

Hurricane Risk in the Northeast United States

A Real and Present Danger

**Northeast Communications Strategy Meeting
Insurance Information Institute
New York, NY**

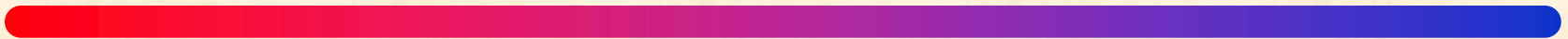


March 19, 2008

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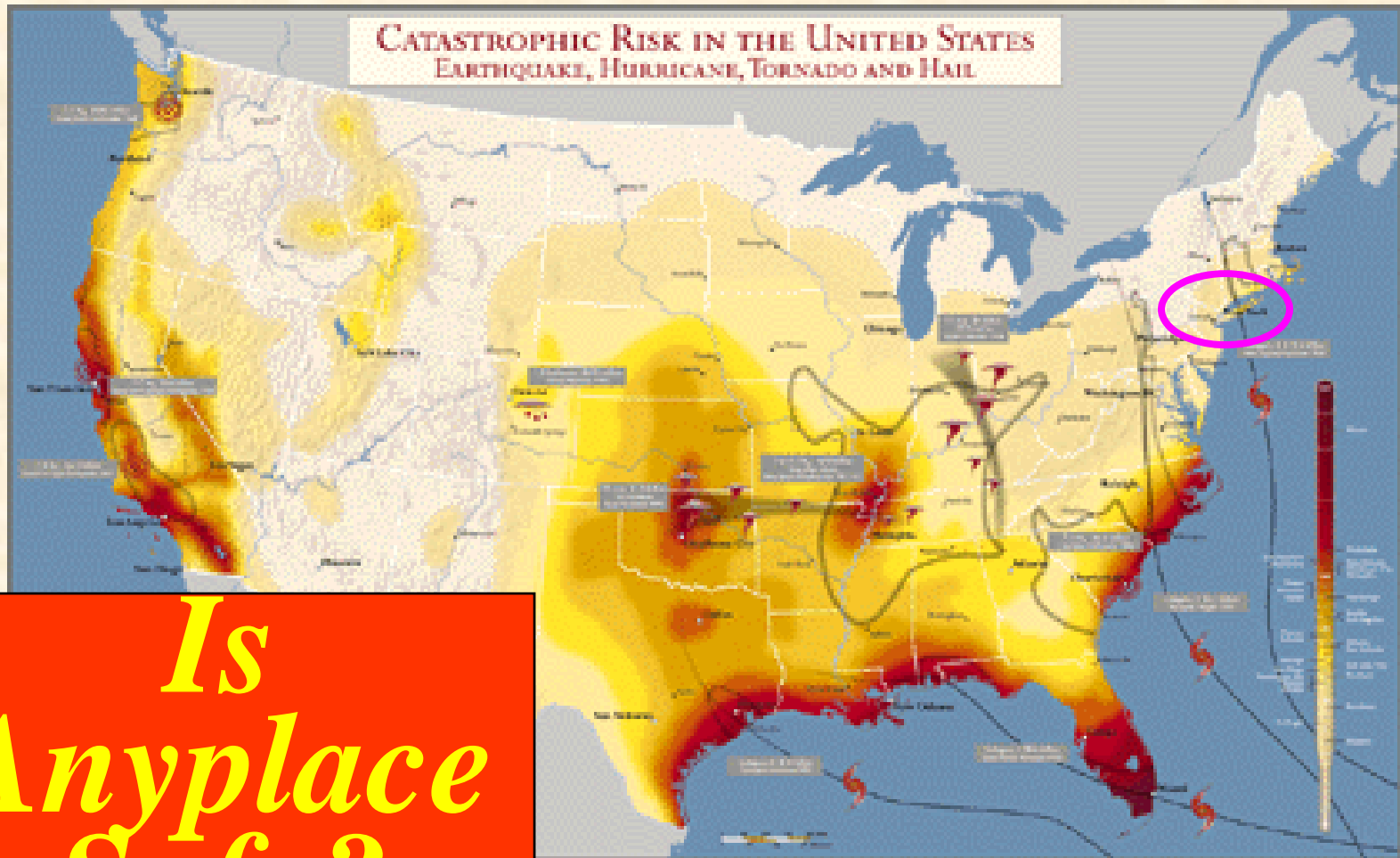
CATASTROPHIC LOSS

What Will 2008 Bring?





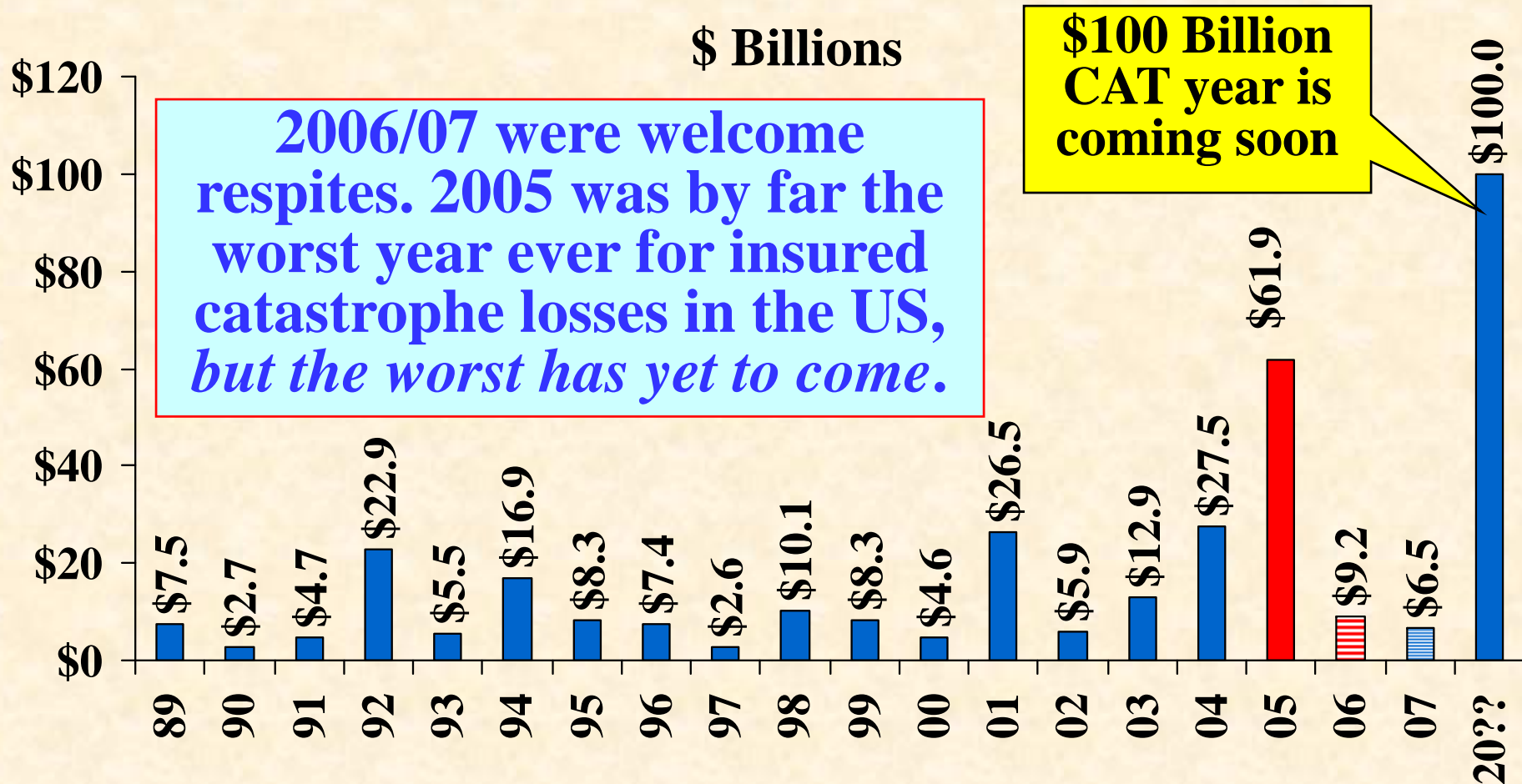
Most of US Population & Property Has Major CAT Exposure



*Is
Anyplace
Safe?*



U.S. Insured Catastrophe Losses*



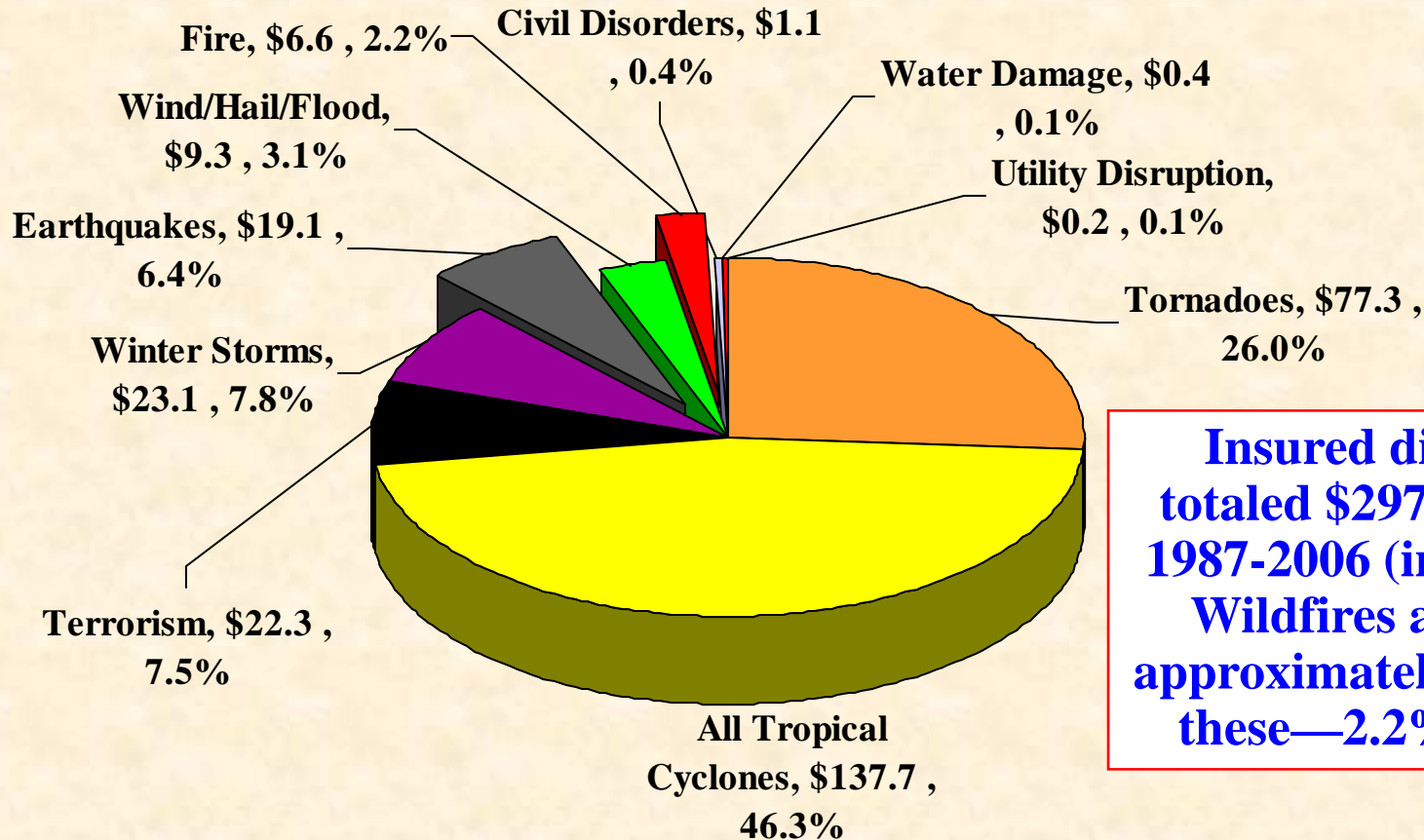
*Excludes \$4B-\$6b offshore energy losses from Hurricanes Katrina & Rita.

