

“No Longer Stuck on a Piece of Paper:
Converting Flood Risk Models into a Digital Data Environment”

Gary Thompson

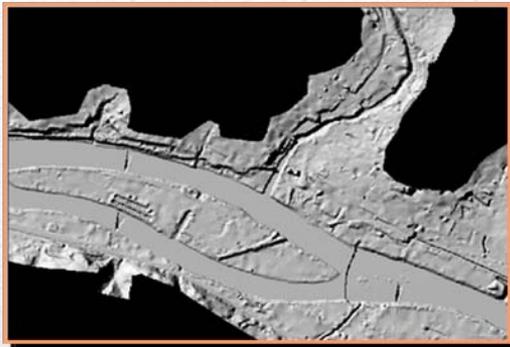
NGAC Meeting, June11, 2013

INGREDIENTS OF A DFIRM



Base Map

+



Topography

+

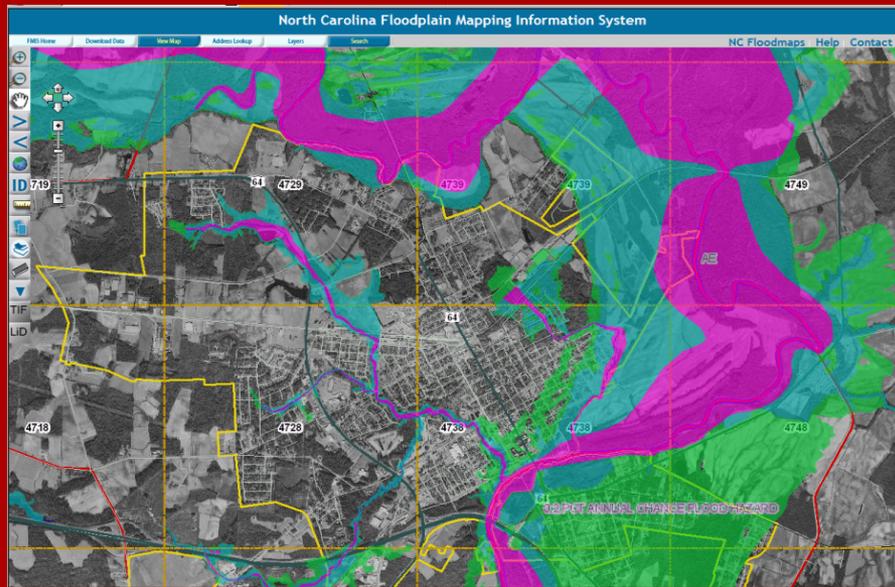


Engineering

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Dfirm



CURRENT SITE FMIS

Flood Mapping Information Systems

LOOKUP

FMIS Floodplain Mapping Information System

NC Floodmaps | FAQs | Contact Us

Home Download ? Help About

Glenwood Ave

0796

FLOOD RISK INFORMATION SYSTEMS- FRIS



Am I at risk of flooding?

Who am I?

