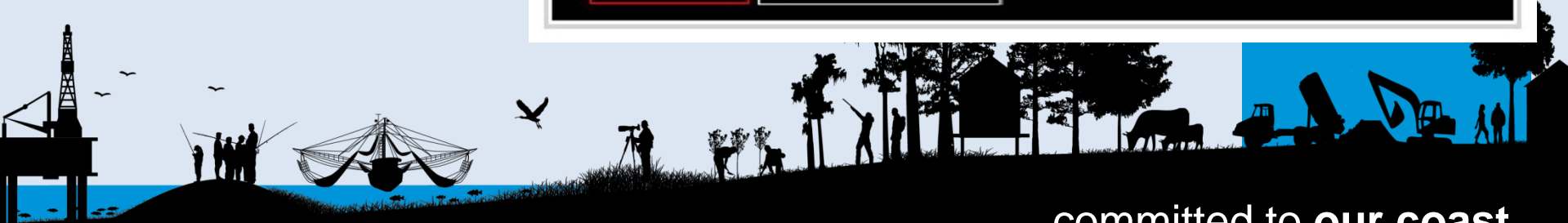
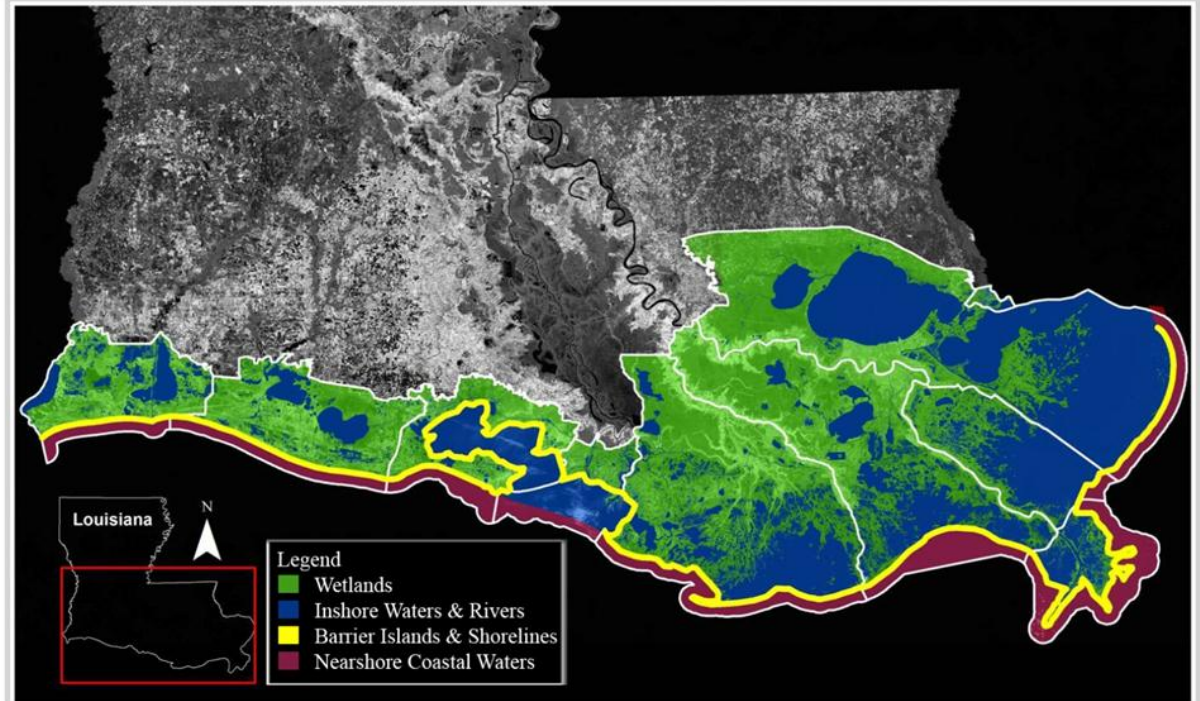


System-Wide Assessment and Monitoring Program



Coastal Protection and
Restoration Authority of Louisiana

Richard Raynie
Chief Scientist, CPRA
State of the Coast
March 20, 2014



committed to our coast

Acknowledgements

- Coastal Protection and Restoration Authority

Karim Belhadjali, Rickey Brouillette, Honora Buras, Angelina Freeman, Mandy Green, Bren Haase, Ed Haywood, Syed Khalil, Wes LeBlanc, John Monzon, Jennifer Mouton, Jim Pahl, Carol Parsons Richards, Natalie Peyronnin, Melanie Saucier, Chuck Villarrubia, Billy Wall, and Dona Weifenbach

- The Water Institute of the Gulf

Ann Hijuelos, Scott Hemmerling, Denise Reed, Brendan Yuill, Mead Allison, Ehab Meselhe, and Leland Moss

