

# NATIONAL FLOOD INSURANCE PROGRAM OVERVIEW

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**This slide deck is for informational purposes and are not intended to convey legal advice.**



# Credentials

- Professionally involved in the NFIP since 1975. Currently VP for Dewberry's Water Resources Consulting Services
- 29 years with FEMA; Deputy Assistant Administrator for FEMA's NFIP and Mitigation Programs (2004-2009)
- Led the \$1 billion initiative to modernize the Nation's flood maps

❖ Dewberry: mid-size full service A&E with strong expertise in hazard identification, risk assessment, GIS technology and post flood surveys and analysis

❖ Offices located throughout the United States

❖ Dewberry has had contracts to do flood mapping since 1974

# Objectives

- *Understand Historical and Political context of U.S. flood control policies and practices*
- *Understand interrelationship between flood hazard mapping, floodplain management and insurance*
- *Understand the evolution of the NFIP and the reasons for the changes*
- *Impacts of Hurricanes Katrina and Sandy On NFIP*

# Historic Flood Control in the US

- 1726 - first levees on the Mississippi River were built
- Swamp Land Act of 1849 and 1850
- 1858 – over 1,000 miles of levees, some 38 feet high



# Earlier Flood Control Acts

- Flood Control Acts of 1917, 1923, and 1928
- From 1930 through 1960, several additional Flood Control Laws were enacted
- All of these focused on structural measures to control flooding



# Hurricane Betsy - 1965

Betsy



Katrina



- Large (40 mi eye) Category 4 Hurricane at landfall
- Levees along Industrial Canal failed
- Cost \$1.4B/\$10B
- Homes flooded – 164,000
- Lower Ninth Ward Betsy



## Post-Betsy Observations

- Despite flood control efforts, costs to taxpayers for flood disaster relief continued to escalate
- Flood insurance coverage was not available
- Nation's flood risk areas unknown
- No national standards for floodplain management

# National Flood Insurance Act of 1968

- Established National Flood Insurance Program (NFIP)
- Required mapping of flood prone areas
- Made flood insurance available in communities that meet floodplain management criteria





# NFIP Goals

- Decrease loss of life and property
- Increase importance of hazard mitigation
- Restore and protect natural resources and functions of floodplains
- Decrease taxpayer-funded disaster costs
- Transfer cost to flood-prone occupants
- Increase sustainability/livability

# How the NFIP Works

- A voluntary program based on a mutual agreement between the Federal government and the local community:
- In exchange for adopting and enforcing sound floodplain management regulations, flood insurance is made available.



- **Three components: mapping, insurance, regulations**



# NFIP Roles and Responsibilities

## Federal

- Establish floodplain development standards
- Underwrite and provide flood insurance
- Map flood risk

## State

- Establish development and building standards
- Technical Assistance
- Evaluate and document local activities

## Local

- Adopt effective map
- Adopt and enforce floodplain management regulations
- Provide data to assist with mapping risk

# Floodplain Mapping

- FEMA produces Flood Insurance Studies and Flood Insurance Rate Maps (FIRMs), and Digital FIRMs
  - 100-year flood established as base flood
  - Engineering analyses of hydrology/hydraulics and wave action (in coastal areas) produces Base Flood Elevations (BFEs)
  - Flood maps are prepared using topographic mapping (LiDAR preferred)
  - Communities may appeal changes to effective mapping; maps can be updated when needed
  - Maps are used to rate flood insurance and regulate development



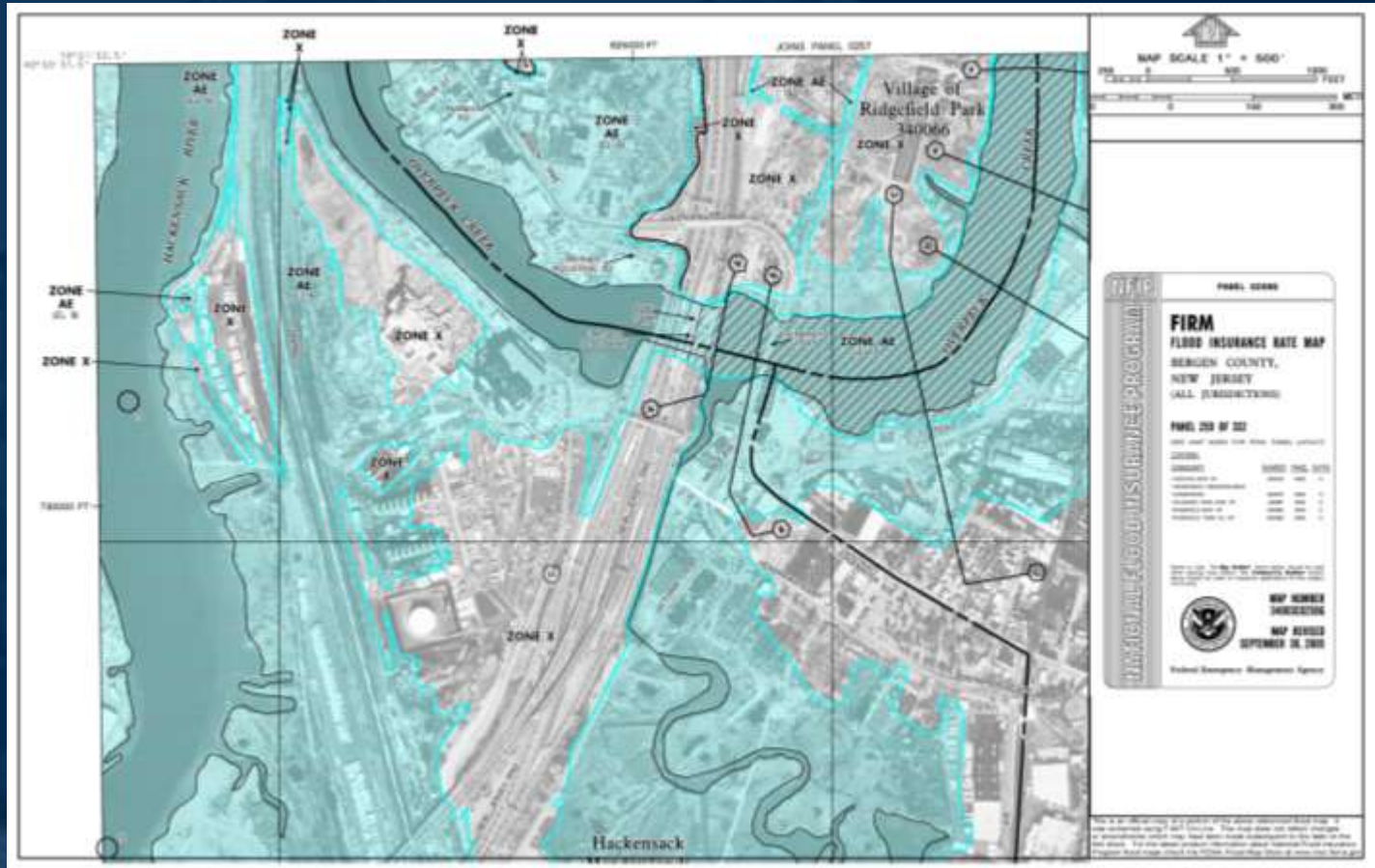
# Flood Insurance Risk Zones

- Special Flood Hazard Area (100-year; Zones As and Vs)
  - Zone A
  - Zone AE
  - Zone A0/AH
  - Zone A99/AR
  - Zone VE/V (Coastal High Hazard Area)
- Other Zones (Moderate to Minimal Risk)
  - Zone X Shaded (500-year)
  - Zone X Unshaded
  - Zone D (possible but undetermined flood hazard)

