

# WMO Workshop

Partnership and  
Coordination



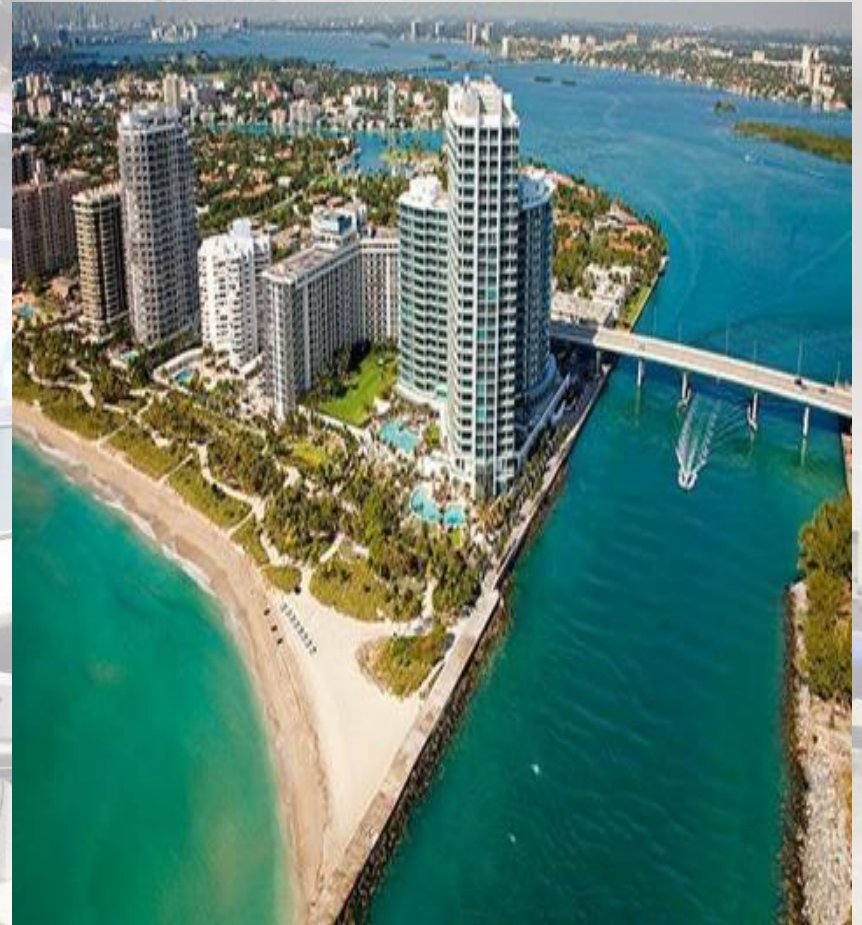
With Emergency  
Management





# Miami-Dade County Overview

- 2,000 square miles
- World's busiest cruise port
- 2.6 million residents
- Second busiest US airport for international travelers
- Gateway to the Caribbean and Latin America



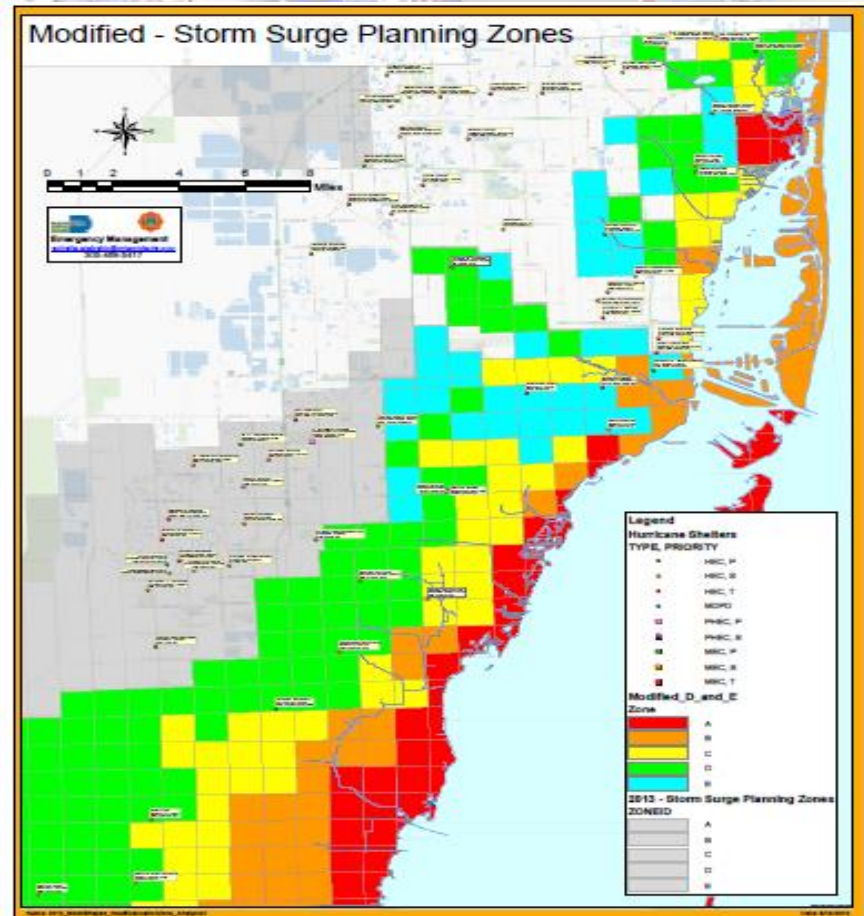
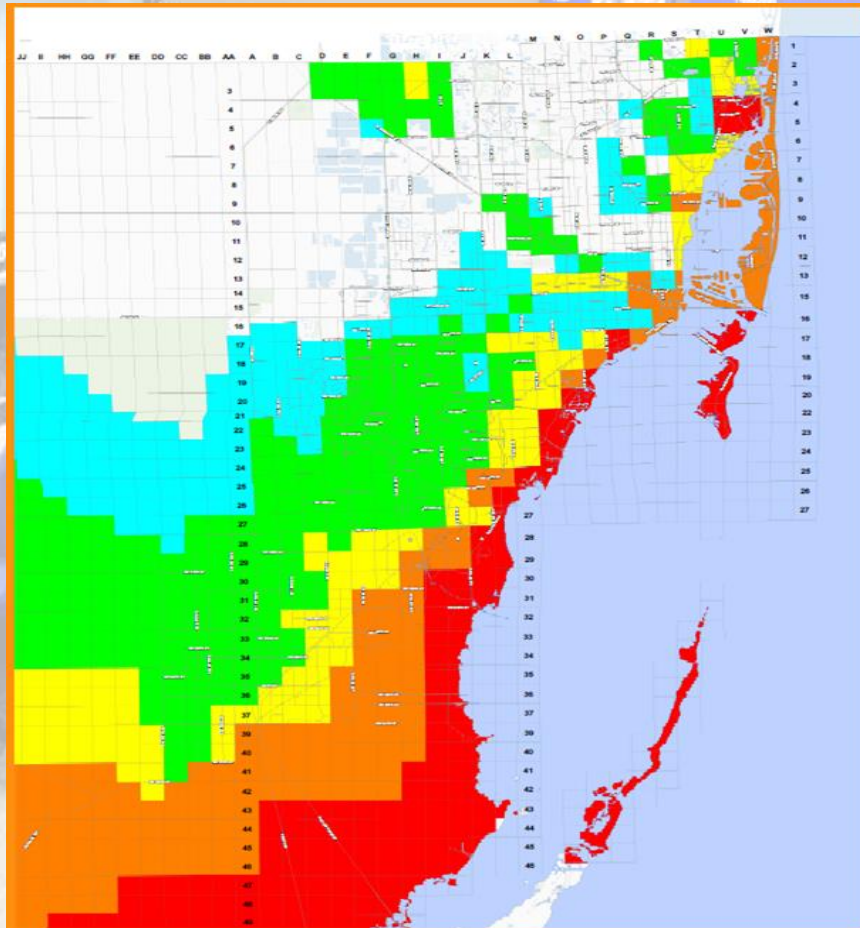


