

SCHOOL RISK MANAGEMENT PLANNING

LEVERAGING DATA, TOOLS AND PARTNERSHIPS

December 4, 2013

John Dorman
North Carolina Emergency Management



North Carolina Emergency Management - Mission

- Prepare for: Respond to: Recover from:



all hazards and/or threats whether natural, technological, or civil



SERT State Agencies

- **NCDPS (Lead Agency)** – *NCEM, Corrections, SHP, NCNG, ALE*
- **Administration** – *Purchase & Contract, Facility Mgmt.*
- **Insurance** – *Fire Marshal's Office, Building Inspections*
- **Labor** – *OSHA*
- **Agriculture** – *Food Safety, Animal Protection, Forestry, Crop Damage & Insurance*
- **Transportation** – *Debris Clearance, Road /Bridge Repair, Snow & Ice Removal, Hwy. Mgmt.*
- **Public Instruction** – *School Safety, School Buses*
- **Commerce** – *Economic Development, Retail Merchant's Association*
- **Health & Human Services** – *Public Health, Office of Emergency Medical Services, Mental Health, Social Services (Shelters), Radiation Protection*
- **Environment & Natural Resources** – *Air and Water Quality, Public Water Supply, Dam Safety, Landslides*
- **Cultural Resources** – *Historic Sites, Museums*
- **NCSU** – *Coop. Extension – Agriculture Advice, Support to Disaster Impacted Communities*

Integrated Hazard Risk Management – Legislative Intent

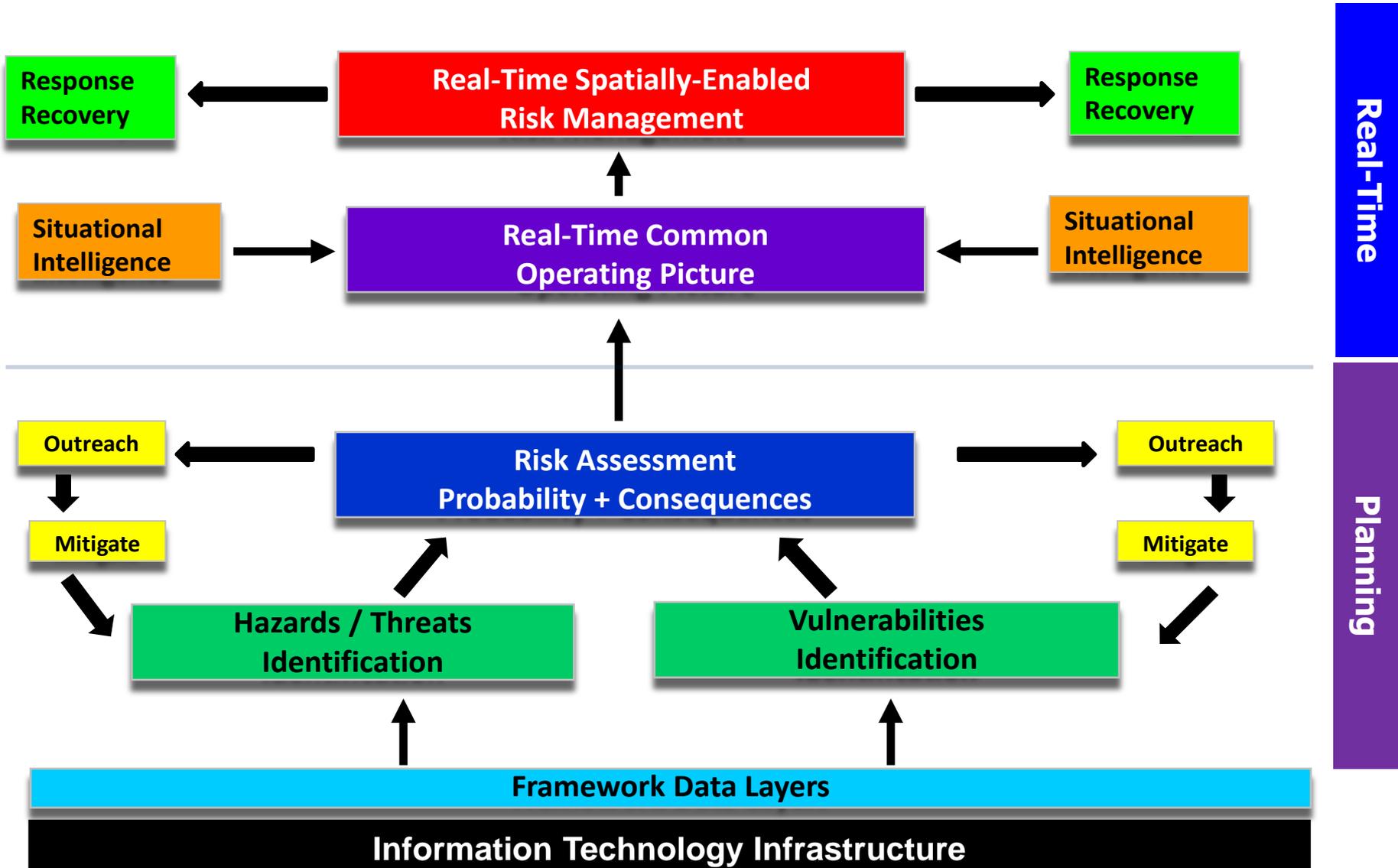
G.S. 166A-19.12 Powers of the Division of Emergency Management.

(14) Serving as the **lead State agency for the coordination of information and resources for hazard risk management**, which shall include the following responsibilities:

- a) Coordinating with other State agencies and county governments in **conducting hazard risk analysis**.
- b) **Establishing and maintaining a hazard risk management information system** and tools to display natural hazards and vulnerabilities and conducting risk assessment.
- c) **Acquiring and leveraging all natural hazard data** generated or maintained by State agencies and county governments.
- d) **Acquiring and leveraging all vulnerability data** generated or maintained by State agencies and county governments.
- e) **Maintaining a clearinghouse** for methodologies and metrics for calculating and communicating hazard probability and loss estimation.

