



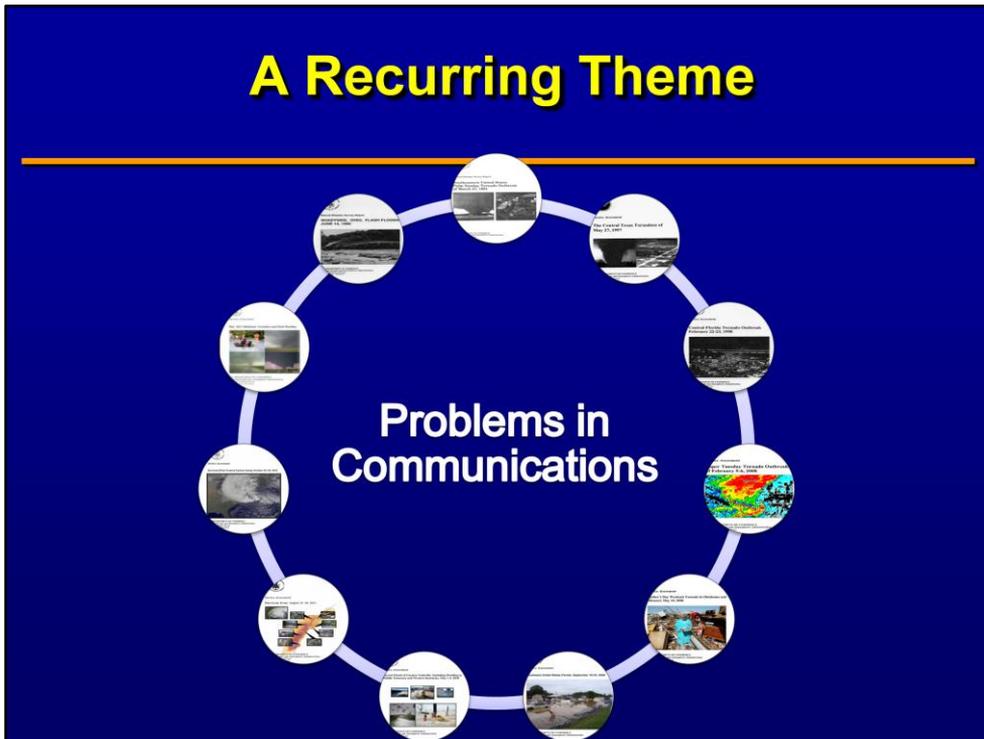
Communicating Risks in High-Impact Events

Advanced Warning Operations Course
IC Core 5, Lesson 5
Warning Decision Training Division



Welcome to Communicating Risks in High-Impact Events. This is instructional component 5 in the AWOC Core Track. This is a summary of a series of previous training modules released by WDTB from 2010 to 2013.

A Recurring Theme



The rationale for this course was initially based upon an analysis of recurring recommendations dealing with communication issues since the early 90s of NWS Service Assessments. In the analysis of past recommendations, we observed a pattern of recurrence of certain issues such as communication, collaboration, and coordination. These were either documented problems dealing with internal communication matters, or external communication factors, such as communication with adjacent NWS offices during warnings of storms crossing County Warning Area boundaries, or issues with communicating with core partners. For example, in the Mother's Day Weekend Tornado Service Assessment from May 10, 2008, echoing a finding from the Super Tuesday Service Assessment of the same year, the Team found information exchange with Core partners was a key factor in the effectiveness of rapid communication of risk of high-impact events. The Course does not expect that the application of the principles presented will overcome all the challenges the NWS faces with risk communication of high-impact events. However, it is hoped that the NWS can help mitigate future problems by better understanding the crisis communication cycle and how we communicate with core partners.

Why is This So Important?



One of the cornerstones of the NWS in a Weather-Ready Nation is providing effective Impact-based Decision Support Services (IDSS), which means not only improving the precision of our weather threat assessments and associated risks forecasts, but effectively communicating those risks more effectively through proven social science principles. This process involves working with partners who are making decisions and actions and by helping answer questions such as “what are the societal impacts on the population due to these adverse effects?” This module seeks to address some of the process of effective risk communication for high-impact weather events.

Learning Objectives

1. Recognize factors that influence success in the crisis communication life cycle.
2. Recognize some of the NWS challenges in risk communication.
3. Identify the principle factors and characteristics for effective risk communication with emergency managers.

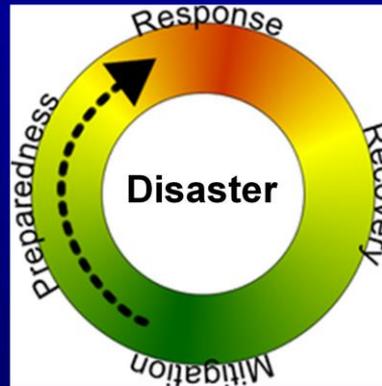
This module has three learning objectives that are designed to help you better understand risk communication.

