2024 San Antonio/Alamo Area IWT Workshop

Summary of Discussions and Best Practices

Three Broad Themes from Panel and Break Out Group Discussions

- There is a greater need for **timing** (onset and ending) information and **confidence** of hazards and timing.
- Decision makers need a greater level of hazard details in forecast (timing, confidence, locations impacted).
- Public - keep messaging simple, focussing on main impacts and actions to take.

Part 1: Panel Discussion - How Weather Forecasts are Used in Decision Making

Education sector

- Winter weather has the largest impact. But there have been times where flooding or thunderstorms during the AM rush creates a problem.
- Bexar County superintendents really like the coordination call through San Antonio/Bexar OEMs during winter weather. Trying to make closure decisions as a group and having all on the call together, as well as NWS to answer questions, helps.
- When schools close it's a loss of funding AND a loss of learning. Part of the reason why they wait as long as possible to make the final call on closures.
- Seeing more districts cancel versus delayed start. By the time they get students to school and fed (required) it's almost time to turn around buses for dismissal.
- University closures have impacts on research academics and more .
- Universities are not afraid to pull the trigger on closures earlier than K-12.
- Universities lean more towards just canceling classes rather than going virtual or doing a delayed start.

Energy sector

- No surprise, but temperatures, wind, severe weather, winter weather, flooding, fire weather all impact the energy sector.
- Heat is also an issue for crews. May begin using Wet Bulb Globe Temperatures (WBGT) this summer.
- People get forecasts from different sources (different TV stations, weather apps, NWS, etc…). Consistency in messaging and rumor control are important.
- Concerned about weather hazards over the whole ERCOT domain, not just the CPS domain.

Transportation sector

- San Antonio Public Works:
    - Biggest thing they deal with on a recurring basis is flooding. There are a lot of roads to close.
    - They have no snow plows. Ice is a big, big problem. City can pre-treat.
    - Downed trees are a big impact. Combo of rain/wind can increase this risk.

    - Traffic signals also do not like wind, especially the ones on cables. Can blow away, fall down, get twisted, etc…
    - If there is no battery backup at a traffic signal then it goes dark. Had a cloudy month a few years ago. Over 1000 school flashers that are solar powered. Most of them ran out of battery power. Hundreds weren't working, and had to manually go out and change batteries.
    - Time change can also be an impact for them. Change in sun angle can lead to crashes, or impact traffic detection at signals.
- TxDOT:
    - The weather forecasts directly influence what Level out of a four level system TxDOT will be in.
    - Utilize checklists ahead of and during winter weather events.
    - TxDOT SAT EOC works closely with the City of San Antonio pre-event. TxDOT Area Offices and Maintenance Sections outside of Bexar County coordinate with local counties and municipalities.
    - Goal for TxDOT San Antonio District is to pretreat during Tier 1 roads 48 hours in advance of winter precipitation. Goal is to apply a double application of treatment or more if possible. There are four Tier 1 zones from north to south.

Water sector

- There are a lot of different forecasts out there and differing information. Stressed the importance of making sure folks are aware of NWS and building mutual trust.
- Seasonal outlooks are very important
    - Education is very important. Especially action items like winterization needs ahead of arctic outbreaks. Recognize the importance and popularity of video content, so they have created some.
- Summer heat can lead to soil moving and foundation issues and pipe damage. Summer is the main break season. Unlike CPS who gets notified of power issues on the grid, there are no such notifications for water issues and pipe breaks. Must get notified by others. They do have an outage website, and can do notifications in some cases.
- SAWS has hazardous chemicals - HAZMAT plume modeling can be important.

Part 2: Break Out Groups - Escalating Events

SPC Convective Outlooks and WPC Excessive Rainfall Outlooks (ERO)

- Media will publicly show ERO during bigger risk days (impacts to property/life) vs not showing them on low end days.
- Using the "level 1 of 5" verbiage for individual hazards is better than the percentages when messaging to the public.
    - However, public just sees the 1-5 on the outlook and may not necessarily know what the numbers mean without a reference of what the scale is.
    - A few felt there are too many categories and colors to keep track of with each chart and it should be simplified for the public.
    - Need to tie in what the public should be doing to outlooks.

- Decision makers like percentages, but there's a concern about what these percentages mean to different stakeholders.
- Some decision makers found the individual SPC hazard graphics (wind, hail, tornado) more useful than the combined Convective Outlook graphic. Others felt one, less specific graphic was more useful.

NWSChat 2.0 via Slack

- Detailed information and sharing on slack is appreciated (impacts are important, rainfall rates, detail on exact locations impacted, trends, etc…)
- Want not only NWS forecast input and updates, but media's input as well. This collaboration helps develop a more consistent message.
- You can NOT overcommunicate in NWSChat 2.0
- Ground truth upstream helps the public take action - share ground truth reports in NWSChat.
- Say what you know when you know it.
- Consensus was to move products off main channel to datafeed channel.
- Still a number of partners not on NWSChat 2.0 - how do we better communicate with those not on during an escalating event? A quick update to the Situation Report?
- A better way is needed to distinguish between NWS, media, EMs, etc in NWSChat 2.0, similar to the color coding in NWSChat 1.0.

Probabilistic forecasting

- Most likely and reasonable worst case scenario forecasts are useful to decision makers.
- Wording needs to be massaged for public. Maybe "What to Expect" and "Plan for This"?

Miscellaneous

- Different products/graphics have different value and applicability to different users. There should not be a one size fits all approach.
- Traffic commute can be a big issue during weather hazards. More attention to this and timing forecasts!
- Lightning is a big hazard not to be forgotten.
- Shaded timing window graphic received favorable responses.
- Because NWS covers a broad area, sometimes it's hard to deal with their info for specific point information, it's too generalized at times.
- Broadcast mets can be showing things earlier than NWS, it would be useful to hear from NWS sooner than the current NWS Situation Report triggers typically allow (note, this was also brought up recently by the Austin IWT planning committee as a topic for their IWT workshop coming up).
- It's hard to communicate isolated events that can have big impacts (large hail storms).
- Some decision makers expressed a need for dynamically updating severe weather warning graphics. NWS has been testbedding "Threats-in-Motion", a future warning generation approach that would enable the NWS to advance severe thunderstorm and tornado warnings from the current static polygon system to continuously updating polygons that move forward with a storm.