

Rebuilding in Post-Katrina New Orleans

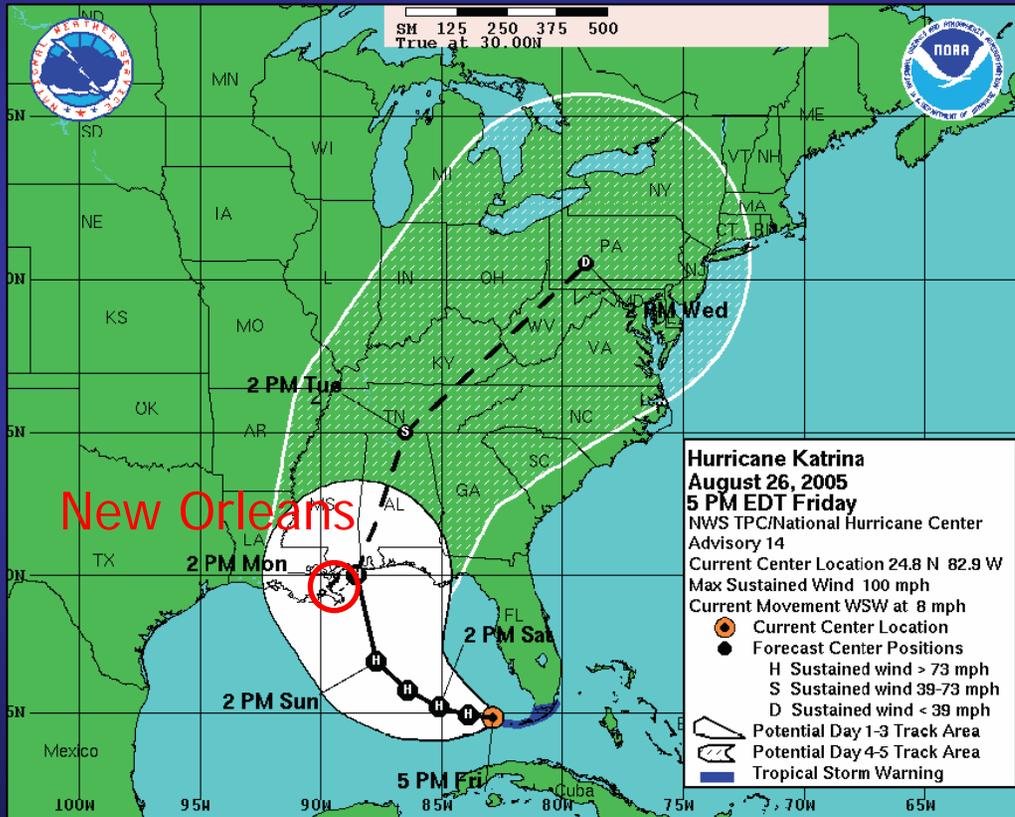


Image from the National Weather Service



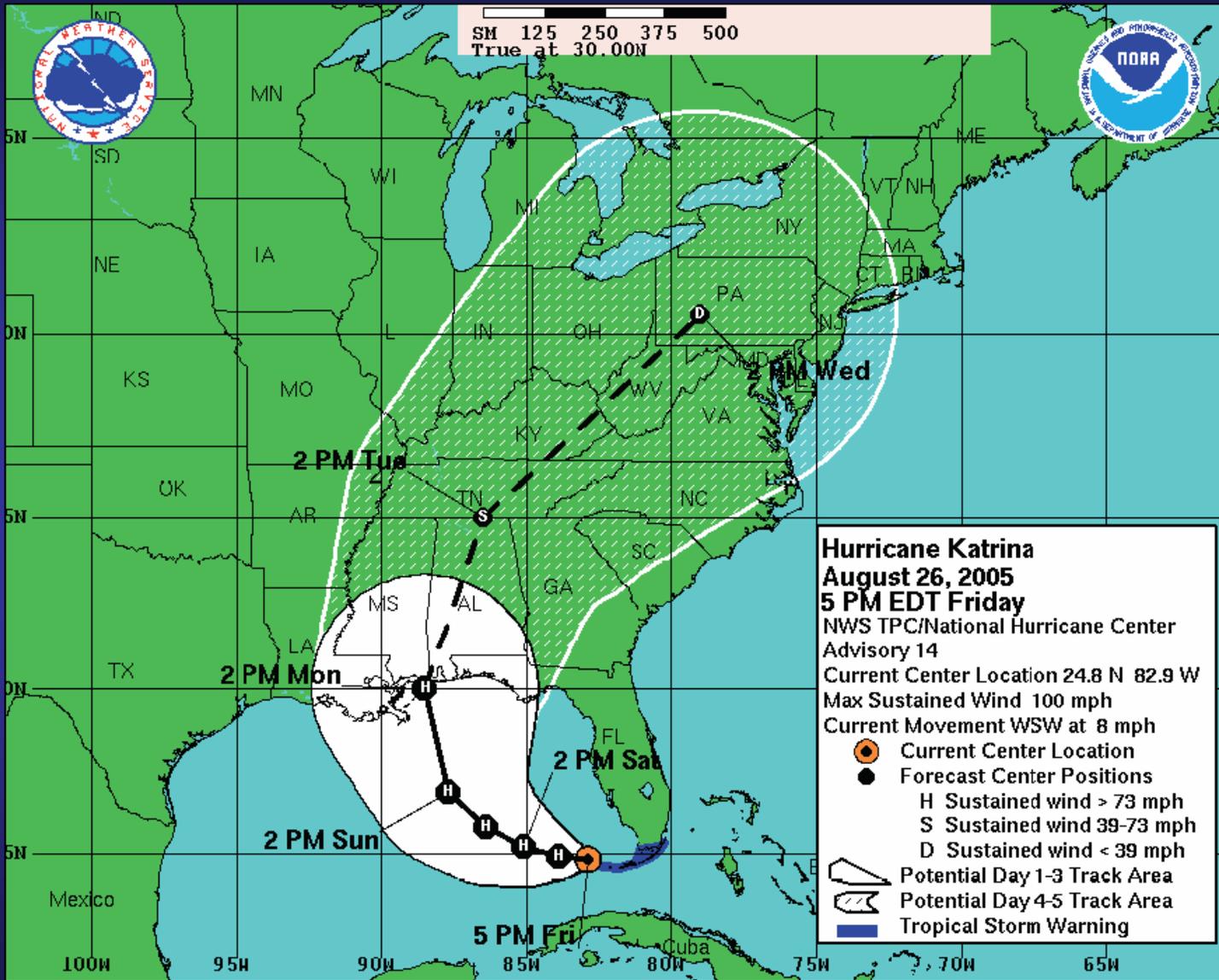
Photo by Steve Moga

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Photo by Steve Moga



Path of Hurricane Katrina

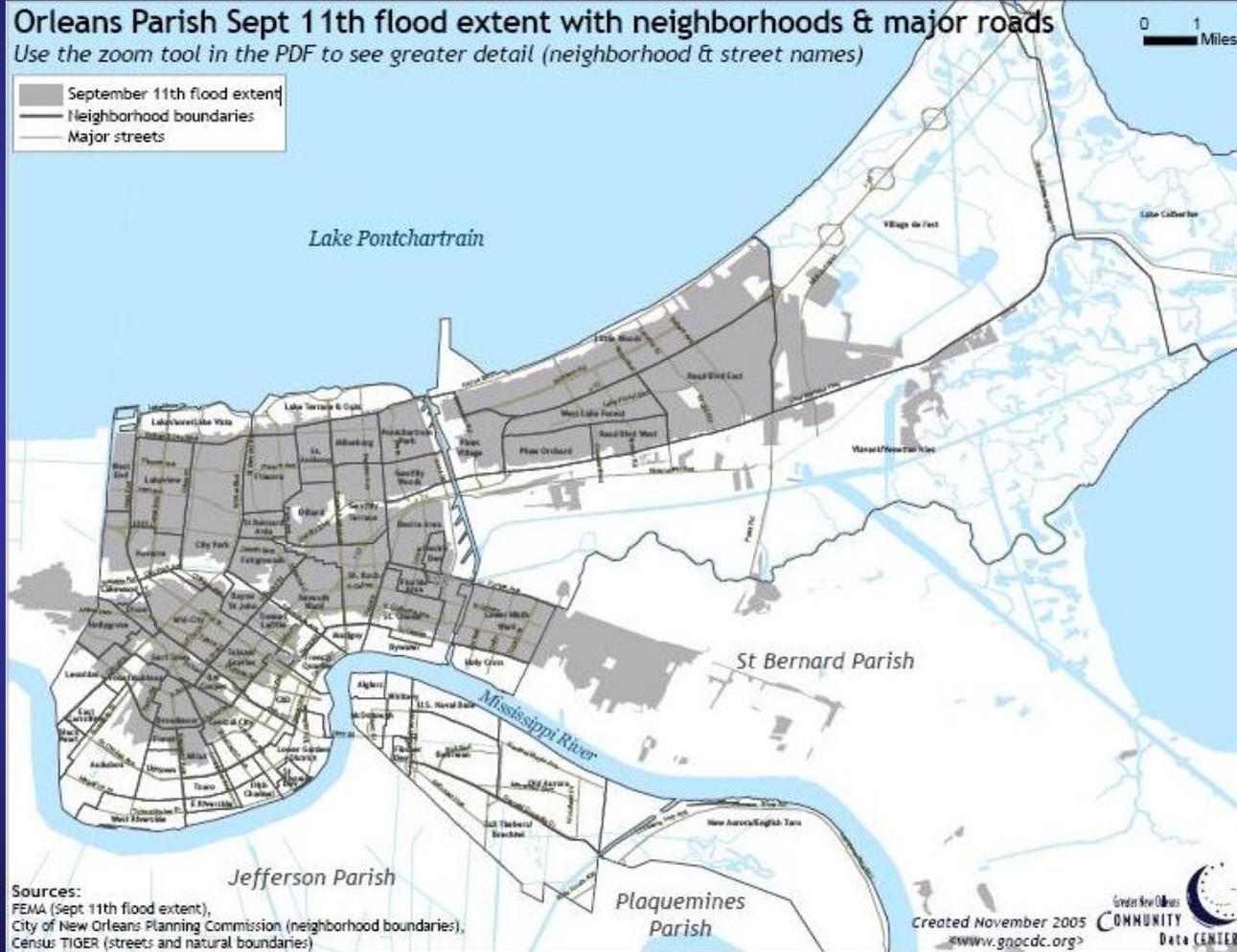
Image from National Weather Service



Path of Hurricane Rita

Image from National Weather Service

Toxic gumbo vs. Tidal wave



The entire Gulf was devastated, but there was a different problem in New Orleans. Most of the city was still flooded 2 weeks after storm had passed. It flooded again when Rita hit.

Courtesy of the Greater New Orleans Community Data Center. Used with permission.

Elevation of the City

Elevation map removed due to copyright restrictions. Source: *Time and Place in New Orleans*, Ray Campanella.