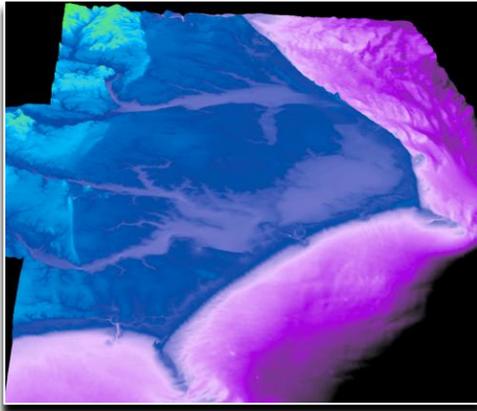
NC Risk Management Framework

prevent, prepare, protect, respond, recover

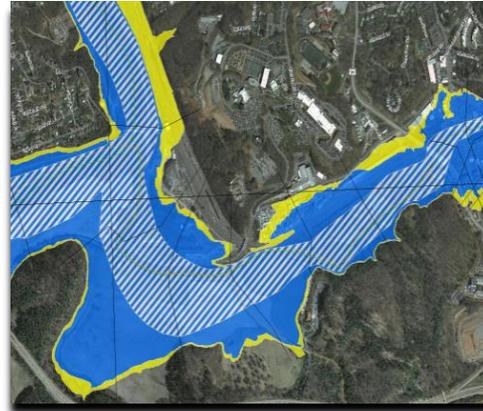


NCEM Progression To Integrated Risk Management

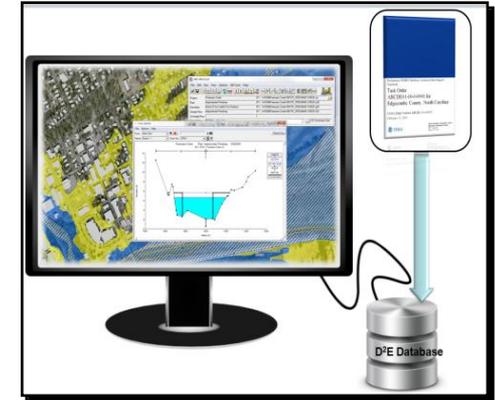
✓ Framework Data Acquisition



✓ Hazard / Threat Mapping



✓ Digital Display Environment



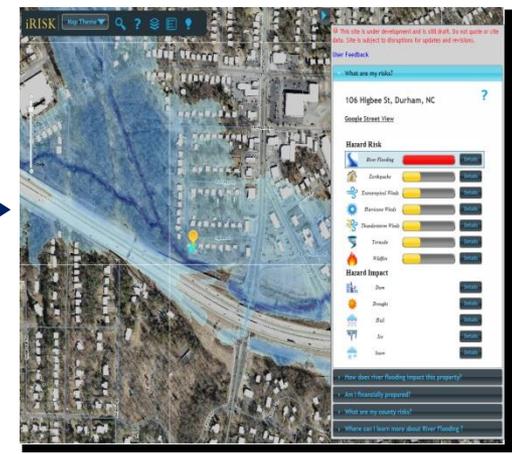
✓ Exposure Identification



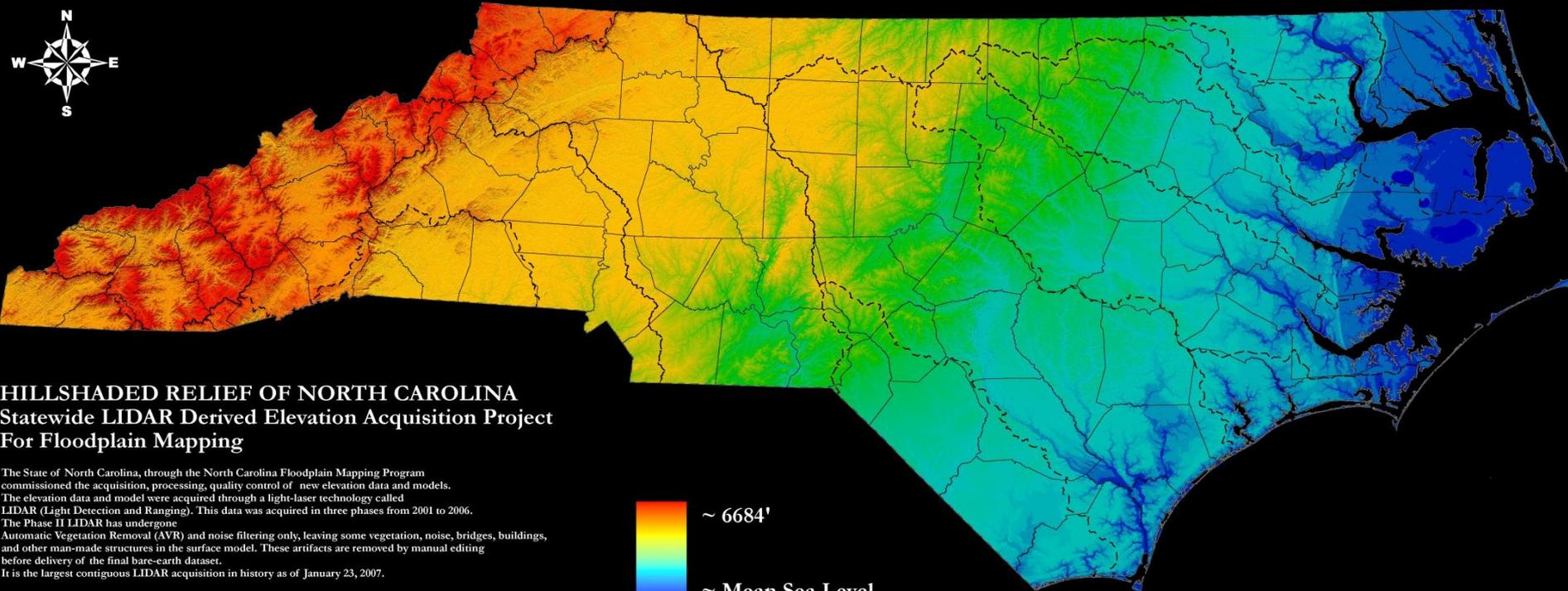
✓ Structural Risk Management



✓ Integrated Risk Management



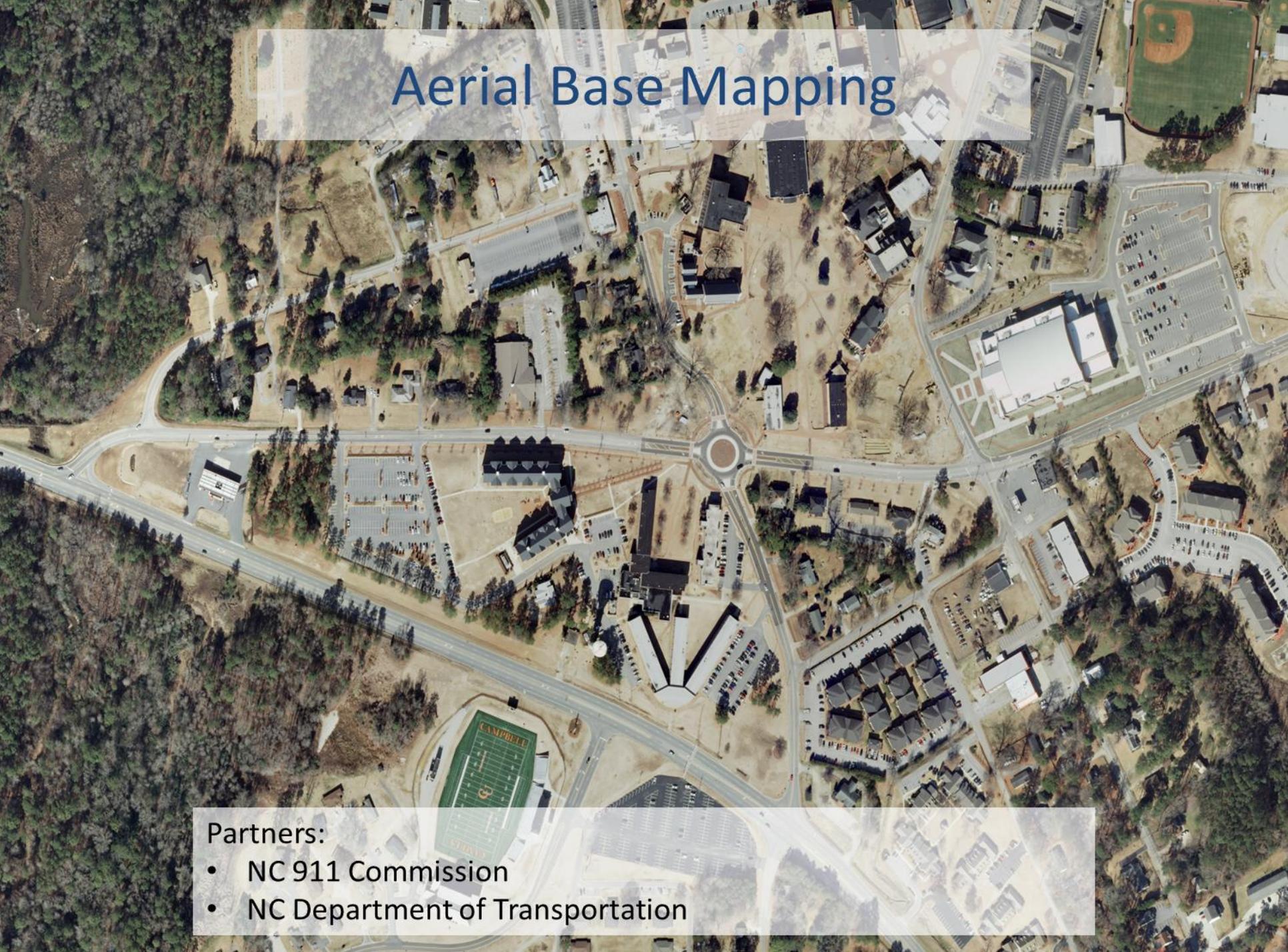
LiDAR-Derived Digital Elevation Model



HILLSHADED RELIEF OF NORTH CAROLINA Statewide LIDAR Derived Elevation Acquisition Project For Floodplain Mapping

The State of North Carolina, through the North Carolina Floodplain Mapping Program commissioned the acquisition, processing, quality control of new elevation data and models. The elevation data and model were acquired through a light-laser technology called LIDAR (Light Detection and Ranging). This data was acquired in three phases from 2001 to 2006. The Phase II LIDAR has undergone Automatic Vegetation Removal (AVR) and noise filtering only, leaving some vegetation, noise, bridges, buildings, and other man-made structures in the surface model. These artifacts are removed by manual editing before delivery of the final bare-earth dataset. It is the largest contiguous LIDAR acquisition in history as of January 23, 2007.



An aerial photograph of a campus. In the center is a roundabout with a circular island. Several large buildings are clustered around the roundabout. To the right is a large parking lot. In the bottom left, there is a football field with 'CAMPBELL' and 'STATE' visible on the field. The surrounding area includes more buildings, parking lots, and some wooded areas.