- 1) Recognize factors that influence success in the crisis communication life cycle.
- 2) Recognize some of the NWS challenges in risk communication.
- 3) Identify the principle factors and characteristics for effective risk communication with emergency managers.

We'll keep going back to these objectives as we go through this lesson.

Introduction to Main Concepts

- **Crisis:** Any incident where weather-related risks are imposed on a partner's responsibilities
- Similar to 4 Phases of Emergency Management



Let's start with describing the phases within the crisis communication cycle. A crisis is defined in this course as an event that occurs where there are weather-related risks imposed on our partners' decision making responsibilities, either anticipated (planned) or unexpected. The phases of crisis communications imposed in a high-impact event are very similar to the 4 phases of emergency management, which you see on the right: preparedness, response, recovery, and mitigation.

In the crisis communication life cycle, shown at the bottom on the slide, you start with pre-crisis planning, then the initial response, maintenance, working through resolution and then evaluation, which then feeds back into pre-crisis actions. We will discuss several factors that affect the approach and successful implementation of the cycle. By better understanding the crisis communication cycle, you will be able to mitigate negative impacts of poor communication and conflicting messages.

Activities in the Pre-Crisis Phase of the Lifecycle



- **Pre-crisis:**

- Prepare
- Foster alliances
- Trust-building
- Promoting what NWS can do
- Develop communication plans



The pre-crisis activities in the model involve preparation activities, which can be quite extensive based on the scale of effort required for an event. These activities foster alliances and develop communication channels with desired protocol for support services provided. In most cases, you will have already established key partnerships and will have established awareness of the NWS with your stakeholders, but the specific individuals that you are communicating with for any given event might have changed. A lot of the questions to the stakeholders in the pre-crisis phase should facilitate exchange of information of their key decision thresholds and the types of weather information needed.

Activities in the Initial Response Phase of the Lifecycle



- **Initial:**

- Respond quickly
- Provide relevant risk explanations
- Establish credibility by actions
- Work with stakeholders



The amount of support services and activities in the initial response of the crisis communication lifecycle are modulated by many variables such as the type of crisis. You will immediately see the importance of the pre-crisis planning on building a foundation for you to succeed as the crisis unfolds, especially for those events with little or no lead time.

For all ranges of the initial stages of a crisis, the crisis communication model can be successfully navigated as long as you follow the spirit of the initial stages of the crisis, such as respond quickly, provide relevant and understandable risk communications, and establish your credibility.

Activities in the Maintenance Phase of the Lifecycle



- **Maintenance:**
 - Further explain risk and provide more background
 - Capture feedback and maintain relationships
 - Adapt workflow and communications to the crisis



Once crisis communication enters the maintenance phase of the cycle, we begin to further explain the risk to our stakeholders and provide more background on the details of the weather risks. As we provide more in-depth services to support decision makers, we value their feedback as this helps to build trust in the service relationship. We adapt the overall workflow and adjust communications based on any new information needed pertaining to the unfolding nature of the crisis.

Activities in the Resolution Phase of the Lifecycle



- **Resolution:**

- Ending DSS
- Return to normal conditions
- Incident/event ends
- Opportunities for education of public
- Begin examining lingering problems
- Promote your organization's role



As you gradually cease decision support activities, the crisis communication lifecycle enters a resolution stage. Here is where you learn about ending the incident support and the communication is typically marked by a return to normal conditions. For severe weather operations, normal conditions means the end of the threat and return to normal operating procedures and associated staffing levels. For special support of events like large venues, the resolution will come with the end of the event at the venue itself through an ending of a severe weather threat. For other longer duration DSS activities, it may be harder to enter this stage. The resolution stage does present opportunities for your service organization to educate the public for the future and begin to examine lingering problems. You also will begin to gain support for policy and resources and use this opportunity to promote your organization's role.

Activities in the Evaluation Phase of the Lifecycle



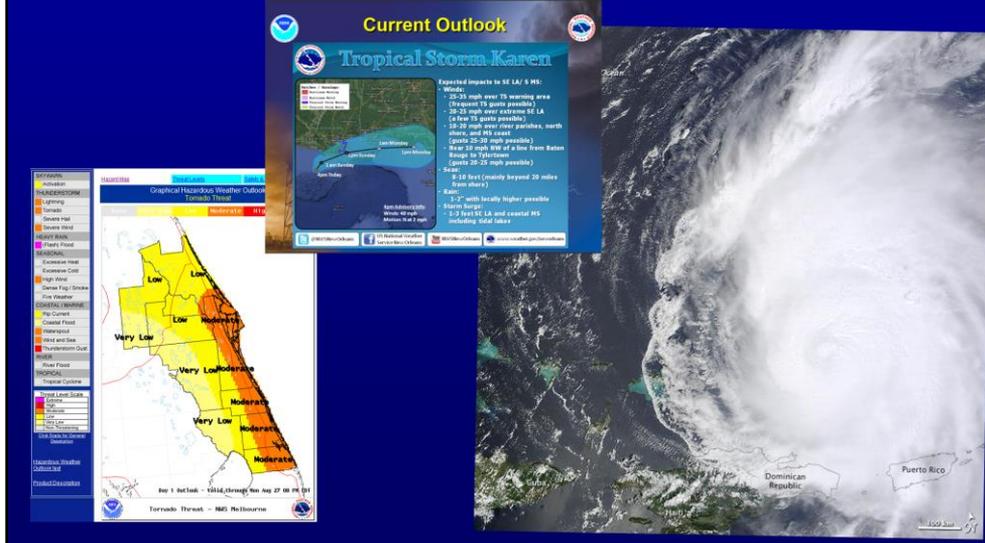
- **Evaluation:**

- Review relationships
- Assess quality and effectiveness of service
- Capture lessons learned
- Incorporate lessons back to pre-crisis planning



