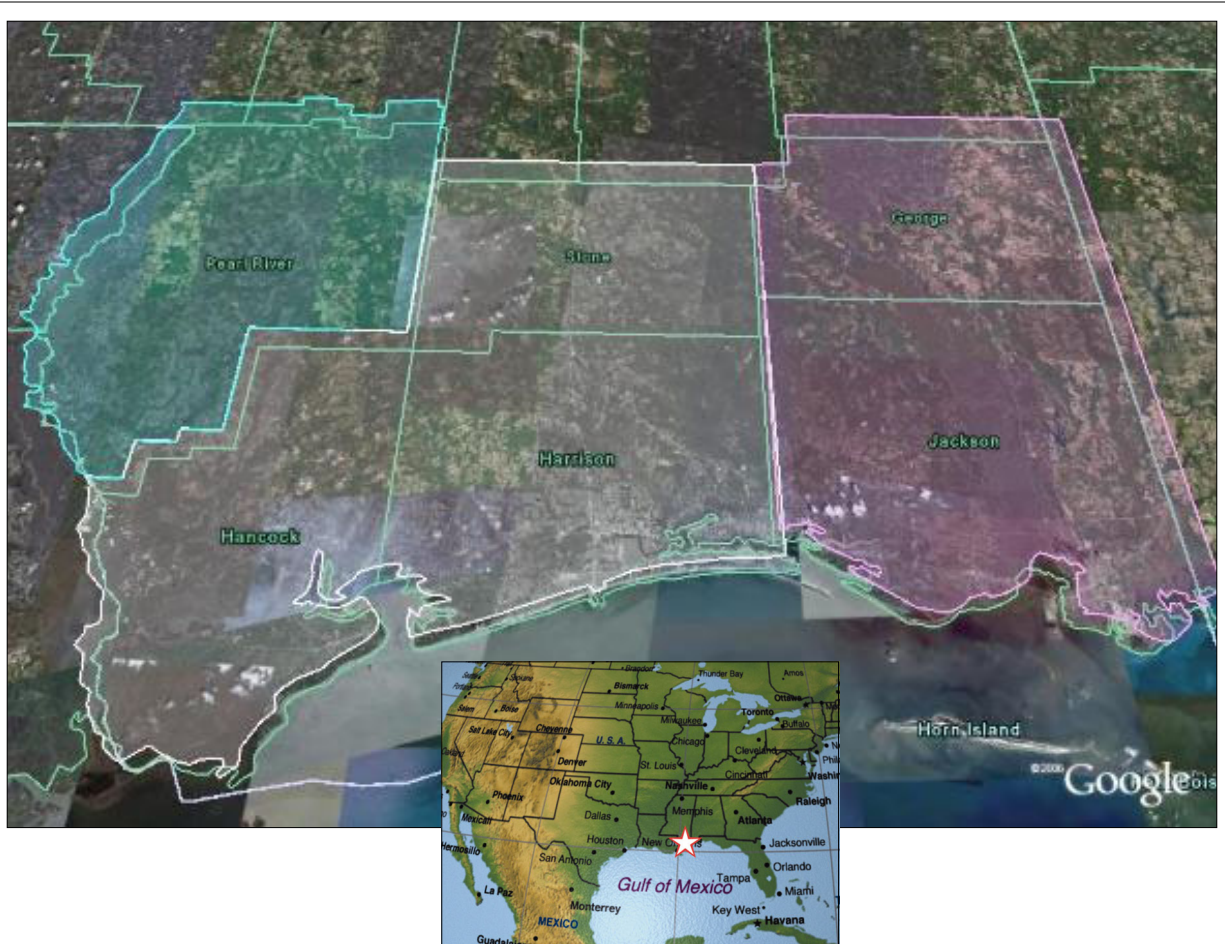


***Mississippi
Gulf Coast
Science &
Technology
Sectors***

2007



The Mississippi Gulf Coast – majestic live oaks, beaches and casinos may come to mind. And it should. We're all that and more – urban and rural, old and new.

What you may not know is that South Mississippi is also building a new economy and has become a hot spot for some of the most vibrant science and technology fields – aerospace, advanced materials, shipbuilding, geospatial technologies, marine science and coastal research and more.

The Mississippi Gulf Coast – where the future comes together.

Mississippi Gulf Coast Aerospace

*propulsion – UAVs
sensors – composites*



Unmanned aerial vehicles ... rocket and jet engines ... advanced materials ... satellites and remote sensing applications. Those are some of the activities that are part of South Mississippi's footprint in the aerospace industry.