Aerial Base Mapping

Partners:

- NC 911 Commission
- NC Department of Transportation

Exposure Identification - Statewide Building Footprints



- Field Collection**
- First Floor Elevation
- Foundation Type
- Roof Shape
- Roof Slope
- Number of Stories
- Parcel Conflation**
- Occupancy Type
- Building Value
- Year Built
- Heated Sq Ft
- Roof Shape
- HAZUS Block Conflation**
- Roof Cover Type
- Roof Cover Quality
- Water Resistance
- Roof Deck Attachment
- Roof Deck Age
- Roof Wall Connection
- Roof Frame Type
- Hurricane Shutters
- Roof Tie Downs
- Window Area
- Masonry Reinforcing
- Joist Spacing
- Number of Units



⚠ This site is under development and is still draft. Do not quote or cite data. Site is subject to disruptions for updates and revisions.

User Feedback

- ▶ How does river flooding impact this property?
- ▶ What are my county risks?

County Information

Edgecombe ?

Number of buildings in county: 32,449
 Number of buildings potentially affected: 1,453
 Building Damages: \$7,775,000



Choose a Return Period (in years)

- 10
 25
 50
 100
 500

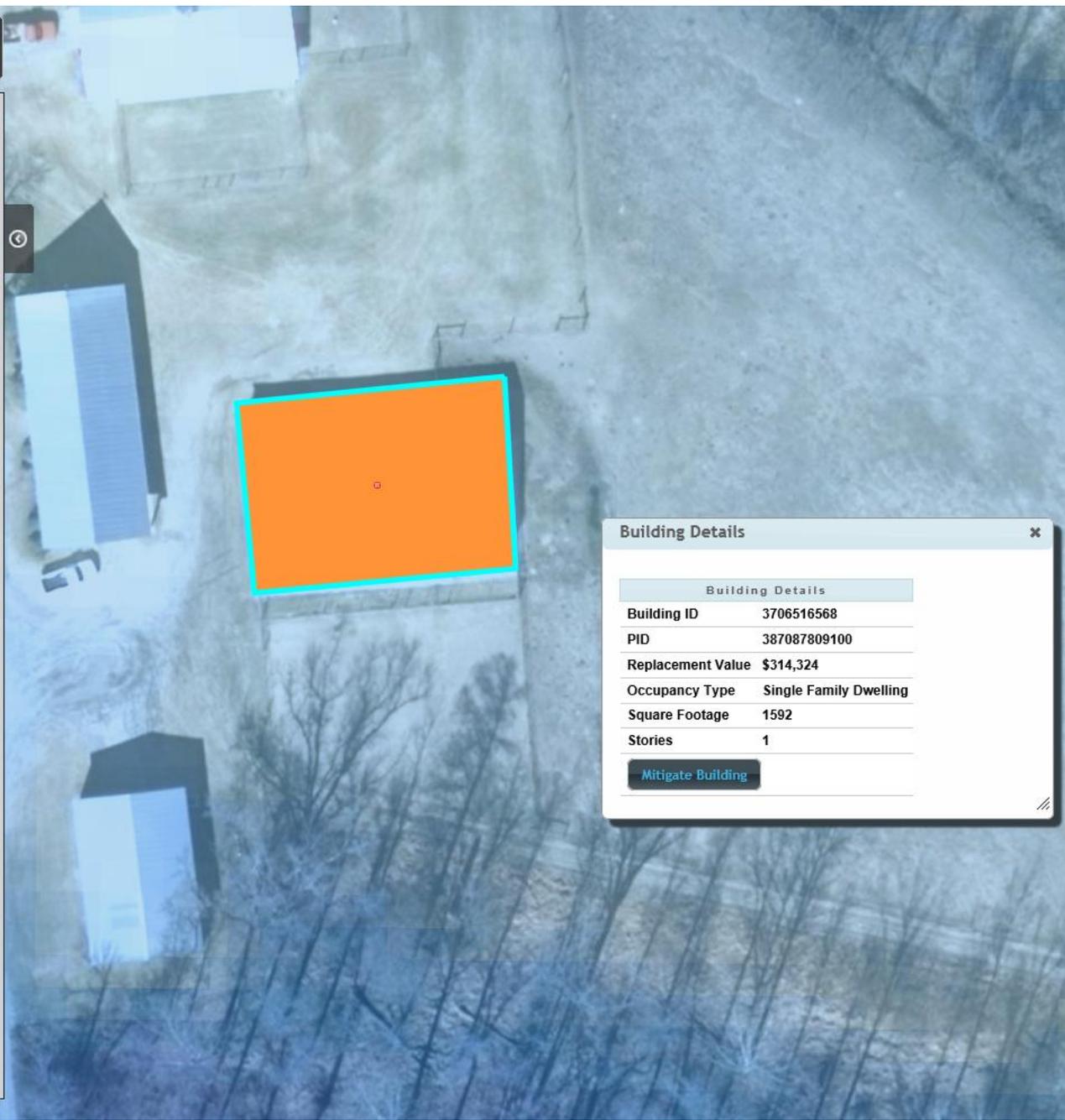
- [Damages](#) |
 [Jurisdictions](#) |
 [Sectors](#) |
 [Top Lists](#)

Buildings Type of Damage

10 Residential

PID	Value (\$)	Replacement Value (\$)	Damages (\$)
387087809100	314,324	314,324	51,643
387132525600	6,559	133,811	47,369
481176121500	95,964	168,091	46,897
473658991100	55,984	208,598	44,974
481165681800	81,313	149,790	39,994
388141203200	101,396	169,147	36,205
473771710100	109,049	109,049	35,899
387007199700	137,889	144,440	35,821
473657621900	121,612	121,612	35,122
473764934700	135,036	135,036	30,815

[County Mitigation Wizard](#) ▶



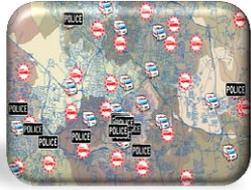
Building Details ✕

Building Details

Building ID	3706516568
PID	387087809100
Replacement Value	\$314,324
Occupancy Type	Single Family Dwelling
Square Footage	1592
Stories	1

[Mitigate Building](#)

