



Landmark Hurricane Events and Their Effects on Society

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Training Session 20



RISK AND CRISIS COMMUNICATION: CRISIS IMPACT PSYCHOLOGY



What makes people take action?



What shapes public perception?



How do we prepare the public for crisis events?



How do we construct messages that capture attention?





Bandura's Theory of Social Learning

How People Learn Through Observation & Modeling

Observation

Watching Others



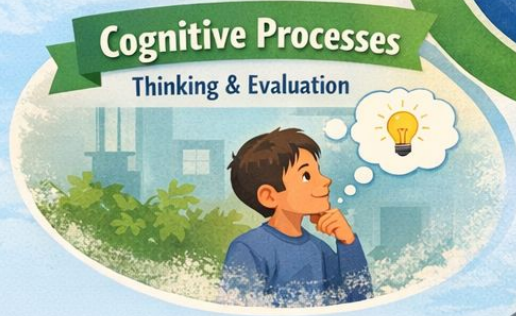
Imitation

Copying Behavior



Cognitive Processes

Thinking & Evaluation

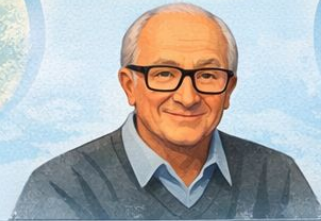


Reinforcement

Rewards & Punishments



SOCIAL LEARNING



Attention

Focus on the Model



Retention

Remember the Behavior



Reproduction

Ability to Imitate



Motivation

Desire to Achieve

Social Learning in Action

Why Archetypes Matter

The Importance of Messaging

Hurricane Matthew



Melbourne
WEATHER FORECAST OFFICE



“Getting the right people, to do the right things, at the right time.”

Help forecasters, emergency managers, and communities by:

Anticipating possible evolution and impacts.

Improving preparedness messaging based on known behavior.

Comparing current storms with well-studied historical cases.

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www.weather.gov/melbourne

Teach! Educate! Apply Social Learning!

THE TEACHERS: Journalists/Broadcast meteorologists, emergency managers, NWS, NHC, PIOs, community leadership, key stakeholders, and others.

Worst case scenarios and probabilities

Explaining products

Addressing psychological challenges

Inland flooding, rainfall rate-explain the science

“You can drown!” Need to educate about what happens in an actual hurricane if people don’t evacuate.

FLOOD WARNING! How to determine if your location can flood.



Hurricane Michael

Hurricane Research Major Outcomes and Archetypes



Mobility issues

Uncertainty

Unexpected inland flooding

Previous storm influence

Rapid intensification

Connectedness

Evacuation psychology

Timing

Compound events

Classic Storm: Hurricane Andrew 1992



Bryan Norcross, TV meteorologist who broadcast throughout Hurricane Andrew in 1992, debuted the first version of what is now the hurricane cone of uncertainty the week before Andrew hit Florida.

Compact, extreme wind event

Advantages and disadvantages of long lead time with a high intensity storm

Managing panic, fear, and fatigue in messaging

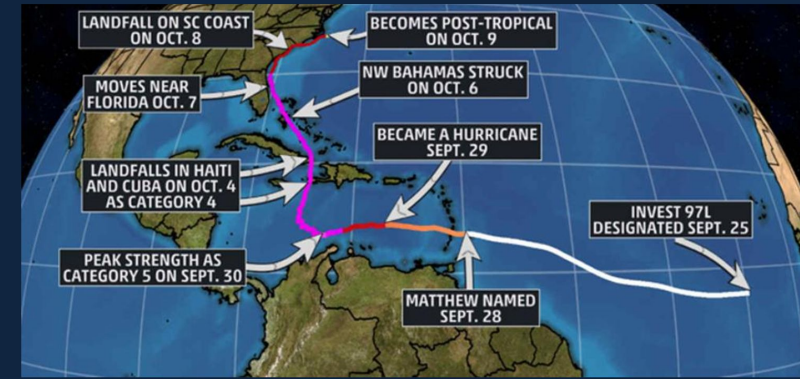
Sweet spot of messaging where people pay most attention

Avoiding anchoring

Keeping people connected

Evacuation psychology

Matthew's Life Cycle



Coastal-Skirting Major Hurricane: Hurricane Matthew 2016

Prolonged coastal threat, parallel-track hurricane.

