

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

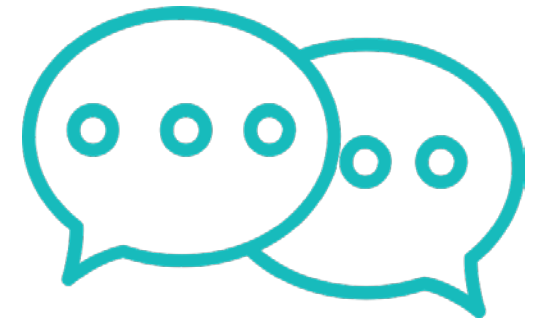
Goal: change behavior



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?



Some best practices for
crisis communication

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?

HEROIC Team



Jeannette Sutton



Carter Butts



UCIRVINE



Scott Renshaw



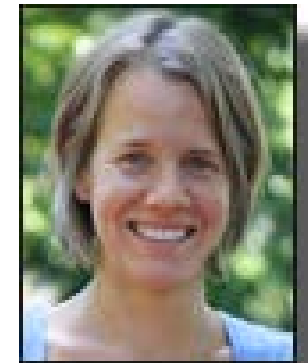
Ben Gibson



Micki Olson



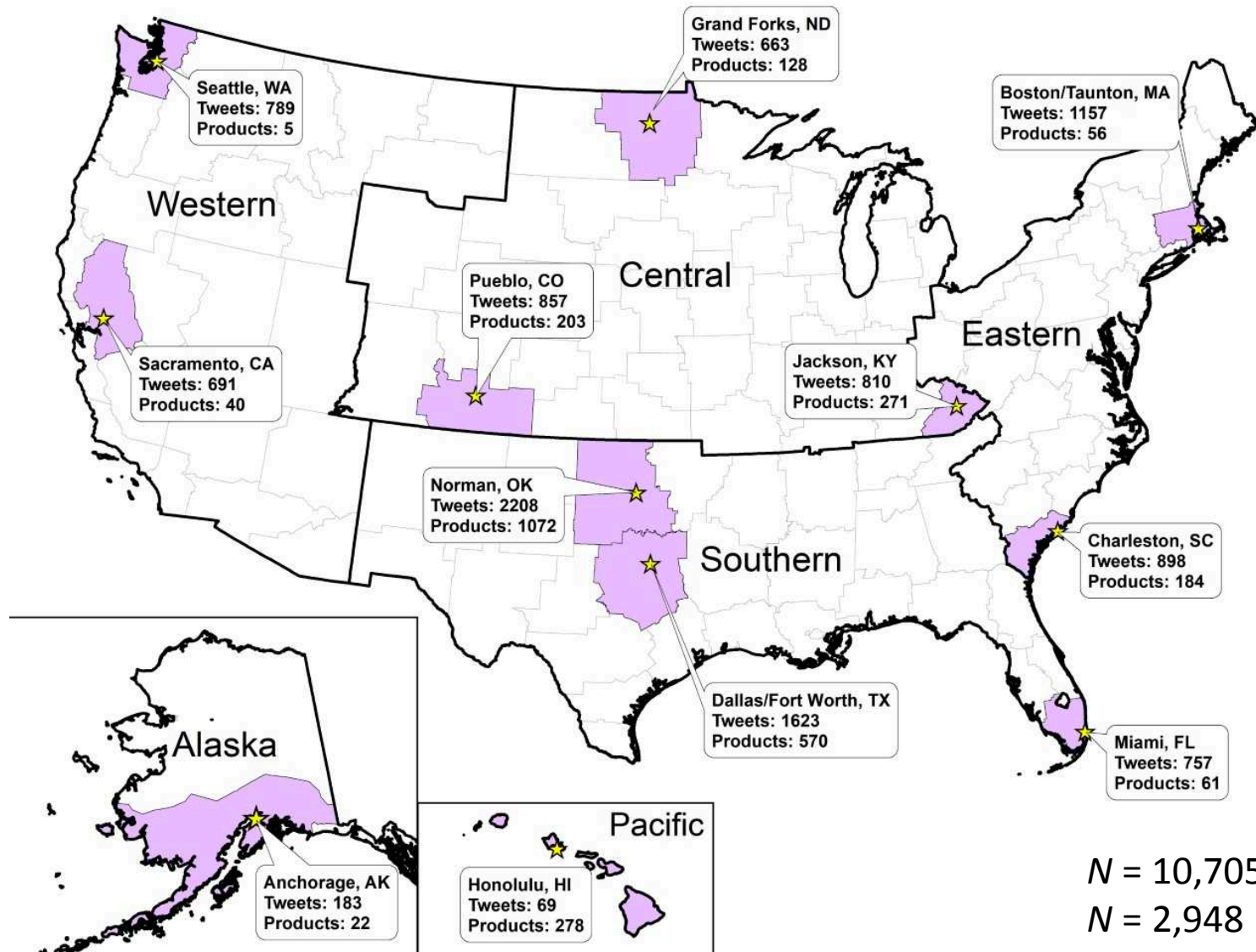
Robert Prestley



Sarah Vos

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We selected 12 NWS WFOs and collected all of their tweets and products for 3 months (Apr-Jun) in 2016.



