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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.

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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 or parishes of 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.

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

<table>
<thead>
<tr>
<th>Sector and industry</th>
<th>Employment</th>
<th>Wages (millions of dollars)</th>
<th>Sector and industry</th>
<th>Employment</th>
<th>Wages (millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ocean economy, total</td>
<td>291,830</td>
<td>$7,694.8</td>
<td>Eating and drinking places</td>
<td>131,985</td>
<td>1,718.6</td>
</tr>
<tr>
<td>Construction</td>
<td>12,094</td>
<td>548.1</td>
<td>Hotels and lodging places</td>
<td>34,870</td>
<td>725.5</td>
</tr>
<tr>
<td>Living resources</td>
<td>12,552</td>
<td>251.9</td>
<td>Marinas</td>
<td>1,447</td>
<td>38.2</td>
</tr>
<tr>
<td>Fish hatcheries and aquaculture</td>
<td>1,653</td>
<td>37.7</td>
<td>Recreational vehicles in parks</td>
<td>470</td>
<td>8.9</td>
</tr>
<tr>
<td>Fishing</td>
<td>571</td>
<td>10.8</td>
<td>and campsites</td>
<td>1,676</td>
<td>43.0</td>
</tr>
<tr>
<td>Seafood markets</td>
<td>1,686</td>
<td>32.0</td>
<td>Scenic water tours</td>
<td>106</td>
<td>2.9</td>
</tr>
<tr>
<td>Seafood processing</td>
<td>6,642</td>
<td>171.4</td>
<td>Sporting goods</td>
<td>1,622</td>
<td>31.1</td>
</tr>
<tr>
<td>Minerals</td>
<td>15,105</td>
<td>1,077.0</td>
<td>Zoos and aquariums</td>
<td>135,839</td>
<td>1,443.2</td>
</tr>
<tr>
<td>Shipbuilding and boatbuilding</td>
<td>3,567</td>
<td>125.5</td>
<td>Transportation</td>
<td>37,836</td>
<td>1,657.9</td>
</tr>
<tr>
<td>Shipbuilding and repair</td>
<td>32,272</td>
<td>1,317.7</td>
<td>Deep-sea freight transportation</td>
<td>28,485</td>
<td>1,163.8</td>
</tr>
<tr>
<td>Tourism and recreation</td>
<td>178,404</td>
<td>2,716.7</td>
<td>Marine passenger transportation</td>
<td>375</td>
<td>20.6</td>
</tr>
<tr>
<td>Amusement and recreation services</td>
<td>4,150</td>
<td>74.9</td>
<td>Marine transportation services</td>
<td>3,109</td>
<td>226.0</td>
</tr>
<tr>
<td>Boat dealers</td>
<td>2,078</td>
<td>73.5</td>
<td>Search and navigation equipment</td>
<td>2,251</td>
<td>107.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Warehousing</td>
<td>3,816</td>
<td>140.4</td>
</tr>
</tbody>
</table>

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

Percent of employment lost
- 10–27
- 5–9
- 3–4
- 2
- 0–1
in the ocean-related component of oil and gas exploration and production:

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

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

1 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.

2 Coastal zone counties are those within a State’s defined coastal zone management program. Watershed counties are defined by the U.S. Geological Survey.