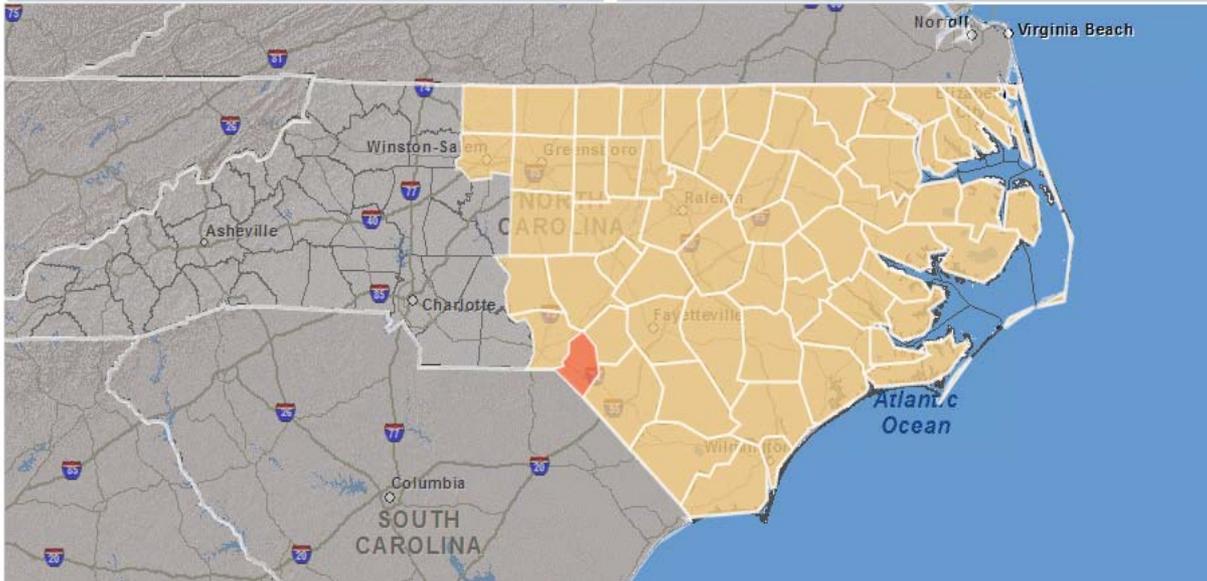
Enter all or part of your address and click GO.

Scotland, North Carolina

Benefits of Floodplain Mapping

Floods are among the most frequent and costly natural disasters in terms of human hardship and economic loss. North Carolina's Digital Flood Insurance Rate Maps (DFIRM) enable business leaders and residents to more accurately predict flood hazards and prepare for flood risks.

Go to [NC Floodmaps](#) for more information.



FRIS DISPLAY VIEW/PRINT/MAP EXPORT

FRIS Change Map

Who Am I : General Public Effective

Flood Information

Click the map to view information.

