

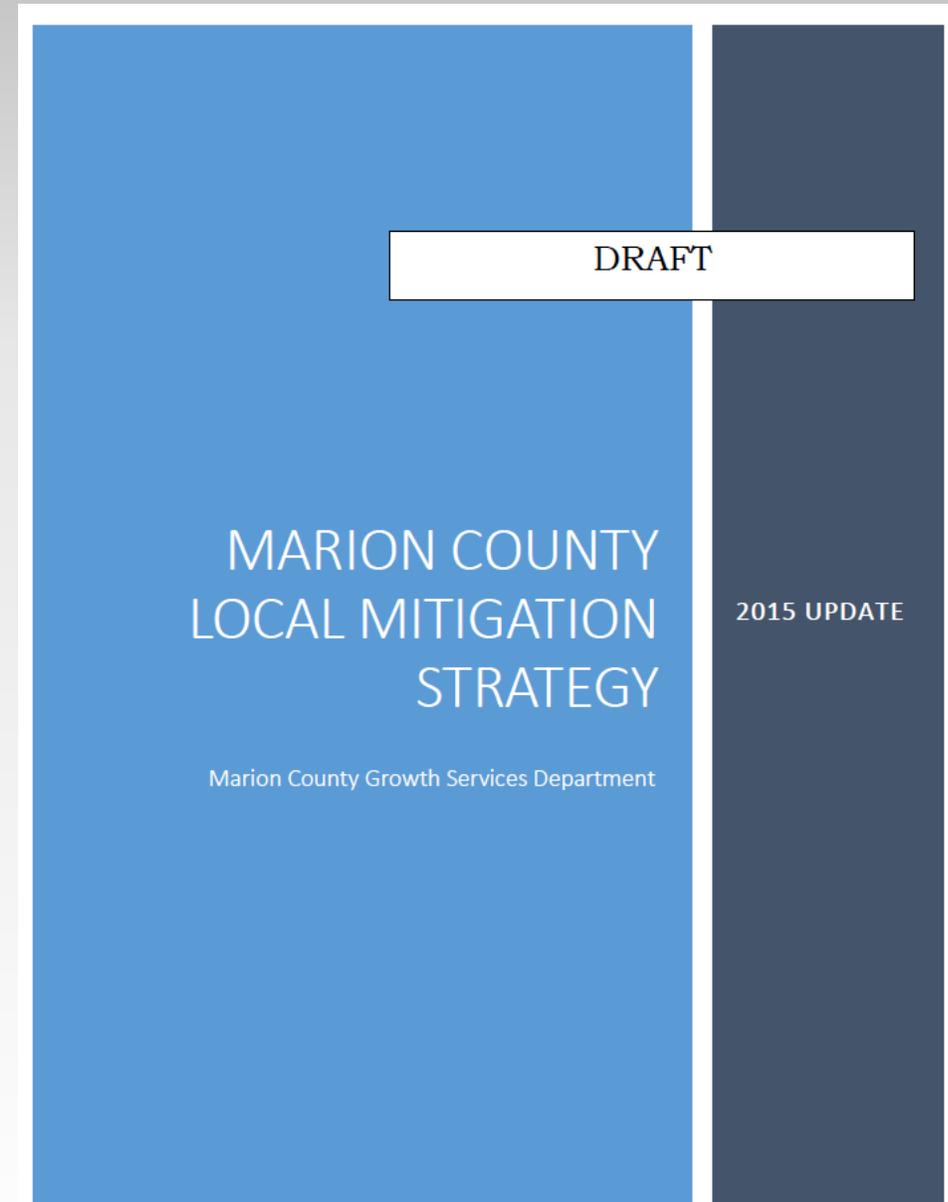
LOCAL MITIGATION STRATEGY

MARION COUNTY 2015

Purpose

Marion County faces a variety of natural and man-made hazards that could affect the lives and property of the community and visitors.

The Local Mitigation Strategy (LMS) Plan investigates these hazards with the purpose of seeking an understanding of their effects and proposing mitigation strategies that would reduce or eliminate them.



Local Mitigation Strategy

✓ Information

- Policy, technical, and digital information on current Marion County conditions

✓ Risk Assessment

- Identification of risks and potential natural and man-made hazards
- What steps may be taken to lessen them

✓ Actions and strategies

- Cost-effective actions that will reduce or eliminate the damaging impacts from the hazards