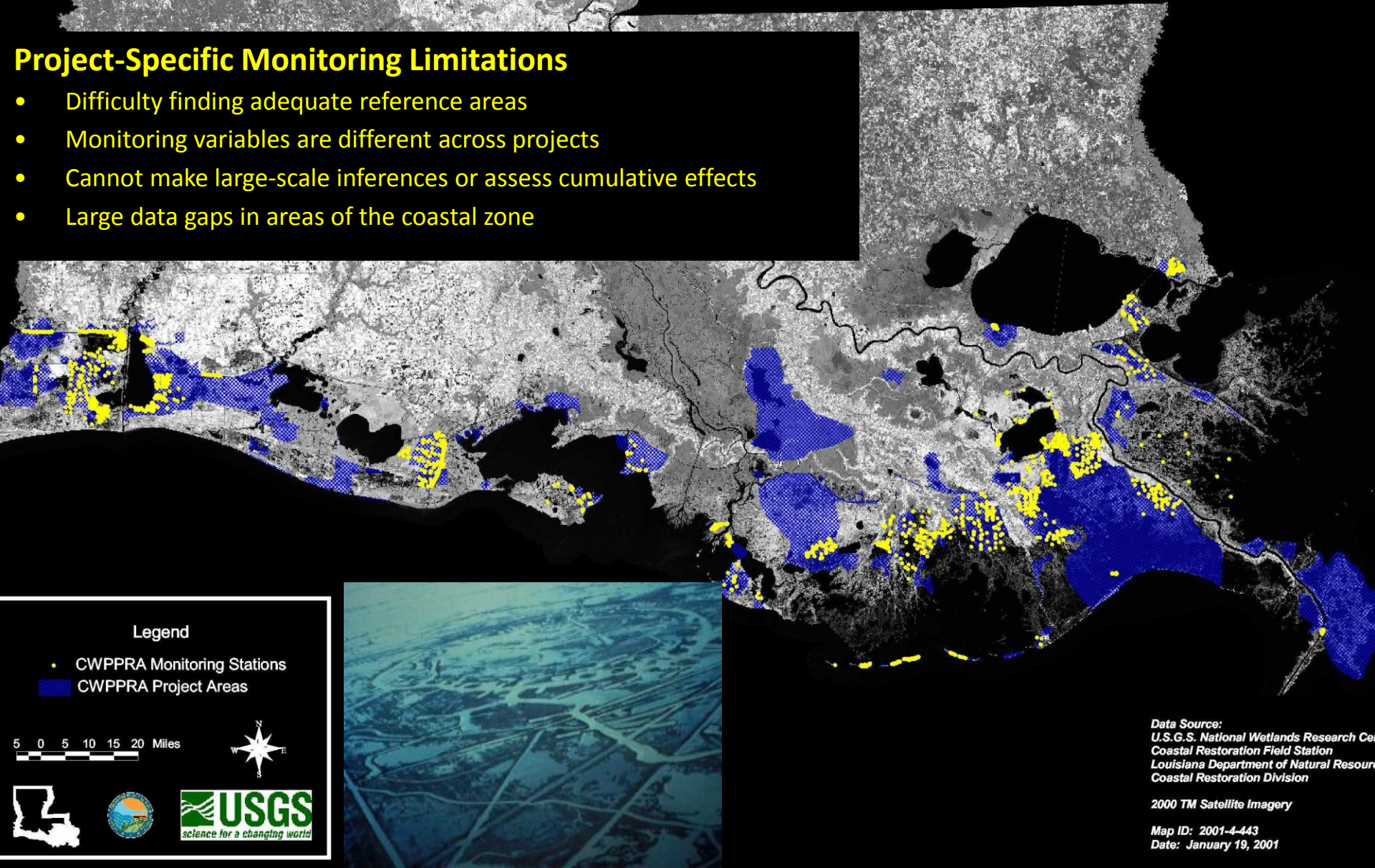
Purpose of SWAMP

- Ensure a **comprehensive** network of coastal **data-collection** activities is in place to support the development and implementation of the **coastal protection and restoration program**.
- Requires a **collaborative framework** that avoids duplication, leveraging limited funding, and ensuring long-term data collection is supported.

CWPPRA Project Areas and Monitoring Stations

Project-Specific Monitoring Limitations

- Difficulty finding adequate reference areas
- Monitoring variables are different across projects
- Cannot make large-scale inferences or assess cumulative effects
- Large data gaps in areas of the coastal zone



Legend

- CWPPRA Monitoring Stations
- CWPPRA Project Areas

5 0 5 10 15 20 Miles

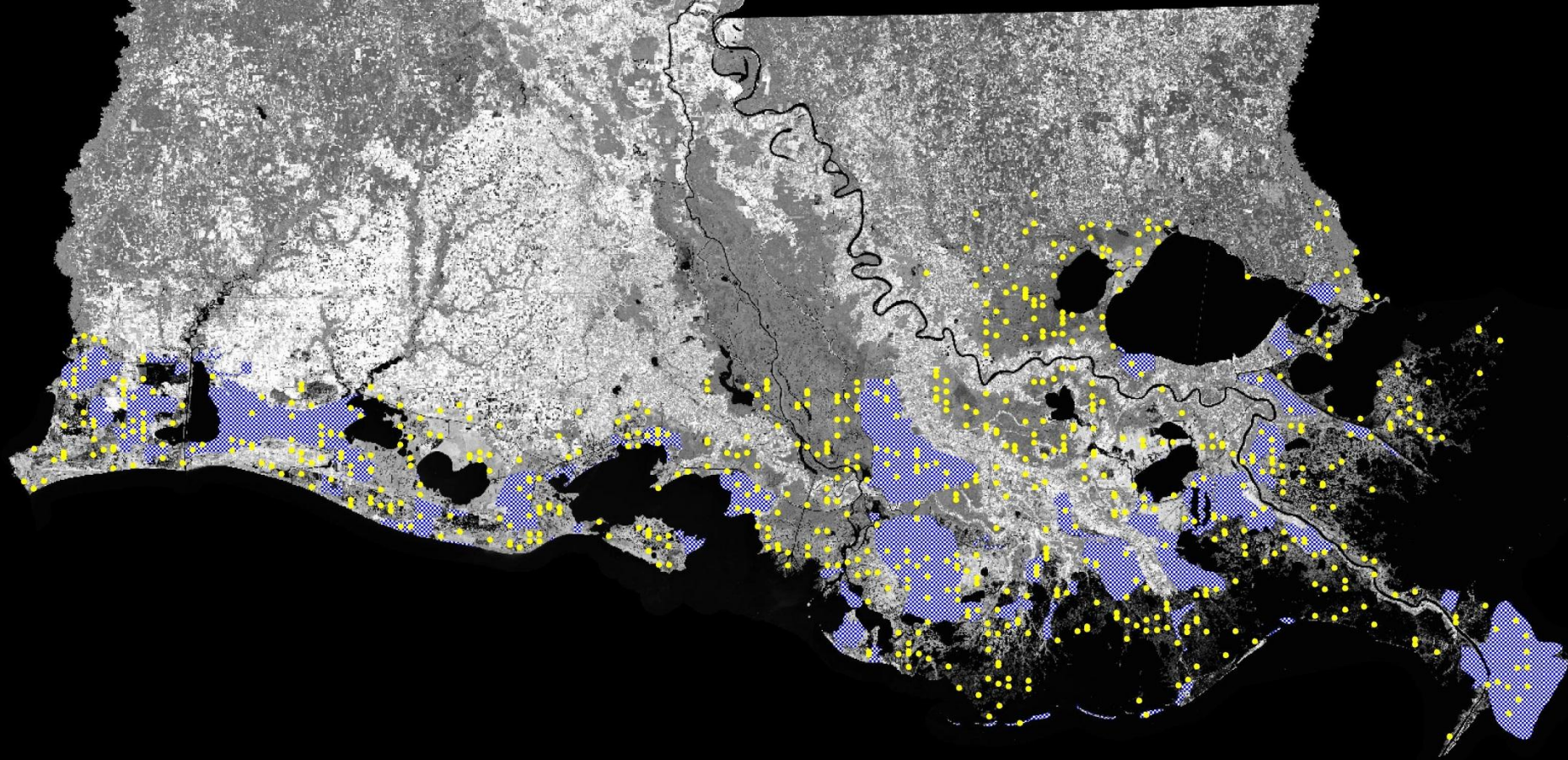


Data Source:
U.S.G.S. National Wetlands Research Center
Coastal Restoration Field Station
Louisiana Department of Natural Resources
Coastal Restoration Division

2000 TM Satellite Imagery

Map ID: 2001-4-443
Date: January 19, 2001

CWPPRA Project Areas and Coastwide Reference Monitoring Stations



Legend

- Coastwide Reference Monitoring Stations
- CWPPRA Project Areas

0 20 Miles



The Distribution of Stations and Environmental Variables Measured will allow us to more effectively evaluate:

- The effectiveness of individual projects, and**
- The effectiveness of the restoration program**

