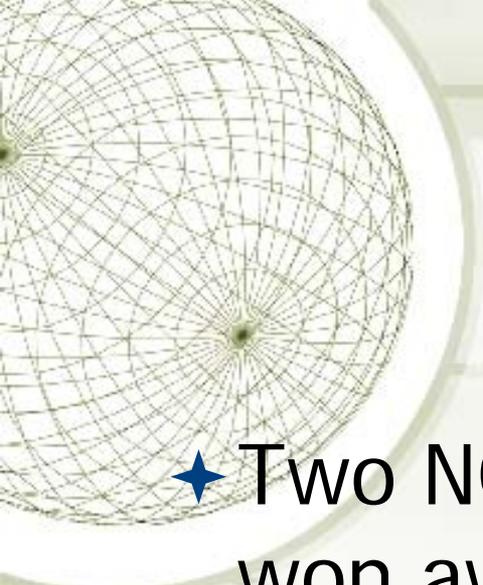
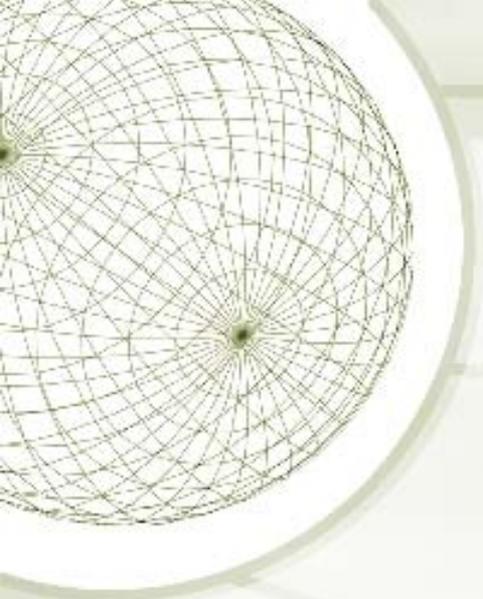


*Award Winning
Coastal Geospatial Projects:
A Successful Public-Private
Partnership*

**John Palatiello
MAPPS Executive
Coastal GeoTools
Myrtle Beach, SC
March 3, 2009**



- ★ Two NOAA CSC partnership projects won awards as best projects in 2007 in the MAPPS 2008 Geospatial Awards Competition.
- ★ Presented in July, 2008 in Sun Valley, ID
- ★ Featured in September 2008 issue of *P.O.B.* magazine

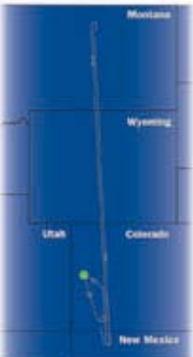


Category A

Airborne and Satellite Data Acquisition

Intermap Technologies

Ultra Long Lines: Increasing Airborne Data Acquisition Rates

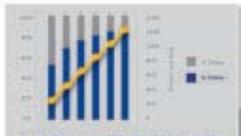


Ultra Long Lines Increase Data Acquisition Rates, Maintain Accuracy

Intermap Technologies[®] faced a significant challenge when confronted with the need to increase the data acquisition rate of its SELECT[®] long airborne digital elevation mapping program, with an reduction in the accuracy of that data.

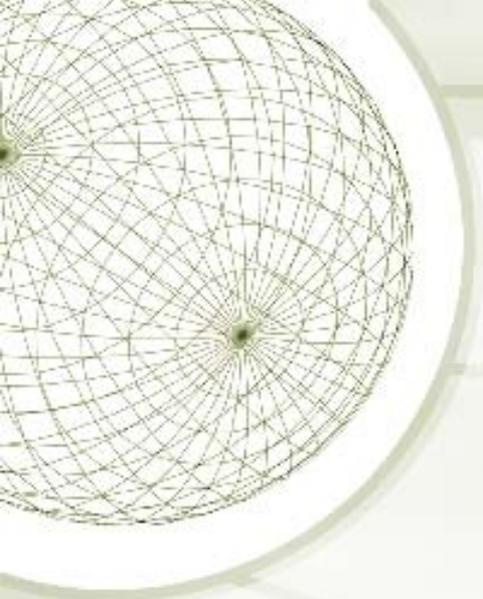
To fly in a straight line the aircraft's pilot must compensate for air currents, banking the plane. However, keeping the airplane flying on a true course across the radar's swath is no walk — changing the data collected to be “bank angle.” The radar can be adjusted manually about every 400 kilometers, but the aircraft must maintain a true heading around while the radar is kept off-axis.

