highlights two intermediate-complexity approaches under development to help coastal managers and stakeholders predict restoration outcomes and quantify geomorphic change along complex systems of barrier islands.

INTENDED AUDIENCE
Coastal managers, technical workers, coastal stakeholders

MAIN USE
This entry demonstrates the burgeoning capability of two intermediate complexity tools used to monitor and model coastal change. Of the tools currently under development, we present 1) the Barrier Island Restoration Tradeoff Analysis (BIRTA) toolkit, and 2) hypsometric analysis and modeling of barrier island geomorphology. These tools can help their audience members predict possible outcomes of coastal restoration, and measure barrier island geomorphology, geomorphic change, respectively.

GEOGRAPHY & SCALE
These tools are in development for application for the barrier islands that surround the Louisiana coast. However, future applications could include different geographic settings and larger or smaller scale.

ACCESSIBILITY
Outputs of these tools will be made available online.

GulfSeeLife: A Mobile App for Gulf-Focused Natural History and Community Science

Presenters: Richard Buchholz[1], Kayleigh Mazariegos[1]
[1] University of Mississippi

WEB: https://gulfseelife.org/

OVERVIEW
GulfSeeLife is a free, Gulf-focused, natural history and community science app for use by Gulf residents, visitors and researchers/educators. GulfSeeLife users post photos and videos of animals and plants, learn to identify common species with the help of an ID Wizard or rely on a community of over 5,000 GulfSeeLife users and experts to vote on species identifications. Anyone can build community science projects that use the app for customized public or private data collection.

INTENDED AUDIENCE
Coastal residents, visitors and researchers/educators

MAIN USE
Creates a social media platform to share natural history observations, learn more about our coast's natural resources, seek assistance for species and habitats in peril, and propose and participate in community science projects to study and conserve nature. The data collection platform can be customized to the unique needs of each researcher or educator, and allows data collection by either specific users (such as trained interns or a class of students) or by the entire community of GulfSeeLife users.

GEOGRAPHY & SCALE
Marine, freshwater and terrestrial habitats of the coastal counties of the five Gulf states (FL, AL, MS, LA, TX).

ACCESSIBILITY
Free app download from Apple (iPhone and iPad) and Google Play (Android phones) stores, or can be used via a web portal (https://gulfseelife.org/)

NOAA's Gulf of America Environmental Response Management Application (ERMA)

Presenters: Ben Shorr[1], Jay Coady[1], Robb Wright[1]
[1] NOAA Office of Response and Restoration)

WEB: https://erma.noaa.gov/gulfofmexico/erma.html

OVERVIEW
The Gulf of America ERMA application provides a common operational picture for environmental disasters including oil spills, hurricanes and long-term cleanups and restoration efforts. ERMA also provides public access to environmental datasets collected during and following emergency response and cleanup. ERMA was used extensively for the Deepwater Horizon (DWH) oil spill, the associated Natural Resource Damage Assessment (NRDA) and is also focused on the ongoing Restoration project monitoring.

INTENDED AUDIENCE
Federal, State and Local government agencies and the general public to access a vast amount of spatial data.

MAIN USE
ERMA is a mapping and visualization tool that provides access to a vast amount of environmental and operational data that is key to decision making for environmental responses, assessment, planning and restoration. ERMA has a secure login for privileged data and is a critical tool used by responders and damage assessment for visualization and collaboration during an event and for the duration of the assessment and restoration efforts. ERMA has served as the USCG Common Operational Picture (COP) for recent Hurricanes to coordinate activities across Federal and State partners and during active oil spills. ERMA was used intensively by the Federal DWH Response effort as the COP during the active clean-up phase, providing up to the minute updates on status, trajectories, sampling and results that were used for decision making. ERMA served as the primary visualization tool for environmental datasets that were used to develop the Deepwater Horizon Programmatic Damage Assessment and Restoration Plan. The team of trustees that spanned Federal, State and other partners used ERMA to visualize and communicate analysis and results. Gulf of America ERMA is now focused on the DWH environmental restoration effort and also actively used for responding to current environmental disasters including hurricanes and oil or hazardous materials spills.

GEOGRAPHY & SCALE
ERMA covers the entire Gulf of America including coastal and offshore areas, and as a mapping application provides the ability for the user to view and examine large scale (very detailed) and small scale (overview) data layers.

