“Cost” of Time Spent during Tornado Warnings 2000 - 2004

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Why Tornado Warnings?

- Highly visible product
- Specific call to action
- Want as few warnings as possible to protect lives and property
- Different way of looking at false alarm problem

Value vs. Cost

- Value
  - Fatality/injury reduction (perhaps 400 lives saved per year for the warning system)
- Cost
  - Cost of warning system
  - Cost to the public of time taking precautions
    - $15 per hour (typical value)

What I have done

- Looked at every warning issued by National Weather Service (1986 – 2004)
  - Population in the warned county
  - Length of time of the warning

Mean Warning Time

2000 – .65 hours

2001 – .65 hours

2002 – .65 hours

2003 – .69 hours

2004 – .69 hours

5 year average: ~ .67 hours

Number of Warnings

2000 → 2906
2001 → 2903
2002 → 2812
2003 → 4023
2004 → 4691

TOTAL = 17,335

AVERAGE = 3,467

Person Hours

2000: 195.2 million (67,166/warning)

2001: 187.9 (64,727)

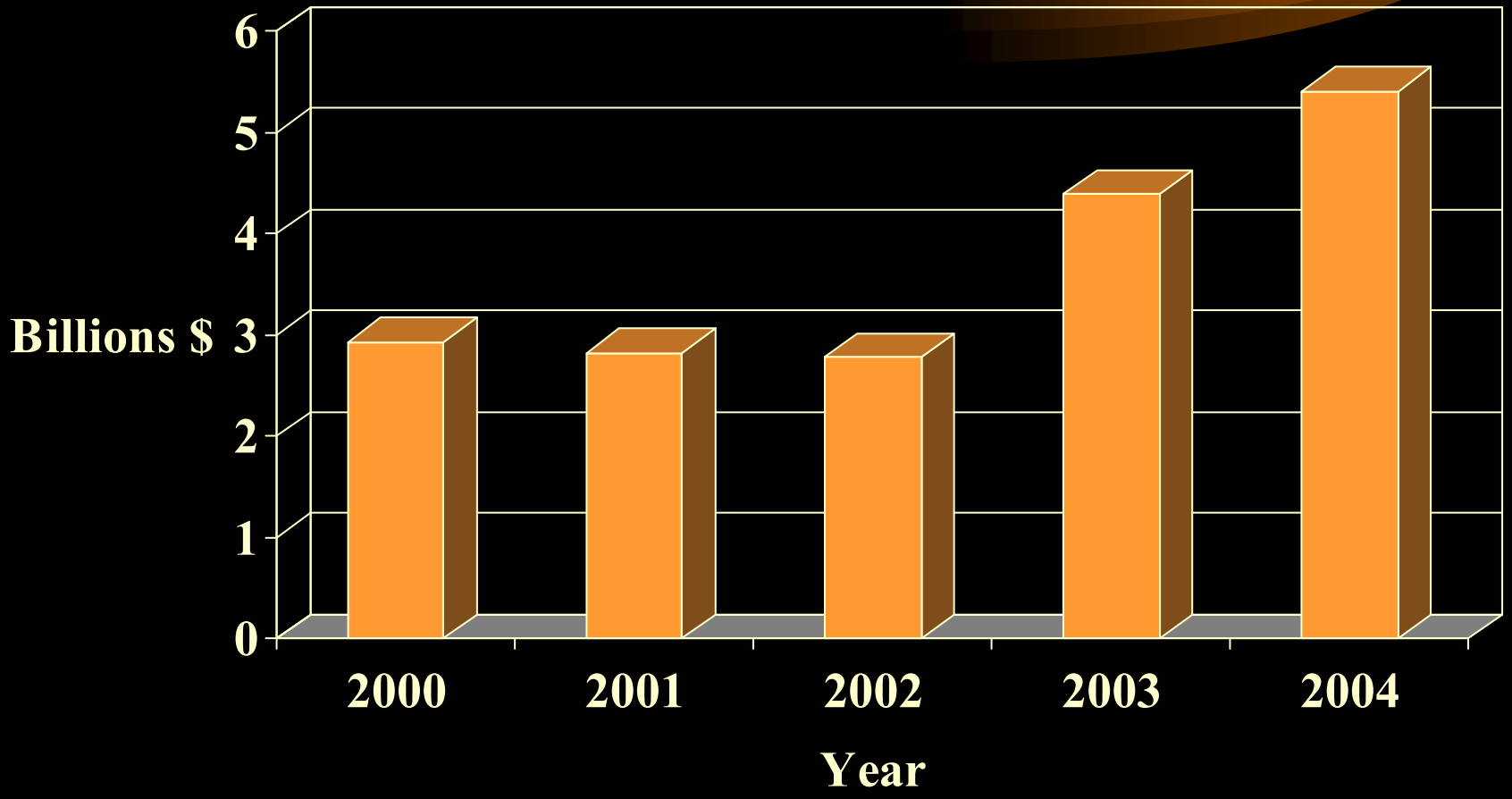
2002: 185.5 (65,976)

2003: 292.7 (72,570)

2004: 360.2 (76,783)

MEAN = 244.3 (70,464)

COST ($15/person hour)



Most Warned Counties (2000-2004)

1. Texas – Harris County (9.0 hours/year)
2. Colorado – Washington (6.6)
3. Texas – Liberty (6.0)
4. Colorado – Lincoln (5.9)
5. Texas – Brazoria (5.5)
6. Illinois – McLean (5.1)

1172. Oklahoma – Cleveland (0.8)

Harris County

- 3rd most populous county in United States
- $450 million a year (~ 13% of national total)
- 68 warnings
  - 22 verified
- 30 Tornadoes
  - 6 per year
  - 1 F3
  - 2 F2

Polygon Warnings

Potentially:

Decrease warning area size

↓

Decrease costs

Future

- Would like to continue this work for my PhD but….

  …..there is no ECONOMICS to do so!

Any help would be greatly appreciated!?!

Questions?

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