

# EM Briefings: Content Matters

Or...

How to effectively communicate complex  
information in a few minutes

**Andy Devanas**  
**NWS KEY WEST**



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# UNDERSTANDING PERSPECTIVES

## *a good place to start*

Meteorologist <i>Focus on</i> Conditions	General Public <i>Focus on</i> Personal Protection	Decision Makers <i>Focus on</i> Impacts
What is expected storm surge, flooding, wind, etc?	Am I safe? What is going to happen to me?	What protective actions need be taken? (what's gonna break)
What is timing and duration of event?	Do I leave or Stay?	Where will we need to respond?
How to communicate weather hazards?	What do I do? (needs instruction)	What type of recovery will be needed?

***(7 ft Storm Tide -> inundation of coast -> Evacuation of coastal communities)***



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# Questions to Address

- What are Thresholds?
- How are thresholds determined/found?
- Use of Operational Significance?
- Use of Operational/planning Cycles?



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# What are Thresholds?

- Thresholds are critical values ( time, space, impact-condition) which represent decision points where customers will take action.
- Threshold values represent coordinated information.
  - They do not come from us.
  - Local Mitigation Studies/Traffic Studies
- Some thresholds are hard wired/some not.
  - Examples:
    - Hard: Protective actions end with onset of TS winds
    - Soft: Rainfall amounts



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# Critical Thresholds Values

## *Timing*

- C130 to evacuate special needs – 84hrs
- National Guard activation – 54hrs
- Multiphase evacuation, tourists – 48hrs
- Mobile home residents – 30hrs
- All residents – 24hrs
- Arrival of TS winds – Evacuation terminates
  - Refuges of last resort open



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# Customer Thresholds Exceedence

## *Conditions -> Impacts*

- 35mph – School buses cannot cross bridges
- 35mph – Electrical bucket boom trucks
- 40mph – Law enforcement, public works, Aqueduct authority cease operations
- 45mph – All Electrical, Public Works, and Routine emergency/fire rescue response ceases
- Critical services may occur on case by case up to 60mph



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# Determining Thresholds

- Ask
- Participate
- Anticipate
- Coordinate



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# Operational Significance

Operational significance can be defined where similar protective and precautionary actions will be necessary based on the impact of meteorological events.



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# Operational Significance Example

Area 1

Winds of 20 to 30 mph

Area 2

Winds of 30 to 40 mph

IMPACT: Minor to  
Moderate wind  
damage

Winds of 20-40 mph – Minor to Moderate wind damage



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# Operational Significance

- Use to avoid thin slicing.
- Use to avoid broad brushing.
- Use to avoid over-briefing (operational cycles).
- Use to temper condition ranges.
- Use to focus on the what, not the why.



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# Operational Cycles

## *Planning Cycles*

- What are the customer planning cycles?
  - When (how often) is IAP written/updated.
- What determines planning cycles?
- Stay in phase with planning cycles.
  - Briefings, emails, conference calls.
- Flash updates (briefings) outside of PC should ONLY be for significant changes.
- Their planning cycles = their decision cycles.



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# Example:

- NHC operational cycle is every 6 hrs.
- EMs in your region are running Alpha/Bravo shifts, doing one IAP per day with mid-day update.
- *You sent out an email to EMs stating you'll do a briefing every 4 hrs.*



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# Decision Support

## It's all about decision points

- What is the customer role?
  - What is the difference between state, local, federal?
- What is the customers planning cycle?
  - What are temporal and spatial needs?
- What is operationally significant? (thresholds)
  - What matters, and what doesn't?



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# Takeaway Concepts

- Inherently, thresholds from outside sources
- Use thresholds to temper forecasts/briefings
- Avoid Thin Slicing (Operational Significance)
- Pay attention to customer planning (Operational Cycles)



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# Objectives

- Define Briefing
- Pre-season(storm) coordination
- Basic briefing structure
- Briefing content
- Briefing performance



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# Briefing Blueprint

## Briefing Structure

- Start and finish with important points

## Briefing Content

- Focus on the what, and not the why

## Briefing Clarity (performance)

- Speak customer's language



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# WHAT IS A BRIEFING?



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# WHAT IS A BRIEFING?