In the evaluation stage, you will review relationships, and assess how well you met your customer's needs for weather information during the incident. You should evaluate the quality and effectiveness of the DSS provided including an evaluation of human and physical resource management. In many longer duration incidents, regional or national service assessments may need to be conducted. To capture lessons learned, you should conduct a thorough post-mortem to determine actions and information delivered that could be applied to other types of events. Assess if you worked through the event again, what you would do differently. The results of the evaluation phase should flow back into the pre-crisis planning phase.

Communication in High Impact Events



Next will get into some of the best practices for communicating risks. One of the major things to remember the differences between communication considered part of high impact events such as tornadoes and hurricanes and normal day-to day communications. Studies show that during an emergency, information is as critically important to people as food or water. Not only can accurate information mean the difference between life and death, it can provide reassurance that emergency response is underway. Also, when we are communicating with our partners in emergency management, we must understand that they don't usually deal with these types of situation that often so the goal is to facilitate effective exchange of useful information that characterizes risk not threats. Emergency managers have limited time so timeliness is essential. If official answers are not available, rumor and speculation quickly fill the information vacuum. Then, not only must you disseminate correct information, but you also need to counter the misinformation that circulated. Emergency warnings differ from other kinds of messages because their purpose is to elicit a specific response from the public—rather than merely raise awareness or provide knowledge. Barriers to communication are that it is more difficult for people to hear messages during an emergency. There is stress due to change of routine, and lack of sleep which can be hurdles to overcome when communicating during emergencies. As weather partners, we need to ensure that all messages are consistent. There may be many responders

participating in the emergency. It is important that the weather information is shared and that the information is provided in a consistent manner.

Communication Channels Expanding, Adapting, Fragmenting

- Important to figure out how to work together to best communicate in a way that people can understand and use.



National Weather Service
Your Office
Contact Information #Dreaded

Significant Event Outlook Tropical Storm XXX Impacts to Southern Mississippi

Event:
Type - Tornadoes, hail, flooding, and high winds
Timing - Threat starting at Noon today ... ending by Noon tomorrow
Tornado risks highest in warnings issued of up to 30 minutes
Location - Portions of Southern Mississippi

Impacts:

- Flash flooding ... with rainfall totals of 6"
- Downed trees and power outages
- Some structures damaged

History:
There have been reports of brief tornado touchdowns with rain bands moving through portions of northern Louisiana earlier in the day.

Confidence:
The pattern is becoming increasingly favorable for tornadic storms to develop this afternoon.

For More Info:
Additional weather updates available at xx hours at www.srh.noaa.gov/xxx. Contact us at xxx-xxx-xxxx... via Facebook at "US National Weather Service", or on Twitter @NWSxxx.

Storms Today
Large hail up to tennis ball size AND...
Emerging winds are possible in the shaded area
Strong to severe thunderstorms are tracked to develop by late afternoon
Risk for SEVERE storms

Our modes of communicating high impact weather information are constantly expanding and adapting with technological changes in our society. Due to these changes that affect the major subject matter groups including NWS, partners, media, and the private sector, it is very important to figure out how to work together to best communicate in a way that people can understand and use. A complementary lesson on uses of social media in weather operations is also available in Core Track.