ACCESSIBILITY
Online at https://erma.noaa.gov/gulfofmexico/erma.html

Minimum Required Elevation Calculator

Presenters: Carol Friedland[1], Rubayet Bin Mostafiz[1]
[1] LaHouse Research and Education Center, LSU AgCenter

WEB: https://floodelev.lsuagcenter.com/

OVERVIEW
The LSU AgCenter Flood Elevation Calculator helps users determine the minimum required building elevation in accordance with ASCE/SEI 24-24 standards. By entering site-specific flood and elevation data using a consistent vertical datum, users receive guidance on compliant elevation requirements. Designed for educational and planning purposes, the tool supports informed decision-making but does not replace professional judgment or guarantee regulatory approval. Users are responsible for verifying inputs and ensuring compliance with local building authorities.

INTENDED AUDIENCE
Designed for homeowners, builders, contractors, local officials, floodplain managers, and educators who need to understand and apply elevation requirements for structures in flood-prone areas.

MAIN USE
The primary purpose of the tool is to help users determine the minimum required elevation for a building or structure based on flood hazard conditions and the standards outlined in ASCE/SEI 24-24: Flood Resistant Design and Construction. Users enter site-specific information such as Base Flood Elevation (BFE), Design Flood Elevation (DFE), ground elevation, and freeboard, using a consistent vertical datum. The tool then calculates the required elevation and provides clear guidance on how the result aligns with ASCE 24-24 requirements.

The tool's main value is that it translates complex engineering standards into an easy-to-use interface. It reduces confusion and helps users understand how regulatory and design elevations interact. For homeowners and builders, it clarifies how high a structure must be elevated to reduce flood risk and comply with building codes. For local officials and educators, it serves as a teaching and communication tool that supports consistent interpretation of elevation requirements.

GEOGRAPHY & SCALE
United States of America

ACCESSIBILITY
Online at https://floodelev.lsuagcenter.com/

Louisiana State Hazard Mitigation Plan

Presenters: Rubayet Bin Mostafiz[1], Carol Friedland[1]
[1] LaHouse Research and Education Center, LSU AgCenter

WEB: https://beta.shm.lsuagcenter.com/

OVERVIEW
The Louisiana State Hazard Mitigation Plan (SHMP) platform provides clear access to the state's hazard profiles, risk assessments, and mitigation strategies. It summarizes key information from the FEMA-approved SHMP and presents it through interactive maps, organized hazard pages, and

downloadable resources. The tool helps state and local officials, planners, educators, and community partners understand risks and identify mitigation priorities. It supports planning, outreach, and decision making by making statewide hazard information easy to explore and use.

INTENDED AUDIENCE
Designed for state and local emergency managers, parish officials, planners, hazard mitigation officers, state agencies, researchers, educators, and community organizations involved in resilience and disaster preparedness.

MAIN USE
The SHMP platform provides an accessible, organized way to explore the content of Louisiana's FEMA-approved State Hazard Mitigation Plan. It summarizes hazard profiles, statewide risk assessments, mitigation goals, and prioritized strategies. Users can review information on hazards such as flooding, hurricanes, coastal land loss, severe storms, drought, extreme heat, and other natural or technological threats. The platform presents this information through structured summaries, interactive maps, and downloadable resources that help users understand how hazards affect people, property, infrastructure, and the state's economy.

The tool's primary purpose is to support planning and decision making by making complex hazard mitigation information easy to navigate. It helps users identify risks, compare hazards across regions, and align local mitigation actions with statewide goals. Emergency managers and planners use the platform to support local hazard mitigation plans, grant applications, and long-term resilience strategies. Educators and outreach professionals use it to communicate hazard information to communities in a clear and consistent way.

GEOGRAPHY & SCALE
Louisiana

ACCESSIBILITY
Online at https://beta.shm.lsuagcenter.com/

Resilient Housing Planning Guide & Workbook

Presenters: Brooke Troxmondo, Smart Home America

WEB: https://www.smarthomeamerica.org/our-work/research-and-projects/community-resilience-housing-guide

OVERVIEW
The Resilient Housing Planning Guide and Workbook are free, comprehensive tools developed by Mississippi State University's Gulf Coast Community Design Studio, Smart Home America, and the Mississippi Department of Marine Resources. Designed for communities of all sizes — especially those with limited staff and budgets — they guide municipalities through a six-step process to

assess housing vulnerabilities, envision resilient futures, and develop actionable goals before disaster strikes. All materials are freely available online.

