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# Hurricane Damage to the Ocean

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# Hurricane Damage to the Ocean

## **Abstract**

In 2005, insured losses from hurricanes and other catastrophes were greater than in any other year in U.S. history. NOAA's National Hurricane Center estimates that \$85 billion of total damages resulted from Hurricanes Katrina and Rita alone. One year later, the region affected by these two hurricanes still struggles to recover, both as a place to live and as a viable economy. Using data from the BLS Quarterly Census of Employment and Wages, the National Ocean Economics Program has developed a data series that allows the economic damage to coastal regions to be seen in a new light: what happens to the economic value derived from the ocean when the ocean turns from resource and respite to a massive engine of destruction?

The ocean economy is defined as industries in marine construction, living resources (seafood processing and marketing, plus aquaculture), shipbuilding and boatbuilding, minerals (primarily oil and gas exploration and production), marine transportation and related goods and services, and, finally, tourism and recreation industries whose establishments are located close to the shore of the ocean or the Great Lakes.

In 2004, the ocean economy of the region encompassing Florida, Alabama, Mississippi, Louisiana, and Texas, stretching from Franklin County, Florida, to Brazoria County, Texas, employed 291,830 people in wage and salary jobs paying nearly \$7.7 billion in wages. (See table 1.) The affected States accounted for 13 percent of employment and wages in the U.S. ocean economy.

# Hurricane damage to the ocean economy in the U.S. gulf region in 2005

*Counties and parishes of the gulf coast ocean economy affected by Hurricanes Katrina and Rita saw the greatest insured dollar losses in 1 year from suchlike catastrophes in U.S. history; the region has yet to recover fully a year after the maelstrom*

Charles S. Colgan  
and  
Jefferey Adkins

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According to Federal disaster declarations, Hurricane Katrina affected the entire States of Mississippi and Louisiana, plus 22 counties in Alabama and 9 in Florida. Rita affected all of Louisiana, plus 26 counties in Texas. The greatest effects were in the counties (parishes in Louisiana) closest to the coast, where the storm's effects were at their maximum intensity. Coastal counties and parishes include those designated as such by each State under the Federal Coastal Zone Management Program, as well as those designated as coastal watershed counties or parishes by the U.S. Geological Survey.

Virtually all of the coastal zone and watershed counties<sup>2</sup> or parishes of Alabama, Mississippi, and Louisiana, plus the coastal counties in Texas from Houston eastward, were affected by the two hurricanes. The coastal zone counties or parishes of the four States account for nearly a

quarter of employment and wages in those States. In Louisiana, the coastal parishes are more than half of the State's economy. The combined coastal zone and watershed counties and parishes on the Gulf of Mexico constituted 14 percent of employment in Alabama, 4 percent in Mississippi, 6 percent in Florida, a considerably greater 33 percent in Texas, and fully 80 percent in Louisiana.

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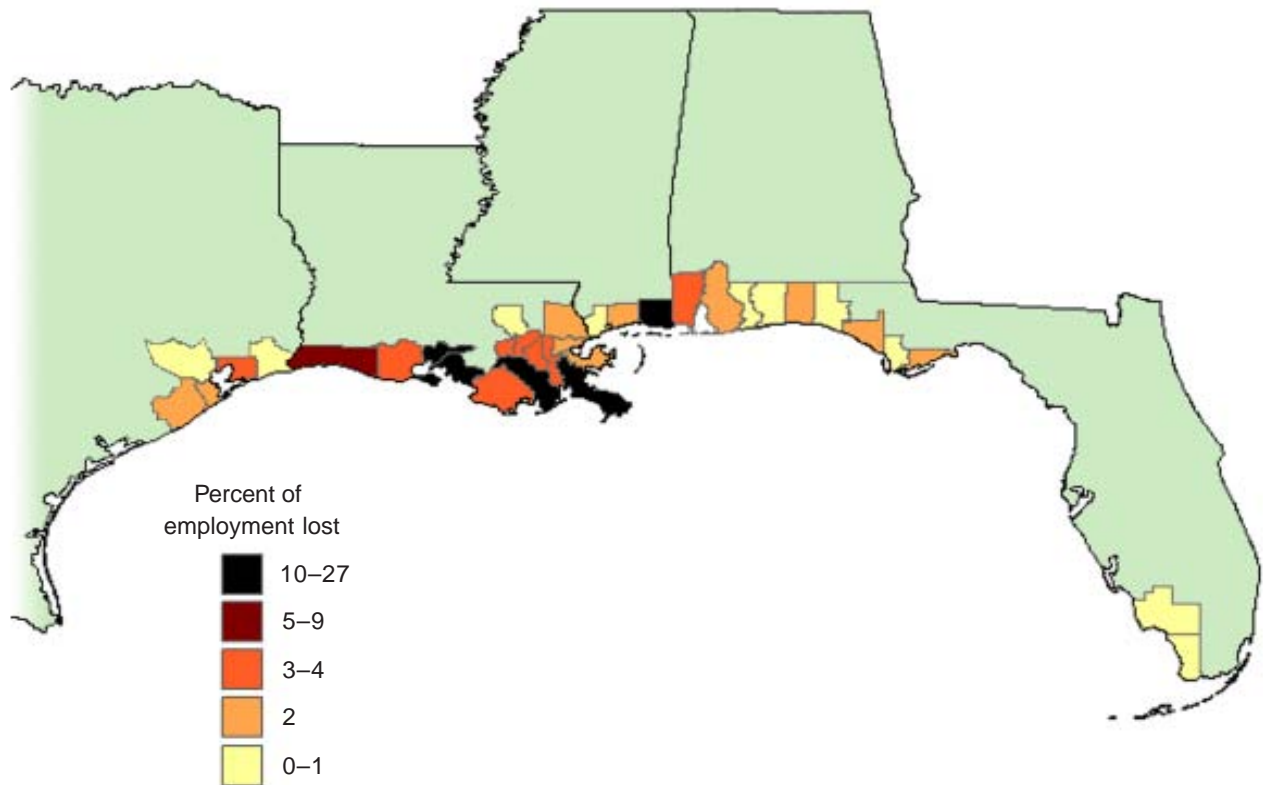
However, these gross figures mask a key fact about the region: it is the industrial heartland of the U.S. ocean economy. As the following tabulation shows, the region accounts for more than a third of U.S. employment in marine construction, more than a fifth of employment in fisheries (living resources), shipbuilding, and boatbuilding, and more than half of employment

