

# Hurricane Season 2018



*Kennard "Chip" Kasper  
Meteorologist-in-Charge*



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June 19, 2018

# Mission



Protect  
LIFE  
and  
Property

*(Save Lives  
and Livelihoods)*



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# NOAA/Florida Keys National Weather Service



We are **NOT** a “9-to-5 agency”.

We operate 24/7/365 serving Florida Keys communities.

We are available to **YOU** as a trusted, reliable, and professional partner.



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# The "Weather Enterprise"

TV  
INTERNET  
CELL PHONE RADIO NWR  
*PRIVATE WEATHER COMPANIES*

NATIONAL CENTERS FOR  
ENVIRONMENTAL PREDICTION  
MODEL SIMULATIONS/SPACE WEATHER  
CLIMATE & SEASONAL OUTLOOKS  
AVIATION & MARINE FORECASTS  
STORM & TORNADO PREDICTION  
HURRICANE TRACKS

NATIONAL  
WEATHER  
SERVICE

Weather Forecast Offices Local  
Forecasts & Warnings

River Forecast Centers

River Forecasts,  
Hydropower, Flood  
warnings

Irrigation, River Navigation

## Observations

Radar Network, Satellites, Weather Balloons, Ground-level observations at airports, Aircraft, Lightning Network, Data Buoys, Stream Gauge Network, 11,000 Volunteer daily-data collectors, Thousands of Volunteer storm spotters



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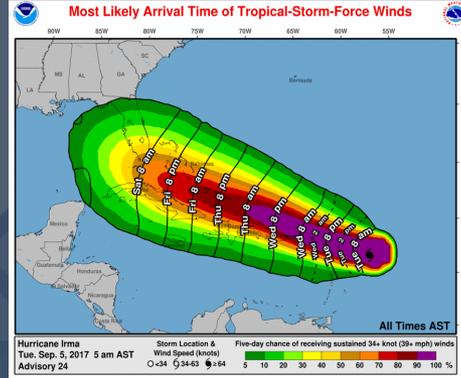
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# Building a Weather-Ready Nation



Call (202) 255-1316

CH 2 or CH 5

**WEATHER INFO**

Facebook, QR code, Twitter



- Build a Weather-Ready Nation, where Society is *prepared for and responds to Weather-Dependent Events.*



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# Partnerships & Teamwork



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# Partnerships & Teamwork

## National Hurricane Center



- Hurricane Specialists
- Prediction
- Track, Intensity, Structure
- Watches and Warnings

## Weather Forecast Office



- Local Forecasters
- Impacts
- Location, Timing, Trends
- Decision Support Services