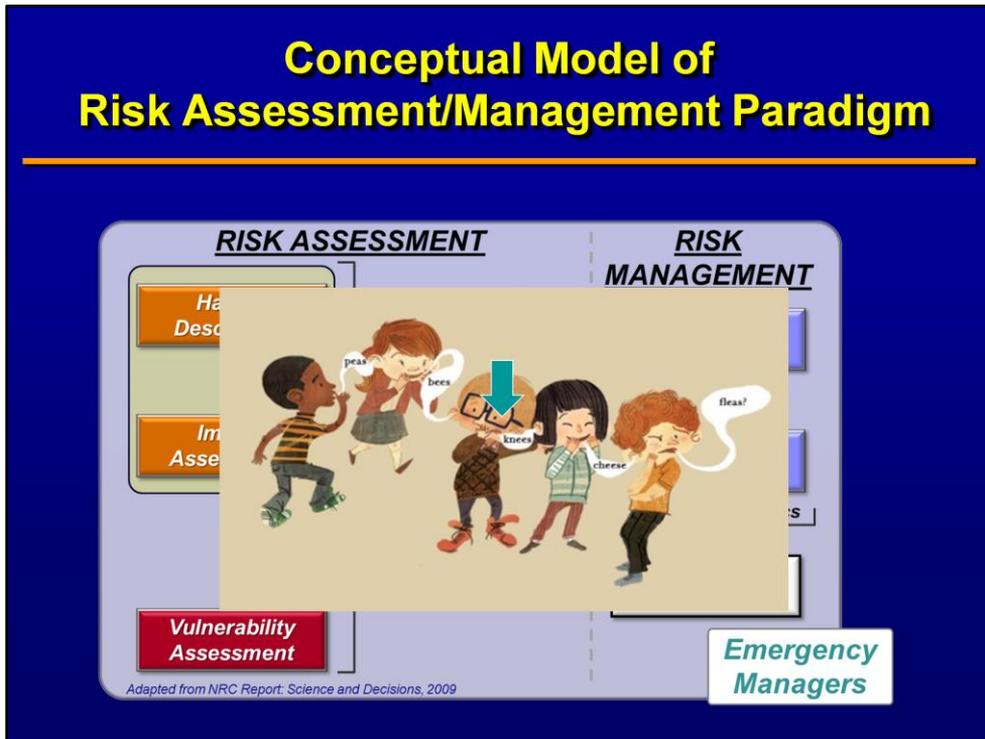
Risk Paradigm

- Decision point and actions occur when people perceive they are out of control.



From a risk management perspective, effective risk communication is about characterization of the risk. The communication of the risk needs to help the emergency management community who is managing the risk which is about perceiving the risk and making decisions on resources, procedures, and consequences to yield an appropriate action. The decision point for risk management is when people feel they are out of control.

Conceptual Model of Risk Assessment/Management Paradigm



So what does a risk assessment conceptual model look like? The NWS provides hazard identification and assesses impacts.

To the right of the dashed line are the jobs of the NWS partners such as emergency managers. They develop policy options based on the assessment of risk and then evaluate consequences. Before the Emergency Managers get to agency decision and actions there is an important activity. Risk communication occurs within the green box in between risk assessment and risk management. This is where the most effective and meaningful communication of risk and actions are completed. The information desired in this box include answers to questions such as, “what are the societal impacts on the population due to the adverse effects?” This section is also where breaks in the knowledge conveyance can cause interruptions in the risk characterization. The analogy often cited is the game you play when you are young where everybody gets in a circle and one person starts the game by whispering a message to the next person seated next to him only one time and then you have to pass it along to the next person and the next person. So, by the time you get to the end of the line, the message is often completely disarranged or in fact broken from the original message. So, it is important to look at ways that you can minimize those breakages by helping to package the content and message of the hazard and impacts.

3 Factors to Consider for Successful Risk Communication

1. How the Message is packaged
2. Operational considerations of the receiver
3. How the Message is delivered



According to social science research, there are three groups of factors to consider for successful risk communication: How the message is packaged, operational considerations of the receiver, and how the message is delivered. I'm going to hit on each one of these factors.

Factors to be Considered in How the Message is Packaged

- Confidence

How sure are you?

- Competence

- Comfort



**SAY WHAT
YOU MEAN!**

The mode you choose is critical so **how** the message is packaged is one of the most important factor to consider for effective communication. There are three factors in how the message is successfully packaged: Confidence, competence, and comfort. Whether live or recorded, you must provide **confidence** in your message that conveys how sure are you that the event will occur. A lot of this in live or recorded briefings comes down to the tone and register of your audio. Always say what you mean and mean what you say.

Conveying Certainty

 National Weather Service
Your Office
Contact Information if Desired

Significant Event Outlook
Tropical Storm xxxxx Impacts to Southern Mississippi

Event:
Type – Tornadoes, flooding, and high winds
Timing – Threat starting at Noon today
 ending by Noon tomorrow.
Tornado risks highest in warnings issued of up to 30 minutes
Location – Portions of Southern Mississippi

Impacts:

- Storm surge of 3-5 feet height above ground along the coast
- Flooding with rainfall totals of 6"
- Downed trees and power outages
- Mobile home damage from tornadoes

History:
There has been reports of brief tornado touchdowns with rain bands moving through the New Orleans area earlier in the day.

Confidence:
The pattern is becoming more and more favorable for tornadic storms to develop this afternoon.

For More Info:
Additional weather updates available at xx hours at www.srh.noaa.gov/xxx. Contact us at xxx-xxx-xxxx... via Facebook at "US National Weather Service", or on Twitter @NWSxxx.

Storms Today
Large hail up to tennis ball size
AND
Damaging winds are possible in the shaded area
Strong to severe thunderstorms are expected to develop by late afternoon
Risk for SEVERE storms



Here is an example of a Significant Event Outlook 1-pager. It is for a hypothetical tropical storm event expected to impact Southern Mississippi. Note the section that contains confidence information. This is the section where you can provide a brief statement of how sure you are, alternative scenarios, and uncertainties for the forecast.

