

**Presentation to the
LRC Study Committee on
Property Insurance Rate Making**

**By the
North Carolina Rate Bureau
December 1, 2011**



Purpose

- The purpose of this presentation is to inform, educate, provide facts and data as requested
- As a reminder, the Rate Bureau does not lobby or advocate any position other than assert the need for fair and adequate rates

Agenda

- Review of North Carolina Property Insurance Market
- Ratemaking Process
- Catastrophe Modeling
- “House Bill 1305”
 - Territory Determination
 - Hurricane Mitigation

The North Carolina Property Insurance Market

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Types of Residential Property Insurance Policies

- Homeowners (generally owner occupied)
 - Owners forms
 - Tenants
 - Condominium owners
- Dwelling Fire and Extended Coverage (generally not owner occupied)
- Mobile Home (two forms are available)

Homeowner Deductibles for North Carolina

- \$250 Deductible 16.5% of policyholders
- \$500 Deductible 50.6% of policyholders
- \$1,000 Deductible 22.2% of policyholders

Rate Bureau Membership

- There are 725 companies that are members of the North Carolina Rate Bureau that are licensed to write one or more lines of insurance
- 621 companies are licensed to write residential property
- Companies writing residential property

Homeowners (includes tenant and condo)	97
Dwelling (extended coverage)	60
Mobile Home	15

Ratemaking Process

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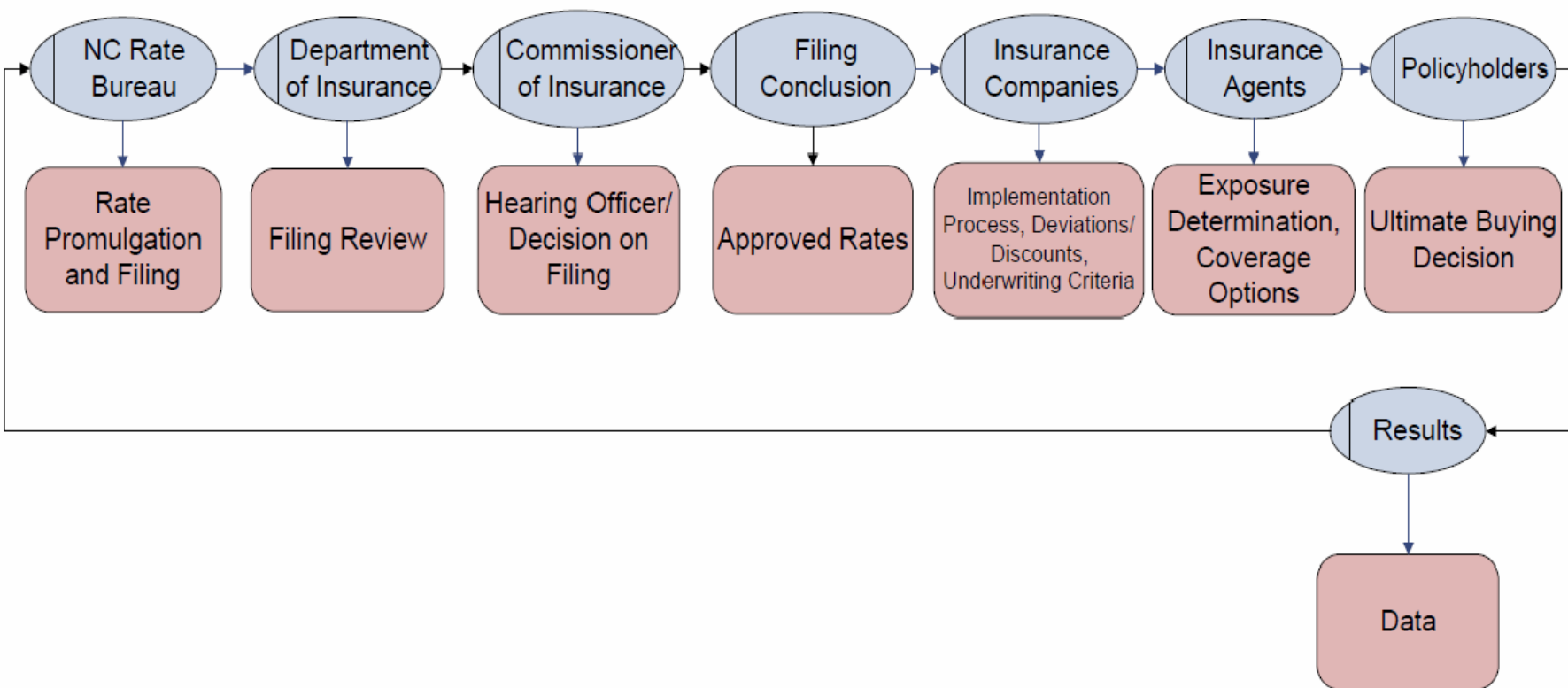


