

AEEC

AMERICA'S ENERGY COAST

A REGION AT RISK

PREVENTING THE LOSS OF VITAL NATIONAL ASSETS



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Preventing the Loss of Vital National Assets

PROBLEM STATEMENT

One of America's most productive and environmentally sensitive ecosystems is facing collapse. Ongoing coastal erosion and the rapid deterioration of shoreline, barrier islands and wetlands across Texas, Louisiana, Mississippi and Alabama pose an immediate risk to millions of people, marine and animal species and significant economic interests.

In environmental terms, a vast estuary is at stake. In economic terms, billions of dollars worth of property and infrastructure are vulnerable.

The problem is most acute in wetlands of the Mississippi River Delta, where the world's most dramatic rate of land loss is occurring in the heart of this region. Since the 1930's, Louisiana has lost wetlands equal to the size of Delaware. In 2005, Hurricanes Katrina and Rita destroyed another 218 square miles, and if land loss continues at the current rate, scientists predict one third of coastal Louisiana will have vanished into the Gulf by 2050. Meanwhile, Texas beaches are experiencing erosion in some places by as much as 10 feet a year, and scientific scenarios show that if nothing is done, the loss of these invaluable coastal resources will greatly accelerate in the coming years. Along with similar challenges, barrier islands in Mississippi and Alabama struggle for survival.

With rising sea levels, subsidence, and catastrophic storms such as Hurricanes Katrina, Rita, Gustav and Ike, the risk to coastal communities and the critical economic, energy and navigation infrastructure upon which the nation depends is incalculable. Without federal action and resolve, we face the improbable loss of critical national assets.

Simply put, the US Gulf Coast—America's Energy Coast—is a region at risk. And while many areas along our nation's shores experience sustainability challenges, none can compare in complexity and volume to this region that serves the national interest in so many ways.

At risk is an engine that fuels, feeds and supports the American economy. This is the nation's energy corridor that provides 90% of the domestic offshore oil and gas supply and is tied to 50% of the nation's refining capacity. Navigation facilities along the Mississippi River serve one of the largest port systems in the world, supplying the bulk of the nation's inland waterborne commerce. The Gulf Intracoastal Waterway is threatened as wetlands that once surrounded the east/west canal erode, creating hazards for marine transportation. And, with the rising tide and episodic storm events, comes the interruption of commerce serving 31 states of the Mississippi River Basin.

This area, also known as America's WETLAND, is home to important endangered and threatened species and the two largest North American flyways for migratory waterfowl and songbirds. The most productive fisheries outside Alaska are here, where vital estuaries serve as nursery ground for 90% of marine species in the Gulf of Mexico and where a third of the fish caught in the lower 48 states are landed. Unbridled erosion of land exacerbates the largest continuous loss of wetlands on the planet, destroying habitat and all that the land and estuaries produce.

This landscape also hosts diverse and unique cultures — varied languages, customs, cuisine and heritage, distinctive architecture, literature and music. All are vulnerable. It's a startling revelation when one considers the numerous values of this complex ecosystem diminishing at a rapid rate.

As is true with every deltaic region in the world, it is self evident that deltas create working environments. As such, America's Energy Coast is not a untouched environment and years of future productivity complicate challenges for long-term sustainability. Too often, the result is that our nation does not fully appreciate the benefits derived from these working wetlands. The perceived conflicts of energy and environment, development and wilderness, recreation and appreciation for nature play out in myriad ways. The ongoing debate at the national level on the best use of the region's natural resources has failed to recognize the urgent need for comprehensive solutions to the challenge of wholesale sustainability.

In working deltas, the focus must be on finding balance that generates mutual understanding and supports interests of diverse stakeholders. It is critical that all interests are at the table to sustain environmental, economic, energy and community assets in a working coast that is deteriorating. It may be because this is a multifaceted problem that the ongoing land loss around the mouth of the Mississippi River has not been seen as the nation's prime environmental or economic challenge. Even with evidence mounting that the greatest land loss rate in the country will soon destroy valuable natural habitat and alter the ecosystem, Washington remains relatively quiet to urgent calls for action.