Elevation map reflects flooding, but only tells half the story.

Photo by Steve Moga.

Patterns of Devastation

Newspaper graphic removed due to copyright reasons; map showed floodwater levels and location of levee breaches.

Catastrophic failure of federal infrastructure tells the other half.

Federal infrastructure failed to protect the City

Photographs of flooding removed due to copyright restrictions.

While citizens tried to protect themselves

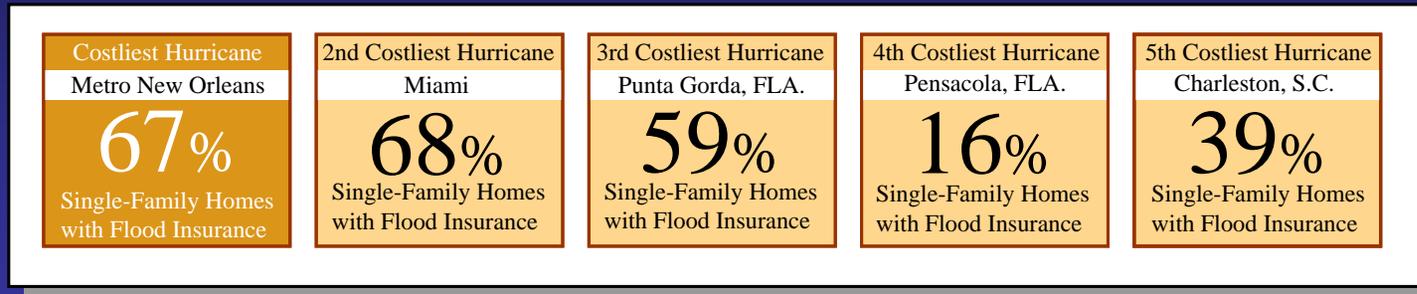


Figure by MIT OCW.

New Orleans homeowners irresponsible about insurance? What about Pensacola and Charleston?

Photograph of evacuation removed due to copyright restrictions.

Is Rebuilding Imperative?

- I. The Functional Economic Argument in Favor
- II. The Economic Argument Against Rebuilding
- III. The Issue of Unequal Risk/Unequal Protection