The Ratemaking Process

- Data from all member insurance companies are submitted to a statistical agency
- The data are aggregated as if from a single company
- Rates are developed and a filing is authorized by the Governing Committee
- A filing is made with the Commissioner of Insurance



Ratemaking Process



Ratemaking Formula (The insurance equation)

$$\begin{aligned} \text{Premium} &= \text{Expected losses} \\ &+ \\ &\text{Expected expenses} \\ &+ \\ &\text{Reasonable profit} \end{aligned}$$

Ratemaking Standards

NCGS 58-36-10. The following standards shall apply to the making and use of rates:

- (1) Rates or loss costs shall not be **excessive, inadequate or unfairly discriminatory**.
- (2) Due consideration shall be given to **actual loss and expense experience** within this State for the most recent three-year period for which that information is available; to **prospective loss and expense experience** within this State; to the hazards of conflagration and **catastrophe**; to a reasonable margin for underwriting **profit...**

Hurricane Modeling

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Why does the Rate Bureau use catastrophe models?

Evolution of catastrophe models

- Prior to 1987, the US had not experienced a natural disaster with insured losses greater than \$1 billion
- The common belief by insurers was that the largest possible insured loss from a single hurricane was around \$8 billion
- In 1987, AIR Worldwide (AIR) estimated an industry loss greater than \$20 billion from a single hurricane

Why does the Rate Bureau use catastrophe models?

Then....

- *Hurricane Hugo* (Sept 1989)
 - \$ 6.6 billion industry insured losses
- *Hurricane Andrew* (Aug 1992)
 - \$ 21.6 billion industry insured losses
- *Hurricane Katrina* (August 2005)
 - \$34.4 billion industry insured losses
- *Hurricane Ike* (Sept 2008)
 - \$12.5 billion industry insured losses

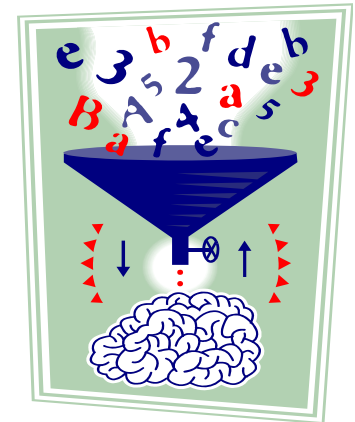


The severity of these catastrophes demonstrated the limitations of relying exclusively on historical insurance data

What is a catastrophe model?