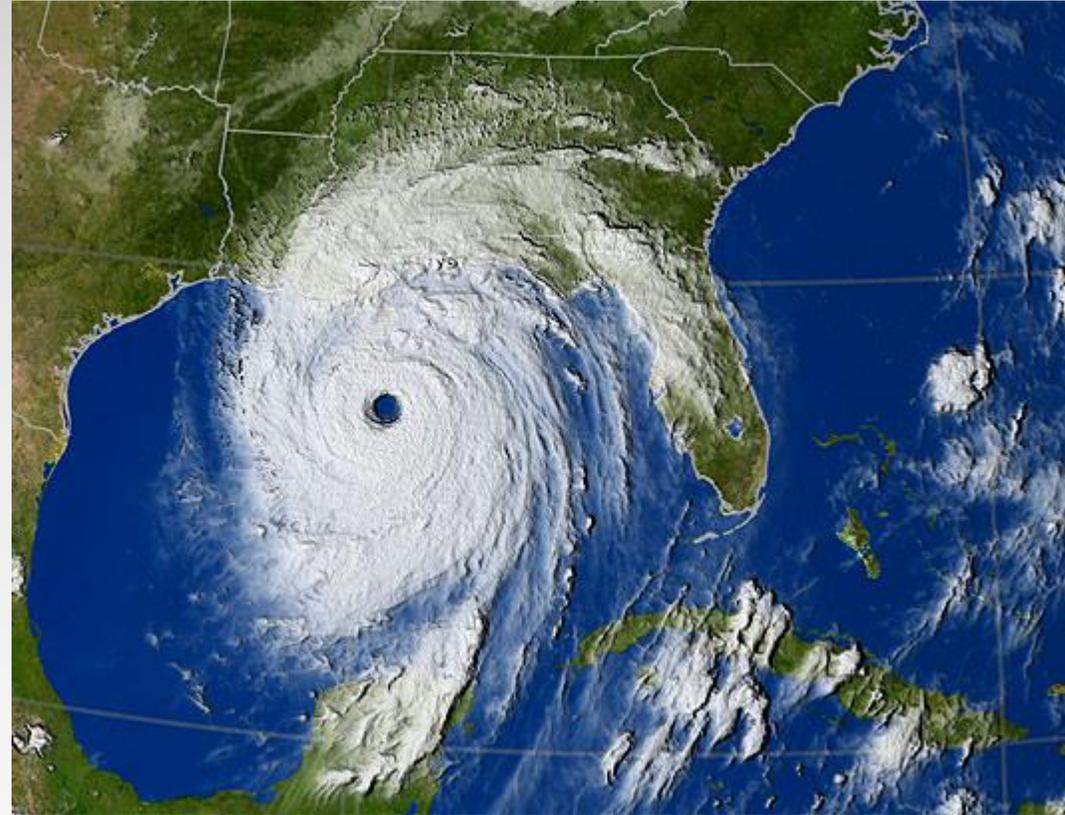
Hazards

Historic Data



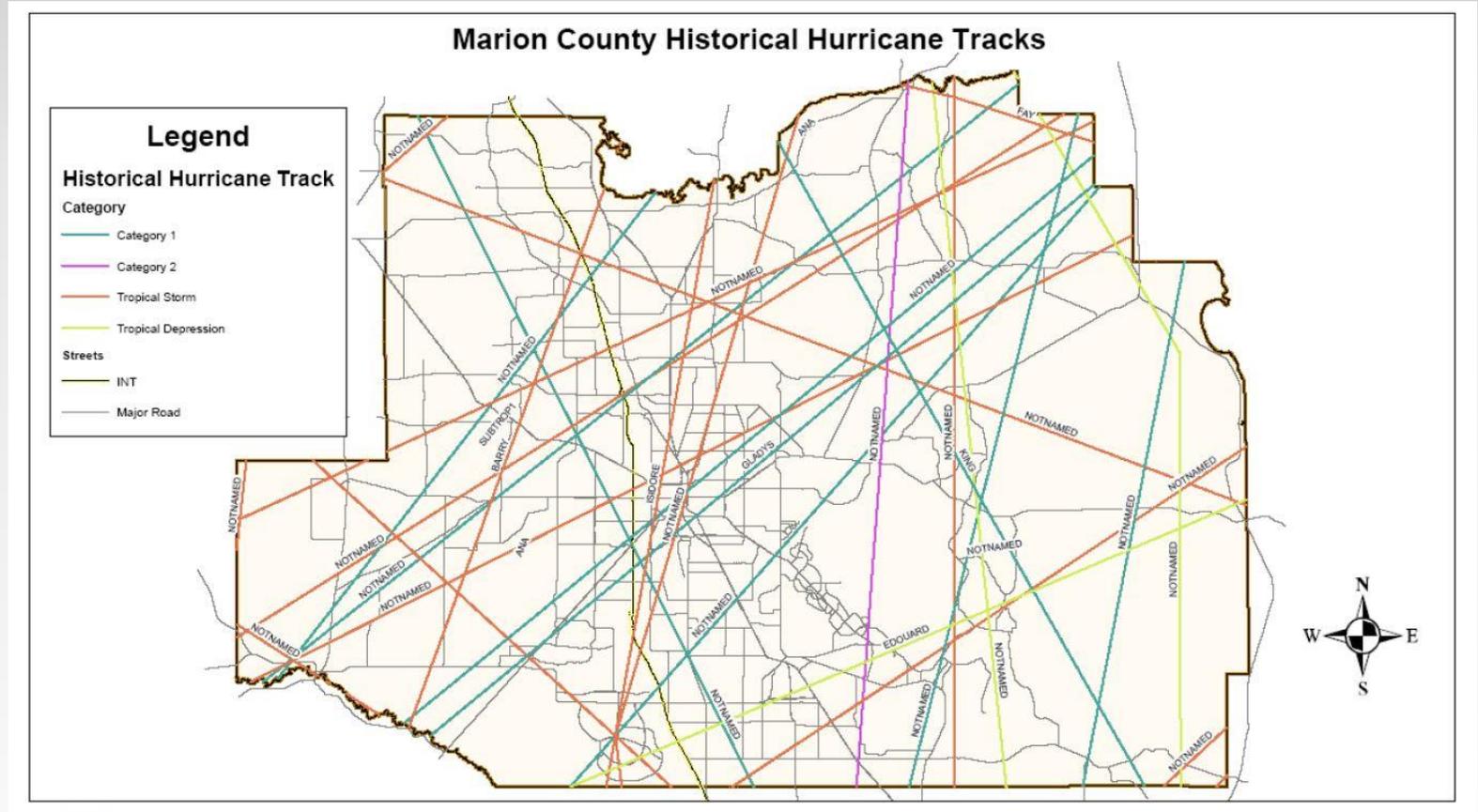
Hazards

Hurricane Katrina



Hazards

Hurricanes and Tropical Storms



Hazard Estimation

The Federal Emergency Management Agency's (FEMA's) Methodology for Estimating Potential Losses from Disasters



Hazus can model four types of hazards: flooding, hurricanes, coastal surge, and earthquakes. The model estimates the risk in three steps. First, it calculates the exposure for a selected area. Second, it characterizes the level or intensity of the hazard affecting the exposed area. Lastly, it uses the exposed area and the hazard to calculate the potential losses in terms of economic losses, structural damage, etc.

HAZUS

Predictive results

Table 1.2. Hurricane Loss Estimation Methodology Outputs

<p>Maps of wind hazards</p> <ul style="list-style-type: none">▪ Peak gust (3-second) wind speed for each census tract▪ Maximum sustained (1-minute) wind speed for each census tract▪ Coastal storm surge still water elevation grid and significant wave height grid for combined wind and surge scenario analysis <p>General building stock</p> <ul style="list-style-type: none">▪ Damage probabilities by occupancy▪ Damage probabilities by building type▪ Cost of building repair or replacement▪ Loss of contents▪ Business inventory loss▪ Loss of rental income▪ Relocation costs▪ Business income loss▪ Employee wage loss <p>Essential facilities</p> <ul style="list-style-type: none">▪ Damage probabilities▪ Probability of functionality▪ Loss of beds in hospitals	<p>Debris</p> <ul style="list-style-type: none">▪ Building debris generated by weight and type of material▪ Tree debris generated by weight or volume <p>Social losses</p> <ul style="list-style-type: none">▪ Number of displaced households▪ Number of people requiring temporary shelter <p>High potential loss (HPL) facilities</p> <ul style="list-style-type: none">▪ Locations of dams▪ Locations of nuclear plants▪ Locations of military facilities▪ Locations of other identified HPLs <p>Transportation and utility lifelines</p> <ul style="list-style-type: none">▪ Locations of transportation facilities▪ Locations of lifelines <p>Hazardous material sites</p> <ul style="list-style-type: none">▪ Location of facilities which contain hazardous materials
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Hazards

Table VI-8 Building Exposure by Occupancy Type

Occupancy	Exposure (\$1000)	Percent of Total
Residential	26,591,379	80.9%
Commercial	4,216,424	12.8%
Industrial	994,637	3.0%
Agricultural	252,040	0.8%
Religious	488,703	1.5%
Government	100,972	0.3%
Education	227,051	0.7%
Total	32,871,206	100.0%

Source: Hazus-MH Hurricane Event Report, probabilistic hurricane event model report, April 21, 2015.

