

# Franklin, Southampton, & Southside Hampton Roads Hazard Mitigation Plans

April 21, 2011

Presented to the Hampton Roads Planning District Commission  
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# A 10-Step Process within the 4-Phases

## **Phase I: Organize Resources**

- Get organized
- Plan for public involvement
- Coordinate with other departments & agencies

## **Phase II: Assess Risk**

- Identify the hazards
- Assess the risks

## **Phase III: Develop Mitigation Plan**

- Review mitigation alternatives
- Draft an action plan
- Set planning goals

## **Phase IV: Adopt & Implement**

- Adopt the plan
- Implement the plan

# Natural Hazards Summary

## Southampton County & Franklin

Flood  
Hurricane and Tropical Storm  
Severe Thunderstorm  
Tornado  
Winter Storm  
Wildfire  
Drought  
Shoreline Erosion  
Earthquake  
Sinkhole  
**Landslide**  
**Extreme Temperature Heat**  
**++Mosquito Borne Disease**

## Southside Hampton Roads

Floods  
Storm Surge  
**++Sea Level Rise**  
Tsunamis  
Hurricanes and Tropical Storms  
Severe Thunderstorms **++(and Hail)**  
Lightning  
Tornadoes  
Winter Storms and Nor'easters  
**Shoreline** Erosion (~~Riverine and Coastal~~)  
Earthquakes  
**Landslides**  
**Sinkholes**  
Droughts  
Wildfires  
Dam/~~Levee~~ Failures  
**Extreme Temperature Heat**  
**++Mosquito Borne Disease**

# Flood Risk Assessment

## Four Parts

1. Risk to structures and populations by 100-year flood event & Category 3 storm surge
2. Critical Facilities analysis
3. Structure analysis
  - National Flood Insurance Program Claims & Coverage
  - Repetitive Flood Loss Analysis
4. Qualitative Assessment

# Updated Flood History

## 17 new events in NCDC database

**Isle of Wight County & Windsor, October 6-7, 2006, \$3 million damages** - Torrential rain caused extensive damage to crops and high water around residences. 40 people were evacuated. Rainfall amounts in excess of 10 inches resulted in numerous road closures and moderate to major river flooding from late Friday October 6th through Saturday October 7th. Up to 28,000 Dominion Virginia Power customers lost power.



**Southside Hampton Roads, November 12, 2009, \$1 million damages** - An intense Nor'easter produced moderate to severe coastal flooding across much of eastern and southeastern Virginia and Eastern Shore.

# 100-Year Flood Loss Estimate

## FLOOD (100-YEAR)

Annualized Loss Estimate: \$48,172,702

## AT-RISK PROPERTIES, 100-YEAR FLOOD

JURISDICTION	NUMBER OF STRUCTURES	ASSESSED VALUE	NUMBER OF PRE-FIRM STRUCTURES	VALUE OF PRE-FIRM STRUCTURES
Isle of Wight County	374	\$124,445,000	Unknown	Unknown
Norfolk	14,037	\$3,014,779,700	11,207	\$2,791,581,500
Portsmouth	8,292	\$4,541,637,210	Unknown	Unknown
Smithfield	51	\$16,258,300	Unknown	Unknown
Suffolk	1,612	\$206,889,500	595	\$70,567,300
Virginia Beach	11,114	\$3,128,490,076	4,182	\$1,152,243,064
Windsor	2	\$179,900	Unknown	Unknown
<b>TOTAL</b>	<b>35,482</b>	<b>\$11,032,679,686</b>	<b>15,984</b>	<b>\$4,014,391,864</b>

# Storm Surge Flood Loss Estimate

## BUILDING-RELATED ECONOMIC LOSS ESTIMATES (CATEGORY 3 STORM SURGE)

JURISDICTION	RESIDENTIAL LOSSES	COMMERCIAL LOSSES	INDUSTRIAL LOSSES	TOTAL
Isle of Wight County	\$ 104,020,000	\$ 27,320,000	\$ 53,620,000	\$ 184,960,000
Norfolk	\$ 2,973,510,000	\$ 1,138,370,000	\$ 479,840,000	\$ 4,591,720,000
Portsmouth	\$ 480,990,000	\$ 158,360,000	\$ 71,300,000	\$ 710,650,000
Suffolk	\$ 139,540,000	\$ 65,490,000	\$ 8,690,000	\$ 213,720,000
Virginia Beach	\$ 4,434,110,000	\$ 992,030,000	\$ 179,000,000	\$ 5,605,140,000
<b>TOTAL</b>	<b>\$ 8,132,170,000</b>	<b>\$ 2,381,570,000</b>	<b>\$ 792,450,000</b>	<b>\$ 11,306,190,000</b>

# NFIP-Insured Structure Analysis

## City of Virginia Beach

Policies-in-force	25,268
Insurance in-force	\$6,323,000,000

### Repetitive loss properties

Residential	433
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Non-residential	8
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Claims	1,247
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Ave Payment/claim	\$16,864
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## City of Suffolk

Policies-in-force	1,055
Insurance in-force	\$306,327,000

### Repetitive loss properties

Residential	10
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Non-residential	3
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Claims	36
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Ave Payment/claim	\$40,302
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A repetitive loss is any insurable building for which 2 or more claims of more than \$1,000 were paid by the NFIP within any rolling ten-year period, since 1978. A repetitive loss property may or may not be currently insured by the NFIP.