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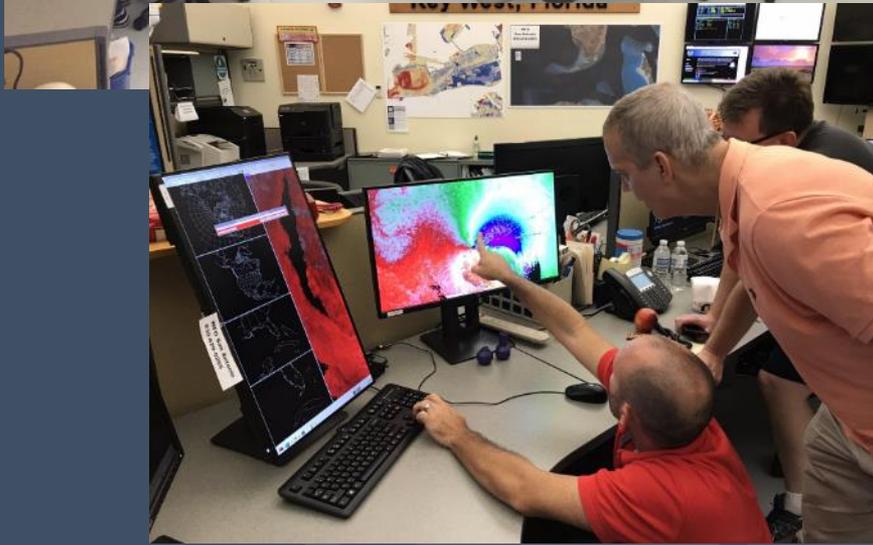
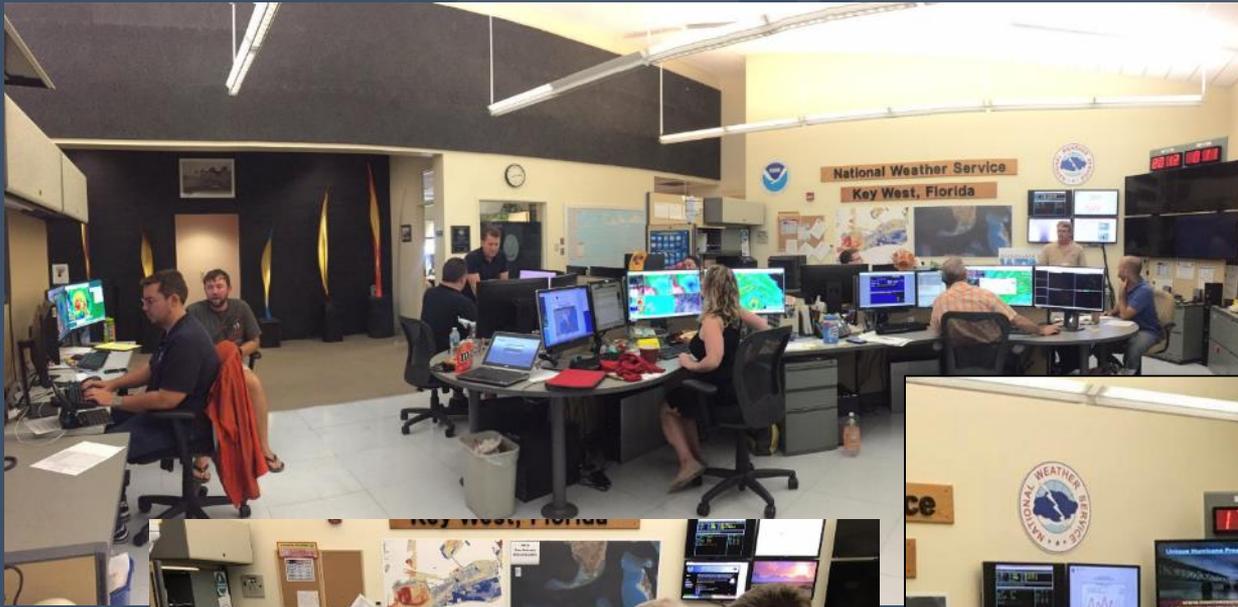