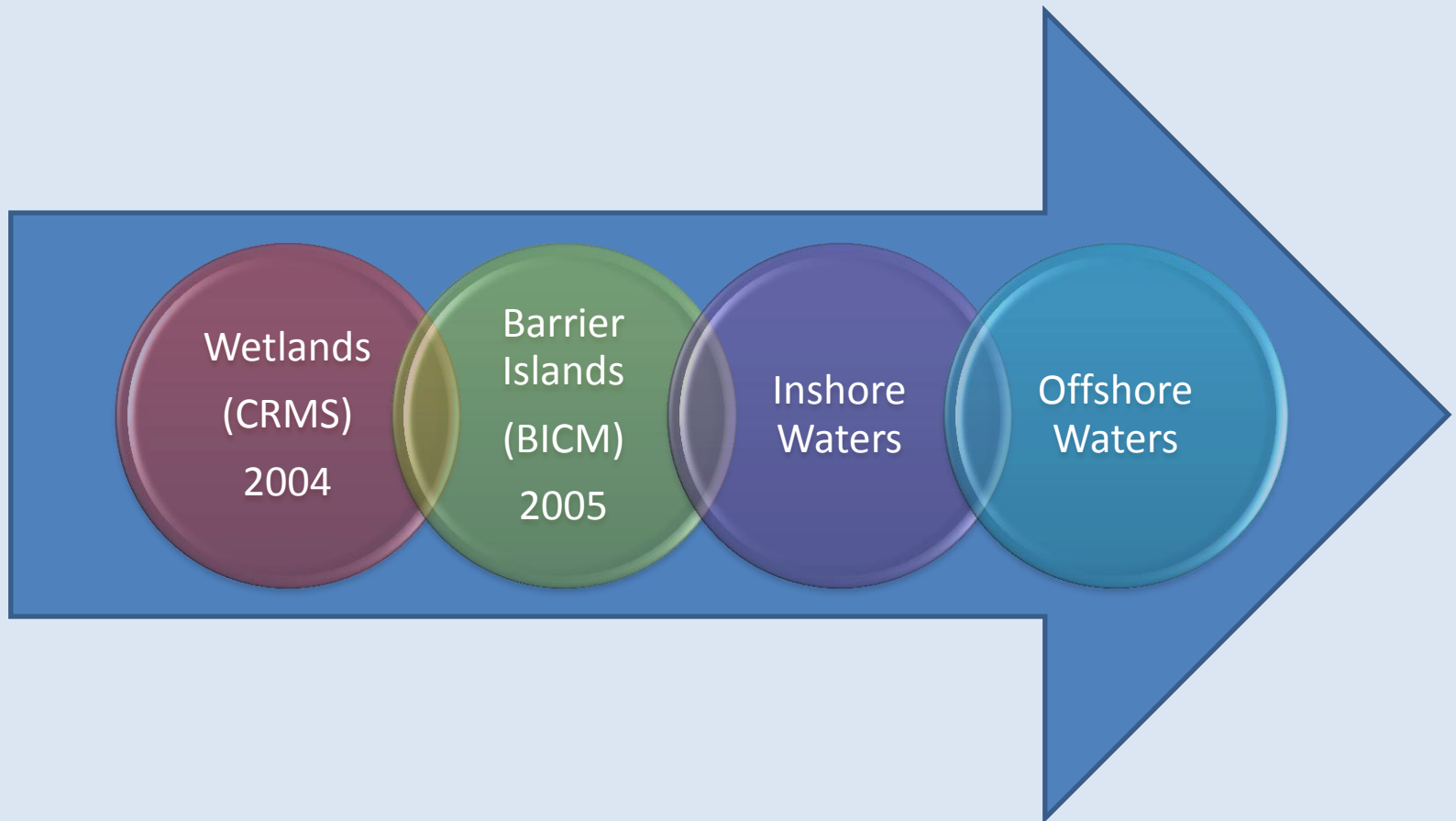
Data Source:
U.S.G.S. National Wetlands Research Center
Coastal Restoration Field Station
Louisiana Department of Natural Resources
Coastal Restoration Division

2000 TM Satellite Imagery

Map ID: 20014440
Date: January 19, 2001

Original SWAMP

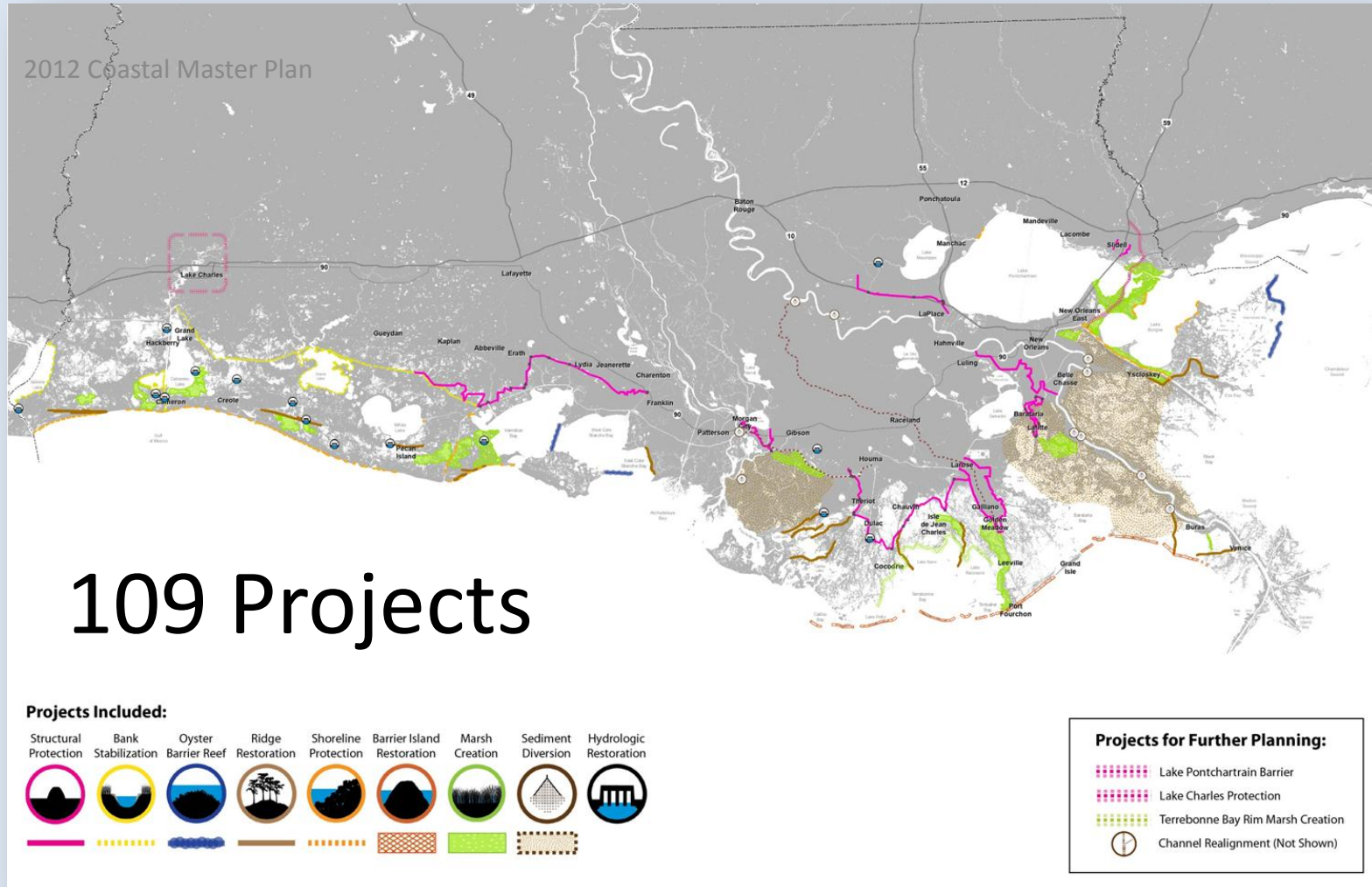
- Original concept was restoration-centric