Emergency Response



Schools



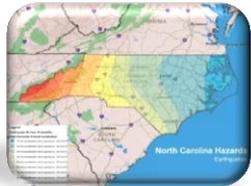
Flood Risk Assessments



Building Footprints



All Hazards



Critical Infrastructure



Parcel Data



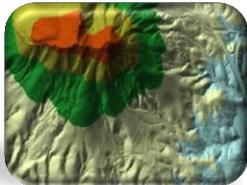
Transportation



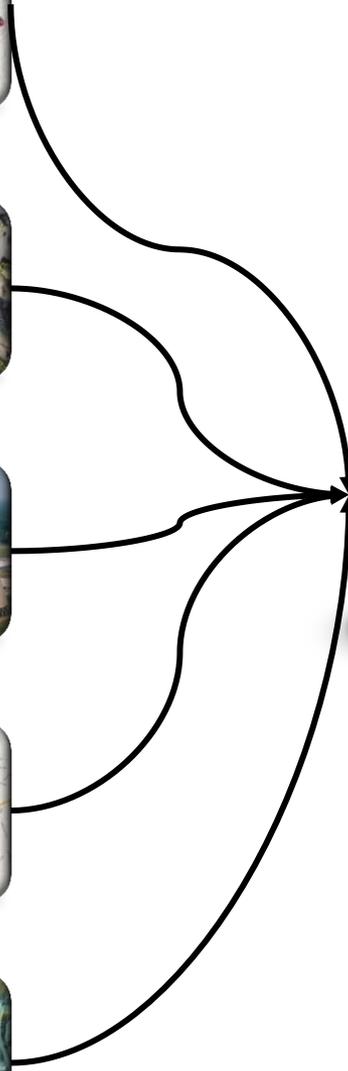
Imagery



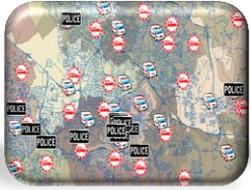
Topography



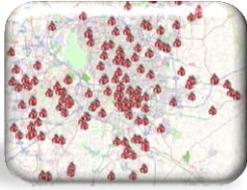
**Enterprise
Risk DB**



Emergency Response



Schools



Flood Risk Assessments



Building Footprints



All Hazards



Critical Infrastructure



