

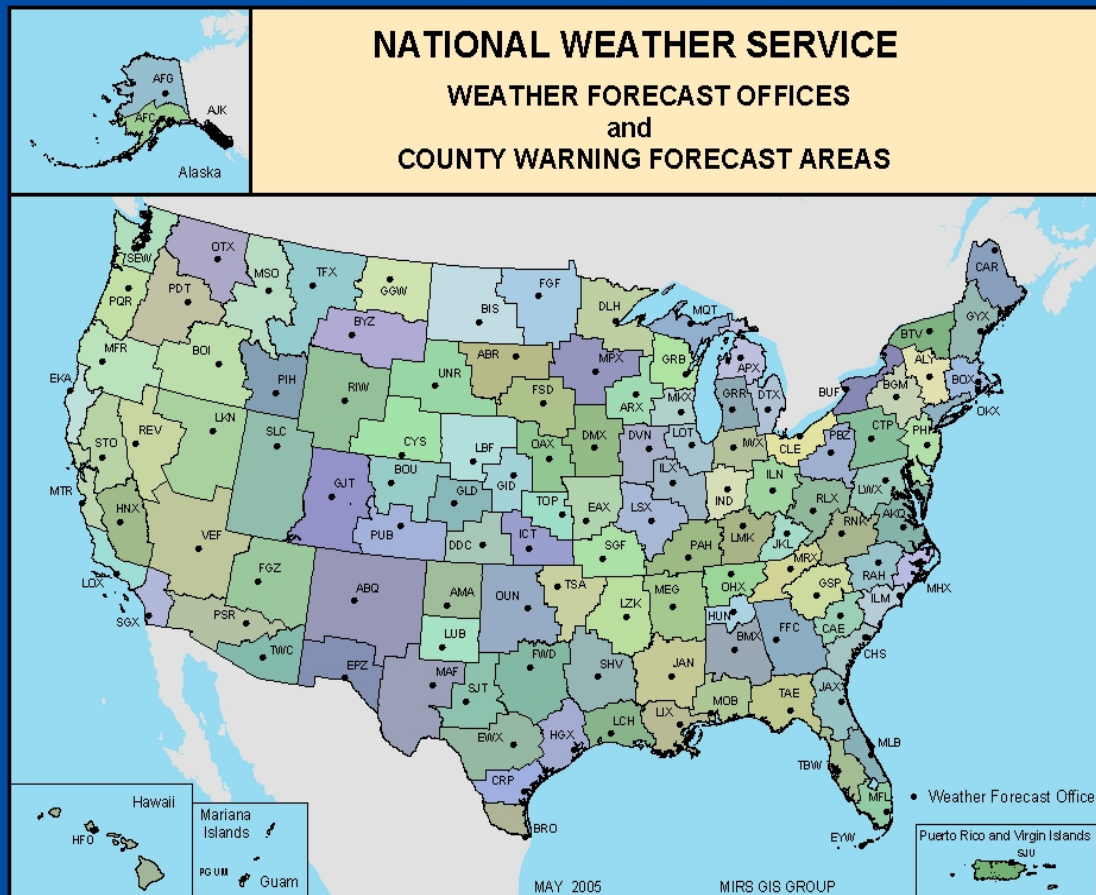


Role of the Warning Coordination Meteorologist (WCM)

*Robert Molleda
U.S. National Weather Service
Miami/South Florida Forecast Office*



U.S. National Weather Service



- **122 local Weather Forecast Offices (WFOs)**
- **9 National Centers (NCEP)**
- **13 River Forecast Centers (RFCs)**
- **2 Tsunami Warning Centers**
- **21 Center Weather Service Units (CWSUs)**



U.S. National Weather Service Weather Forecast Offices (WFOs)



- Issue all Local Forecasts and Warnings
- Build and Maintain Relationships with key partners
- Coordinate and Provide **Expert Decision Support** to Emergency Operations Centers and other key partners
- Solicit Customer Feedback on Products and Services
- Conduct Community Awareness and Education Programs
- Train Volunteer Observers and Storm Spotters



Warning Coordination Meteorologist serves as the primary interface between WFO and Customers



WCM Job Description/Duties

Local Weather Forecast Office (WFO)