Map Location

Flood Zone: AE

Flood Source: East Tarboro Canal

Base Flood Elevation: 45.8 ft

Vertical Datum: NAVD88

County: Edgecombe

Political Area: Town of Tarboro

Jurisdiction: Town of Tarboro

CID: 370094

Panel: 4738

Map Number: 3720473800J

Effective Date: 11/03/04

Latitude: 35.9037

Longitude: -77.51986

Who Am I : General Public Effective

- Flood Information
- Risk Information
- Financial Vulnerability
- Map Export**

Select a map template

- Current View
- Regulatory**

Select PDF paper size

- 8.5 x 11**
- 11 x 17

Print

- Risk Information
- Financial Vulnerability
- Map Export
- Data Export

FRIS DFIRM FLOODWAY

FRIS Change Map

Who Am I : General Public Effective

Flood Information

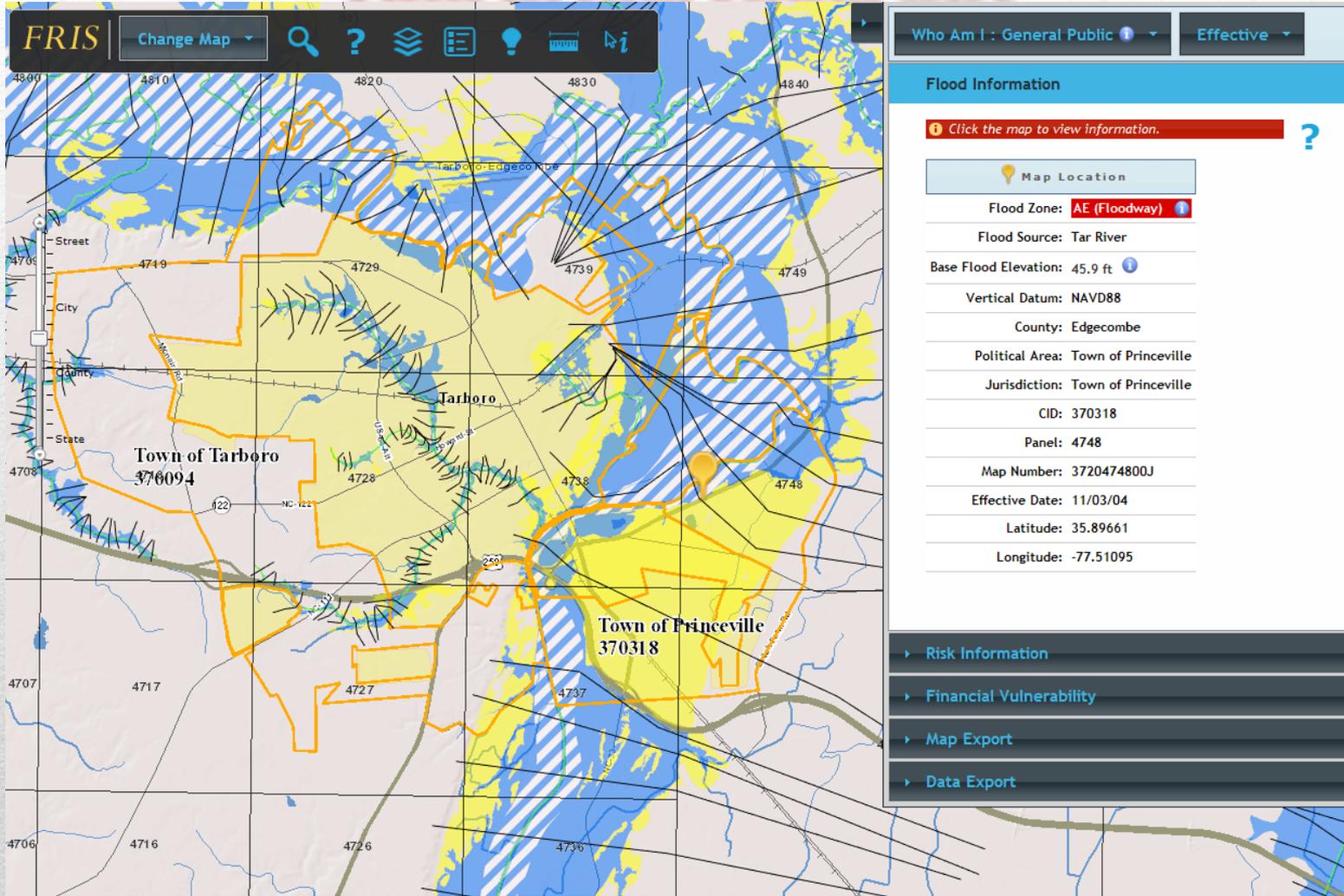
Click the map to view information.

Map Location

Flood Zone:	AE (Floodway)
Flood Source:	Tar River
Base Flood Elevation:	45.9 ft
Vertical Datum:	NAVD88
County:	Edgecombe
Political Area:	Town of Princeville
Jurisdiction:	Town of Princeville
CID:	370318
Panel:	4748
Map Number:	3720474800J
Effective Date:	11/03/04
Latitude:	35.89661
Longitude:	-77.51095

- Risk Information
- Financial Vulnerability
- Map Export
- Data Export

FRIS DFIRM ZOOM OUT



FRIS VULNERABILITY/RISK INFORMATION

FRIS Change Map 🔍 ? 📄 📌 🗺️

Who Am I : General Public | Effective

Flood Information

Risk Information

Click a building to view information. ?

904 E Church St
Tarboro, NC 27886

Google Street View iRISK

Property

Building Value (\$): 107159

Stories: 1

Square Feet (ft): 1584

Foundation: Crawl Space

Recalculate

Annual Chance of Flood	Depth Above Finished Floor (in feet)	Damage	Building Losses
10 %	N/A	0%	N/A
4 %	-2.3	1%	\$1,115
2 %	-0.7	3%	\$3,613
1 %	1.0	14%	\$15,387
.2 %	5.4	37%	\$41,611