Parcel Data



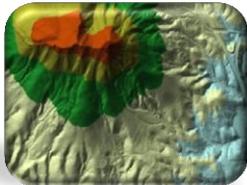
Transportation



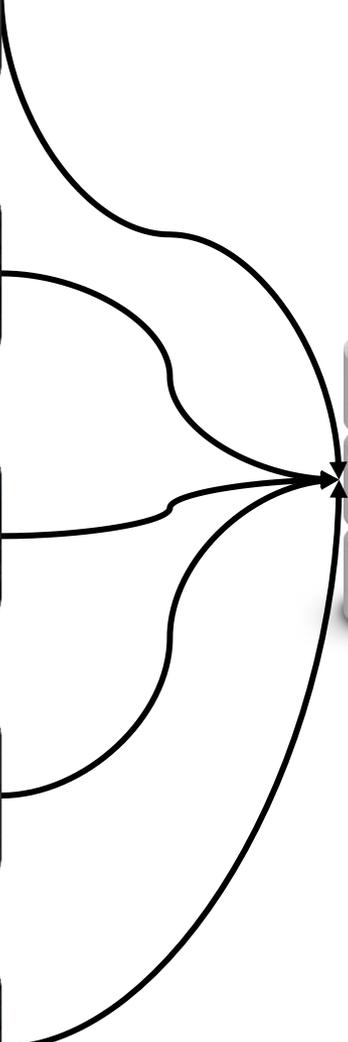
Imagery



Topography

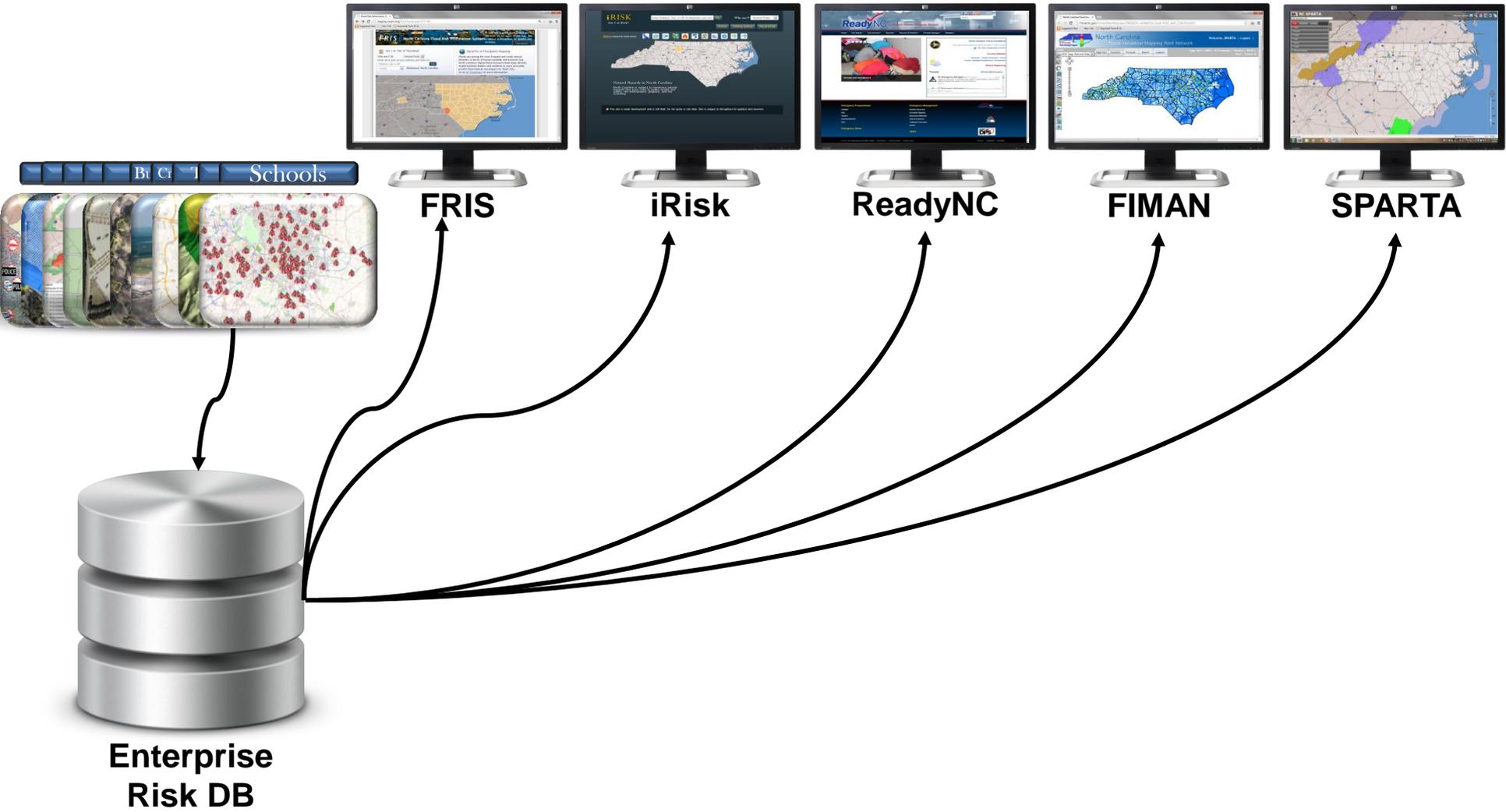


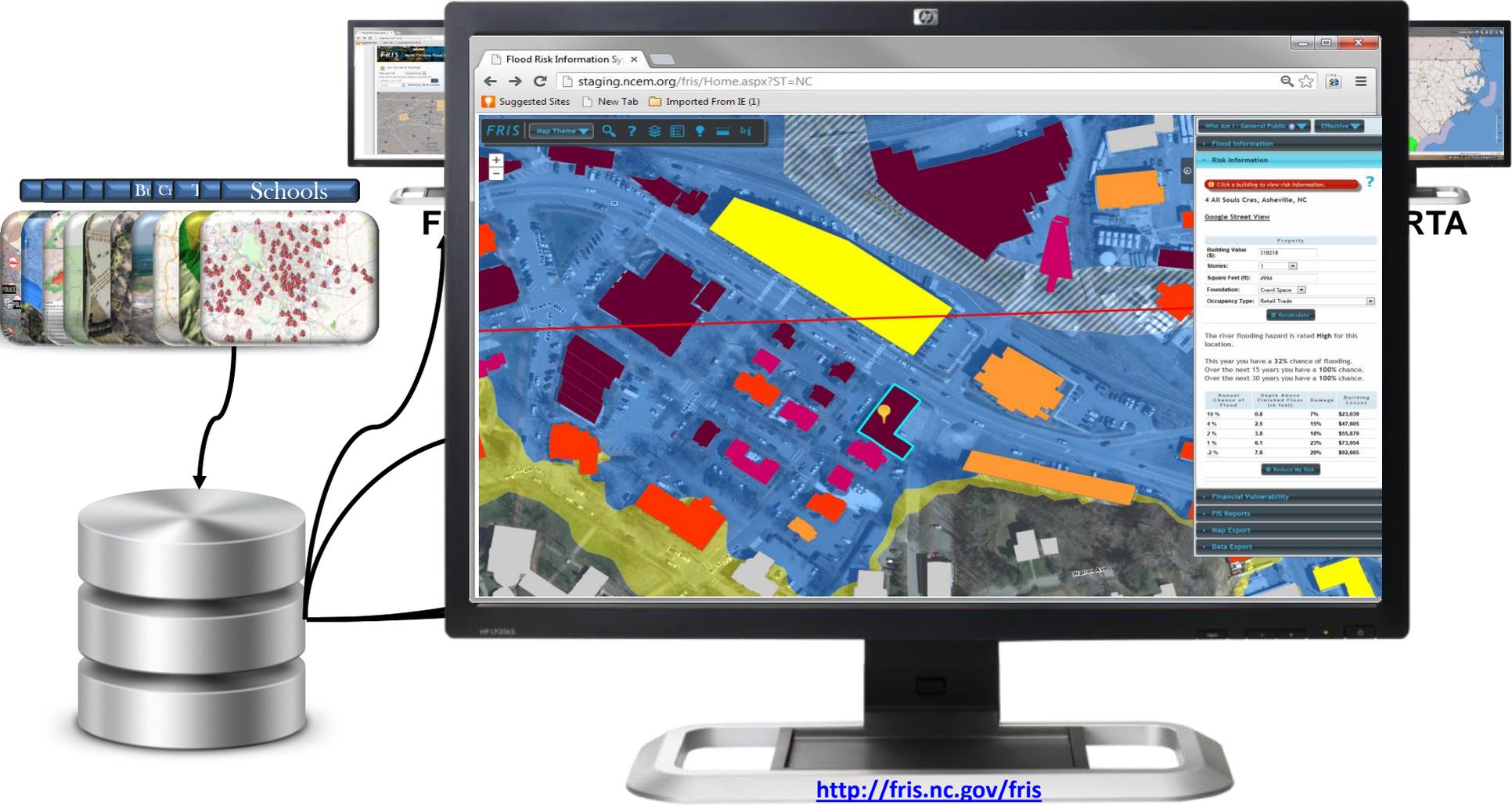
**Enterprise
Risk DB**



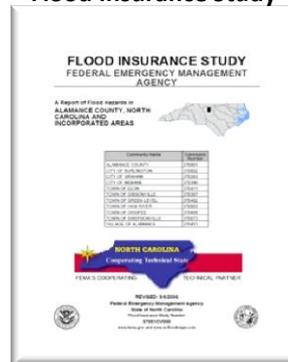


**Enterprise
Risk DB**

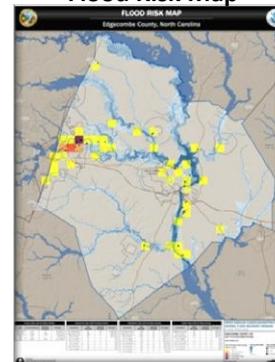




Flood Insurance Study

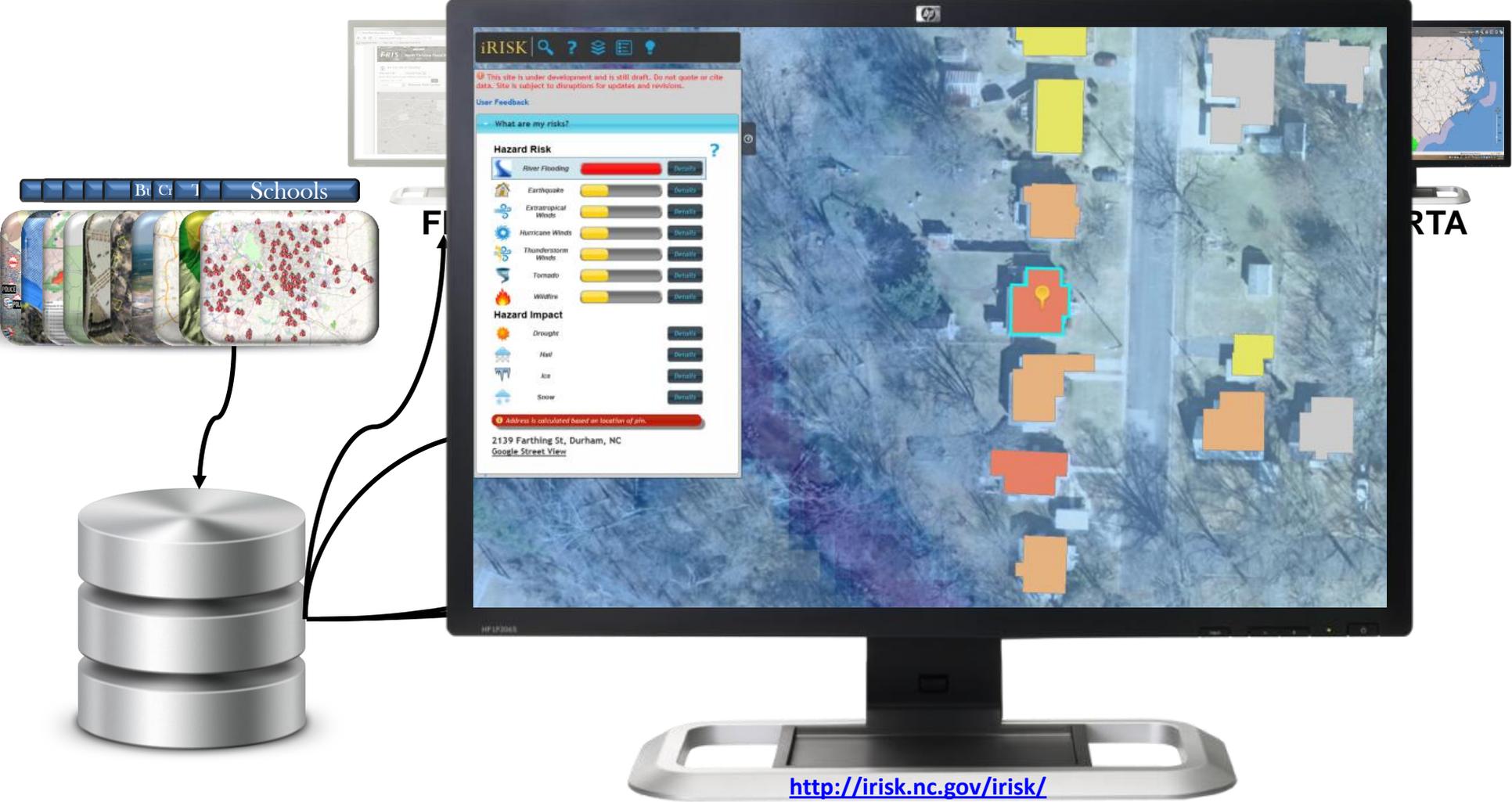


Flood Risk Map

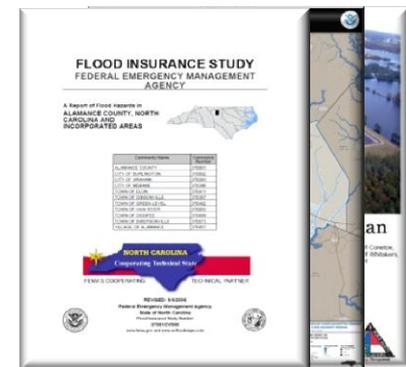
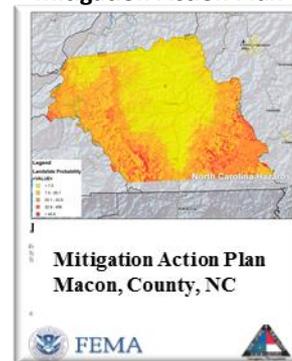