Conveying Certainty

Executive Summary

- Hurricane Sandy will have a severe impact on our region over the next several days:
 - Strong damaging sustained winds 35 to 50 mph over a prolonged period of time (24 to 48 hours), with gusts up to near 75 mph. Strongest winds are expected south and east of the I-95 corridor.
 - Extremely heavy rainfall.
 - Major to record inland flooding along streams and rivers.
 - Major to record coastal flooding. The full moon on October 29 just makes things worse.
- Options for the storm to miss our area are rapidly dwindling. Confidence on the storm having a major impact on our region continues to increase. The focus of efforts should be on when Sandy hits our region, not if Sandy hits our region.
- Next briefing package will be issued by Noon on Monday, October 29th.
- Monitor our website at weather.gov/phi.



National Weather Service
Philadelphia/Mt. Holly

Confidence can also be expressed in multimedia weather briefings which should be a regular way to promote situational awareness for the emergency management community and partners. This is an example of one slide from Mt. Holly WFO during Hurricane Sandy which, is a good example of conveying confidence in a forecast and is a part of effective risk communication. The entire briefing package was 15 slides and this particular slide titled “Executive Summary” was inserted 3 slides after the title slide so it serves the purpose in communication of highlighting the risk.

Conveying Certainty

Informal cues raise urgency and confidence

(10:40 PM) nwsbot: ICT issues [Tornado Warning](#) [tornado: OBSERVED, tornado damage threat: SIGNIFICANT, hail: 1.75 IN] for McPherson, Saline [KS] till 11:30 PM CDT ... * AT 1036 PM CDT... A CONFIRMED LARGE AND EXTREMELY DANGEROUS TORNADO WAS LOCATED NEAR MARQUETTE... AND MOVING NORTHEAST AT 55 MPH.

(10:40 PM) nwsbot: ICT: McConnell AIR Force BAS [Sedgwick Co, KS] storm chaser [reports TORNADO](#) at 10:39 PM CDT -- visible near mcconnell air force base.

(10:41 PM) nwsbot: ICT issues [Tornado Warning](#) [tornado: OBSERVED, tornado damage threat: SIGNIFICANT, hail: 2.75 IN] for Butler [KS] till 11:30 PM CDT ... * AT 1036 PM CDT... A CONFIRMED LARGE AND EXTREMELY DANGEROUS TORNADO WAS LOCATED NEAR ANDOVER... AND MOVING EAST TO NORTHEAST AT 35 MPH.

Social science research in watches and warnings is also finding that informal cues can raise urgency and confidence. Rare or infrequently used words in NWSChat, phone calls, email, Social Media often peak the interest of the core partners. The tone and demeanor of the presenter of information can convey greater importance to the unfolding situation which gets translated to the partners and public to the point of "I've got to do something". Here a message in NWSChat that uses some unusual words such "confirmed large and extremely dangerous tornado".

Conveying Certainty

- Twitter and Facebook are useful for conveying informal cues



Here is another example of a Tweet used to convey confidence for pre-event planning for a winter storm situation. The Atlanta Forecast Office was sending out lot of messages prior to the big Jan. 28-29, 2014 snowstorm that left thousands in Atlanta stranded.

Factors to be Considered in Packaging the Message

Not all EMs
are created equal

- Competence



System Support Unit (SSU) coordinating statewide emergency management (from www.ct.gov)

When packaging the message, make sure you know the competence of the audience, and especially the target receiver. For example, it is usually a bad assumption that all EMs are equal. There are different education and training levels so just keep in mind some of their attributes and understand the audience from their perspective.

Factors to be Considered in How the Message is Packaged



Has to be established before the event

- Comfort



Finally, the level of comfort is an important factor that should be addressed in the message. Comfort on either side of the message requires familiarity and trust in use of information and the people. If people are not comfortable, they often ignore things, do not assimilate the information as true and may mistrust and delay action. Comfort is a very powerful influence on our processing. Consider how you respond to talking to people that you don't know, or taking an exam that you don't have comfort with the material. Or, if you are typically a quiet person giving a briefing which can't break through the noise, or a loud and boisterous person briefing. Comfort and confidence are related but are not the same.

Important Principles to be Delivered in a Severe Weather Message



Based on the results of social science research into watches and warnings, there are six critical elements that must be delivered in an effective communication of hazardous weather threats:

- 1) What is going to happen
- 2) Where is it going to happen
- 3) When is it going to happen
- 4) What is the duration (how long)
- 5) What is the history, and
- 6) Confidence. Confidence is how sure you are, not uncertainty. This falls on the forecaster's shoulders and should be conveyed in the previous 5 elements. In delivering the warning message, you need to think about drawing a picture that minimizes interpretation. I'll talk about some characteristics that best accommodate these elements on the next slide.

Examples of 6 Factors Delivered in a Severe Weather Message

National Weather Service
Your Office
Contact Information: if Desired

Significant Event Outlook
Tropical Storm xxxxx Impacts to Southern Mississippi

Event:

Type – Tornadoes, hail, flooding, and high winds

Timing – Threat starting at Noon today ... ending by Noon tomorrow.

