Build Community Before the Storm: Social Media Engagement for Crisis Communication

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Plan for this talk

• The strategic use of social media is a “best practice” for crisis communication
• Engagement pre, during, and post crisis has the potential to affect behavioral change
• We investigate the use of social media by 12 NWS offices
• We find that social media use differs by time of engagement
• I’ll offer some thoughts about what this means for engagement efforts over time
Goal

What do you want to accomplish

Tactic

What mechanism will you use

Strategy

What can you do or say to accomplish the goal
Goal: change behavior

Tactic: channel

Strategy: what I can do or say to affect goal
Strategy: engagement on social media

Engagement is about shaping beliefs through communication efforts/strategies.

What can I do or say to get you to believe that ...  
• I am caring and honest?  
• I listen? I am open?  
• We are similar?  
• I am competent?

Why accomplish this goal:  
So that when it comes time to take action message receivers are more likely to act.

** this is not a talk about messaging, it’s a talk about strategy
HEROIC Research to address these questions:

- What are the engagement strategies used by NWS Offices on Twitter?

- How do these strategies differ between non-threat and threat periods?
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We selected 12 NWS WFOs and collected all of their tweets and products for 3 months (Apr-Jun) in 2016.

- Seattle, WA: 789 tweets, 5 products
- Sacramento, CA: 691 tweets, 40 products
- Pueblo, CO: 857 tweets, 203 products
- Grand Forks, ND: 663 tweets, 128 products
- Jackson, KY: 810 tweets, 271 products
- Boston/Taunton, MA: 1157 tweets, 56 products
- Charleston, SC: 898 tweets, 184 products
- Miami, FL: 757 tweets, 61 products
- Anchorage, AK: 183 tweets, 22 products
- Honolulu, HI: 69 tweets, 278 products

Total: 10,705 tweets, 2,948 products
Engagement

1. By creating and sharing content

(These fall into three categories: information, community, and action. We’ll talk about these in just a moment...)
Engagement

1. By creating and sharing **content**

2. By using technological **features** that are part of the social channel.

We call these “microstructures”.

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Windy/dry/ warm wx will raise the #fire weather threat across western N TX Tues/Wed. #txwx #abilenwx #dfwwx #texoma
Engagement Content Categories: information

**Forecast: (α = 0.94)**

**Weather in the future**

Windy/dry/ & warm wx will raise the #fire weather threat across western N TX Tues/Wed. #txwx #abilenwx #dfwwx #texoma

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**Nowcast: (α = 0.84)**

**Current and ongoing weather**

637 PM Radar: 2 storms still producing dangerous hail across North Texas. Moving east & southeast #dfwwx #txwx

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4:38 PM - 11 Apr 2016
Engagement Content Categories:

- **Weather facts:** \( \alpha = 0.91 \)
  - Historical weather data and fun facts
- **Weather products:** \( \alpha = 0.94 \)
  - Issued, continued, renewed, or cancelled products

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8 years ago today, an EF-2 tornado hit Wayne county, heavily damaging or destroying nearly 40 structures. [ow.ly/10zPQS](https://ow.ly/10zPQS)
Engagement Content Categories: community and action

**Action: \((\alpha = 0.94)\)**
Messages that tell people to do something

**Community: \((\alpha = 0.84)\)**
Messages about classes, volunteering, local office info.

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**NWS Charleston, SC**
@NWSCharlestonSC

If you receive a Wireless #EmergencyAlert, take action & check local media: ready.gov/alerts. #HurricanePrep

6:00 AM - 20 May 2016

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**NWS Norman**
@NWSNorman

If you have pics or video of tornadoes, hail and/or damage that you're willing to share with us send them to sr-oun.spotter@noaa.gov. Thx!

5:42 PM - 8 May 2016
Engagement microstructure features in social media

- Directed messages (@username)
- Weblink (URL)
- Mentioning other accounts (@username)
- Retweeting other accounts (RT)
- Hashtags (#wx)
- Media attachment (photo, graph, map, video, audio)
- Sentence style (!, ?)
We matched NWS products to the **timing** of Tweets from each NWS office.

- **Non-Threat**: no active watch, warning, or emergency products in the WFO CWA. There could be a statement or an advisory.

- **Threat**: active watch or warning issued in the area for any hazard type.
Thunderstorm was the most frequent hazard for which products were issued.
Weather information, which includes forecast, was most frequently posted content. Media and hashtags were frequently employed microstructures.
How do engagement strategies differ by time?
Community engagement content differs by time
Instruction/action engagement content differs by time.

The chart illustrates the prevalence of various tweet features over time, with a focus on the Instruction/Action category. The graph shows the frequency of different tweet features over time, with markers indicating the Warning Period and Non-Warning Period. The chart indicates a decrease in prevalence for some features during the Warning Period, followed by an increase during the Non-Warning Period.
Weather Information engagement content differs by time.
Microstructure use differs by time.

- Warning Period
- Non-Warning Period

Decreased Prevalence

Increased Prevalence

Tweet Feature Frequency

URL
Community
Retweet
Exclamation
 Mention
 Facts
 Media
 Instruct.Action
Hashtag
 Question
Forecast
Nowcast
Reply
Info
Product
Sentence structures differ by time
Putting it into practice

• Engagement is a longitudinal strategy
• When no threat – offices focus on fostering community. In addition to sharing forecasts, this is the time to talk about historical events, provide science education, personalize perceptions of the office, encourage preparedness action through education.
• Threat – offices provide relevant info. And reply to questions if possible.
Is sharing info an engagement strategy?

• “engagement as interaction” – fails to see that information can play a role in building community and inciting action.

• Engagement is a hierarchy of messages
  – The public expects info from NWS. Providing it in a time of need increases trust, future interaction.
  – This builds a community of followers.
Social media microstructures

• Use of hashtags – important because it puts your tweets into a channel of information
  • The right hashtag matters – if you are speaking to people who know you versus if you are trying to participate in a breaking event

• Inclusion of media – important because it provides additional information that cannot be communicated in 140 (or 360) characters

• Mentions & Directed messages – evidence shows that offices are actively monitoring and responding to people during threat periods.
Back to the goal...

Goal: change behavior

Tactic: channel

Strategy: what I can do or say to affect goal
Back to the goal

• What if persuading people to take action isn’t the only outcome?
• There are other things that matter too:
  – Reach of messages
  – Increased exposure and awareness
  – Increased information seeking and sharing
  – Reduced uncertainty
  – Increased knowledge and understanding
  – Maintaining or increasing source credibility
  – Aligning risk perception with actual risk
  – Increased self efficacy
  – Behavior change

These can be accomplished through ongoing communication and are precursors to persuasion.
Questions/Comments?

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