- IV. Infrastructure for All

Tourism and uniquely American traditions



Photos by Steve Moga.

Port of New Orleans – importance to trade

- World's busiest inland waterway – 6,000 ocean-going vessels per year
- 107,000 jobs, \$2 billion in earnings, \$13 billion in spending and \$231 million in taxes statewide.
- Most inter-modal port in the country - 50 ocean carriers, 16 barge lines, and 75 truck lines serve the Port of New Orleans.
- Leads nation in importing coffee, natural rubber, and steel.
- Over 700,000 passengers leave from Port of New Orleans annually.

Data on port and images to follow from Port of New Orleans website.

FROM NEW ORLEANS, THE WORLD



Figure by MIT OCW.

Port of New Orleans – navigable waterways



Figure by MIT OCW.

Port of New Orleans – railroad service

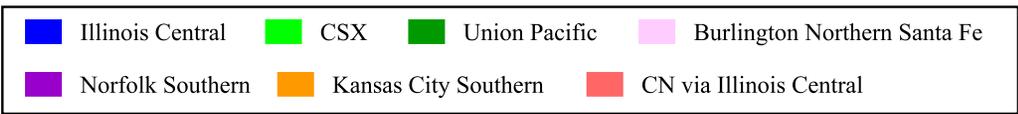


Figure by MIT OCW.