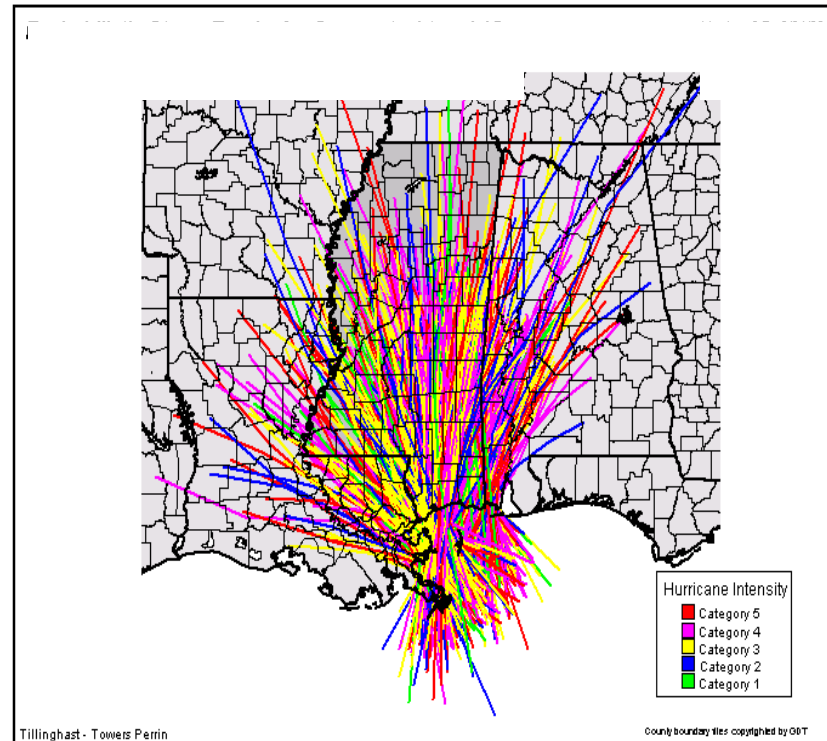
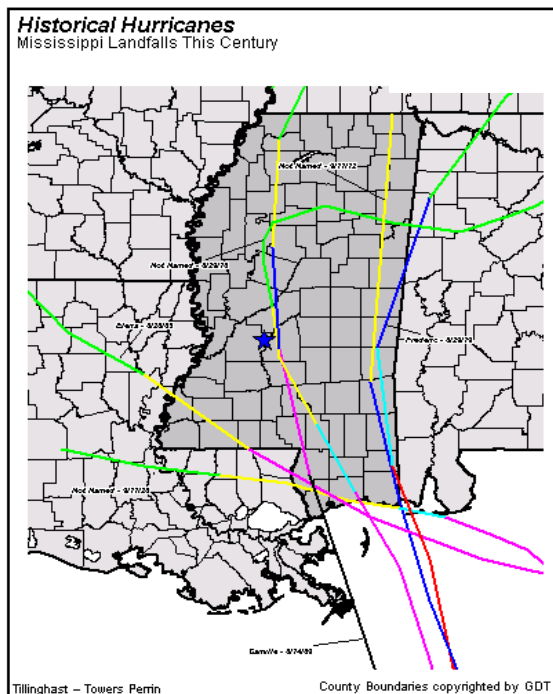
A catastrophe model is a computerized system that generates a set of simulated events which:

- Estimates the frequency, intensity and location
- Determines the amount of damage
- Calculates the insured loss