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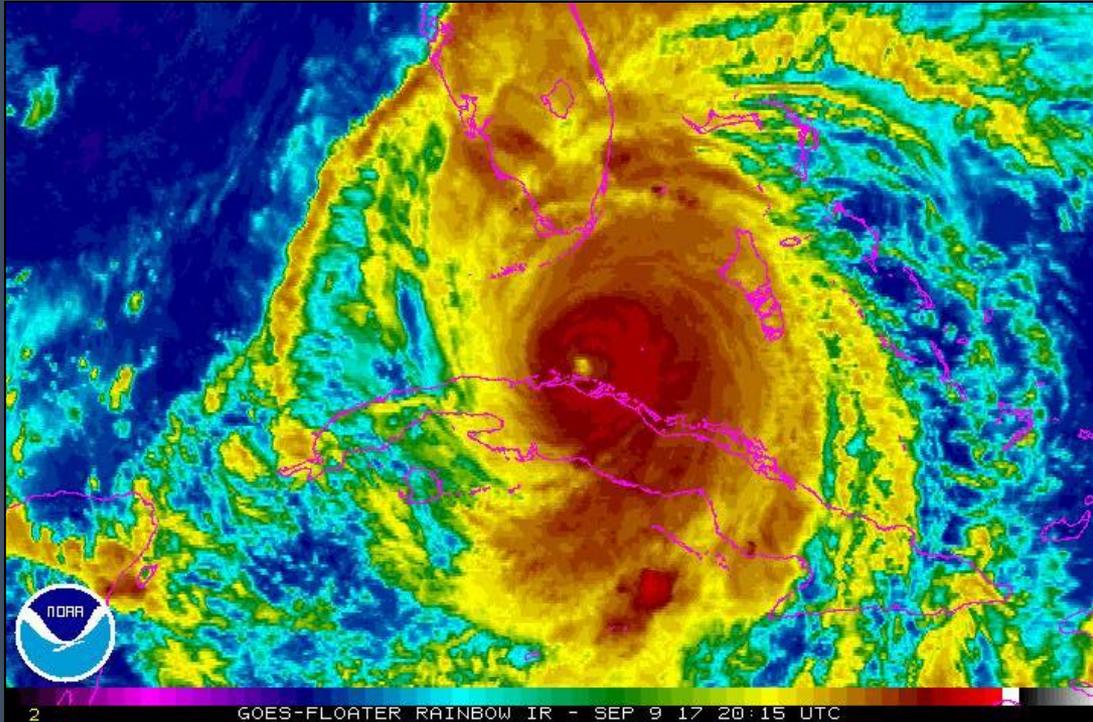
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# Hurricane Irma