Off-shore oil and natural gas

- 18% of domestic oil production done in Louisiana coastal wetlands.
- 24% of U.S. natural gas production originates in or is processed in Louisiana's coastal wetlands.
- In 1997, oil and gas production was valued at a combined total of \$18.6 billion, with federal royalties totaling \$2.9 billion.
- Louisiana's offshore territory produced 89% of the oil and 83% of the natural gas extracted offshore in US through 1996.
- As of December 1998, Louisiana offshore leases totaled 5,363, with more than 27 million acres under lease, 130 active drilling rigs, 4,489 producing oil wells and 3,813 producing gas wells.

Data from Louisiana Coast website

Louisiana gets a raw deal?

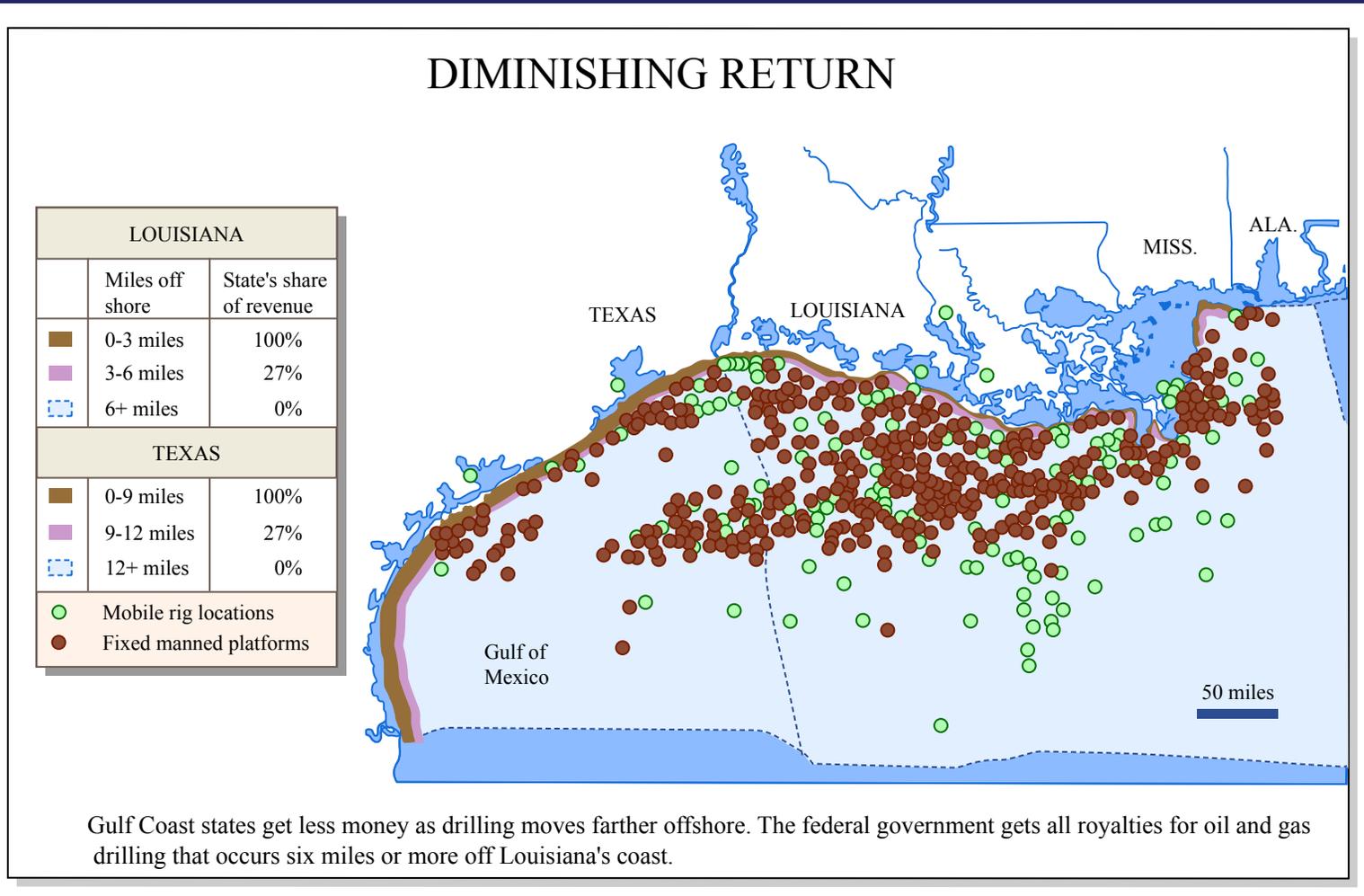


Figure by MIT OCW.

Fishing Industry

- Louisiana's coastal wetlands contribute 28% to the total volume of U.S. fisheries (Louisiana Coast website).
- Profits from industry exceeds \$3 Billion per year (Times-Picayune).
- Hurricane Katrina caused an expected \$1.1 Billion in lost revenue and damage to industry (Times-Picayune).
- Entire fishing industry in Louisiana threatened by coastal land loss – 25 acres per day. Which also threatens storm protections for region.