To enable ultra long lines of 1,200 kilometers and keep the radar within Intermap's engineers reconfigured the proprietary software used by the computer controlling the radar. The computer now automatically calculates the radar, while accounting for the factors affecting its bank angle. This improved methodology allowed Intermap to increase its data acquisition rate by 41 percent, while maintaining stringent accuracy standards.



An aerial photograph that displays the path of a flight line that was collected during a mission. The flight line was collected during a mission that was conducted in the state of Montana. The flight line was collected during a mission that was conducted in the state of Montana. The flight line was collected during a mission that was conducted in the state of Montana.





Category B

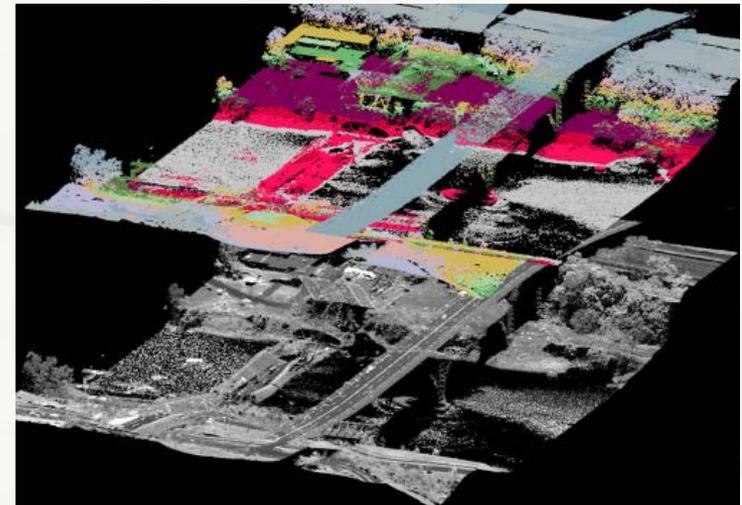
Photogrammetry/Elevation Data Generation

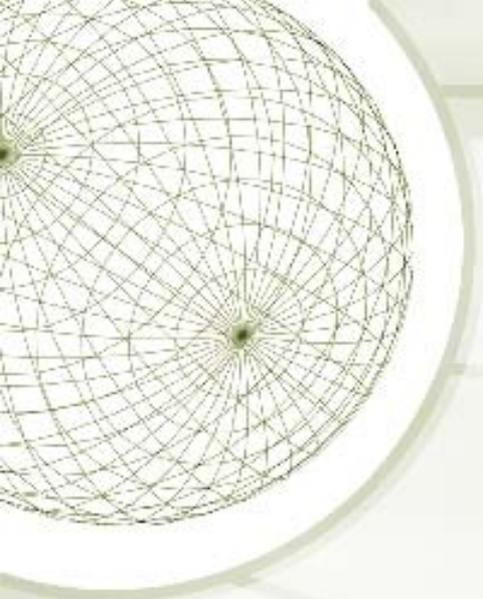
AERO-METRIC, Inc.

Interstate 35W Bridge Collapse

Answering the Call through Geospatial Information
I-35W Bridge Collapse - Emergency Response and Recovery Mapping

| | |
|--|---|
| Complexity | Innovative Application of Technologies |
| <ul style="list-style-type: none">Restrictions on access to airspace and surface areas around the collapsed bridge.Radio frequencies conflict with first responders.LODAR mission design and execution to support immediate response and rescue objectives and longer term engineering design and reconstruction activities. | <ul style="list-style-type: none">Use of airborne LODAR to collect precise data of the collapsed structure and debris.First time LODAR data used as part of final engineering design process for a replacement bridge.Fusion of airborne and terrestrial LODAR to create complete 3D model of collapsed bridge. |
| Future Value to the Geospatial Profession and the Public | Client Satisfaction |
| <ul style="list-style-type: none">Highlight the importance of mapping data for Critical Infrastructure Protection, both for vulnerability assessment and emergency response and recovery.Aid NTSB in determining the cause of the collapse which will help prevent similar tragedies in the future.Expedite the design and construction of the new bridge. | <ul style="list-style-type: none">Rapid mobilization.Daily data collection during forensic and search and recovery operations.All geospatial service goals met or exceeded.Above & Beyond Award for Excellence in Public Service. |
| Project Information | |
| <p>Project: Interstate 35W Bridge Collapse Location: Minneapolis, MN Category: Photogrammetry/Unmanned Data Generation Client: Minnesota Department of Transportation - St. Paul, MN From: Aero-Metric, Inc. Maple Grove, MN</p> | |
|  AERO-METRIC MAPPS | |





Category C

GIS/IT

Photo Science, Inc.