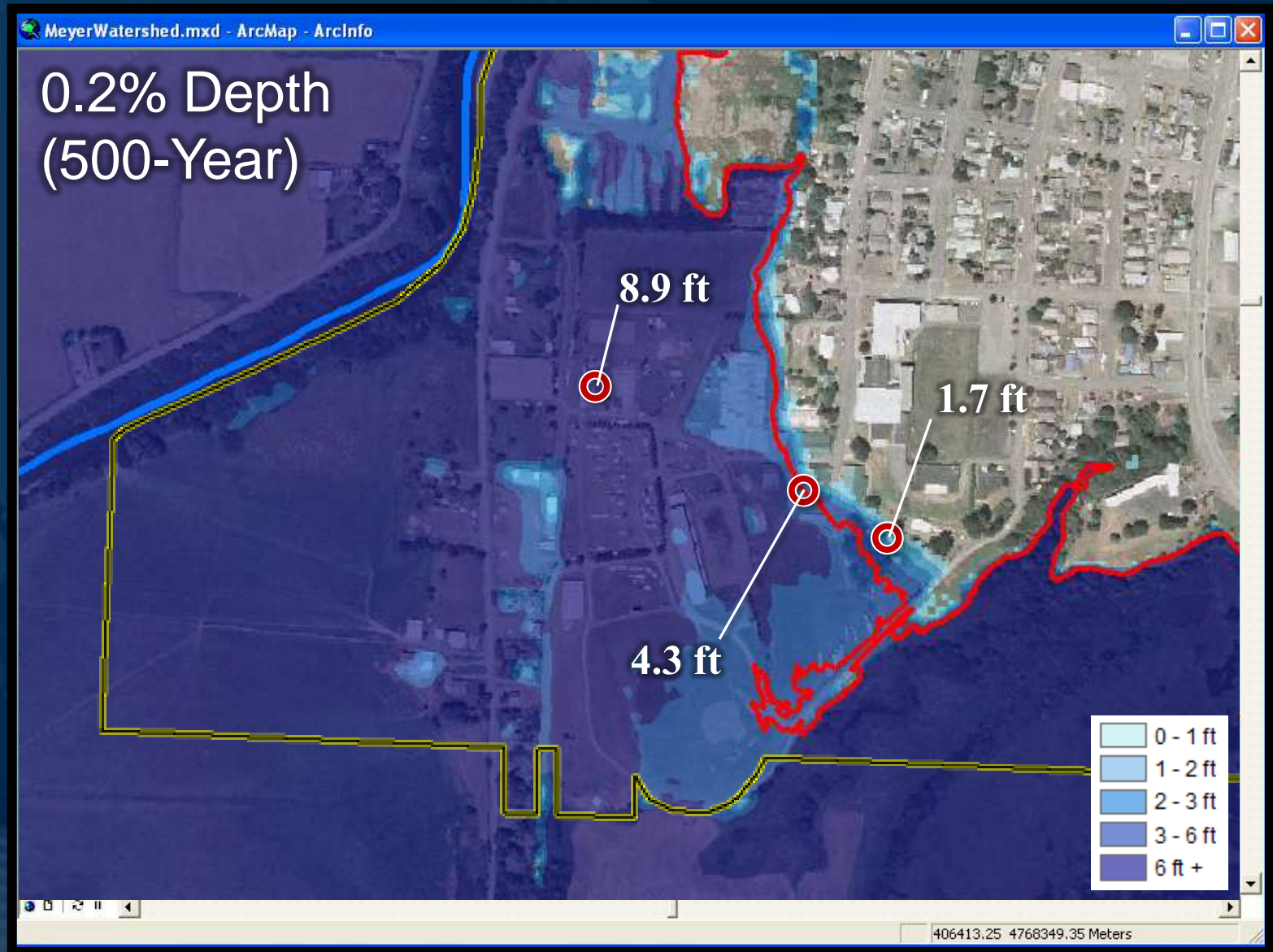


# Flood Insurance Rate Map (FIRM)

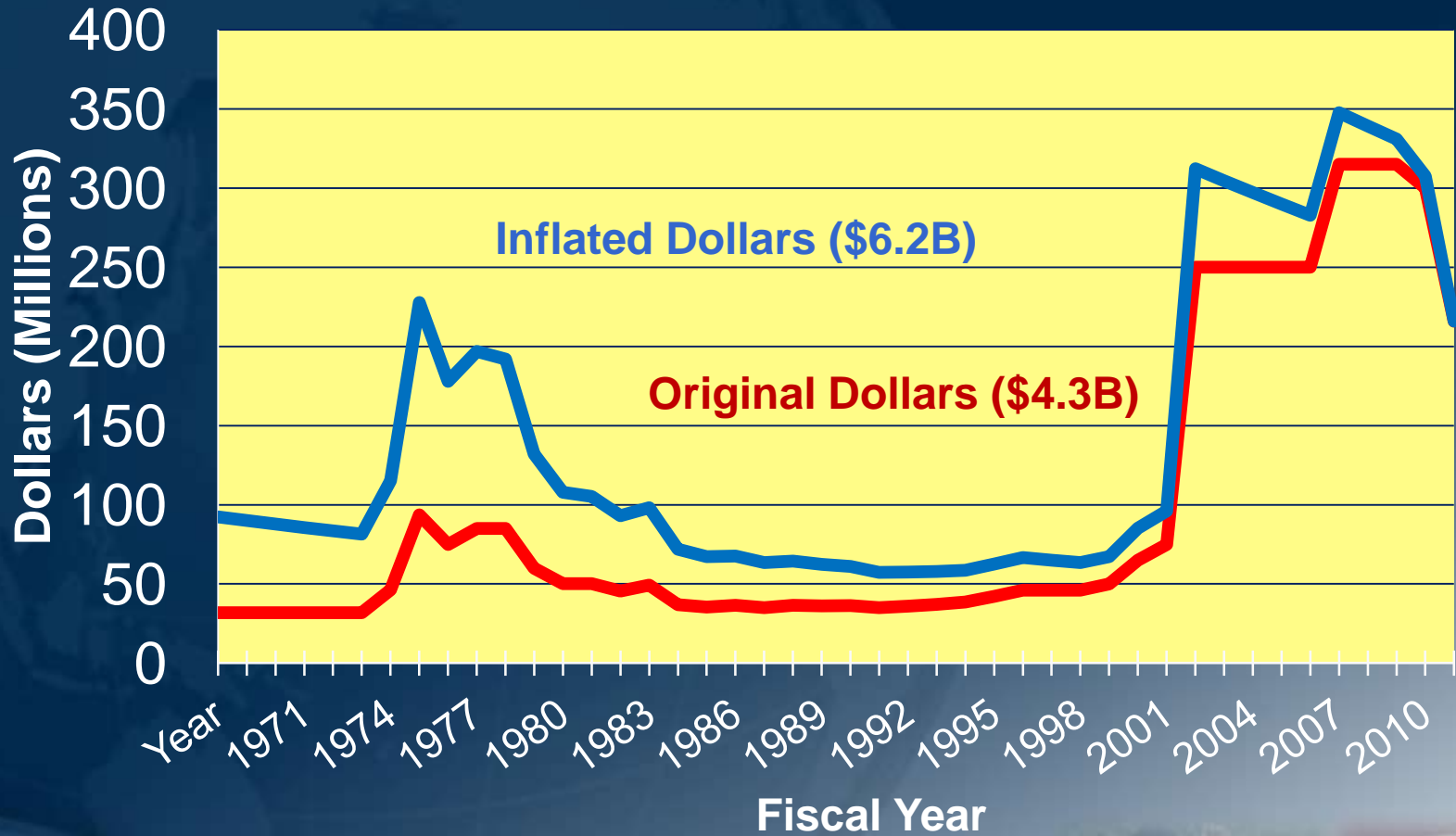
The official map of a community on which FEMA has delineated both the special flood hazard areas and the risk premium zones applicable to the community.