$N = 10,705$ tweets
 $N = 2,948$ products

Engagement

1. By creating and sharing content

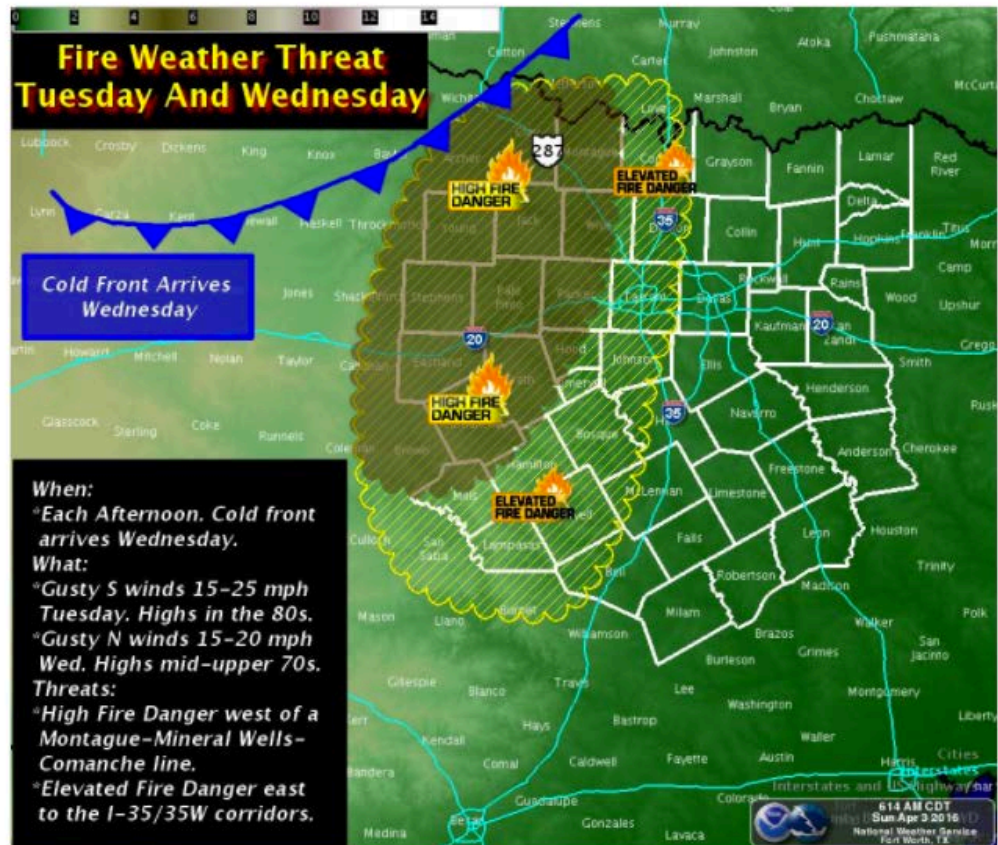
(These fall into three categories: information, community, and action. We'll talk about these in just a moment...)



NWS Fort Worth
@NWSFortWorth

Follow

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



Engagement

1. By creating and sharing **content**

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

We call these “microstructures”.



NWS Fort Worth
@NWSFortWorth

Follow

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: ($\alpha = 0.94$)

Weather in the future

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

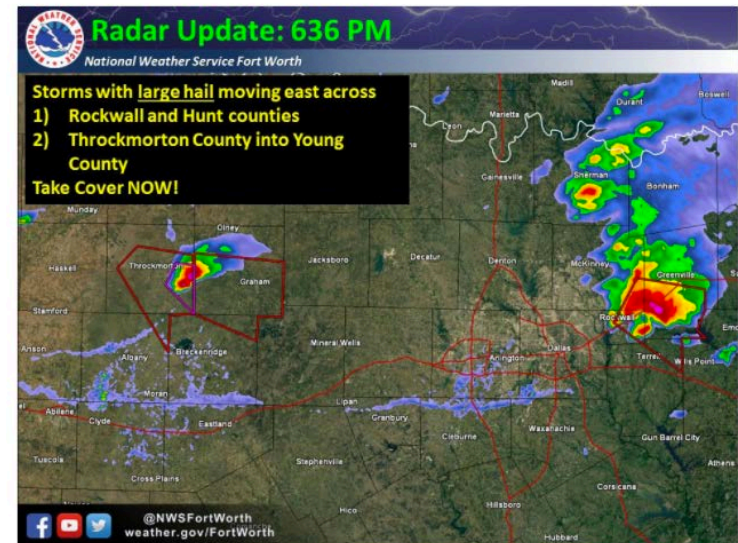


Nowcast: ($\alpha = 0.84$)

Current and ongoing weather



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



4:38 PM - 11 Apr 2016

Engagement Content Categories: information

Weather facts: ($\alpha = 0.91$)

Historical weather data and fun facts

Weather products: ($\alpha = 0.94$)