The inability to mount a national response is disturbing. It may be that the ongoing pursuit of conventional fossil fuels in the region to meet domestic energy demand is viewed as counter to lowering carbon emissions as a national priority. The inherent conflicts in managing the nation's largest river system with control devices, locks and dams that restrict sediment flow needed to sustain a healthy delta begs for the refocusing of projects to incorporate natural processes. The needs of agricultural interests upriver conflict with water quality efforts downriver, where a growing dead zone at river's end threatens marine species and aquatic life, ultimately impacting fish harvesting and the communities that depend upon that harvest.

These conflicts and trade offs are at constant play as the future of a region that supports a substantial American asset base hangs in the balance. Added to what may seem an insurmountable list of obstacles is the fact that many federal laws and regulations stand in conflict with one another, making processes for sustaining coastal resources hard to achieve in a timely manner. Insufficient funding complicates the ability to get the job done. The traditional positions of varying interests, ranging from conservation to business, must be balanced as comprehensive solutions depend on cooperation and collaboration at every level.

The world became more aware of hazards to the region in 2005, as back-to-back hurricanes devastated Gulf Coast communities, displacing millions of people, causing billions of dollars worth of damage to homes, communities and critical infrastructure, and creating huge spikes in gasoline, grain and seafood prices. We were reminded again in 2008 when Hurricane Ike hit Galveston, Texas, narrowly missing Houston. Catastrophic storms may put an exclamation point on the unfolding story of Gulf Coast vulnerability, but decades of inaction to address ecosystem challenges and unintended consequences of man's actions tells the bigger story.

Levees built in 1930's to protect communities and commerce along the Mississippi River have resulted in sediment and nutrients vital to healthy wetlands being jettisoned off the deep outer continental shelf. Over the next century, the activities of a growing human population, subsidence and rising sea levels will exacerbate the problem, leading to further coastal deterioration of the wetlands and threatening this productive landscape.

An unprecedented number of challenges have converged in one place at one time, offering an inherent opportunity for this region to serve as a laboratory for sustainability, where complex problems can be solved with best planning, science and engineering solutions to have global impact.

Diverse interests have joined together as America's Energy Coast (AEC) to issue an historic accord for sustainability and propose a framework for action. Demonstration projects and best practices are being designed in cooperation with NGO, industry and governmental leaders from the four energy-producing states that can serve as a model for coastal sustainability in regions around the world. Working together, the AEC sees safer, stronger and smarter coastal communities and a region working together to build awareness and actions to ensure a sustainable future that is essential to economic, social and environmental interests. Beyond the obvious hurdles of restoring and protecting an ecosystem, no greater threat to sustainability exists than the threat of inaction or the maze of governmental processes that prevent efficient solutions.

The best science, engineering and planning point to a host of solutions, but the long-term survival and success of this region is ultimately tied to large-scale Federal recognition and support. Time is not a friend of the region. Urgent actions must be taken to protect it or there is little doubt that the assets as we have known them will be lost.

AMERICA'S ENERGY COAST – LABORATORY FOR SUSTAINABILITY

America's Energy Coast (AEC) is a working laboratory for addressing some of the most critical energy, economic and environmental sustainability challenges of the 21st Century. The following issues represent a portfolio of challenges identified by a coalition of interests from AEC.

Vulnerable Ecosystems

From the coastal wetlands in South Louisiana to the beaches and dunes off the coast of Galveston, Texas to the barrier islands off the coast of Mississippi to Mobile Bay, Alabama—the Gulf Coast contains diverse ecosystems that provide significant ecological, economic and cultural benefits to the region, the nation and the world.

These coastal landscapes provide protection to millions of people and hundreds of billions of dollars worth of property and infrastructure because they serve as buffers against hurricanes and storm surges. They also enhance the effectiveness of engineered storm-protection features, such as levees. Maximizing the natural buffering capacity of healthy and sustainable coastal ecosystems is a critical component of state and national efforts to protect coastal communities.