Legislative Atlas

Visualizing the Ocean Landscape



Citizens stand along the coast and gaze upon a seemingly uncharted expanse of water that stretches beyond the horizon. In reality, the coastal and marine "seascape" is managed under the jurisdiction of numerous state, federal, and quasi-governmental agencies with legislation that influences everyone - from recreational boaters to oil and gas industries. However, the legislation does not apply uniformly to the entire seascape. Some legislation pertains to "waters outside the 3-mile / 3-league line"; while others pertain to specific areas defined by coordinate-based legal descriptions. The disparity in how legislation is enacted, described, implemented, and enforced has created a patchwork of coastal and ocean management efforts across the nation. This management fragmentation is critical since marine resource management is inherently place-based and requires a high degree of knowledge of the marine landscape, including the human dimension of marine resource use.

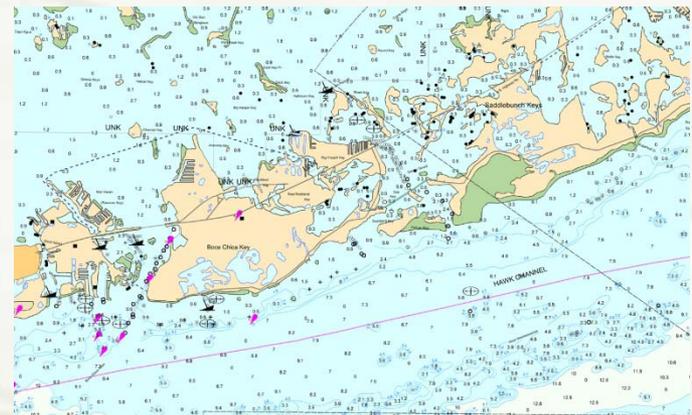
Therefore, NOAA's Coastal Services Center (CSC) is implementing a national Digital Coast initiative, a key component being CSC's Legislative Atlas. The Legislative Atlas is an Internet mapping and database resource that contains content in the form of spatial data layers, legislative summaries, metadata, and references to the legislative citations themselves. Photo Science has developed spatial data layers that represent the footprint of coastal legislation for states bordering the Gulf of Mexico, California, Hawaii, and the Gulf of Maine. These footprints, called "geo-regulations", are the critical information base for the Legislative Atlas and contribute to CSC's overall Digital Coast Initiative.

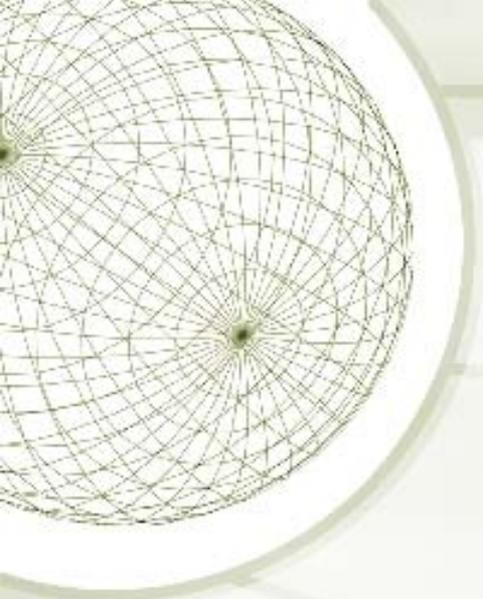
Legislative Atlas



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION AND TECHNOLOGY
Charleston, SC