# NFIP-Insured Structure Analysis

## Severe Repetitive Losses

NORFOLK	32
Residential	32
Number of Claims	164
Total Losses	\$3,418,704
Total Building	\$3,010,212
Total Contents	\$408,491
Average Claim	\$20,845

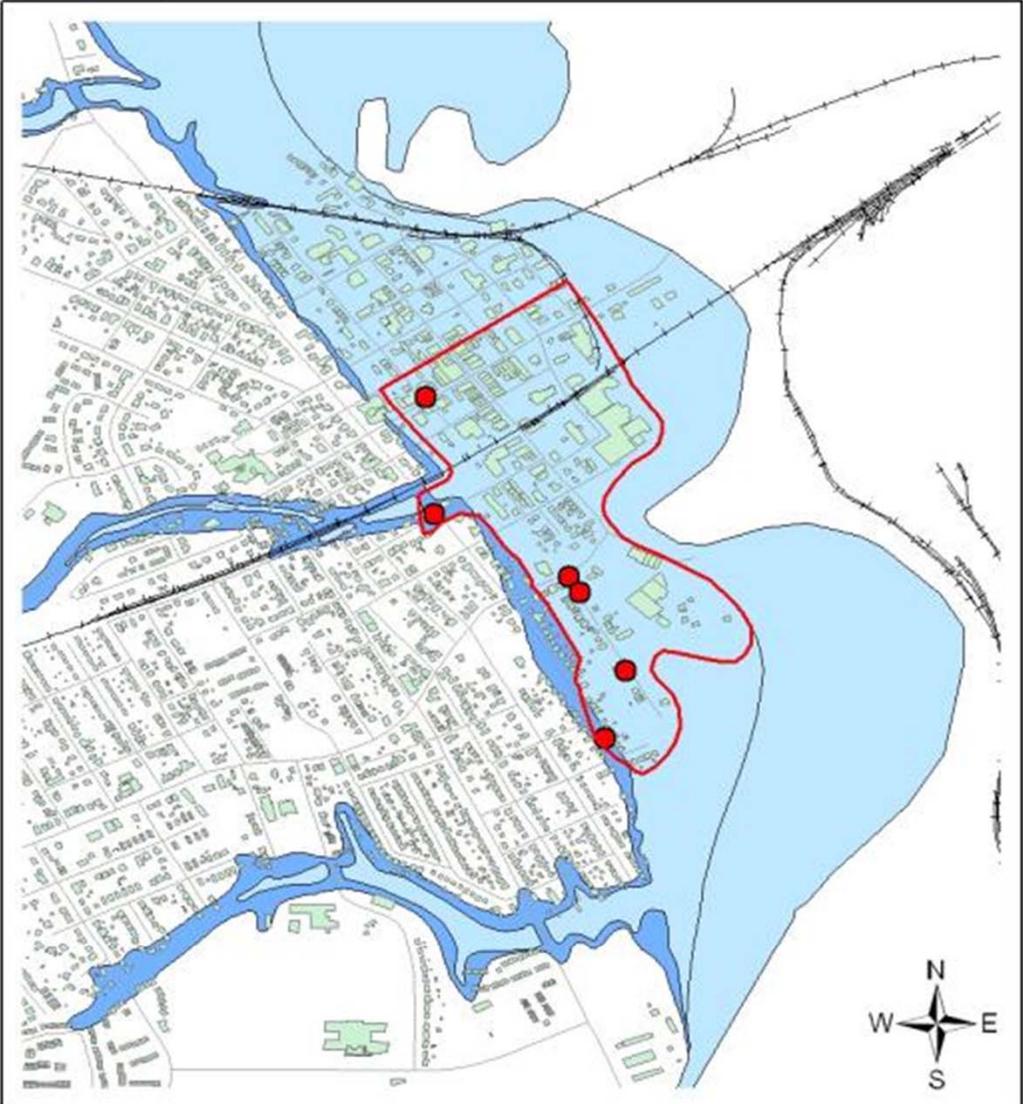
PORTSMOUTH	5
Residential	5
Number of Claims	33
Total Losses	\$722,315
Total Building	\$640,195
Total Contents	\$82,120
Average Claim	\$21,888

VIRGINIA BEACH	24
Residential	24
Number of Claims	149
Total Losses	\$3,668,790
Total Building	\$3,207,964
Total Contents	\$460,827
Average Claim	\$24,622

A **severe** repetitive loss is defined as either:

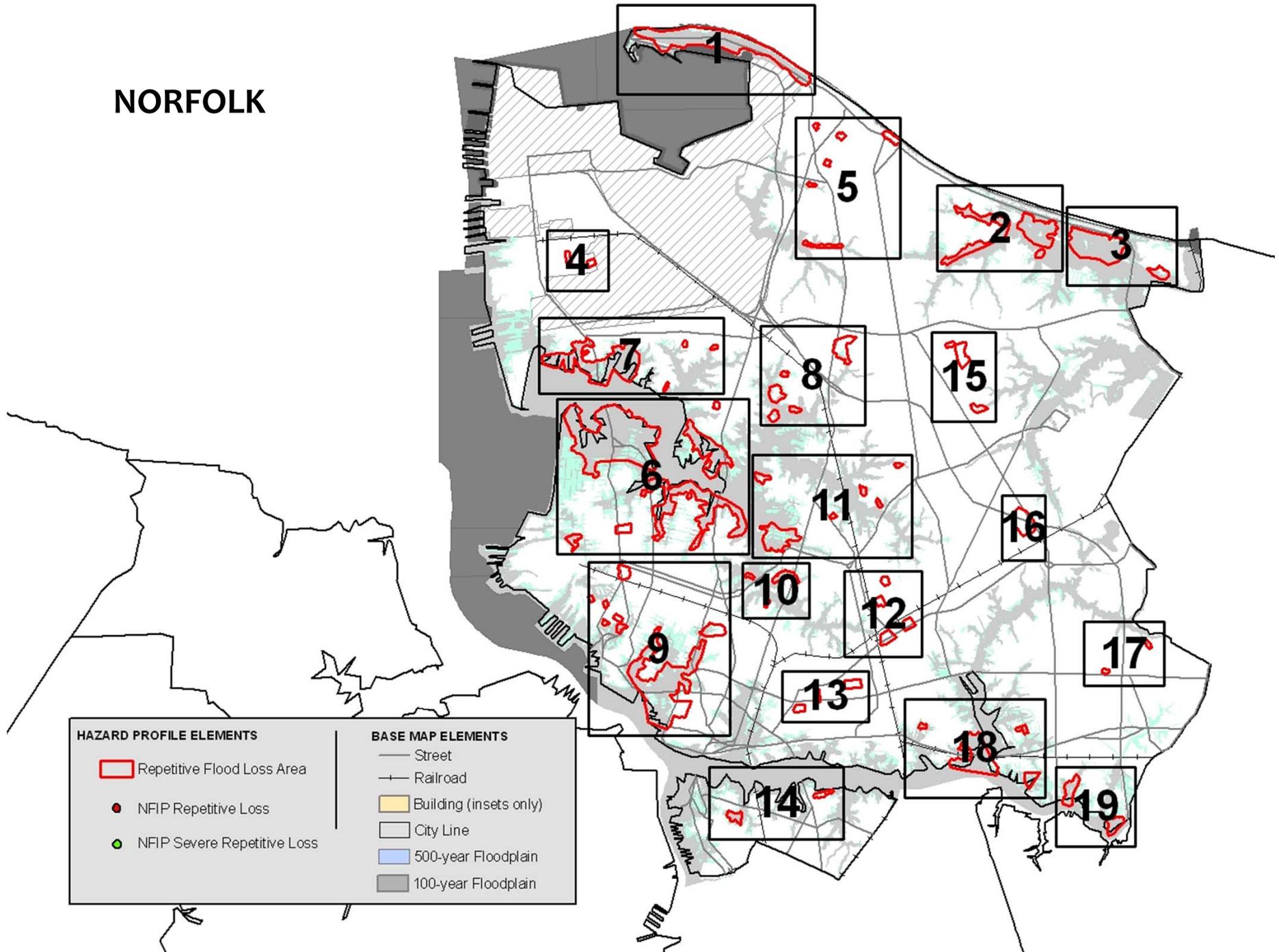
- 1) a residential property that is covered under an NFIP flood insurance policy, has at least 4 NFIP claim payments > \$5,000 each, with cumulative payments >\$20,000; or
- 2) residential property with at least two separate claims payments (building only) with cumulative amount of such claims exceeding the market value of the building.

# Franklin



HAZARD PROFILE ELEMENTS	BASE MAP ELEMENTS
Repetitive Flood Loss Area	Franklin City Limits
NFIP Repetitive Loss	City Streets
	Railroad
	Buildings