Note: 2001 figure includes \$20.3B for 9/11 losses reported through 12/31/01. Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = \$12.2B.

Source: Property Claims Service/ISO; Insurance Information Institute



Inflation-Adjusted U.S. Insured Catastrophe Losses By Cause of Loss, 1987-2006¹



Insured disaster losses totaled \$297.3 billion from 1987-2006 (in 2006 dollars). Wildfires accounted for approximately \$6.6 billion of these—2.2% of the total.

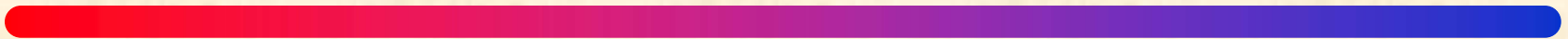
¹ Catastrophes are all events causing direct insured losses to property of \$25 million or more in 2006 dollars.

Catastrophe threshold changed from \$5 million to \$25 million beginning in 1997. Adjusted for inflation by the III.

² Excludes snow. ³ Includes hurricanes and tropical storms. ⁴ Includes other geologic events such as volcanic eruptions and other earth movement. ⁵ Does not include flood damage covered by the federally administered National Flood Insurance Program. ⁶ Includes wildland fires.

The 2008 Hurricane Season:

Preview to Disaster?





Outlook for 2008 Hurricane

Season: 25% Worse Than Average

	Average*	2005	2008F
Named Storms	9.6	28	13
Named Storm Days	49.1	115.5	60
Hurricanes	5.9	14	7
Hurricane Days	24.5	47.5	30
Intense Hurricanes	2.3	7	3
Intense Hurricane Days	5	7	6
Accumulated Cyclone Energy	96.2	NA	115
Net Tropical Cyclone Activity	100%	275%	125%

*Average over the period 1950-2000.

Source: Philip Klotzbach and Dr. William Gray, Colorado State University, December 7, 2007.



Landfall Probabilities for 2008 Hurricane Season: Above Average

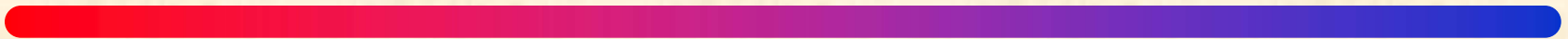
	Average*	2008F
Entire US East Gulf Coast	52%	60%
US East Coast Including Florida Peninsula	31%	37%
Gulf Coast from Florida Panhandle to Brownsville	30%	36%
Caribbean	NA	Above Average

*Average over the past century.

Source: Philip Klotzbach and Dr. William Gray, Colorado State University, December 7, 2007.

Hurricane Risk in the Northeast

Is it Real?

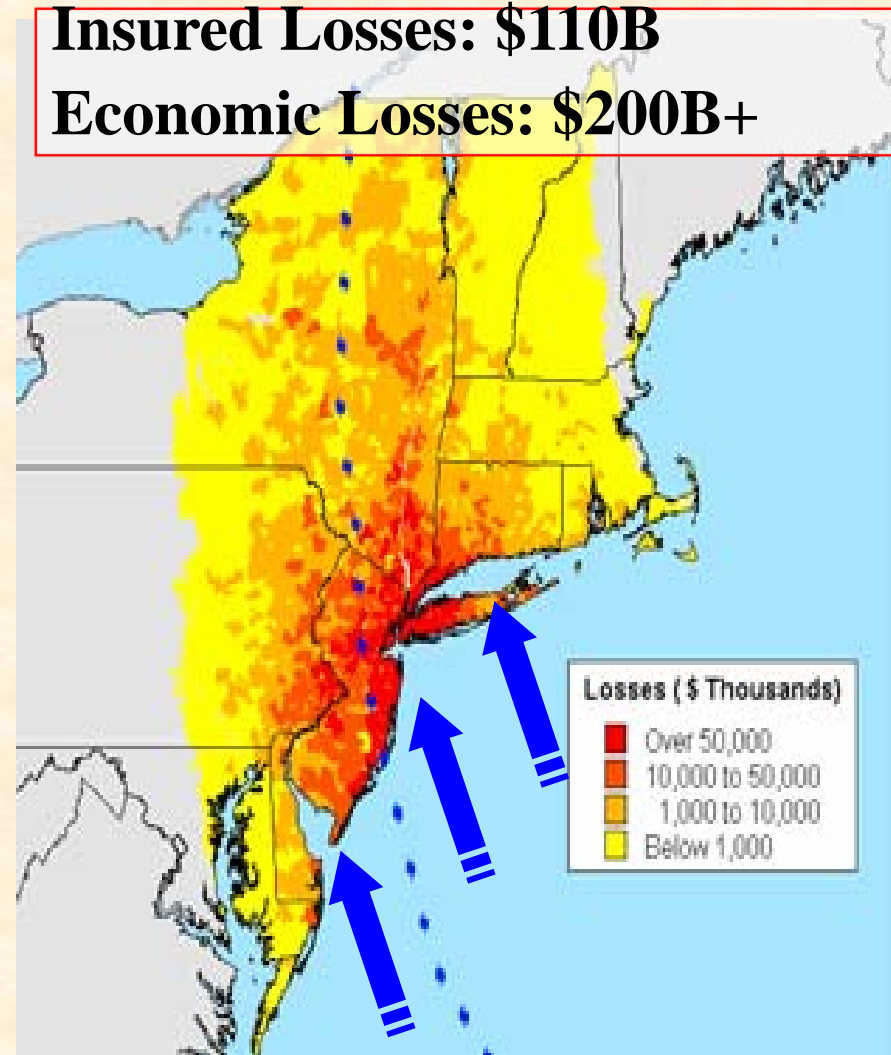




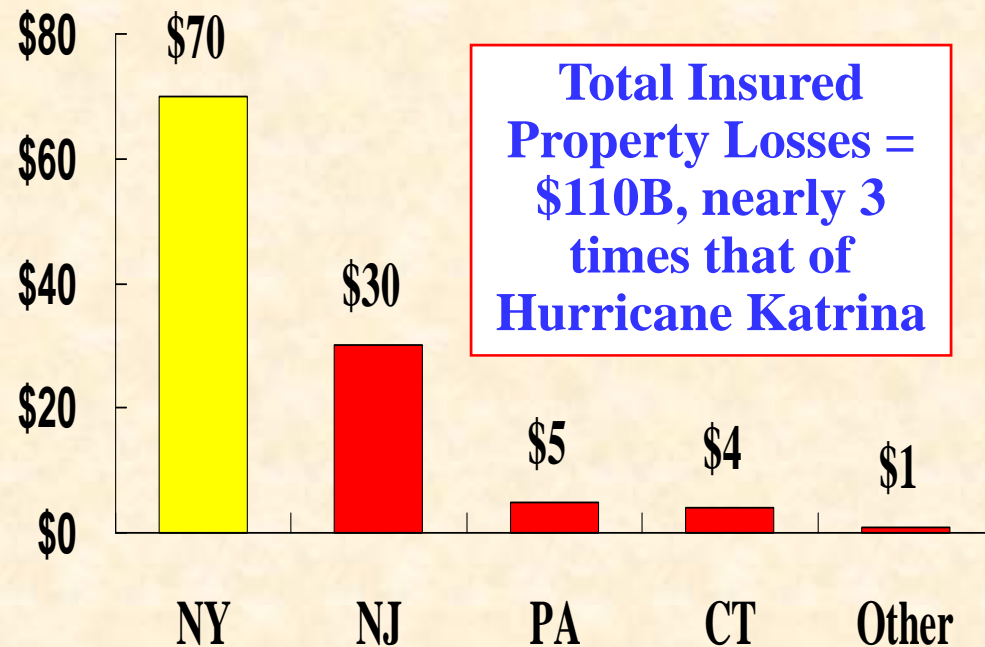
Nightmare Scenario: Insured Property Losses for NJ/NY CAT 3/4 Storm