- Type of meeting or presentation where information basically flows in one direction
- General purpose is to give information or instructions to someone (individual or group)
- Not a debate, discussion, or show, not an exchange of ideas



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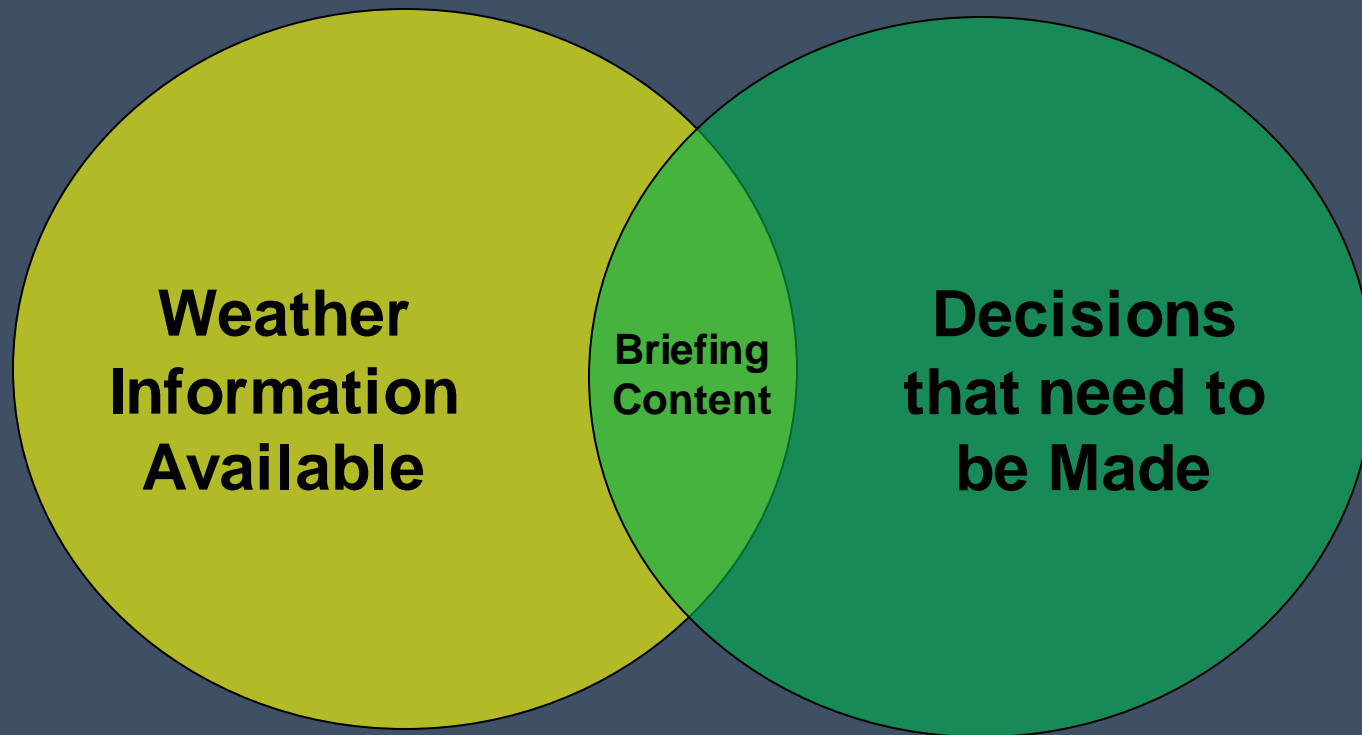
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# So Much Weather Information, So Little Time During a Briefing... So what do we talk about?



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# Briefing Length

## *Perception Gap*

Survey Question: How long should a meteorology briefing take?

Meteorologists: 10-15 mins

Decision Makers: 2-3 mins



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# BRIEFING PREPAREDNESS...



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# Know your customer...

What are customer needs, and how do they differ?

## Emergency manager

- Increased level of spatial and temporal detail

- Increased level of uncertainty communicated

## Media (Radio vs. Television vs. Newspaper)

- Less spatial and temporal detail

- More protective action discussion/recommendation (general)

- Less uncertainty communicated

- Likely your briefing (interview) will be edited before release



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# Briefing Examples for Discussion

## Emergency Managers

### Storm 48 hours away

#### Do

- Storm location
- Storm size and intensity
- Storm motion
- Express confidence
- Forecast model performance (uncertainty)
- Anticipated watches and warnings
- Expected arrival
- Expected impacts
- Storm Duration
- Reasonable worst case scenario

#### Don't

- Latitude and Longitude
- Fluctuations in intensity
- Storm history
- Watches and Warnings outside of area of interest
- A forecast model performance
- Historical analogs
- Specific impacts (rainfall, surge)
- Don't regurgitate information in the NHC package



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# Briefing Examples for Discussion Media

## Storm 48 hours away

### Do

- Storm location
- Storm size and intensity
- Storm motion
- Forecast model performance (uncertainty)
- Anticipated watches and warnings (only in general terms)
- Expected arrival (general)
- Expected impacts (general)
- Storm Duration (general)
- General preparedness and protective actions statements

### Don't

- Latitude and Longitude
- Fluctuations in intensity
- Storm history
- A forecast model performance
- Historical analogs
- Specific impacts (flooding)
- Deviate from official
- **NEVER mention worst case**
- **NEVER speculate**
- **NEVER, — NEVER speak “off the record”.**