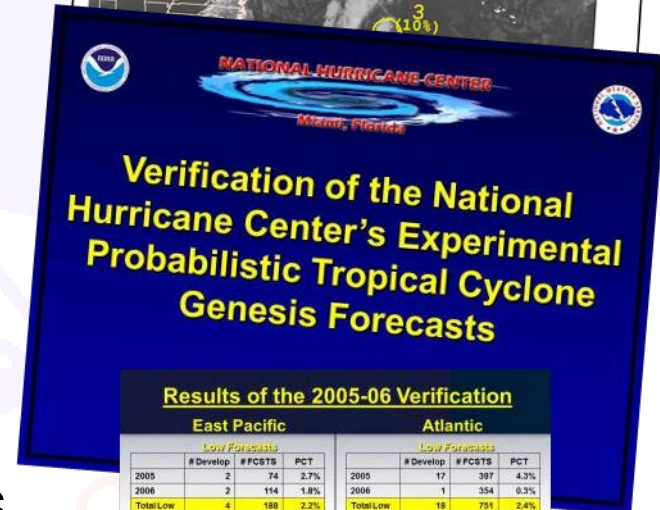
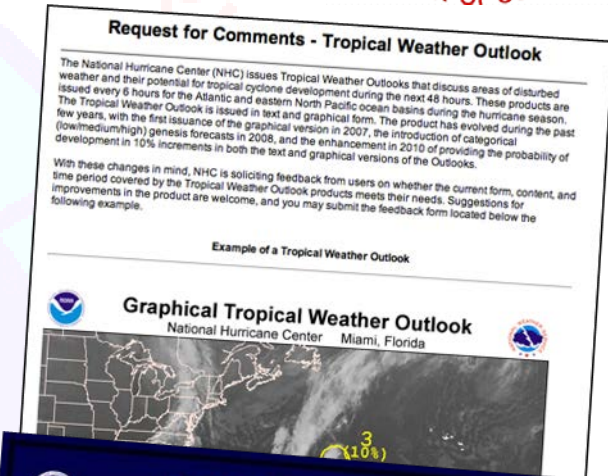
It is said that the WCM wears several hats





WCM Job Description/Duties

Local Weather Forecast Office (WFO)



Results of the 2005-06 Verification

East Pacific				Atlantic			
Low Forecasts				Low Forecasts			
	# Develop	# FCSTS	PCT		# Develop	# FCSTS	PCT
2005	2	74	2.7%	2005	17	397	4.3%
2006	2	114	1.8%	2006	1	354	0.3%
Total Low	4	188	2.2%	Total Low	18	751	2.4%

Medium Forecasts				Medium Forecasts			
	# Develop	# FCSTS	PCT		# Develop	# FCSTS	PCT
2005	40	161	24.8%	2005	86	301	28.6%
2006	68	218	31.2%	2006	25	243	10.6%
Total Med	108	379	28.0%	Total Med	111	544	20.4%

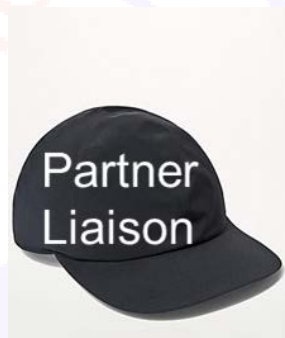
High Forecasts				High Forecasts			
	# Develop	# FCSTS	PCT		# Develop	# FCSTS	PCT
2005	66	116	56.9%	2005	97	167	56.1%
2006	83	119	69.7%	2006	32	76	42.1%
Total High	149	235	63.3%	Total High	129	243	51.1%

- **Primary interface** between WFO and core community partners (emergency managers/public safety officials and media)
- **Product Evaluation:** seeks and implements partner feedback on improvements and additions to products and services



WCM Job Description/Duties

Local Weather Forecast Office (WFO)



- Organizes and conducts yearly partner training/meetings such as **Integrated Warning Team workshops** and takes part in local and state exercises
- Attends and represents NWS at partner-organized meetings to **better understand partner and community needs**, and apply those to NWS products and services