Hazards

Table VI-9
Building Related Economic Losses
(thousands of dollars)

	Event Type				
	10 Year	20 year	50 Year	100 Year	500 Year
Property Damage	11,736	74,482	255,457	564,755	2,825,137
Building Interruption Loss	22	2,838	27,453	61,328	523,674
Total	11,758	77,320	282,910	626,083	3,348,811

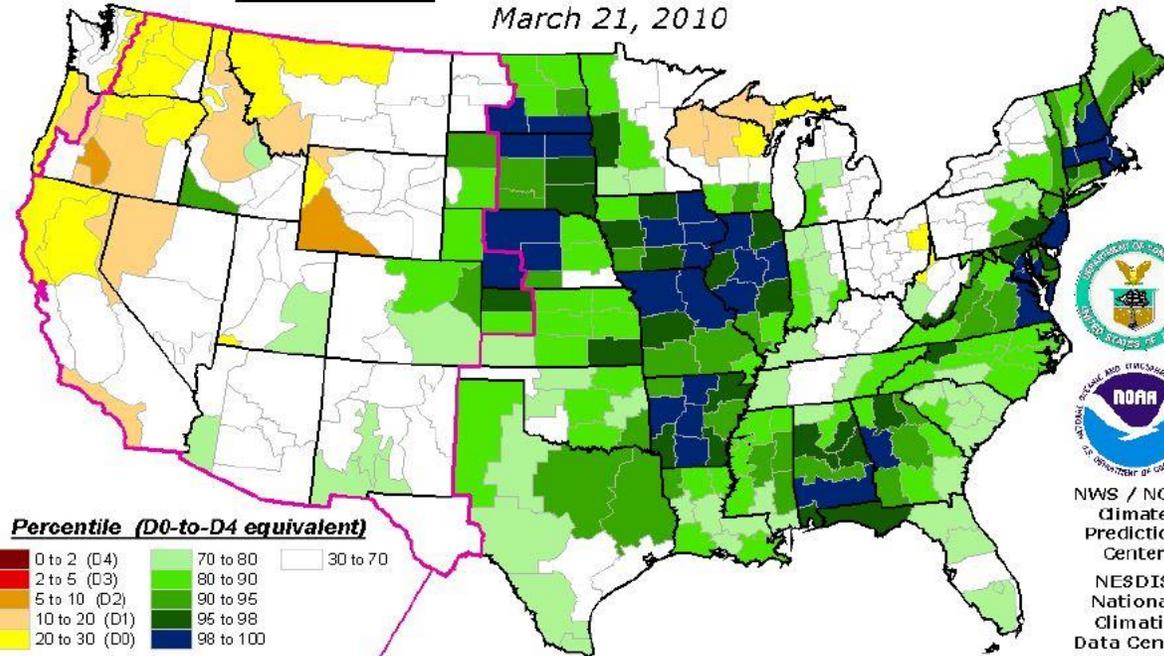
Source: Hazus-MH Hurricane Event Report, probabilistic hurricane event model report, April 21, 2015.

Hazards

Map VI-6 Marion County Drought Potential

Objective Long-Term Drought Indicator Blend Percentiles

March 21, 2010



Percentile (D0-to-D4 equivalent)

0 to 2 (D4)	70 to 80	30 to 70
2 to 5 (D3)	80 to 90	
5 to 10 (D2)	90 to 95	
10 to 20 (D1)	95 to 98	
20 to 30 (D0)	98 to 100	

Inputs (as percentiles):

- 25% Palmer Hydrologic Index
- 20% 24-Month Precipitation
- 20% 12-Month Precipitation
- 15% 6-Month Precipitation
- 10% 60-Month Precipitation
- 10% CPC Soil Moisture Model

Western Formulation Inputs (as percentiles):

- 30% Palmer Hydrologic Index
- 30% 60-Month Average Z-Index
- 10% 60-Month Precipitation
- 10% 24-Month Precipitation
- 10% 12-Month Precipitation
- 10% CPC Soil Moisture Model

This map approximates impacts responding to precipitation over the course of several months to a few years, such as reservoir content, groundwater, and lake levels. **HOWEVER, THE RELATIONSHIP BETWEEN INDICATORS AND WATER SUPPLIES CAN VARY MARKEDLY WITH LOCATION, SEASON, SOURCE, AND MANAGEMENT PRACTICE. Do not interpret this map too literally.**

