



Flood Risk and Coastal Communities Student Sheet

Lesson 6 > Part 1 > Multiple Lines of Defense

Increased flood risk impacts many aspects of the community. Read the three excerpts from CPRA's Flood Risk Fact Sheets and answer the questions on page 3.

Coastal Flood Risk and Public Health

Coastal Flood Risk to Hospitals

Current Day Risk

Hospitals face increasing risk from coastal storm surge-based flooding over the next 50 years. Under current-day conditions, a 1% annual chance flood event would impact approximately 3% of hospitals in coastal Louisiana (two hospitals).

Future Risk Without Action

However, impacts from the same 1% annual chance flood event occurring 50 years in the future without additional protection or restoration actions could have significantly more severe impacts on hospitals. In fact, 15% of hospitals in coastal Louisiana could be impacted by coastal flooding (11 hospitals).

Coastal Flood Risk to Medicaid Providers and Recipients

Current Day Risk

Medicaid providers and Medicaid recipients also face increasing risk from coastal storm surge-based flooding over the next 50 years. A 1% annual chance flood event

under current-day conditions would impact approximately 1,560 of Louisiana's Medicaid providers (or 1% of Medicaid providers in coastal Louisiana). This would also impact approximately 36,600 individuals covered by Medicaid (or 4% of the total Medicaid population in coastal Louisiana).

Future Risk Without Action

Impacts from the same 1% annual chance flood event occurring 50 years in the future without additional protection or restoration actions could have significantly more severe impacts on Medicaid providers and Medicaid recipients. In fact, nine times more Medicaid providers would face impacts from such a flood event in comparison to today. This means that 13,240 Medicaid providers (or 13% of Medicaid providers in coastal Louisiana) could be impacted by coastal flooding.

Similarly, four times more Medicaid recipients would face impacts from such a flood event in comparison to today. This means that 131,100 Medicaid recipients (or 14% of the Medicaid population in coastal Louisiana) could be impacted by coastal flooding.

Louisiana Department of Health: Coastal Flood Risk and Resilience Fact Sheet



Coastal Flood Risk and Transportation

Current Day Risk

Roadways face increasing risk from coastal storm surge-based flooding over the next 50 years. Under current-day conditions, a 1% annual chance flood event could impact approximately 4,100 miles of road in coastal Louisiana. This flood event would cause approximately \$1.2 billion in repair and replacement costs.

Future Risk Without Action

However, impacts from the same 1% annual chance flood event occurring 50 years in the future without additional protection or restoration actions could have significantly more severe impacts on roadways. In fact, 109%-150% more miles of road would be impacted by such a flood event in comparison to today. This includes 8,600-10,300 miles of roadway that could be impacted by coastal flooding. This would also mean an increase of 106-146% in costs to repair or replace roadways, or approximately \$2.5-3.0 billion.



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Coastal Flood Risk and Transportation

Flooding Across the Coast

Some roadways will be more vulnerable to future coastal flood risk than others. For example, in 50 years without the implementation of master plan projects, Interstate 10 (I-10) may face approximately 50-70 miles of flooded road, which is up to 53% of the I-10 interstate highway located in coastal Louisiana. This also amounts to \$35-47 million in repair or replacement costs. As I-10 is the state’s primary artery running from Texas to Mississippi, the interstate has one of the highest counts of average daily traffic in the region, with 124,000 vehicles passing along the highway in some places. Increased

flood risk could disrupt the routes of many local, regional, and interstate commuters who drive along the highway.

Another major road at risk is Highway 90, which also stretches from the Texas to Mississippi border. Highway 90 may see 100-120 miles of flooded road, which is up to 56% of the Highway 90 roadway located in coastal Louisiana, and would amount to \$51-64 million in repair and replacement costs.

Louisiana Department of Transportation and Development: Coastal Flood Risk and Resilience Fact Sheet



Coastal Flood Risk and Education

Coastal Flood Risk to Schools

Current Day Risk

PreK-12 public schools face increasing risk from coastal storm surge-based flooding over the next 50 years. Under current-day conditions, a 1% annual chance flood event would impact 4% (or 30) of public schools in coastal Louisiana. This includes impacts to approximately 12,700 students and would amount to \$167 million in damage to educational facilities.

Future Risk Without Action

However, impacts from the same 1% annual chance flood event occurring 50 years in the future without additional protection or restoration actions could have significantly more severe impacts on Louisiana public schools. In fact, four to six times more public schools would face impacts from such a flood event in comparison to today. Under future conditions, without the implementation of master plan projects, flooding could impact approximately 17-21% of public schools in coastal Louisiana. This translates into approximately 130-160 schools, 67,000-88,800 students impacted, and a cost of \$897 million-\$1.2 billion in damage.

Coastal Flood Risk to Early Childhood Education Centers

Current Day Risk

In addition to impacts on schools, future coastal flood risk could also have significant impacts on the availability of early childhood education centers in coastal Louisiana. For instance, at current-day, a 1% annual chance flood event would impact approximately 3% (or 20) centers in coastal Louisiana and approximately 1,400 children, resulting in damages of approximately \$4 million.

Future Risk Without Action

However, this same flood event occurring 50 years in the future, without the implementation of the master plan, could affect four to seven times more early childhood education centers in comparison to today. This means that 12-18% of the centers in coastal Louisiana may be impacted (110-160 centers and 6,600-9,600 children), resulting in \$18-\$27 million in damage.

Louisiana Department of Education: Coastal Flood Risk and Resilience Fact Sheet