Issued, continued, renewed, or
cancelled products



NWS Jackson KY ✓
@nwsjacksonky

Follow

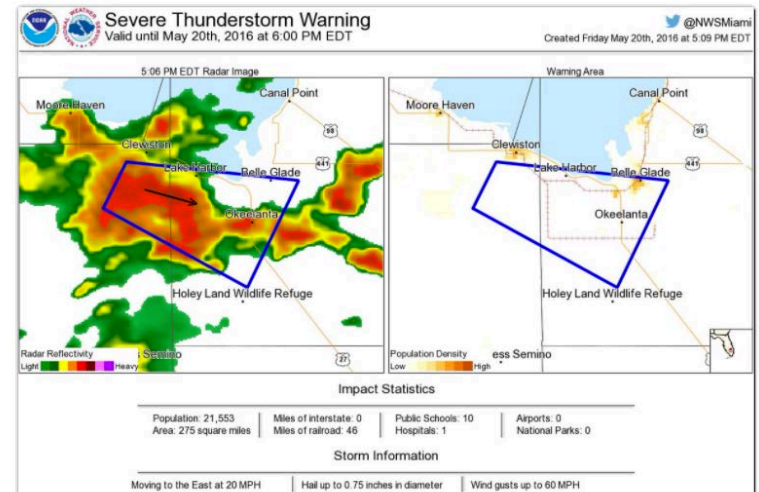
8 years ago today, an EF-2 tornado hit Wayne county, heavily damaging or destroying nearly 40 structures. ow.ly/10zPQS

8:06 AM - 12 Apr 2016

NWS Miami Retweeted

NWS Severe Tstorm @NWSSevereTstorm · 20 May 2016

⚠️ Severe Thunderstorm Warning including Belle Glade FL, Lake Harbor FL, South Bay FL until 6:00 PM EDT



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.



NWS Charleston, SC ✓
@NWSCharlestonSC

Follow

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

6:00 AM - 20 May 2016



NWS Norman ✓
@NWSNorman

Follow

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

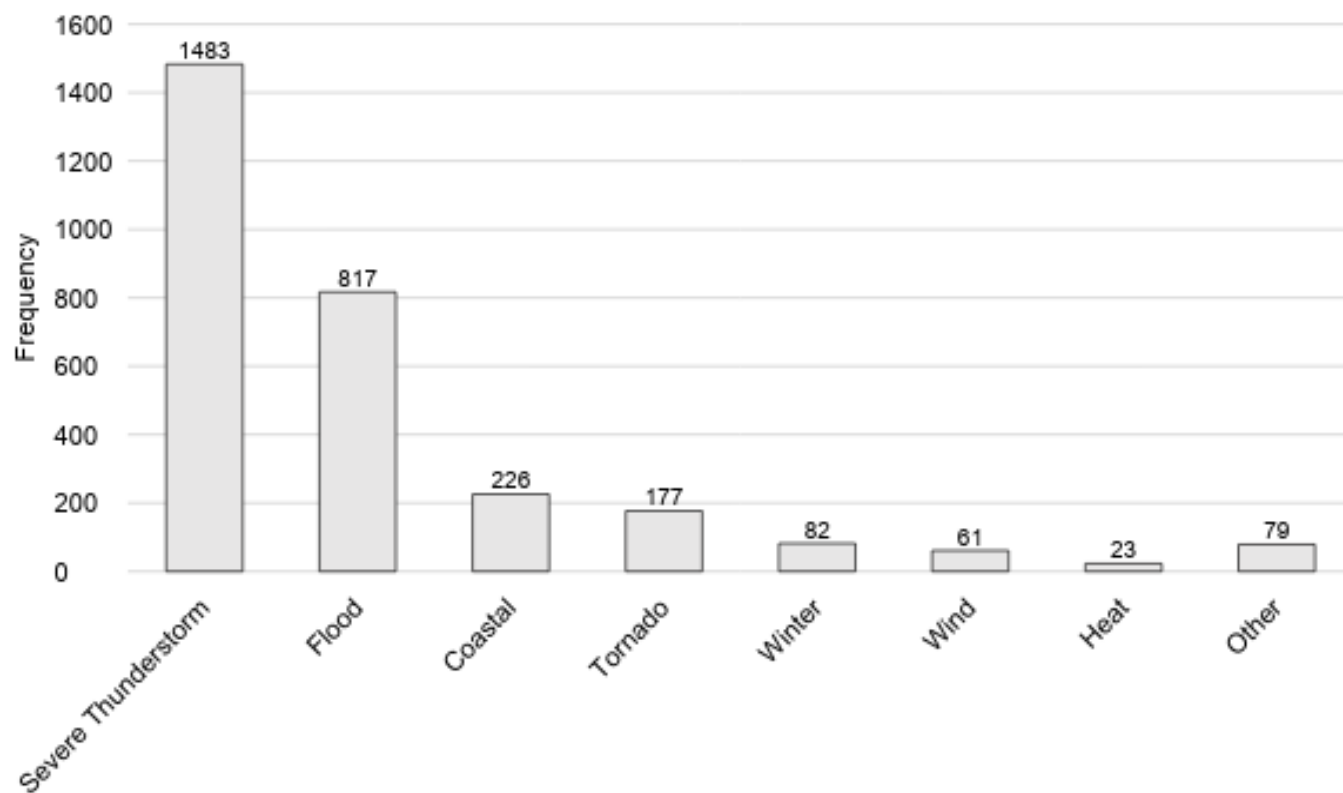
- Directed messages (@username)
- Weblink (URL)
- Mentioning other accounts (@username)
- Retweeting other accounts (RT)
- Hashtags (#wx)
- Media attachment (photo, graph, map, video, audio)
- Sentence style (!, ?)