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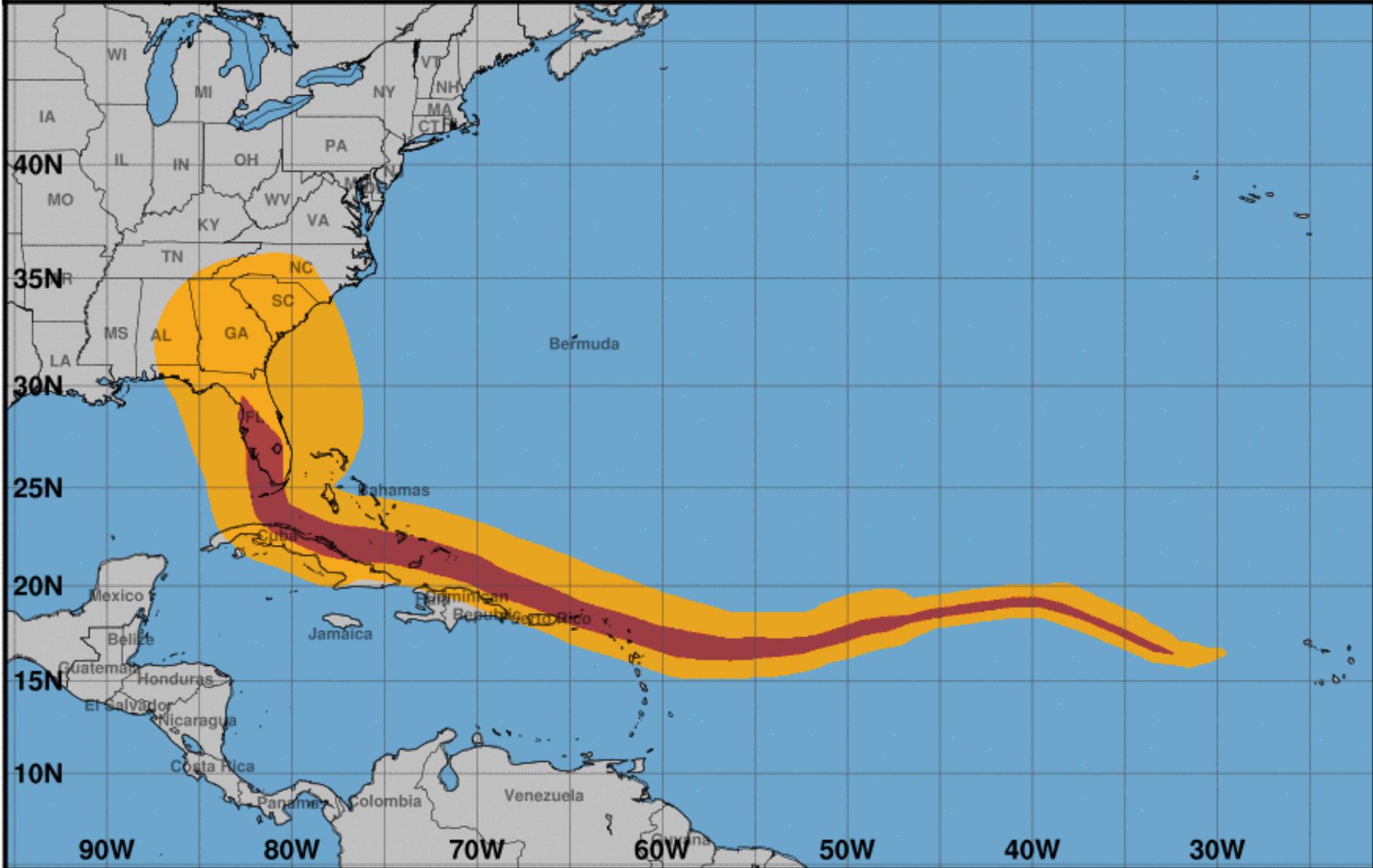
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# National Weather Service - National Hurricane Center