# Additional Map Products



# Flood Mapping Funding History





# NFIP Floodplain Regulations

- New structures
  - Lowest floor of residential structures must be elevated at or above the base flood elevation, plus any local/state freeboard
  - Commercial structures may be dry-floodproofed in lieu of elevation
- Enclosures must have proper openings
- Coastal considerations
  - Lowest horizontal structural member of structures must be elevated at or above the base flood elevation, plus any local/state freeboard; structures must be elevated on posts, piers, or pilings
  - No fill or enclosures larger than 300 sq ft



- Available for structures in any flood zone within participating NFIP communities

**One-Step Flood Risk Profile**

## HOW CAN I GET COVERED?

- Rate your risk
- Estimate your premiums
- Find an agent

Address:

City:

State:

Zip code:

Residential?  Yes  No

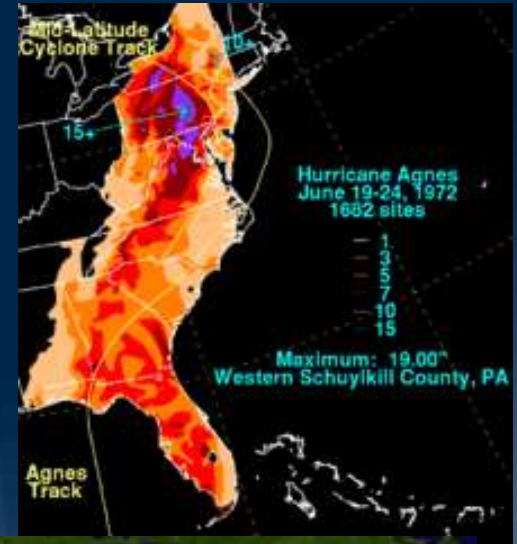
**GO!**

# Definition of Flood

- (1) “A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is your property) from
  - a) overflow of inland or tidal waters;
  - b) unusual and rapid accumulation or runoff of surface waters from any source; or
  - c) mudflow\*.
- (2) collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined in A.1.a. above.

# Flood Disaster Protection Act of 1973

- Followed Hurricane /TS Agnes (1972)
- Represented significant expansion of provisions and national impact of NFIP
- Incorporated mandatory purchase requirement
- Required participation in NFIP as condition for most types of Federal financial assistance



# Federal Flood Insurance Requirement



## Applies to:

- Any structure,
- Mapped within a Special Flood Hazard Area (Zone As and Vs)
- Offered as collateral for a federally backed or regulated loan
- **Lenders may require the purchase of flood insurance on their own**

## Insurance Sales and Service Agreements

Since mid-1980s FEMA has established agreements with over 90 commercial insurance firms under the Write Your Own program ([https://www.fema.gov/wyo\\_company](https://www.fema.gov/wyo_company))

Firms conduct the sale and service policies and claims

FEMA provides the funds for claims

Compensation under the agreement is for about 30% of premium

About 20% of the policies are handled directly by FEMA through a contract mechanism



# Limits on Coverage

|                      | 1ST LAYER | 2ND LAYER | TOTAL     |
|----------------------|-----------|-----------|-----------|
| <b>BUILDINGS</b>     |           |           |           |
| SINGLE FAMILY        | \$60,000  | \$190,000 | \$250,000 |
| 2-4 UNIT RESIDENTIAL | \$60,000  | \$190,000 | \$250,000 |
| OTHER RESIDENTIAL    | \$175,000 | \$75,000  | \$250,000 |
| NON-RESIDENTIAL      | \$175,000 | \$325,000 | \$500,000 |
| <b>CONTENTS</b>      |           |           |           |
| RESIDENTIAL          | \$25,000  | \$75,000  | \$100,000 |
| NON-RESIDENTIAL      | \$150,000 | \$350,000 | \$500,000 |



# Pre-FIRM vs. Post-FIRM

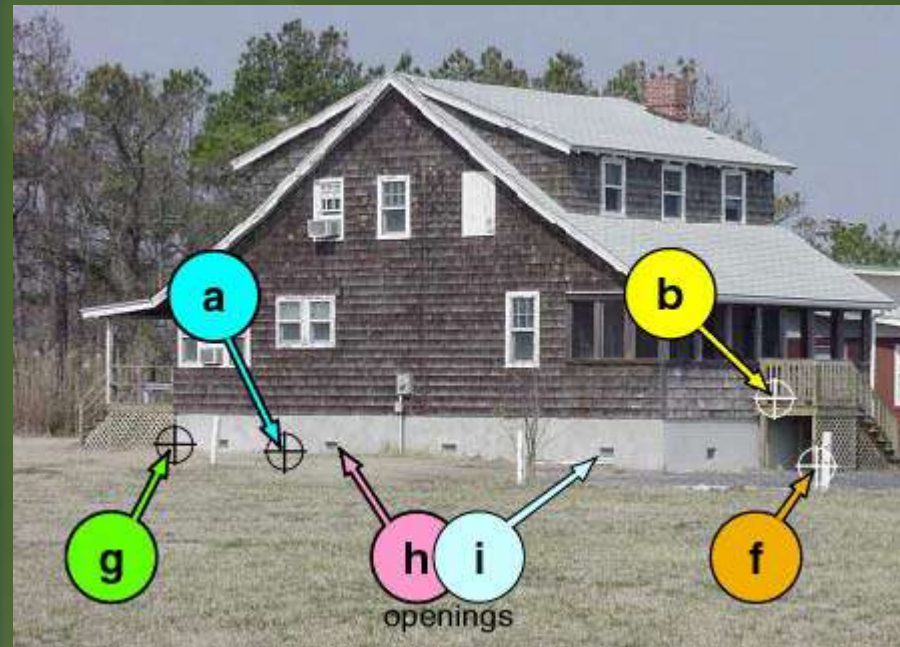


- Pre-FIRM policies are discounted and flood insurance is not rated based on the actual risk (**averaging 40% of true risk**)
- Under new legislation, certain categories of Pre-FIRM structures will lose discounts
- Post-FIRM policies are rated based on the actual level of risk