New SWAMP Vision

- New vision is for integrated protection and restoration monitoring
- Data network will support Master Plan models, program performance metrics
- Include opportunities for leveraging and partnership among a variety of agencies.

Need for coastwide monitoring



Moving SWAMP Forward

Develop a framework that:

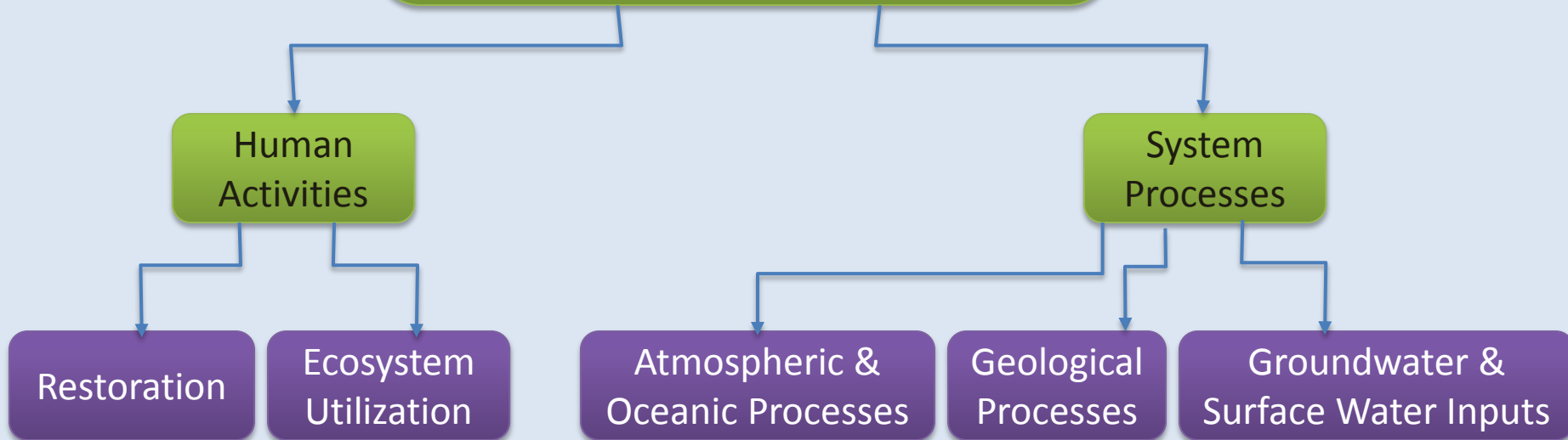
- Articulates the need, purpose, and objectives of a coastwide monitoring program.
- Identifies the key parameters necessary for understanding the overall coastal system (natural and built) and supporting the coastal protection and restoration program.

Develop an inventory of ongoing/active monitoring efforts.



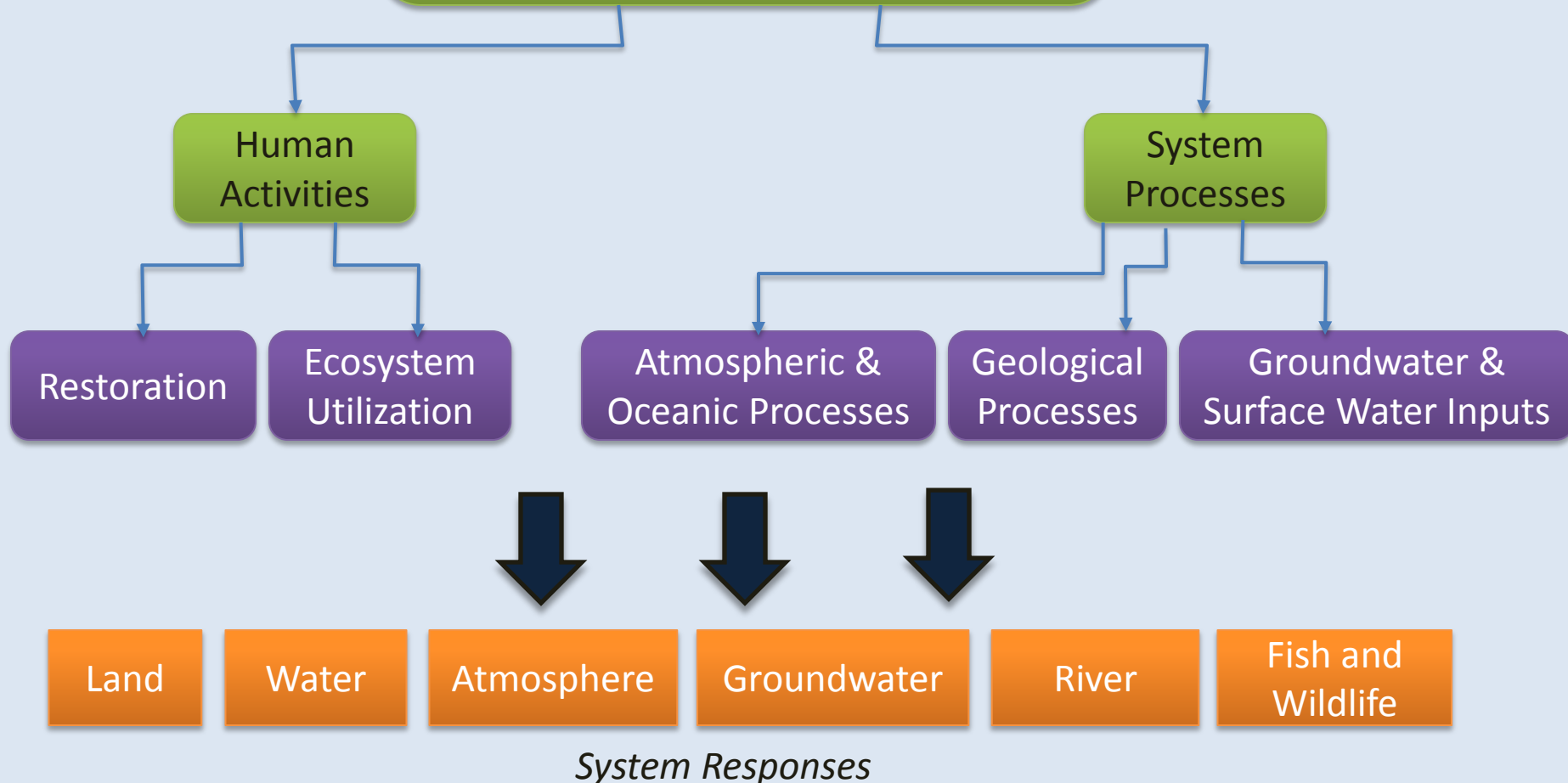
Coastal Drivers

What are the drivers that cause change to the coastal environment?