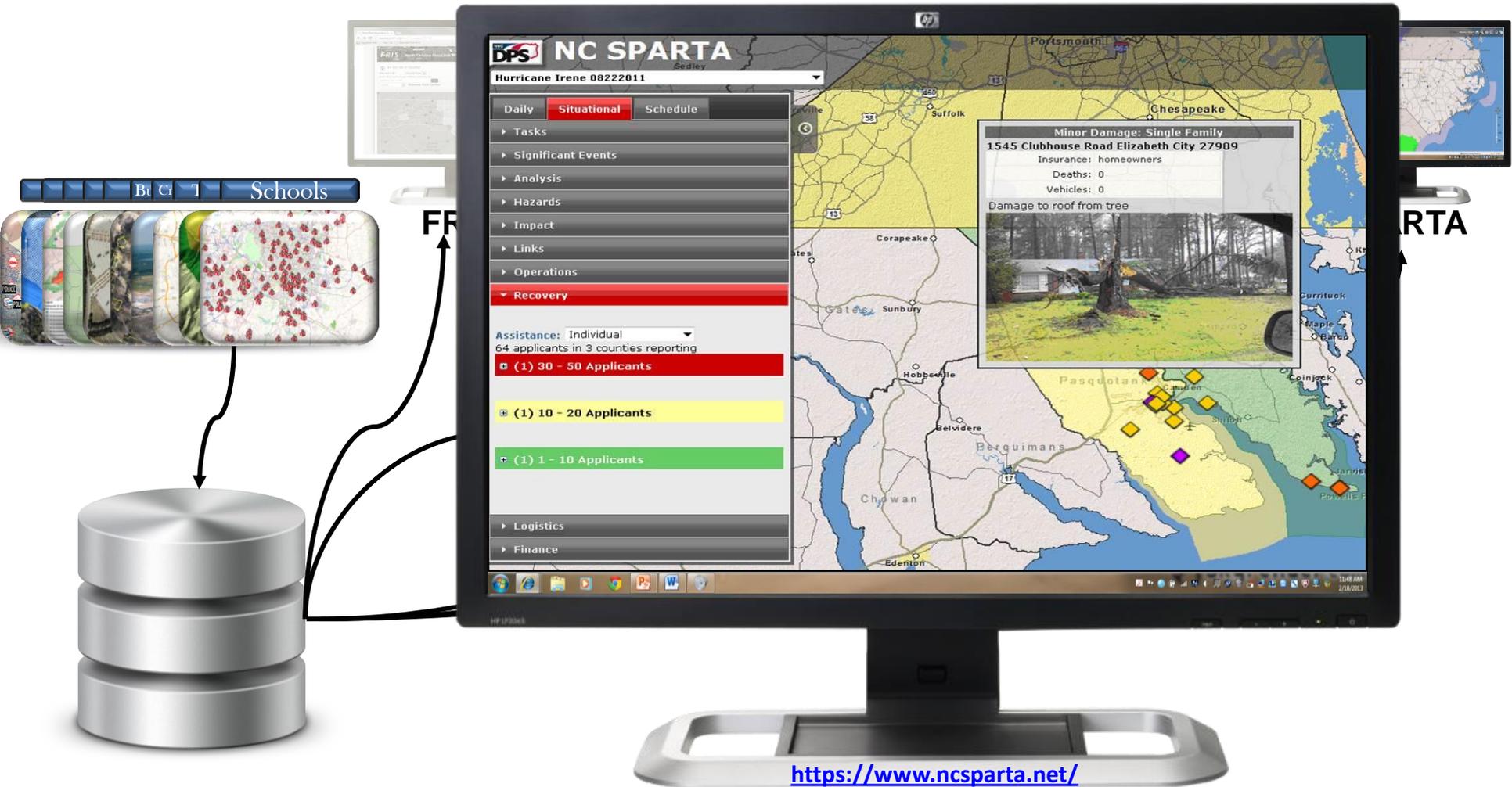
Flood Risk Report





Mitigation Action Plan



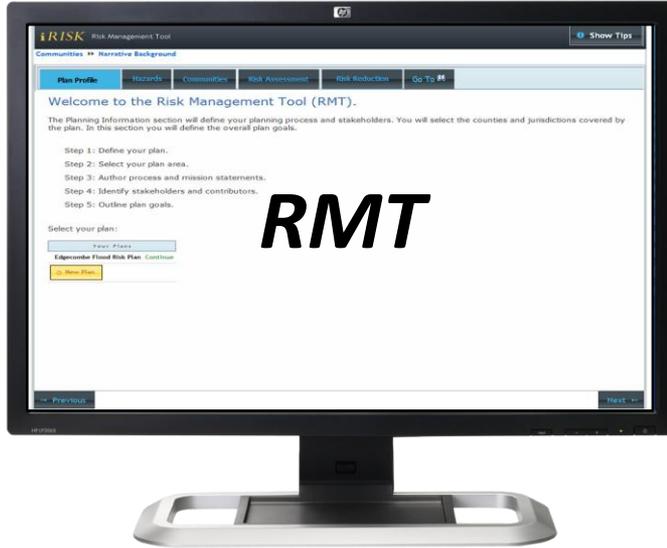


Damage Assessments Report

Damage Assessments									
NC SPARTA 1A State Summary Hurricane Irene 08222011 Filter By: All									
County	Branch	Latitude	Minor	Major	Damaged	Destroyed	Deaths	Vehicles	Link
Halifax	Central	2	26	9	5	0	0	0	Link
Pasquotank	Eastern	5	1	5	2	0	0	1	Link
Camden	Eastern	1	3	3	0	0	0	0	Link
Alamance	Central	0	0	0	0	0	0	5	Link
Aspen	Central	0	0	0	0	0	0	0	Link
Caswell	Central	0	0	0	0	0	0	0	Link
Chatham	Central	0	0	0	0	0	0	0	Link
Daviston	Central	0	0	0	0	0	0	0	Link

North Carolina Emergency Management	
County	Branch
Latitude	Minor
Major	Damaged
Destroyed	Deaths
Vehicles	Link

Risk Management Portal



School Facilities

School Risk Management Plan

Prepared For:
North Carolina Hazardous Waste Program
4400 Hayes Drive, Raleigh, NC 27607

Prepared By:
EPA/ES&D/OSM
3122 Longleaf Walk - Suite 108
Raleigh, NC 27607
November 2012

Child Care Facilities

Child Care Facility Risk Management Plan

Prepared For:
North Carolina Hazardous Waste Program
4400 Hayes Drive, Raleigh, NC 27607

Prepared By:
EPA/ES&D/OSM
3122 Longleaf Walk - Suite 108
Raleigh, NC 27607
November 2012

Mental Health Facilities

Mental Health Facility Risk Management Plan

Prepared For:
North Carolina Hazardous Waste Program
4400 Hayes Drive, Raleigh, NC 27607

Prepared By:
EPA/ES&D/OSM
3122 Longleaf Walk - Suite 108
Raleigh, NC 27607
November 2012

Licensed Care Facilities

Licensed Care Facility Risk Management Plan

Prepared For:
North Carolina Hazardous Waste Program
4400 Hayes Drive, Raleigh, NC 27607

Prepared By:
EPA/ES&D/OSM
3122 Longleaf Walk - Suite 108
Raleigh, NC 27607
November 2012

Dam EAP

OLD STONY CREEK DAM

EMERGENCY ACTION PLAN (EAP)
DATE: 07-16-2012
APPLICABLE COUNTY: NORTH CAROLINA

Prepared For:
North Carolina Hazardous Waste Program
4400 Hayes Drive, Raleigh, NC 27607

Prepared By:
EPA/ES&D/OSM
3122 Longleaf Walk - Suite 108
Raleigh, NC 27607
November 2012

All Hazards Risk

NEW HANOVER COUNTY NORTH CAROLINA

MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

SEPTEMBER 2004

Flood Risk

Flood Risk Management Plan
Durham County, NC

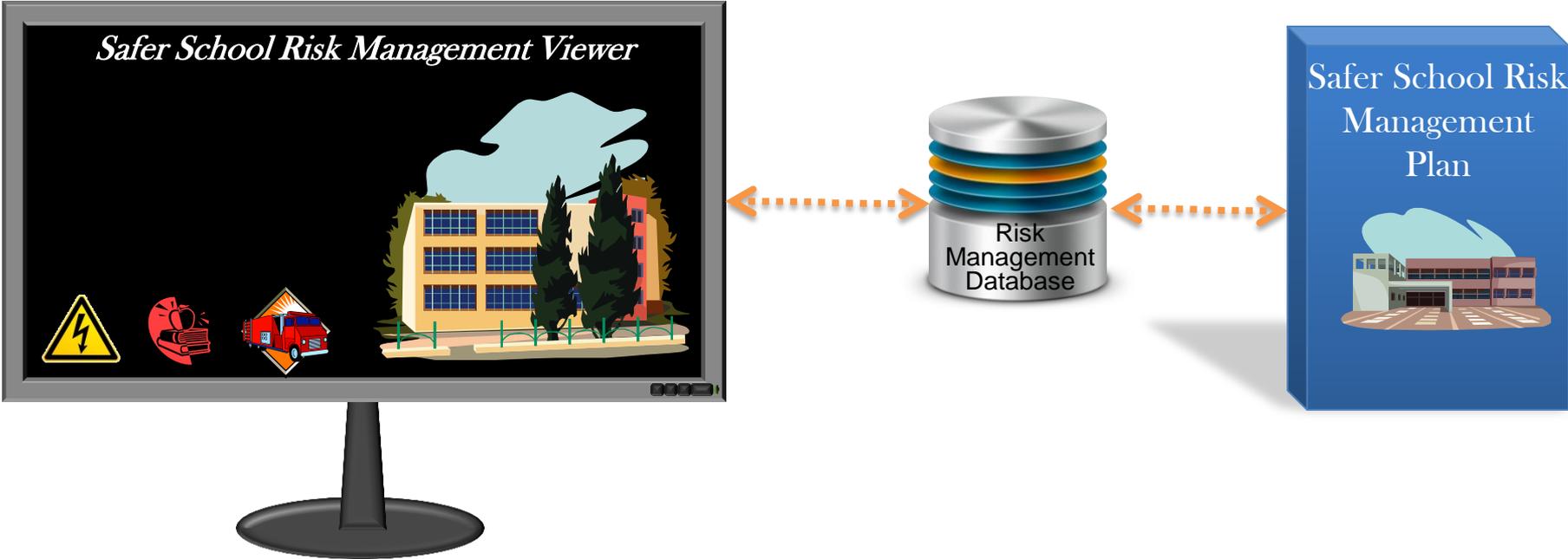
Prepared For:
North Carolina Hazardous Waste Program
4400 Hayes Drive, Raleigh, NC 27607

Prepared By:
EPA/ES&D/OSM
3122 Longleaf Walk - Suite 108
Raleigh, NC 27607
November 2012