INTENDED AUDIENCE
Designed for local government staff and community leaders responsible for housing, emergency management, and disaster recovery

MAIN USE
The Workbook guides communities through a structured, six-step planning process — Assessing Needs, Assembling Participants, Analyzing and Envisioning, Defining Goals and Objectives, Recommending Actions, and Charting a Path Forward — to develop a Resilient Housing Plan before disaster strikes. At its core, the tool helps communities shift from reactive disaster recovery to proactive resilience planning by identifying housing vulnerabilities, envisioning ideal housing distribution, and translating that analysis into specific, measurable goals and action items.
Key exercises walk participants through taking inventory of existing plans, mapping current housing conditions and hazard risk, sketching an idealized vision for future housing development, and developing a goal-and-action-item framework organized around three pillars: Housing Land-Use, Housing Construction Standards, and Housing Disaster Recovery. The completed workbook positions municipalities to apply for and effectively use federal, state, and philanthropic funding — a critical advantage given that post-disaster funds are often available faster than jurisdictions can plan for their use.

GEOGRAPHY & SCALE
Municipalities in Louisiana, Alabama, and Texas

ACCESSIBILITY
Online at https://www.smarthomeamerica.org/our-work/research-and-projects/community-resilience-housing-guide

ArcGIS Maritime and Bathymetry S-100 Production Tools

Presenters: Jerad King, Esri

WEB: https://www.esri.com/en-us/arcgis/products/arcgis-maritime/overview

OVERVIEW
The ArcGIS Maritime and Bathymetry products include tools to support the production of various IHO S-100 data standards. The production of IHO S-111 Surface Current data will be the focus of this tool's cafe demonstration.

INTENDED AUDIENCE
Designed for hydrographic offices, oceanographic service providers, and coastal data managers responsible for producing and distributing standardized maritime geospatial products in compliance with International Hydrographic Organization (IHO) S-100 series standards.

MAIN USE
The S-111 Surface Current standard is relevant to stakeholders at GulfCon given the merge of physical oceanography and maritime navigation. The interplay between these domains is novel, and provides an opportunity for ocean observers to elevate their data production, and will thereby be the focus of the demonstrations. Beyond chart producers, authoritative surface current data products serve vessel traffic services, port authorities, search and rescue planners, oil spill response teams, and offshore energy operators who depend on trusted, standardized current information for operational decision-making. By encoding surface current data into an internationally recognized format, producers transform raw observations and model output into products that can be recognized as authoritative, making them discoverable, interoperable, and consumable across the broader S-100 ecosystem.

The Bathymetry S-100 toolset streamlines the production of S-111 Surface Current data products from either oceanographic models or direct measurements. It enables producers to ingest raw current data from various sources into a database, and export the data out as a single IHO compliant S-111 H5 file. The S-100 standards represent the next generation of authoritative hydrographic data, expanding well beyond the navigational chart. The S-111 production tools deliver a first of its kind capability to users, supporting delivery of critical surface current information to support navigation safety, port operations, and coastal planning.

GEOGRAPHY & SCALE
These tools operate within a global framework, as the S-100 series standards are maintained by the IHO and intended for international use.

ACCESSIBILITY
Online at https://www.esri.com/en-us/arcgis/products/arcgis-maritime/overview

Alabama's Real-Time Coastal Observing System (ARCOS)

Presenters: Patrick David, Dauhin Island Sea Lab

WEB: https://www.disl.edu/arcos

OVERVIEW
Since 2003, Dauphin Island Sea Lab (DISL) has been collecting real-time environmental monitoring data in and around Mobile Bay. The meteorological and hydrographic data provided by DISL is very important for understanding the complex ecosystems of Mobile Bay. Our overall goals and objectives are to continue to make this high-quality data available for decision makers, researchers, and the general public, to assist our users in forming effective strategies when faced with disasters, to enhance the economy, and to protect the environment.

INTENDED AUDIENCE
Policymakers/Legislators. Researchers. General Public.

MAIN USE
ARCOS provides real-time data of multiple parameters across Alabama's gulf coast.

GEOGRAPHY & SCALE
The nine stations encompass Coastal Alabama and Mobile Bay; from the head of Mobile Bay down to Dauphin Island and across to Gulf State Park. An offshore buoy provides wind and waves data (approx. 10 miles south of Dauphin Island).

ACCESSIBILITY
Online at https://www.disl.edu/arcos. Historical data is provided along with real-time interactive data visualizations. An Application Programming Interface (API) is available as well for automated/programmatic access.