## Tropical Storm and Hurricane Force Wind Swaths of Irma From Advisories 1 Through 52

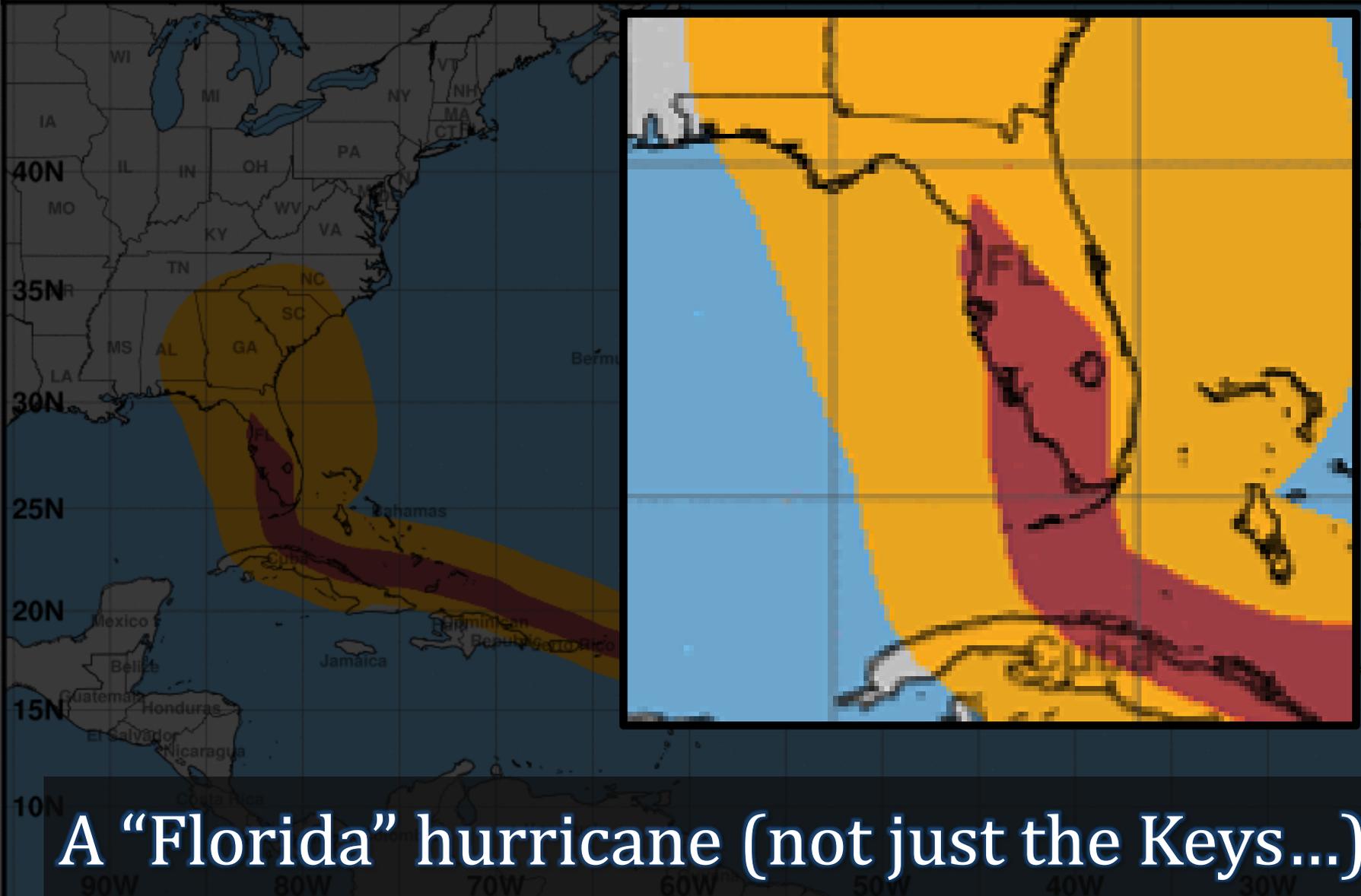




# National Weather Service - National Hurricane Center



Tropical Storm  and Hurricane  Force Wind Swaths of Irma  
From Advisories 1 Through 52



A "Florida" hurricane (not just the Keys...)

# Hurricane Irma: A Florida Hurricane



Big Pine Key



Marathon



Upper Matecumbe Key



Miami Beach



Fort Myers



Sebring



Boca Raton



Orlando



Jacksonville



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# Hurricane Hazards

- Storm Surge Flooding
- Extreme Wind
- Tornadoes (and Waterspouts)
- Excessive Rainfall
- Powerful Waves, Surf, and Currents