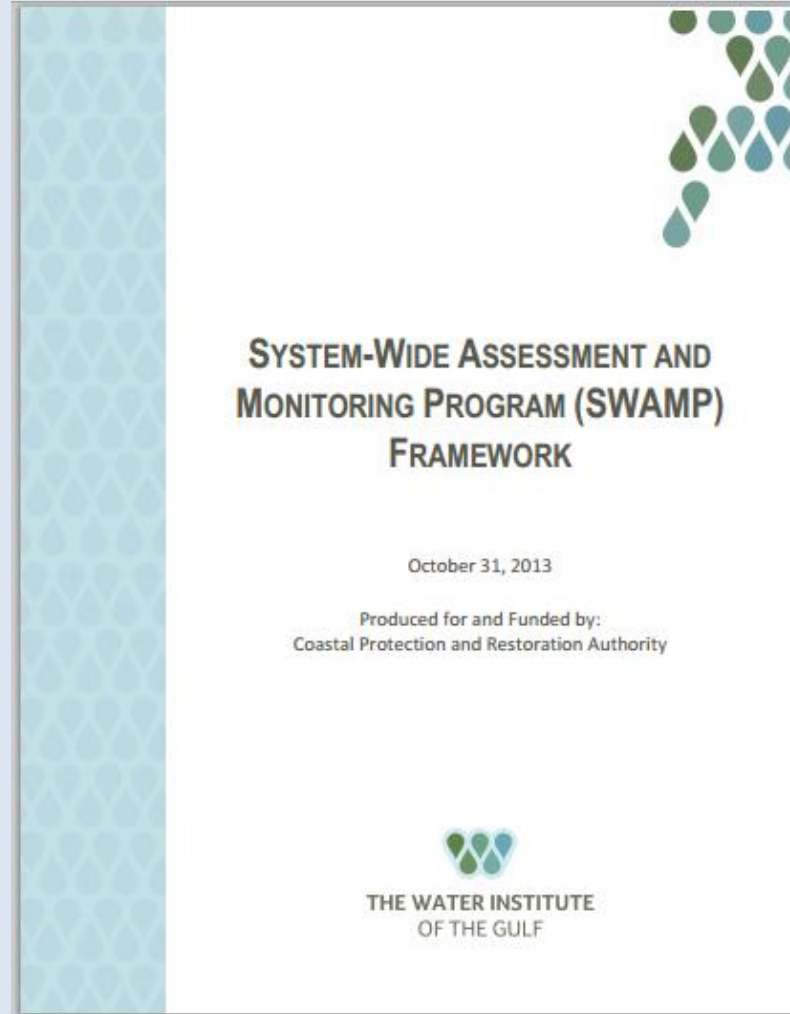


Coastal Drivers

What are the drivers that cause change to the coastal environment?



More info found here



Available at coastal.la.gov/resources/library/
and at www.thewaterinstitute.org

Data Inventory

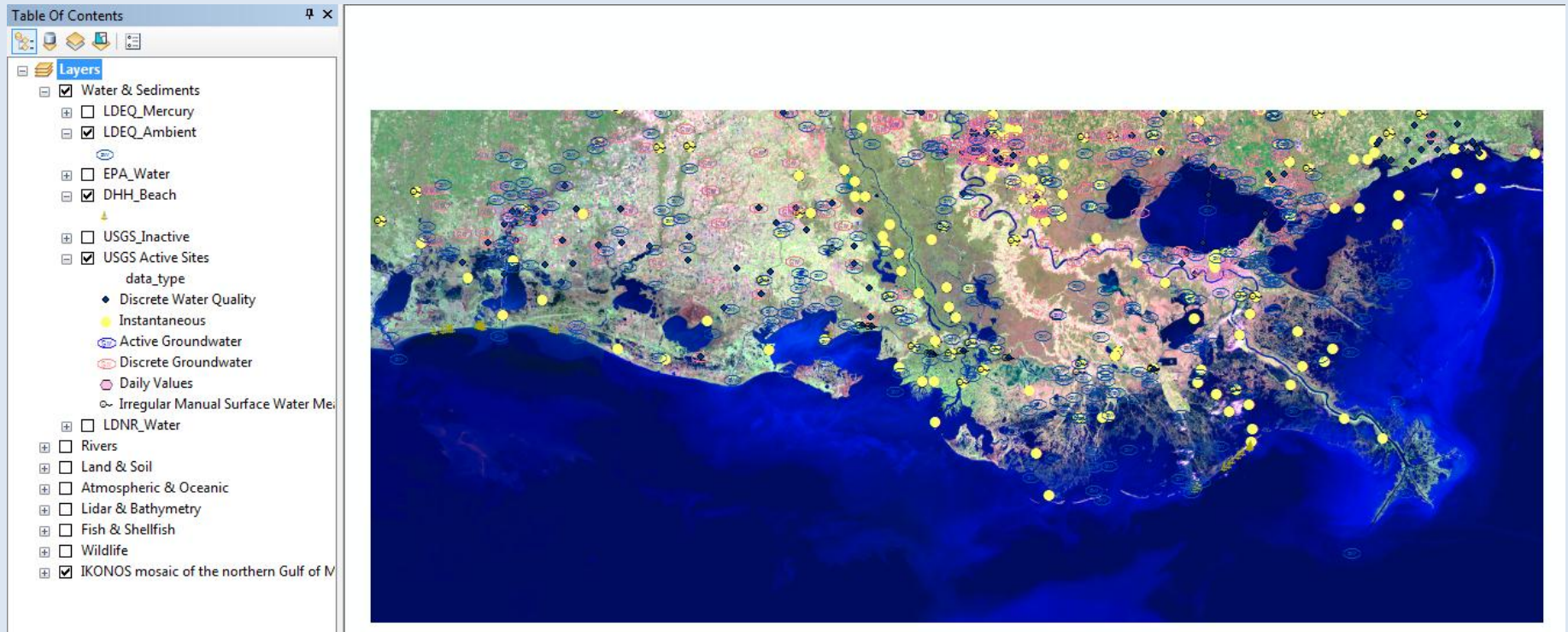
NATURAL SYSTEM

- EPA
- Lake Pontchartrain Basin Foundation
- LA Dept of Environmental Quality
- LA Dept of Health and Hospitals
- LA Dept of Natural Resources
- LA Dept of Wildlife and Fisheries
- National Audubon Society
- National Park Service
- NOAA – National Climatic Data Center
- NOAA – National Buoy Data Center
- USACE
- USFWS
- USGS