“Life-threatening impacts can occur without a landfall.”

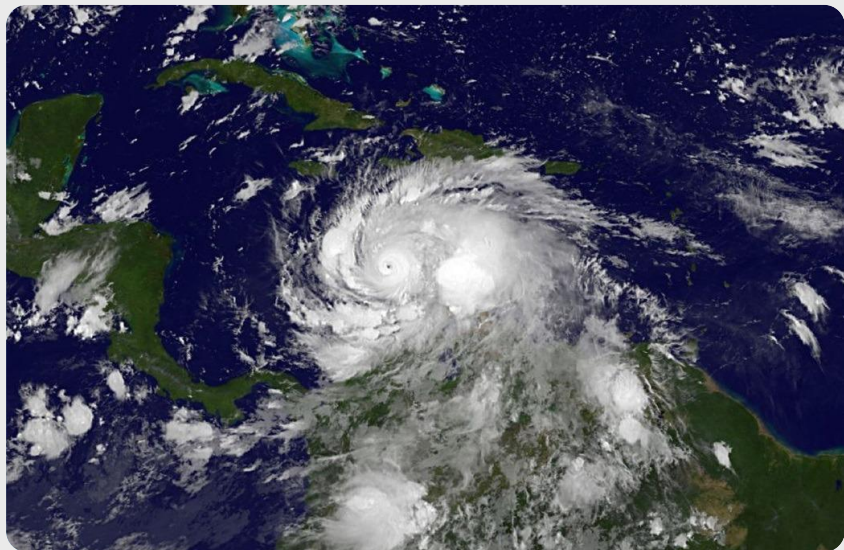
Communicating high confidence in dangerous impacts when landfall location confidence is low.

Public fatigue and confusion increase because:

- Communities are warned for days.

- Some areas never receive a direct landfall.

- Messaging for hundreds of miles of coastline.



Long-Lived Major Hurricane: Hurricane Irma 2017

Long-duration, multi-region major hurricane.

Messaging changes and the attention of the public changes.

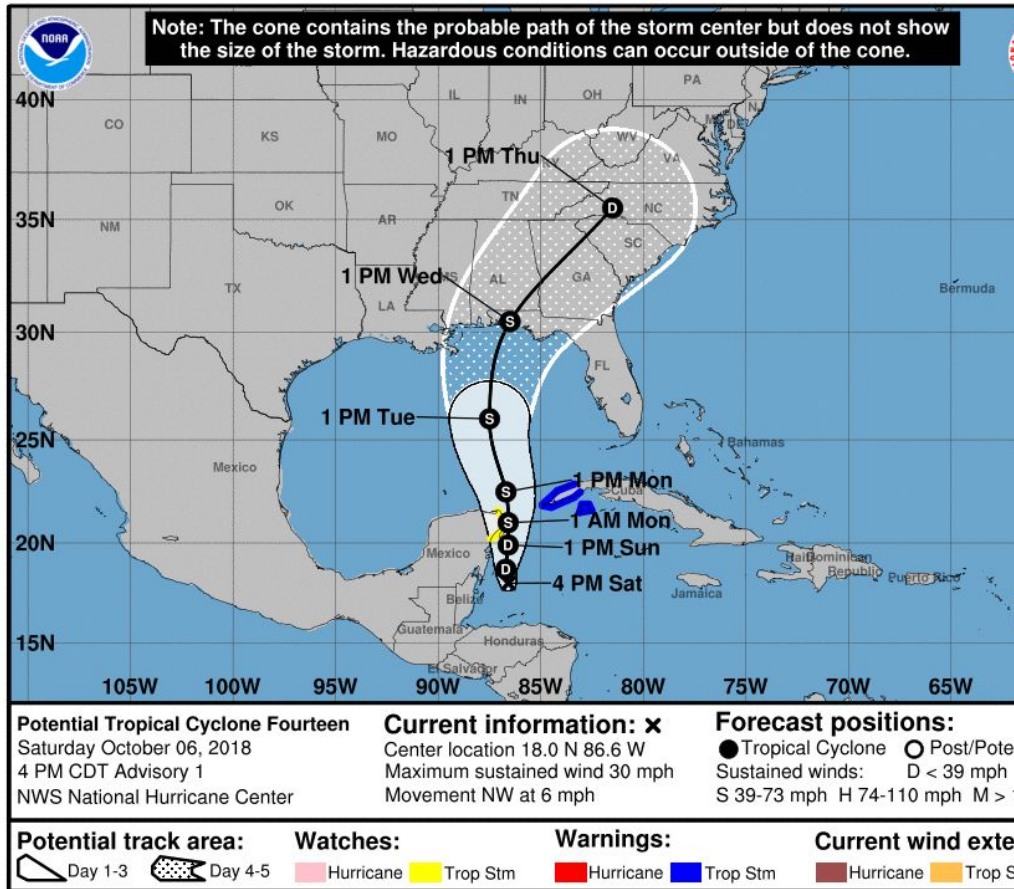
Psychological reactions to messaging changes with uncertainty.