# NORFOLK



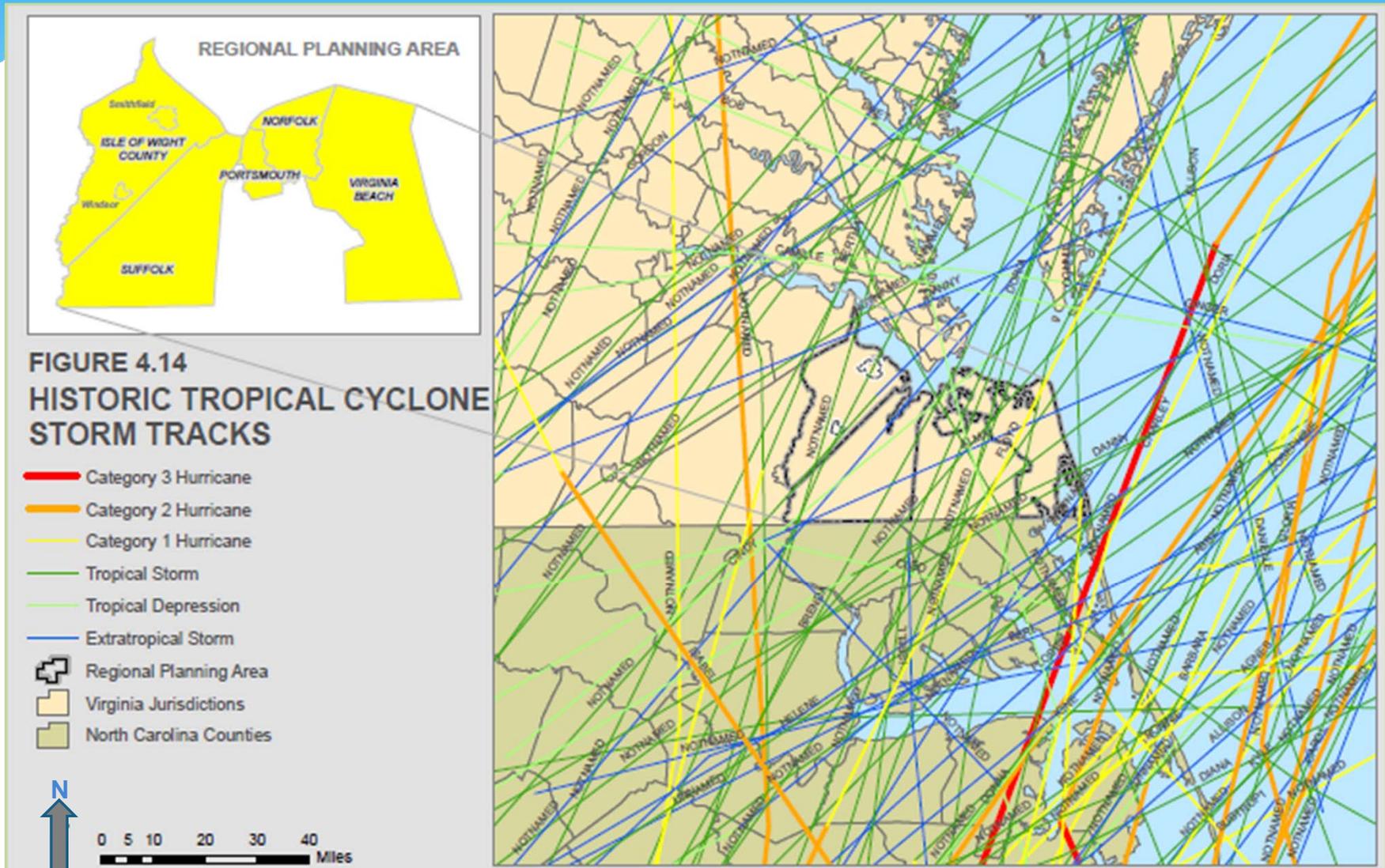
# Hurricanes and Tropical Storms

- Property damage, power & phone outages, tree damage, structural damage to roofs
- Added five events since the previous plan adoption:

Date	Name	Wind Speed (mph)	Storm Category
June 16, 2006	Alberto	60	Extratropical storm
September 1, 2006	Ernesto	69	Extratropical storm
June 4, 2007	Barry	45	Extratropical storm
September 10, 2007	Gabrielle	40	Tropical storm
September 6, 2008	Hanna	69	Tropical Storm