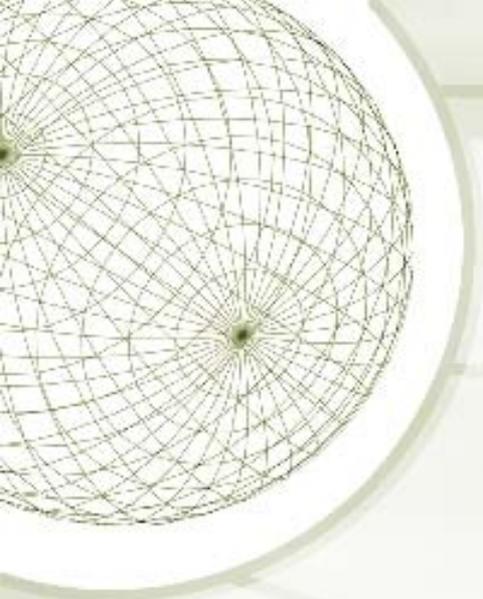
PHOTO SCIENCE
St. Petersburg, FL





Category D

Remote Sensing



Grand Award

Fugro EarthData

Mapping a vital marine resource in Texas

Mapping a vital marine resource in Texas
Seagrass ecosystems support the local economy of coastal communities

Over the past several decades, there has been documented, and in places, substantial reduction of seagrass habitat along the Texas Gulf Coast. This loss has been attributed to increased coastal development, dredging operations, fishing pressures, and other human activities. In 2007, NOAA Coastal Services Center contracted with Fugro EarthData to implement a new semi-automated approach to benthic (underwater) habitat mapping. These data will help NOAA and its Texas partners protect the state's fragile seagrass habitat, which each year contributes billions of dollars to the local economy.

In addition to helping seagrass conservation in Texas, the project proved the utility of object-oriented classification methods for benthic habitat mapping. Eliminating inconsistency and bias associated with traditional manual photo-interpretation methods, the new approach also can be applied to land-based projects as well as other benthic applications.

"These data are of exceptional spatial detail and accuracy and are in many ways a flagship product for the Coastal Services Center's benthic mapping efforts. The new automated methods for creating this data will contribute strongly to new standards for future benthic mapping efforts."