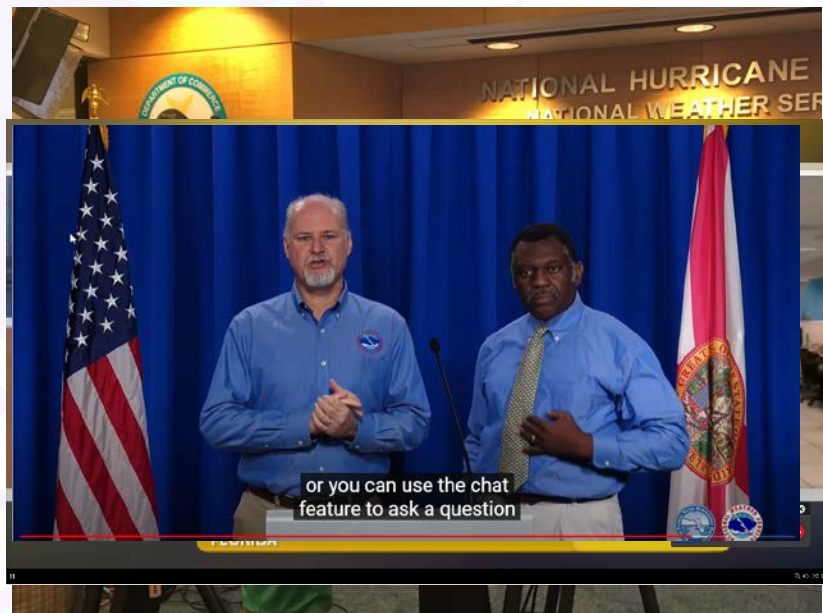


WCM Job Description/Duties

Local Weather Forecast Office (WFO)



- Conducts and arranges media interviews on high-impact weather events
- Press conferences for seasonal outlooks





WCM Job Description/Duties

Local Weather Forecast Office (WFO)



Customer Service/
Outreach

- Responsible for planning, coordinating, and carrying out the public weather awareness and preparedness program
 - Educate the public to ensure the mitigation of death, injury and property damage or loss caused by meteorological events



Community Outreach



- Yearly hurricane/severe weather expos
- Being accessible to community-at-large
- Office tours/open house
- Speaking to business and civic groups, and schools

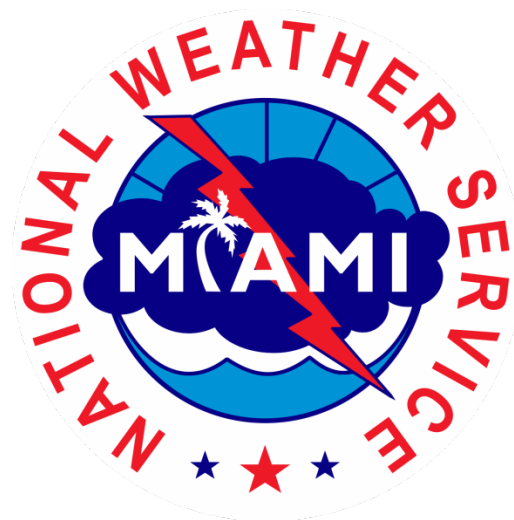




WRN Ambassador



AMBASSADOR
WRN
WEATHER-READY NATION™





It's All About Partnerships



Weather-Ready Nation



WRN Ambassador

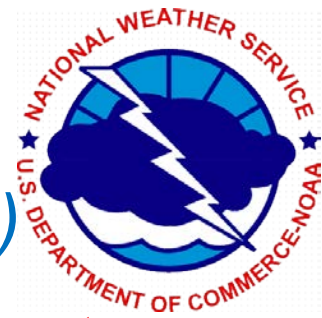


Over 11,000 WRN Ambassadors in the U.S., approximately 130 in South Florida alone



WCM Job Description/Duties

Local Weather Forecast Office (WFO)