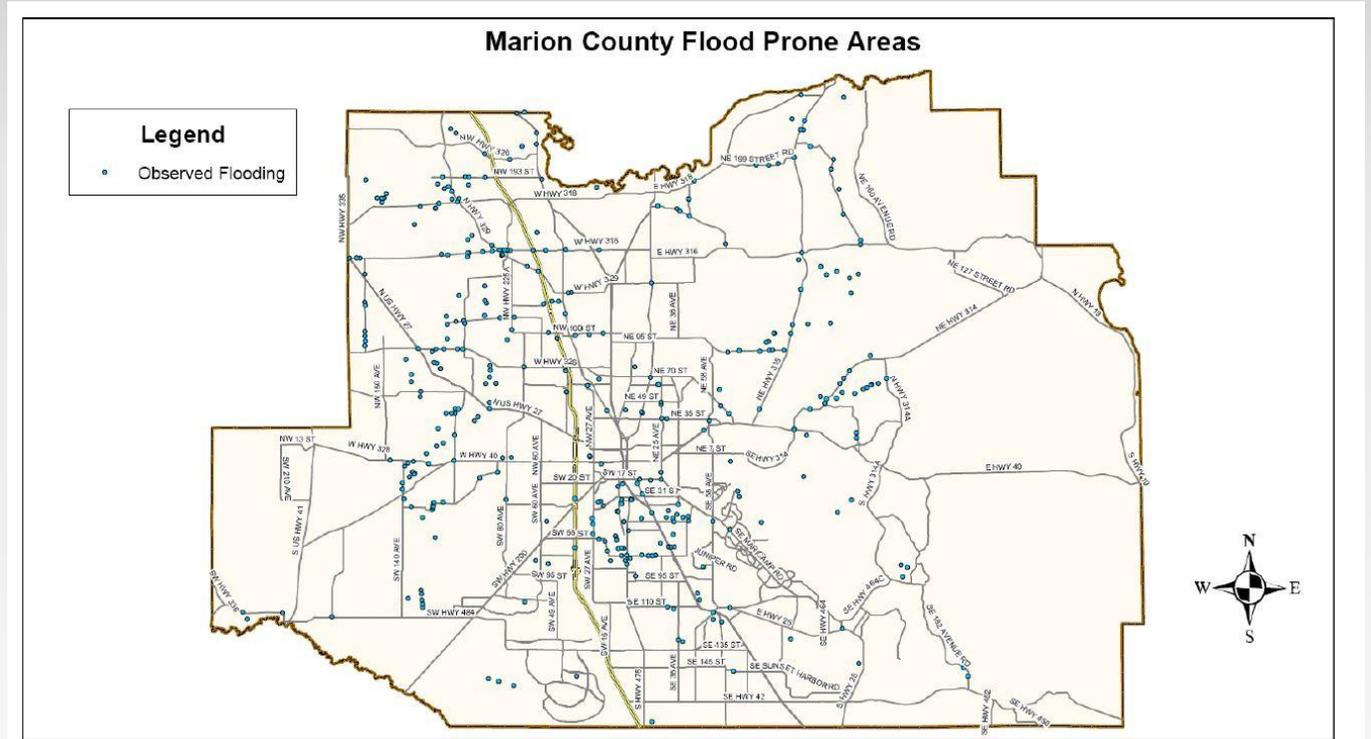
This map is based on preliminary climate division data. Local conditions and/or final data may differ. See the detailed product suite description for more details.



NWS / NCEP
Climate
Prediction
Center

NESDIS
National
Climatic
Data Center

Hazards



Hazards

Table VI-3

Historic Weather Events, Marion County, 1960-2014

Name	Events	Economic Loss (millions)
Coastal	2	8.27
Flooding	12	16.34
Hail	14	8.67
Hurricane/tropical storm	9	1,298.90
Lighting	30	0.57
Severe Storm	39	19.66
Tornado	25	29.28
Wildfire	3	4.30
Wind	41	10.08
Winter Weather	6	12.82
Total	181	1,408.89

Hazards & Vulnerability Research Institute (2014).

The Spatial Hazard Events and Losses Database for the United States,

Version 13.1 [Online Database]. Columbia, SC: University of South Carolina.