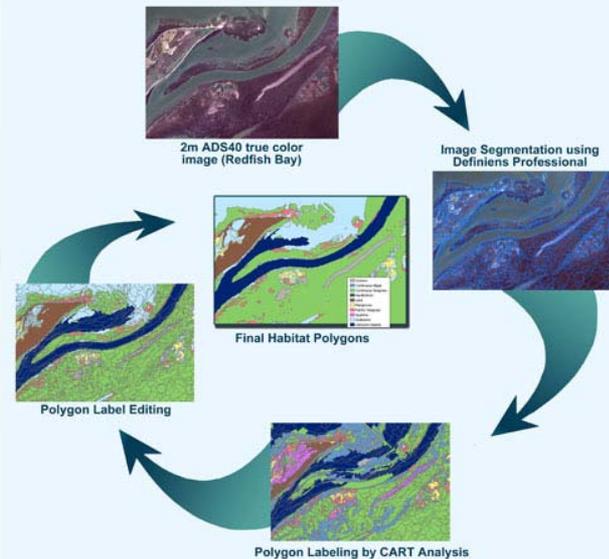
-Mark Finkbeiner of NOAA CSC

Texas Benthic Mapping Workflow

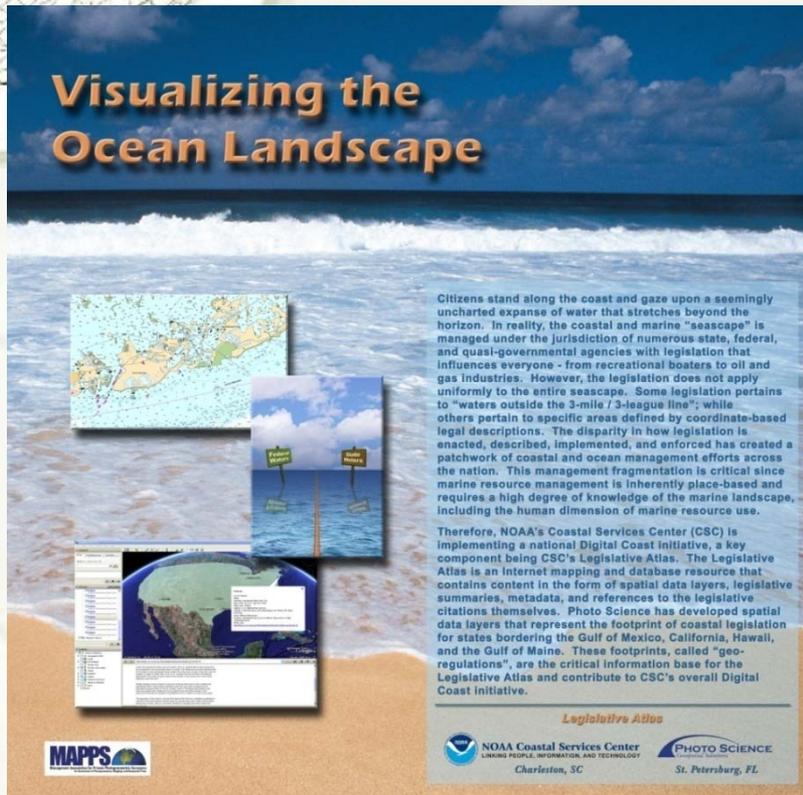
Combining high resolution digital aerial imagery, object-oriented classification techniques, and quantitative accuracy assessment, Fugro EarthData delivered a highly accurate and detailed benthic habitat map comprising 50,000 polygons delineating seagrass beds and other marine features over a 1,400 sq mi area.

FUGRO EARTHDATA **MAPPS**

Frederick, Maryland Charleston, South Carolina



Legislative Atlas Photo Science, Inc.



Visualizing the Ocean Landscape

Citizens stand along the coast and gaze upon a seemingly uncharted expanse of water that stretches beyond the horizon. In reality, the coastal and marine "seascape" is managed under the jurisdiction of numerous state, federal, and quasi-governmental agencies with legislation that influences everyone - from recreational boaters to oil and gas industries. However, the legislation does not apply uniformly to the entire seascape. Some legislation pertains to "waters outside the 3-mile / 3-league line"; while others pertain to specific areas defined by coordinate-based legal descriptions. The disparity in how legislation is enacted, described, implemented, and enforced has created a patchwork of coastal and ocean management efforts across the nation. This management fragmentation is critical since marine resource management is inherently place-based and requires a high degree of knowledge of the marine landscape, including the human dimension of marine resource use.

Therefore, NOAA's Coastal Services Center (CSC) is implementing a national Digital Coast initiative, a key component being CSC's Legislative Atlas. The Legislative Atlas is an Internet mapping and database resource that contains content in the form of spatial data layers, legislative summaries, metadata, and references to the legislative citations themselves. Photo Science has developed spatial data layers that represent the footprint of coastal legislation for states bordering the Gulf of Mexico, California, Hawaii, and the Gulf of Maine. These footprints, called "geo-regulations", are the critical information base for the Legislative Atlas and contribute to CSC's overall Digital Coast initiative.

Legislative Atlas

MAPPS
NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY
Charleston, SC
PHOTO SCIENCE
St. Petersburg, FL

- ◆ A web-based tool to match legal boundaries and the legislation that created oceans and coastal programs with the actual programs
- ◆ An analysis and visualization tool, integrating legal research and GIS, for partners' use

Fugro Earth Data Texas Benthic Mapping



Mapping a vital marine resource in Texas

Seagrass ecosystems support the local economy of coastal communities

Over the past several decades, there has been documented, and in places, substantial reduction of seagrass habitat along the Texas Gulf Coast. This loss has been attributed to increased coastal development, dredging operations, fishing pressure, and other human activities. In 2007, NOAA Coastal Services Center contracted with Fugro EarthData to implement a new semi-automated approach to benthic (underwater) habitat mapping. These data will help NOAA and its Texas partners protect the state's fragile seagrass habitat, which each year contributes billions of dollars to the local economy.

In addition to helping seagrass conservation in Texas, the project proved the utility of object-oriented classification methods for benthic habitat mapping. Eliminating inconsistency and bias associated with traditional manual photo-interpretation methods, the new approach also can be applied to land-based projects as well as other benthic applications.

"These data are of exceptional spatial detail and accuracy and are in many ways a flagship product for the Coastal Services Center's benthic mapping efforts. The new automated methods for creating this data will contribute strongly to new standards for future benthic mapping efforts."