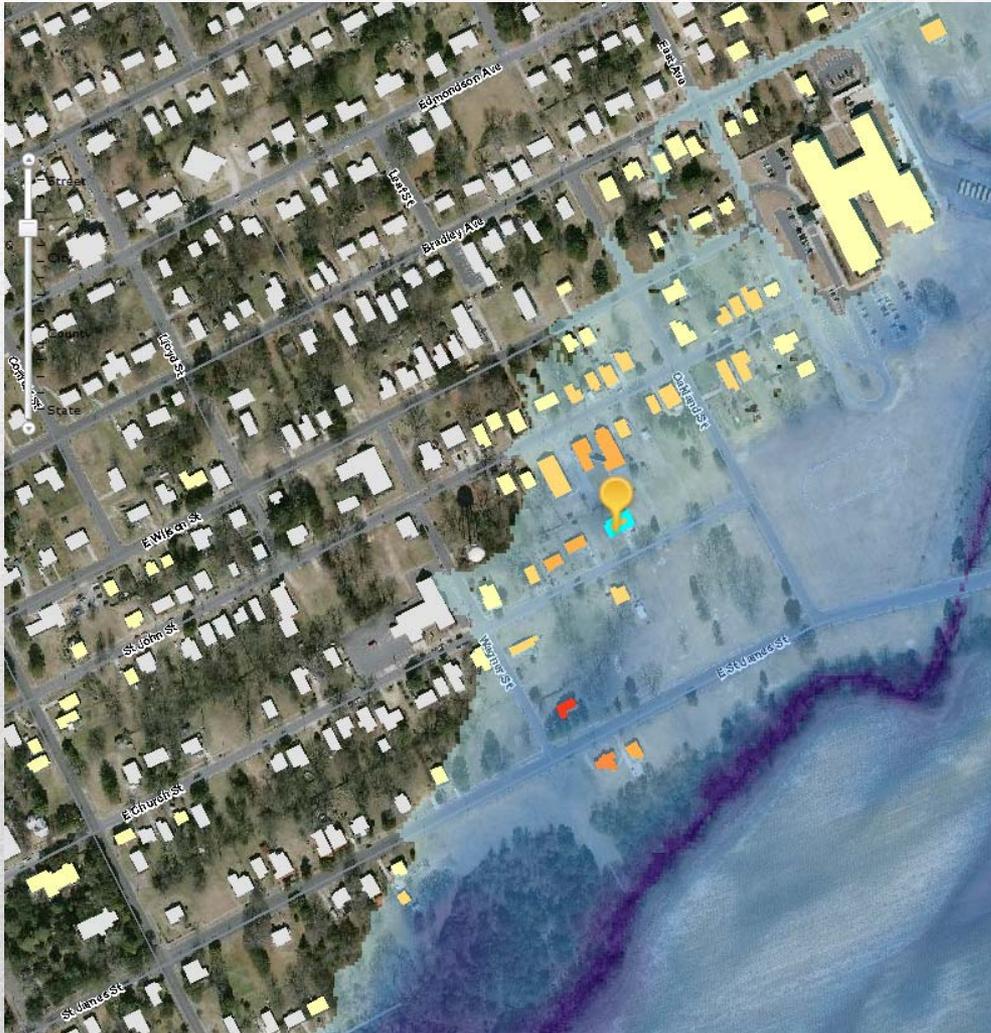
Reduce My Risk

Legend

Flood Vulnerability
Probability of River Flooding in 30 Years

- < 5%
- < 10%
- < 25%
- < 50%
- < 75%
- < 90%
- <= 100%

FRIS FINANCIAL VULNERABILITY/RISK



Click a building to view PVI information. ?

Do you need flood insurance? Homeowner's insurance does not cover losses from flooding. Property owners living in flood prone data can purchase flood insurance from the **National Flood Insurance Program (NFIP)**, which is administered by FEMA. The Personal Vulnerability Index (PVI) helps you determine if you are financially prepared in the event of major losses from flooding. The calculation below represents the average property in your area and is based on census data and insurance statistics. To determine your actual PVI, enter the flood insurance coverage you currently have, your annual income, and any other assets such as savings that you can apply to cover your losses.