The vulnerable ecosystems along the AEC have many other natural benefits, as well. They provide critical habitat for an abundance of plants and animals. As a richly productive nursery for marine life in the Gulf of Mexico, this region provides for 30 percent of the seafood catch in the continental U.S. In addition, this landscape hosts two major flyways for migratory birds and waterfowl and provides a wintering habitat for millions of North American songbirds.

Coastal wetlands also naturally filter sediment and pollutants from fresh water supplies and can significantly reduce the amount of toxins reaching the Gulf of Mexico. Currently, in the Gulf of Mexico, at the mouth of the Mississippi River and stretching west, is the largest hypoxic zone in the United States. This lifeless zone of oxygen-depleted waters is caused by excess nutrients, such as nitrogen and phosphorus from fertilizers and other sources, flowing into the Gulf, with the largest contributors being the Mississippi and Atchafalaya Rivers. Studies have shown wetland restoration could be the most effective and cost efficient means of reducing nutrient loading to our nation's waters, preventing the growth of the Gulf Dead Zone.

Healthy wetlands also help to sequester carbon from the atmosphere. Plants in these marshy areas absorb carbon dioxide through photosynthesis. Then as they die and become a part of the soil, the carbon is trapped and stored for the long term. Some data suggests that wetlands can store six times more carbon dioxide per acre than forests, making them a very valuable weapon in the fight against global warming. As new policy emerges to address carbon issues, it is critical to provide incentives for using natural processes, such as wetland restoration, to address the problem.

Designing Resilient Communities

With nearly 10 million people living in the Gulf region, it is clear that this vulnerable landscape supports a variety of diverse communities. This mirrors other world deltaic regions where it is estimated that 50% of the world's population resides. The unique histories of Texas, Louisiana, Mississippi and Alabama paint a rich tapestry of cultural identity—with varied languages and religious heritages, distinctive architecture, and world-renowned cuisine, art, literature and music. But the common thread running throughout the region is that all these coastal communities are inextricably linked to the land and water and abundant natural resources.

Better known for fishing vessels and offshore marine craft, this is a working coast that needs a sustainable workforce. Without measures to ensure its physical, social and economic security, this critical workforce will be lost. And without efforts to restore and protect this vulnerable landscape, dislocation of these coastal communities will become inevitable at an incalculable cost to the American public. Entire cultures could be lost.

Addressing Climate Issues as a Region

Climate change, energy security, and environmental sustainability are not isolated issues and must be systematically integrated into issues across the region. For the foreseeable future, AEC will continue to develop domestic energy supplies and has the opportunity to be a global leader in alternative energy resources and technologies for carbon reduction. The potential impacts of climate change must be considered in planning for sustainability; including opportunities for reductions in greenhouse gas emissions as well as capture and sequestration of carbon dioxide.

Vulnerability of AEC communities depends not only on the degree of change that is anticipated in the future, but also on the availability of our natural and social resources to adapt relative to the projected changes. Therefore, adapting to a changing energy, economic, and climate future can be achieved by:

- Open and ongoing dialogue among diverse interests to design regional responses, considering other national and international efforts for reduction of greenhouse gas emissions;
- Pursuit of adaptation strategies in recognition of the ecological threats presented by potential climate change impacts.

The region can be informed by studies showing common conditions in world deltas, where a combination of sediment reduction from man-made structures up river, combine with subsidence and sea level rise to create unique vulnerabilities to these deltaic systems. While some scientific uncertainties exist with regard to how climate change may further impact the region, it is clear that resources and infrastructure along America's Energy Coast will become increasingly vulnerable to sea-level rise with climate change scenarios bringing new uncertainties and challenges.