—Mark Finkbeiner of NOAA CSC

Texas Benthic Mapping Workflow

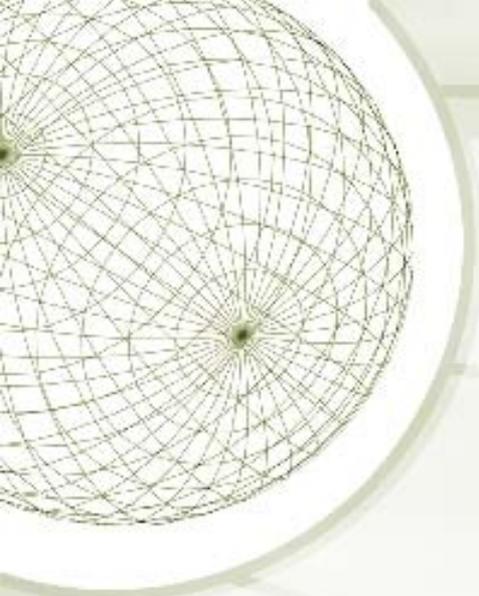
The workflow diagram shows a circular process: 1. 'The 40540 pixel color image (Aerial View)' leads to 'Image Segmentation using Object-Oriented Classification'. 2. This leads to 'Final Habitat Polygons'. 3. This leads to 'Polygon Labeling by CART Analysis'. 4. This leads to 'Polygon Label Editing'. 5. This leads back to 'The 40540 pixel color image (Aerial View)'. There is also a direct arrow from 'Image Segmentation' to 'Polygon Label Editing'.

Combining high resolution digital aerial imagery, object-oriented classification techniques, and quantitative accuracy assessment, Fugro EarthData delivered a highly accurate and detailed benthic habitat map comprising 30,000 polygons delineating seagrass beds and other marine features over a 1,400 sq. mi. area.