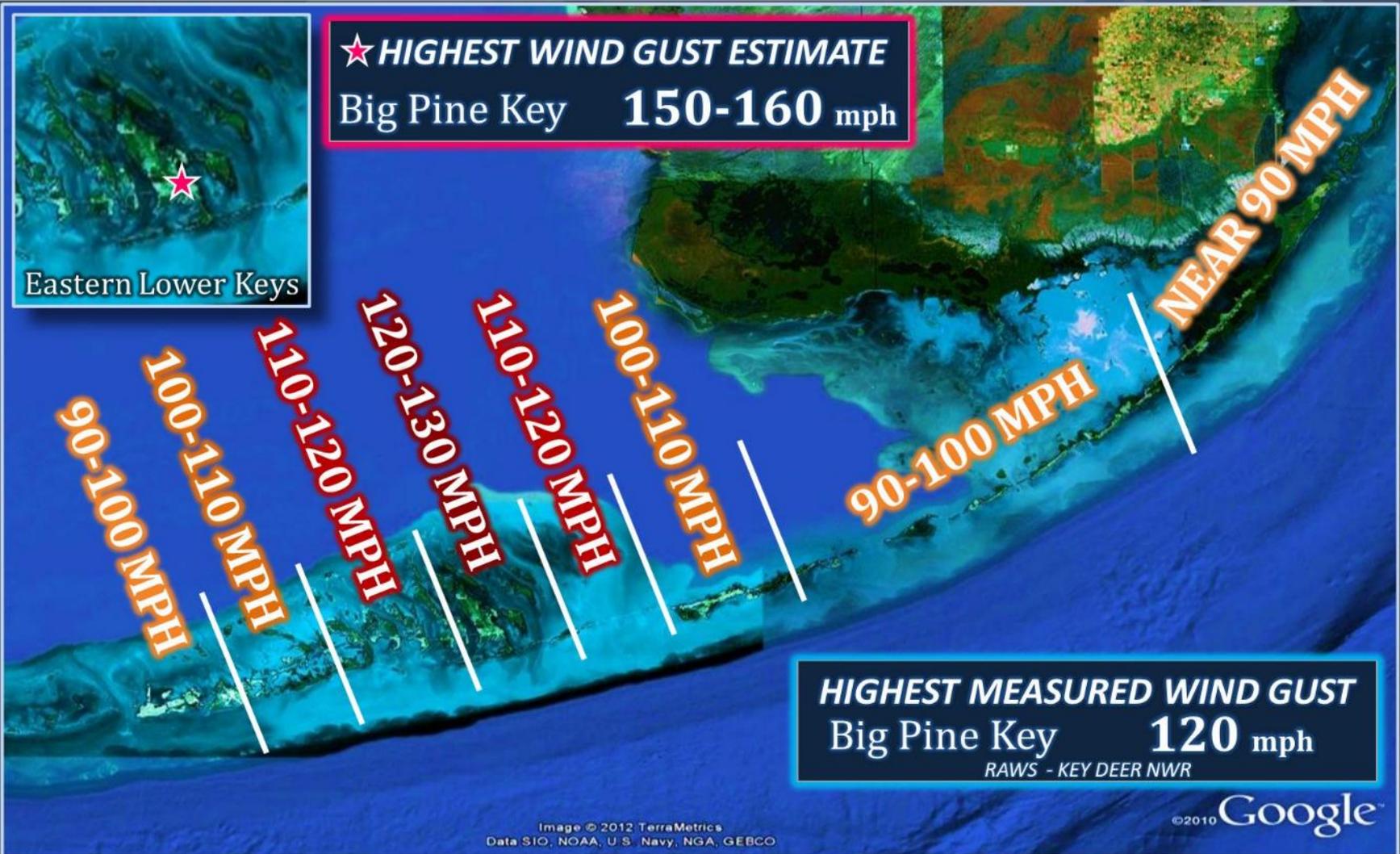
# HURRICANE IRMA PEAK WIND GUSTS

ESTIMATED BASED ON DAMAGE ASSESSMENTS

9/10/2017

PRELIMINARY REPORTS -- SUBJECT TO CORRECTIONS

PRELIMINARY REPORTS -- SUBJECT TO CORRECTIONS



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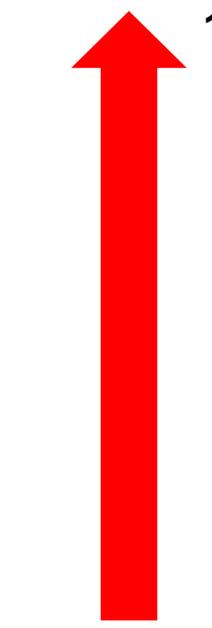
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October 1, 2017