# Natural Hazards Risks

Probability		Consequence							OVERALL RISK SCORE
Hazards	Frequency & Probability	Potential Magnitude & Scale	Impact Analysis			Capabilities & Capacity	Mitigation	Hazard Consequence & Impact Score	
			Social Vulnerabilities Hazard Impact Rating	Physical Vulnerabilities Hazard Impact Rating	Community Conditions Impact Rating				
			Natural Hazards						
Droughts	38%	38%	15%	29%	39%	82%	70%	40%	39%
Extreme Cold	17%	11%	15%	29%	34%	82%	67%	32%	23%
Extreme Heat	75%	16%	15%	41%	34%	82%	58%	36%	52%
Flooding	50%	27%	38%	53%	52%	68%	96%	53%	51%
Hailstorms	69%	18%	24%	29%	51%	82%	50%	41%	53%
Heavy Rain	50%	9%	32%	29%	32%	68%	96%	36%	42%
Hurricanes & Tropical Storms	69%	64%	58%	66%	64%	63%	58%	75%	72%
Lightning	75%	18%	15%	29%	29%	82%	96%	32%	49%
Winter Weather / Ice	5%	16%	15%	37%	36%	82%	76%	36%	13%
Sinkholes / Erosion	50%	13%	38%	29%	41%	82%	50%	41%	45%
Space	1%	7%	23%	29%	29%	68%	N/A	29%	5%
Tornadoes	44%	20%	42%	53%	53%	68%	75%	53%	48%
Tsunami	13%	24%	24%	37%	36%	68%	25%	45%	24%
Volcano (Ash)	1%	4%	15%	37%	32%	85%	N/A	28%	5%
Windstorm	50%	18%	42%	37%	45%	82%	75%	45%	47%
Wildfires	38%	13%	42%	57%	51%	68%	63%	53%	44%
Earthquakes	5%	4%	24%	29%	29%	68%	N/A	29%	12%



# Storm Surge Planning VS. Evacuation Planning





## Services Near You

miamidade.gov

Back to Services

Search By

Address Intersection Landmark

Enter the address and click Locate. Use the Tab key to switch between fields or click using the mouse.

House Number:

Direction:

Street Name:

Street Type:

Zip Code (opt):

Locate

What is my...?

[Census Information](#)

[Community Council](#)

[Community Development Block Grant Area](#)

[Community Development District](#)

[Community Redevelopment Area](#)

[County Commission District](#)

[County Police District and Grid](#)

[Empowerment Zone](#)

[Enterprise Zone](#)

[FEMA Flood Zone](#)

[Garbage Pickup Days](#)

[Municipality](#)

[Neighborhood Revitalization Strategy Area](#)

[Recycling Pickup Days](#)

[School Board District](#)

[School Boundaries](#)

[Storm Surge Planning Zone](#)

[Targeted Urban Area](#)

[Township-Range-Section](#)

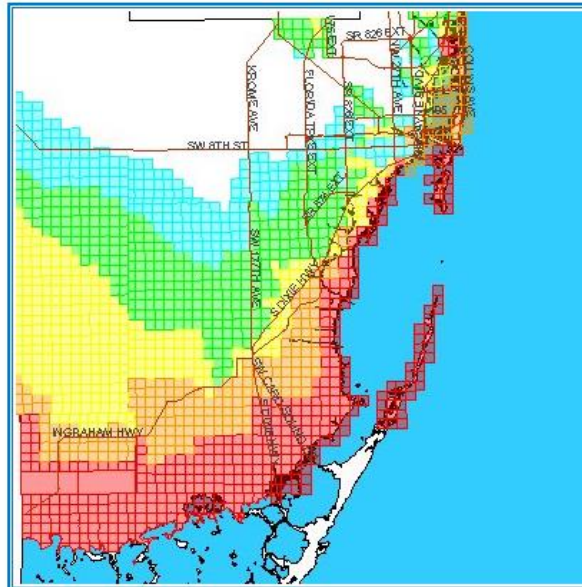
[Voting Precinct](#)

[Water and Sewer Service Areas](#)

[Zip Code](#)

### Storm Surge Planning Zones Map

ACTIVE TOOL: ZOOM IN



0 31345 ft

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### Map Report

#### Storm Surge Planning Zone:

- Zone: C
- Color: Yellow
- Grid: C35

### Legend

#### Storm Surge Planning Zone

- A
- B
- C
- D
- E
- Highway

### Other GIS Map Services

[My Neighborhood](#)

[Property Search](#)

[Public Notification](#)

[eMaps](#)

[Artificial Reefs](#)

[Sexual Offender/Predator](#)

[Residence Search](#)

### Storm Surge Planning Zones Map

ACTIVE TOOL: ZOOM IN



### Legend

Map Location  
★ 975 BAPTIST WAY, 33033  
Selected  
Storm Surge Planning Zone

- B
- C
- Street

### Other GIS Map Services

[My Neighborhood](#)

[Property Search](#)

[Public Notification](#)

[eMaps](#)

[Artificial Reefs](#)



# Storm Surge Simulator

## Storm Surge Simulator

975 Baptist Way

or click on the map to drop a point.