We matched NWS products to the **timing** of Tweets from each NWS office

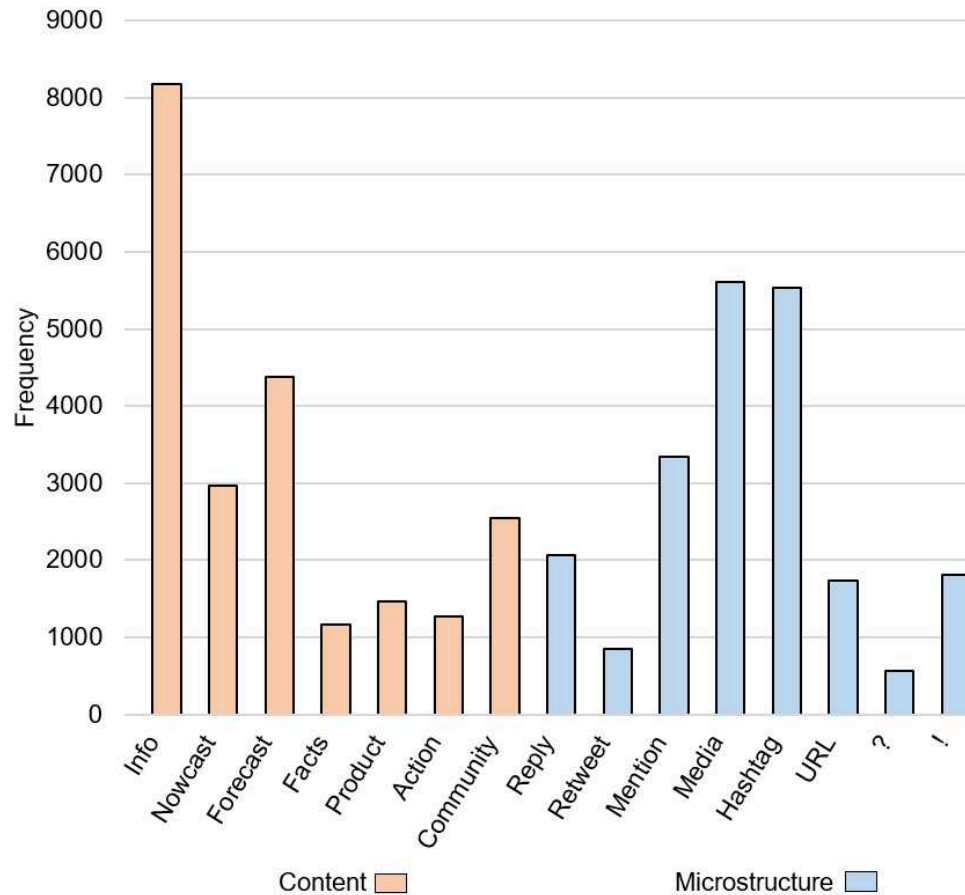
Non-Threat: no active watch, warning, or emergency products in the WFO CWA. There could be a statement or an advisory.

Threat: active watch or warning issued in the area for any hazard type.

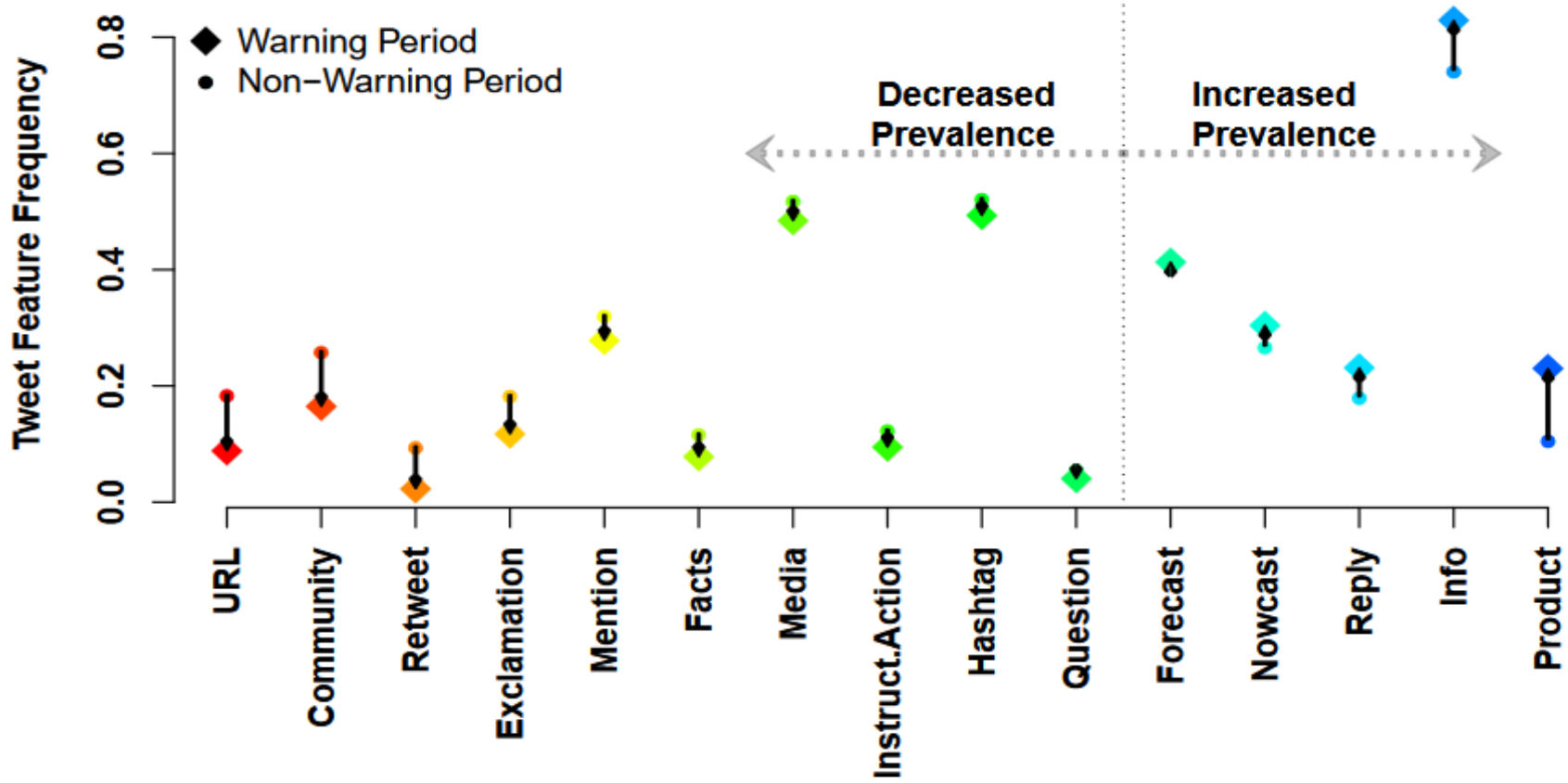
Thunderstorm was the most frequent hazard for which products were issued.