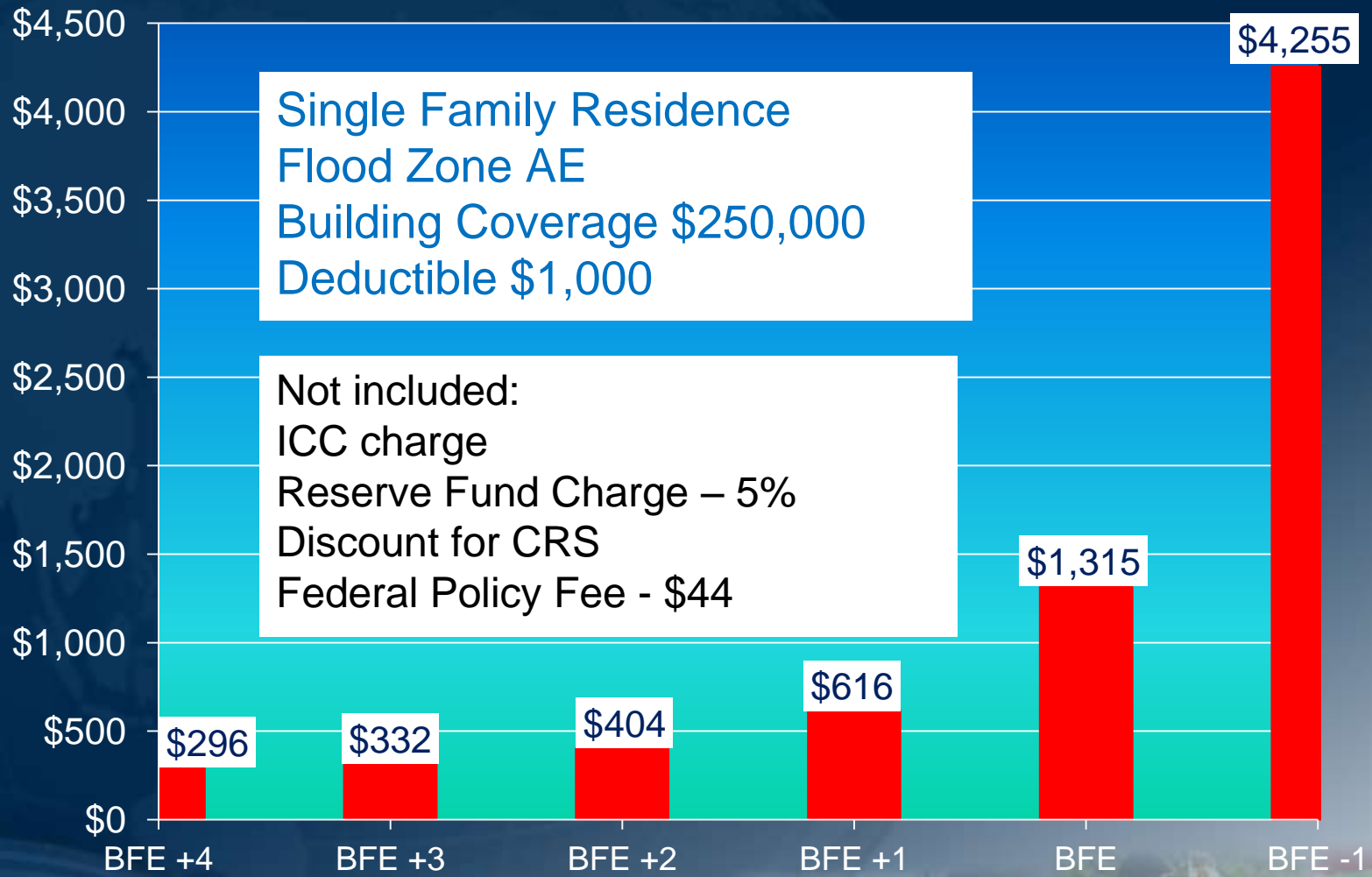


# Factors Used for Rating

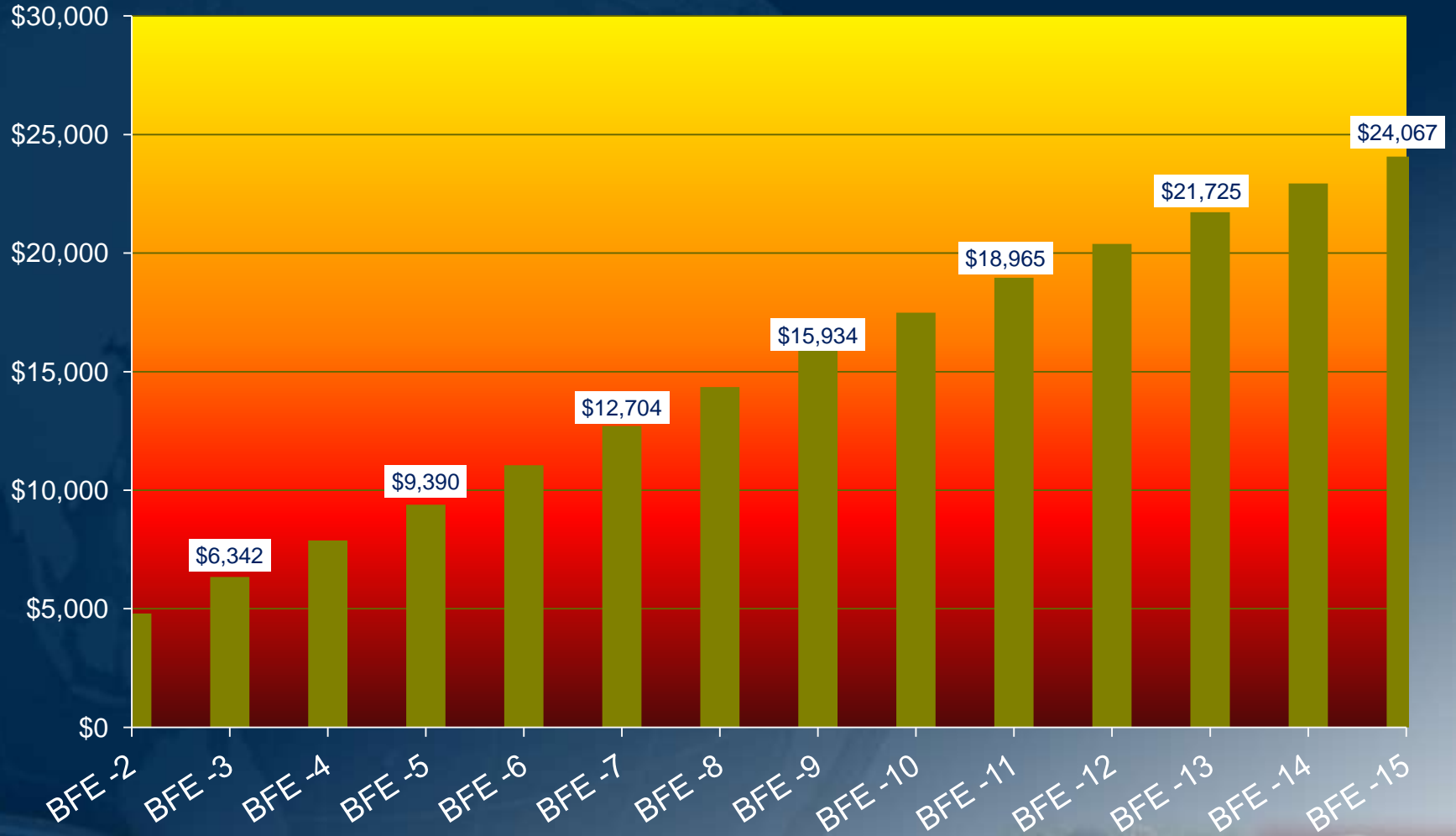
- Flood zone
- Rates from Table
- Amount deductible
- Lowest Floor Elevation
- Base Flood Elevation
- Building type
- Foundation
- Age (pre- or post-FIRM)