BUILT SYSTEM

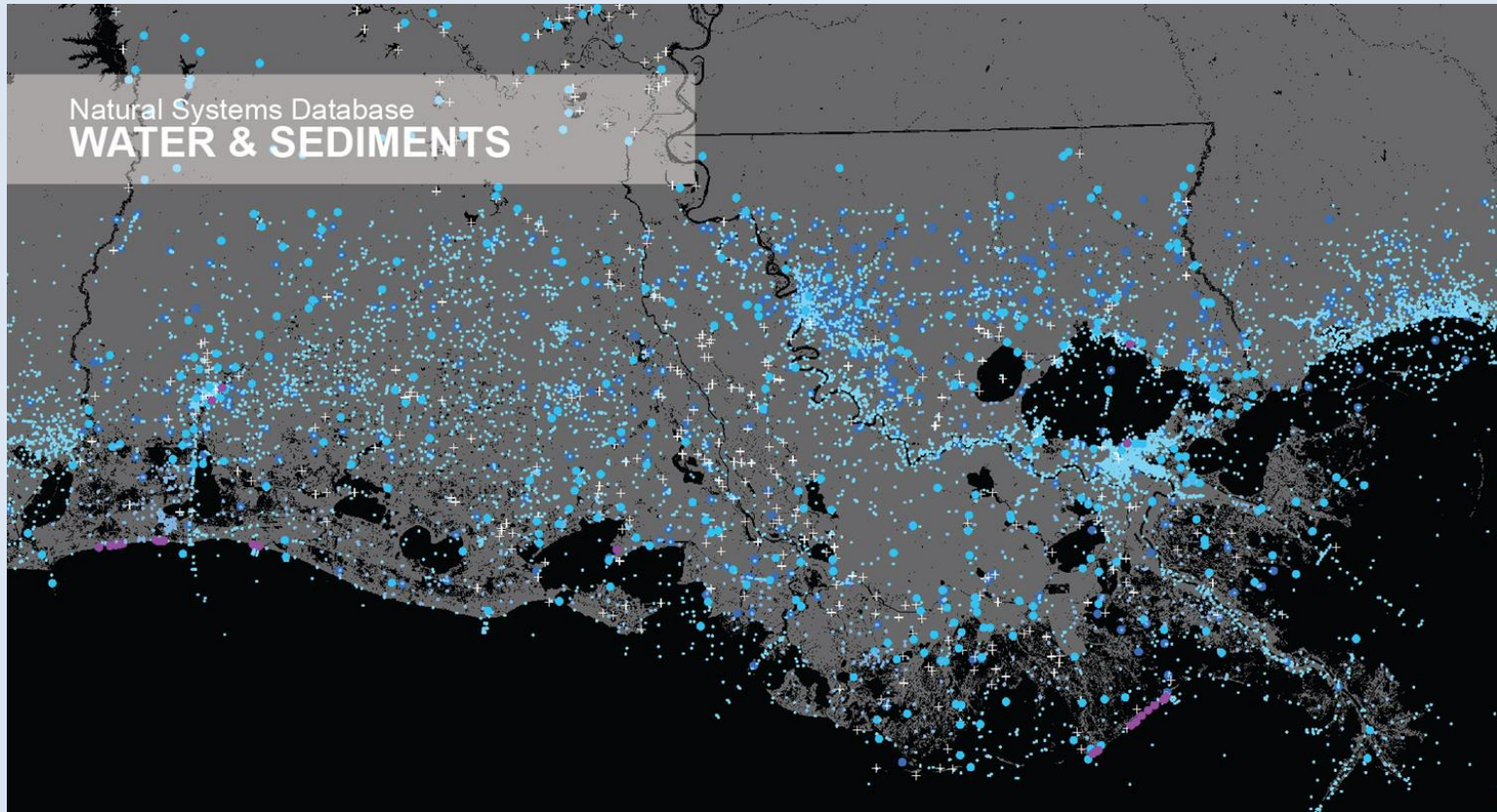
- CPRA
- Entergy Economic Development & Expansion
- FEMA
- LOSCO Data Catalog
- NOAA - Floodplains FEMA Special Flood Hazard Area
- NPS Register of Historic Places
- USACE Levees
- U.S. Census Bureau

SWAMP Data Inventory



- Identified over 1,700 active, long-term environmental monitoring sites (excluding historic, discontinued or short-term sites, and excluding infrastructure and built-system)

SWAMP Data Inventory



- See CPRA Booth for a demo of this data inventory

Coastwide Implementation Plan and Barataria Pilot

- Develop a coastwide Implementation Plan to assess programmatic performance measures for the Coastal Protection and Restoration program
- Within Barataria Basin, develop a nested, basin-specific monitoring plan that incorporates monitoring elements necessary for basin-scale performance measures

Performance Measures

- Identify Performance Measures necessary to evaluate program effectiveness (Coastwide)
- Identify Performance Measures necessary to evaluate effectiveness at Basin scale
- Identify available data to establish baseline conditions