Transportation, Infrastructure & Energy Security

America's Energy Coast is an economic engine for the nation. The Gulf of Mexico is the only expanding source of domestic oil and gas for the U.S. The Gulf region contributes 90 percent of America's offshore energy production and 30 percent of the nation's overall oil and gas supply, connecting to 50 percent of the nation's refining capacity. In addition to domestic production, Louisiana's coast is home to the Strategic Petroleum Reserve, is the location where natural gas is priced in the U.S., and is the land base for the Louisiana Offshore Oil Port (LOOP), America's only offshore oil port that handles about 15% of this country's foreign oil. The Gulf region is also recognized as having significant potential for increased energy production through the development of conventional and alternative energy sources in the future.

This region is vital to America's shipping interests. Ten of the country's top 14 ports are located in the four-state region, along with countless harbors and navigation channels, which service America's third largest waterway by commerce, the 15,000-mile Gulf Intracoastal Waterway that moves the bulk of the nation's waterborne commerce, operating under stressed conditions due to encroaching waters caused by land loss.

These energy production and navigation activities are essential to America's economic interests, but environmental threats, such as increasingly intense storms, rising sea levels, and ongoing coastal erosion and subsidence pose a significant risk to the physical infrastructure that supports these activities. The lack of resources, comprehensive planning, and inconsistent policies among state and Federal agencies only exacerbate the problem.

The continued use and development of these resources is highly dependent upon the presence of a sustainable coast. Investing in, protecting and maintaining this region's critical infrastructure must be a national priority.

MAJOR OBSTACLES TO SUSTAINABILITY

Conflicting Federal and State Policies and Regulations

Among the most challenging obstacles to achieving sustainability along America's Energy Coast are inconsistent laws, policies and regulations at all levels of government. The Federal processes in place to address challenges in this vulnerable region are fraught with conflicting agency missions and policies. Silos within state and Federal agencies also impede the implementation of large-scale restoration projects. National policies implemented in a one-size-fits-all manner, fail to address the complexities of this region's unique and fragile ecosystems and its strategic role in the nation's economic and energy security.

Federal Administration of CIAP Lacks Efficiency & Effectiveness

The Coastal Impact Assistance Program (CIAP) is a program administered by the Minerals Management Service through which funds are to be distributed to Outer Continental Shelf (OCS) oil and gas producing States to mitigate the impacts of OCS oil and gas activities. While this program has the potential to be an effective tool in protecting and restoring wetlands, beaches, dunes and other critical coastal landscapes, there is mounting evidence that CIAP has become mired in excessive delays and has caused unnecessary burdens and administrative expenses for the states it was designed to support. For example, of the \$250 million a year available to coastal producing states for each fiscal year since 2005, less than \$100 million has actually been disbursed to date. Changes in process, unexpected and unintended in the legislation, has further exacerbated efficient and expedient implementation of the program.

Maintenance Dredging & The Corps

Another inconsistent Federal policy that has had a profound impact on America's Energy Coast is the conflict between the US Army Corps of Engineers' responsibilities for maintenance dredging to support navigation and its Federal sponsorship of restoration projects. Despite the Corps' authority to plan and support ecosystem restoration-focused projects, the Federal civil works planning process is conducted according to principles and guidelines that Congress established in 1983, which define national economic development as the primary planning objective. This purely economic cost-benefit analysis does not often favor, and at times, actually discourages beneficial-use projects such as those proposing to use dredged material for ecological restoration. Ongoing efforts to review and revise the principles and guidelines should be accomplished in ways that are supportive of ecosystem restoration.

Delays in the NEPA Process

The National Environmental Protection Act (NEPA) is a valuable tool in planning and implementing projects that contribute to the sustainability of the region. However, inconsistent interpretations and lack of coordination in the NEPA process have thwarted the implementation of comprehensive sustainability projects – especially coastal protection and restoration projects along the Gulf Coast.

Issues of continuity must be addressed and the process must be modified and improved to allow for the understanding of how individual projects relate to the entire long term, comprehensive plan. Such projects should be recognized as priorities, and agencies should avoid a process in which their respective jurisdictions and procedures for NEPA compliance result in a seemingly endless circle of bureaucracy. When agencies begin the NEPA process for a particular project, coordination among those agencies on the front end that establishes a clear path forward could avoid delays that, in some cases, stretch into decades.