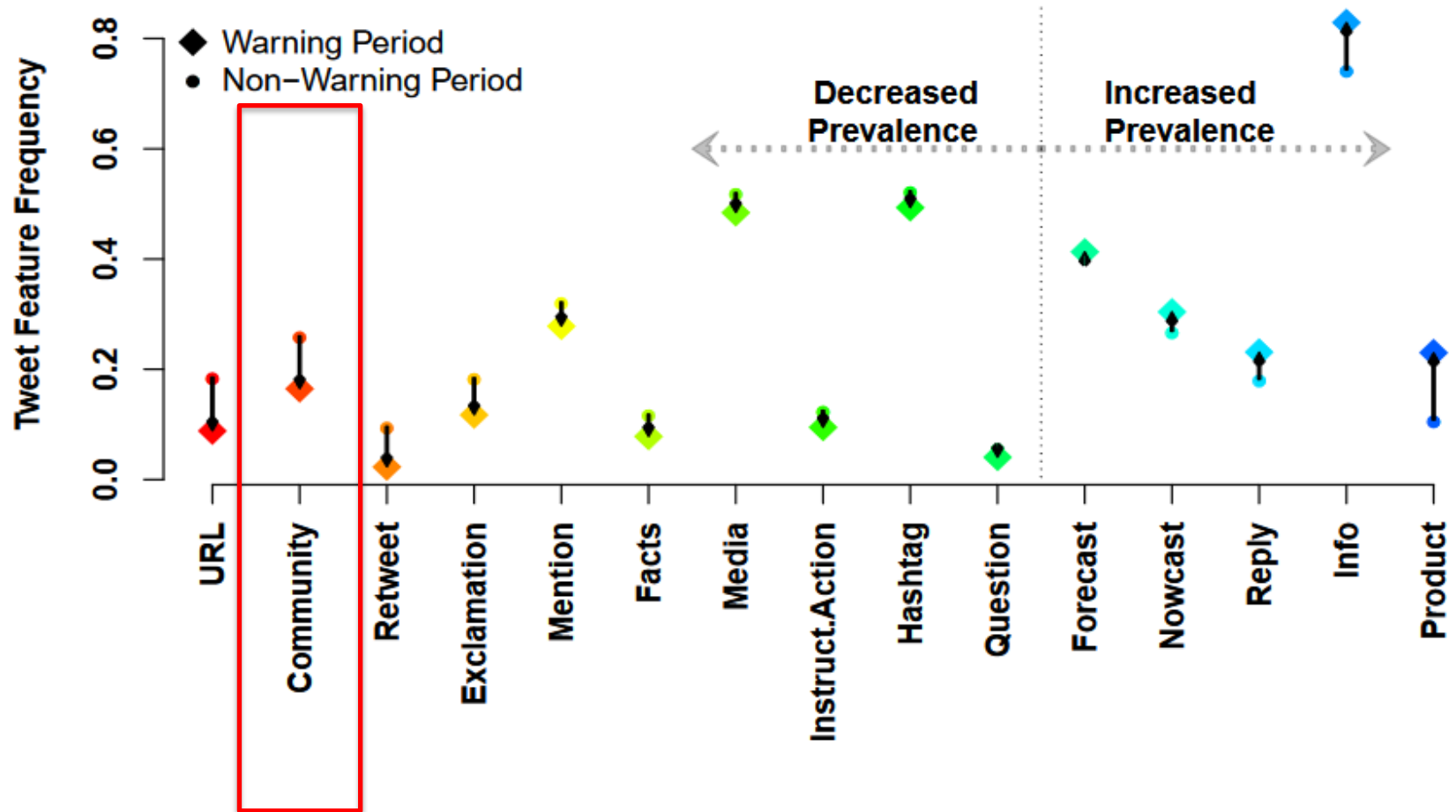
Weather information, which includes forecast, was most frequently posted **content**.
Media and hashtags were frequently employed **microstructures**.