Coastwide Framework and Barataria Pilot

Restoration

Landscapes

- Land Area (Quantity)
- Soil Biogeochemistry
- Barrier Island morphology

Biological Integrity

- Vegetative Communities
- Pelagic Communities
- Benthic Communities

Water

- Water Quality
- Hydrodynamics
- Sediments

Atmosphere

- Weather & Climate

Protection

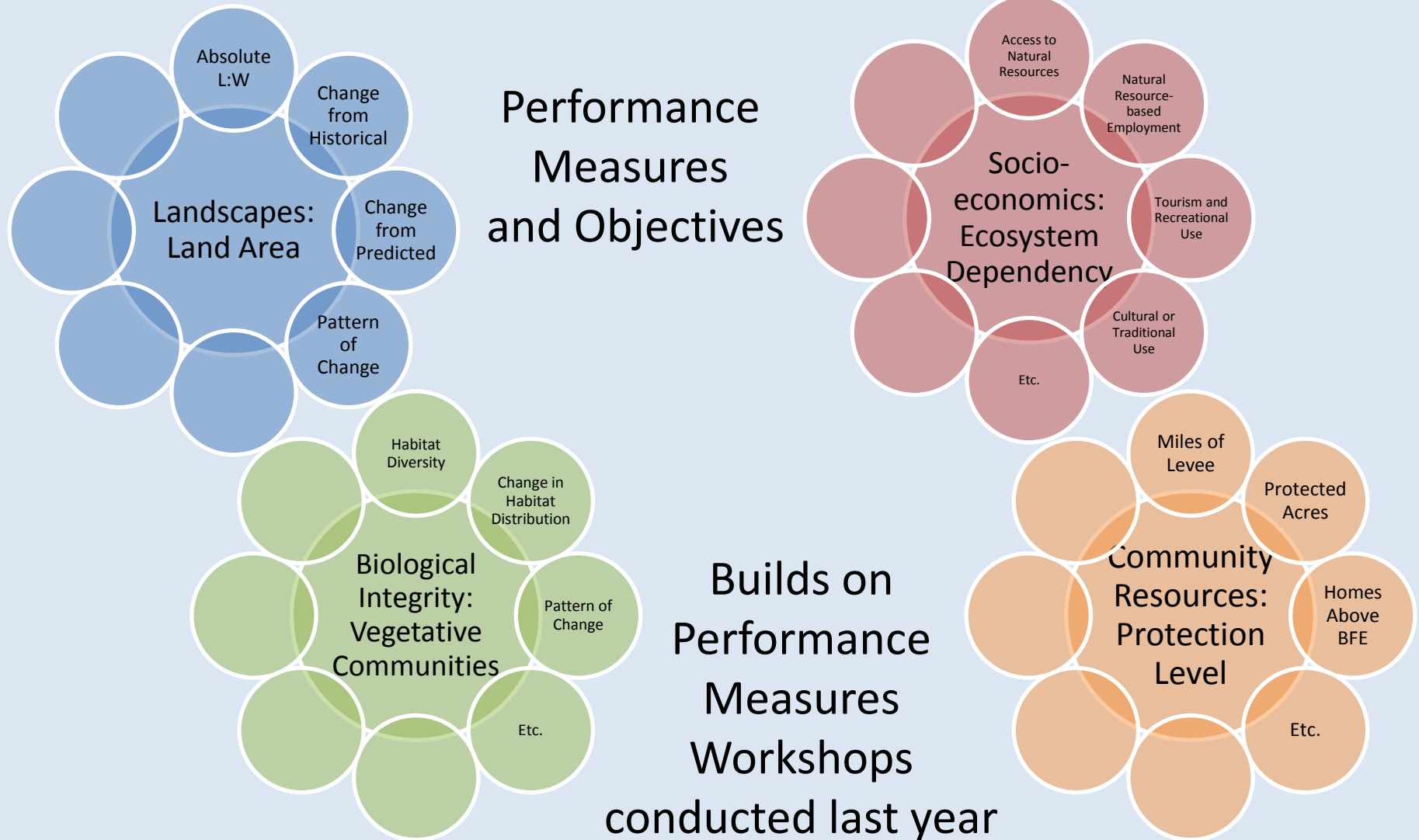
Socio-economics

- Population Demographics
- Housing and Community Characteristics
- Economy and Employment
- Ecosystem Dependency

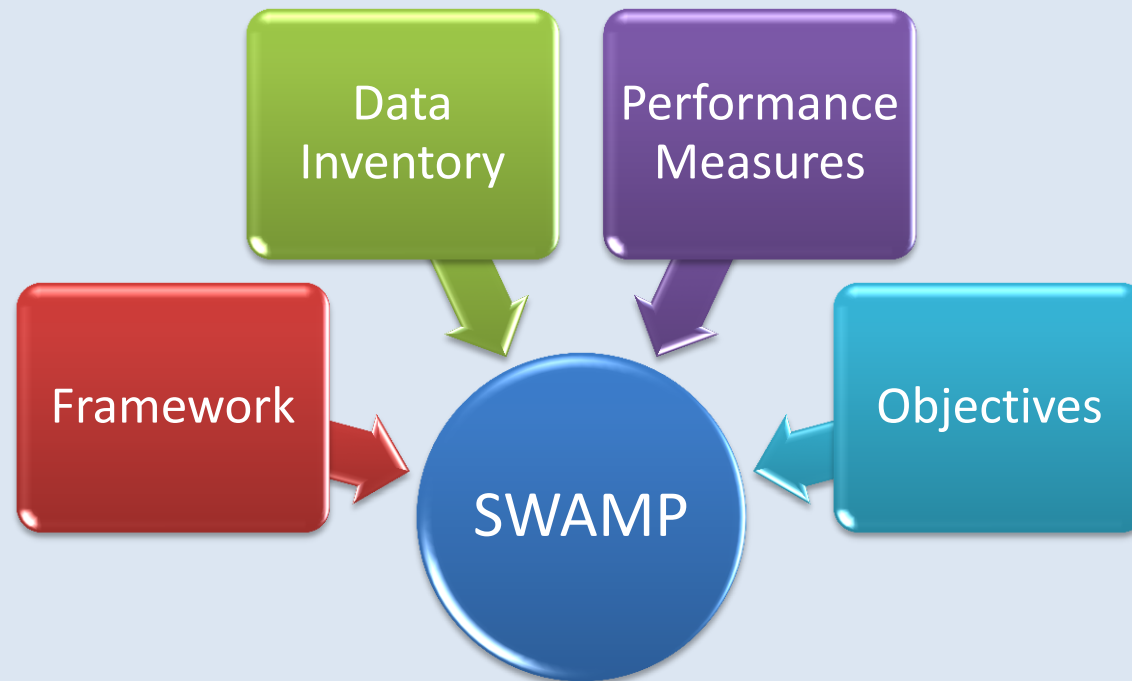
Community Resources

- Protection Level of Local Facilities and Services
- Protection Level of Critical Infrastructure