Search Map



MIAMI-DADE  
COUNTY

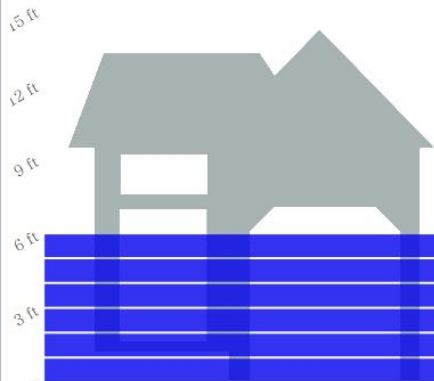
### Which hurricane category? ⓘ

Category 5

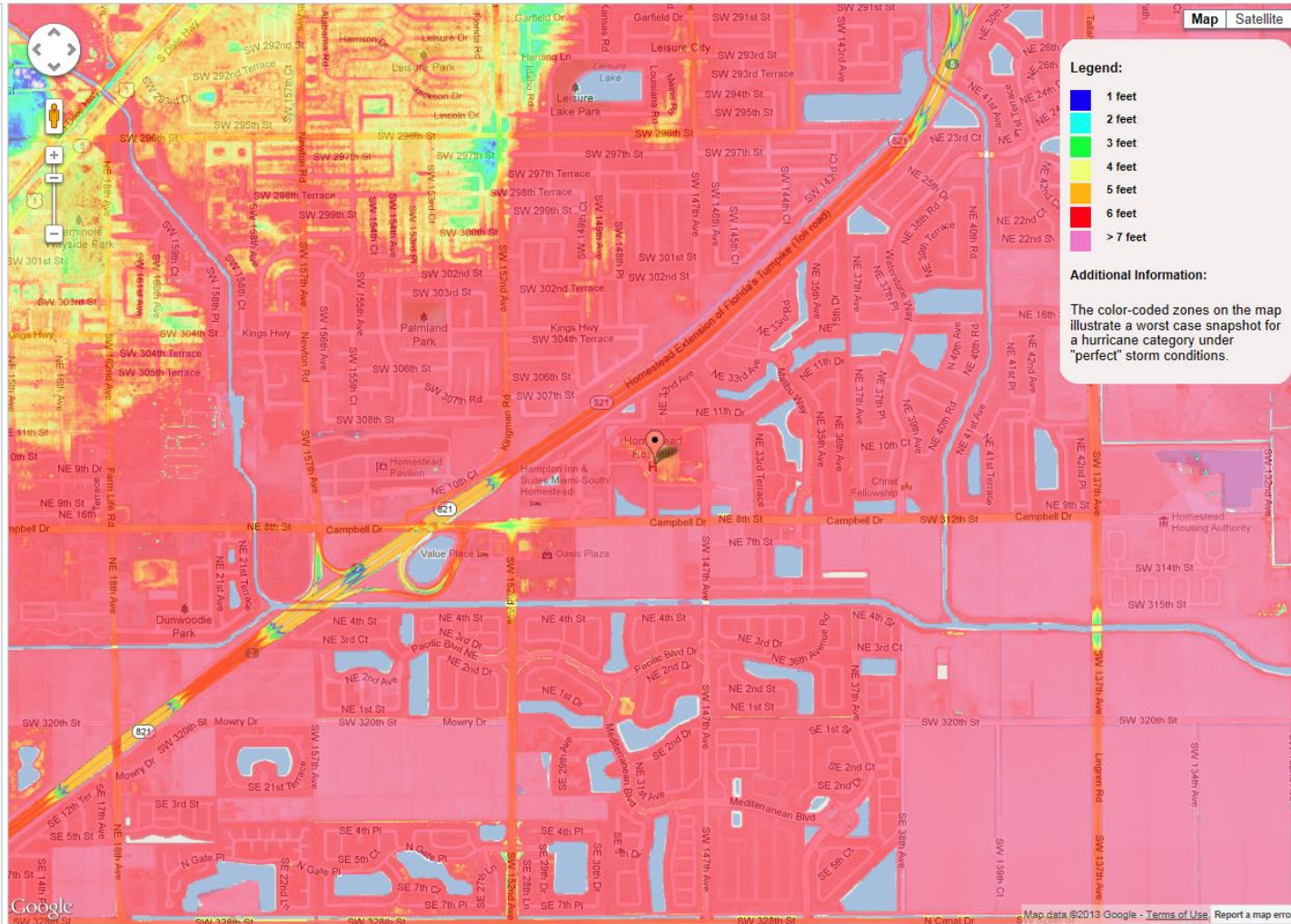
### What type of structure? ⓘ

☐ Person ☒ House ☐ Villa

### Projected storm surge depth: ⓘ



Projected Storm Surge Inundation: 6ft



### Legend:

- 1 foot
- 2 feet
- 3 feet
- 4 feet
- 5 feet
- 6 feet
- > 7 feet

### Additional Information:

The color-coded zones on the map illustrate a worst case snapshot for a hurricane category under "perfect" storm conditions.



**“The quintessential purpose of conducting a risk assessment is to ensure decision-making is not done in a vacuum”**

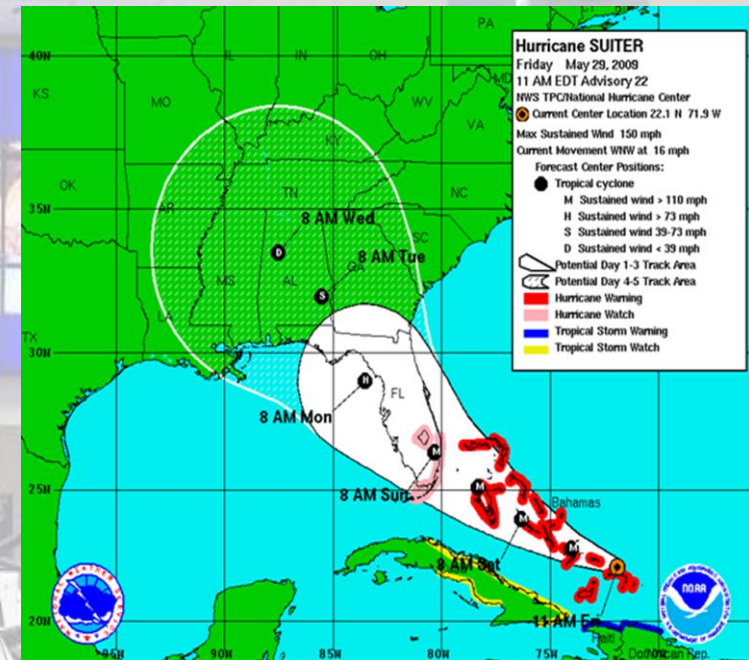




# PROTECTIVE ACTION DECISIONS

## THE CHALLENGE


- Consistently
  - Interpret data correctly
  - Reach defensible conclusions
  - Communicate the data effectively





# STORM ACTION LEAD TIME

- SALT is a planning tool to provide emergency managers a schedule of key activities that must be accomplished to prepare for the storm and their decision time.
- The schedule is based on an objective analysis of when an activity must commence in order to fully accomplish the task prior to arrival of tropical storm winds.
- The official National Hurricane Center and National Weather Service forecasts are the exclusive storm forecasts data entered into the application.

**MIAMI-DADE  
COUNTY**  
EMERGENCY MANAGEMENT

**Storm Action Lead Time**  
Last calculated on: Never

Print

Storm Name:	<input type="text"/>	NHC ADV Num:	<input type="text" value="&lt;html xmlns='http://www.v"/>	Forward Speed:	<input type="text" value="&lt;/title&gt;&lt;link type='text/css"/>
Arrival of TSFW:	<input type="text" value=""/>	Time of ADV:	<input type="text" value="&lt;head&gt;&lt;title&gt;"/>	Max. Sust. Wind:	<input type="text" value="&lt;style type='te"/>
Evacuation Zone:	<input type="text" value="A"/>	Storm Heading:	<input type="text" value="WebEOC 7.4&amp;"/>	Storm Diameter:	<input type="text" value="body"/>

Calculate S.A.L.T.