# Hurricanes and Tropical Storms

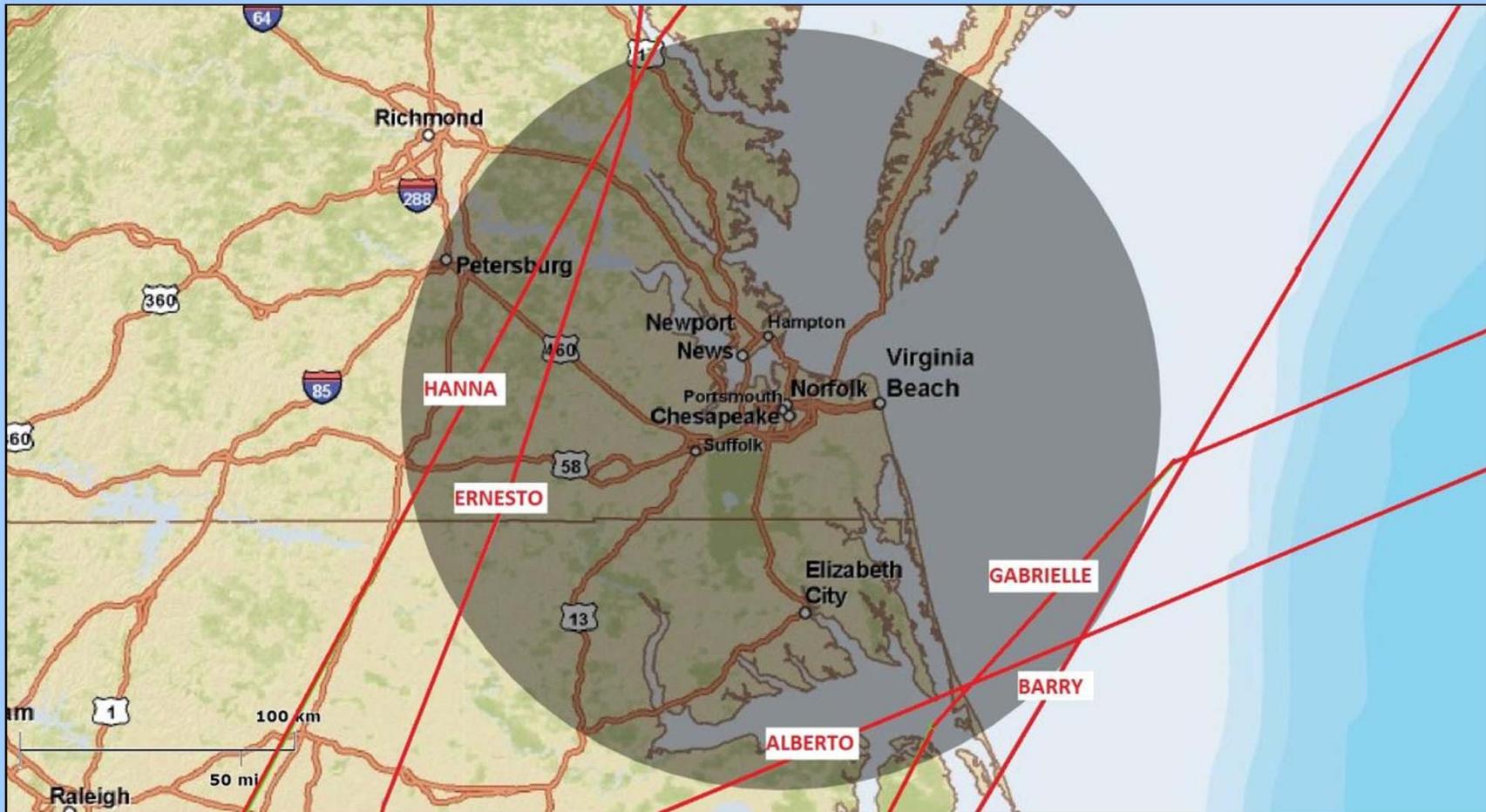
Historical Storm Tracks Within 75 nautical miles of  
Southside Hampton Roads (1950-2005)



# Hurricanes and Tropical Storms

Recent Storms

75-mile radius



# Qualitative Assessment for Hurricanes and Tropical Storms

	Southampton County	Franklin	Southside Hampton Roads
<b>PROBABILITY</b>	Likely	Likely	Likely
<b>IMPACT</b>	Critical	Catastrophic	Catastrophic
<b>SPATIAL EXTENT</b>	Large	Large	Large
<b>WARNING TIME</b>	More Than 24 Hours	More Than 24 Hours	More Than 24 Hours
<b>DURATION</b>	Less Than 24 Hours	Less Than 24 Hours	Less Than 24 Hours
<b>PRI</b>	2.9	3.2	3.2

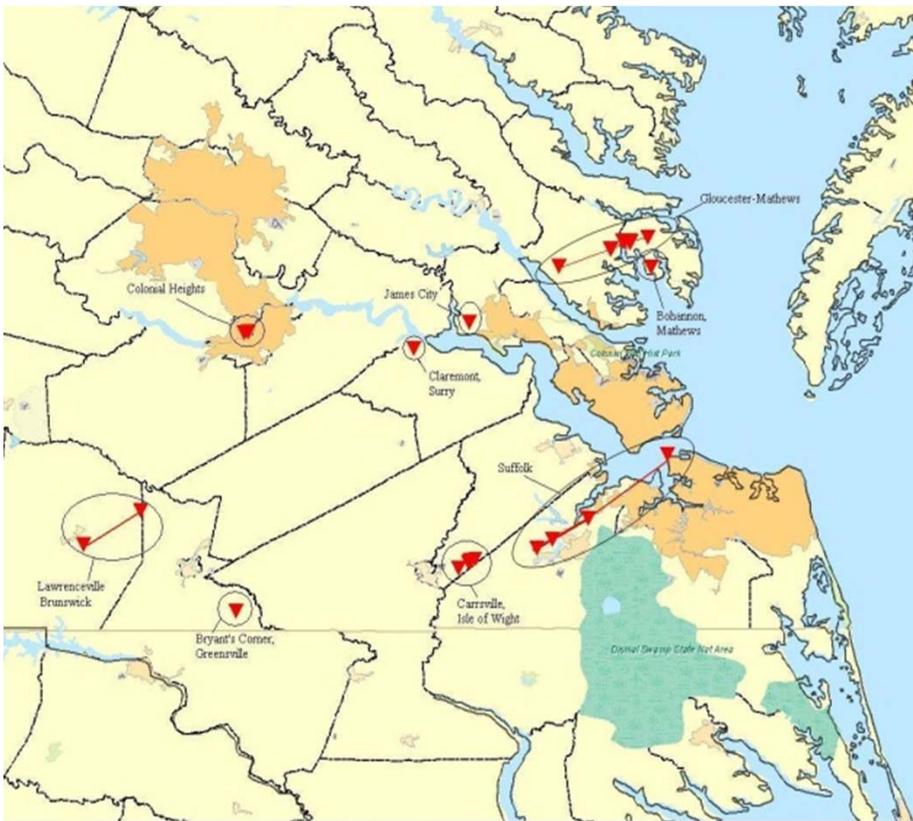
# Tornado – Suffolk, Portsmouth, Norfolk, Isle of Wight