# Flood Insurance Rating



# Insurance Rates Continue to Rise



# Sample Flood Insurance Rates

- Residential PRP and Pre-FIRM
  - Preferred Risk Policy - \$412
  - Pre-FIRM Non-Coastal Area - \$3,289
  - Pre-FIRM Coastal Area - \$7,173
- Commercial PRP and Pre-FIRM
  - Preferred Risk Policy - \$2,878
  - Pre-FIRM Non-Coastal Area - \$13,743
  - Pre-FIRM Coastal Area - \$37,970
- Post FIRM rating requires an Elevation Certificate; premiums are determined by comparing the lowest floor to the base flood elevation



# Premium Comparison

|          | SINGLE STORY RESIDENTIAL STRUCTURE<br>IN ZONE AE (COVERAGE: \$250K/\$100K/\$1K) |   |
|----------|---|---|
|          | Subsidized Premium before<br>BW12 (no EC)                                       | Premium after elimination of<br>subsidies (with EC) |
| BFE +4'  | \$3,600   | \$553   |
| BFE      | \$3,600   | \$1,815   |
| BFE - 4' | \$3,600   | \$10,723  |

**High risk structures in Zone VE could see premiums in excess of \$20,000**

Flood Insurance Manual

(<http://www.fema.gov/media-library/assets/documents/34745>)

# Increased Cost of Compliance (ICC)

- Up to \$30,000 for flood mitigation measures
  - To be eligible, a structure must be considered either a substantially damaged or repetitive loss structure
- Not available when a claim is made for the policy maximum



# Community Rating System (CRS)

- Voluntary incentive program
- Communities must implement flood protection activities in excess of the minimum NFIP requirements
- Premium reductions of up to 45%
- Goal is to reduce flood damages and encourage a comprehensive approach to floodplain management



# National Flood Insurance Reform Act of 1994

- Followed Hurricane Andrew in 1992 and MS River floods of 1993
- Strengthened flood insurance requirements; established penalties for noncompliance
- Required that community's NFIP maps be reviewed every 5 years
- Increased flood insurance limits; established Increased Cost of Compliance Coverage
- Created Flood Mitigation Assistance Grant Program





# Flood Insurance Reform Act of 2004



- Followed Hurricane Isabel in 2003
- Primarily a response to perceived unfair claims handling
- **Focused on repetitive and severe repetitive loss properties**
- Requires training for agents and adjusters

# Biggert-Waters 2012

- The Biggert-Waters Flood Insurance Reform Act of 2012:
  - Authorized the National Flood Insurance Program for 5 years
  - Removes pre-FIRM subsidies for policies which meet certain criteria
  - Increases annual rate increases from 10% to 20%
  - Requires a 10 year repayment plan for NFIP debt
  - Mandates various studies, including affordability and privatization

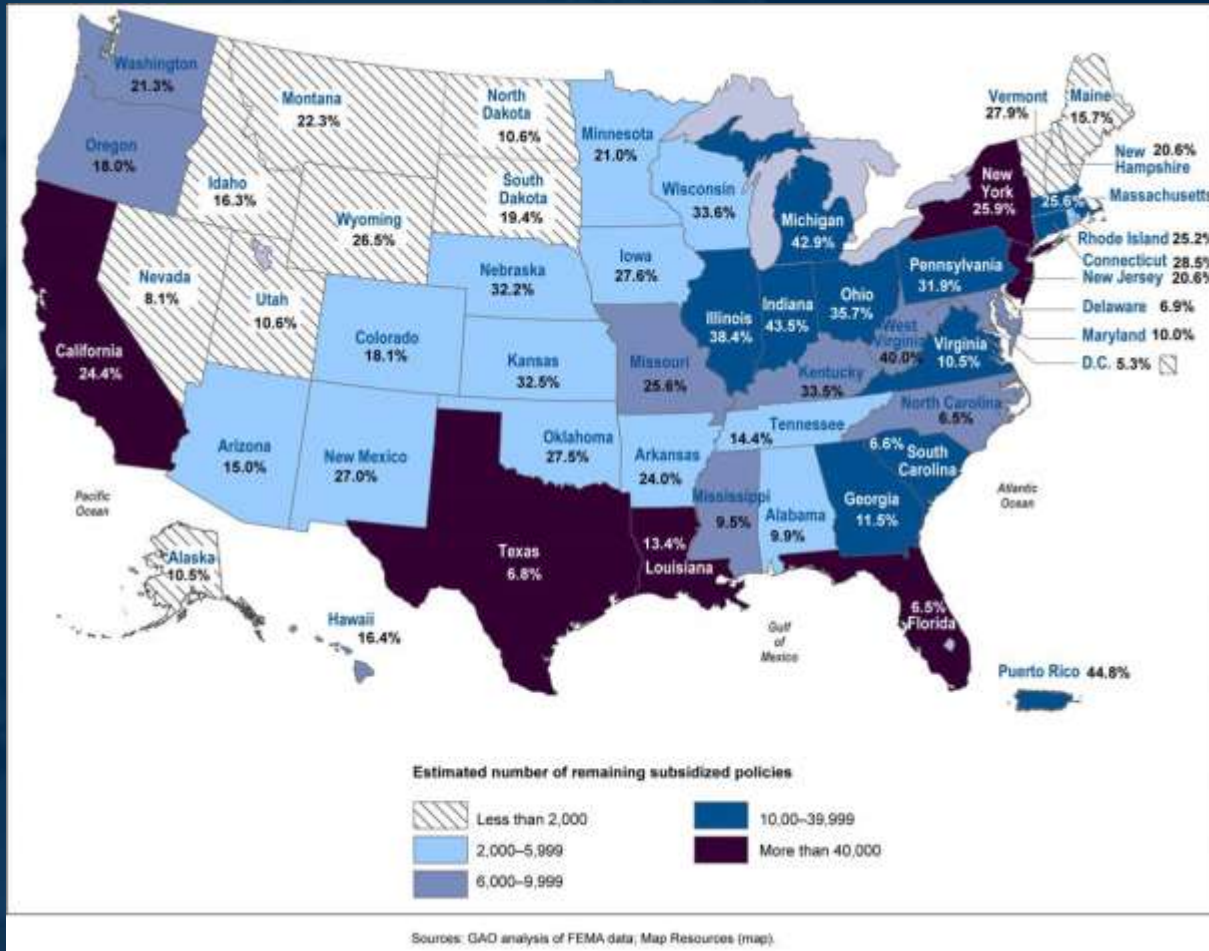
# Subsidy Reduction Phase-In

**25%/yr** Non-Primary Residences, SRL, Cumulative Losses > Building Value, Business, Substantial Damage/Improvement (Phase-In becomes effective 10/1/13 except for non-primary residences which became effective on January 1, 2013)

**Full-Risk Rate** New Policy, Property Purchased, Lapse in Policy, (Currently in effect)

**20%/yr** Issuance of a revised or updated FIRM, actuarial rates shall be phased in **for grandfathered properties in the community.** (Delayed to 10/1/2014)