Saved.



# STORM ACTION LEAD TIME

- SALT assists in this decision making process by organizing and identifying planning milestones and decision times.
- The lead times determined by SALT should be considered tentative and subject to change.

**MIAMI-DADE COUNTY** **Storm Action Lead Time**  
Last calculated on: January 6, 2015 @ 1:40 PM

Storm Name:  NHC ADP Year:   
 Arrival of TSFW:  Time of ADP:  Forecast Speed:   
 Evacuation Zone:  Storm Heading:  Max. Sust. Wind:   
 Storm Diameter:

**Calculate S.A.L.T.**

Lead Time	Date & Time to Perform Task	Task	Hours From Now
-04	Monday, January 5 2015 3:00 PM	Initial storm verification to EOC Raps	0
-16	Tuesday, January 6 2015 1:00 PM	Initiate bridge lock down discussion with stakeholder agencies	0
-22	Tuesday, January 6 2015 3:00 PM	EOC Planning Section Initiate Flash Report distribution	3
-22	Tuesday, January 6 2015 3:00 PM	Designate a PIO point of contact for media	3
-72	Tuesday, January 6 2015 3:00 PM	Initiate Divisional EOC conference calls	3
-60	Wednesday, January 7 2015 5:00 AM	Begin IAP Production	15
-60	Wednesday, January 7 2015 5:00 AM	EOC to Level 2 (To support E&EAP Operations) and Prepare Mayor's Emergency Declaration for signature	15
-60	Wednesday, January 7 2015 5:00 AM	Begin E&EAP registry call down	15
-60	Wednesday, January 7 2015 5:00 AM	Notify Medical Management Facilities of tentative activation schedule	15
-60	Wednesday, January 7 2015 5:00 AM	Department Director's Briefing	15
-60	Wednesday, January 7 2015 5:00 PM	Notification to stakeholder agencies of probable knowledge lockdown	27
-47	Wednesday, January 7 2015 6:00 PM	Disseminate "Get Ready" press release - press conference	28
-47	Wednesday, January 7 2015 6:00 PM	Update Web Page	28
-47	Wednesday, January 7 2015 6:00 PM	Extend Answer 3-1-1 Center hours	28
-44	Wednesday, January 7 2015 9:00 PM	Activate Ambulance Dispatch Center, Fire Rescue Dept., and STS to coordinate E&EAP evacuation	31
-42	Wednesday, January 7 2015 11:00 PM	Evacuate MMF clinics via Ambulances and Fire Rescue	33
-42	Wednesday, January 7 2015 11:00 PM	Evacuate MMF clinics via STS	33
-42	Wednesday, January 7 2015 11:00 PM	Mayor signs Emergency Declaration	33
-42	Wednesday, January 7 2015 11:00 PM	Commence Residential Shuttering Program	33
-37	Thursday, January 8 2015 4:00 AM	Begin HHC - MECH preparations - Discussions with DCPH, ABC, DOH, MDVR Logistics, and other DAAs	38
-36	Thursday, January 8 2015 5:00 AM	Notify medical facilities to implement evacuation plans as applicable	39
-35	Thursday, January 8 2015 6:00 AM	Notify 3-1-1 Answer Center to start routing lost minute calls for assistance into E&EAP database	40
-29	Thursday, January 8 2015 12:00 PM	Close Schools	46



# Clearance Times

	Zone A Lead Time	Zone B Lead Time	Zone C Lead Time	Zone D Lead Time	Zone E Lead Time
In-County	26	28	37	56	73
Out-of-County	26	28	37	56	73



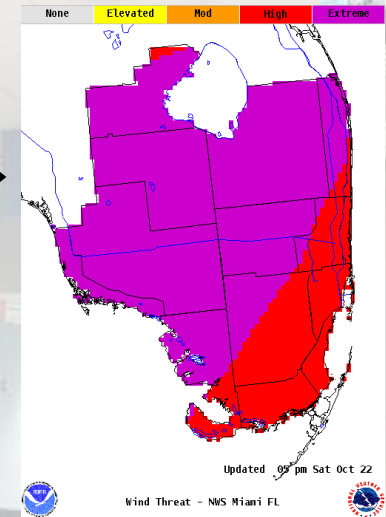
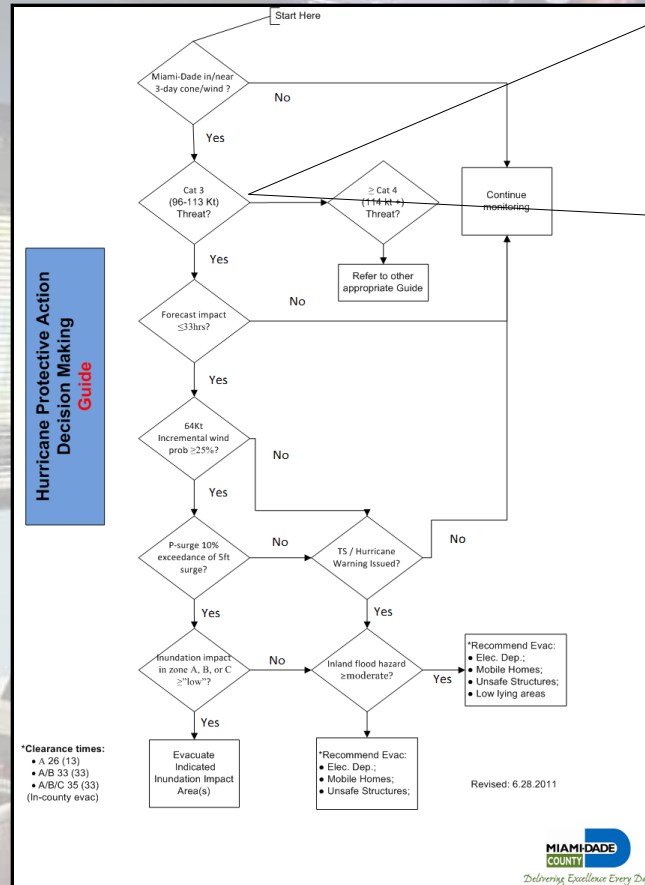
# NWS Graphics and Forecast Products

- With tropical storms and hurricanes, it's **all about impacts.**
- Utilized to execute our plans
- Potential Impact Graphics depict the worst of all **plausible impacts and scenarios.**



# Storm Intensity

At least  
Cat 3  
Threat?