Preparedness planning for these events.

Outreach each season supports better messaging.



Rapid Intensifier: Hurricane Michael 2018



Late-stage rapid intensifier

Comparisons to Hurricane Opal affected messaging and action: Hurricane fatigue.

Messaging for rapid intensification: “We’ll have time to evacuate if we need to.”

Messaging for inexperience with rapid intensification.

Getting the public’s attention for short-fuse events.

Messaging for long-term recovery.

High-Impact, Fast-Moving Landfall: Hurricane Ian 2022

Surge-dominated, focused catastrophic landfall.

Massive storm surge and rainfall messaging.

Inland flood messaging: Never seen flooding before.

Community outreach activities/Hurricane expos.

Flooding priority in messaging: Usual priority is wind impacts.

Connecting with technologies.

Evacuation





Mid-Ocean Powerhouse: Hurricane Helene 2024

Fast-forming Gulf major/short lead time.

Peak intensity at landfall messaging.

Inland messaging.

Impact of prior rainfall

Outreach and planning for inland communities.

The psychology and challenges of inland/rural/urban communities.

Coordination and partnerships.

Rapid Intensifier and Compound Event: Hurricane Milton 2024

Compound-hazard, extreme intensification storm.

Tornado threat in a hurricane with combined surge/rainfall effects.

Recency effect: People with PTSD and storm anxiety.

Outreach to improve preparedness through knowledge.



Solutions and Best Practices: Community Preparedness Education

- (1) Media and pre-event programming
- (2) Preparedness for Resilience Summits
- (3) Preparedness Expos
- (4) Stakeholder engagement

Connectedness: reaching vulnerable/
underserved populations

Consistency and messaging standards

Trusted sources: education, outreach,
risk communication, crisis
communication



Solutions and Best Practices: Impacts



Hurricane Ian

Rely on NHC Information and interpret for the partners.

Focus on impacts-Power outages, trees down...

Message the “What”:

Wind

Location

Storm surge

Tropical tornadoes

Inland flooding

Do not focus on models/spaghetti

Solutions and Best Practices: Minimal Hurricane Experience

Rural, inland, mountainous impact locations

EM turnover

Don't have assets

Communication issues

Distance from NWS (virtual assistance)

Fiscal constraints



NC/TN State Line I-40 Hurricane Helene

Solutions and Best Practices: Resources

State fly away teams: no local search and rescue

Staff augmentation (\$\$); Contractors in the EOC

Collaborate with VOADs: start recovery from the beginning, before landfall

Staff mental health

Locals respond quickly with their own equipment

Blue sky relationships

Messaging: rural populations; non-English speakers; elderly; disconnected; connectivity issues



NC/TN State Line I-40 Hurricane Helene

Solutions and Best Practices: “IYKYK”

Information for vulnerable populations

- Need more time to prepare

- Need resources to take protective action

Emergency Management perspective

- Regional planning

 - Emergency road access plan

- Trees!!!