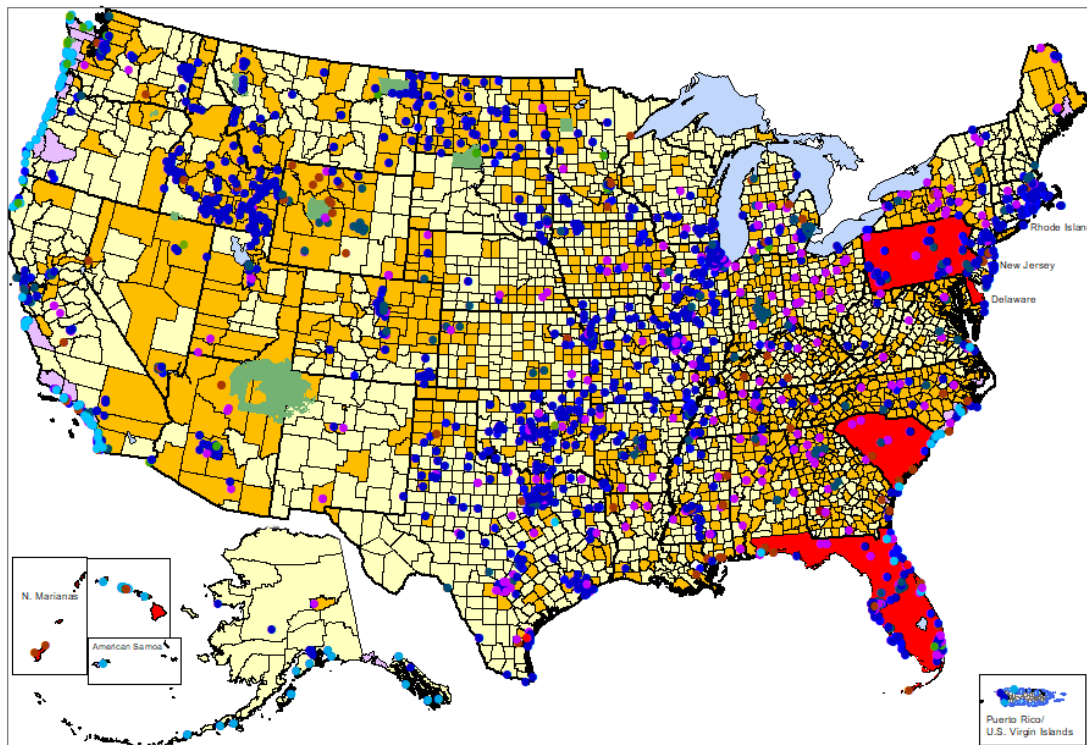


- Coordinates preparedness program with government officials and media
 - Works with media and emergency managers to ensure that preparedness message is consistent and plans are in place ***well before a weather threat***





- Communities must meet basic guidelines for receiving and disseminating alerts as well as 24-hour monitoring
- Perform at least 4 safety talks per year
- Maintain hazardous weather operations plan, record of storm spotters and participate yearly in weather-related exercises
- Must Be Renewed Every 4 Years



3,280 StormReady/Tsunami Ready sites



WCM Job Description/Duties

Local Weather Forecast Office (WFO)



- Works with government agencies and other key partners to develop plans for promoting more effective use of NWS products and services



Local Mitigation Strategy



WCM Job Description/Duties

Local Weather Forecast Office (WFO)



Customer Service/
Outreach

- Conduct storm spotter training classes year-round
- Several hundred new spotters trained every year in South Florida alone





WCM Job Description/Duties

Local Weather Forecast Office (WFO)



- **Serves as Senior Forecaster**
 - Performs full range of responsibilities of that position
 - Serves in this role about 25% of the time
- **Act as acting branch/office chief**
 - full range of administrative duties





WCM Job Description/Duties

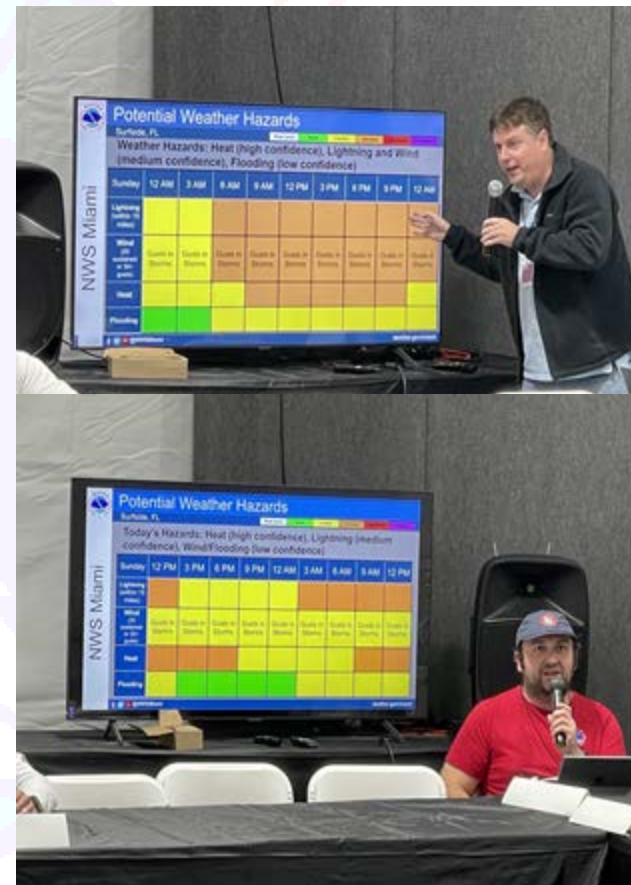
Local Weather Forecast Office (WFO)