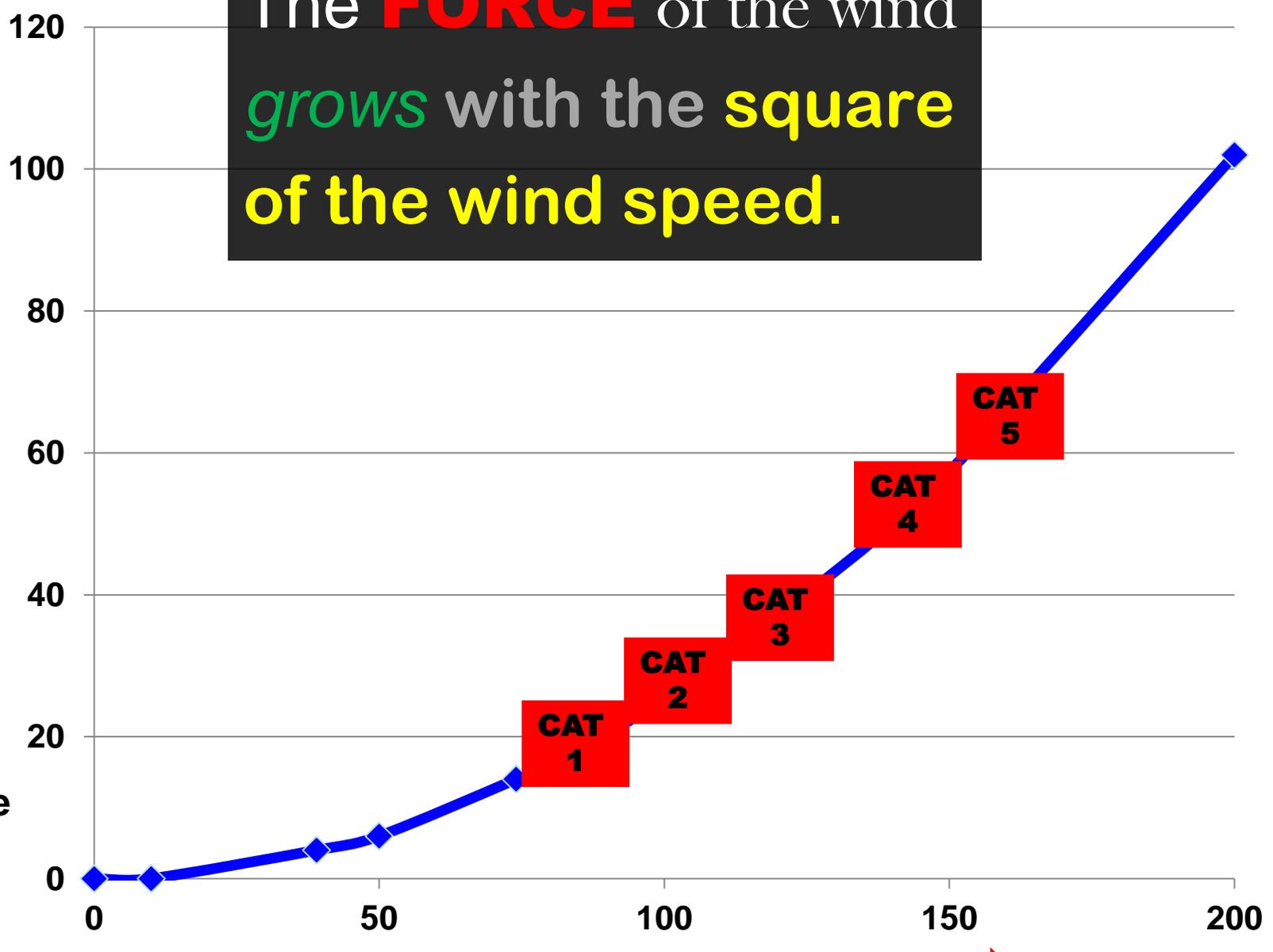
Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	<b>74-95 mph</b> <b>(64-82 kt)</b>	<b>Very dangerous winds will produce some damage:</b> Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	<b>96-110 mph</b> <b>(83-95 kt)</b>	<b>Extremely dangerous winds will cause extensive damage:</b> Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	<b>111-129 mph</b> <b>(96-112 kt)</b>	<b>Devastating damage will occur:</b> Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	<b>130-156 mph</b> <b>(113-136 kt)</b>	<b>Catastrophic damage will occur:</b> Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	<b>157 mph or higher</b> <b>(137 kt or higher)</b>	<b>Catastrophic damage will occur:</b> A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

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The **FORCE** of the wind  
*grows* with the **square**  
of the wind speed.



Applied Pressure (PSF)



Wind Speed (MPH)