Available from <http://www.sheldus.org>

Hazards

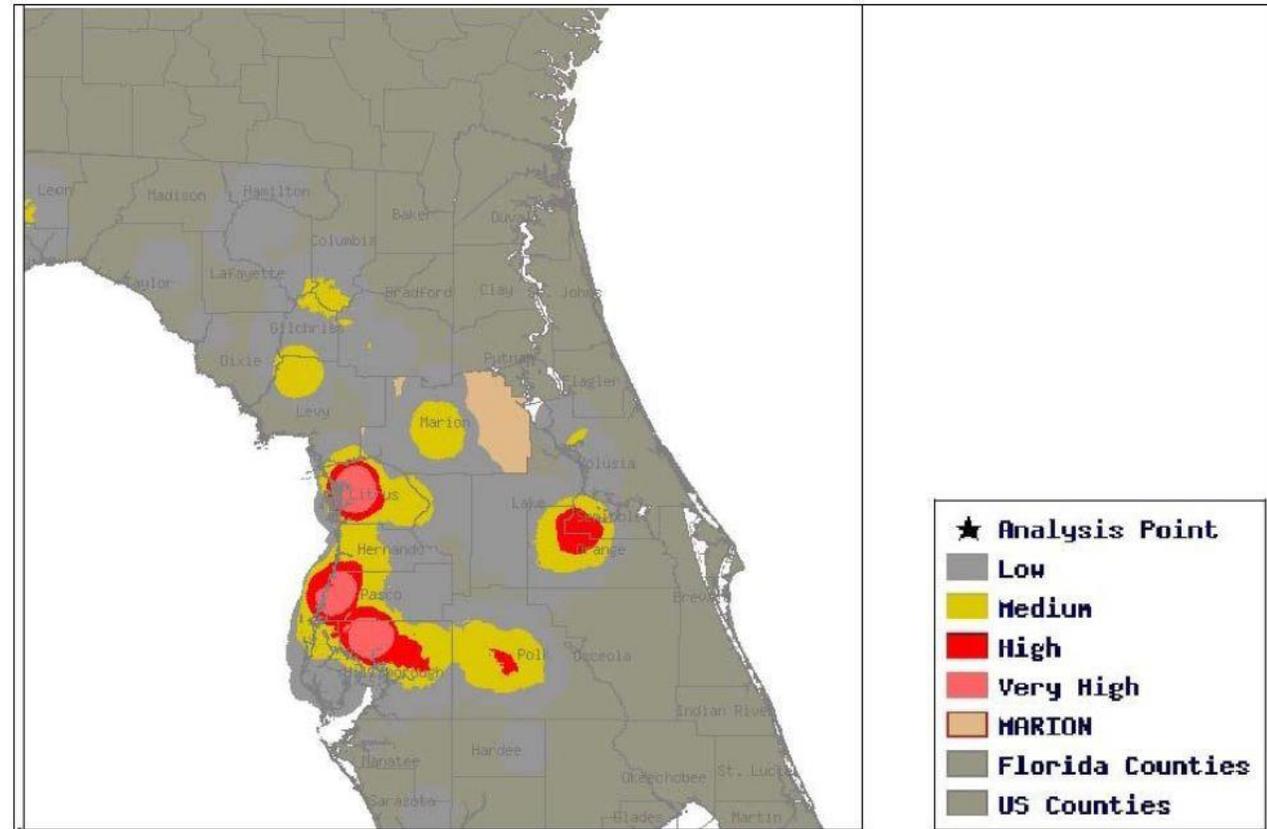
Marion County Area Weather Events

Table VI-2 Presidential Disaster Declarations, 1960-2014

Event	Declaration Date
Hurricane Donna	09/12/1960
Hurricane Dora	09/10/1964
Hurricane Gladys	11/07/1968
Severe Winter Weather	01/31/1977
Severe Freeze	01/15/1990
Tornadoes, Flooding, High Winds	03/13/1993
Severe Storms, High Winds, tornadoes	01/06/1998
Extreme Fire Hazard	06/18/1998
Fires	04/27/1999
Hurricane Frances	09/04/2004
Hurricane Ivan	09/16/2004
Hurricane Jeanne	09/26/2004
Tropical Storm Fay	08/24/2008