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**Table 1. Employment and wages in ocean economy industries in the Gulf of Mexico region, 2004**

Sector and industry	2004		Sector and industry	2004	
	Employment	Wages (millions of dollars)		Employment	Wages (millions of dollars)
Ocean economy, total .....	291,830	\$7,694.8	Eating and drinking places .....	131,985	1,718.6
Construction .....	12,094	548.1	Hotels and lodging places .....	34,870	725.5
Living resources .....	12,552	251.9	Marinas .....	1,447	38.2
Fish hatcheries and aquaculture .....	1,653	37.7	Recreational vehicles in parks and campsites .....	470	8.9
Fishing .....	571	10.8	Scenic water tours .....	1,676	43.0
Seafood markets .....	1,686	32.0	Sporting goods .....	106	2.9
Seafood processing .....	8,642	171.4	Zoos and aquariums .....	1,622	31.1
Minerals .....	15,105	1,077.0	Transportation .....	37,836	1,657.9
Shipbuilding and boatbuilding .....	135,839	1,443.2	Deep-sea freight transportation .....	3,109	226.0
Boatbuilding and repair .....	3,567	125.5	Marine passenger transportation .....	375	20.6
Shipbuilding and repair .....	32,272	1,317.7	Marine transportation services .....	28,485	1,163.8
Tourism and recreation .....	178,404	2,716.7	Search and navigation equipment .....	2,251	107.1
Amusement and recreation services ..	4,150	74.9	Warehousing .....	3,616	140.4
Boat dealers .....	2,078	73.5			

**Chart 1. Loss of employment in the ocean economy industries as a result of Hurricanes Katrina and Rita in 2005**



in the ocean-related component of oil and gas exploration and production:

	<i>Percent of U.S. ocean economy</i>	
	<i>Employment</i>	<i>Wages</i>
Construction .....	38.8	34.8
Living resources .....	20.2	13.7
Offshore oil and gas .....	51.1	49.3
Shipbuilding and boatbuilding ..	22.0	19.1
Tourism and recreation .....	10.6	8.9
Transportation .....	13.3	9.1

The region also accounts for a disproportionate share of marine transportation-related employment.

Chart 1 shows the counties and parishes bordering the Gulf of Mexico that were declared disaster areas as a result of Hurricanes Katrina and Rita in 2005. The shading represents the portion of employment in each county that was accounted for by construction, living resources, minerals, shipbuilding and boatbuilding, and transportation. The heaviest concentration of these industries extends from Jackson County,

Mississippi, to Cameron Parish, Louisiana. In these counties, the portions of the ocean industry other than tourism and recreation range from 3 percent to 27 percent of county employment.

The economic effects of these hurricanes have focused on discussions of the losses in New Orleans, perhaps the largest disaster effects on a major American city since the San Francisco earthquake a century ago. But the economy affected was significant to the nation not only because of the loss of the unique charms of the Crescent City. The affected region was the heart of the industrial sectors of the American ocean economy, and the recovery of these industries will be critical to both the region and the Nation. □

**Note**

<sup>1</sup> For information on the definitions of the ocean economy, visit [www.oceaneconomics.org](http://www.oceaneconomics.org), the Web site of the National Ocean Economics Program.

<sup>2</sup> Coastal zone counties are those within a State's defined coastal zone management program. Watershed counties are defined by the U.S. Geological Survey.

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