Coastal Land Loss – Historical and Projected 1952-2050

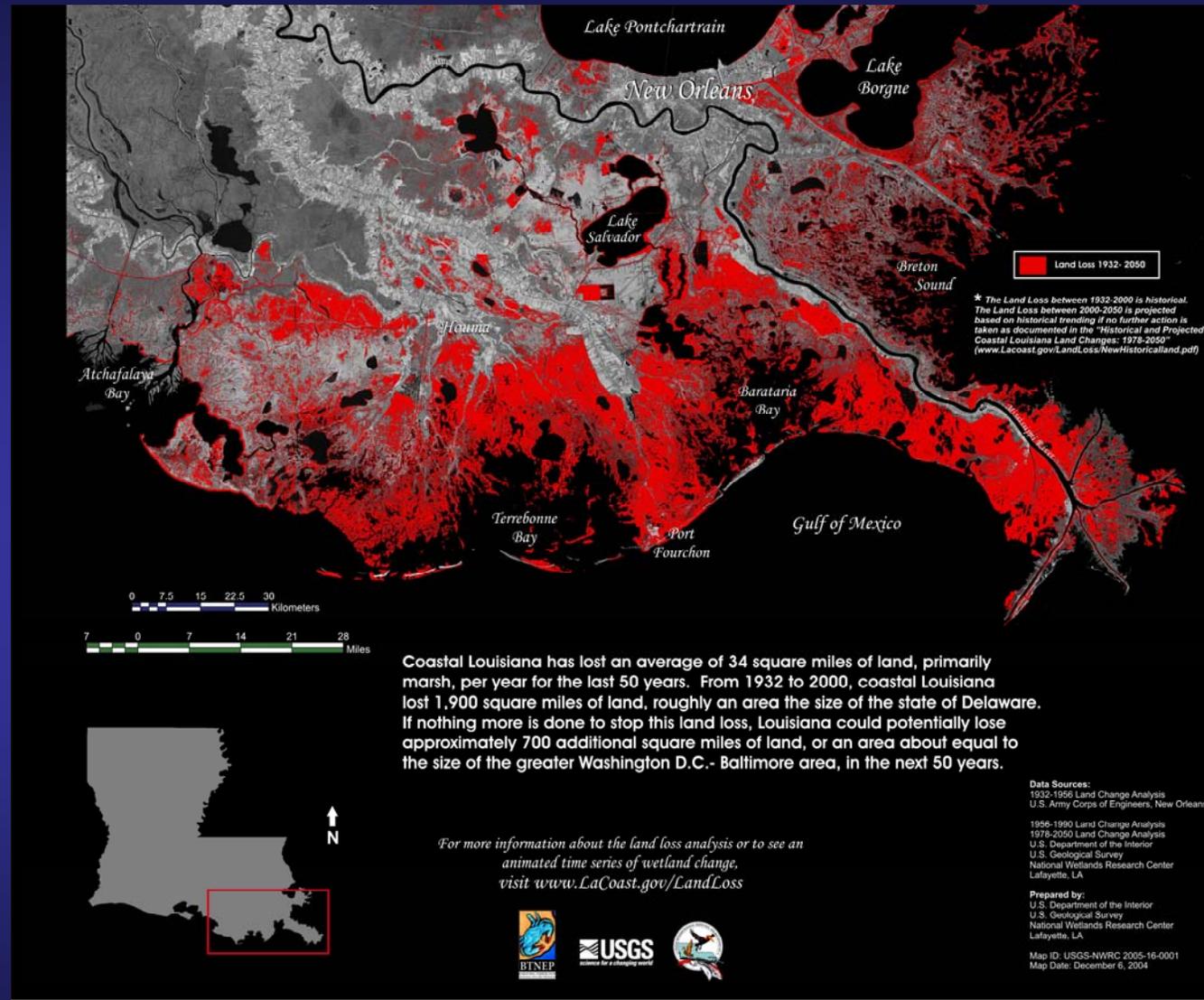


Image from http://www.lacoast.gov/maps/2004SElandloss/2050_25X25_FINAL.jpg

Obstacles to Recovery

- I. Accumulated Inequalities (history)
 - * Skill level of the workforce;
- II. Structural Fragmentation and Political Division
- III. Attitudes and Conflicting Visions of Recovery

Size of Problem

- I. 105,000 housing units have major or severe damage (188,000 total).
- II. Over 50% of businesses have not reopened. Licenses in surrounding parishes have increased.
- III. Over 380,000 people displaced from Orleans parish. At least 225,000 are still gone

PRE-KATRINA



POST-KATRINA

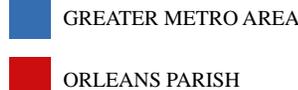


Figure by MIT OCW.

Data from GCR and Associates.