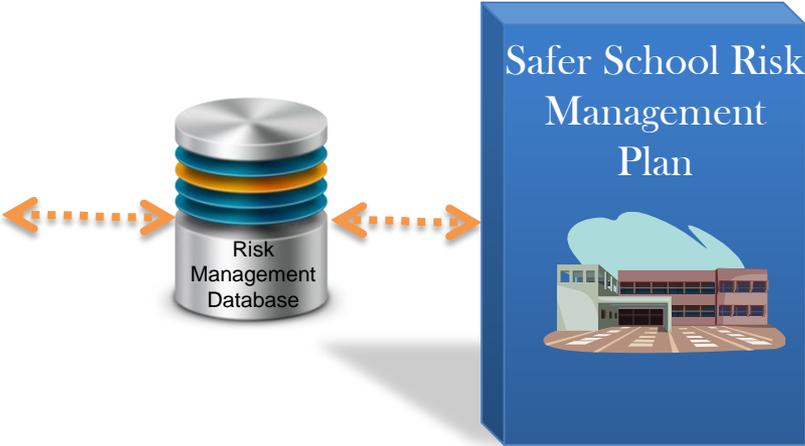
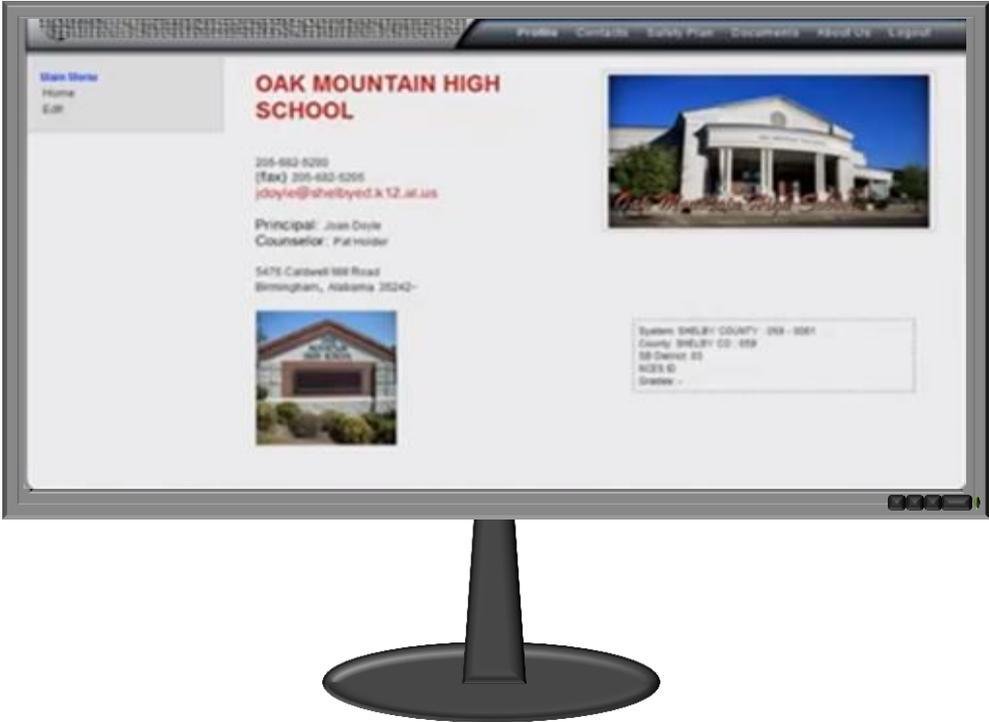
Risk Management Plans – In the Works

- Flood Risk Management Plan (08/13)
- All-Hazards Mitigation Plan (09/13)
- License Care Facility Disaster Management Plan (01/2014)
- Mental Health Facility Disaster Management Plan (01/2014)
- Dam Inundation - Emergency Action Plan (11/13)
- Fuel Risk Management Plan (12/13)
- County Disaster Recovery Plan (01/14)
- **School Safety Management Plan (*Initiation*)**
- **Child Care Facility Disaster Plan (*Initiation*)**

School Risk Management Plan – Possible Data, Views, Plans



School Risk Management Plan – Possible Data, Views, Plans



Hazardous Materials Location Data Emergency Equip. Metrics Info. Profile Data Tools Stationery Geography

Emergency Contacts

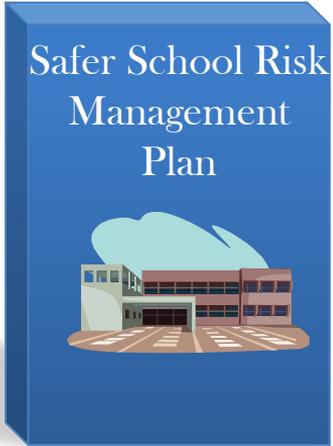
Oak Mountain High School EOP

OAK MOUNTAIN HIGH SCHOOL
Open School Safety Plan

Contact List	
Principal	Juan Doyle (255) 662-5200
Asst Principal	Amy Fineburg (255) 662-5200
Asst Principal	Brad Hays (255) 662-5200
Asst Principal	Donna Clayton (255) 662-5200

Directions: [To here](#) - [From here](#)

School Risk Management Plan – Possible Data, Views, Plans



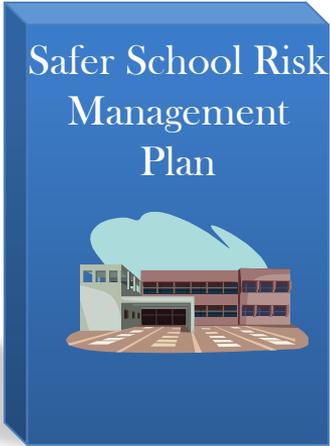
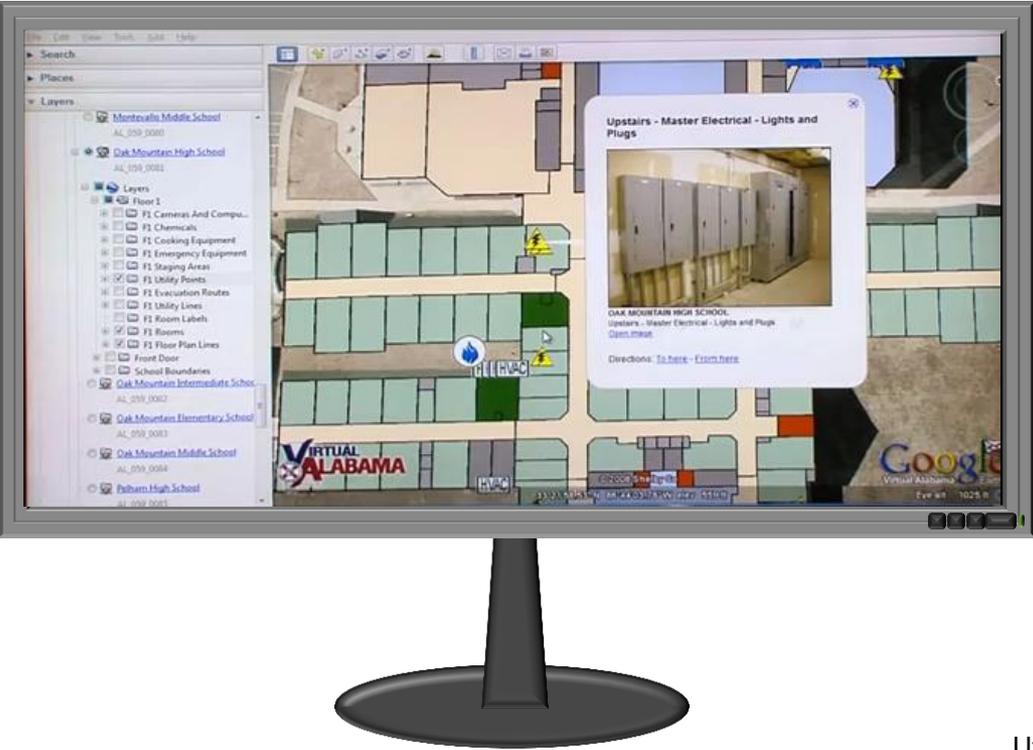
School Design Plans



Emergency Contacts



School Risk Management Plan – Possible Data, Views, Plans



Utility Inventory



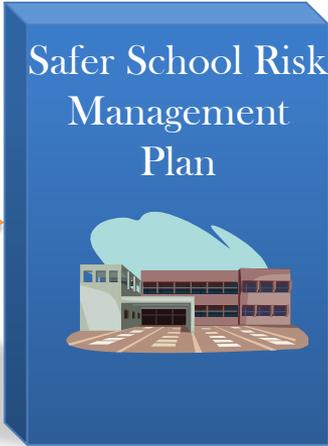
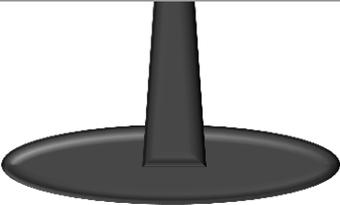
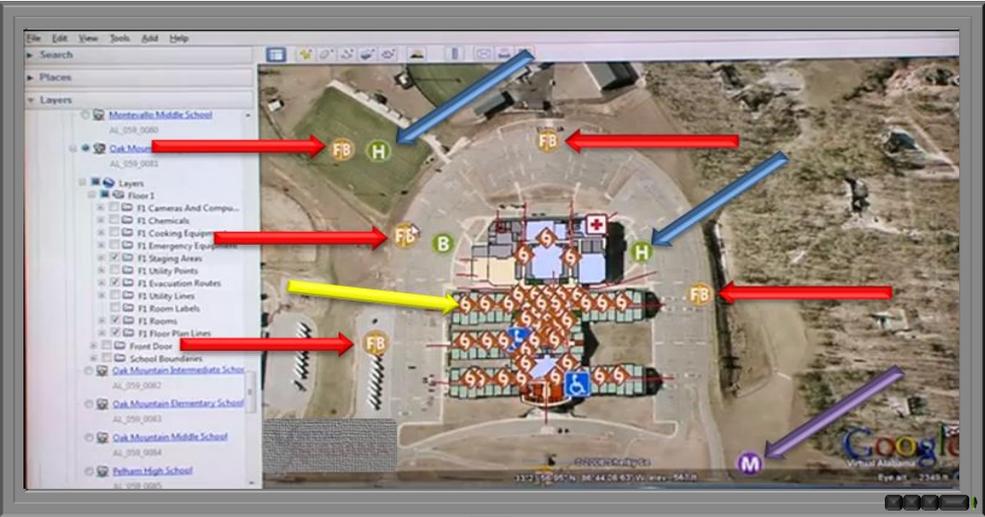
School Design Plans