Tornado risks highest in warnings issued of up to 30 minutes

Location - Portions of Southern Mississippi

Impacts:

- Storm surge of 3-5 feet height above ground along the coast
- Flooding with rainfall totals of 6"
- Downed trees and power outages
- Mobile home damage from tornadoes

History:

There has been reports of brief tornado touchdowns with rain bands moving through the New Orleans area earlier in the day.

Confidence:

The pattern is becoming more and more favorable for tornadic storms to develop this afternoon.

For More Info:

Additional weather updates available at xx hours at www.srh.noaa.gov/xxx. Contact us at xxx-xxx-xxxx... via Facebook at "US National Weather Service", or on Twitter @NWSxxx

Storms Today

Large hail up to tennis ball size AND
Drenching winds are possible in this shaded area

Strong to severe thunderstorms are expected to develop by late afternoon

Risk for SEVERE storms

The significant event outlook 1-pager shown earlier is an example of a product that contains all 6 critical elements in a bulleted format. The “what” is the type : tornadoes, hail, flooding, and high winds, and the impacts. The "where" is shown in the location bullet, southern Mississippi, and is also displayed on the inserted map graphic. It is important to localize the information as much as possible. Outlook graphics tend to be regionalized so there will need to be additional communication vehicles used such as live briefings, phone calls, text, and social media feeds to follow-up and fine tune this information. The “when” is the timing “starting at noon today and ending by noon tomorrow”. This is the duration. Try to always provide a history. Remember, the public will act more quickly if they know that the threats will impact them directly.

Examples of 6 Principles Delivered in Tornado Warning



BULLETIN - EAS ACTIVATION REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE TAMPA BAY AREA - RUSKIN FL
138 PM EDT THU JUN 6 2013

THE NATIONAL WEATHER SERVICE IN RUSKIN HAS ISSUED A

- * TORNADO WARNING FOR...
SOUTHEASTERN CHARLOTTE COUNTY IN SOUTHWEST FLORIDA...
NORTHEASTERN LEE COUNTY IN SOUTHWEST FLORIDA...
THIS INCLUDES THE CITY OF FORT MYERS...
- * UNTIL 200 PM EDT
- * AT 138 PM EDT...NATIONAL WEATHER SERVICE METEOROLOGISTS DETECTED A TORNADO NEAR FORT MYERS...MOVING NORTHEAST AT 50 MPH.

**THE TORNADO WILL BE NEAR...
TICE...SUNCOAST ESTATES.
FORT MYERS SHORES.**

PRECAUTIONARY/PREPAREDNESS ACTIONS...

IF YOU ARE IN THE PATH OF THE TORNADO GO TO A SMALL INTERIOR ROOM IN A STRONG AND WELL CONSTRUCTED BUILDING. CARS AND MOBILE HOMES ARE NOT SAFE. IF NO SHELTER IS AVAILABLE...LIE FLAT IN A DITCH OR CULVERT AND COVER YOUR HEAD WITH YOUR HANDS.

TO REPORT SEVERE WEATHER TO THE NATIONAL WEATHER SERVICE PLEASE CALL 813-645-2323.

A TORNADO WATCH REMAINS IN EFFECT UNTIL 1000 PM EDT THURSDAY EVENING FOR WESTERN FLORIDA.

5/6

Another example that I'd like to show is a tornado warning for a tropical event. This one is out of Tampa, FL and was during Tropical Storm Andrea, for which you will be required to complete a simulation. First, the polygon indicates the threat area which includes two counties in their county warning area. The What is the tornado, the Where is Ft. Meyers, the When is 1:38 pm with duration given with warning expiration at 2:00 pm . The history is missing, although the future position is critically mentioned in the pathcast information. There is mention of a tornado watch which has already been in effect. Finally, the issue of confidence is not explicit, though I do like the mention of a detection instead of the vague terminology often used, “ radar indicating a developing tornado”. Since there is often a high false alarm rate with tropical tornadoes, it might be advisable to only use stronger “more likely” language to express surety in those situations when the environment and radar indicates a very strong signal.

3 Cs in the Message Itself

1. Clear

2. Concise

3. Consistent

 National Weather Service
Your Office
Contact Info if Desired

Significant Event Outlook
(Headline Tropical Storm xxxxxxx Impacts to Southern Mississippi)

Event:
Type – What is the threat?
Timing – When will it occur? (start, stop, duration)
Location – Where will it impact?
Keep this entire outlook to 1 page. Avoid jargon.

Impacts:

- Storm surge of 3-5 feet height above ground along the coast
- Tornadoes in risk area
- Hail in risk area
- Flooding with rainfall totals of
- Damaging wind producing downed trees and power outages of up to xxx hours

History:
If this is an ongoing event or significant weather has occurred upstream, you may want to include a brief summary of storm reports or impacts.
Can also use climatology info such as data available from [xmACIS](#) or other sources to put events into context.