Coordinates with partners on the provision of **impact decision support services (IDSS)**



Courtesy Reuters



NWS Miami forecasters Sean Miller & Robert Garcia briefing incident command officials in Surfside, FL – July 2021



Impact Decision Support Services



- **Provide direct and specific weather-based and/or event-based weather support** to government officials either on-site at a command post or remotely from NWS office
- Focus on providing an expectation of impacts that could affect a large public event or a community's preparation in advance of severe weather
- Examples: severe weather/tropical cyclone events, festivals, sporting events







Impact Decision Support Services



- What IS Impact Decision Support Services?
- Provision of forecast advice and interpretative services to help core partners, such as emergency personnel and public safety officials, make decisions when weather, water and climate impacts lives and livelihood
- Providing specific temperature and wind information to a private event organizer??

**National Weather Service**
Miami – South Florida
weather.gov/miami

Issue Date: July 10, 2017 **Time:** 9:00 am

OVERVIEW
Today, there is enhanced coverage of morning showers and storms compared to the last couple days. Expect scattered showers and storms through early afternoon with lower rain chances beyond mid-afternoon. An isolated passing shower or storm can't be completely ruled out for late afternoon and evening today. For tomorrow, rain chances will be lower as there will be a slightly drier airmass in place. Any showers that do occur would happen in the morning to early afternoon hours.

July 10, 2017	July 11, 2017	July 12, 2017																		
Temperatures High: U 80's; Low: U 70's Heat Index: 96-100 (Daytime) Precipitation Thru 2PM: 50% Beyond 2PM: 30% Thunderstorms Thru 2PM: 40% Beyond 2PM: 30% Wind East southeast: 9-14 mph Gusts: 14-18 mph	Temperatures High: Near 90; Low: lower 80's Heat Index: 97-101 (Daytime) Precipitation AM: 20% PM: 20% Thunderstorms AM: 20% PM: 20% Wind East: 8-12 mph Gusts: 12-15 mph	Temperatures High: Near 90; Low: lower 80's Heat Index: 97-101 (Daytime) Precipitation AM: 30% PM: 30% Thunderstorms AM: 20% PM: 30% Wind East northeast: 8-14 mph Gusts: 14-18 mph																		
POTENTIAL HAZARDS <table><tr><td>Moderate</td><td>Lightning</td></tr><tr><td>Slight</td><td>Wind Gusts</td></tr><tr><td>Slight</td><td>Heat Index</td></tr></table>	Moderate	Lightning	Slight	Wind Gusts	Slight	Heat Index	POTENTIAL HAZARDS <table><tr><td>Slight</td><td>Lightning</td></tr><tr><td>None</td><td>Wind gusts</td></tr><tr><td>Slight</td><td>Heat Index</td></tr></table>	Slight	Lightning	None	Wind gusts	Slight	Heat Index	POTENTIAL HAZARDS <table><tr><td>Slight</td><td>Lightning</td></tr><tr><td>None</td><td>Wind gusts</td></tr><tr><td>Slight</td><td>Heat Index</td></tr></table>	Slight	Lightning	None	Wind gusts	Slight	Heat Index
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Slight	Lightning																			
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Green
No Current threat

Yellow
Slight Threat

Orange
Moderate Threat

Red
High Threat

For More Detailed Forecast: [Hourly Weather Forecast for Bayfront Park](#)