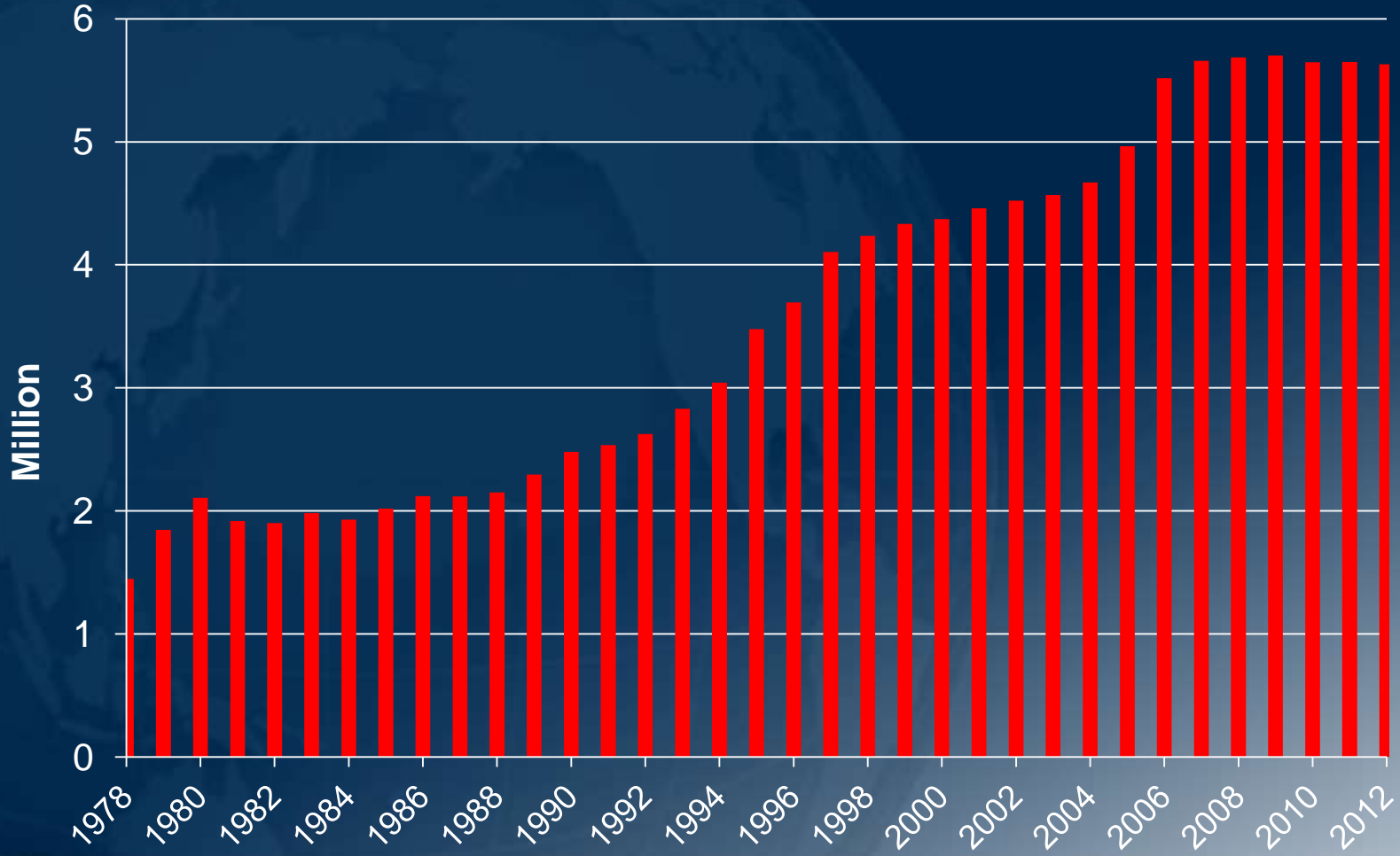
# Subsidized Policies



# NFIP Today

- 20,600 participating communities
- 5.6 million policies in force
- \$1.2 trillion in coverage
- FEMA has mapped more than 150,000 square miles of high risk flood hazard areas
- Losses avoided - \$20 billion