Confidence:
Provide a brief statement of your confidence, alternative scenarios, and uncertainties for the forecast

For More Info:
Depending on your distribution for this product, consider including links for additional information, date/times of conference calls, etc

Storms Today

Large hail up to tennis ball size
AND
Damaging winds are possible in the shaded area

Strong to severe thunderstorms are expected to develop by late afternoon

Risk for SEVERE storms

Caption: A picture is worth a thousand words. But – don't use a complicated graphic when a few words will do. This is a judgment call.

Message has to be clear, concise, and consistent. We will look at each of these factors and describe what it means. With graphical information or multimedia, visual and audio overload need to be considered. One pagers like this are good examples to prioritize details of the event. If a verbal briefing, say only what you need to say and say it as a single thought. Transfer one piece of information at a time. With more pieces, they will have to re-prioritize.

What Does it Mean to Be Clear?

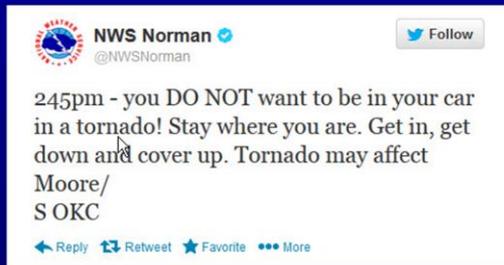
- Present information in sequence, reason for message, supporting information, and conclusion.



“Polar vortex”

From FEMA's Effective Communication Course, it is important to present information in sequence; present the reason for the message, the supporting information, and the conclusion. Speak the message precisely, making every word count. This will get people attention. Avoid jargon, codes, and acronyms. Use common terminology for all personnel and facilities. Omit unnecessary details, speak in sync with other related authorities, and keep messages consistent across various media.

Here is an Example of a Clear Warning Message



Here is an example of a clear warning message, because it's clear and straight to the point. It's in the form of a Tweet.

Clear and Concise Risks From Impact-Based Warning Statements

Tornado Tag

TORNADO...RADAR INDICATED	Evidence on radar and near storm environment is supportive, but no confirmation.
TORNADO...OBSERVED	Tornado is confirmed by spotters, law enforcement, etc.
Tornado Damage Threat Tag	
NO TAG	Use most of the time when tornado damage possible within the warning polygon. Tornado duration generally expected to be short-lived.
TORNADO DAMAGE THREAT...CONSIDERABLE	Use rarely, when there is credible evidence that a tornado, capable of producing considerable damage, is imminent or ongoing. Tornado duration generally expected to be long lived.
TORNADO DAMAGE THREAT...CATASTROPHIC	Use exceedingly rarely, when a severe threat to human life and catastrophic damage from a tornado is occurring, and will only be used when reliable sources confirm a violent tornado. Tornado duration generally expected to be long lived.
Tornado Tag In Severe Thunderstorm Warnings	
TORNADO...POSSIBLE	A severe thunderstorm has some potential for producing a tornado although forecaster confidence is not high enough to issue a Tornado Warning.

Impact-based warnings or IBWs provide quick information on the type and magnitude of a particular hazard. Impact statements within IBWs give high-intensity cues for especially dangerous situations and provide context for the tags within the warning. These products contain concise, easily understandable call-to-action statements. The tornado tags are intended to improve the communication of critical information in a warning and provide different levels of risk within the same product by highlighting storms that are particularly dangerous. For more information, please take the training module by WDTB on IBWs.

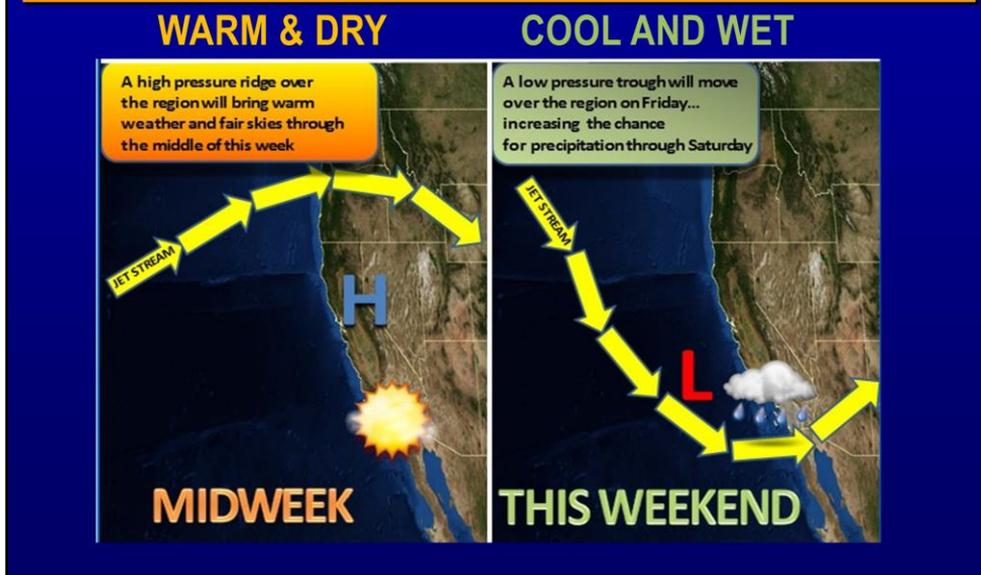
What Does it Mean to Be Concise?

