

2015 North Texas Integrated Warning Team Workshop Notes

Workshop Overview

- Entire Integrated Warning Team consists of many different players
- Many different places for the message to get mixed up
- Consistent message from the team is important
- Workshop Goals
 - How we as a team communicate the new risk terminology from SPC
 - Have an understanding of the new format for Tornado and Severe Thunderstorm warnings
 - Why communication within the IWT is important

Storm Prediction Center (SPC) Outlook Changes

- New SPC convective outlooks implemented Fall 2014

Previous SPC Outlooks	New SPC Outlooks
General	General
	1 Marginal
Slight	2 Slight
	3 Enhanced
Moderate	4 Moderate
High	5 High

Category	RGB Values
General	191 231 192
Marginal	48 106 63
Slight	255 255 0
Enhanced	255 148 0
Moderate	255 0 0
High	255 0 255

- Categories are not tied to expected intensity of severe weather
 - Marginal risk does not mean smaller hail than moderate risk
- Coverage main factor in determining category
 - Other factors: forecaster confidence, increased potential for larger/more damaging weather phenomena

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- Goals for outlook changes
 - SPC decided to change to provide additional and more detailed information about the threat of severe weather
 - Marginal: increase usefulness of outlook map by illustrating affected areas
 - Enhanced: high end slight risk; old slight risk included broad range of severe weather potential
- **Remember:**
 - Severe weather is not limited to lines on a map
 - Equally dangerous storms can occur in any category
 - SPC outlooks are national in scope, while NWS offices focus on local impacts
 - Local NWS offices' forecasts are updated more frequently than SPC's outlooks
- Topic discussion
 - How do we communicate new outlook categories to the public?
 - Misinterpretation of risk levels
 - Slight risk day: May 15, 2013 tornado outbreak (19 tornadoes, 6 fatalities)
 - "What happened? It was only a slight risk."
 - However: "a general thunder day is much different from a day where you are expecting multiple reports of severe weather"
 - Proposal for assigning number to categories
 - Media: assignment of numbers may help people understand
 - Deterministic works better than assigning a number in communicating rain chances
 - Start building some kind of number scale to better express categories across language barrier
 - Number use must be consistent otherwise message inconsistencies are introduced
 - People can't come up with their own number scale
 - Amateur radio will go with whatever media decides
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 - NWS exercises could be done to see how the IWT would communicate outlook changes
 - Risk categories will not be communicated once event is underway
 - How does the NWS deal with discrepancies between the SPC forecast and the office forecast?
 - Internal discussion will occur to come to consensus
 - Important to remember: communication of severe weather threat doesn't just begin and end with the label
 - Risk categories are just a part of the bigger picture of the event (where, when, why, what, etc.)
 - Public is likely still going to interpret categories as intensity

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FWD must continue to provide extra content about the weather for each day.

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Impact Based Warnings

- Impact Based Warnings start April 1, 2015
 - Social science behind Impact Based Warnings: individuals want more information before taking action
 - Helps differentiate between low and high impact events
 - Supplies tiered warning info
- Impact Based Warning expectations
 - New way to communicate potentially high impact events to the end user
 - Implemented for Severe Thunderstorm and Tornado Warnings and update statements ONLY, not Flash Flood Warnings
 - Provide additional info on hazardous weather impacts to partners
 - Provide succinct message geared to facilitate quicker public response
- Impact Based Warnings DO NOT...
 - Mean thresholds are changing
 - Does not replace info on NWSChat
- Message not changing, but the syntax used to communicate impacts is
 - Thresholds for issuing Severe Thunderstorm and Tornado warnings stays the same
- Impact levels can be thought of as corresponding to perceived threat, but not as a forecast for EF-scale rating
- Audience question: Is it possible to list speed/direction in summary tag?
 - Storm motion is actually listed at the bottom of the warning
- Question: “Can we better forecast and communicate lightning detection/hazard”?

Tabletop Discussion: Mayfest 1995

- Initial stages of event: what are you doing?
 - People are spinning up with thunderstorms west of Tarrant County
 - EM: briefing staff, letting them know what's coming (has to factor transit times in there for staff to get to EOC)
 - Several EMs getting information from NWS, CASA radar
 - EM: Storm has not impacted my community yet, but contacting police, fire, public works; anticipating damage from storm.
 - EM: Get in touch with dispatch, city management
 - EM: Trying to get resources to come in to respond to event
 - EMs are coordinating with neighboring communities

