GALVESTON:
A HISTORY OF INCREDIBLY
VIOLENT STORMS,
SAVVY RESPONSES,
AND UNINTENDED
CONSEQUENCES

MATTHEW PELZ

GALVESTON HISTORICAL FOUNDATION
Galveston

48,000 people
Founded 1839
Tourism, Port, Health Services
5 NR Districts

1871 ** 15 properties ** Over 70 covenants

Photos from Galveston Historical Foundation
Preservation Resource Center
Figure from Hal Needham, “A Data-Driven Storm Surge Analysis for the U.S. Gulf Coast,” 2015.
Figure from John Anderson, “Accelerated Sea Level Rise and the Future of the Texas Coast,” 2014.

Figure from City of Galveston Planning Department

Photo from Galveston Daily News, September 2, 2015
What can we learn from historical resilience strategies?

**TIMELINE**

1838-1900 – Growth of the City
1900 – Catastrophe
1900-1915 – Response
1915-2008 – Impacts
2008 – New challenge

Photograph from mysoutex.com
1860: 7000 people

1880: 22000 (most populous city in Texas)
EARLY CLIMATE RESPONSES

Photos from Galveston Historical Foundation
Preservation Resource Center
“WALL STREET OF THE SOUTHWEST”
Figure from Jodi-Wright Gidley, “Galveston Seawall and Grade-Raising,” 2015.
RESPONSE TO EXISTENTIAL THREAT

Figure from Jodi-Wright Gidley, “Galveston Seawall and Grade-Raising,” 2015.
SEAWALL

• 3.3 miles long (later extended to 10)
• 17 ft. tall
• 16 ft. thick at base

Photo Galveston Historical Foundation Preservation Resource Center

Figure from Jodi-Wright Gidley, “Galveston Seawall and Grade-Raising,” 2015.

Figure from Jodi-Wright Gidley, “Galveston Seawall and Grade-Raising,” 2015.
2100 buildings raised

Figure from Jodi-Wright Gidley, “Galveston Seawall and Grade-Raising,” 2015.

Photo from Galveston Historical Foundation Preservation Resource Center

Figure from Jodi-Wright Gidley, “Galveston Seawall and Grade-Raising,” 2015.
LOCALLY FUNDED, INDIVIDUAL RESPONSIBILITY

Figure from Jodi-Wright Gidley, "Galveston Seawall and Grade-Raising," 2015.
SITUATION AFTER PROJECTS

- Seawall in place
- Economy growing again
- North side left unraised
- Some buildings raised, some partially buried
- Tested against 1915 Hurricane

Photos from Galveston Historical Foundation  Preservation Resource Center
1. THE ISLAND HAS CHANGED SHAPE.

2. People built in the wrong places.
3. People built in the wrong styles.
4. AREAS REMAINED VULNERABLE TO FLOODING.

Photo from Galveston Daily News, September 2, 2015

Photos from Galveston Historical Foundation Preservation Resource Center
5. RISING DAMP AFFECTED PARTIALLY BURIED MASONRY BUILDINGS.

Photos from Galveston Historical Foundation Preservation Resource Center
PEOPLE PAID LESS ATTENTION TO THE ENVIRONMENT.
VULNERABILITIES EXPOSED BY HURRICANE IKE

Figure from Kristopher Benson, “Implications of Gulf Coast Dynamics for Coastline Building Strategies,” 2014.
IKE’S EFFECTS ON NORTH SIDE

- East End NHL – 841 historic properties in flood plain
- Strand NHL – Major cast iron issues
- Carver Park – displacement and underrepresentation of neighborhood population

Photo from Galveston Historical Foundation Preservation Resource Center

Photo from Galveston Historical Foundation Preservation Resource Center
A SIMPLE APPROACH: DON’T DESTROY USABLE BUILDINGS

• **Is this building historic?**  
  • *It doesn’t matter, don’t let it go to waste*

• **What’s an appropriate flood mitigation treatment?**  
  • *Anything that doesn’t destroy it.*

Photos from Galveston Historical Foundation Preservation Resource Center
Topics in Coastal Preservation

2012 Cast Iron Symposium

2013 Rising Damp Symposium

Download the Overview

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Click the subjects below for previous presentations

+ Historic Building Materials Conservation

+ Adaptation and Mitigation for Historic Buildings

  o Roderick Scott – 2015 – Flood Hazard Mitigation Historic Resources (Flood Insurance Reform, Building Elevation, Louisiana)
  o Tanvi Mutreja and Christopher Balli – 2015 – In Between Possibilities (Building Relocation, Infill)
  o Claudette Reichel – 2014 – Building for the Gulf Coast (Hurricane Katrina, Building Codes, Resilience)
  o Sarah Marie Jackson – 2014 – Disaster Preparedness for Historic Buildings (Hurricane Preparedness, Hurricane Katrina)
  o Patrick Sparks – 2014 – Engineering for the Gulf Coast (Resilience, Engineering)
  o Amanda Tullos – 2014 – Living Building Challenge at the Monarch Studio School (Sustainability, Living Building Challenge, Houston)

+ Adaptation and Mitigation for Historic Cities

+ Coastal Resilience Strategies

+ Community Resilience

www.galvestonhistory.org/preservation/
center-for-coastal-heritage/topics-in-coastal-preservation