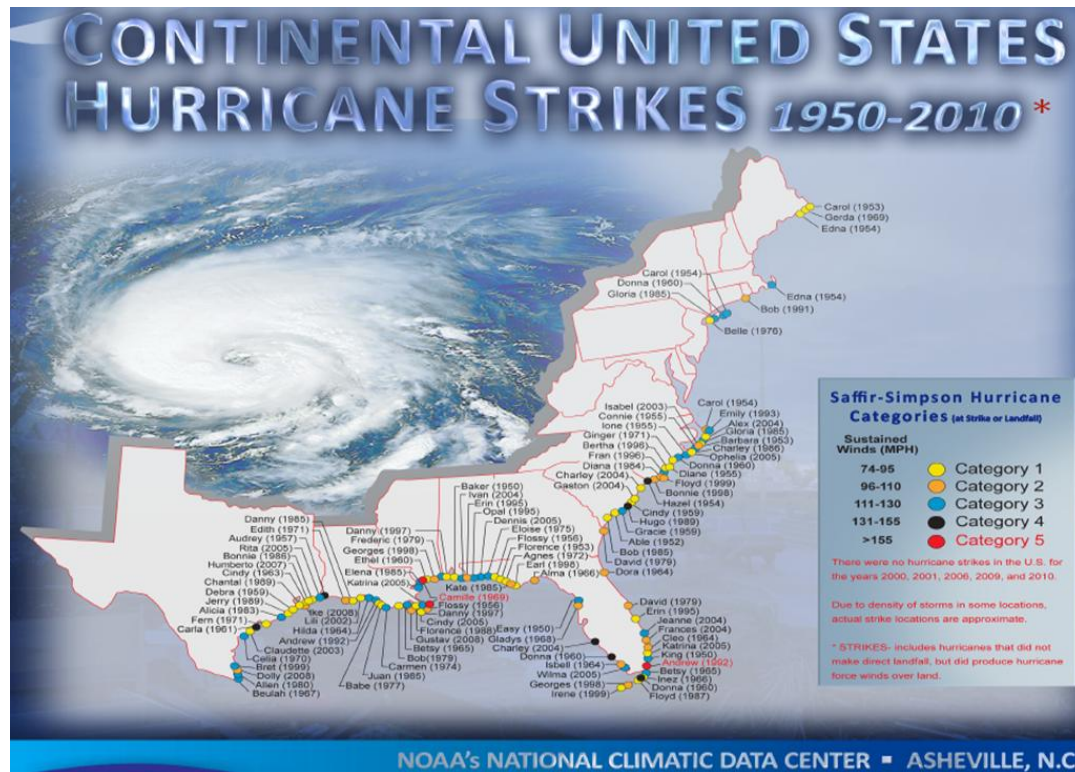
How do catastrophe models work?

Historical event information is used.....to create a simulated set of events



Why does the Rate Bureau use catastrophe models?

Limitations of historical data



- Catastrophic hurricanes are relatively rare, high severity events, and there are gaps in the historical record
- There are portions of the coast without historical events
- The frequency of hurricane activity has not been constant over time
- Therefore, the historical record does not reflect the full range of possible hurricane events

Why does the Rate Bureau use catastrophe models?

Limitations of historical data

- Property conditions have changed over the years:
 - Geographic concentration
 - Policy conditions and coverages
 - Building materials and building designs
 - Building codes
 - Costs of materials and labor
- These limitations make the historical insurance loss data unsuitable for directly estimating future losses