Insured Losses: \$110B

Economic Losses: \$200B+

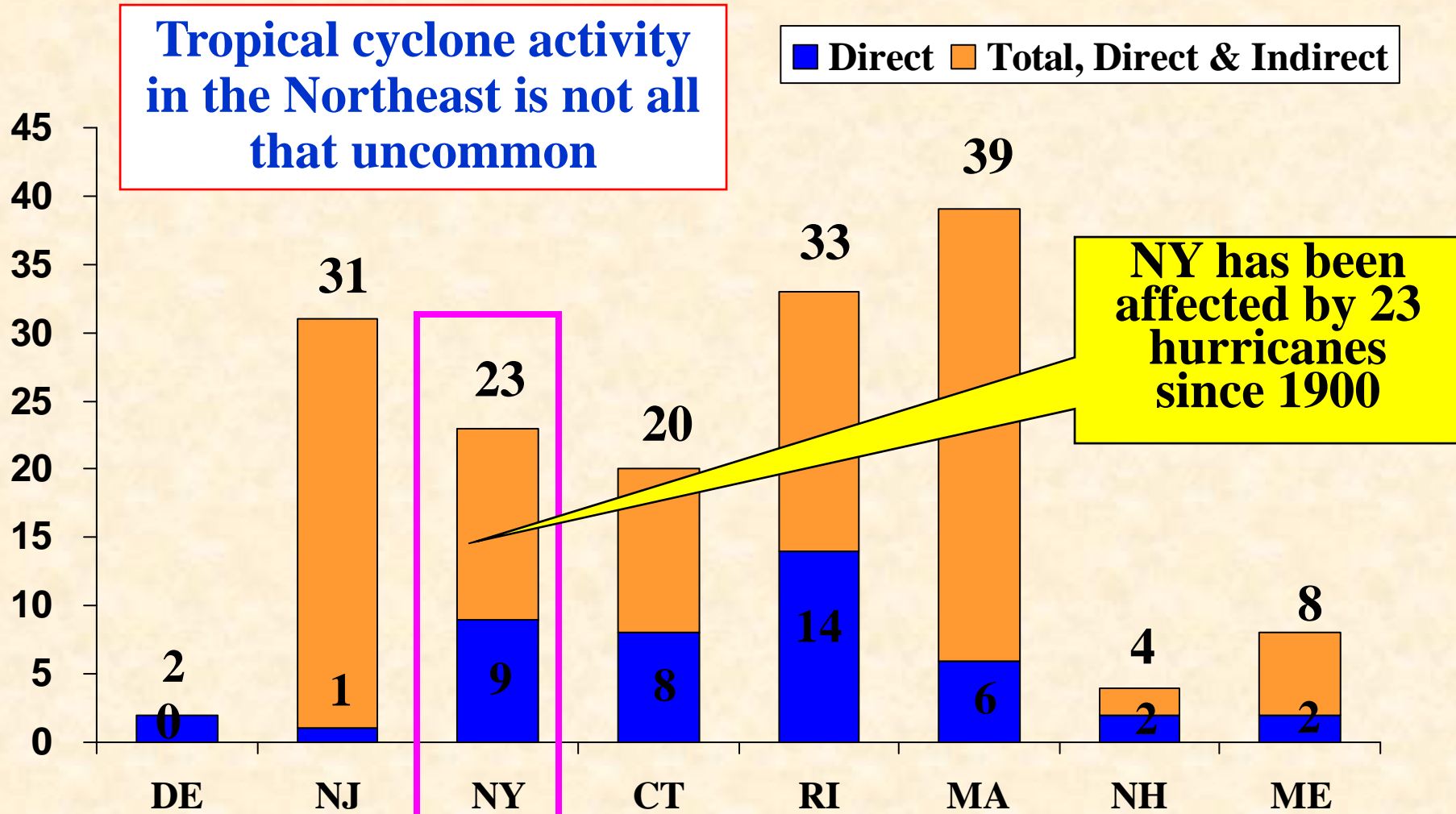


Distribution of Insured Property Losses, by State, (\$ Billions)