ISeeChange: Ground-Truth Flood Intelligence for Infrastructure Decisions

Presenters: Julia Kumari Drapkin, ISeeChange

WEB: www.partners.iseechange.com

OVERVIEW
ISeeChange is a flood risk intelligence platform that converts unstructured environmental and human data into structured, real-time insights. Our AI architecture fuses ground-truth reports, existing municipal datasets, and remote sensing to deliver predictive and operational intelligence to cities, counties, and utilities.

INTENDED AUDIENCE
Designed for decision-makers and technical practitioners responsible for flood risk intelligence, infrastructure resilience, and climate adaptation.

MAIN USE
ISeeChange addresses a well-documented gap in flood observational networks: the near-total absence of structured, quantitative data on high-frequency, low-severity nuisance flooding — the events that occur almost daily across U.S. urban systems but fall below the detection threshold of remote sensing, sensor networks, and NWS monitoring. ISC's AI architecture ingests unstructured inputs — resident and field reports, 311 data, inspection records, drone footage, and camera feeds — and fuses them with municipal datasets and remote sensing to produce spatially precise, time-stamped, model-ready datasets.

The platform functions as a community-integrated observing layer that complements existing hydrologic and meteorological infrastructure rather than replacing it. For engineers and

hydrologists, ISC provides verified hyperlocal ground truth for model calibration and validation, achieving documented 67% time savings on engineering tasks. For municipal operators, it cuts storm response and after-action reporting timelines by up to 50% and saves up to two hours per field inspection report. Critically, ISC generates quantitative, impact-based datasets that directly strengthen FEMA, HUD, and state-level disaster recovery grant applications — translating observed community conditions into defensible, fundable evidence. The platform extends beyond flooding to heat, housing, mobility, and public health, though flood risk remains the primary deployment context. Documented outcomes include 2.3x ROI for municipal customers and over $25M in infrastructure investments directed to underserved communities in Miami and New Orleans — driven by data that corrected model underestimates of flood risk in low-income areas.

GEOGRAPHY & SCALE
ISeeChange is currently deployed across the United States, with active installations in the Gulf Coast (City of New Orleans / SWBNO), Southeast Florida (City of Miami, Miami-Dade County, South Florida Water Management District), and expanding into Southwest Florida.

ACCESSIBILITY
Online at www.partners.iseechange.com with iOS and Android apps enabling real-time field and community reporting. It integrates with existing enterprise systems including GIS, asset management platforms, work order management systems, and Emergency Operations Centers. Annual subscriptions are priced by population, topics tracked, and departmental access, ranging from $36,000 to $250,000.

CubeAI: A generative AI assistant for CUBEnet ocean observing network

Presenters: Vishwamithra Sunkara[1], Vincent Sheffer2, Christian Schmachtenberger[1]
[1] Roger F. Wicker Center for Ocean Enterprise, The University of Southern Mississippi
[2] Bluemvmt

WEB: N/A

OVERVIEW
CubeAI is a generative-AI interface designed to help users interact with ocean observing and model datasets hosted by the University of Southern Mississippi's CUBEnet regional ocean observing network. Rather than requiring users to manually download files and write custom scripts for every request, CubeAI is a powerful tool that supports natural-language queries that translate into repeatable data operations (e.g., filtering by time, depth, platform, and location), followed by summaries, basic analyses, and draft report text. The tool demonstration will emphasize transparent "how it works" workflows and will invite participants to ask questions and step through example use cases.

INTENDED AUDIENCE
Oceanographers, coastal managers, data managers, modelers, students, and operators of observing platforms (e.g., buoys, HF-Radar, and uncrewed systems) who need rapid access to multi-source environmental information for situational awareness, planning, and analysis.

MAIN USE
CubeAI enables users to (1) discover what data are available across platforms and models, (2) retrieve and summarize observations and model outputs for a specified region/time window, (3) compare observations to model guidance at matched locations/times, and (4) generate short, editable narrative products (e.g., event summaries, daily conditions, or field-mission brief notes) with citations to the underlying datasets/metadata.

GEOGRAPHY & SCALE
The tool is configured for CUBEnet's regional coverage spanning coastal and nearshore waters of the northern Gulf of America, with workflows that operate from station-scale time series (single buoy/sensor) to regional slices and transects (multi-platform, multi-day).