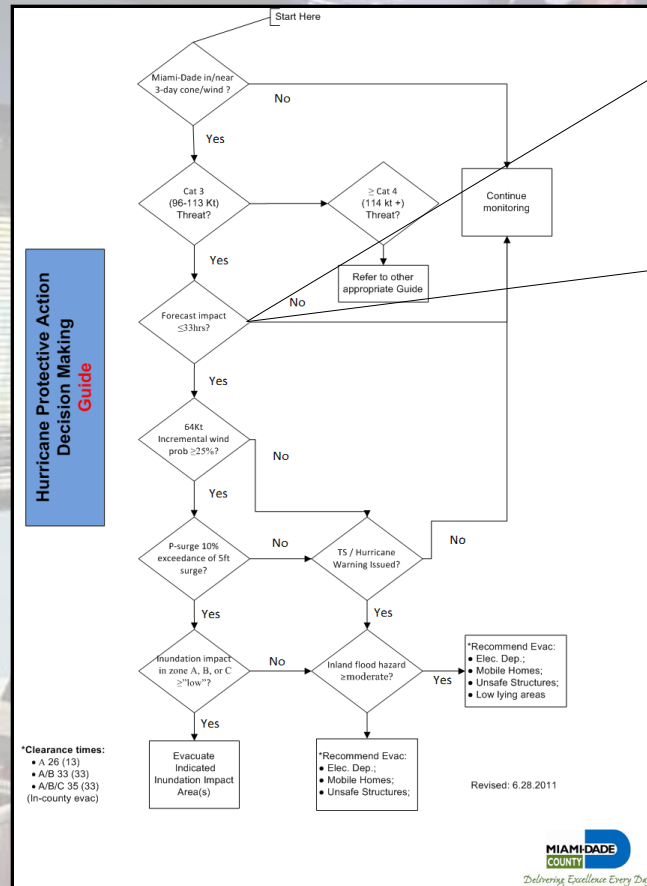
OR

FORECAST VALID XX/XX00Z 31.4N 77.5W  
MAX WIND XXX KT...GUSTS XXX KT.

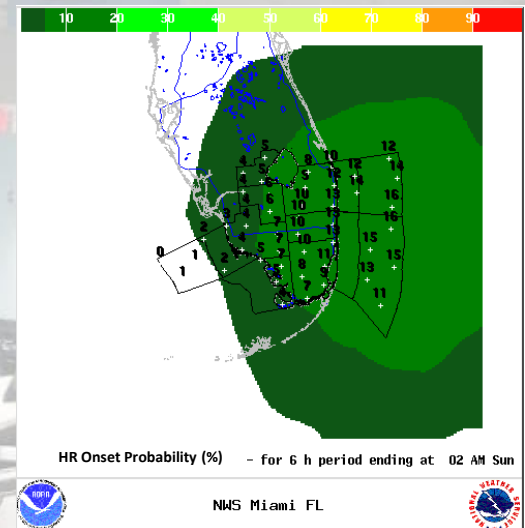


# Clearance Times

Forecast  
Impact  
< 33 Hrs



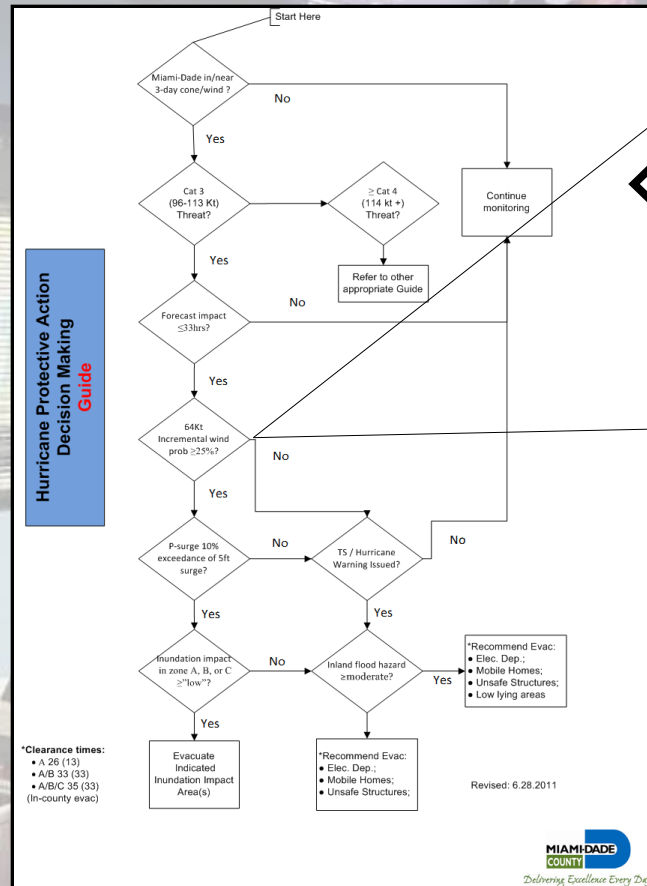
Available 2012 season



**FORECAST VALID XX/XX00Z 31.4N 77.5W**  
**MAX WIND XXX KT...GUSTS XXX KT.**

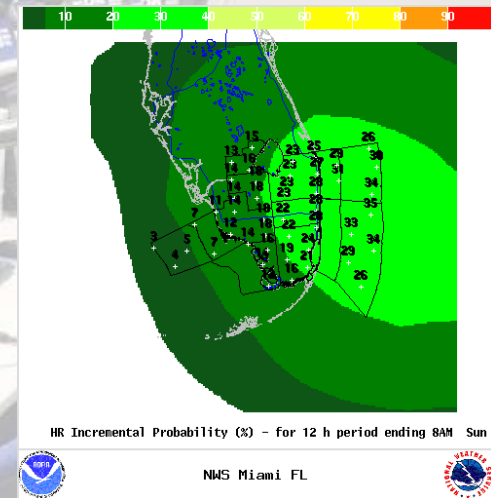


# Wind Probabilities



64Kts  
Incremental  
WSP ≥ 15%

Period	2014	
	PWS64	PWS34
00-12 hr	25%	45%
13-24 hr	20%	35%
25-36 hr	15%	30%
37-48 hr	12.5%	25%
49-60 hr	10%	22.5%
61-72 hr	8%	20%
73-84 hr	7%	17.5%
85-96 hr	6%	15%
97-108 hr	5%	12.5%
109-120 hr	4%	10%