## April 28, 2008: EF-3 Tornado

A strong EF-3 tornado touched down from Suffolk to Norfolk Naval Air Station around 4:05pm, traveling a distance of approximately 22 miles with a path that reached as wide as  $\frac{1}{4}$  mile.

Approximately 200 injuries were reported, but miraculously, no fatalities. Property damage estimated at over \$30 million.

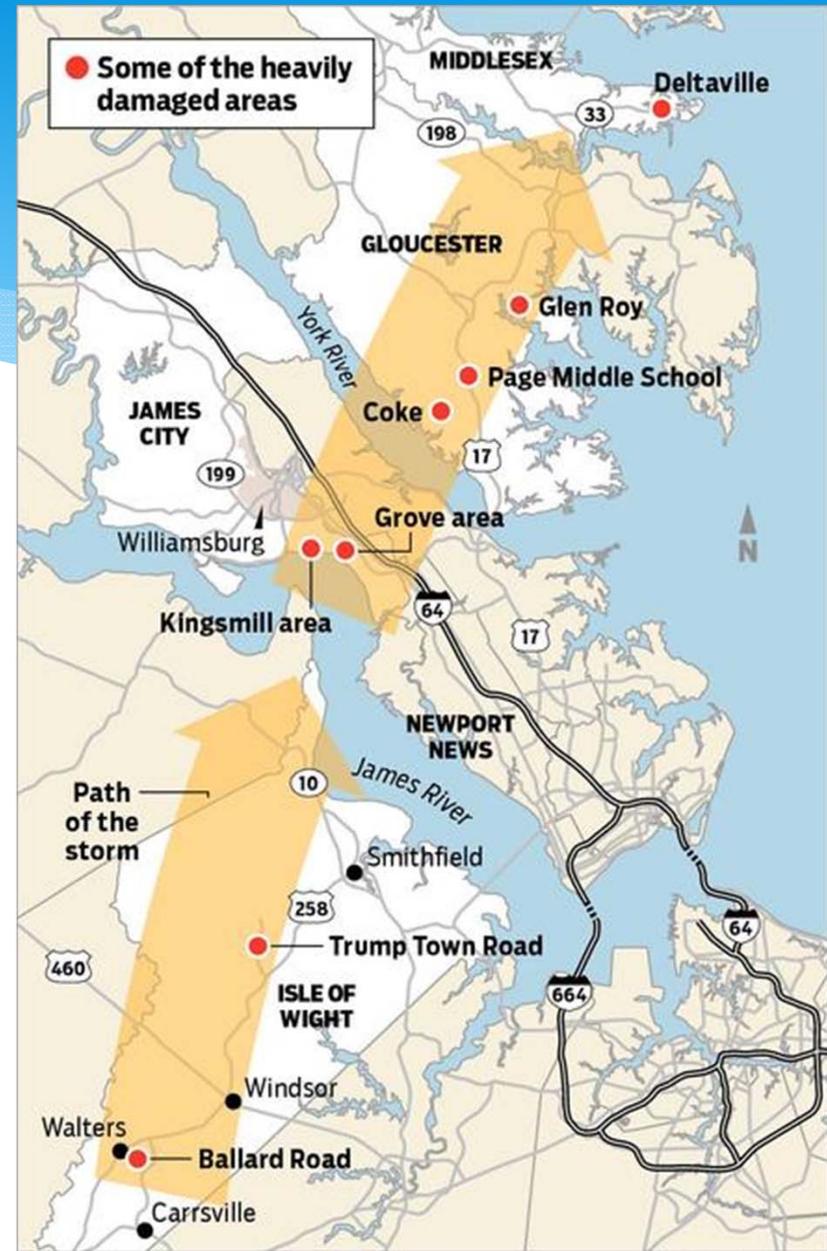
On that same day, severe thunderstorms in advance of a cold front produced 11 confirmed tornadoes across central and eastern Virginia.