Problems with the Harbor Maintenance Trust Fund

Taxes derived from the Harbor Maintenance Trust Fund, are annually set aside specifically for maintaining deep draft ports in the US. This fund generates more than \$1.3 billion in revenues each year. While there is a critical need for dredging so that harbors, ports and shipping channels can be properly maintained, these funds are not being used for their intended purpose and, instead, are used as Federal budget offsets. These funds must be made available at the outset of each annual Congressional budget cycle to the U.S. Army Corps of Engineers and used for the original purposes intended by the creation of the fund. It is also critical that assignment be made of necessary equipment to areas of most critical need and treated as priority by the Corps. These actions could ensure against damage to and loss of infrastructure essential for safe, environmentally sound energy exploration and development and for movement of commerce in and out and across the country through its transportation network. The materials derived from this necessary dredging could then be used beneficially for environmental restoration. This economically sound, common sense approach continues to be a lost opportunity.

No Unified Federal Approach to Sustainability

Silos within state and Federal agencies hinder comprehensive approaches to sustainability. For example, both the National Oceanic and Atmospheric Agency (NOAA) and the Corps, along with other Federal agencies, operate within the coastal zone, each with pieces of jurisdiction and separate guidelines for restoration and economic uses. There is no unified vision or comprehensive approach to sustainability of environmental and economic assets. This lack of coordination will continue to complicate crucial restoration efforts in many coastal regions of the nation dramatically in the coming years and will have devastating impacts on vulnerable and degrading ecosystems throughout the Gulf coastal region.

No National Water Resource Policy

The nation is operating without a National Water Resource Policy. Water will likely define our economic, public health, and environmental issues by the year 2050. Thus, Federal-state collaboration in water resource planning and policy is arguably one of the most important features of our national security and our ability to sustain natural resources, provide for public health, and promote economic development; particularly given the challenges of a changing climate.

Lack of Urgency

Nearly five years ago, the vulnerability of the Gulf Coast was thrust into the national and international spotlight in the wake of Hurricanes Katrina and Rita, and more recently with Hurricanes Gustav and Ike. Since then, our nation's attention and commitment have waivered, yet the urgency remains. Today, the Gulf of Mexico continues to eat away at shorelines across America's Energy Coast, consuming, in Louisiana's case,

more than a football field of land every hour. This invaluable landscape, which supports many of our nation's most important energy and economic activities, is vanishing.

Simply put, there is no greater threat to the sustainability of this region than the threat of inaction. Through policy coordination and adequate funding, we can restore fragile wetlands, beaches and barrier islands so essential to the nation's economic and environmental interests, but we must start now. The next major hurricane to target America's Energy Coast is only a question of when and where, not if.

Lack of Funding

The Gulf of Mexico Energy Security Act (GOMESA) was signed into law in 2006, providing for the sharing of Federal offshore revenues with the coastal oil and gas producing states, allowing them to support and sustain the environments and infrastructures that host these activities. However, the full measure of that revenue sharing does not begin until 2017. After almost another decade of erosion, land loss and devastating storms, it may be too late for some of the urgently needed projects along the Gulf coast to sustain and support these infrastructures.

Many scientists warn there is a ten-year window of opportunity to take necessary and bold actions to stop the environmental degradation and to capitalize on existing land to prevent further loss. With time running out, a sharing of revenues from existing production is necessary to begin large-scale efforts.

RECOMMENDATIONS

Congress and the White House must make a national commitment to protect and sustain this vulnerable region.

As an epicenter of energy and environmental issues, America's Energy Coast is crucial to shipping, oil and gas development, refining and transportation, fisheries and flyways. The uniqueness of this region cannot be overstated and, therefore, neither can the national commitment necessary to secure its future viability be overlooked. An understanding of the unique assets and attributes of this working landscape and the development of consistent regulations that allow for successful implementation of comprehensive measures are desperately needed to sustain this vital economic region.