OCCUPIED HOUSING UNITS SUSTAINING DAMAGE

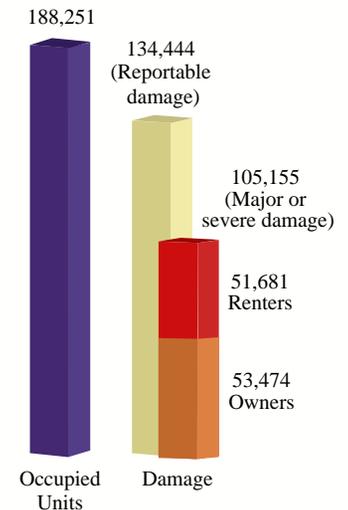


Figure by MIT OCW.

City Infrastructure

- I. Human capacity
- II. School system
- III. Public Housing
- IV. Rising violence
- V. Lack of services

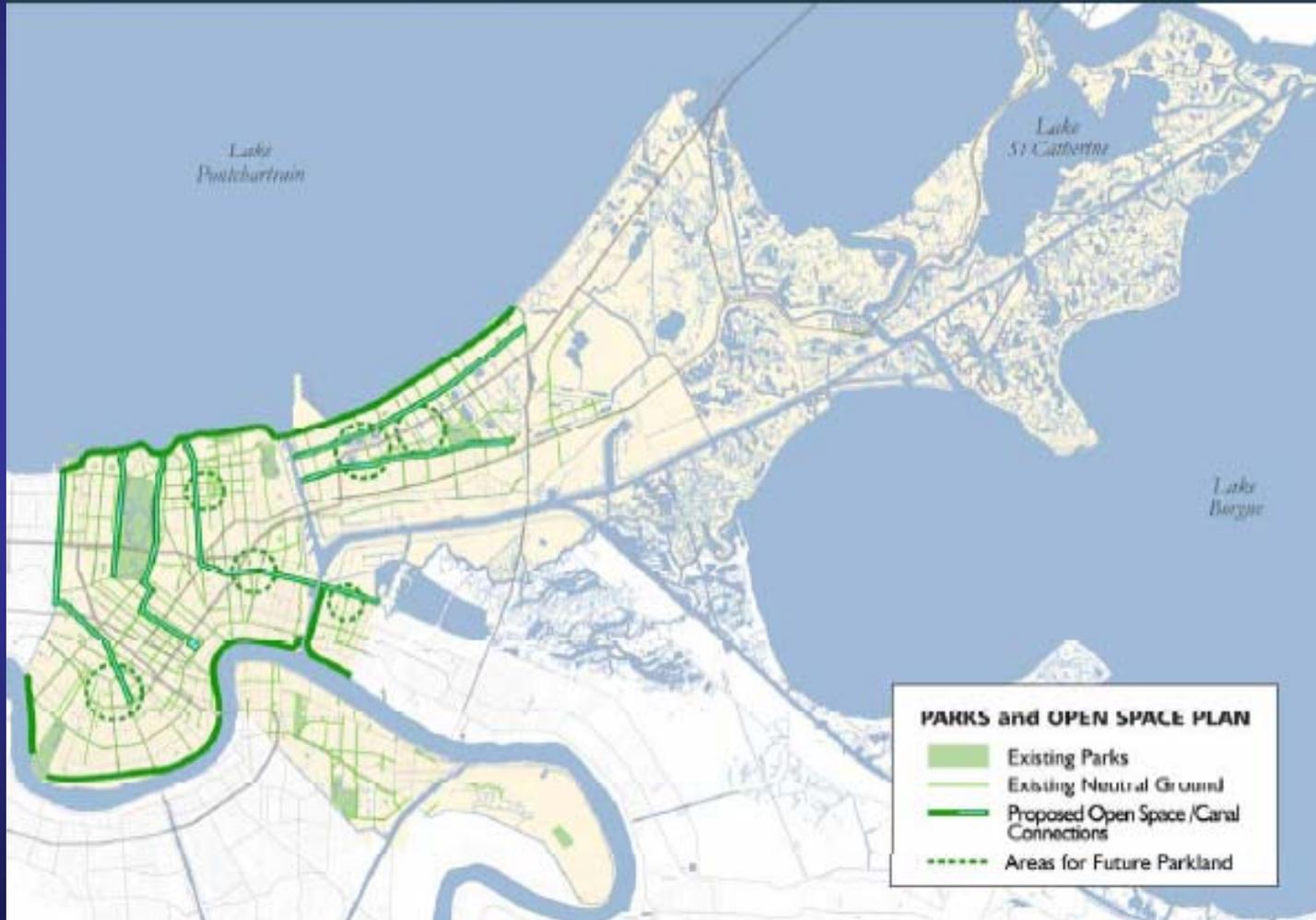
Skill-level of workforce

- I. Median worker reads at 4th grade level
- II. Best-educated male workers are often re-entering prisoners
- III. Tulane closed only Civil Engineering program in city post-Katrina.
- IV. U of New Orleans subsumed only Planning program in city into Humanities Program post-Katrina



Photo by Steve Moga

Shrunken footprint?