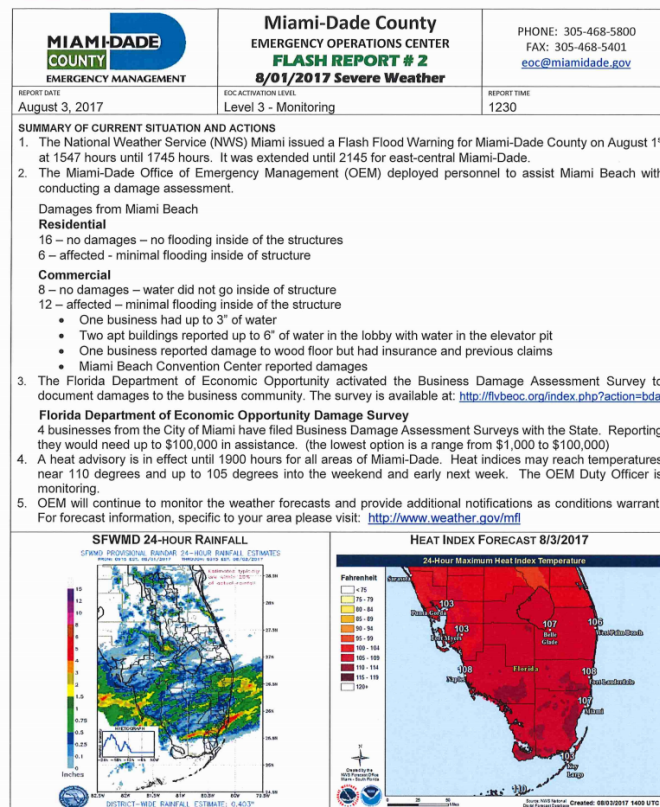


WCM Job Description/Duties

Local Weather Forecast Office (WFO)



Coordinates with partners on
the provision of **impact
decision support**





WCM Job Description/Duties

Local Weather Forecast Office (WFO)



- Coordinates and performs NWS post-storm surveys to assess damage and rate the intensity and effects of a storm
- Normally done for tornado events but can also be done for flooding and hurricanes





NHC WCM



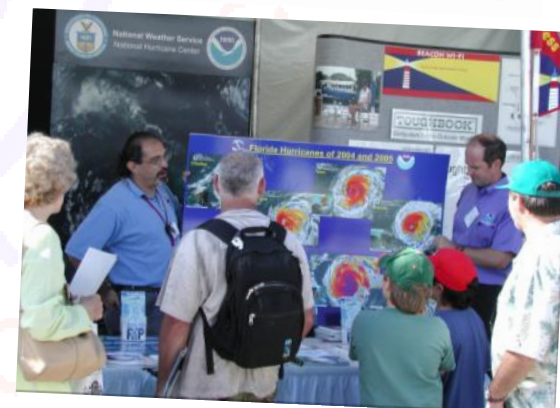
- **Conducts a tropical cyclone preparedness program**
 - Identifies preparedness objectives and projects to meet them
 - Reviews NHC warning efforts and determines adequacy of NHC preparedness activities
 - Coordinates with NWS WCMs to ensure uniformity of effort, collaboration, and compatibility
 - Interacts with NCEP, and regional and NWS headquarters on TC preparedness activities
- **Conducts a marine preparedness program**
 - Coordinates NHC interactions with marine customers
 - Serves as a liaison between NHC TAFB and the marine user community

Tropical Cyclones



Hurricane Earl, September 1, 2006/12a

A PREPAREDNESS GUIDE
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service
Revised March 2011





Key Tasks of NHC WCM



- Works with FEMA Emergency Management Institute (EMI) to conduct 3-one week EM training courses on hurricane preparedness and evacuation decision making
- Develops NHC outreach and training agenda for National Hurricane Conference
- Coordinates NHC participation at state EM or hurricane conferences