Urgent action by the Federal government is absolutely necessary to expedite efforts to protect and restore this nationally critical landscape, and those at the highest levels of the White House, agencies, and Congress must lead these efforts.

Funding for critical projects must be expedited.

Major investments in coastal restoration and protection are needed now. The urgency supports acceleration and expansion of OCS Revenue Sharing for Gulf coastal energy-producing states for restoration and protection of natural and built infrastructure in coastal communities.

Inconsistent and conflicting Federal policies must be resolved.

Through both administrative and statutory means, Congress and The White House must take immediate action to resolve conflicting Federal policies and amend Federal procedures that slow and prevent progress to restore, rehabilitate, protect and sustain this region.

Cost-benefit analyses should recognize and properly account for beneficial use projects.

Cost-benefit analysis requirements currently prevent the US Army Corps of Engineers from using dredged material for environmental restoration. The Federal standard for cost-benefit analysis should be updated to incorporate and factor in the environmental advantages of beneficial-use and multi-use projects such as this.

The principle of “No Net Loss of Culture” should be incorporated into mitigation and planning efforts.

Current coastal planning and mitigation efforts that take place at the state and Federal levels are often done with no regard for their affect on the unique and endangered cultures and tribes of coastal communities. We recommend that coastal planners at all levels of government recognize that cultures along America’s Energy Coast are at risk of being lost. Commitments must be made to ensure that policies and regulations developed to deal with land loss and the threat of natural disasters incorporate the principle of “no net loss of culture.”

AMERICA’S WETLAND FOUNDATION BACKGROUND

America’s WETLAND Foundation is a non-partisan, non-profit organization that has acted as a neutral arbiter for coastal interests since its inception in 2002, elevating issues facing the Gulf Coast, specifically those of coastal land loss, to regional and national attention. Originally responding to dramatic land loss in coastal Louisiana, the organization has built cooperative programs with Gulf Coast states, NGOs and local, state, national and international leaders focused on issues of environmental and economic sustainability.