FUGRO EARTHDATA **MAPPs**

Frederick, Maryland Charleston, South Carolina

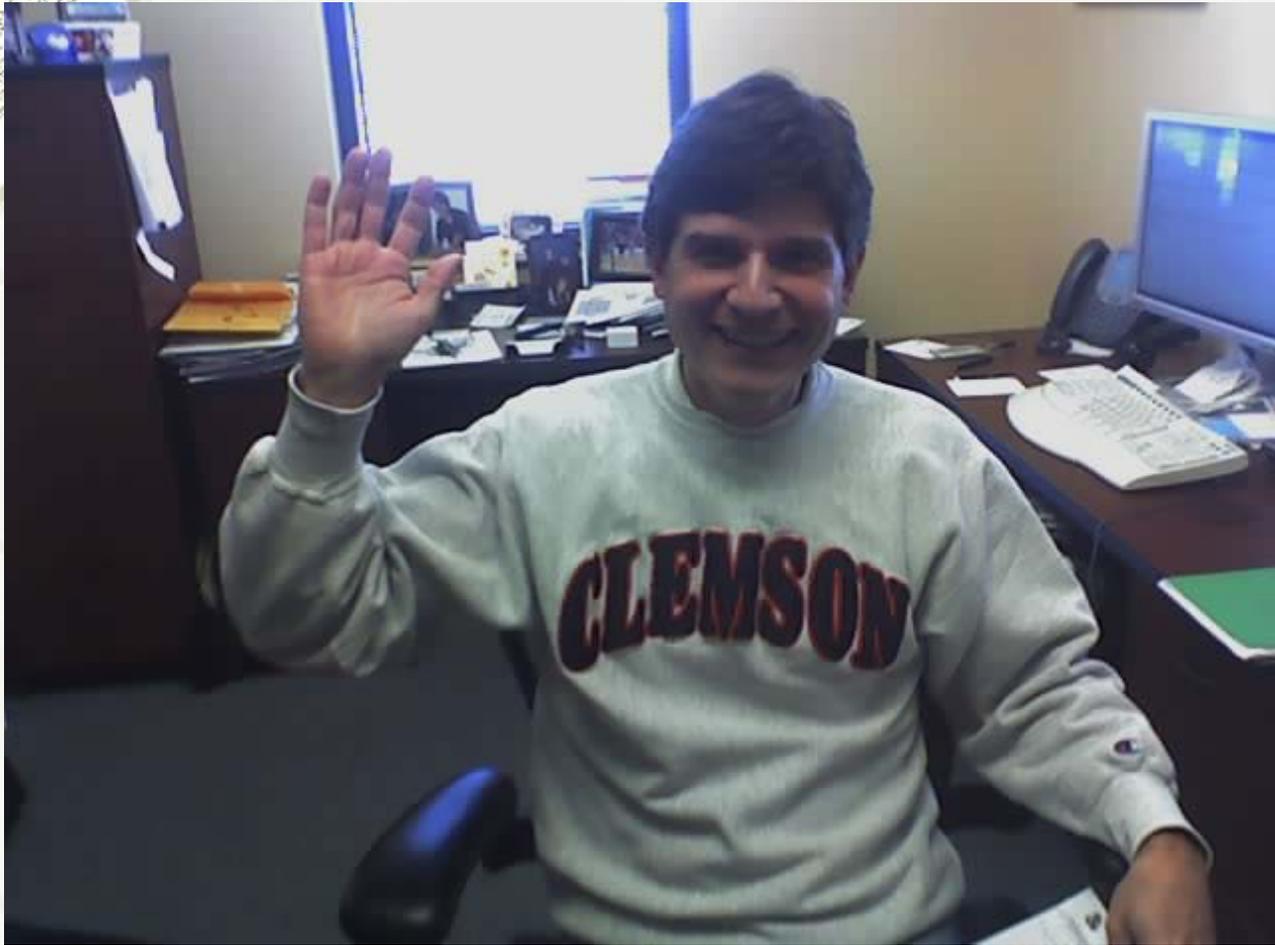
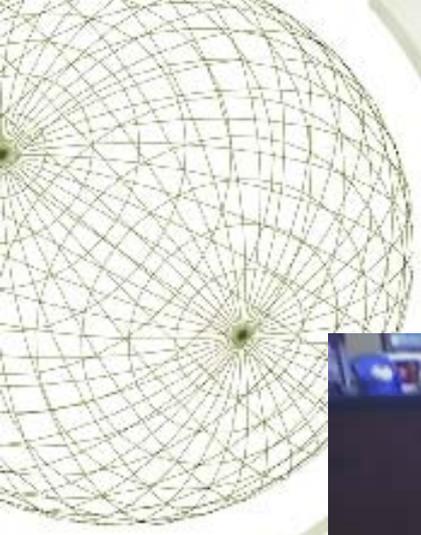
- ✦ benthic habitat maps to support Texas Seagrass Monitoring Program to protect shallow marine environment in 1,400 sq. mi. of estuaries on the Texas Gulf Coast
- ✦ high-resolution aerial mapping, object-oriented classification and quantitative accuracy assessment.