Personal Vulnerability	
Insurance Coverage (\$):	<input type="text" value="0"/>
Yearly Income (\$):	<input type="text" value="58922"/>
Savings & Assets (\$):	<input type="text" value="0"/>
Deductible (\$):	<input type="text" value="0"/>
<input type="button" value="Recalculate"/>	

Based on the building value of **\$107,159**:
 If the building is 100% damaged, your uncovered structural losses are **\$107,159**.
 It will take **182 %** of your yearly income and assets to cover structural damage.
 The PVI rating for this location is **Medium**.

You also need to consider other losses from damages



IRISK

From Flood to multiple hazards

IRISK FRONT PAGE

iRISK

Are you at risk?

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[User Feedback](#)



Am I at risk ?

Who am I ?

General Public

Select a hazard:

Natural Hazards in North Carolina

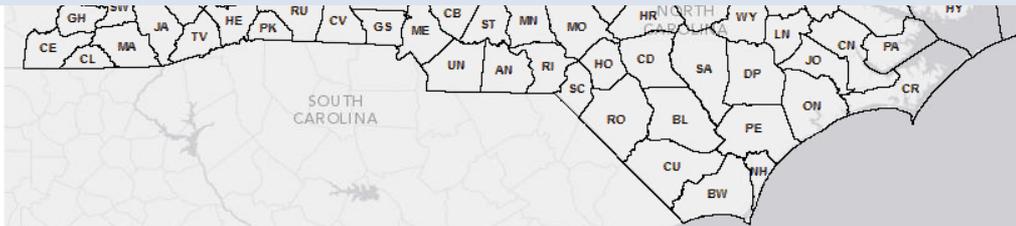
Enter all or part of your address and click GO.

Address

City

Zip

GO



IRISK VIEWER

iRISK

Change Map ▾

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Base Map

Probability

904 E Church St
Tarboro, NC 27886

[Google Street View](#)

What are my risks?

Hazard Risk

	Levee Failure	<div style="width: 70%; height: 10px; background: linear-gradient(to right, orange, gray);"></div>	Details
	River Flooding	<div style="width: 70%; height: 10px; background: linear-gradient(to right, orange, gray);"></div>	Details
	Earthquake	<div style="width: 30%; height: 10px; background: linear-gradient(to right, yellow, gray);"></div>	Details
	Extratropical Winds	<div style="width: 30%; height: 10px; background: linear-gradient(to right, yellow, gray);"></div>	Details
	Hurricane Winds	<div style="width: 30%; height: 10px; background: linear-gradient(to right, yellow, gray);"></div>	Details
	Thunderstorm Winds	<div style="width: 30%; height: 10px; background: linear-gradient(to right, yellow, gray);"></div>	Details
	Tornado	<div style="width: 30%; height: 10px; background: linear-gradient(to right, yellow, gray);"></div>	Details
	Wildfire	<div style="width: 30%; height: 10px; background: linear-gradient(to right, yellow, gray);"></div>	Details