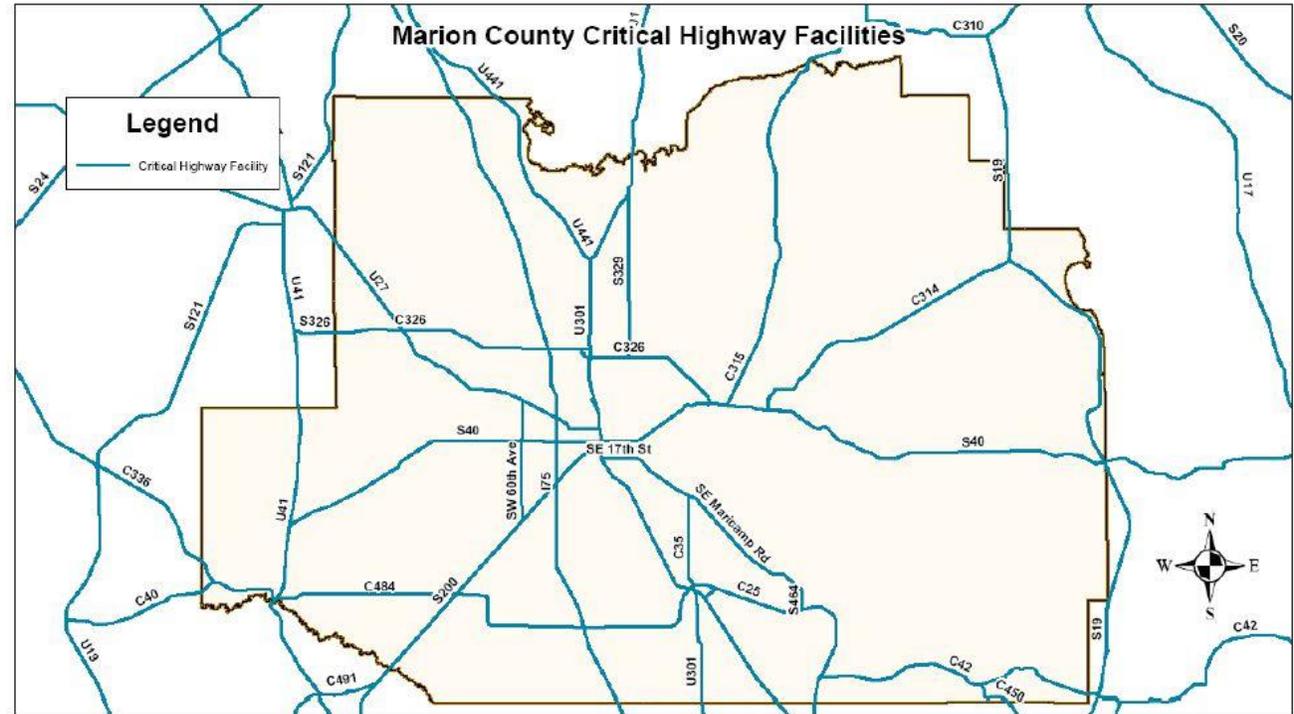
Hazards

Map VI-5 Marion County Sinkhole Potential



Critical Facilities

Map VII-9 Marion County Highway Facilities



Local Mitigation Strategy
Marion County Planning Division

Source: Florida Department of Emergency Management
Comprehensive Data Management System (CDMS)

Mitigation Initiatives

The LMS includes a list ranking each of the projects submitted.

Prioritized Project List

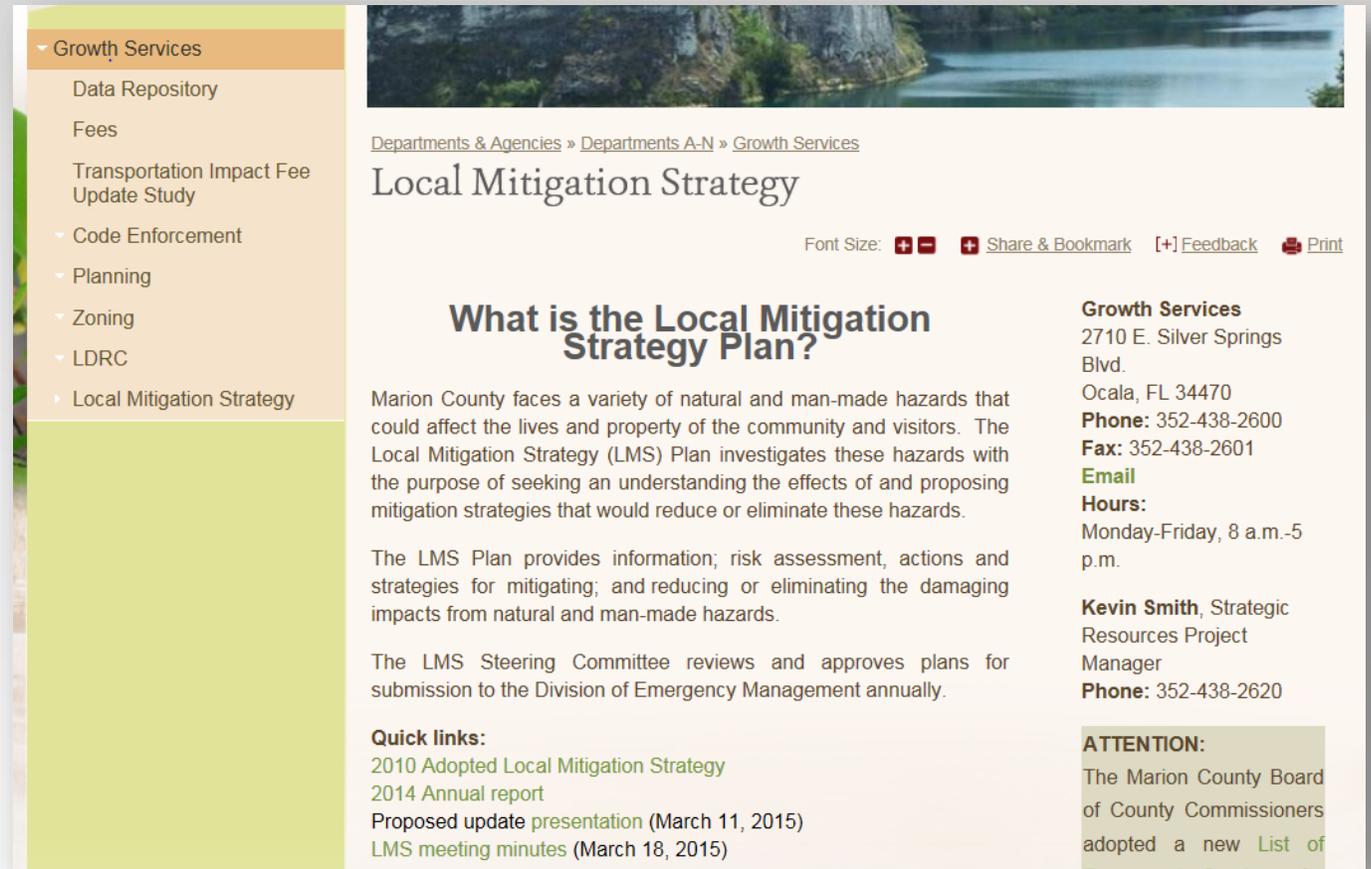
APPLICATION YEAR		MARION COUNTY, FLORIDA LOCAL MITIGATION STRATEGY PRIORITIZED PROJECT LIST 2014-2015 (2014 Calendar Year for January 2015 Annual Report)					
2011							
2012							
2013							
2014							
Initiating Jurisdiction and Agency	ID Number	Description/Title	Pop Impacted	Hazard(s) Mitigated	Timeframe for Completion	Score	Rank
Marion County Sheriff Emergency Management	2013-06 (2008-08) (2004-11)	Storm shutters and generators for each District Office	MC, M, R	H, T, S	1 year	36	1
Marion County Health Department	2013-01 (2008-01)	Purchase/install Automatic Transfer Switch for First Baptist Church generator	A	A	5 years	34	2
Marion County Sheriff Emergency Management	2013-03	EOC Staging Portable Storage Units	A	A	1 year	34	2
Marion County Sheriff Emergency Management	2013-02	Paving EOC Incident Staging/Parking Lot	A	A	2 years	33	3
Marion County Sheriff Emergency Management	2013-04	EOC LED Portable Signs	A	A	1 year	33	3
Marion County Engineering	2013-13 (2008-07) (2004-07)	Purchase four (4) LED Message Boards	A	A	1 year	33	3
Marion County Health Department	2011-01	Storm shutters at Marion County Health Department facilities	A	H, T, S	5 years	32	4
Ocala Public Works	2013-12	Stormwater Pump Station 202 Upgrade (E. Hwy 40 Flooding)	MC, O	H, S, F	2 Years	32	4