Bring New Orleans Back Commission marked many neighborhoods as "areas for future parkland". Fear in those neighborhoods that this is a way to take their land.

Image from BNOB Final Report.

Shrunken footprint?

Director of Louisiana Hurricane Center, Ivor van Heerden says shrunken footprint is not needed. Proper investment in levees and coastal wetlands is.

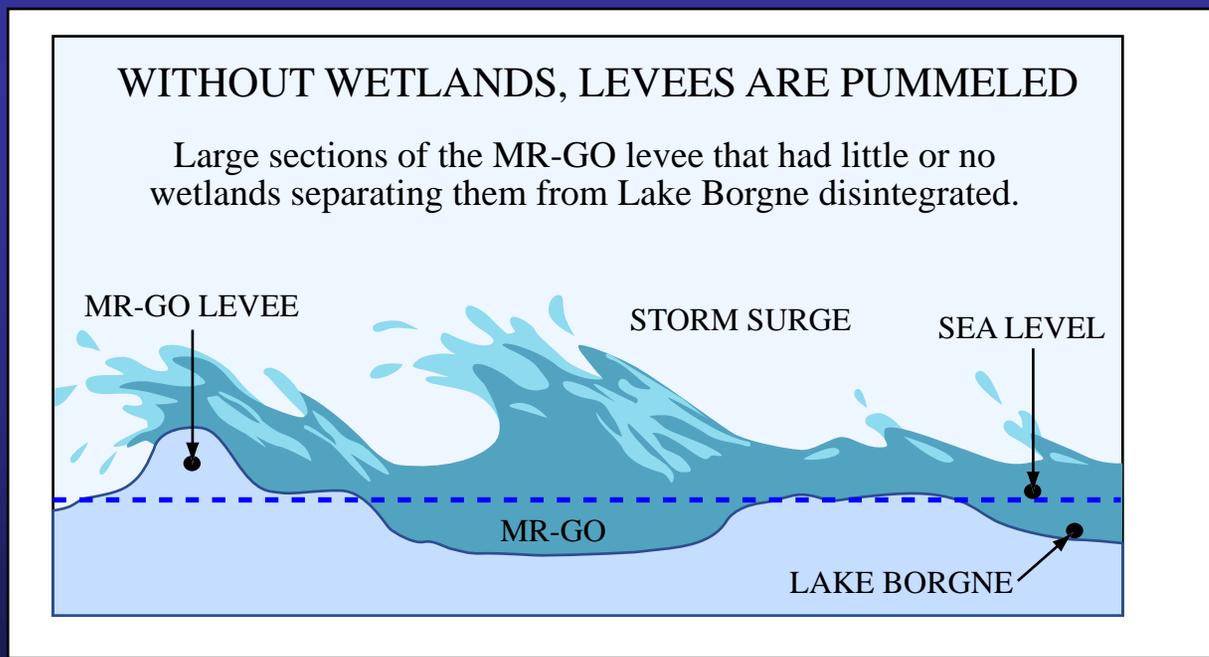


Figure by MIT OCW.

Real Estate Challenges

- I. Loss of building stock
- II. Highly volatile micro-markets
- III. Variation in construction costs
- IV. Assembly problem

Loss of building stock

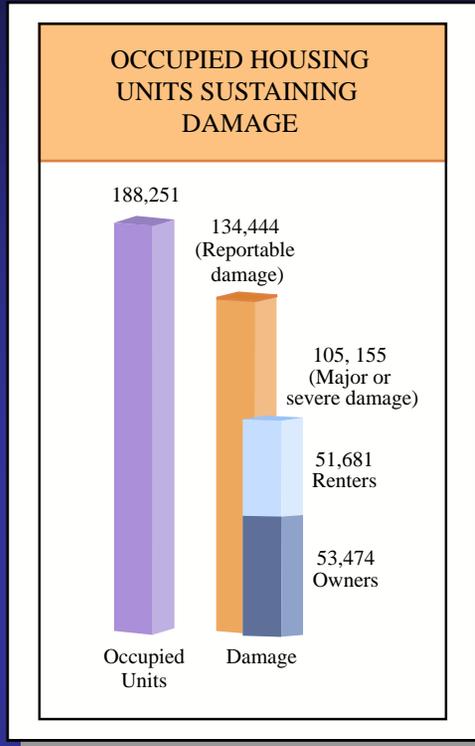


Figure by MIT OCW.



Courtesy of Steve Moga. Used with permission.

Variable construction costs

- 105,000 severely damaged housing units (GCR) and over 5,000 flooded business establishments (GCR and US Census Bureau)
- 29,000 building permits issued in Orleans Parish since storm (GCR)
- 887 building permits issued in Orleans Parish in 2004 (US Census Bureau)
- Hardest part of real estate work has been accurately estimating construction costs when industry has work for 10-15 years and trained crews are hard to find.