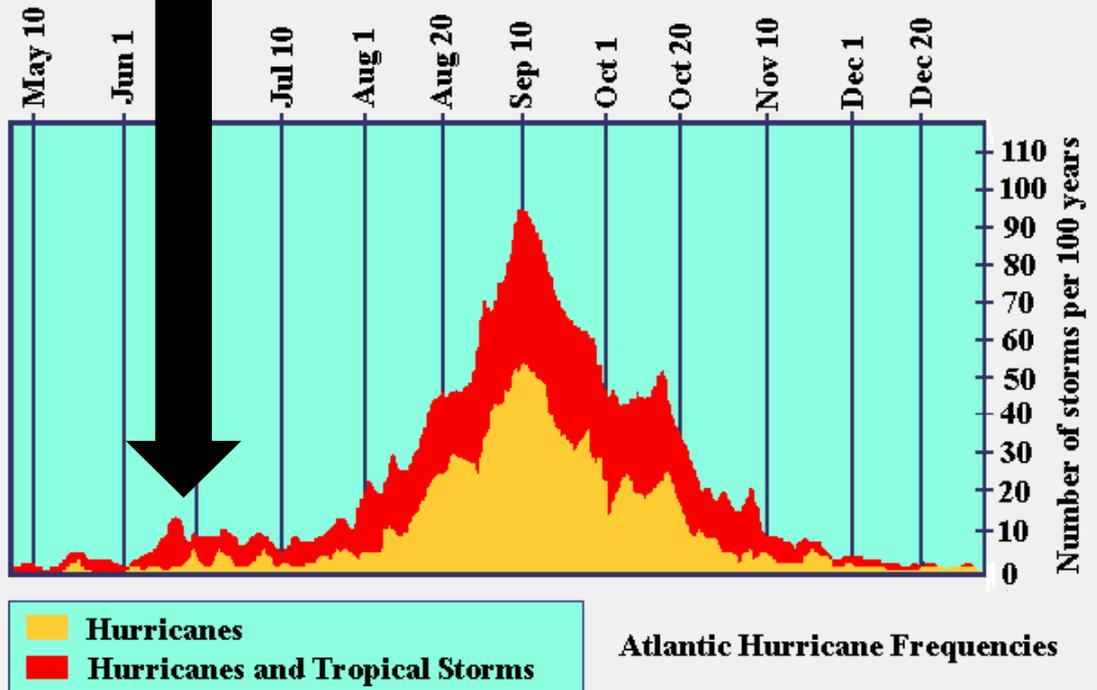


# Hurricane Season 2018

## Day 19...

### HURRICANE SEASON

June 1 - November 30



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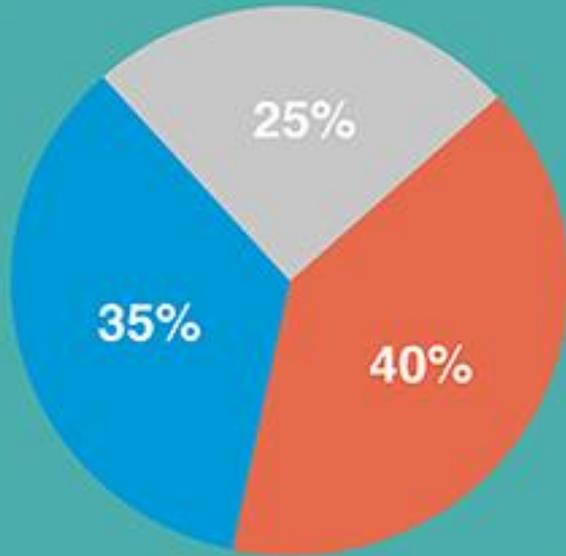


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June 19, 2018



# 2018 Atlantic Hurricane Season Outlook



■ Above-normal ■ Near-normal ■ Below-normal season

Season probability

Named storms

10-16

Hurricanes

5-9

Major hurricanes

1-4

Be prepared: Visit [hurricanes.gov](http://hurricanes.gov) and follow @NWS and @NHC\_Atlantic on Twitter.

May 24, 2018



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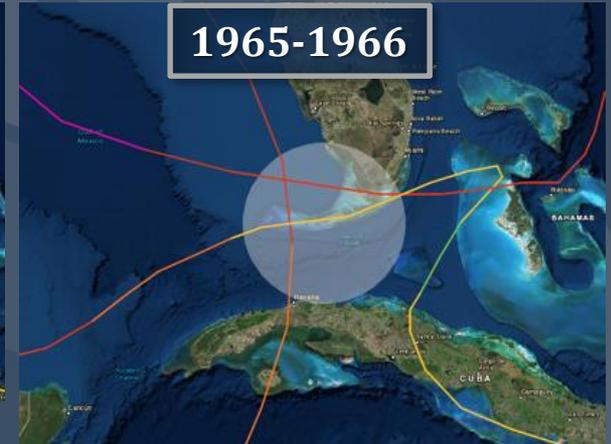
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# Seasonal Predictions

- *Numbers, NOT landfalls.*
- No hazards or impacts.
- Limited skill.



# Hurricane Impacts in Consecutive Years



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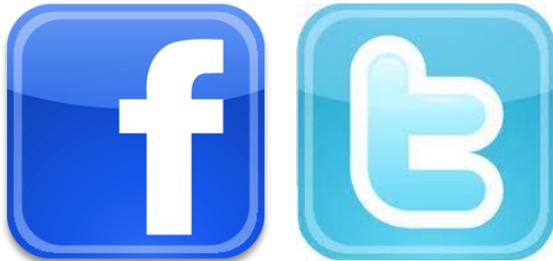
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**CH: 2, 4, 5**



**NWSKeyWest**

**<http://weather.gov/key>**  
**<http://hurricanes.gov>**

# Hurricane Season 2018:



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