Along the state's 76 miles of Interstate 10 three aerospace centers – all in high-growth segments of the industry – have emerged. In the east the focus is on unmanned aerial vehicles; in the center it's cutting-edge work in composites, the material of choice for new aerial systems; and in the west there's propulsion and geospatial activities, including the building of components for satellites.

The Mississippi Gulf Coast is part of two broader aerospace regions. The state of Mississippi hosts some of the biggest names from the industry and is home to Mississippi State University's Raspet Flight Research Laboratory. The six-county Mississippi Gulf Coast also sits in the middle of a diverse aviation corridor that cuts across portions of four states. It's the region where the Navy trains pilots and where the Air Force develops and tests air armaments, and where NASA plans to build portions of the next generation of space vehicles.

www.mscoastaerospace.com

Aerospace RDT&E

Center of Higher Learning and University Research
Enterprise for Innovative Geospatial Solutions
Joint Airborne Lidar Bathymetry Technical Center of Expertise
Engineering and Science Directorate, Science and Technology Division
Engineering and Science Directorate, Propulsion Testing

Major aerospace companies

BAE Systems
Lockheed Martin
Northrop Grumman
Pratt & Whitney
General Dynamics
Rolls-Royce

Aerospace parks

Aerospace Technology Park
General Aviation Office and Light Industrial Park
Mississippi Army Ammunition Plant
Stennis International Airport/Airpark
Stennis Technology Park
Sunplex Light Industrial Park
Trent Lott Aviation Technology Park

Mississippi Gulf Coast Advanced Materials

*composites – chemicals
nanotechnology*



High-performance products – spacecraft, microchips, magnetic disks, lasers and fiber-optics – all require materials with capabilities that go beyond those found in their natural states. That's where materials engineering comes in. Technological advances have been possible thanks to advanced materials.

And South Mississippi is a major player.

One element of South Mississippi that sets it apart in the field of plastics and composites is the presence of the University of Southern Mississippi in Hattiesburg, internationally known for its cutting-edge polymers research.

There are multiple locations spread throughout the nine-county region where plastics and composites-related businesses operate. Hattiesburg, Gulfport, Bay St. Louis, Picayune and Pascagoula all have operations in advanced materials or the broader chemical industry.

Mississippi is in a unique position to take advantage of the growing interest in nanotechnology. Development of nanotechnology requires an extensive, expensive, well-equipped R&D effort. Much of the equipment and expertise is available at state universities, particularly within the School of Polymers and High Performance Materials at Southern Miss.

www.mscoastadvancedmaterials.com

Advanced materials RDT&E

Department of Polymer Science
Industry University Cooperative Research Center in Coatings
Institute of Formulation Science
Materials Research Science and Engineering Center
Mississippi Polymer Institute

Major chemical and plastic companies

BP
Chevron
Dupont
GE
Solvay

Advanced materials parks

Bernard Bayou Industrial District
Innovation and Commercialization Park
Moss Point Industrial and Technology Park
Pearl River County Industrial Park
Picayune Industrial Park
Port Bienville Industrial Park
Port of Pascagoula
Stennis Technology Park
Tradition Town Center Technology Park

Mississippi Gulf Coast Shipbuilding

*warships – oil rigs
tugs – barges*



The numbers are startling and tell the tale of a shrinking industry. In the early 1980s there were more than 200 major shipyards for build and repair in the United States and more than 112,000 workers. Some two decades later the numbers dropped to just over 80 yards, and the work force just over 46,000.

But the Gulf Coast to a large extent has managed to hold its own, and its proportion of the major shipbuilding pie has increased. Within the large Gulf Coast shipbuilding region, most of the major shipbuilding operations are concentrated in a 200-mile area between New Orleans and Mobile. Two of the nation's nine active yards and two of the 13 shipyards with build positions are in South Mississippi.

Shipbuilding activities include building the next generation of military vessels, ships for the offshore industry and fabrication of some of the largest yachts in the world.

And the industry has an eye to the future.