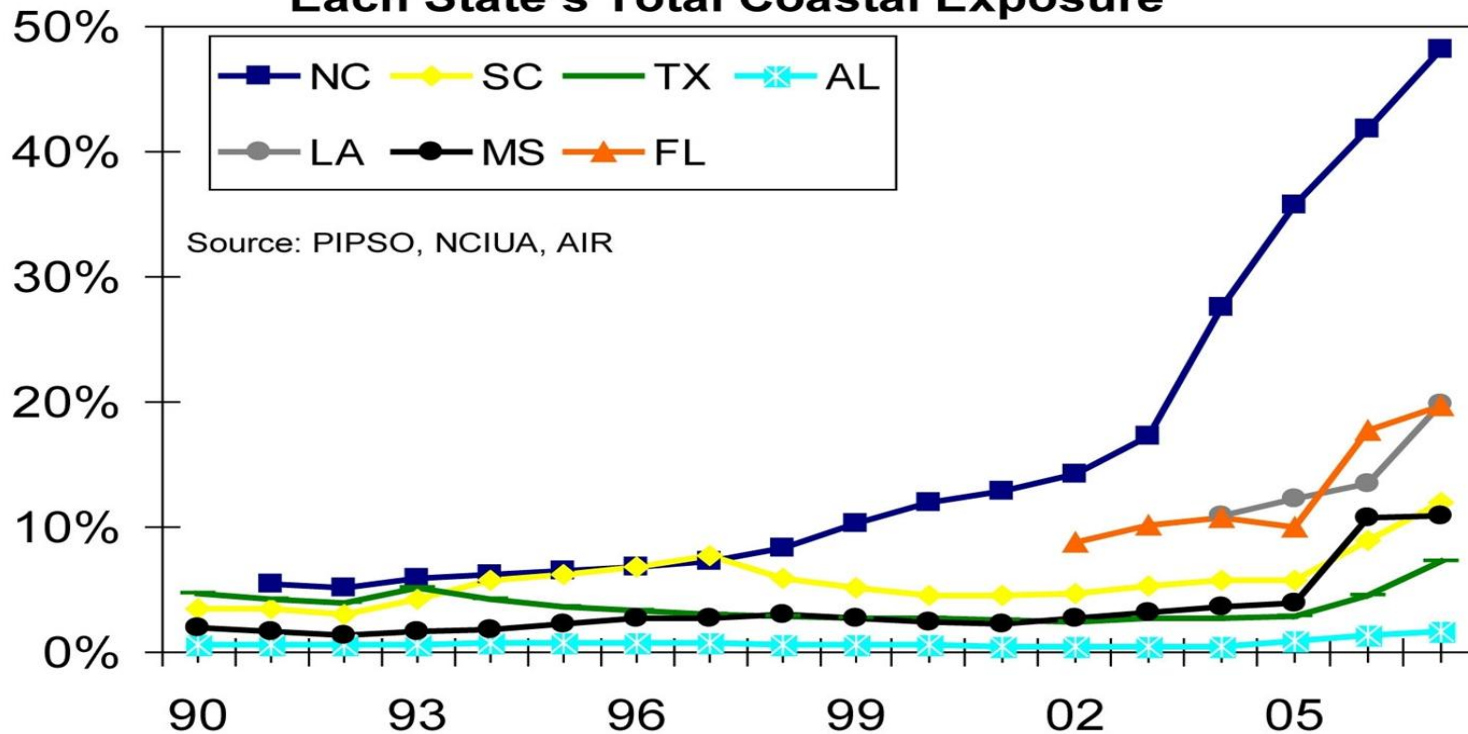
Why does the Rate Bureau use catastrophe models?

- With models, we can simulate events using current property details
- The following limitations can be overcome with the use of catastrophe models:
 - Incomplete historical record of storms
 - Very short historical period of insurance losses
 - Constantly changing environment
 - Structure differences and building code changes
 - Population shifts
 - Policy differences
 - Costs of materials and labor

“House Bill 1305”

- Review Property Territories
- Develop Hurricane Mitigation Program

Beach and Windstorm Plans' Exposure As a Percentage of Each State's Total Coastal Exposure



Review Property Territories

- 2008 – Split northeastern coastal territory into two parts with approval of Department of Insurance
- 2011 – Reviewed southeastern coastal territory
 - Four counties (Brunswick, New Hanover, Pender, Onslow)
 - Reviewed ZIP codes
 - Reviewed geographical boundaries
 - Reviewed roads/highways
 - Still under review by Bureau and Department of Insurance