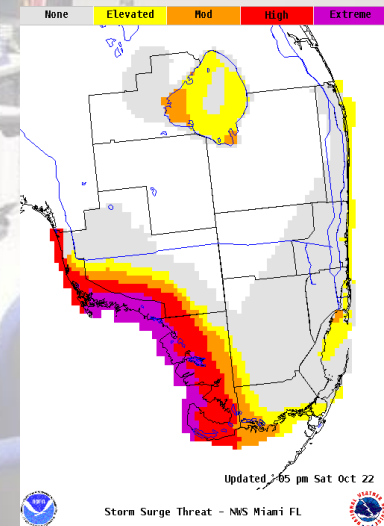
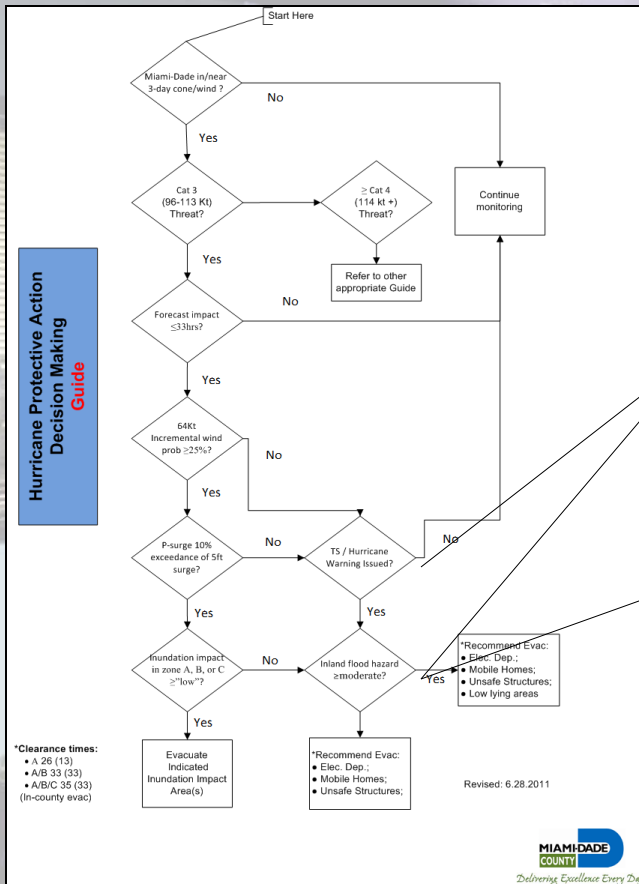


# Coastal Flooding (i.e., Inundation) Impact

PSurge2.0 in 10%  
Exceedance  
Cumulative Form

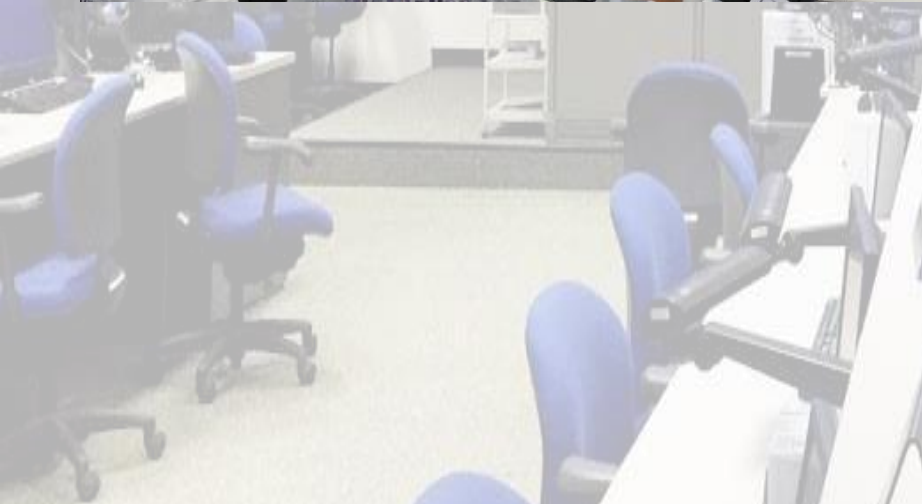
Inundation  
Impact  
in zone A, B, or C  
>= "Elevated"?

Elevated— an  
elevated threat to life  
and property;  
reasonable chance of  
combined storm  
surge and tide  
resulting in sea water  
inundation of 1 – 3 ft.






# Implementing Protective Actions

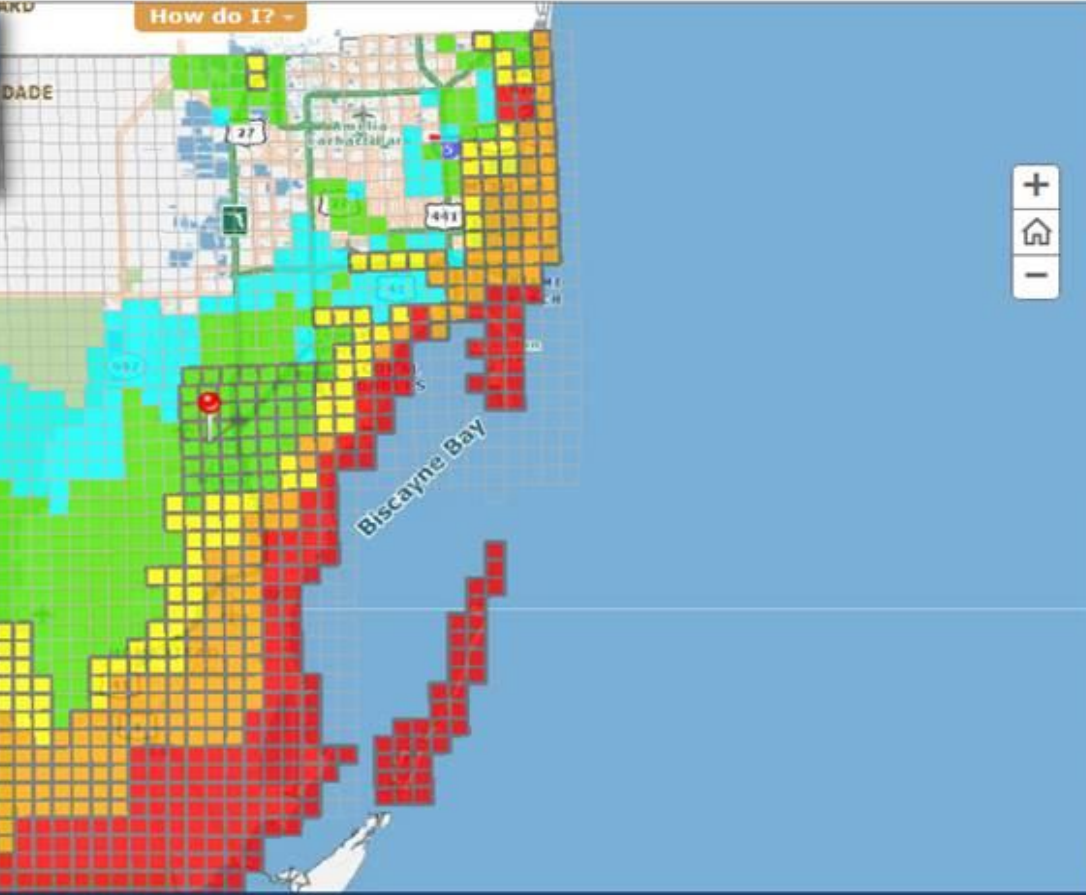







# Community Services

Find government facilities & services near you



- Government
- Emergency Management
- Garbage & Recycling
- Education
- Libraries
- Parks & Culture
- Public Safety
- Water & Sewer
- Demographics
- Show All

Storm Surge Planning Zones | Potential Nuclear Radiation Hazard | Evacuation Centers | Evacuation Bus Pick-Up Sites




### Storm Surge Planning Zones

**You are in mandatory evacuation zone.**

Zone: D  
Color: Green  
Grid: E25

**Mobile home residents and people on electrically dependent life sustaining medical equipment should evacuate when any hurricane evacuation order is issued, regardless of their storm surge planning zone.**




### Potential Nuclear Radiation Hazard

The location entered is not within a Potential Nuclear Radiation Hazard boundary.