Assembly problem

- I. Rebuilding not an individual decision – viability of a single house determined by viability of all the houses around it.
- II. Private Assembly difficult if not impossible.
- III. Public Assembly not politically feasible.
- IV. Is there a middle way – Paul Stewart's (MSRED 2006) suggestion of a commitment partnership that is a neighborhood-level mechanism for property swapping and assembly of damaged homes.

How MIT SOAP is helping

- I. Direct development – Project Home Again, consulting work
- II. Design – MIT @ Nola Studio, LIFT House
- III. Economic Development – Classes and Pilot program
- IV. Workforce development – Program for City
- V. Data/Technology – GCR/MIT partnership
- VI. Manufactured Housing – Supporting siting of plant in Parish
- VII. Seeding local capacity

Direct Development

Photograph of house removed due to copyright restrictions.

Project Home Again funded first house designed and constructed by Tulane Architecture students through Tulane UrbanBuild program

Preliminary Typical Street Elevation



Design for Sacred Heart Church



Images generated by MIT @ NOLA studio led by Professor John Fernandez

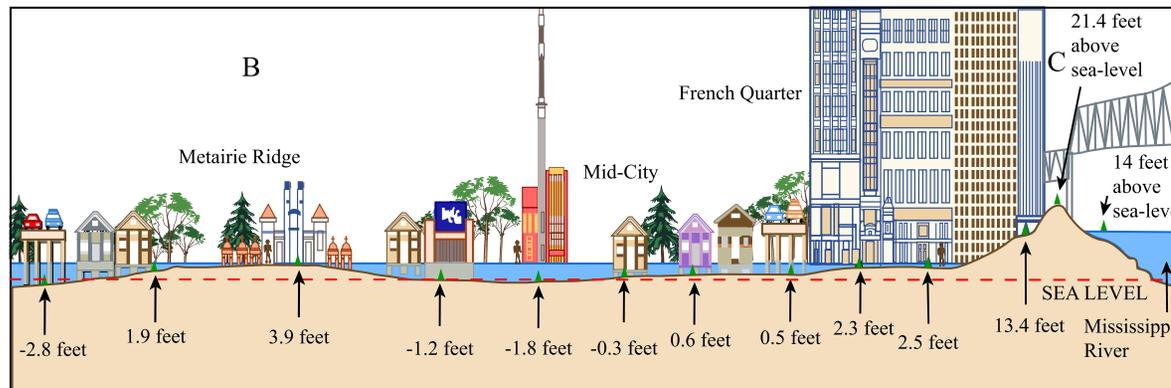
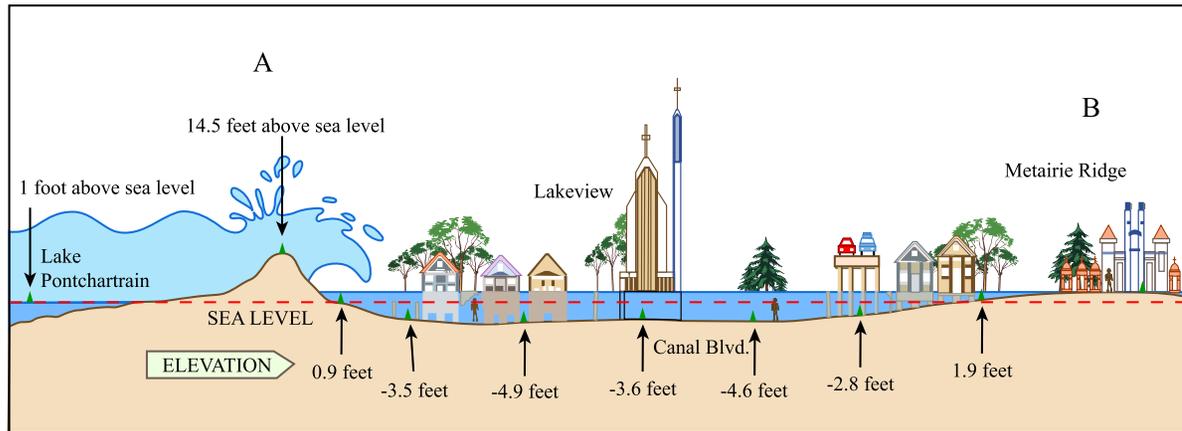
Workforce Development

- I. Urban Metabolism – CDM, NEI, MIT partnership to look at triple-bottom line workforce strategies.
- II. Disparities Study
- III. Linking to Labor Union Projects
- IV. Small business development and corridor revitalization
- V. Job ladders in recycling, coastal restoration, and high-performance building technologies

Seeding local capacity

- Unitarian Universalist Service Committee Work building organizing capacity.
- 4 Public Service Center Fellowships (with Real Gains matching funds) working at 2 local community development corporations.
- Proposed Real Gains fellows program to place early mid-career community and real estate development professionals (5+ years experience) in the Gulf with community-based groups.

Thank you



Graphic is cut in the middle because it is too long, see Metairie Ridge (b) in both images.

Figure by MIT OCW.