A group of companies and colleges has formed a marine composites consortium that could turn South Mississippi into the nation's leading center for cutting-edge research in the use of advanced materials for the shipbuilding industry.

www.mscoastshipbuilding.com

Shipbuilding RDT&E

Center for Advanced Power Systems
Center for Turbine Innovation and Research
Electric Ship Research and Development Consortium
Fire and Safety Test Detachment
Full Scale Fire Test Facility
Marine Composites Consortium Center of Excellence
National Biodynamics Laboratory
National High Magnetic Field Laboratory
Naval Surface Warfare Center
Simulation Based Design Center
UNO/Gulf Coast Region Maritime Technology Center

Major shipbuilding companies

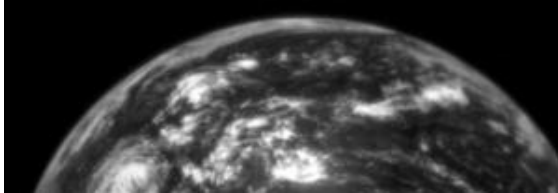
Northrop Grumman
Gulf Ship
Signal International
Trinity Yachts
VT Halter Marine

Shipbuilding yards, yards with build positions

Northrop Grumman Ingalls Operations
Signal International East Yard
VT Halter Marine Pascagoula
VT Halter Moss Point

Mississippi Gulf Coast Geospatial

satellites – applications



Geospatial technologies; geomatics; imaging and sensors industry. The terms used to describe the industry may vary but the facts behind it do not: The industry is growing and will continue to do so.

The geospatial imaging field has become one of the critical technologies, particularly for the nation’s defense industry. The U.S. workforce in the field has grown steadily, going from 7,721 in 2001 to 10,918 in 2005, and indications are that’s going to grow even more.

Mississippi has been a key player for years.

With Stennis Space Center a key resource within the geospatial industry, the state of Mississippi in the 1990s took a series of steps to ensure the growth of the budding industry.

The Mississippi Enterprise for Technology was established at Stennis Space Center to serve as an incubator, and the Mississippi Space Commerce Initiative was launched to oversee growth of the sector. That later morphed into the University of Mississippi’s Enterprise for Innovative Geospatial Solutions program.

Today geospatial remains one of the major bright spots in the Mississippi economy and all indications are it will continue to grow.

www.mscoastgeospatial.com

Geospatial RDT&E

Center of Higher Learning and University Research

Engineering Research Center – GeoResources Institute

Engineering and Science Directorate, Science and Technology Division

Enterprise for Innovative Geospatial Solutions, Stennis

Gulf Coast Geospatial Center

Hydrographic Science Research Center

Institute for Technology Development

Joint Airborne Lidar Bathymetry Technical Center

Mississippi Enterprise for Technology

Mississippi Laboratory, Southeast Fisheries Science Center

Mississippi Laboratory, Pascagoula Facility

National Data Buoy Center

Naval Oceanographic Office

Naval Research Laboratory, Detachment Research Site

Geospatial applications

Disaster preparedness, response

Homeland security

Information about the environment

Law enforcement

Military

News media

Real estate

Recreation

Transportation systems

Weather forecasting

Mississippi Gulf Coast Marine Science

*ecology – hydrography
risk assessment – genetics*



With two-thirds of the Earth’s surface taken up by water, the world’s oceans and coastal regions have a major impact on everything from food supplies to weather. Yet so much of it remains unexplored.

South Mississippi, which has the nation’s largest concentration of oceanographers at Stennis Space Center, is home to a large number of federal and university operations involved in marine, coastal, estuarine and atmospheric research.

The federal research includes operating units of the Environmental Protection Agency, National Oceanic and Atmospheric Administration and the Navy. In fact, the Naval Meteorology and Oceanography Command at Stennis – backed by one of the world’s largest supercomputing centers – provides crucial information to every U.S. fleet operation worldwide.

South Mississippi’s research units also include a large number of organizations involved in marine science research at Stennis, Biloxi and Ocean Springs.

And as the world frets over “global warming,” the importance of these operating units will only increase.

www.mscoastmarinescience.com

Marine science RDT&E
Center for Trace Analysis
Center of Higher Learning and University Research
Coastal Research and Extension Center
Department of Coastal Sciences
Department of Marine Science
EPA, Environmental Chemistry Laboratory
Gulf Coast Geospatial Center
Gulf Coast Research Laboratory
Gulf of Mexico Program Office
Hydrographic Science Research Center
Mississippi-Alabama Sea Grant Consortium
Mississippi Laboratory, Southeast Fisheries Science Center
Mississippi Laboratory, Pascagoula Facility
National Coastal Data Development Center
National Data Buoy Center
National Estuarine Research Reserve System – Grand Bay
Naval Oceanographic Office
Naval Research Laboratory Detachment
Northern Gulf Institute
U.S. Geological Survey, Office of Surface Water, Hydrologic Instrumentation Facility

Technology transfer
MS-Fast Program Office
Mississippi Enterprise for Technology
NASA Technology Transfer Office
Noetic Technologies



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