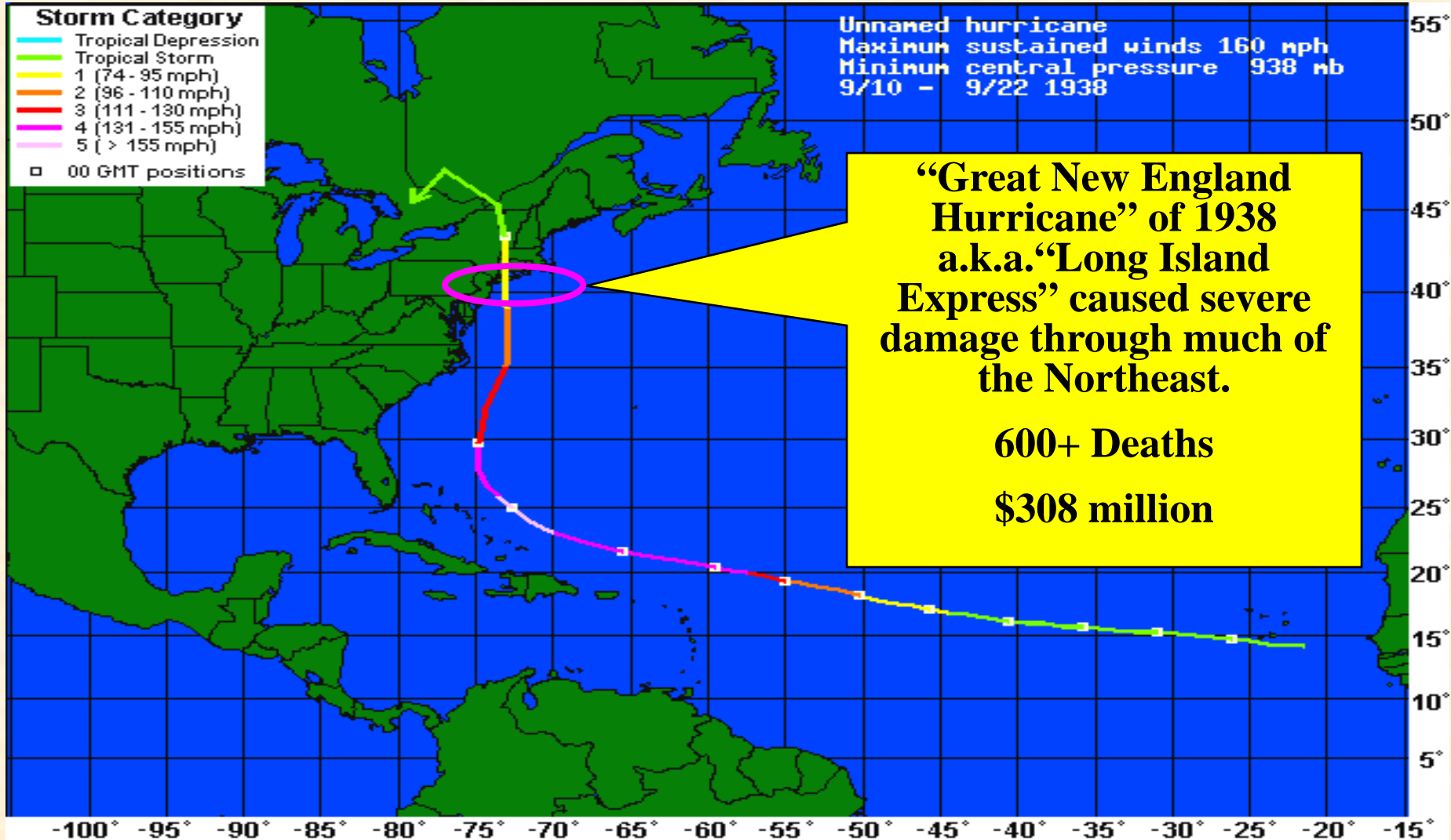


Number of Hurricanes Directly & Indirectly Affecting the Northeast Since 1900



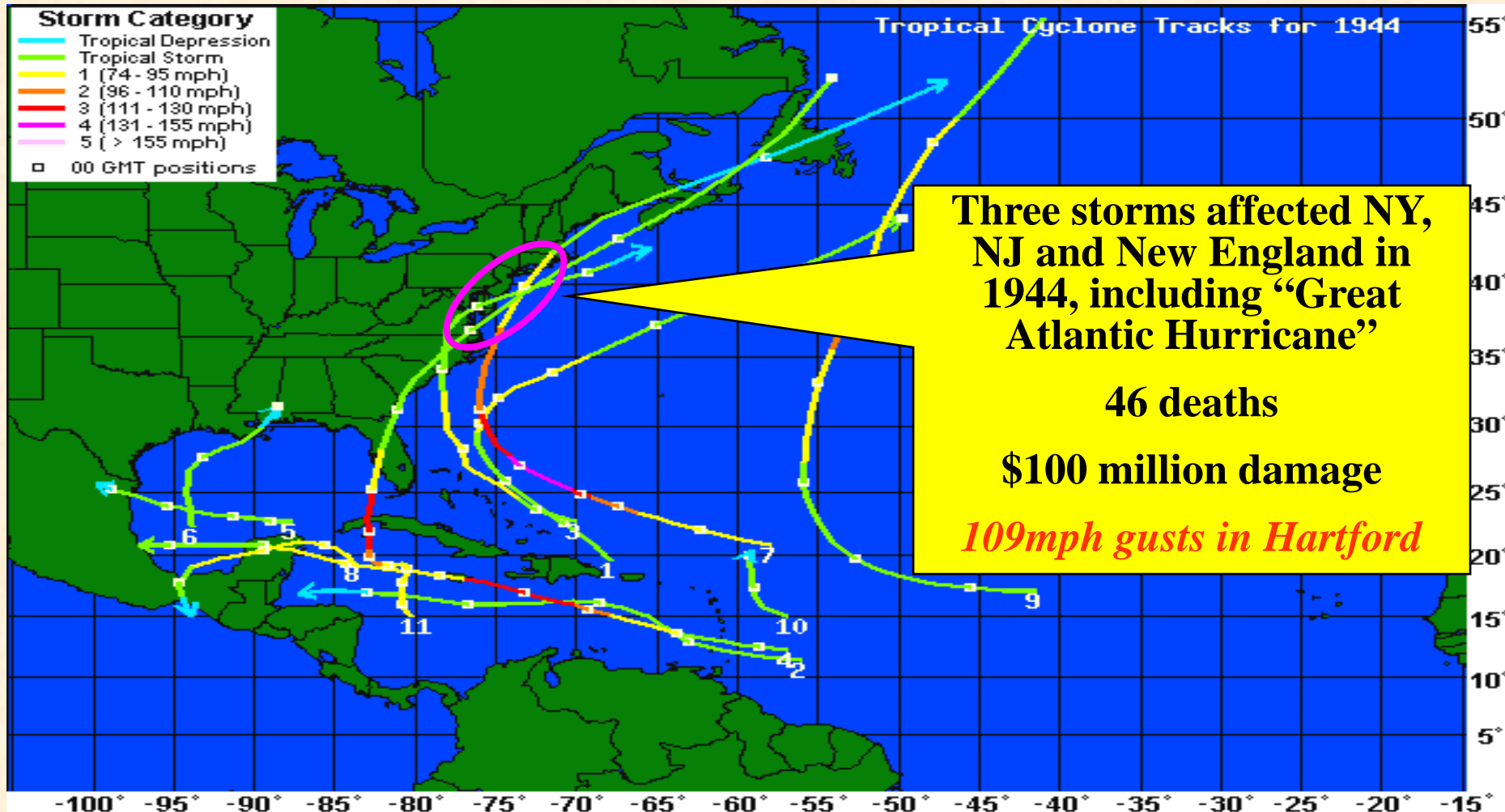


Track of “Long Island Express” Hurricane of 1938



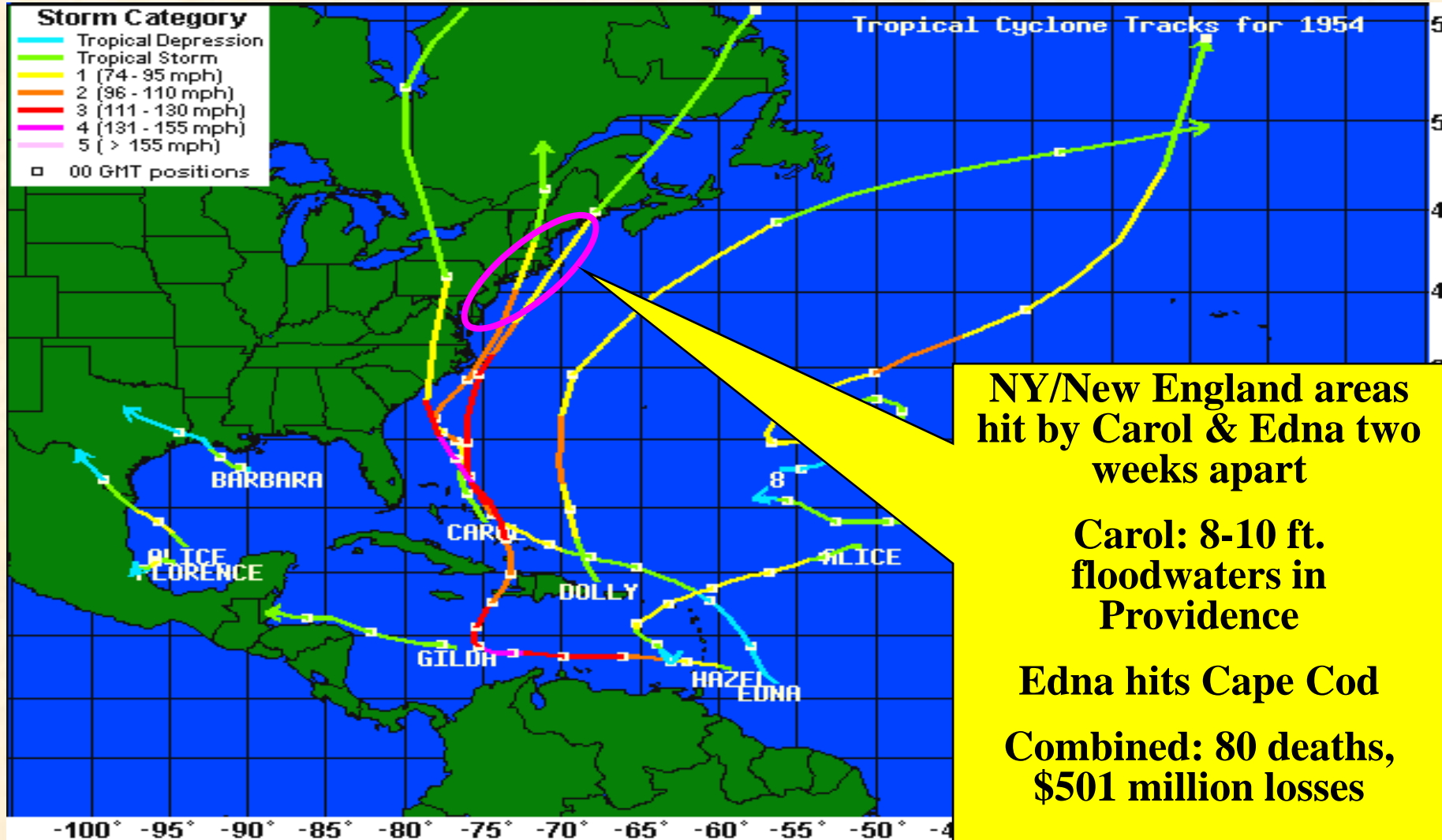


Storm Season of 1944: A Busy one for the Northeast





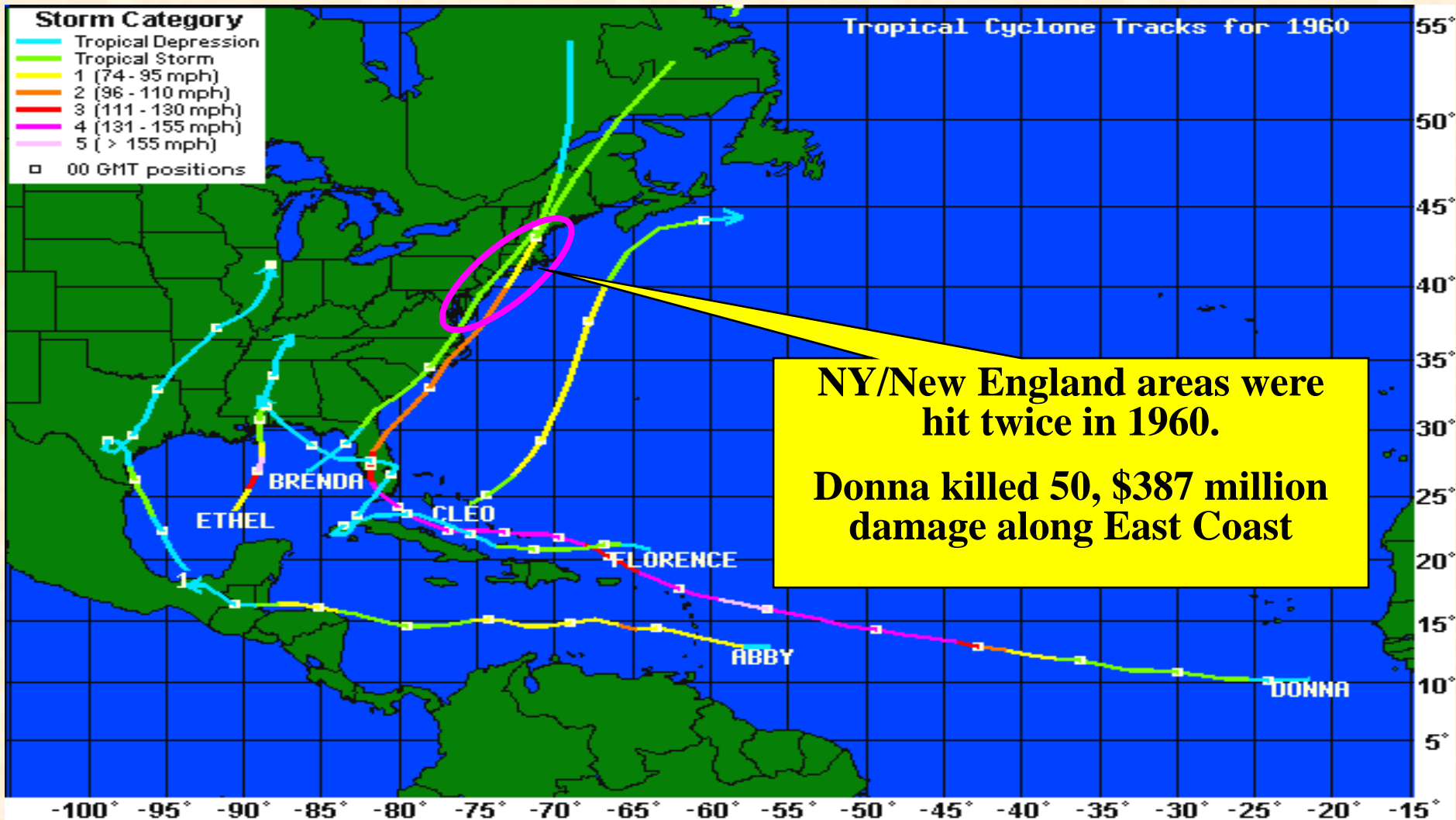
Storm Season of 1954: The Northeast Hit Again