Coastwide Framework and Barataria Pilot

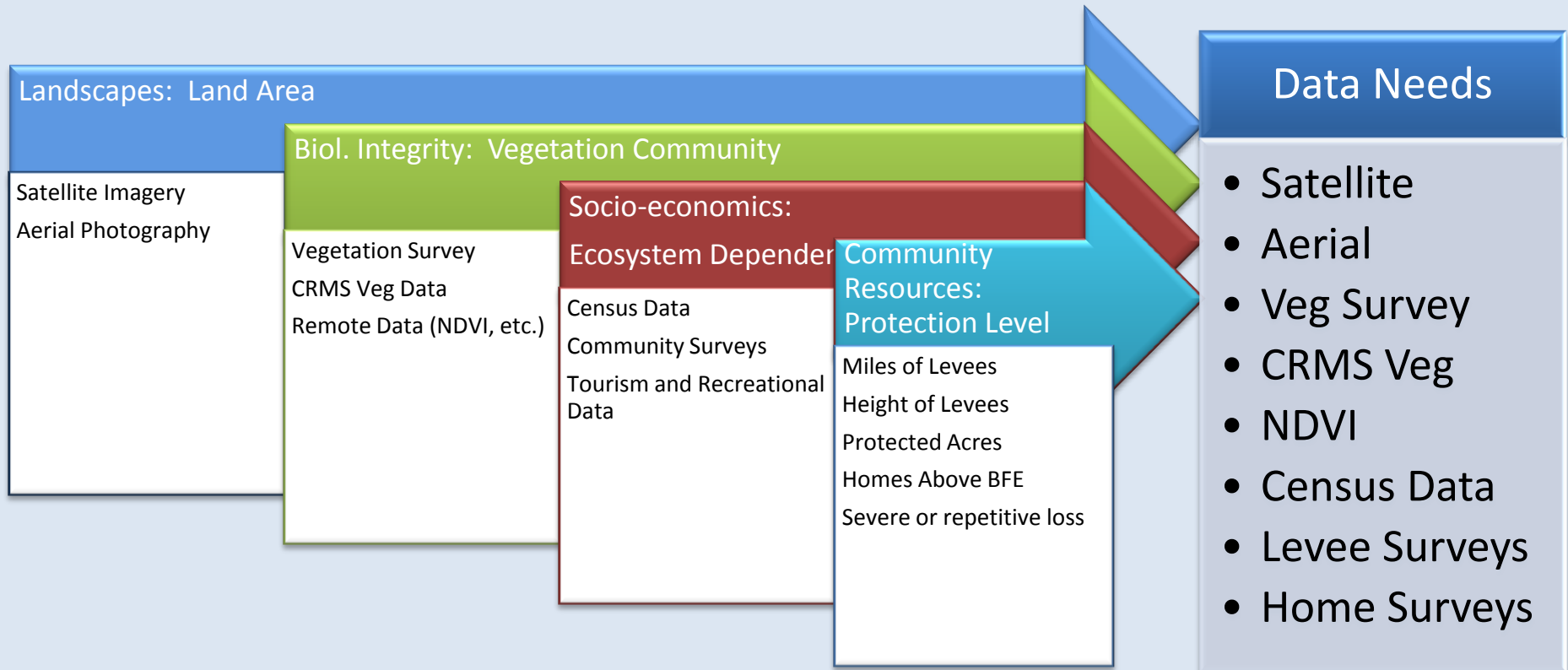


Putting the Pieces Together



Next Steps

- What data do we need to address CPRA's objectives



Next Steps

- What data do we need to address these objectives
- What data are currently being collected

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Layers

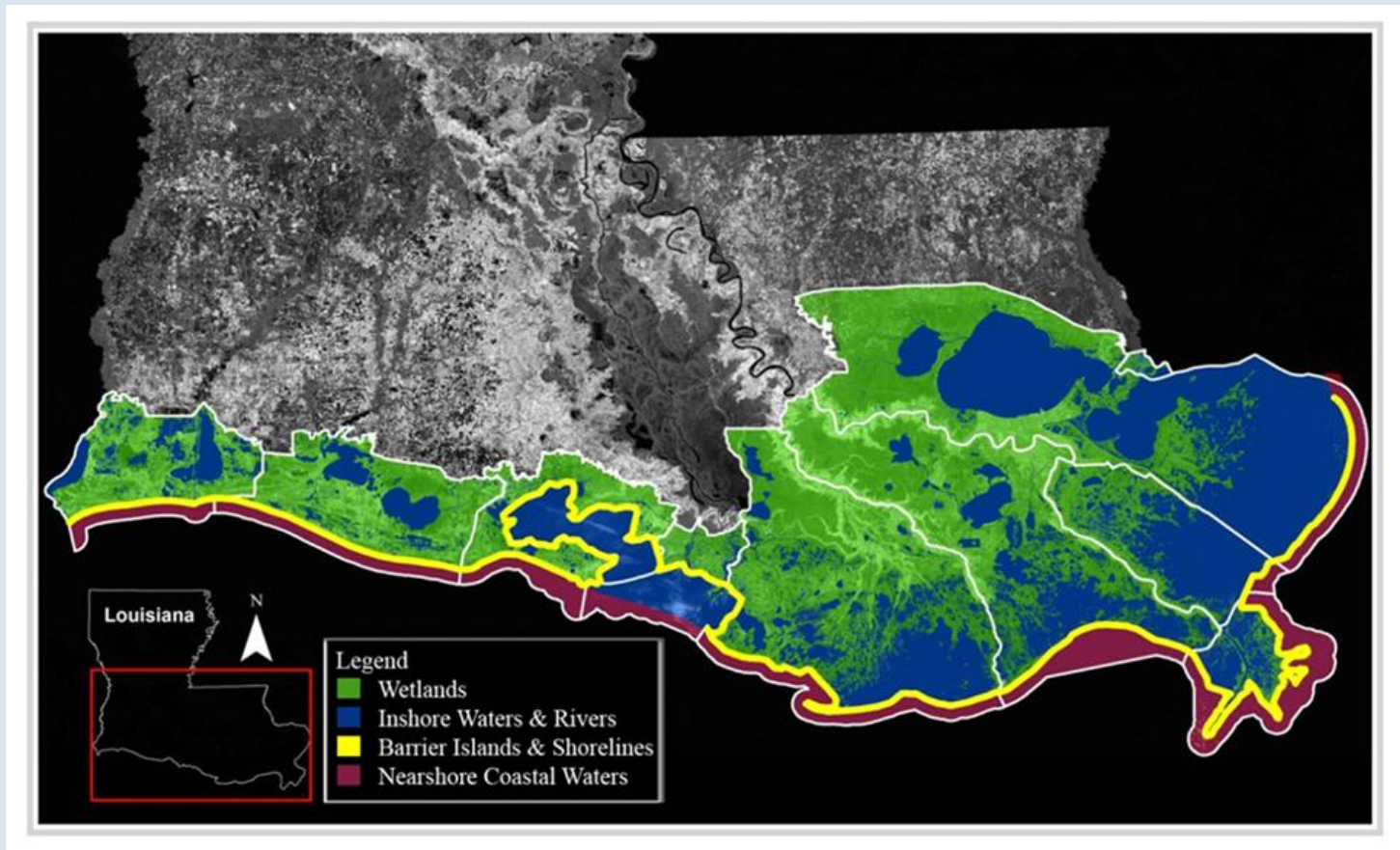
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 - ☐ LDEQ_Mercury
 - ☒ LDEQ_Ambient
- ☐ EPA_Water
- ☒ DHH_Beach
- ☐ USGS_Inactive
- ☒ USGS Active Sites
 - data_type
 - ◆ Discrete Water Quality
 - Instantaneous
 - Active Groundwater
 - Discrete Groundwater
 - Daily Values
 - Irregular Manual Surface Water Me
- ☐ LDNR_Water
- ☐ Rivers
- ☐ Land & Soil
- ☐ Atmospheric & Oceanic
- ☐ Lidar & Bathymetry
- ☐ Fish & Shellfish
- ☐ Wildlife
- ☒ IKONOS mosaic of the northern Gulf of M



Next Steps

- What data do we need to address these objectives
- What data are currently being collected
- Are current data collection efforts adequate (temporally, spatially, correct variables/ methods, adequate statistical power, etc.)
- Develop Coastwide Plan and (nested) Basin-Pilot incorporating protection and restoration data needs

Thank You



Questions?

Richard.Raynie@LA.gov