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- ISD: We have to be able to get that weather information... If you don't have relations with city staff, big problem 4
 - Getting information out early to principals is critical, especially if parents can't get to schools to get kids
 - Question: At what point to those decisions take place for ISDs?
 - Storm speed, direction important
 - RACES, NWSChat, local media important information sources
 - Knowing what's coming in as much time as possible is critical
- Event underway: what are you doing?
 - With reports, communities are using outdoor warning sirens, getting info from NWS, media, folks chatting outdoor warning siren decision points
 - **Inject: NWS Fort Worth takes shelter. Primary backup office is NWS Shreveport. If back up happens, there could be a delay in communications to the NTXIWT if this happens.**
 - Question: What would you like to see if this happens?
 - Amateur Radio: this would impact amateur radio reports into NWS Fort Worth
 - Once amateur radio stops getting weather info from NWS Fort Worth, they would assign someone to start listening to other counties
 - NWS Fort Worth considered hub of amateur radio communications
 - EM: If NWS Ft Worth goes down, 1 person EM outfit who doesn't use chat would not know

Media:

- Would be helpful for NWS Fort Worth to post info into chat if NWS Shreveport takes over operations
- Media partners would then know to provide met info into NWSChat as they are able to (for the rest of the IWT partners)
- (Move this bullet back!) IWT members request that either NWS FWD or their backup office notify them through NWSChat if there is a transition to back-up operations
 - They want the backup office to retain some presence in NWSChat (local media may be providing more local information in this case in the chatroom)
 - Question: "Will your backup office know where all the places/locations are?" (NWS FWD

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provides them with maps and info but they still likely won't have the instant quick knowledge of where cities/landmarks/etc are)

- Question: no Tornado warnings have been issued, only Severe Thunderstorm warnings. Does this affect your operations?
 - EM: If a storm hasn't reached all of our criteria to sound outdoor warning sirens, then we have to make additional decisions and find more info before sounding sirens, depends on additional information that we collect
 - Medical: If tornado warning were to be issued, non ambulatory patients would be moved
 - Additional question: Are delayed reports (tornado report) helpful to media?
 - Media wouldn't use word "tornado" unless storm damage had been confirmed by NWS, but would mention storm had history of producing wind damage
- **Inject: a vague flooding report is received near Six Flags. What do you do?**
 - EM: with a transition to flooding, sends field reps to block off areas
 - EM: With additional flooding reports would continue to monitor; people will continue to drive into high water
 - EMs trying to determine extent of damage from flooding; would ask jurisdictions for ground truth on how much rain has fallen, contacting NWS Fort Worth. More for situational awareness from county EM perspective; possible disaster declaration if more long term event
 - Media: flood alert system can provide up to the minute rainfall data
 - NWS: if you want to find out real time info, it's on the web or call the office
 - Media: provide as much specific info on flooding (is this typical?)
 - Amateur radio begins damage assessment
 - Question: what does heavy rain mean to you?
 - "Get wet, 0.5" rain an hour, 6 Flags flooded"
 - Media going out to flooded areas
 - Flooding just as important as other weather hazards
 - "Weather is weather until weather is news"
 - Importance of pictures/video to media
 - Social media responsibility; look at time stamp, try to make sure data is current
 - Pictures are critical to news operations

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- Video becomes important. Cells phones now critical part of traditional media.

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- EM: WebEOC situational awareness board, information being posted

May 15, 2013 IWT Communications Study

- 15 May 2013 Tornado Outbreak Overview
 - 19 tornadoes
 - One EF-4 tornado (Granbury)
 - One EF-3 tornado (Cleburne)
 - 6 fatalities, over 50 injuries
 - Over \$100 million in property damage
- Integrated Warning Teams: local emergency management/government officials, National Weather Service, media representatives, public, Virtual Operations Support Teams (VOST)
 - Can also include agencies that support FEMA's Emergency Support Functions, amateur radio
 - Get persons in a threat area to take protective action
 - Protective action decision making requires a need for repetitive messaging as individuals will seek to confirm threats from multiple sources (Mileti and Sorensen, 2000)
 - Build community resiliency
- Data and analysis
 - To evaluate IWT messaging during the event, over 1200 instances of communication documented from NWSChat, media footage, NWS and EM interviews, social media
 - Tracked pieces of information as they were transmitted through the IWT
- Communication modeling: NWS warnings
 - Could not prove the NWS **directly** communicated warning to the public, but warning reached the public through other members of the IWT (ie: indirectly)
- Given enough time for message to be sent through the IWT, are there any communication gaps within the IWT?
 - Yes, and with several IWT members not receiving the message, the availability of the message for public consumption was limited.
- Research Summary
 - No IWT member is the sole communicator of hazard information, must all work together/share info.
 - IWT members must communicate with each other to increase the likelihood that a message will reach the public.

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