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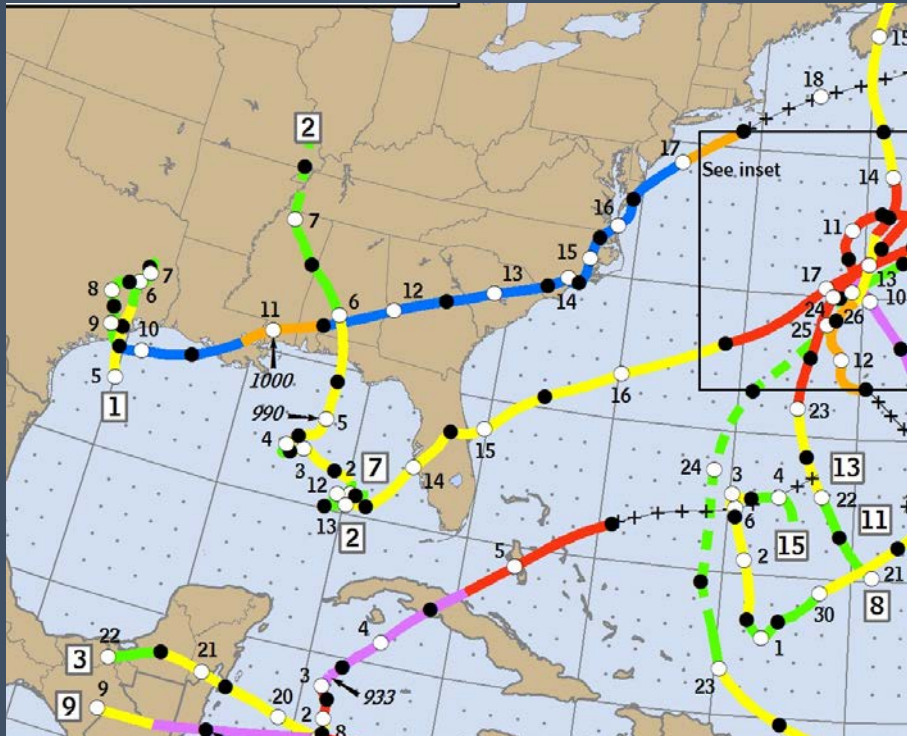
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# Why not Analogs?



Allison – June 2001  
Barry - August 2001

Both near 9-10" of rainfall



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# BRIEFING STRUCTURE...



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# Briefing Structure

All briefings should be designed to answer these questions:

- What is it...
- When is it going to get here...
- What is it going to do...
- When is it going to be over...
- What is your confidence this will occur...



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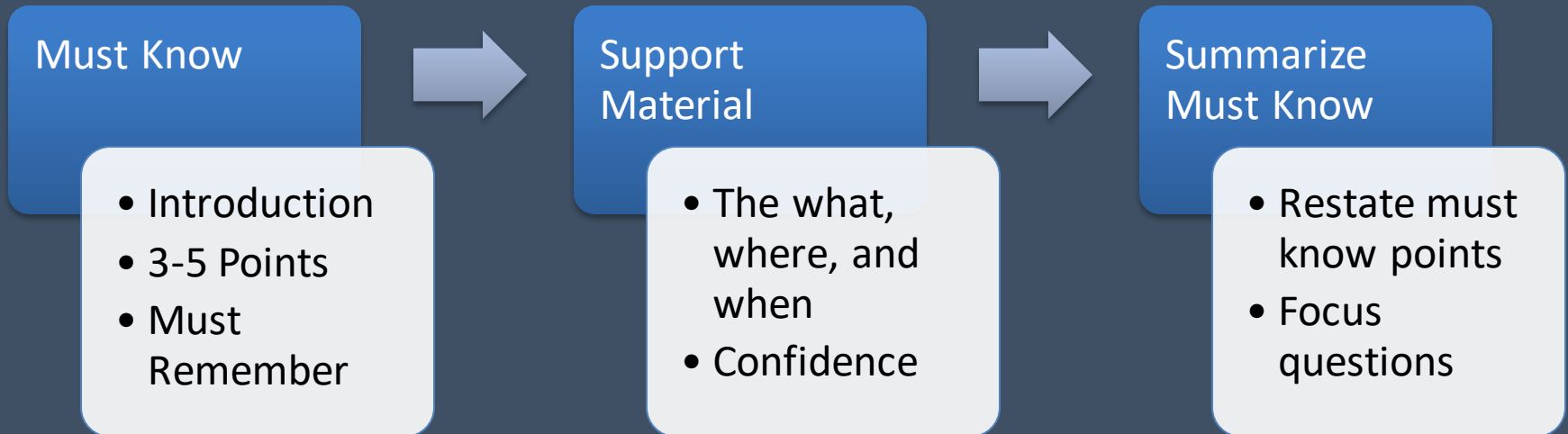
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# Briefing Structure



*Always begin and end with what you want remembered*



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# BRIEFING CONTENT...