Hazard Impact

	Dam	Details
	Drought	Details
	Hail	Details
	Ice	Details

Legend ✕

Wildfire Probability

wildfire

High : 1.000000

Low : 0

370653392

IRISK VIEWER

IRISK Change Map 🔍 ? 📄 💡

Base Map Probability

Legend

Building Footprints
Buildings

Flood Vulnerability
Probability of River Flooding in 30 Years

- < 5%
- < 10%
- < 25%

**904 E Church St
Tarboro, NC 27886**

Google Street View

Property

Building Value (\$): 107159

Stories: 1

Square Feet (ft): 1584

Foundation: Crawl Space

Occupancy Type: Single Family Dwelling

Recalculate

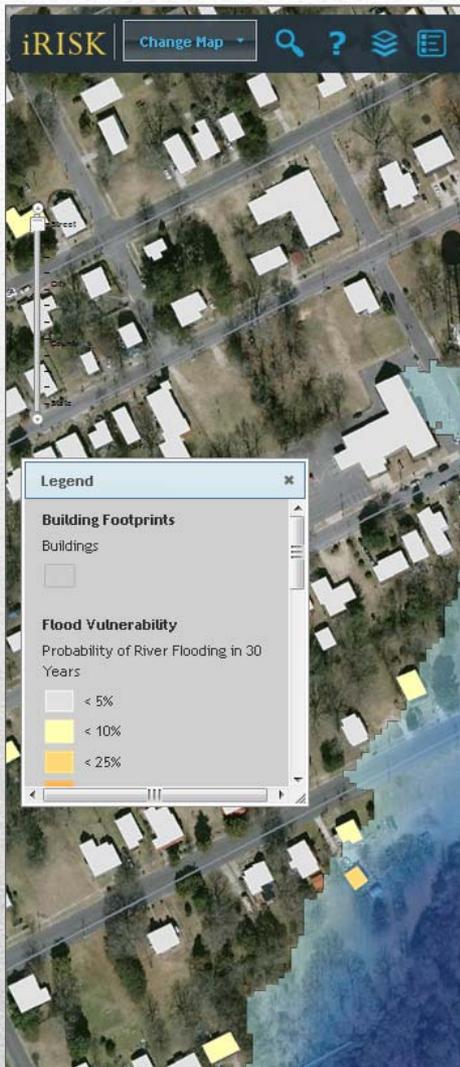
The river flooding hazard is rated Medium for this location.

This year you have a 1% chance of flooding.
Over the next 15 years you have a 19% chance.
Over the next 30 years you have a 34% chance.

Annual Chance of Flood	Depth Above Finished Floor (in feet)	Damage	Building Losses
10 %	N/A	0%	N/A
4 %	-2.3	1%	\$4,115
2 %	-0.7	3%	\$3,613
1 %	.1	14%	\$15,387
.2 %	5.4	37%	\$41,611

Reduce My Risk

Am I financially prepared?
What are my county risks?
Where can I learn more about River Flooding ?



Am I financially prepared?

Do you need flood insurance? Homeowner's insurance does not cover losses from flooding. Property owners living in flood prone data can purchase flood insurance from the National Flood Insurance Program (NFIP), which is administered by FEMA. The Personal Vulnerability Index (PVI) helps you determine if you are financially prepared in the event of major losses from flooding. The calculation below represents the average property in your area and is based on census data and insurance statistics. To determine your actual PVI, enter the flood insurance coverage you currently have, your annual income, and any other assets such as savings that you can apply to cover your losses.

Personal Vulnerability	
Insurance Coverage (\$):	<input type="text" value="0"/>
Yearly Income (\$):	<input type="text" value="7154.86"/>
Savings & Assets (\$):	<input type="text" value="0"/>
Deductible (\$):	<input type="text" value="0"/>
<input type="button" value="Recalculate"/>	

Based on the building value of \$37,392:
 If the building is 100% damaged, your uncovered structural losses are \$37,392.
 It will take 523 % of your yearly income and assets to cover structural damage.
 The PVI rating for this location is High .

You also need to consider other losses from damages to the contents of your house as well as costs for temporary lodging if you need to leave your house during the event. The table below shows estimated values for these losses. Total destruction of the building was assumed.

Other Losses	
Relocation Cost:	\$14,293
Contents Cost:	\$40,545

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What are my risks?

How does river flooding impact this property?

Am I financially prepared?

Do you need flood insurance? Homeowner's insurance does not cover losses from flooding. Property owners living in flood prone data can purchase flood insurance from the National Flood Insurance Program (NFIP), which is administered by FEMA. The Personal Vulnerability Index (PVI) helps you determine if you are financially prepared in the event of major losses from flooding. The calculation below represents the average property in your area and is based on census data and insurance statistics. To determine your actual PVI, enter the flood insurance coverage you currently have, your annual income, and any other assets such as savings that you can apply to cover your losses.

Personal Vulnerability	
Insurance Coverage (\$):	<input type="text" value="0"/>
Yearly Income (\$):	<input type="text" value="7154.86"/>
Savings & Assets (\$):	<input type="text" value="0"/>
Deductible (\$):	<input type="text" value="0"/>
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Other Losses	
Relocation Cost:	\$14,293
Contents Cost:	\$40,545

What are my county risks?

QUESTIONS?

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