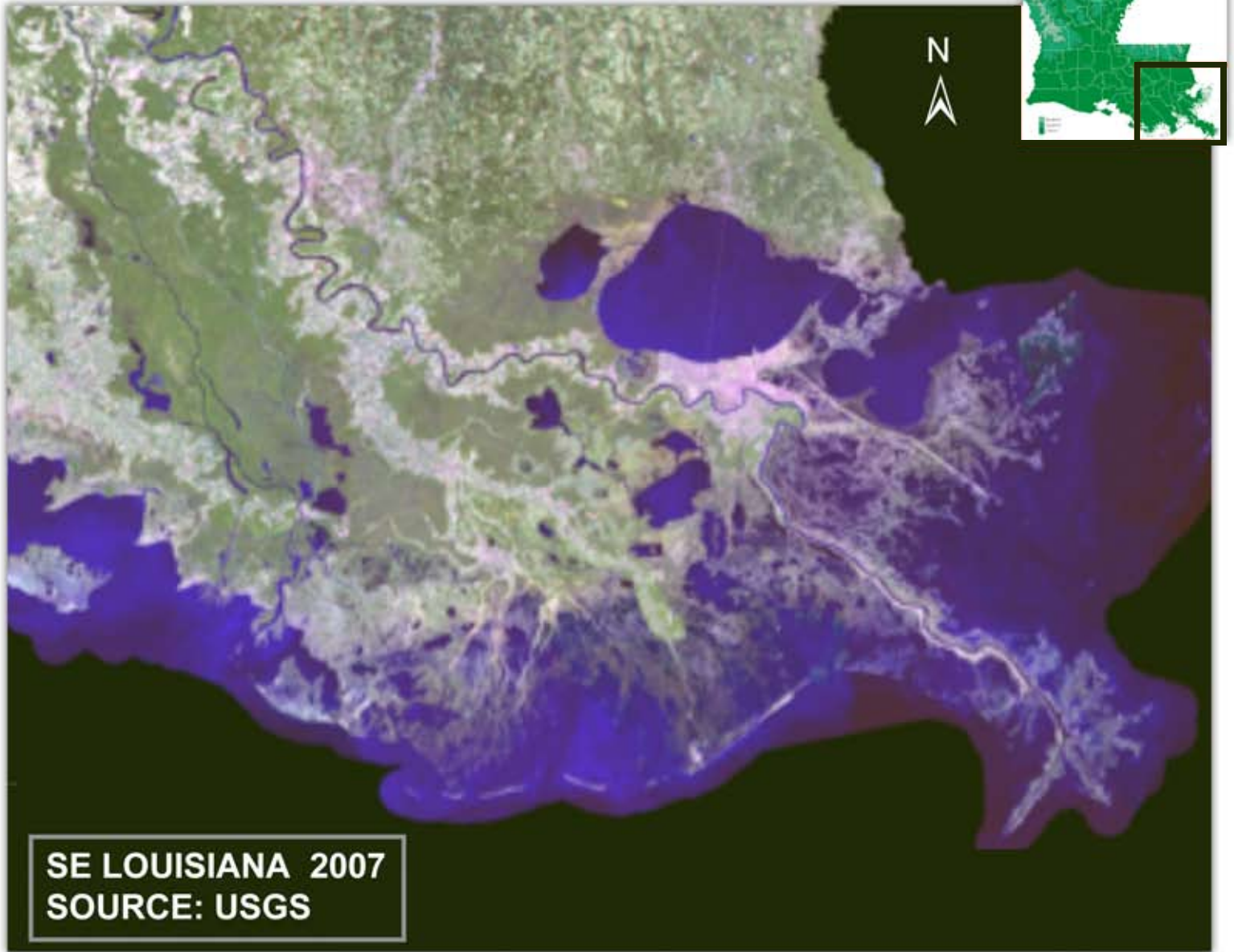
Through its America's Energy Coast (AEC) initiative, the Foundation has brought together a diverse group of major U.S.- based businesses and industries, national environmental organizations, renowned scientists and researchers, and coastal interests from across the four energy-producing states of Texas, Louisiana, Mississippi and Alabama.

AEC provide a balanced forum for coastal interests to work together to develop comprehensive solutions to sustain this vital economic region and the environment on which it depends. The group sitting at our table is diverse — from Environmental Defense Fund, National Wildlife Federation, Pew Center on Global Climate Change, The Nature Conservancy, Coastal Conservation Association, and Ducks Unlimited, to Shell, Chevron, BG North America and Conoco Phillips, to those representing navigation, fisheries, culture and communities all along this working coastline.

The AEC's work is divided among various committees and task forces: the Steering Committee, Advisory Committee, Conflicting Policy Resolution Task Force, Ecosystem Conservation and Restoration Task Force, Commerce and Infrastructure Task Force, Community Resiliency Task Force, Domestic Energy Security and Development Task Force, and the Climate Stewardship Task Force. The AEC is also supported by an Honorary Leadership Council that includes more than 150 federal, state and local officials from across the AEC states, co-chaired by U.S. Senators John Cornyn (R-Texas) and Mary Landrieu (D- Louisiana).