ACCESSIBILITY
Web link provided upon request. CubeAI is demonstrated as a secure, hosted application connected to CUBEnet data services.

Dewberry Engineers Suite of Resilience Tools

Presenters: May Latiolais[1], Dave Stein[1], Hannah Hart[1]
[1] Dewberry

WEB: N/A

OVERVIEW
Our booth would include a suite of three tools developed for local municipalities and a state government agency to track funding, collaborate on resilience projects, assess heat vulnerability in urban areas, and equip residents with critical information before, during, and after a natural disaster event.

INTENDED AUDIENCE
Intended audiences to test and review these tools could include local municipalities, state agencies, land managers, financial institutions, not-for-profit organizations, local residents and stakeholders, and/or other government districts or cooperatives.

MAIN USE
1). Urban Heat Analysis and Vulnerability Tool: Using the recently developed high-resolution Coastal Change Analysis Program (C-CAP) data from NOAA Office for Coastal Management (OCM), this GIS tool was developed to analyze: Green and Grey Infrastructure ratios, while also incorporating measured temperature surface data and Social Vulnerability Index data.

2). Prepare St. Pete: This is a robust Weather Data Application to communicate weather risks for residents in a curated, accurate, timely fashion. It is a web-based application tool created with ArcGIS Experience Builder using datasets synthesized from state, local, and federal sources to generate an interactive map for the community of St. Petersburg, Florida. Residents can enter their residential or business address to receive updates to help them prepare before, during, and after weather disasters. Prepare St Pete is designed for performance and reliability regardless of the number of users trying to simultaneously access the systems that is easy to understand and presented in an accessible-friendly presentation of the information; plain language was emphasized. The application was also developed, architected, and delivered to the city with the idea that it will change with future needs, so that data can be added and removed easily, and context and supporting information can be updated without the need for any code to be written.

3). MATCH Tool: This tool creates a platform that analyzes available local, regional, state, and national funding resources for communities throughout the state of Texas. It connects unfunded community flood mitigation projects and funding sources, aligns state mitigation investments, identifies opportunities to leverage state and federal funding sources, increases the number of successful, competitive community mitigation and resilience project applications in Texas, and provides opportunities for communities to explore ideas for effective flood resilience practices.

GEOGRAPHY & SCALE
The MATCH funding and project tracking tool was developed for all communities within the state of Texas; the Prepare St. Pete tool and the Urban Heat Vulnerability tools were developed for local municipalities in Hillsborough and Pinellas County, Florida.

ACCESSIBILITY
In testing phases.

NOAA's New High-Resolution Monthly High Tide Flooding Outlook Prototype

Presenters: Connor Lewis, NOAA Center for Operational Oceanographic Products and Services affiliate

WEB: https://tidesandcurrents.noaa.gov/high-tide-flooding/monthly-outlook.html

OVERVIEW
The Monthly High Tide Flooding Outlook provides daily likelihoods of flood threshold exceedance based on tide predictions, long-term water level observations, and seasonal changes in sea level at NOAA tide gauges. A new high-resolution prototype uses Coastal Ocean Reanalysis (CORA) datasets to significantly expand beyond tide gauges, increasing local applicability and enhancing situational awareness for coastal managers, and planners. Additionally, this tool helps users understand the seasonal distribution and regional drivers of high tide flooding.

INTENDED AUDIENCE
This flood risk information can inform emergency management decisions and public works planning.

MAIN USE
NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) transforms water level observations into authoritative applications, ranging from critical real-time information to outlooks spanning subseasonal to decadal timescales. The Monthly High Tide Flooding Outlook (HTFO) provides daily likelihoods of flood threshold exceedance at a subset of NOAA tide gauges up to a year in advance, based on tide predictions, long-term water level observations, and seasonal changes in coastal sea level. While the operational product does not incorporate real-time weather, port managers and meteorologists can pair daily likelihoods with severe weather forecasts to more comprehensively understand potential flood risks in advance of a storm event. The Monthly HTFO provides contextual and visual information that help users understand the seasonal distribution and regional drivers of high tide flooding at their location. As an authoritative NOAA platform, this web-based product is free and fully available to the public.