 - Debris removal; Big machines

- Assistance from State EMA

 - Gantt chart: the who and what time wise

 - Project management

- Plan for recovery from the beginning

 - Volunteer villages

- Have relationships in place before the event

 - Capabilities and capacities



Western NC Hurricane Helene

Solutions and Best Practices: Communication

PIO process

Consistency

Mobile and stational digital signage

Newspapers!

Church bulletins

School flyers

One sheets in stores at cash register

Language messaging (AI and the NWS)

“Technology is amazing until you don’t have it”



Solutions and Best Practices: Preparedness

Readiness

Uncover weak points and plan

Focus on readiness and let the NHC worry about the storm: 4 to 5 storm season readiness

Be ready locally and regionally when the storm comes to you not if the storm comes to you

Storm surge readiness is new, as is inland flooding readiness

Readiness for pets and livestock

Insurance options awareness

Reconstruction fraud awareness



The Challenge of Persuasion: Trusted Sources

Threatens their identity

Too much information

Simple incentives don't work

Social cues

Missing nuances

Help people take ownership of decisions: Skin
in the game!



GOVERNOR'S HURRICANE CONFERENCE®



HURRICANE PREPAREDNESS EXPO 2025 + TOUCH-A-TRUCK

FREE EVENT AIMED TOWARDS HELPING EDUCATE OUR COMMUNITY ABOUT THE IMPORTANCE OF PREPARATION AND RECOVERY DURING HURRICANE SEASON

Highlights of the Event:



Wednesday, May 21st, 5PM-7PM
Seminole City Park, Park View Room
7464 Ridge Rd. Seminole FL., 33772

- ✔ Presentation by Bay News 9 Meteorologist Brain McClure starting @ 6PM.
- ✔ Touch-a-Truck with City of Seminole Fire Rescue, PCSO and Public Works!
- ✔ Complimentary Hot Dogs and Popcorn!
- ✔ Get to know the City of Seminole Staff and Emergency Responders!
- ✔ Meet our CERT personnel and find out how to join!



PINELLAS COUNTY SHERIFF'S OFFICE



Outreach Education

HURRICANE PREPAREDNESS EXPO '25

Saturday, June 7

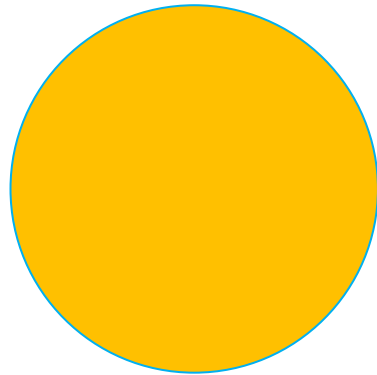
10 a.m.-2 p.m.

MIDFLORIDA Event Center

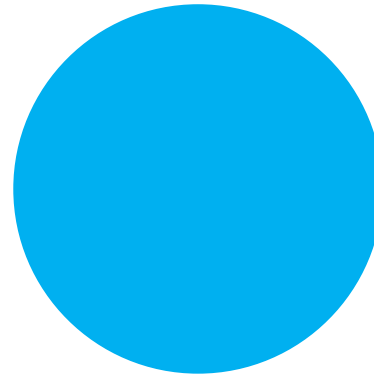
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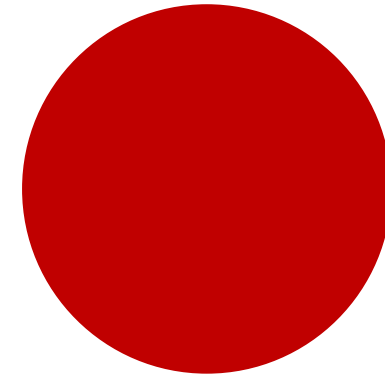
QUESTIONS?



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