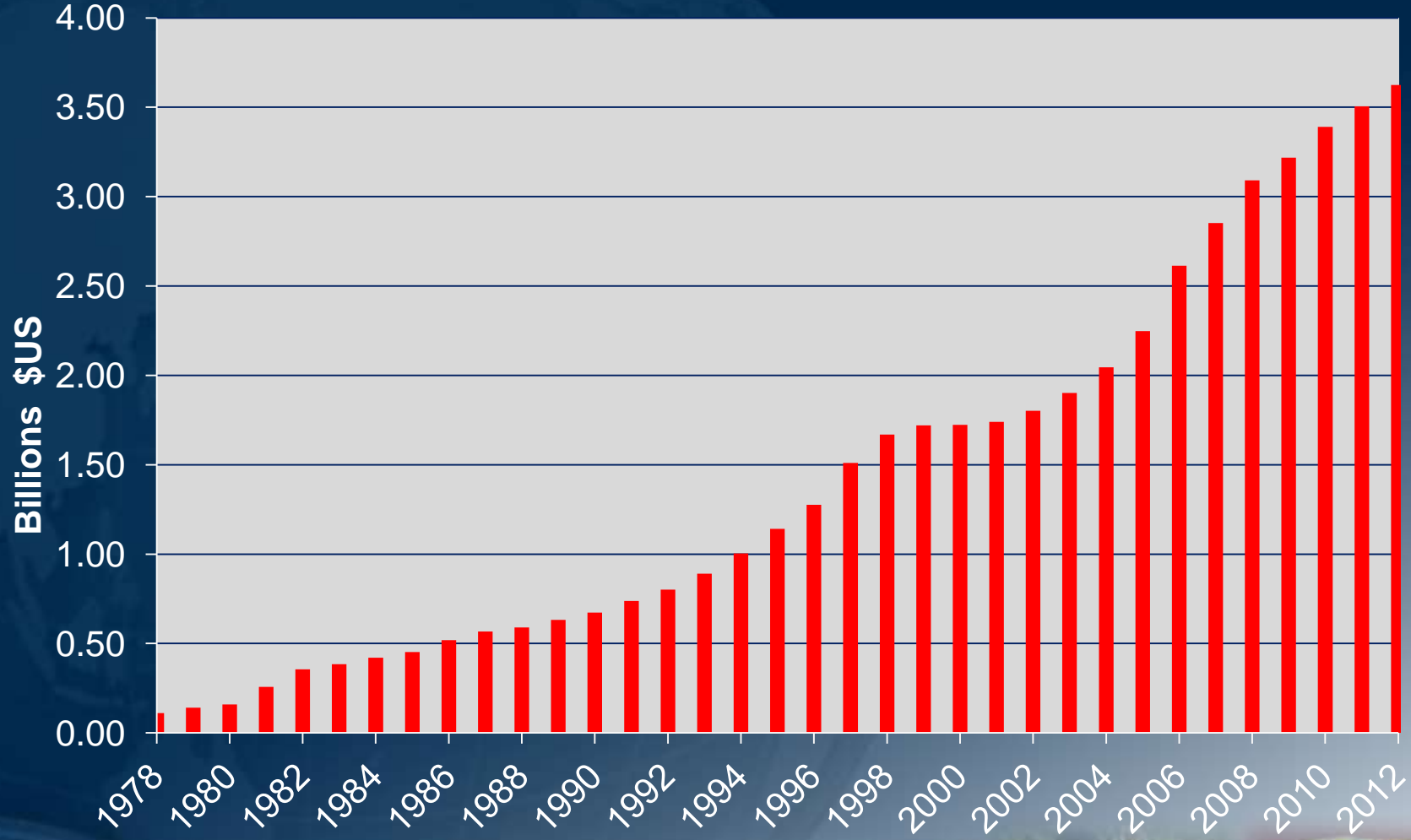
# Growth in Policies



# States with Highest Number of Polices

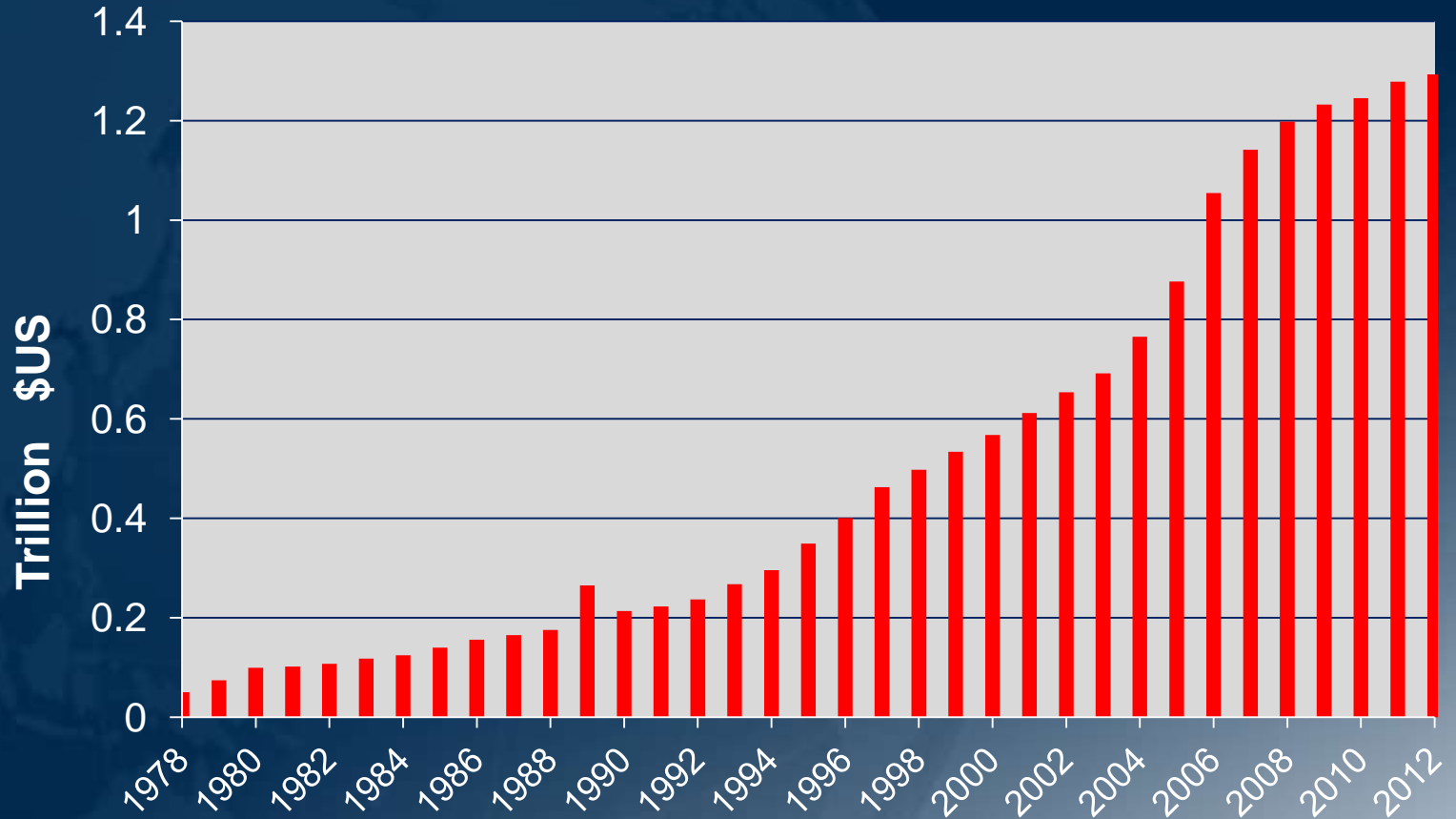
| State             | Policies         | Insurance in Force     | Written Premium        |
|-------------------|------------------|------------------------|------------------------|
| Florida           | 2,054,803        | \$478,878,463,100      | \$1,058,684,331        |
| Texas             | 632,682          | 160,882,144,000        | 377,498,985            |
| Louisiana         | 484,187          | 113,562,271,700        | 360,935,127            |
| California        | 253,435          | 66,816,086,700         | 214,300,184            |
| New Jersey        | 246,899          | 57,256,326,500         | 240,239,397            |
| <b>Total</b>      | <b>3,672,006</b> | <b>877,395,292,000</b> | <b>\$2,251,658,024</b> |
| <b>% of Total</b> | <b>66%</b>       | <b>68%</b>             | <b>60%</b>             |

# Premium Income History





# Coverage by Year



# NFIP Loss Payment History



# Hurricane Katrina 2005



Fatalities: 1,836  
Damage: \$91 B ('11)

Nearly all levees in the NOLA area breached. 80% City flooded



Max storm surge 27 ft



# Hurricane Katrina – Insurance Facts



Number of Paid Losses: 167,694

Amount Paid: \$16,271,802,748

Average Loss Per Policy: \$97,032

# Hurricane Katrina – Levee Failure

*Entergy Corporation personnel took this photo of storm surge waters cascading over a levee near the Entergy power plant in the New Orleans East area.*