# April 16, 2011



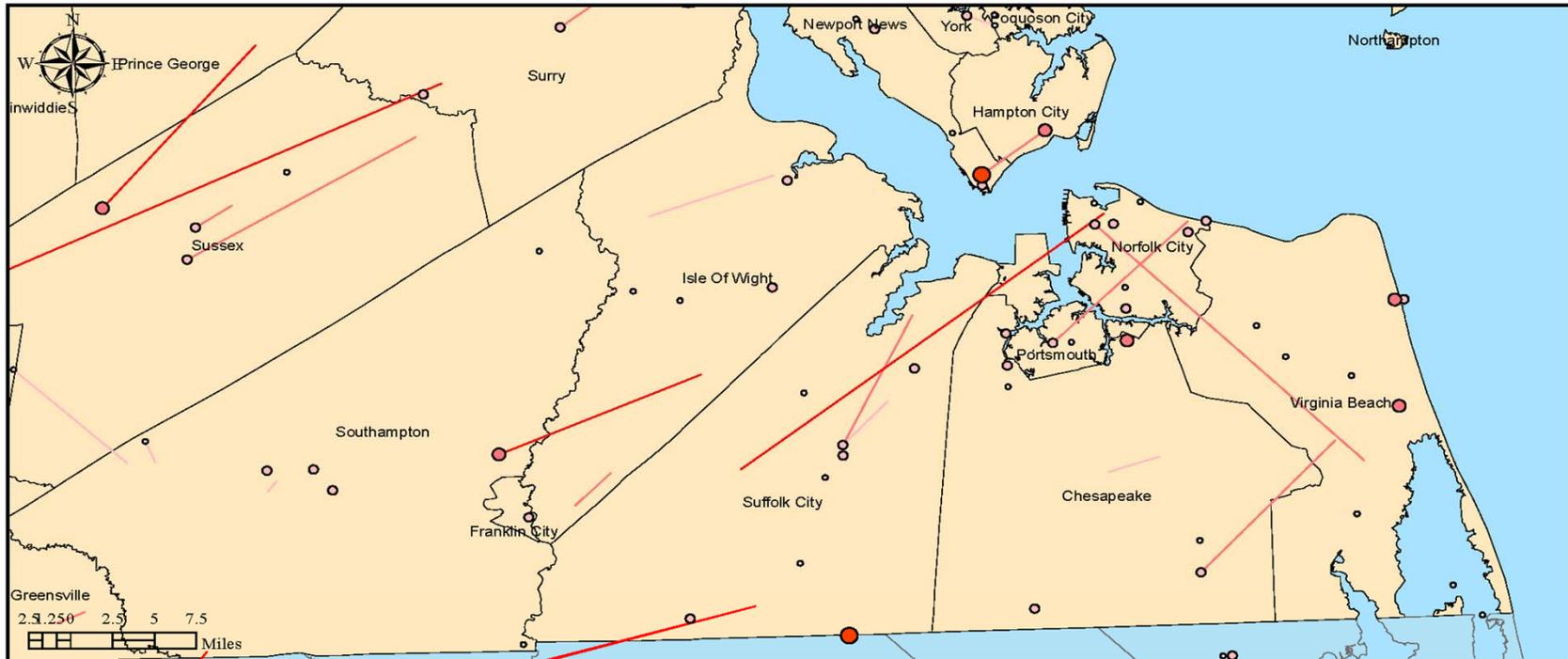
Photo from Virginia Pilot



Graphic from Daily Press

# Virginia Tornado History

## Historic Tornado Touchdowns and Tracks: 1950 - 2009



**DATA SOURCES:**

- SVRGIS
- VGIN Jurisdictional Boundaries
- ESRI State Boundaries

**LEGEND:**

- Tornado F-Scale
- - - - 0
  - 1
  - 2
  - 3
  - 4
  - 5

**HAZARD IDENTIFICATION:**

Historic tornado touchdowns and tracks are symbolized for visual effect and are not drawn to scale. Actual tornado swath widths vary considerably, although more intense tornadoes are generally wider.

**PROJECTION:** VA Lambert Conformal Conic  
North American Datum 1983

*DISCLAIMER: Majority of available hazard data is intended to be used at national or regional scales. The purpose of the data sets are to give general indication of areas that may be susceptible to hazards. In order to identify potential risk in the Commonwealth available data has been used beyond the original intent.*

# Recent Winter Storms and Nor'easters

**December 26, 2010:** According to the NWS in Wakefield, Franklin and Isle of Wight County had 13.2 inches of snow over the weekend. Norfolk had 13.4 inches of snow on Dec 26; the 4<sup>th</sup> biggest daily snowfall on record. Storm created havoc on the roadways. Between midnight and 10 pm December 26, State Police recorded 421 traffic crashes, 296 disabled vehicles and 1,159 total calls for service in Hampton Roads, Eastern Shore, Williamsburg, Franklin and Emporia.