Emergency Contacts



School Risk Management Plan – Possible Data, Views, Plans



Evacuation Plan



Utility Inventory



School Design Plans



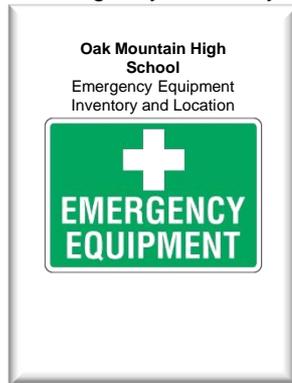
Emergency Contacts



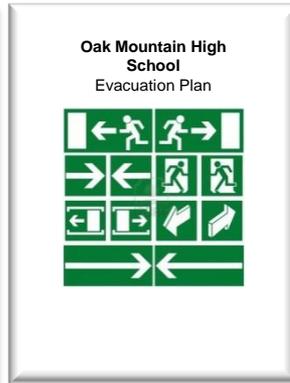
School Risk Management Plan – Possible Data, Views, Plans



Emergency Inventory



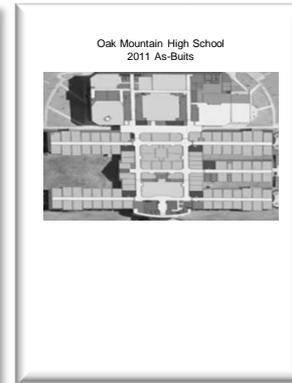
Evacuation Plan



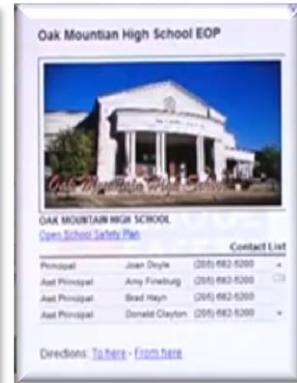
Utility Inventory



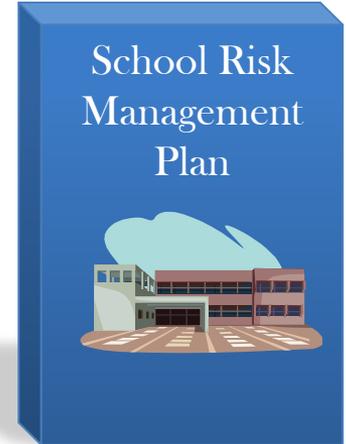
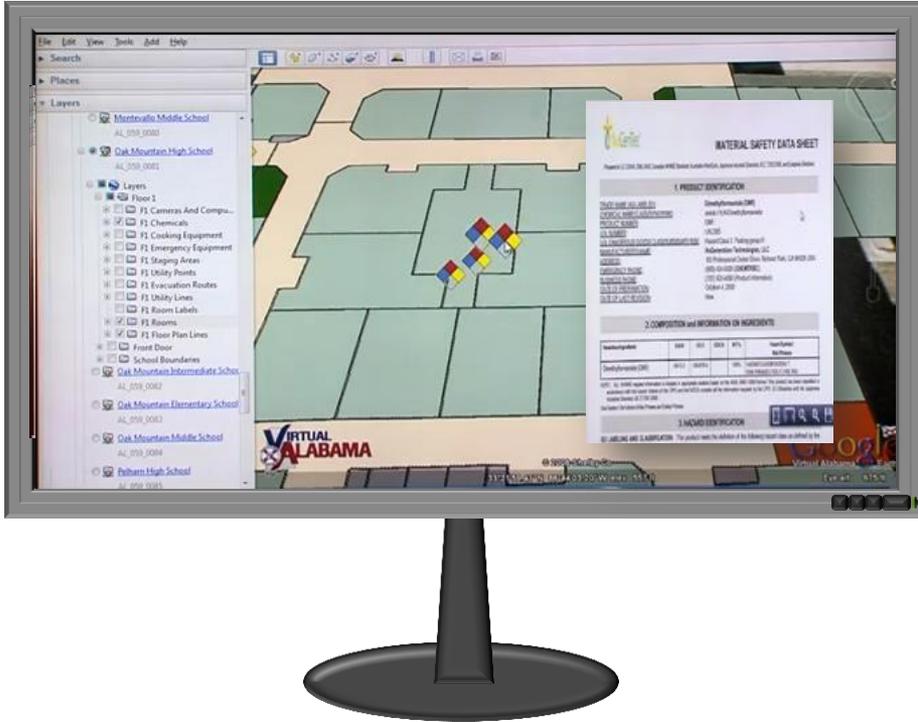
School Design Plans



Emergency Contacts



School Risk Management Plan – Possible Data, Views, Plans



Material Safety Data

Oak Mountain High School
Chemical and Hazardous Materials Inventory

Emergency Inventory

Oak Mountain High School
Emergency Equipment Inventory and Location

Evacuation Plan

Oak Mountain High School
Evacuation Plan

Utility Inventory

Oak Mountain High School
Utility Inventory

School Design Plans

Oak Mountain High School
2011 As-Built

Emergency Contacts

Oak Mountain High School EOP

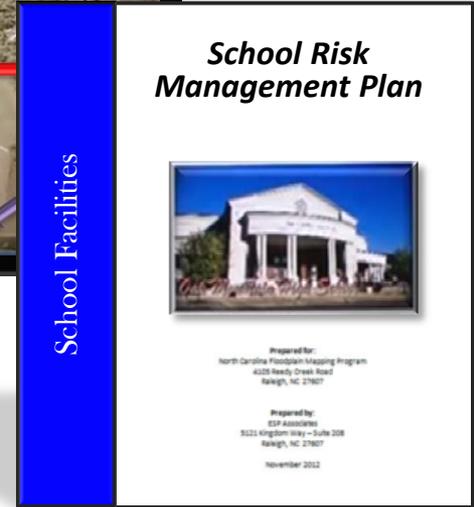
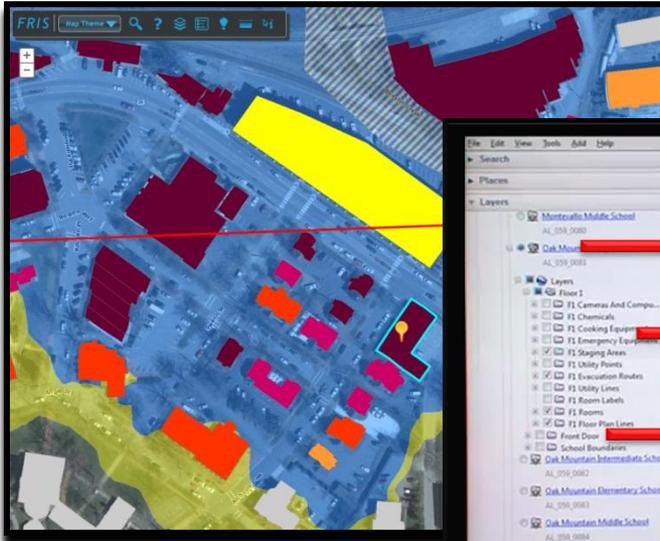
OAK MOUNTAIN HIGH SCHOOL
Open School Safety Plan

Contact List			
Principal	Juan Doyle	(205) 662-5200	+
Asst Principal	Amy Fineburg	(205) 662-5200	+
Asst Principal	Brad Hays	(205) 662-5200	+
Asst Principal	Donna Clayton	(205) 662-5200	+

Directions: [To here](#) - [From here](#)

School Risk Management Planning Initiative – Next Steps

- Establish Stakeholder Work Group
- Define Functional and Operational Requirements
- Establish Project with the Office of Information Technology
- Assess / Inventory Data Leveraging Opportunities
- Acquire Necessary Data / Information
- Construct School Risk Management Plan Template and Viewer
- Test / Receive Feedback from Stakeholders
- Conduct / Implement Pilots for Plan and Viewer
- Revise Plan and Viewer Based on Pilot and Reviews
- Progressively Implement



School Facilities

QUESTIONS?

John.Dorman@ncdps.gov
 919-825-2310