Radius: 15 miles

Sector: N/A Direction: N/A



### Evacuation Centers

**See News for details on Evacuation Center**

JORGE MAS CANOSA MIDDLE (2.5 miles)  
15735 SW 144 ST

ROBERT MORGAN SR HIGH (2.8 miles)  
18180 SW 122ND AVENUE

CALUSA ELEMENTARY (2.9 miles)  
9580 W CALUSA CLUB DR



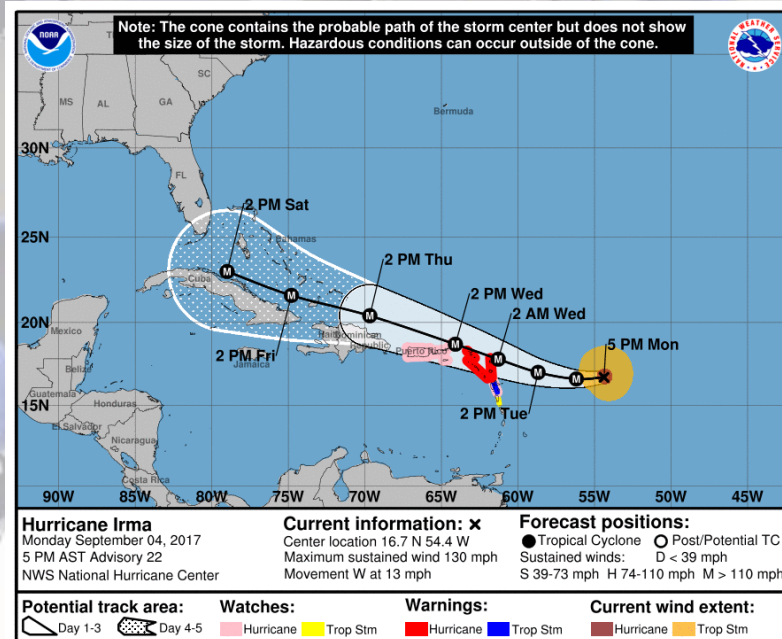
# Hurricane Irma





# Hurricane Irma

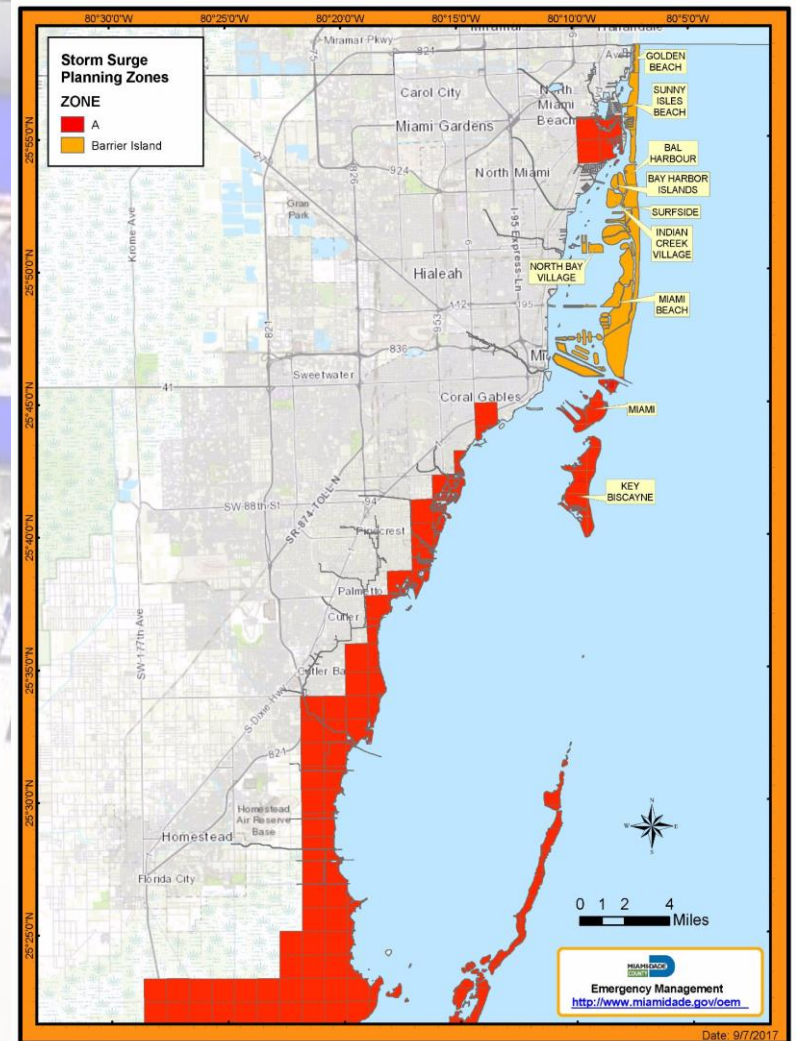
- On Monday, September 4, Miami-Dade County is within the 5-day forecast cone of Major Hurricane Irma
- The Miami-Dade Office of Emergency Management initiated preparatory actions
- Governor Scott issues Executive Order #17-235 declaring a state of emergency for all 67 Florida counties