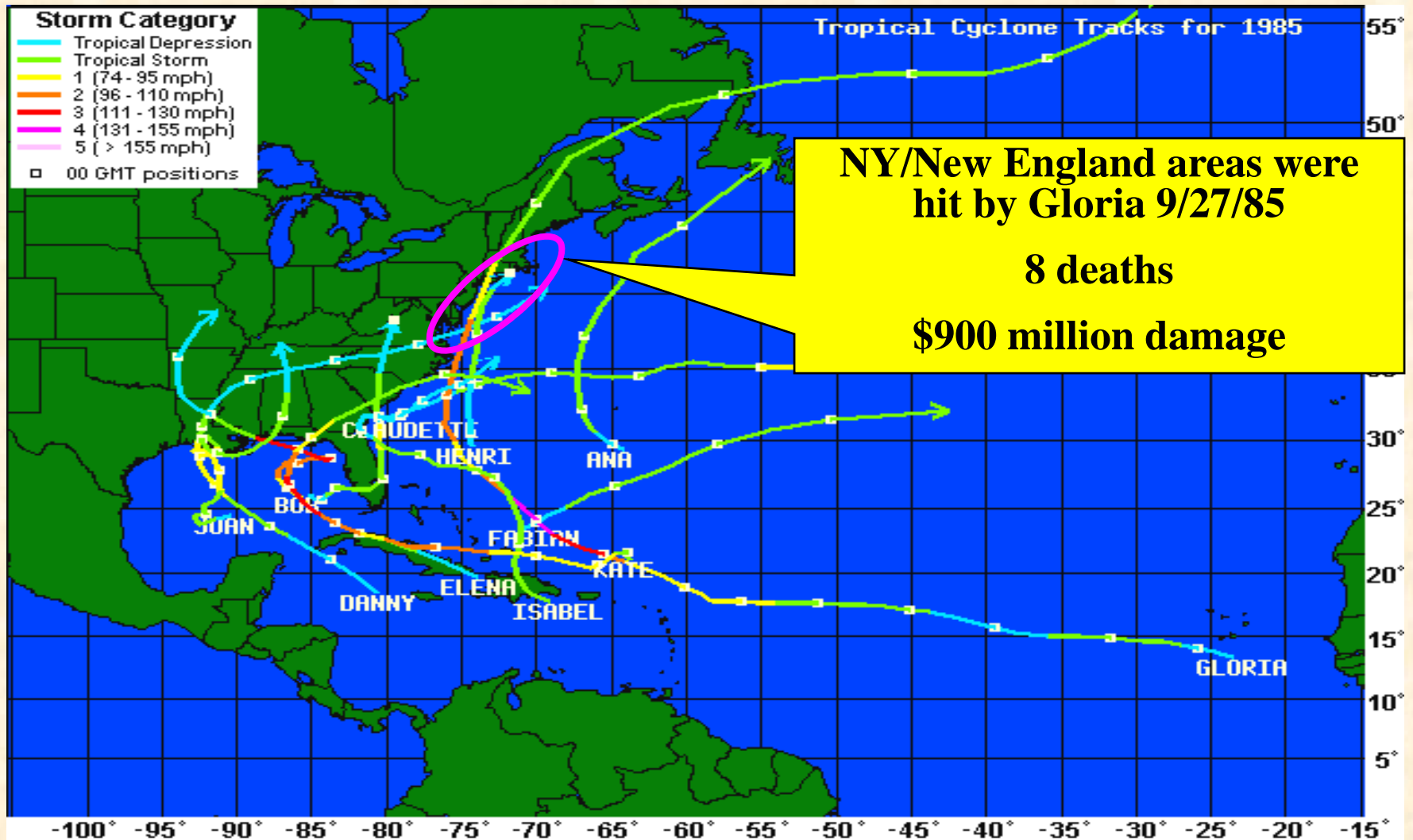
Storm Season of 1960:

Brenda & Donna Came to Visit



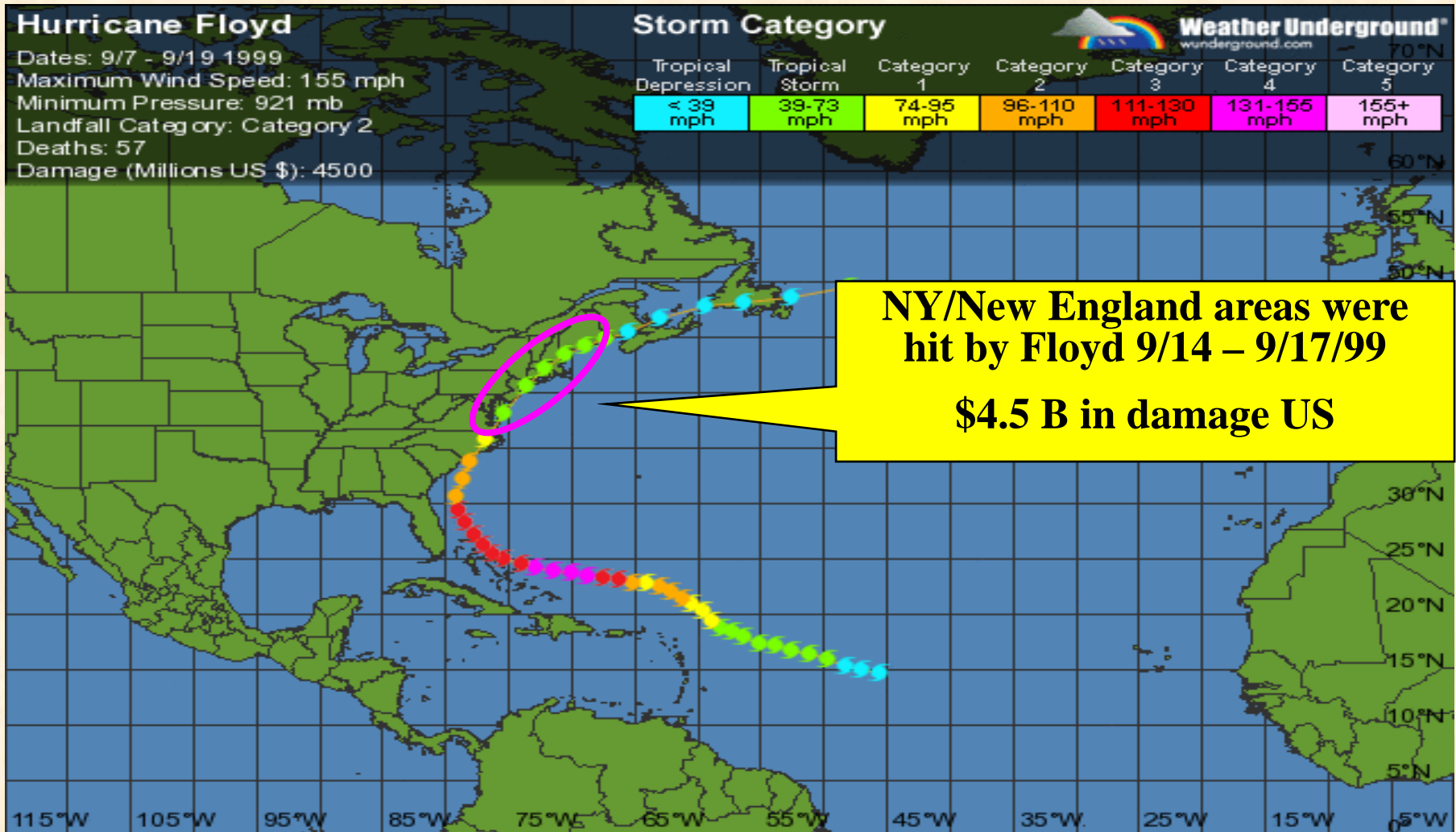


After a 25 Year Hiatus, Hurricane Gloria Hit in 1985



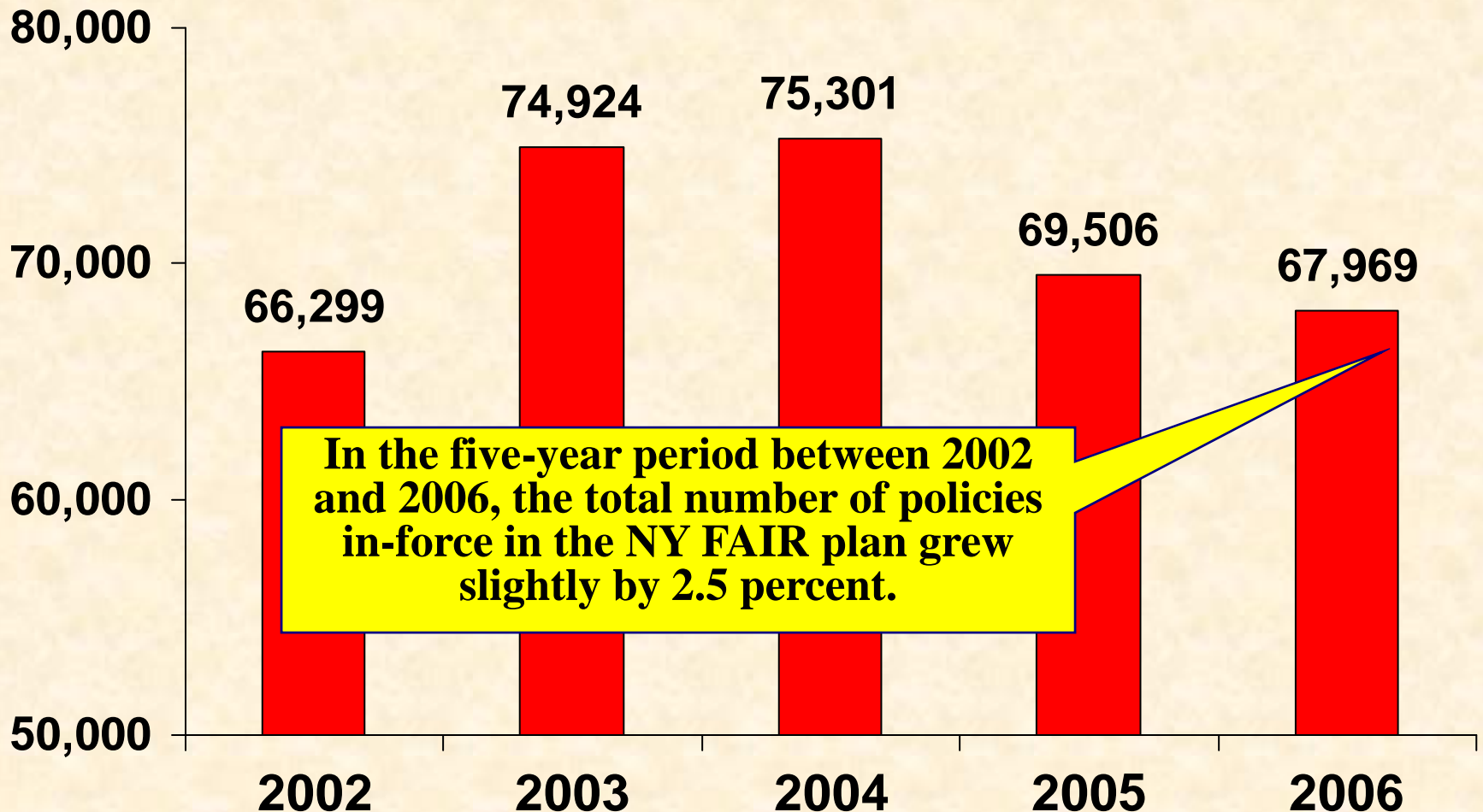


Floyd Visited in 1999, Causing \$4.5 Billion in Losses



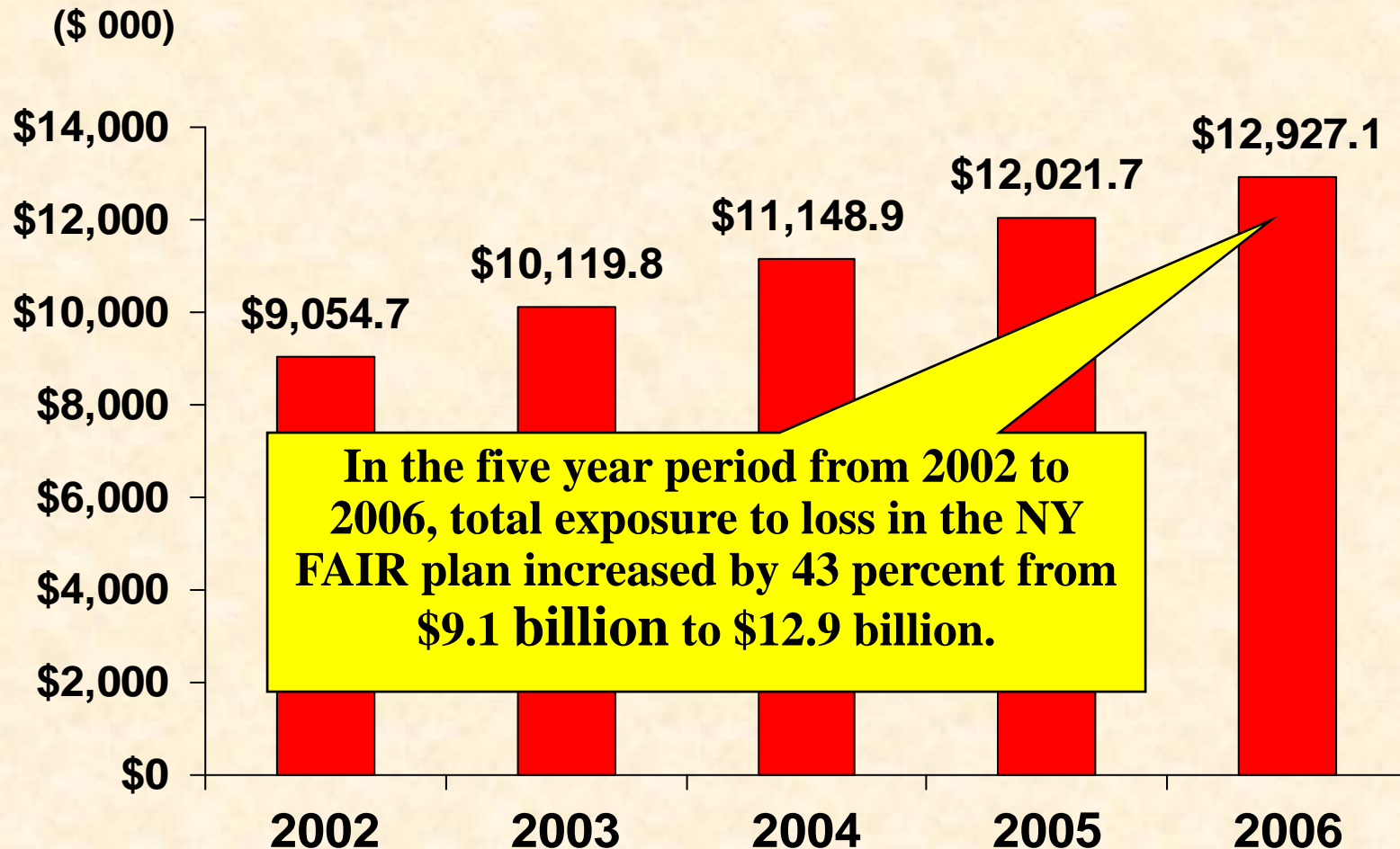


NY FAIR Plan: Total Policies In-Force, 2002-2006





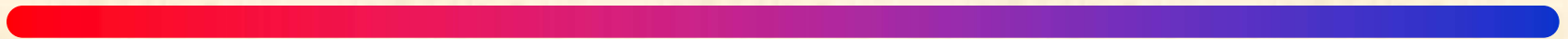
NY FAIR Plan Exposure to Loss (\$000)



Historical Hurricane Strikes and Population Growth Along the Northeast Coast



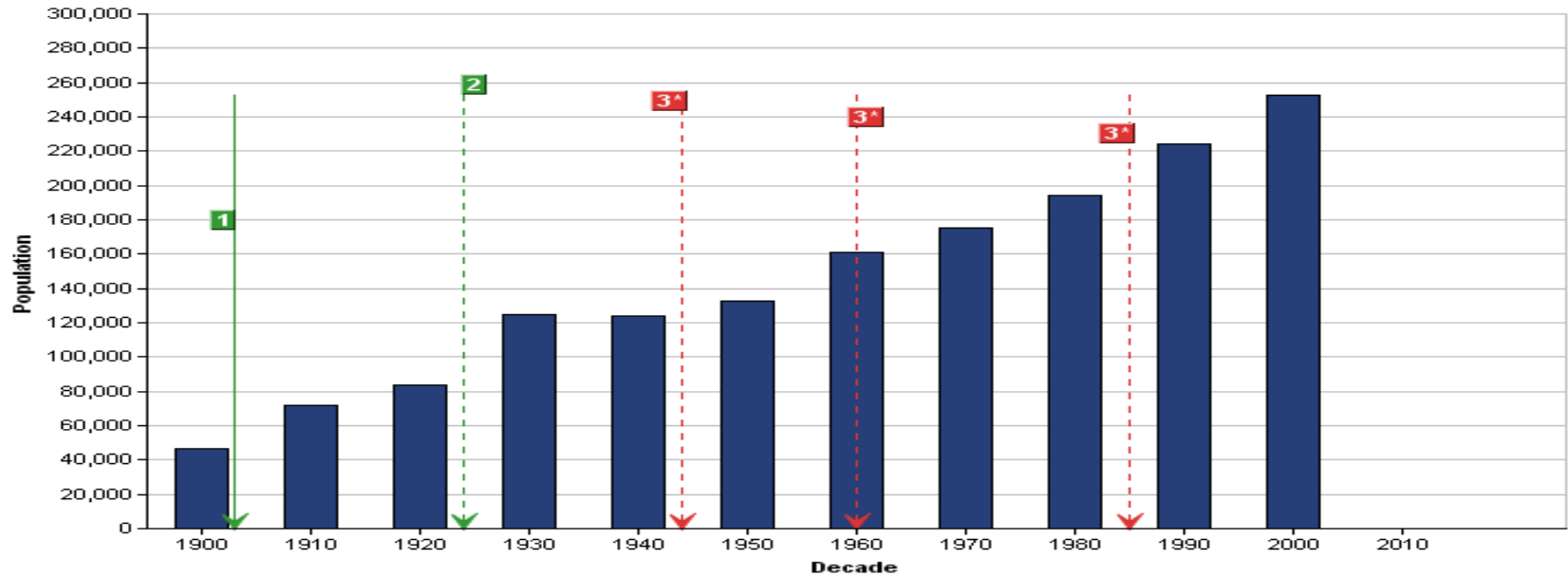
A Collision Course





Historical Hurricane Strikes in Atlantic County, NJ, 1900-2007

Hurricane Strikes vs Population for Atlantic, New Jersey



Legend

Hurricane Category 1-2	Direct Strike
Hurricane Category 3-5	Indirect Strike
Storm moving faster than 30 m.p.h.	Conventional Landfall Storm (Moving from water to land)
	Exiting or Inland Storm (Moving from land to water)



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

NOTE: There may be discrepancies between the strike data shown in this chart and the HURDAT strike data used in the Historical Hurricanes Tracks Tool. The National Hurricane Center is currently updating the strike data used for these charts.

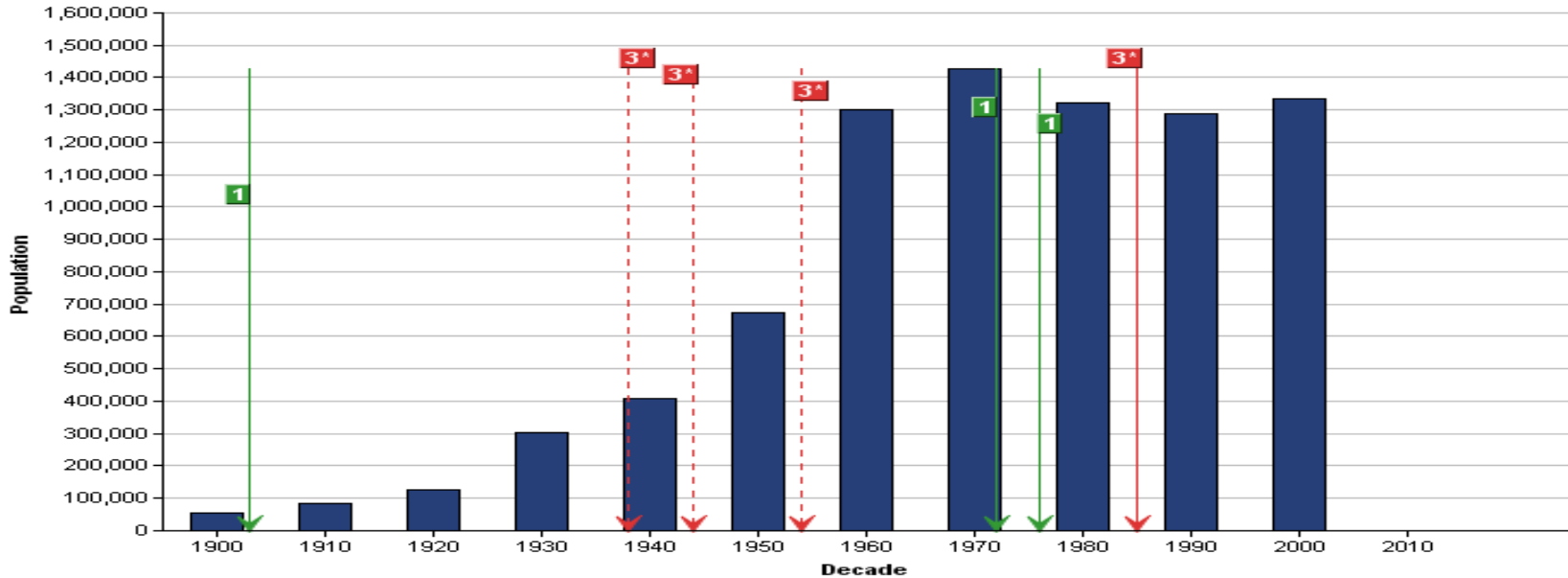
For more information visit http://www.aoml.noaa.gov/hrd/data_sub/re_anal.html

NOTE: Population data is current as of 2000 U.S. Census. X-axis on graphs depict years through 2010 to illustrate storms that have occurred from 2000-2006.



