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Established in 1990

- works in collaboration with UWF academic departments to enrich the research, teaching, and service functions at UWF
- Engages in basic and applied research pertinent to the assessment and improvement of environmental health
- provides research and training opportunities for graduate and undergraduate students
- Teaches several core courses and specialized elective courses in support of academic programs in life and environmental sciences
- Contributes to public service, including activities to enrich science education at K-12 levels

History of Funding







- The effects of solar radiation on marine and aquatic bacterioplankton
- Microbial biogeography
- Oil Spill microbiology
- Polar Microbial Ecology
- Extremophile Bacteria

Dr. Wade Jeffrey Professor

Marine Microbial Ecologist

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Multidisciplinary approach oceanography microbial ecology microbiology molecular biology photobiology



Dr. Jane Caffrey Professor

Estuarine Biogeochemist

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- Estuarine and coastal ecology: seagrasses, oyster and artificial reef habitats
- Water quality: impact of nitrogen on primary producers
- Estuarine metabolism: climate and human impacts on diel oxygen cycles
- Collaboration with NGOs, local, state and federal agencies to improve water quality in the Florida Panhandle



Environmental biotechnology in marine, freshwater and ecosystems

subsurface

Bacterial Biodegradation or organic chemicals
 pesticides, munitions

Dr. Jim Spain Research Professor

Microbiologist

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Multidisciplinary approach including microbiology biochemistry molecular biology microbial ecology bioinformatics to reveal the biodegradation mechanisms



Dr. Lisa Waidner Assistant Professor

Molecular Microbial Ecologist

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- Particular groups of prokaryotes in both water column and sediments
 photoheterotrophs e.g., AAPB and proteorhodopsin bacteria
 nitrogen-cycling prokaryotes
 potential human pathogens in the Vibrio genus including parahaemolyticus and vulnificus
- Genomics of environmental prokaryotes and engineered eukaryotic microbial genes
- Various bacterial isolates involved in bioremediation of carcinogenic or otherwise harmful chemicals that contaminate soils and waterways



Water quality

- Plankton ecology
- Habitat restoration
- Fisheries ecology

Dr. Amanda Croteau

Assistant Professor Estuarine Ecologist

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Primary focus is estuaries and nearshore systems, but significant amount of work on freshwater systems in Florida including lakes, rivers, and spring systems.

Additional skills: human dimensions (social science).

The PERCH Project

Partnership for Environmental Research and Community Health

https://uwf.edu/centers/environmental-diagnostics-and-bioremediation/cedb-research/perch/

UWF formed an alliance with the regional public health departments--Escambia County Health Department and Santa Rosa County Health Department

Developed collaborative relationships with other academic institutions Georgia Institute of Technology University of South Florida Florida State University)

to undertake comprehensive assessments of environmental health in Northwest Florida

Some current & recent Grants & Projects

- Santa Rosa Sound Water Quality
- Gulf Coast Ecosystem Restoration
- Historical Ecology of Pensacola and Perdido Bays
- Amphibian monitoring at Gulf Islands Sea Shore
- Watershed monitoring
- Complete Biodegradation of Insensitive High Explosive Compounds
- The Effect of Water Quality, Water Column Placement, and Substrate on Epibenthic Settlement in Perdido Bay
- Fish Community Analysis of Santa Rosa Sound Tidal Tributaries
- Northwest Florida Estuary Water Quality Protection and Restoration. Microbial Source Tracking

Training opportunities for undergraduate and graduate students















Researchers dedicated to your organization's geospatial needs







Dr. Zhiyong Hu Associate Professor

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What is the GeoData Center (GDC)?

The University of West Florida's Center for Geospatial Research and Education

Created by the **Department of Earth and Environmental Sciences** at the **Hal Marcus College of Science and Engineering**.

Our purpose is to serve as a hub for Geographic Information Science (GIS), offering services and resources for:

- Businesses
- Government and community agencies
- Non-profit groups
- UWF academic departments
- Academic and professional researchers



What do we offer?



- Data Mapping and Visualization
- Spatial or Location Data Analysis
- Research Partnerships
- Web App Creation
- Affordable GIS Solutions



Our Projects

GIS Solution for Data Collection by the Washington HS Marine Science Academy



The overall goal of our project was to modernize the MSA's environmental data processes by taking it to the next level with online GIS technologies that will allow them to:

- Digitally Collect Data
- Map their results
- Analyze their data
- Easily share it with the public

GIS Methods:

- Using Related Layers in a Hosted Feature Class
- Form Building with Survey123 Connect
- Operations Dashboard in AGO



Our Projects

Similar project/effort for Escambia High School Marine Science Program's water quality monitoring project at Bayou Grande in Pensacola, FL managed by lead instructor, Matthew MacGregor.





Future Sea Level Rise Vulnerability Assessment

Santa Rosa County, Florida - Resilient Florida Grant Program

University of West Florida Geodata Center March 26, 2024

Project Objective: To produce a county-wide vulnerability assessment model and web application for flooding in Santa Rosa County, FL

Phase I (Completed) Completion of ArcGIS Online Web Application and Story Map

- Repetitive Loss Structure
- Base Flood Elevation
- Socio-Economic Vulnerability Index (SVI)

Phase II (In-Progress)

Florida Statutes Critical Assets (s. 380.093 (1) (2) Definitions)

- Transportation Assets and Evacuation Routes
- Critical Infrastructure
- Critical Community and Emergency Facilities
- Natural, Cultural, and Historical Resources
- Sea Level Rise (SLR)
- Storm Surge Data



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Description	Туре	Le	Crestien		
Buildings (County)	Point	Ton H	anta Rosa		
EMS	Point 1	RIDA .	Okaloosa		
Hospitals	Point	and			
Fire stations	Point		Eglin Air		
Shelters	Point		Force Base		
Staging areas	Point				
Sheriff substations	Point		the second de		
Points of distribution	Point		Fort Walton Beach		
Schools	Point	Pensaco	a		
Community centers	Point				
Lift stations	Point 📂	2			
Military lands	Polygon	MIILINUS	Cifucar minastructure		
Coastal shoreline	Polygon	CBArea	Natural and cultural/historical resources		
Parks	Points	NearParks	Natural and cultural/historical resources		
Conservation easements	Polygon	ConsEase	Natural and cultural/historical resources		
Marinas	Point	NearMrna	Transportation and evacuation		
Major roads	Line	RoadLength	Transportation and evacuation		
Airfields	Line	AirFldLen	Transportation and evacuation		
Railway lines	Line	RailFldLen	Transportation and evacuation		

Escambia

conecul

Coving to Conecuh National Forest	All Assets ModVal > 1.66 - 3.5		Î
	SLR of 1ft - 2040	Þ	
	SLR of 3ft - 2070	Þ	
Crestview	SLR of 6ft - 2100	B	
	Surge (1%) - 2100	Þ	
Eglin Air Force Base	All Assets		
	Transportation and evacuation	Þ	
Fort Walton Beach	Natural and cultural/historical resources	Þ	
	Community and emergency facilities	Þ	
S NGA EPA NPS P	Critical Infrastructure	Þ	

Contact Information

M Campus GIS Map



Connect With Us





Data Cer

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