



# Hurricanes and Homeowner Decision Making: A Survey of Southeast N.C. Homeowners

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# Survey

- Conducted between 2001-2002.
- 336 Homeowners in Brunswick, New Hanover and Pender Counties

## Information Collected:

- Demographic and current mitigation activities
- Expectations of strike probabilities and damages
- Willingness to pay for further mitigation devices

# Demographics

- Income ~ \$50,000
- Home Value ~ \$150,000
- 60% of respondents are female
- Average education is 2 years of college.

# Mitigation Measures

- Roof ~ 50%
- Windows ~30%
- Doors and Garage Doors ~ 20%

# Perceptions of Hurricane Strikes

- Category 3 ~ 35% probability of a strike per year
- Category 4 ~ 15%
- Category 5 ~ 7.5%

# Perceptions of Hurricane Damages

- Category 3 ~ 11% of home value lost (\$16,500)
- Category 4 ~ 22% (\$33,000)
- Category 5 ~ 62% (\$93,000)

# Perceptions of Expected Damages

- Category 3 ~ \$5,775
- Category 4 ~ \$4,950
- Category 5 ~ \$6,975
- Total ~ \$17,750

Big Annual Damages Expected

# Key Empirical Findings

## 1) Determinants of mitigation:

- Income

- Size of insurance deductible

- Expected damages from a category 3 storm.

Owners seem to dismiss low-probability events.

Most well know devices on rated to Cat. 3

Category 4 and 5 damages well above deductible levels.

# Key Empirical Findings (cont.)

## 2) Willingness to Pay for Category 3 Mitigation:

Income

Size of insurance deductible or lack of insurance

Probability of a category 3 strike

Price

WTP is negative and requires a subsidy perhaps in excess of \$14,000. WTP is positive only when no insurance is available

## Key Empirical Findings (cont.)

- 3) Calculation of Risk Aversion using WTP data:  
~ 0.00412

This compares to the risk aversion demonstrated by people making auto insurance decisions. (~0.0032)  
(Cohan and Einav, 2004)

Higher than game show participants.

Willing to take a lottery paying out \$250 with a 50% probability and resulting in a \$100 loss with a 50% probability.



# Concluding Comments

Income, price, current insurance and category 3 expected damages are important in mitigation purchases.

Most homeowners don't seem to be willing to purchase extensive mitigation even though expected annual perceived damages are quite high and owners demonstrate a reasonable level of risk aversion.

Mitigation and insurance appear to be substitutes.