Territory Definitions

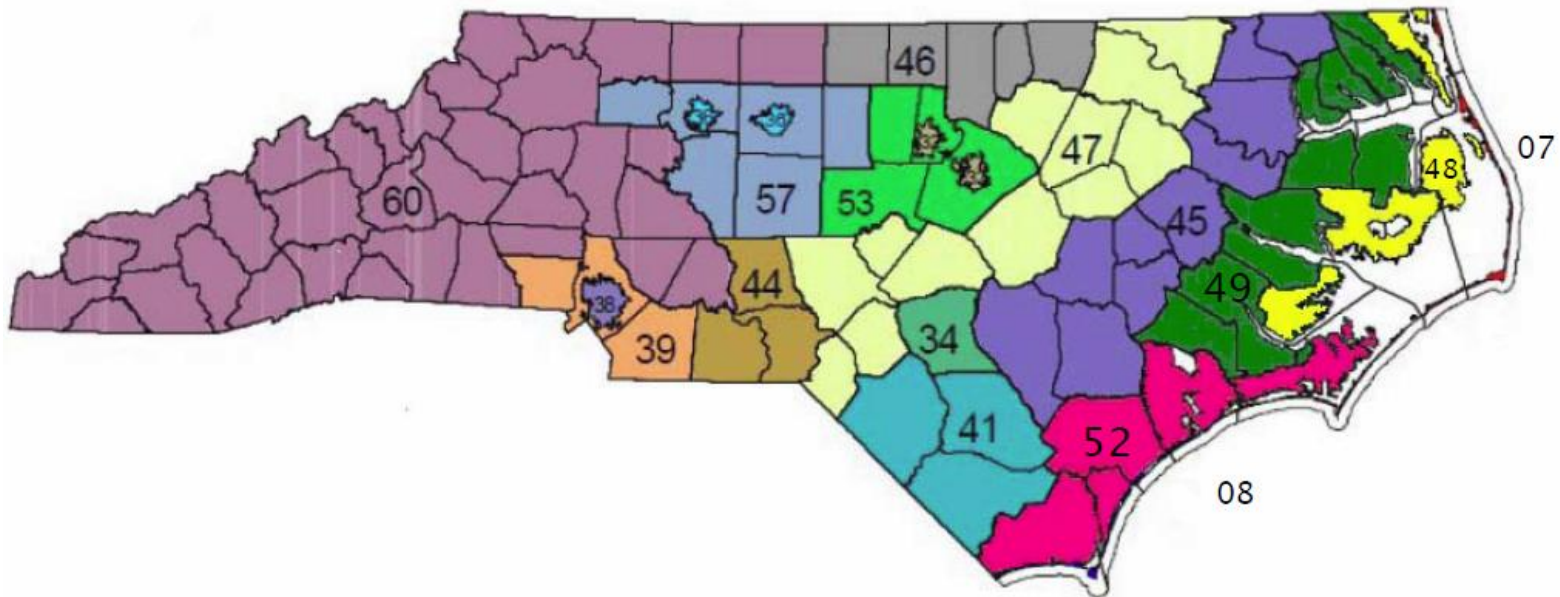
- Definitive boundaries
- Homogeneous groupings
- Statutory definitions
- Data collection (measuring results)
- Zero sum

North Carolina Insurance Underwriting Association 58-45-5 Definition of Terms

(2) **Beach** area. All of that area of the State of North Carolina south and **east of the inland waterway** from the South Carolina line to Fort Macon (Beaufort Inlet); thence south and east of Core, Pamlico, Roanoke and Currituck sounds to the Virginia line, being those portions of land generally known as the Outer Banks.

(2b) **Coastal** area. All of that area of the State of North Carolina comprising the following counties: Beaufort, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Hyde, Jones, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and Washington. “Coastal area” does not include the portions of these counties that lie within the beach area.

North Carolina Rate Bureau Homeowners Territories (Effective May 1, 2009)



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Develop Hurricane Mitigation Credit Program

- Effective May 1, 2011
- Coastal territories only (Beach Plan Territories)
- Available in Voluntary and Residual Markets
- Credits based on level of mitigation features on dwelling
- Credit increases as the amount of insurance increases
- Hip roof and/or opening protection lowest credits
- Higher credits for dwellings built at higher standard than building code
- Higher standards developed by Institute for Business and Home Safety (IBHS)
- Higher standards for new construction and retrofit dwellings

Thank you
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