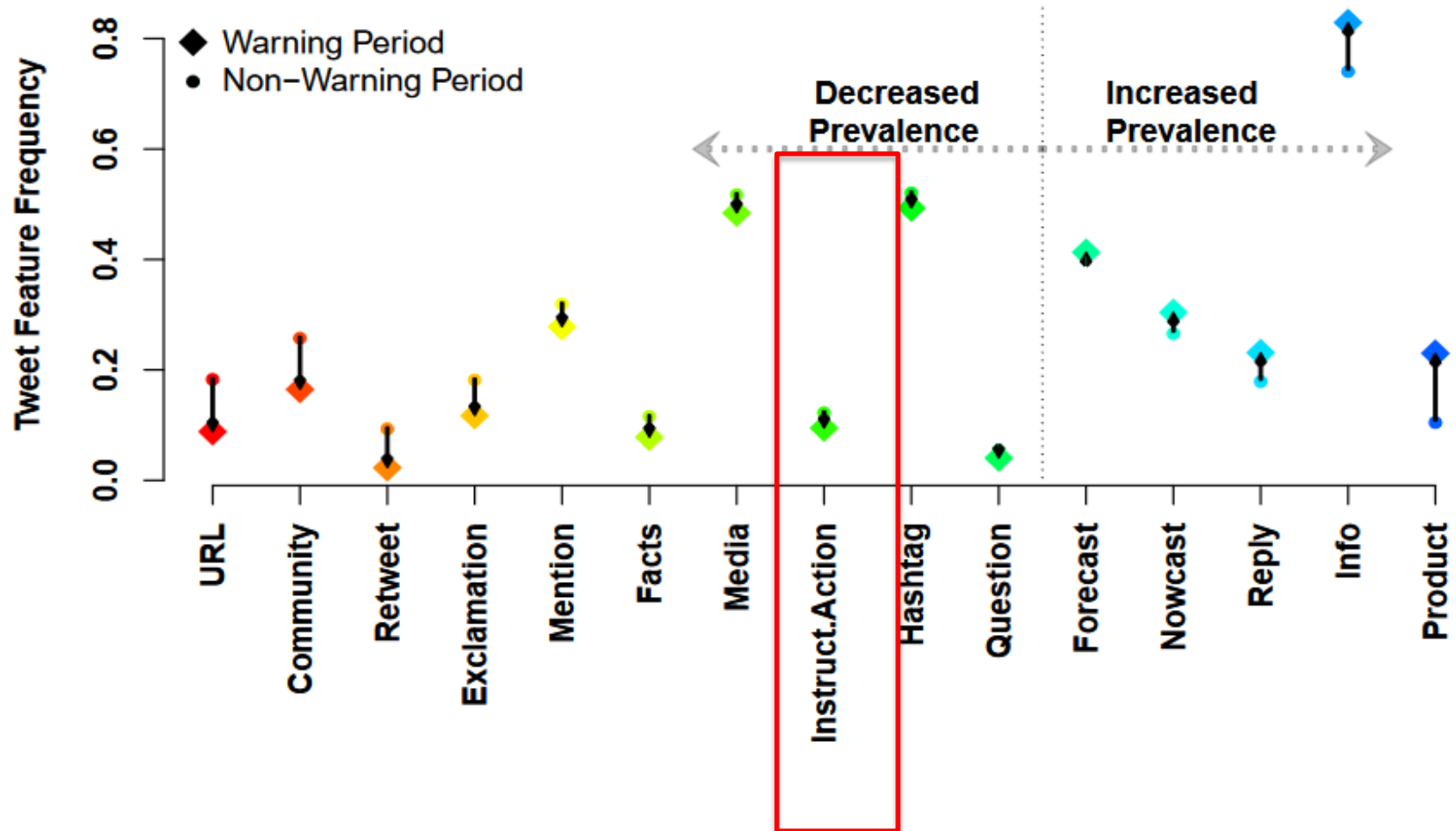
How do engagement strategies differ by time?