Historical Hurricane Strikes in Nassau County, NY, 1900-2007

Hurricane Strikes vs Population for Nassau, New York



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

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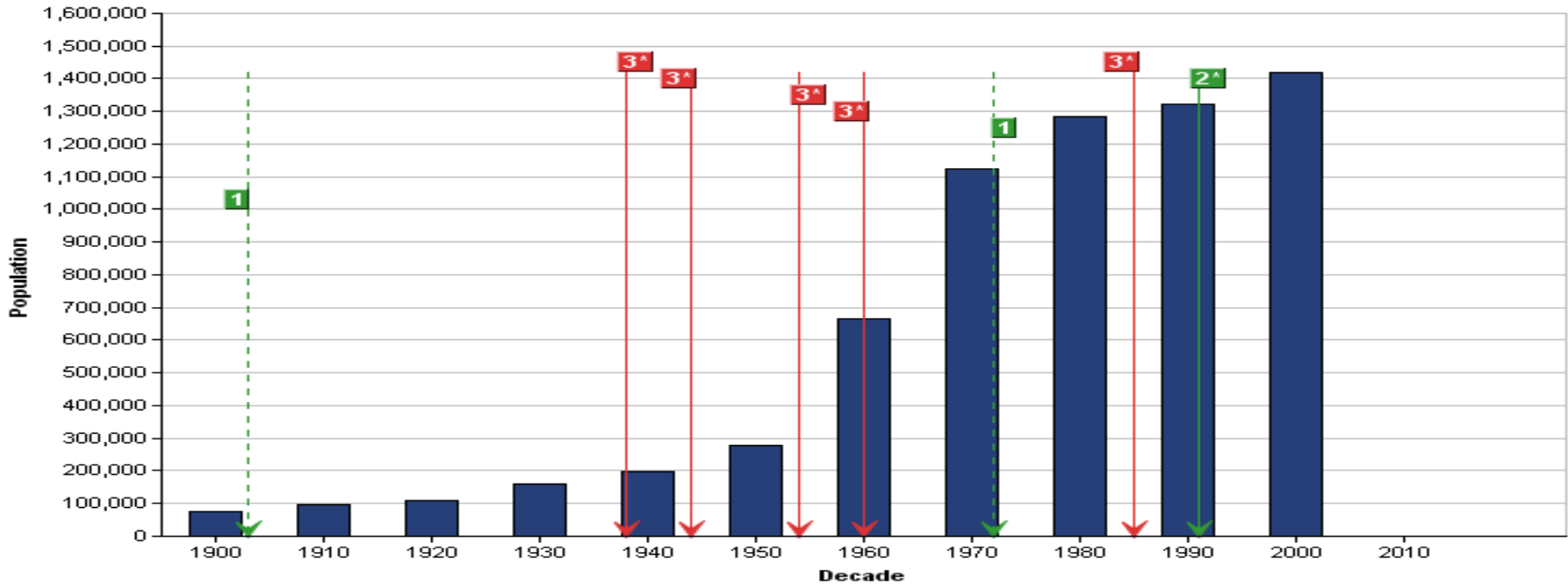
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Historical Hurricane Strikes in Suffolk County, NY, 1900-2007

Hurricane Strikes vs Population for Suffolk, New York



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

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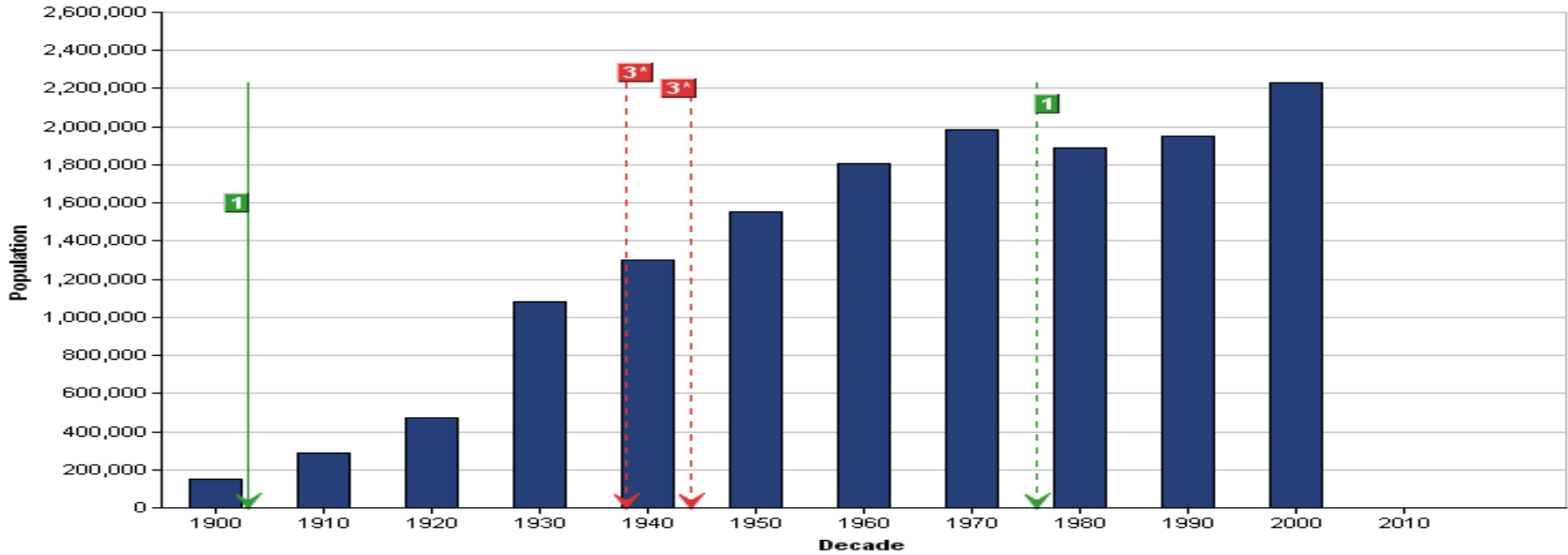
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NOTE: Population data is current as of 2000 U.S. Census. X-axis on graphs depict years through 2010 to illustrate storms that have occurred from 2000-2006.



Historical Hurricane Strikes in Queens, NY, 1900-2007

Hurricane Strikes vs Population for Queens, New York



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

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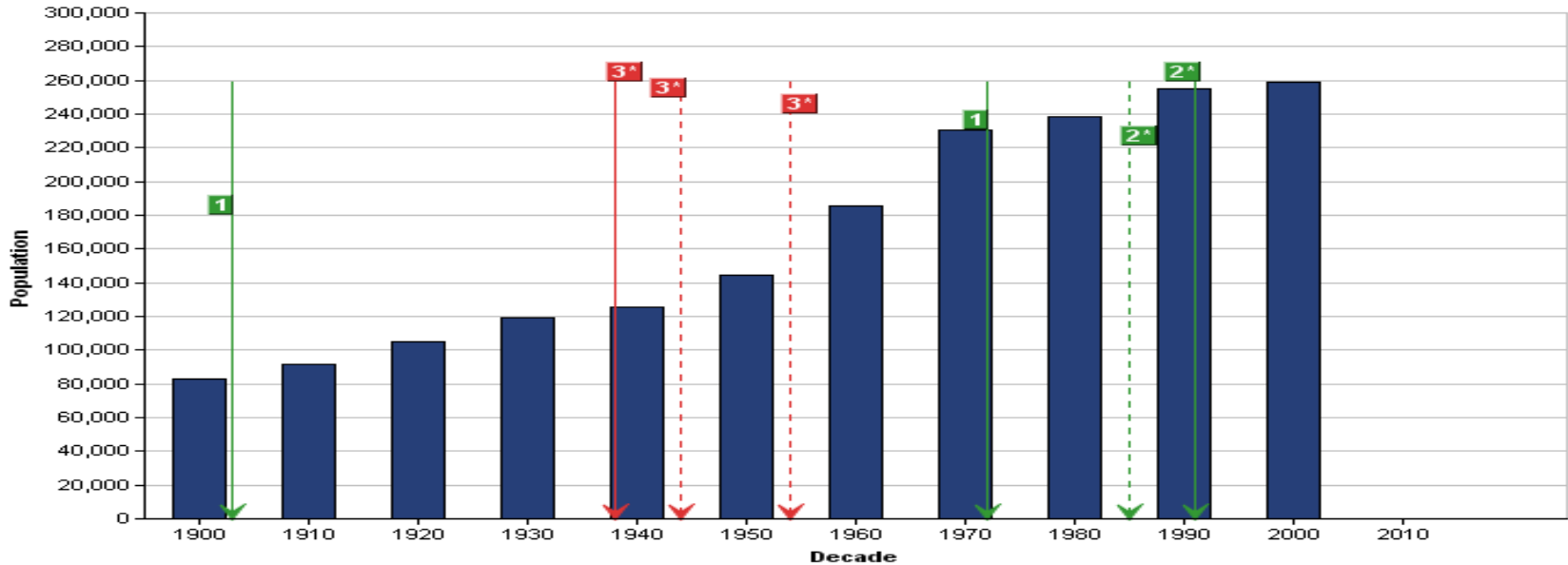
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NOTE: Population data is current as of 2000 U.S. Census. X-axis on graphs depict years from 2000-2006 to illustrate storms that have occurred from 2000-2006.