Webpage

☐ LMS Document

☐ Annual Reports

☐ Plan Updates



The screenshot shows a webpage with a navigation menu on the left and a main content area on the right. The navigation menu includes 'Growth Services' (expanded), 'Data Repository', 'Fees', 'Transportation Impact Fee Update Study', 'Code Enforcement', 'Planning', 'Zoning', 'LDRC', and 'Local Mitigation Strategy'. The main content area features a header image of a lake, a breadcrumb trail 'Departments & Agencies » Departments A-N » Growth Services', and the title 'Local Mitigation Strategy'. Below the title are utility links for font size, share, feedback, and print. The main heading is 'What is the Local Mitigation Strategy Plan?'. The text explains that Marion County faces various natural and man-made hazards and that the LMS Plan investigates these hazards. It also states that the LMS Plan provides information on risk assessment and mitigation strategies. A section on the LMS Steering Committee's role is also present. A 'Quick links' section lists documents from 2010, 2014, and proposed updates from 2015. A sidebar on the right provides contact information for Growth Services, including address, phone, fax, email, and hours. An 'ATTENTION' box at the bottom right mentions a new list of county commissioners.

☐ Growth Services

- Data Repository
- Fees
- Transportation Impact Fee Update Study
- Code Enforcement
- Planning
- Zoning
- LDRC
- Local Mitigation Strategy

Departments & Agencies » Departments A-N » Growth Services

Local Mitigation Strategy

Font Size: [Share & Bookmark](#) [\[+\] Feedback](#) Print

What is the Local Mitigation Strategy Plan?

Marion County faces a variety of natural and man-made hazards that could affect the lives and property of the community and visitors. The Local Mitigation Strategy (LMS) Plan investigates these hazards with the purpose of seeking an understanding the effects of and proposing mitigation strategies that would reduce or eliminate these hazards.

The LMS Plan provides information; risk assessment, actions and strategies for mitigating; and reducing or eliminating the damaging impacts from natural and man-made hazards.

The LMS Steering Committee reviews and approves plans for submission to the Division of Emergency Management annually.

Quick links:

- [2010 Adopted Local Mitigation Strategy](#)
- [2014 Annual report](#)
- [Proposed update presentation \(March 11, 2015\)](#)
- [LMS meeting minutes \(March 18, 2015\)](#)

Growth Services
2710 E. Silver Springs Blvd.
Ocala, FL 34470
Phone: 352-438-2600
Fax: 352-438-2601
Email
Hours:
Monday-Friday, 8 a.m.-5 p.m.

Kevin Smith, Strategic Resources Project Manager
Phone: 352-438-2620

ATTENTION:
The Marion County Board of County Commissioners adopted a new [List of](#)

LOCAL MITIGATION STRATEGY

KEVIN A. SMITH, AICP

STRATEGIC RESOURCES PROJECT MANAGER

MARION COUNTY DEPARTMENT OF GROWTH SERVICES