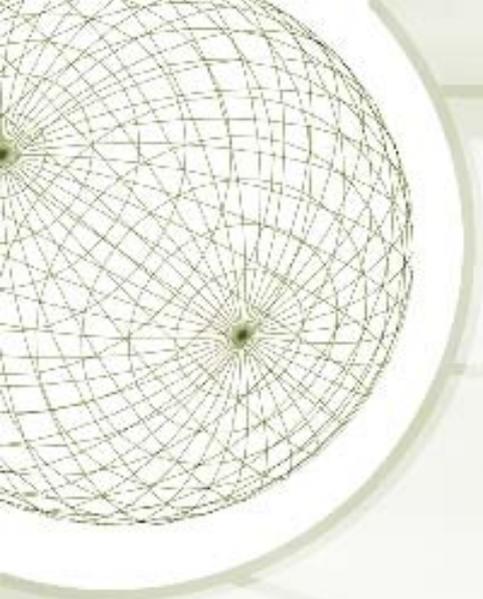
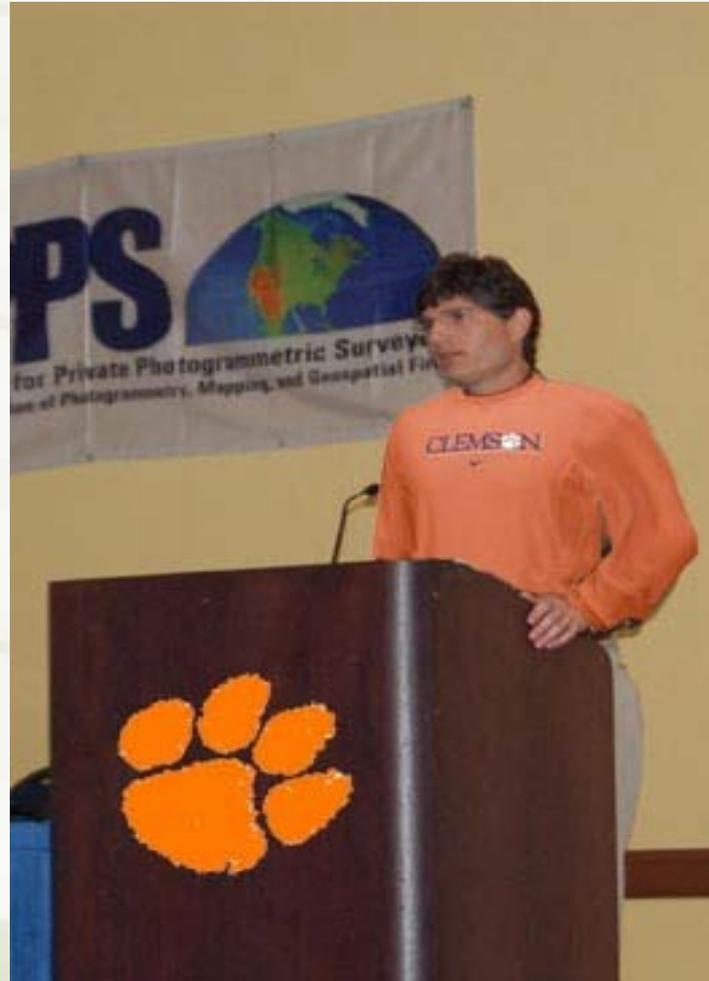
What Is A Public-Private Partnership?

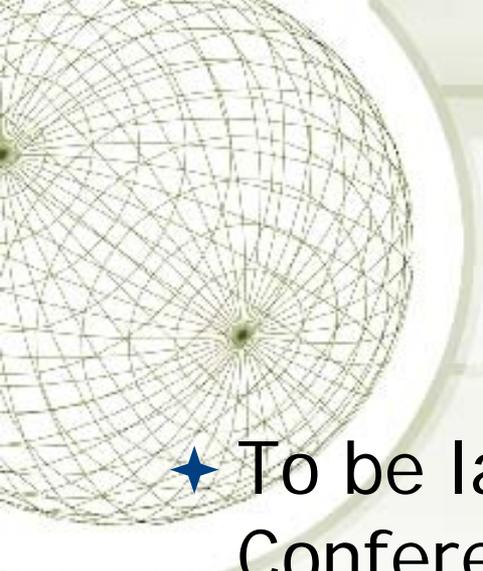
- ★ A Public-Private Partnership is a contractual agreement between a public agency (federal, state or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility.

SOURCE: National Council on Public Private Partnerships



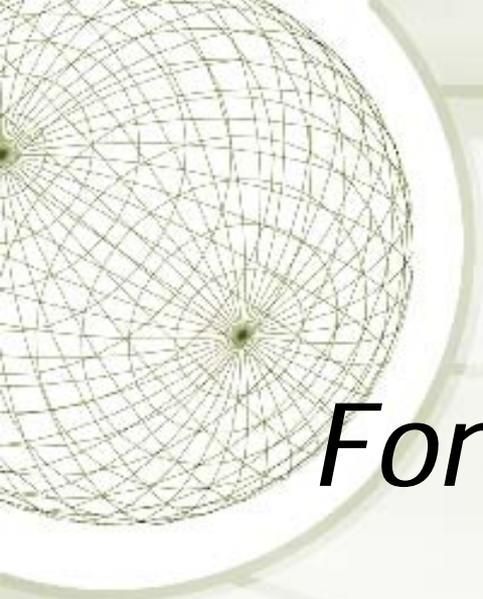
Go Tigers!





2009 Awards Program

- ★ To be launched at MAPPS Federal Programs Conference March 17
- ★ For projects completed (delivered to client) by MAPPS members in calendar 2008
- ★ Entry date TBD (Aug-Sept)
- ★ Awards presentation at MAPPS-ASPRS Specialty Conference in San Antonio, November 14-19, 2009



For further Information:

John Palatiello

MAPPS

www.mapps.org

john@mapps.org

(703) 787-6996