# Hurricane Irma

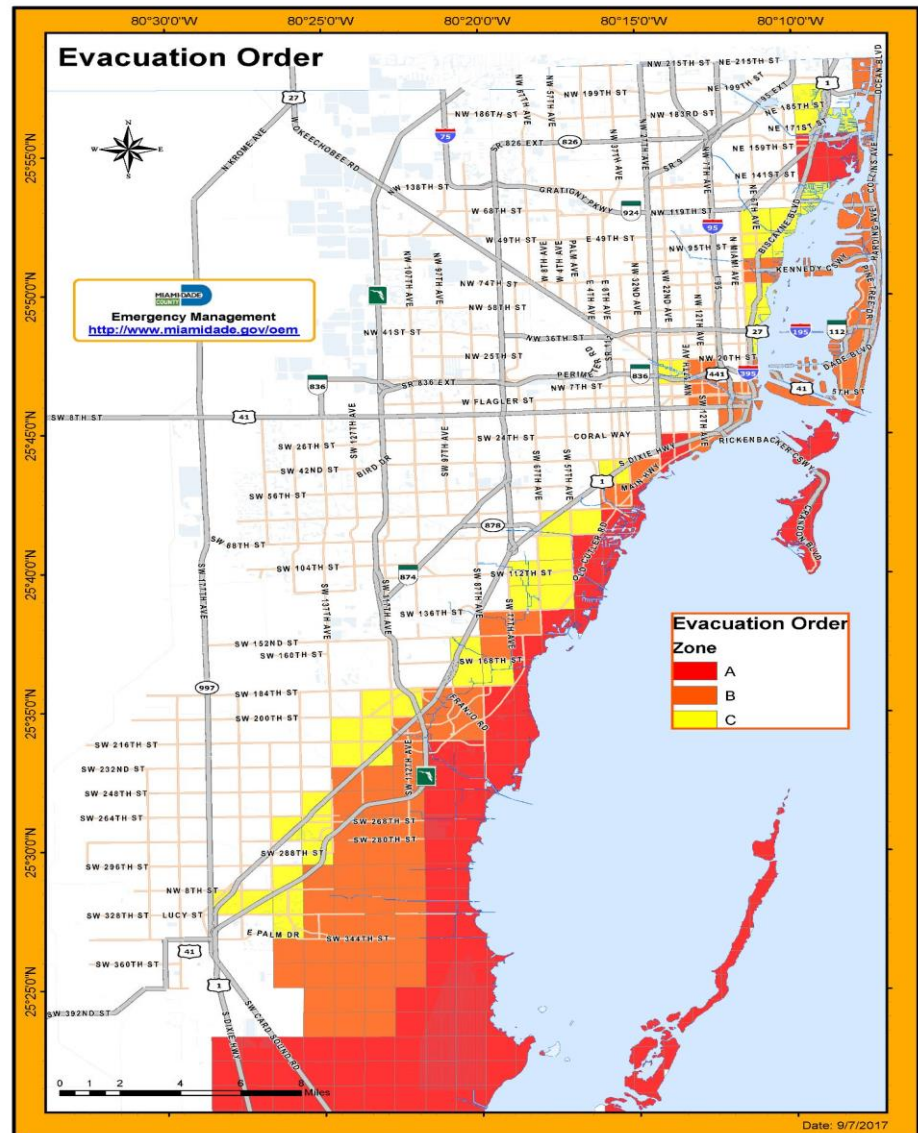
- On Wednesday September 6, the Miami-Dade EOC is activated to Level 1 (Full-Scale)
- Transportation of special needs clients has commenced
- 3 General population & 1 Pet Friendly Evacuation Center are opened
- That evening an evacuation order is issued for portions of Zone A and the Barrier Islands





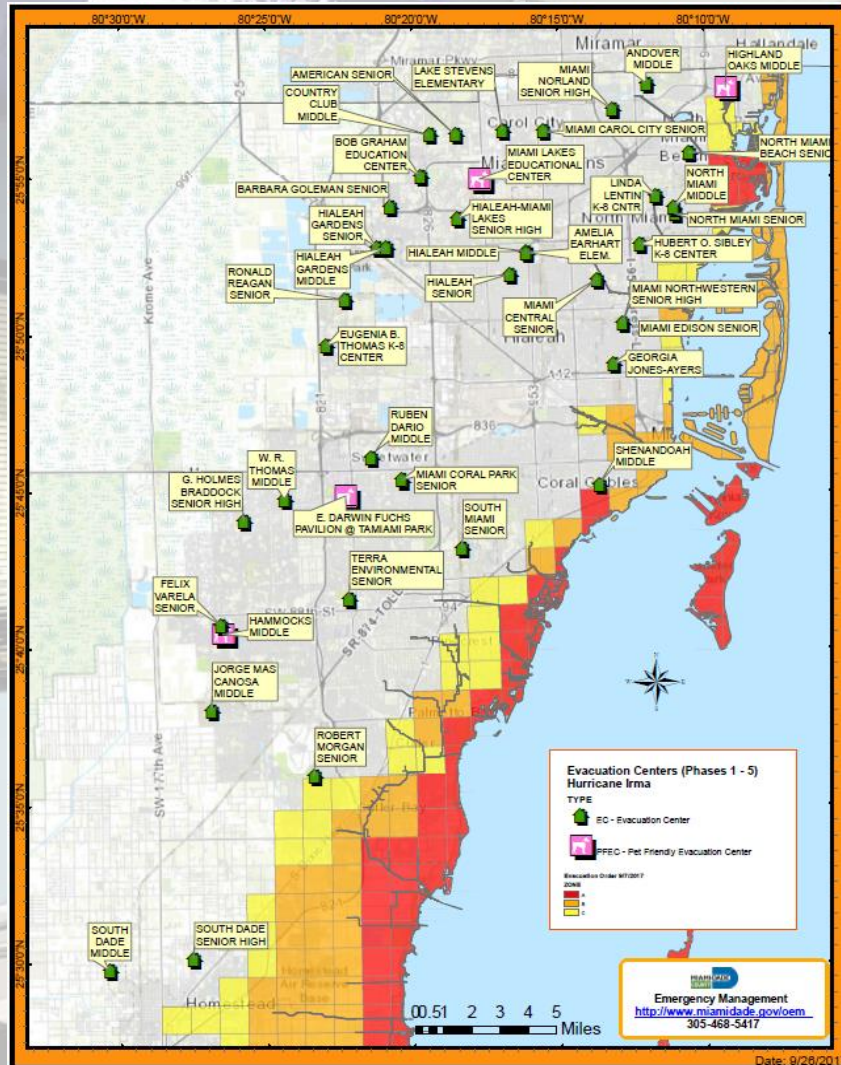
# Hurricane Irma

- On Thursday September 7, Hurricane Irma is a category 5 hurricane with maximum sustained winds of 185 mph it continues on a WNW track towards Miami-Dade County.
- A total of 1,717 evacuees and 14 pets are in 8 evacuation centers.
- The County Mayor expands the mandatory evacuation to include all of Zone A, all of Zone B and portions of Zone C.





# Hurricane Irma



- 31,000 evacuees
- 43 Evacuation Centers opened
  - 38 General Population
  - 4 Pet Friendly Evacuation Centers
  - 1 Medical Evacuation Center
  - 270 electrically dependent evacuees in 22 county hospitals



# Hurricane Irma

## United Way

- Delivered food to 32 Miami-Dade County evacuation centers
- Distributed 31,214 MREs to evacuation centers, assisted living facilities and other community organizations
- Provided volunteers to distribute 340,780 lbs. of ice across 13 districts in Miami-Dade County
- Distributed 3,320 nonperishable food items

## Salvation Army

- 14,648 meals
- 14,648 drinks
- 12,293 snacks
- 1,620 MREs





# Hurricane Irma Recovery



- The Small Business Administration has approved 5,482 disaster loans worth \$195 million for Miami-Dade County residents & businesses
- 599,000 residents have applied for FEMA Individual Assistance
- 102 applicants for FEMA Public Assistance within Miami-Dade County worth \$750,860,756
- four million cubic yards of hurricane debris from the 320 square miles of county roads.
- \$168 million in mitigation funding



# Contact Information

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- [cyrille@miamidade.gov](mailto:cyrille@miamidade.gov)