Many coastal communities are located between NOAA tide gauges so a core need revealed by NOAA stakeholders is to fill those observational gaps. NOAA is addressing this need with the Coastal Ocean Reanalysis (CORA), which provides hourly water level and wave data from 1979 through 2022 at a 500 m resolution along the coast. By modeling historical data with the ocean circulation model, ADCIRC, and spectral wave model, SWAN, and assimilating observations from the NOAA tide gauges, CORA provides community-scale oceanographic data to support a suite of coastal inundation products. CORA datasets are currently available for the Gulf, Atlantic, and Caribbean, with the Pacific domain slated for release in 2026. NOAA is integrating CORA datasets to prototype a high-resolution Monthly High Tide Flooding Outlook that will significantly expand its local applicability by offering spatially continuous predictions along a large portion of the U.S. shoreline, beginning with the coastline from Texas to Maine.

GEOGRAPHY & SCALE
Although NOAA's tide gauge network encompasses all U.S. states and territories, including Alaska, eastern and western Pacific Islands, and Puerto Rico, the Monthly Outlook is currently available at a subset of these locations contingent on the length of the observation record and the model's skillfulness.

ACCESSIBILITY
Online at https://tidesandcurrents.noaa.gov/high-tide-flooding/monthly-outlook.html

Marine Debris Prevention and Removal Public Outreach Materials Development

Presenters: Mindy Joiner, Moffatt & Nichol

WEB: N/A

OVERVIEW
Marine debris removal is important to keep the Gulf clean and safe, but marine debris prevention is equally important and can reduce costly removal operations. With the City of Orange Beach, we developed two public facing outreach handouts. One focuses on marine debris prevention and the other on building a debris removal program. These handouts can be used by contractors, municipalities, and citizens to help inform best practices to keep our Gulf clean.

INTENDED AUDIENCE
Meant to distribute to other municipalities to educate, discuss lessons learned, and help promote similar program implementation.

MAIN USE
This tool is an educational set of documents meant to share information about marine debris reduction in the Gulf. This effort was lead by the City of Orange Beach with the goal of producing public facing documents focused on reduction of marine debris.

Working together, the City and Moffatt & Nichol produced a "how-to" document, compiling past and current application of the City's successful debris removal program. The document includes scalable recommendations based on available resources, setting the bar for Alabama and Florida counties on marine debris program implementation standards and maximizing debris removal.

The second document is a best management practices brochure for distribution to marine contractors and waterfront residents. The brochure provides guidance on dock removal, repair, and building back more sustainably with the goal of keeping dock materials from becoming marine debris.

GEOGRAPHY & SCALE
Gulf-wide.

ACCESSIBILITY
These materials may be printed or distributed digitally. The messaging is applicable Gulf-wide, particularly in coastal areas of Alabama and Florida.

Habitat Suitability Model for Florida Bay Seagrass

Presenters: Josh Adams[1], Don Blanchard Ph.D.[1], Becky Prado[1], Lex Agnew[2], Dominique Gallery Ph.D.[3]
[1] Moffatt & Nichol
[2] Waggonner & Ball
[3] Mote Marine Lab

WEB: N/A

OVERVIEW
A pilot habitat suitability model (HSM) for Florida Bay seagrass. The model is the first part of a three-tier process, including genetic suitability and site-specific insights from seagrass practitioners, that will help practitioners select areas for seagrass restoration with the highest probability of supporting seagrass, providing a defensible, data-driven framework for restoration.

INTENDED AUDIENCE
Restoration Scientists. Ecosystem Modelers. Seagrass Resource Managers

MAIN USE
A pilot habitat suitability model (HSM) for Florida Bay seagrass was developed using publicly available environmental datasets for the Bay. Predictor variables incorporated into the model include bathymetry, dissolved oxygen, existing seagrass distribution, salinity, Secchi depth, and water temperature. The model is the first part of a three tier process, including genetic suitability and site-specific insights from seagrass practitioners, that will help practitioners select areas for seagrass restoration with the highest probability of supporting seagrass, providing a defensible, data-driven framework for restoration. This will allow for site selection following an empirical method rather than relying on observations or local knowledge alone. The model is scalable to other water bodies in Florida, contingent on the availability of sufficiently robust environmental datasets, serving as a template for seagrass restoration prioritization and decision making.

GEOGRAPHY & SCALE
Florida Bay.

ACCESSIBILITY
The data inputs are publicly available data. Data were scrutinized using Open Source R and R Studio. The HSM is generated in ArcGIS Pro using the suitability modeler, part of the spatial analyst extension.