- No more than 3 message points in graphics and text



The message must also be concise. How do you communicate something that is concise? You say only what you need to say as a single thought. This enables the listener to transfer the message one piece at a time. The more pieces of the message, the receiver has to prioritize it. Adult learning principles finds no more than 7 plus or minus 2 things can be transferred into working memory, but 5 +/- 2 is more reasonable because the mind is distracted by other things all the time. A good rule of thumb is to keep no more than 3 main points in your message or the person starts missing it. The mode of communication obviously affects the ability of the warning message to be concise. And, a very important point is that the ordering of the message pieces affect ability to receive it.

What Does it Mean to Be Consistent?



When we talk about being consistent, it's about painting a picture and using both graphics and text in a complementary manner (and audio too, if that channel is utilized) to mitigate overload. Remember, to be able to express a weather message, it is easy to overdo the information presented, because there is so much we want to show. But, try to use a simple theme for each graphic and accentuate the 3 main points: the what, where, and when. Create graphics in a way that minimizes the number of fonts and styles, maximizes readability, organization, and purpose, uses consistent colors and base maps, and this is a big one, use words that do not require a definition or are exclusive to internal product names.

Painting a Consistent Picture



Keeping your message consistent has a number of benefits both short and long-term. These are some of the key ways to paint a consistent picture: clarity and repetition, message branding, no contradiction, and key themes.

In terms of clarity, the most important thing is that consistency makes your office's mission and services clear to everyone, especially to those that are partners in risk communication. Not only that, but being able to communicate with some consistency what your office does and what it strives for results in further clarity; through the repetition of this consistent message, so the message about saving lives is always at the forefront. Ultimately, key words and phrases, repeated often enough, will stick in people's minds and become associated with your office's mission.

Like a slogan or catchphrase, message branding to achieve consistency will lead to better recognition of the risks. If the messages your group sends out to partners and public are consistent across a period of time, then those messages are the ones that will stick in the public's mind the longest.

Staying "on message" might be even more important if your group is working through a challenging situation or potentially damaging problem.

In this case, making sure there are no contradictory messages coming from your office and its spokespeople is vital in ensuring your office looks like it is handling the problem in a professional and competent way.

Agree on what is to be said - key themes in particular. Most importantly, your office needs to agree on what it is going to say.

If your office only has one person responsible for communicating publicly, the job becomes a little easier. However it is important that other members of your team don't then speak out of turn or contradict your appointed spokesperson which should be using the official forecast.

Revisiting Key Points



So, to revisit the key points presented: Since the early 1990s there has been a recurring pattern of NWS issues of poor communication, collaboration, and coordination, as evidenced in Service Assessments. With the emphasis placed on improving communication during high impact events and decision support services, it has become very important to understand the best practices of effective risk communication in all 5 phases of crisis communication model. This process involves working with decision making partners in all steps of the model to help them with their actions by helping to effectively characterize the risks. From pre-crisis mode to evaluation, working with core partners starts and ends with communication. There are several challenges NWS faces in risk communication with emergency managers and other partners such as media. One is that the partners' jobs are not exclusive to just working high impact events. The volume of our products creates confusion, and the complexity often makes it harder to translate the message. Thus, packaging the contents is important. The three main groups of factors to consider for successful risk communication are how the message is packaged, operational considerations of the receiver, and how the message is delivered.

Revisiting Key Points (cont)



1. Confidence
2. Competence
3. Comfort



1. Clear
2. Concise
3. Consistent

Risks



We talked about three factors to be considered in how the high impact message should be packaged: confidence, competence, and comfort. A delivered message should include these 6 key elements in some simple to translate form.

- 1) What is going to happen
- 2) Where is it going to happen
- 3) When is it going to happen
- 4) What is the duration
- 5) What is the history, and
- 6) What is your confidence.

There are also 3 success factors in the message itself; it must be clear, concise, and consistent. Keeping your message consistent has a number of benefits both short and long-term. For warning messages, it is usually best to keep the message concise to include only the what, where and when parts of the warning. IBWs can also provide increased risk communication of threats and impacts.

Why would it be important to prepare for a crisis with well-established key core partners who are already well aware of the NWS?

- ensure that you are communicating with the most important people
- establish credibility by action
- capture feedback from recent events
- promote the NWS even more

Communicating risks

Quiz - 7 questions

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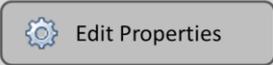
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References

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- <http://www.wdtb.noaa.gov/courses/risk-comms/index.html>
- <http://www.wdtb.noaa.gov/courses/tc-tor/index.php>

These are some of the references used in the module. Also, you can review the full list from the old Crisis Communications Course and the Tropical Cyclone Tornadoes Courses from the WDTD web site.