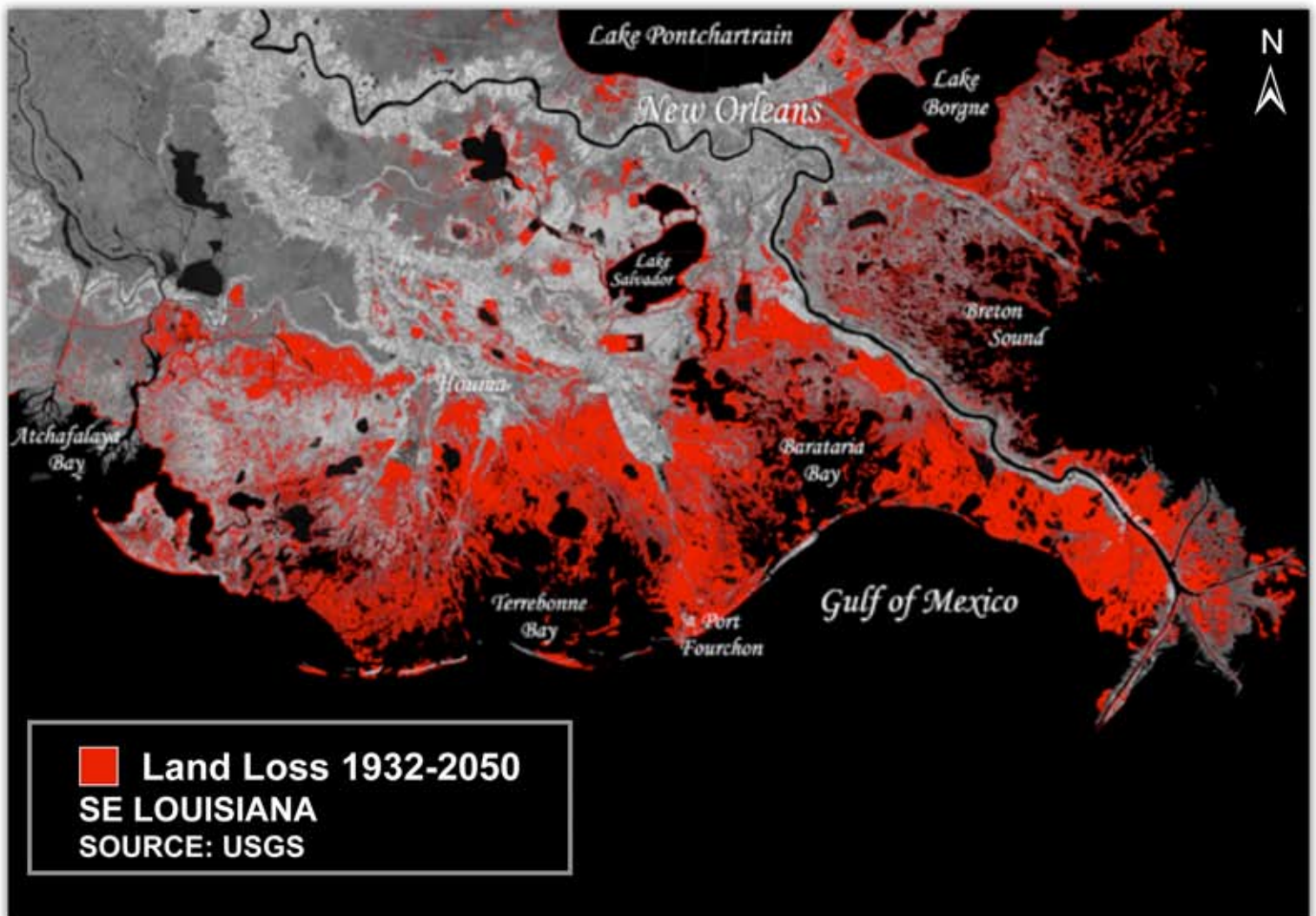
Since beginning its work in 2007, the AEC has issued an "Accord for a New Sustainability" and an Action Framework. The Accord is a dynamic, living document that addresses issues of climate, energy and the coast in a format that will yield technology and solutions, best practices and policy recommendations at all levels of government. The Action Framework, which was delivered to policymakers in Washington, DC in 2008, outlines immediate steps that must be taken to address major energy and environmental challenges in the region. The principles and policy goals laid out in these documents guide the ongoing work of the AEC. The Accord and Action Framework are available online at www.americasenergycoast.org.

Coastal Louisiana 2007



America's WETLAND Foundation, 2009

Coastal Louisiana Projected Land Loss - 2050



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Coastal Louisiana Projected Land Loss - 2100



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