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# Briefing Content

- You will have more information than you can, or should, brief.
- Prioritize information.
- State what they need to know, no more.
- Focus on the what, not the why.
- Tailored for targeted customer base.
  - Water managers vs. EM/civil defense



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# Briefing Content

- Careful with worst case scenario (reasonable).
- Respect operational significance.
- Respect operational cycles.
- If everything's a threat, nothing's a threat.
- Limit text (if you're using graphics)
- Use implicit terms of uncertainty, not explicit.



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# **...Worst Case...**

**THERE IS POTENTIAL FOR 4 TO 8 FEET OF SURGE ACROSS  
WESTERN...**

**IN A WORST CASE SCENARIO...WATER LEVELS OF 10 TO 11 FT  
ABOVE MSL ARE POSSIBLE.**



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# BRIEFING PERFORMANCE...



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# Briefing Clarity

- Do not bury the lead
- Be nice and concise
- Sell what you have to say
- Be confident, calm, and assertive
- Speak like the audience is taking notes
- Anticipate questions and responses
- If you don't have anything to say, don't say it



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# Words Matter

## *Speak their language, not ours*

- Words we don't say...
  - Vorticity, Helicity, Buoyancy, MEOW...
- Words we shouldn't say, but do...
  - Dewpoint, Trough, Ridge, Low, High...
- Words we should never say, but do...
  - Eyewall replacement, well developed center



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# Always be professional...

- Don't be folksy, funny, critical, condescending, or sarcastic... (especially with media)
  - None of these things translate well
  - Could lead to misunderstanding
  - Could distract from message
  - Be polite and try to stay on message
- Be Patient...
  - Your customer does not know what you know – and can become frustrated easily.
  - If the customer does not understand it is your challenge to explain in a manner the customer will understand.



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# Things to Remember

- You are the expert. You are the authority.
  - The customer depends on what you say – and will take action.
- Prepare for your briefing.
  - Have bullet points or outline ready.
  - Do not use prepared text for a briefing. It will sound like you are reading.
  - Consider a one page executive summary you can handout/email
- Don't forget the four essentials (what, where, when, conf)
- Again - be brief (thus the name).
  - Remember, they are likely receiving many briefings
  - The briefing will drive others actions.
- ***This is not about you*** – you are but one piece of information



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# Things to Remember

- Become experts in coordinated information
  - Network and coordinate with customers
  - Find their needs and concerns – brief accordingly
  - Understand and speak their language
- Stay within your expertise (The Arrogance of Intellect)
  - You are there to support decision, not make it
  - You are not Emergency Management Experts
  - You are not Social Science Experts
  - You are not Media Experts



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“Tell me what I need to know,  
when I need to know it”

Skip Dugger, FDEM retired



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...And



**“Don’t tell me what you don’t know or unsure of. Tell me what you DO know and we’ll start from there.”**

**Gene Kranz  
Flight Director  
Apollo 13**



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# Weather Briefings

**“Still a great deal of  
uncertainty...”**

**“Highly uncertain forecast”**

**“Not a lot of confidence in  
exact track of storm...”**

**“Overall confidence in the  
forecast is low...”**

**“It is hard to say at this  
time...”**



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# Uncertainty

- **Uncertainty is a part of meteorology**
  - But shouldn't dominate the message
- **Can be expressed in several ways:**
  - Verbal expressions
    - Not very precise (implicit, not explicit)
  - Confidence range
    - Or range of values; spread increases as uncertainty increases (start conservatively)
  - Probability forecasts
    - Interpretation much easier; allows user to set thresholds



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# Benefits to communicating uncertainty

- Assist people in making more effective decisions
- Helps manage user expectations
- Promotes user confidence
- Reflects the state of the science



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# WMO Suggested Terminology

Terminology	Likelihood of the occurrence/outcome
Extremely Likely	> 99%
Very Likely	90 – 99%
Likely	70 – 89%
Probable – more likely than not	55 – 69%
Equally likely as not	45 – 54%
Possible – less likely than not	30 – 44%
Unlikely	10 – 29%
Very unlikely	1 – 9%
Extremely unlikely	< 1%



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# How do you build trust?

- Not by outlining why you could be wrong
- But by giving a range of possibilities
  - Here is our best estimate / what we do know
  - Here is what you should be planning for--  
plausible (reasonable) worst case/alternate scenarios



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# Takeaway Points

- Briefings are to communicate information
- Briefings should be brief
- Keep within briefing structure
- Keep content simple to understand (graphics)
- Prioritize information
  - Be mindful of operational significance
  - Be mindful of planning cycles
- Be nice and concise



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