DAY AT A GLANCE FOR THURSDAY, APRIL 21, 2011

	1 8:30 am to 10:00 am	2 10:30 am to 12:00 pm	3 1:30 pm to 3:00 pm	4 3:30 pm to 5:00 pm
A	Mitigation WS Get More for Your Money: Make the Newly- Revised 406 Hazard Mitigation Policy Work for You	Mitigation WS Integrating Hazard Mitigation and Comprehensive Planning for a Resilient Community	Mitigation/Recovery WS Encouraging Personal Hazard Mitigation Actions Through Risk Communication	Mitigation WS Building Resiliency: Hurricane Katrina and the Mitigation Measure Best Practices
B	Recovery WS The FEMA Arbitration Process for Hurricane Katrina	Recovery WS Implementation of the New National Disaster Recovery Framework (NDRF)	Recovery WS Disaster Human Services: A Keystone in Hurricane Recovery	Recovery WS FEMA and ACP: Federally Funded Disaster Case Management Program
C	Public Education/Media TS ESP-15 External Affairs: It is More Than Public Information	Meteorology/Hydrology WS The State of Hurricane Forecasting	Public Education/Media TS Social Media 101: What is Social Media, What Types are Available and how Do You Sign Up?	Meteorology/Hydrology WS Inland Hurricane Hazards and Decision Support
D	Response WS In the Path of the Hurricane	Response WS Public-Private Partnership in Tourism	Response WS Hit or Miss: Hurricane Earl, A Category 4 Storm	Response WS The Vital Role of Communication in Public Safety Response
E	Evacuation Planning WS Recent Behavioral Research on Evacuation Planning Issues	Evacuation Planning WS Real-Time and Near Real-Time Evacuation Transportation Modeling	Evacuation Planning WS Evacuation Decision Making Assistance Tools: The Hurricane Risk Profile	Evacuation Planning WS Use of Social Networks and Websites in Evacuations
F	Fire/EMS WS The Haiti US&R Experience: Operating with International Disaster Teams	Fire/EMS WS MABAS Tornado Mutual Aid Validation Exercise	Fire/EMS/Recovery WS Transitioning Damage Assessment from Emergency to Non-Emergency	Fire/EMS WS Gauging a Community's Infrastructure Vulnerability
G	Hurricane History WS Learning from the Past to Mitigate Hurricane Impact in the Future	Hurricane History WS Back to the Future: Impacts of the Northern Gulf of Mexico's Hurricane Coast Have Been Lost in Time	Insurance WS Dangers of Complacency: Dealing with Insurance Amnesia After Storm Free Years	Insurance WS Insurance Incentives for Mitigation or Show Me the Money
H	Utilities WS Department of Homeland Security, Protective Security Advisors and Infrastructure Liaison Roles During a Disaster	Utilities WS A Comparison of Hurricane Induced Power Outage Models: Component vs Statistical Models	Healthcare/Accessibility & Functional Needs WS Emergency Planning for the Whole Community - Integrating the Access and Functional Needs of Children and Adults with Disabilities	Recovery/Response/Public Education/Media/Mitigation WS Mississippi: Alternative Housing Program Challenges, Successes and Lessons Learned
I	Mass Care WS Sudden Sheltering/Community Mobilization	Mass Care WS Planning for the Real World - Zen Garden	Mass Care WS	

2011 Governor's Hurricane Conference®
May 15-20, 2011

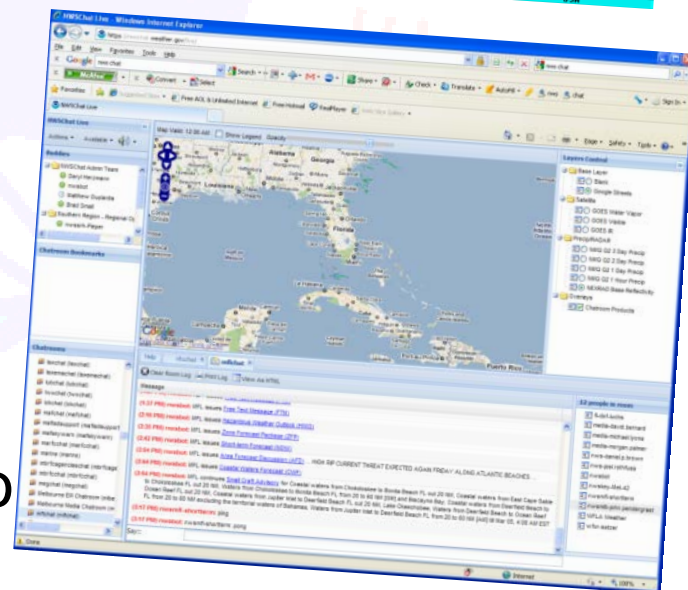
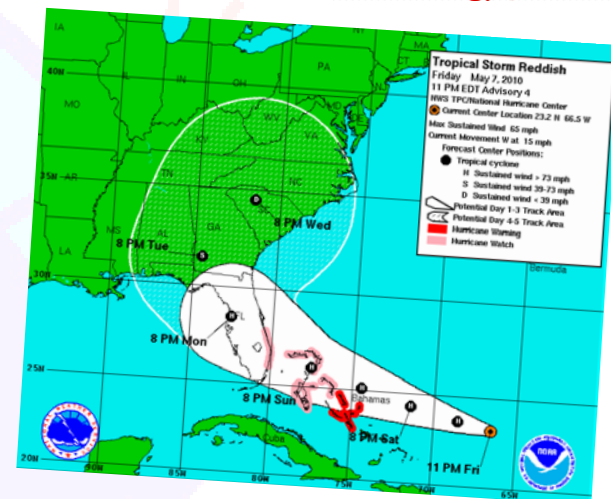