# Hurricane Katrina – Was it Wind or Water?



# CAT-90 Sandy – Insurance Facts

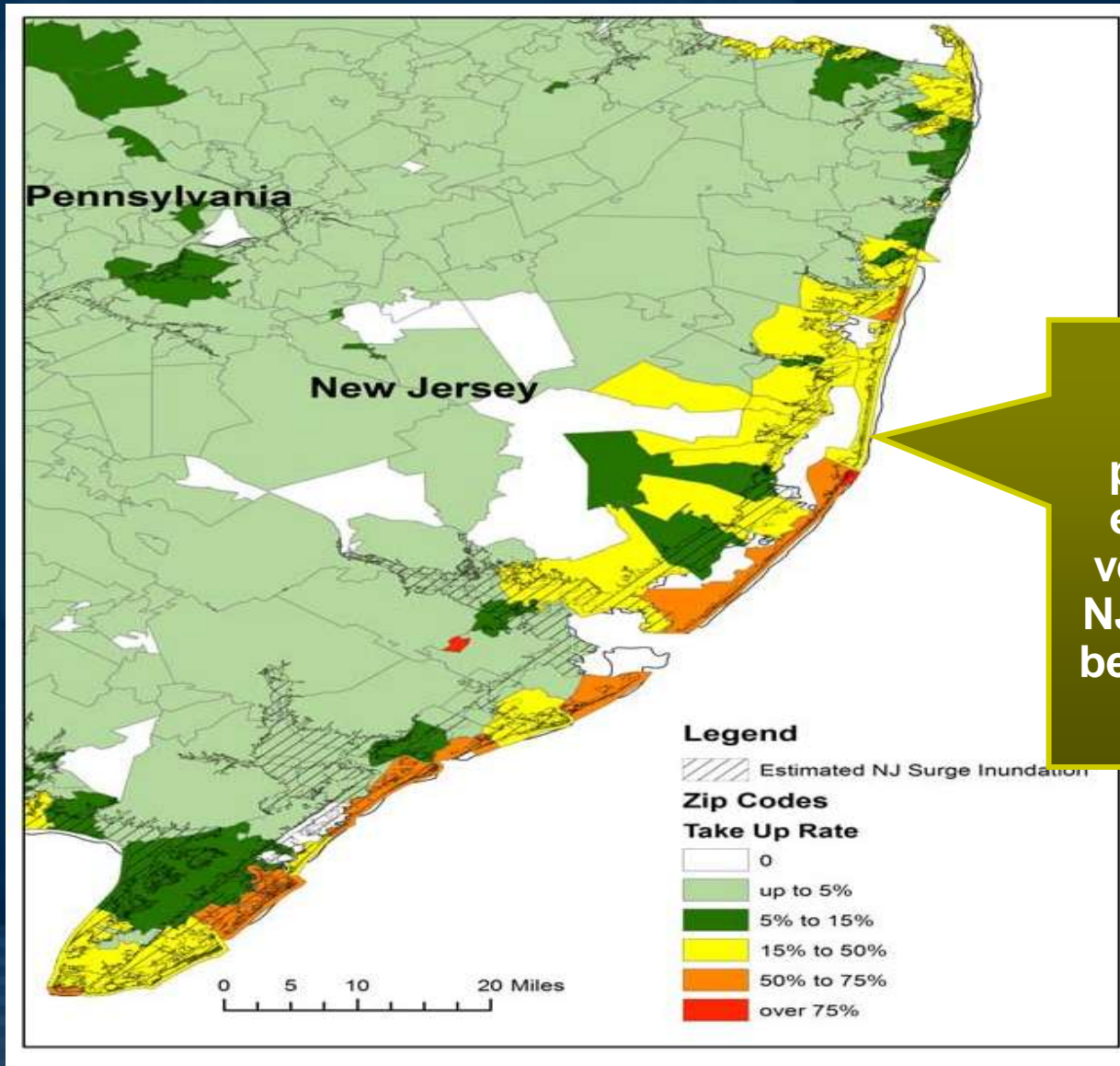


Number of Paid Losses: 126,895

Amount Paid: \$7,117,422,012

Average Loss per Claim: \$56,089

# NFIP NJ Residential Coverage

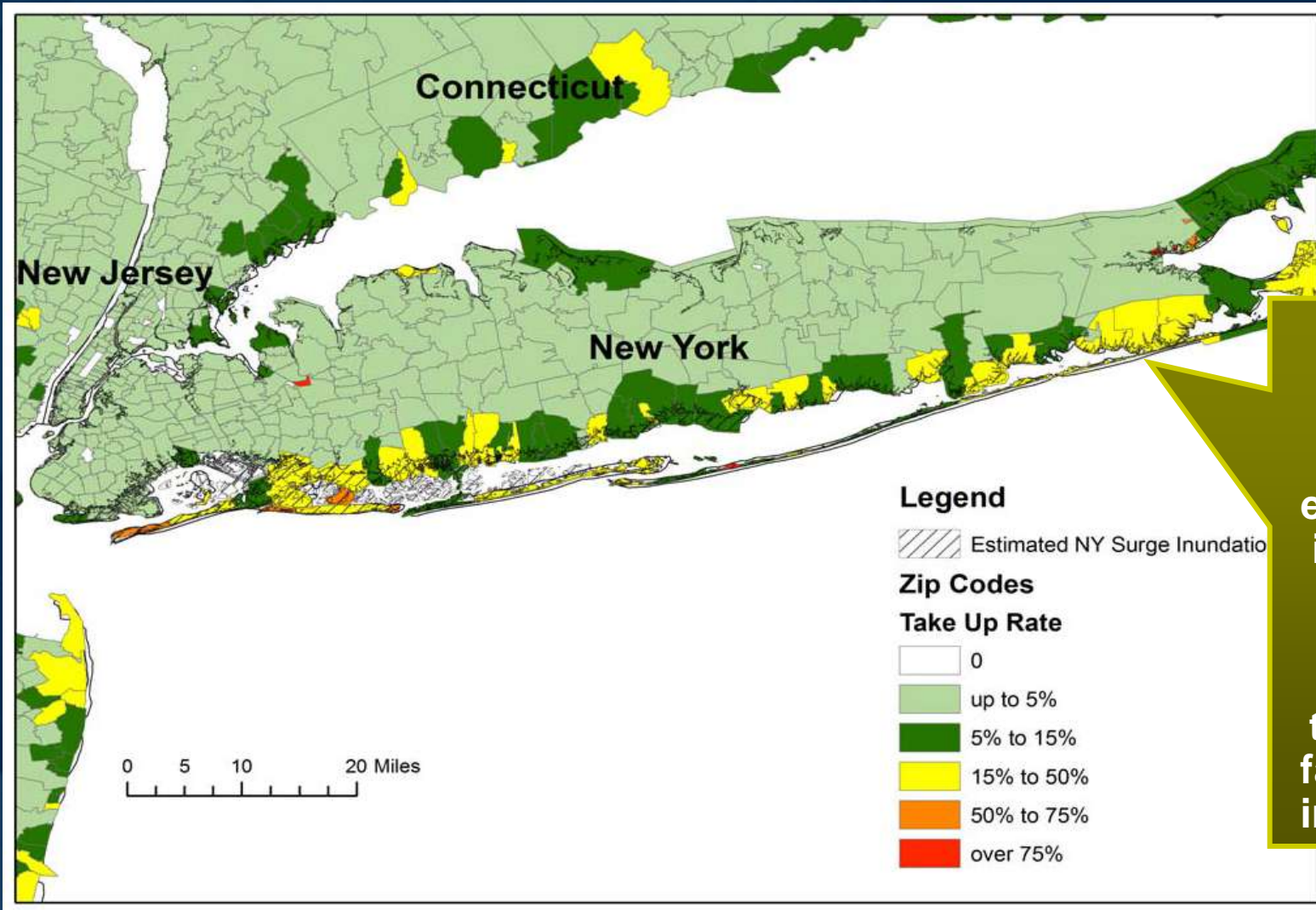


Flood coverage penetration rates were extremely low in many very vulnerable areas in NJ, with take-up rates far below 50% in many areas





# NFIP NY, CT Residential Coverage



Flood coverage penetration rates were extremely low in many very vulnerable areas of NY and CT, with take-up rates far below 50% in many areas

# Summary

- Federal Government has been dealing with flooding since the mid-1800s but began funding major structural projects early 1900s
- NFIP established in response to increasing damages and offered non-structural land use alternative to flood control projects
- Mapping, regulations, and flood insurance procedures continue to evolve
- FEMA continues to provide disaster recovery and response support, and encourages hazard mitigation actions

# Major Challenges Ahead

- Repayment of \$25 Billion Debt
- Fully Implement Biggert-Water Reform Act
- Maintain sufficient funding to complete all mapping and keep up with the need to periodically update maps



# Questions?

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