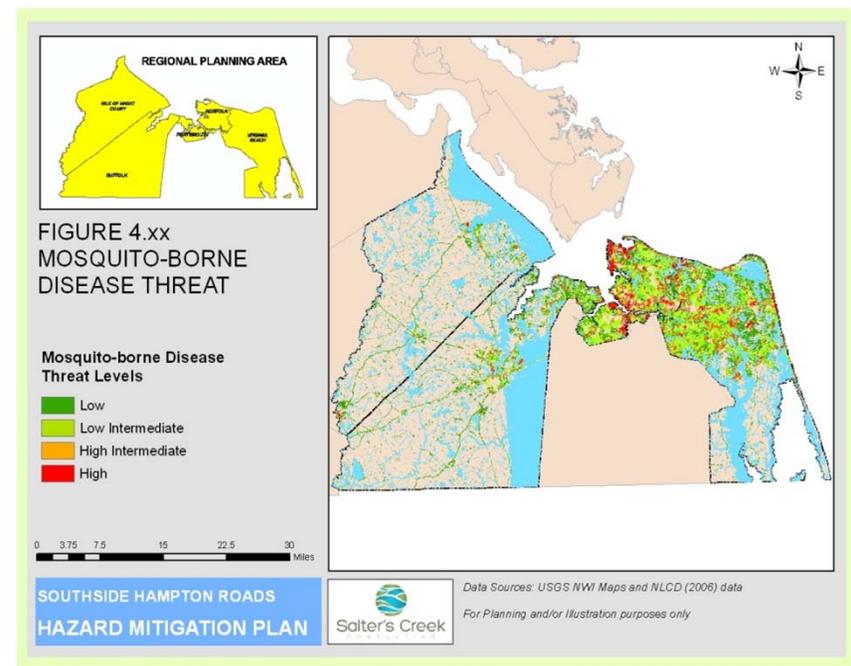
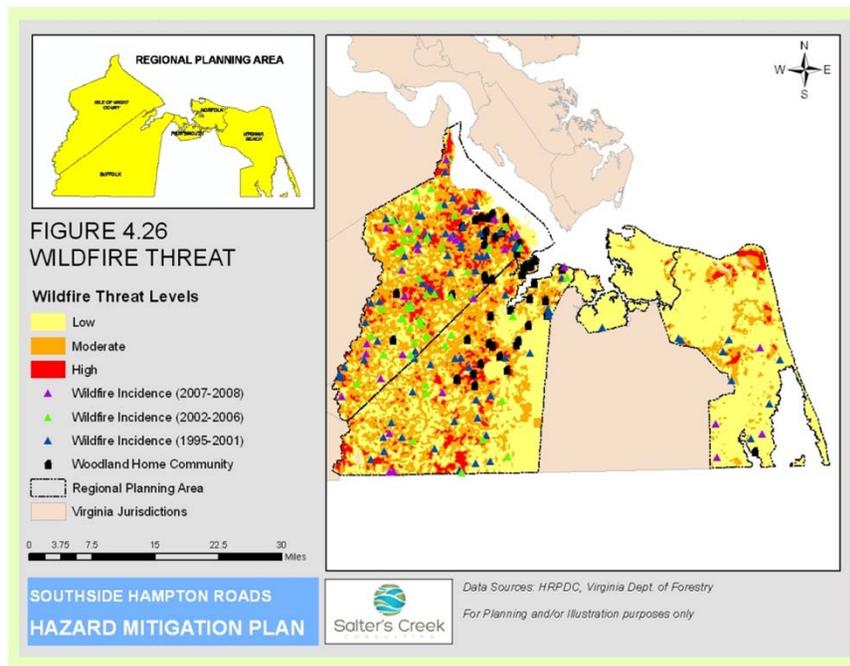
**February 5, 2010:** Low pressure moving off the coastal Carolinas produced between one and five inches of snow across portions of south central and southeast Virginia from Friday afternoon, February 5th, through Saturday afternoon February 6th. Snowfall amounts were generally between one and two inches across Isle of Wight County. Chesapeake reported 1.3 inches of snow. No damages reported.

# Other Hazards Reviewed



- Wild Fires

- Mosquito Borne Diseases



# Planning Involvement

- A collaborative effort
  - Involves multiple disciplines to cover a broad range of capability and problem solving
    - Elected officials
    - Floodplain Manager
    - Building, Zoning, Engineering, & Public Works officials
    - Finance/procurement/Budget office
    - School boards
    - Infrastructure officials/owners
- This is NOT an emergency response plan or just an emergency management responsibility

# Southampton & Franklin Next Steps and Schedule

- Mitigation Advisory Committee Planning Meeting #2, April 21
  - Review Capability Assessment
  - Review Goals & Objectives
- Mitigation Advisory Committee Planning Meeting #2, April 22
  - Review and rewrite Mitigation Action Plan
- Public meeting #2, June 1 (evening)
- Public review period, immediately after
- Final draft target, June 15 (Franklin)
- Final draft target, June 20 (Southampton)

# Southside HR Next Steps and Schedule

- Mitigation Advisory Committee Planning Meeting #2, May 3
  - Review Capability Assessment
  - Review Goals & Objectives
- Mitigation Advisory Committee Planning Meeting #3, May 6
  - Review and rewrite Mitigation Action Plan
- Public meeting #2, June 29 and June 30 (evening)
- Public review period, immediately after
- Final draft target, July 29



# Questions