Bird Migration Explorer

Presenters: Nicole L. Michel, National Audubon Society

WEB: https://explorer.audubon.org/

OVERVIEW
A pilot habitat suitability model (HSM) for Florida Bay seagrass. The model is the first part of a three-tier process, including genetic suitability and site-specific insights from seagrass practitioners, that will help practitioners select areas for seagrass restoration with the highest probability of supporting seagrass, providing a defensible, data-driven framework for restoration.

INTENDED AUDIENCE
Restoration Scientist. Natural Resource Managers. General Public.

MAIN USE
The Bird Migration Explorer integrates migration tracking data, connectivity data, and bird distribution models to deliver innovative visualizations for over 450 North American species: annual migration animations; connections maps that show people where their local birds go; and maps illustrating exposure to conservation challenges during migration. The tool delivers engaging interactive maps that bring migratory journeys of birds to life, while linking users to conservation actions to help their local birds throughout the hemisphere.

GEOGRAPHY & SCALE
Northern Hemisphere.

ACCESSIBILITY
Online at https://explorer.audubon.org/

Texas Wetland Action Mapping Tool

Presenters: Charlotte Nash, The Nature Conservancy

WEB: https://experience.arcgis.com/experience/51bea2fe006e42c4af92dc2a4d93af07/

OVERVIEW
The Texas Wetland Action Mapping (WAM) Tool features data layers to support tidal wetland restoration and conservation planning at multiple scales. The tool maps opportunity for six tidal wetland conservation and restoration strategies (including two focused on wetland migration space) and identifies areas where multiple wetland co-benefits align. The Texas WAM Tool was designed to support the Texas WAM working group throughout a participatory mapping process that lead to the selection of action areas across the Texas coast.

INTENDED AUDIENCE
Tidal wetland restoration and conservation planning in Texas.

MAIN USE
The Texas WAM Tool supported the Texas WAM planning process from 2023-2025 and features the data used by the Texas WAM working group throughout a participatory mapping process. Users can utilize the data layers to support wetland restoration and conservation planning at multiple scales or to advance the development of project ideas.

The Texas WAM Tool consists of four major parts: opportunity maps, co-benefit maps, supporting data, and the final WAM action areas. The opportunity maps provide a basic representation of where tidal wetland conservation or restoration strategies could potentially be implemented. Two of the strategies mapped focus on the protection and improved management of future tidal wetland migration space. The six opportunity maps helped guide working group decision making by showing where conservation and restoration strategies could work synergistically in strategic locations. The co-benefit maps represent where different wetland co-benefits are likely to be

derived from WAM strategies. The five co-benefit layers were created based on Texas WAM working group feedback and generated using readily available data. The supporting data layers provide context for the opportunity and co-benefit maps relating to future geohazards and urban development as well as their connection to relevant projects like the GLO's Texas Coastal Resiliency Master Plan. Lastly, the WAM action areas display the 17 action areas selected by the Texas WAM working group as strategic locations to focus collaboration and funding to reduce the loss of tidal wetlands in Texas.

GEOGRAPHY & SCALE
The Texas WAM Tool covers the entirety of the Texas Coastal Management Zone Boundary at varying spatial scales.

ACCESSIBILITY
Online at https://experience.arcgis.com/experience/51bea2fe006e42c4af92dc2a4d93af07/

Gulf Coastal Resilience Tool

Presenters: Christine Shepard[1], Karrie Arnold[1]
[1] The Nature Conservancy

WEB: www.maps.tnc.gulfcr.org

OVERVIEW
The Gulf Coastal Resilience tool shows users where nature- based solutions can be built to reduce coastal risk and provide benefits to people and nature.

INTENDED AUDIENCE
The tool was designed for coastal communities to better understand the potential for implementing nature-based solutions (NBS).

MAIN USE
The Gulf Coastal Resilience tool shows users where nature- based solutions (NBS) can be built to reduce coastal risk and provide benefits to people and nature. The Gulf Coastal Resilience tool allows users to use explore potential NBS opportunities at the Gulf, State, and County scale across all Gulf watershed counties. Users can also upload a shapefile to summarize NBS opportunities in a project area.

GEOGRAPHY & SCALE
Gulf, State, and County scale across all Gulf watershed counties.

ACCESSIBILITY
The Gulf CR tool is available online and the data is easily downloadable. The data sets featured on the Gulf CR tool can be used for NBS planning using the SUNS (Scaling Up Nature-based Solutions). For more information, please visit nature.org/SUNS. Online at www.maps.tnc.gulfcr.org