Historical Hurricane Strikes in New London County, CT, 1900-2007

Hurricane Strikes vs Population for New London, Connecticut



Legend

Hurricane Category 1-2	Direct Strike
Hurricane Category 3-5	Indirect Strike
Storm moving faster than 30 m.p.h.	Conventional Landfall Storm (Moving from water to land)
	Exiting or Inland Storm (Moving from land to water)

Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

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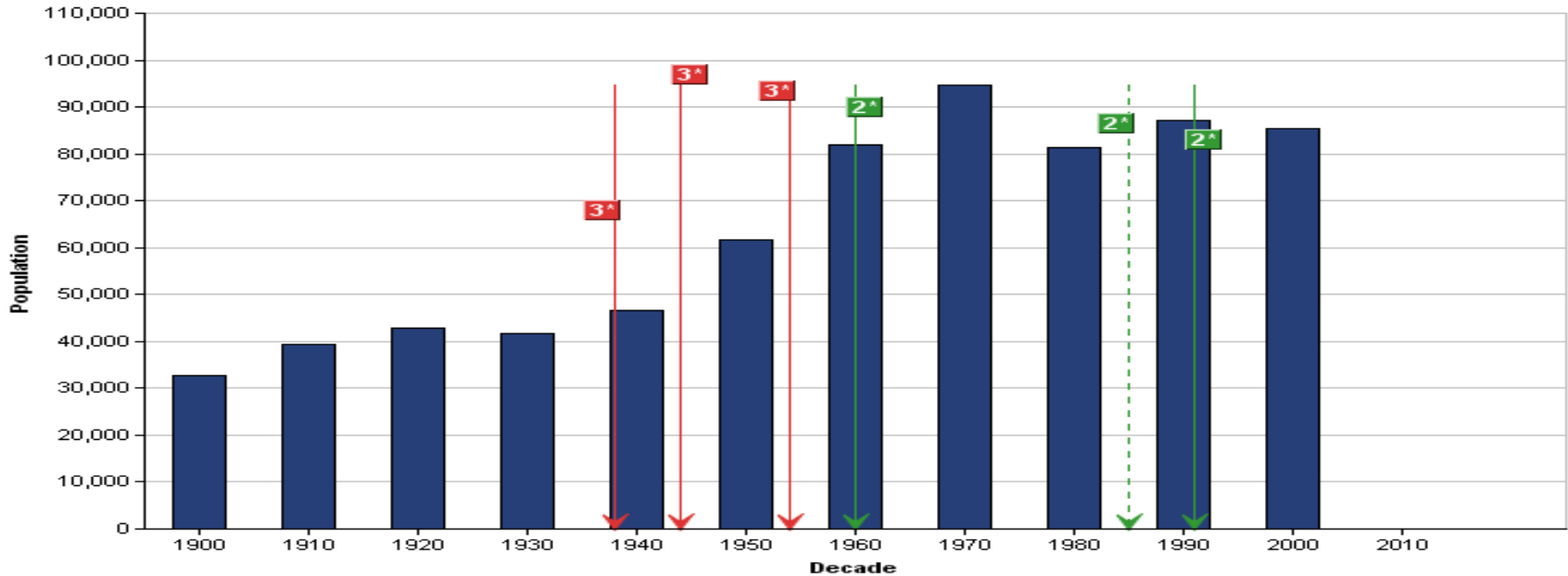
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NOTE: Population data is current as of 2000 U.S. Census. X-axis on graphs depict years U.S. Census through 2010 to illustrate storms that have occurred from 2000-2006.



Historical Hurricane Strikes in Newport County, RI, 1900-2007

Hurricane Strikes vs Population for Newport, Rhode Island



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

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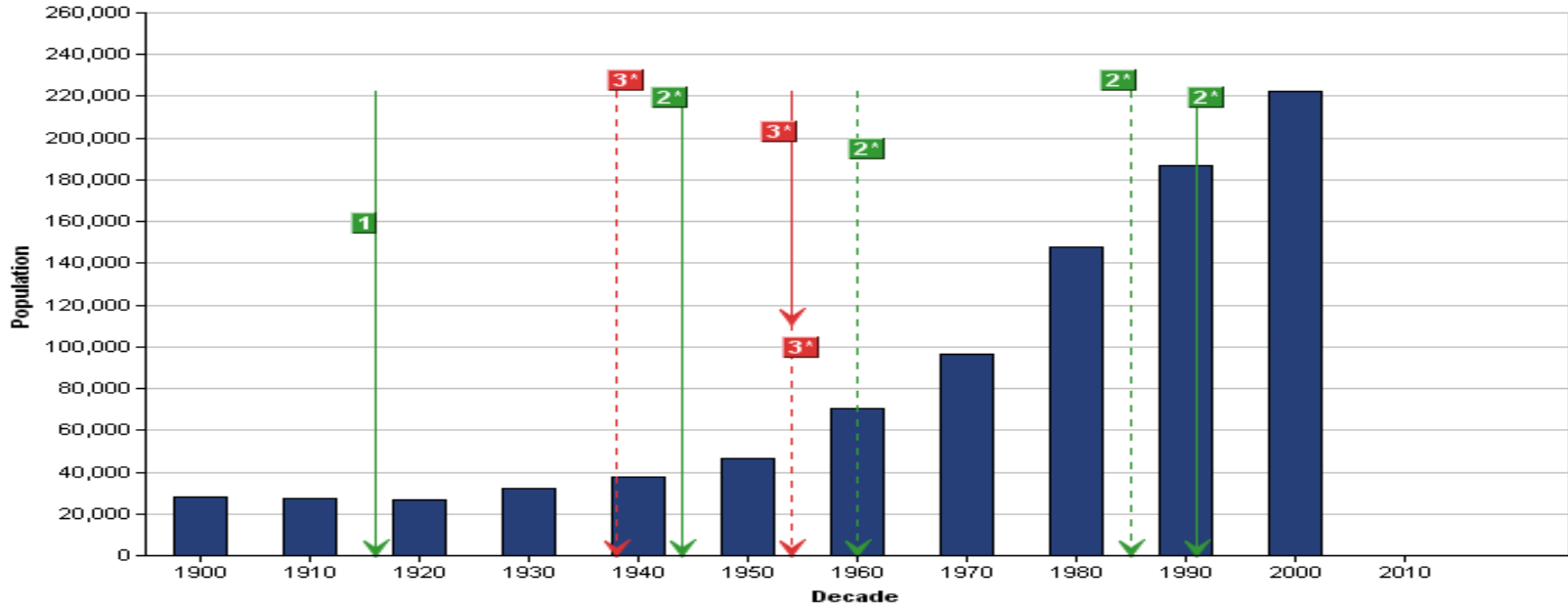
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NOTE: Population data is current as of 2000 U.S. Census. X-axis on graphs depict years through 2010 to illustrate storms that have occurred from 2000-2006.



Historical Hurricane Strikes in Barnstable County*, MA, 1900-2007

Hurricane Strikes vs Population for Barnstable, Massachusetts



Legend

Hurricane Category 1-2	Direct Strike
Hurricane Category 3-5	Indirect Strike
Storm moving faster than 30 m.p.h.	Conventional Landfall Storm (Moving from water to land)
	Exiting or Inland Storm (Moving from land to water)

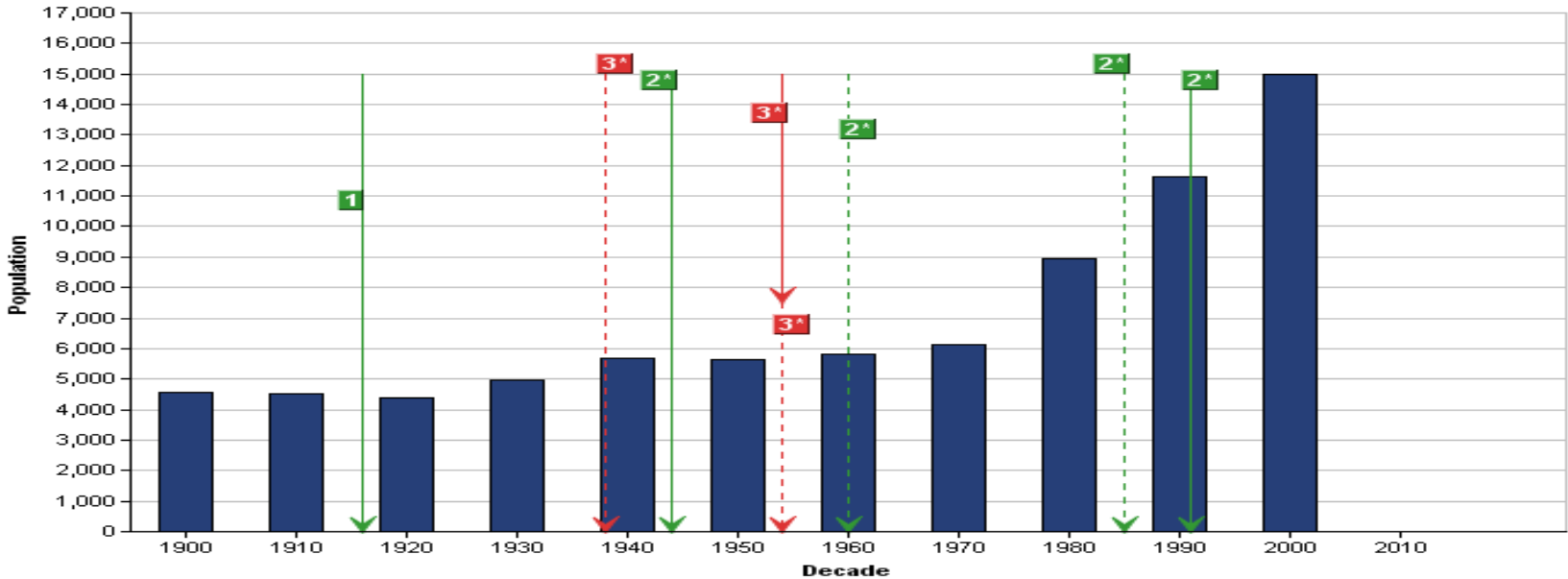


Hurricane Strike Data: National Hurricane Center
 Population Data: U.S. Census Bureau
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Historical Hurricane Strikes in Dukes County*, MA, 1900-2007

Hurricane Strikes vs Population for Dukes, Massachusetts



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

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