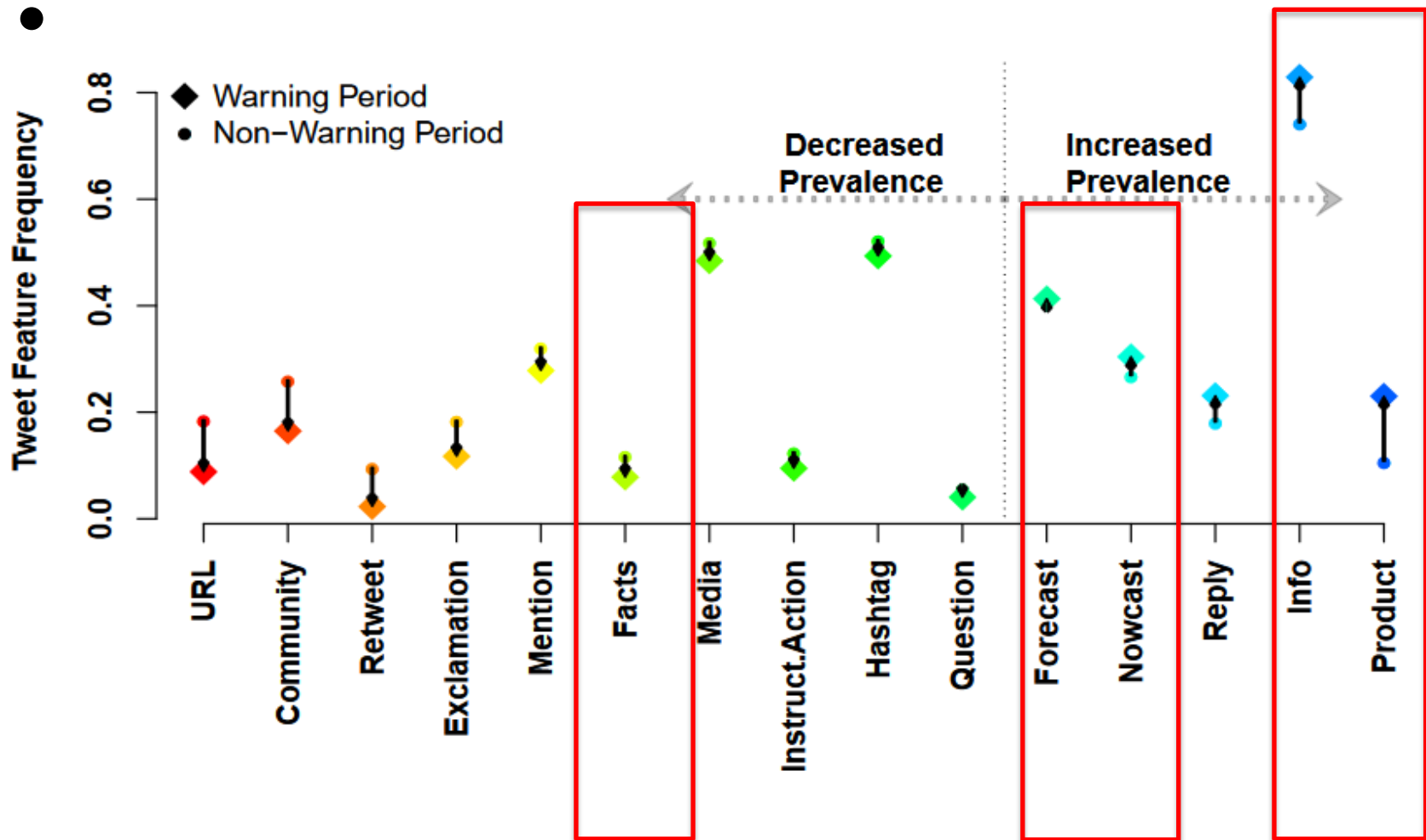
Community engagement content differs by time



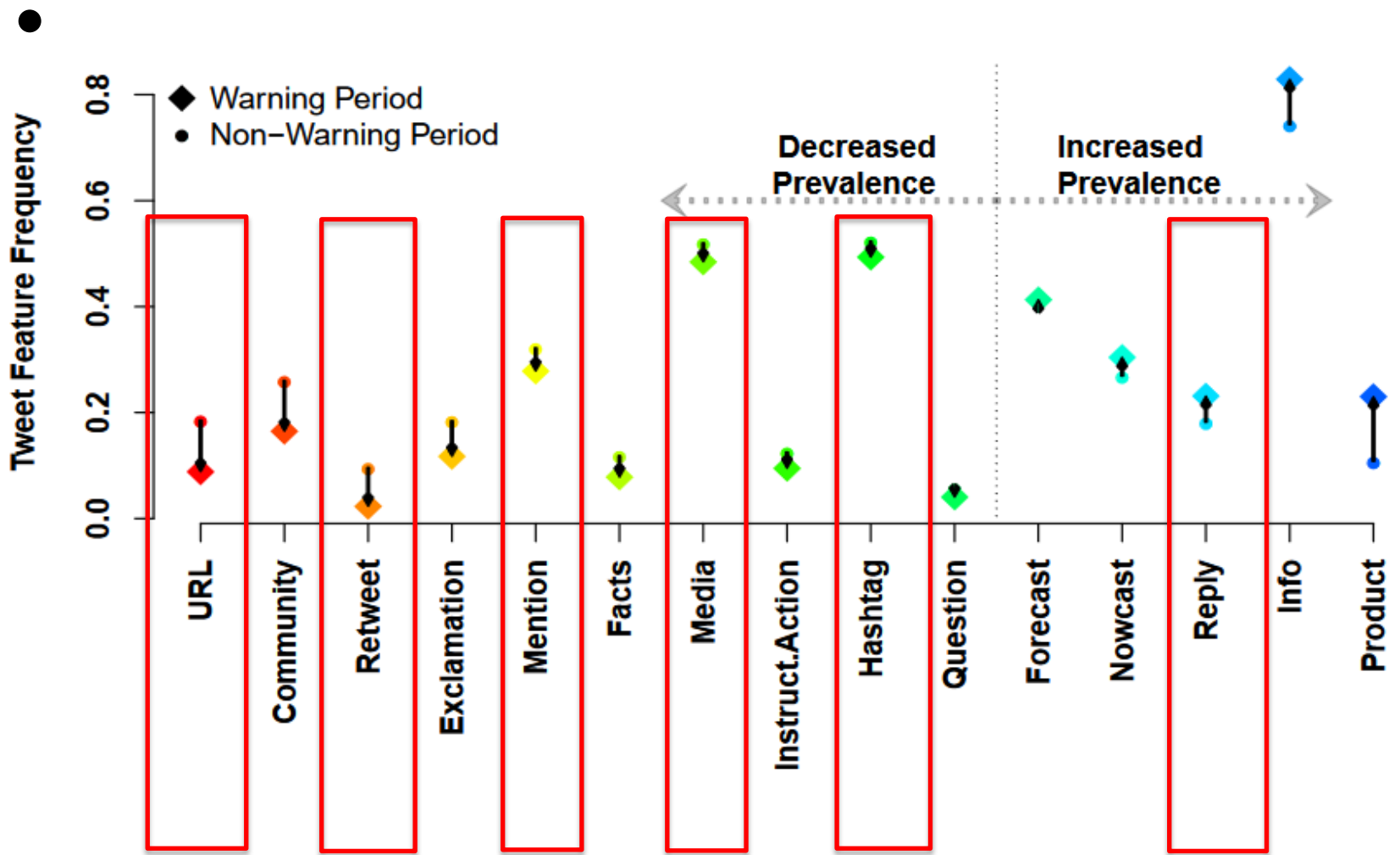
Instruction/action engagement content differs by time