Key Tasks of NHC WCM



- Develop training plan and course for media
- Coordinates and develops table top hurricane exercise material for state and federal agencies
- Works with NWS WCMs and regions to improve NHC/WFO Watch/Warning coordination
- Works with international met services to improve forecast coordination

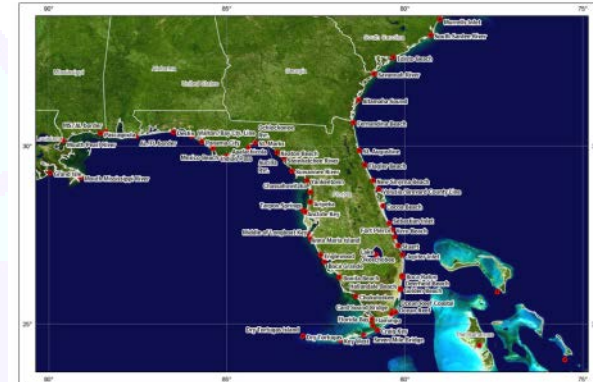




Other Tasks of NHC WCM



- Serves on team to improve NWS watch and warning collaboration
- Serves on NWS Assessment Teams
- Works with COMET on on-line hurricane preparedness module
- Participates in U.S. Hurricane Awareness Tour
- **WORKS OPERATIONAL FORECAST SHIFTS FROM MAY 15 - NOVEMBER 30!**

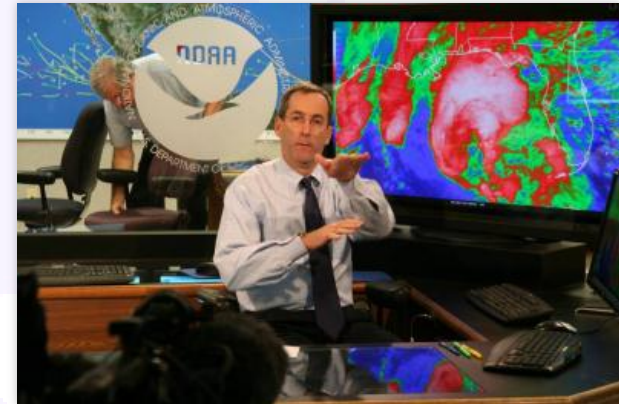




Difference Between WFO and NHC WCMs



- NHC Director and Deputy Director are the primary spokespersons for the center
 - At a WFO, the WCM and Meteorologist-In-Charge serve that role
- NHC WCM role is more of an Outreach Coordinator and Planner
- Coordinates with Federal and State partners more than local officials



FEMA



“Battle is won (or lost) during the off-season...”



Highlights of annual NHC involvement:

- FEMA/NWS week-long Introduction to Hurricane Preparedness course for emergency managers (three courses), January-February
- U.S. Interdepartmental Hurricane Conference, March
- National Hurricane Conference, April
- World Meteorological Organization workshop for international meteorologists (2-week course at NHC), March
- Hurricane Awareness Tour (one week, alternating each year between U.S. Gulf and East Coasts), April or May
- Caribbean Hurricane Awareness Tour, April
- National Hurricane Preparedness Week, May
- State conferences
- Scientific conferences
 - Transition of new science from research into operations



Question #1 WCM Role



- When is the **BEST** time to get to know your core partners?



“Battle is won (or lost) during the off-season...”



- **Main message:** don't wait until a disaster to get to know the people your serve and work with
- This involves a continuous, year-long effort and engagement with key partners
- Battle is won (or lost) during the “off-season” (Max Mayfield)





Question #2 WCM Role



- Regarding weather outreach and education, what are your biggest challenges in reaching out to your community partners, residents, and visitors?



Questions?

*Thank you for your time,
and safe trip home!*