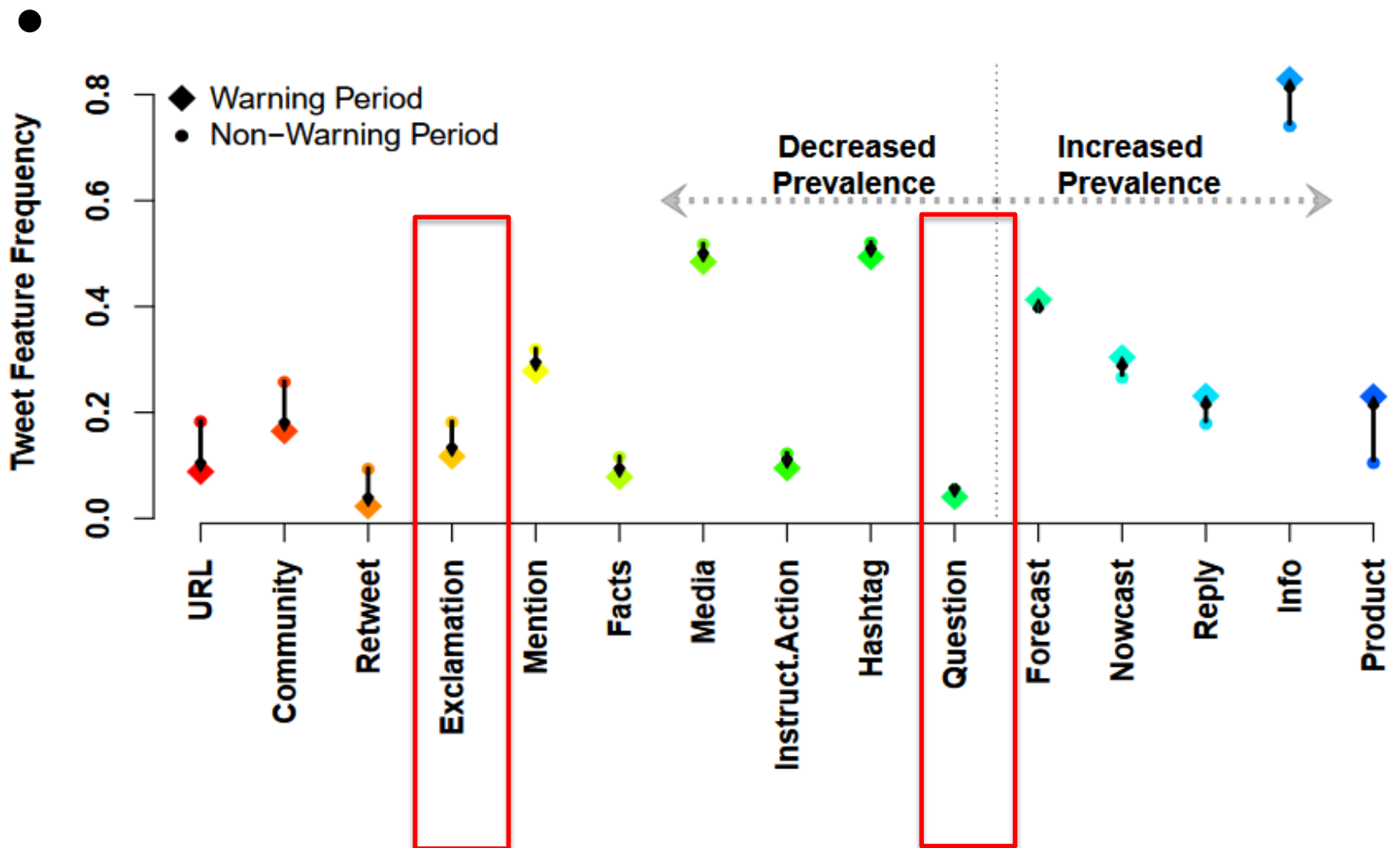
Weather Information engagement content differs by time



Microstructure use differs by time



Sentence structures differ by time



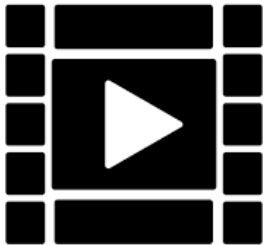
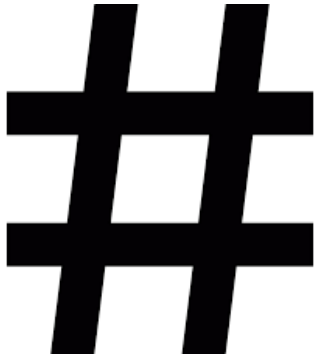
Putting it into practice

- 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



VectorStock



- 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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