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Best Practices for Publicly Sharing Weather Information Via Social Media

A Best Practice Statement of the American Meteorological Society

(Adopted by the AMS Council 2 February 2023)

Why best practices are necessary:

The American Meteorological Society (AMS) has a long history of encouraging the effective and appropriate dissemination of weather information while serving as a beacon of responsible forecasting practices. Today there are more sources of weather information than ever before. The development of social media has made it possible for false or misleading weather information to compete with messages from government agencies, traditional media outlets, and commercial and academic-based providers. The Society recognizes the need to maintain the quality of weather information on all platforms available to the public while encouraging new services to meet the needs of the public.

Who should observe these best practices:

The best practices outlined below aim to encourage the dissemination of high-quality weather information to the general public on social media platforms (i.e., mobile and web-based technologies). These best practices might not apply to government agencies where other standards may already exist. Similarly, they may not reflect the practices of businesses that provide weather information to a specific audience (e.g., transportation, energy, or agriculture interests). They are intended for those who provide weather information to a wide audience, but still desire to meet or exceed industry norms. These best practices are also designed to encourage a participatory dialogue between providers and users of weather information to help social media users know what to look for and what to avoid when seeking weather information, and in turn provide feedback to product creators on better/different approaches to disseminating across social media platforms.

Social media best practices:

Effective communication has two goals – (i) to produce a time-sensitive product that communicates weather information clearly and professionally, and (ii) to facilitate understanding, use, and uptake of weather information by intended recipients. (see Professional Guideline on Use of the Term "Meteorologist"). A quality social media weather information service should use the following guidelines:

- General Do's and Don'ts of social media
    - DO complete and update your pages and profiles.
    - DO separate business and personal accounts.
    - DO be thoughtful about your post.
    - DO post regularly.
    - DO interact with your audience.
    - DO handle criticism gracefully.
    - DO watch grammar and spelling.
    - DO give credit to original sources of information.
    - DO be professional and respectful.
    - DO NOT be a spammer.
    - DO NOT overuse hashtags.
    - DO NOT post from unreliable or unknown sources.

- Where applicable, provide visuals and graphics to posts
    - Graphics can be visually pleasing to the user and lead to more engagement. In addition, if designed properly, posts with visuals can convey scientific information into easily digestible content.
    - Consider adding valid times or "expiration" notes on graphics that include time-sensitive information.
        - Since social media graphics often recirculate long after they are current, it is important to embed this information in the graphic itself rather than rely on the social media time stamp.

- Share info from credible sources and cite appropriately
    - Consider using sources from federal government institutions, such as NOAA, NASA, and FEMA.
    - Verify accounts before sharing their content.
    - Include NWS issued watch, warning, and advisory products or hazardous weather outlooks where applicable.
        - While providers of social media weather information are not required to transmit watch, warning, or advisory products from any NOAA agency, the providers should inform users where they can get this information if the provider is predicting hazardous weather or alerting the user that hazardous conditions are possible.

- Be aware about how social media websites distribute posts to users and adjust accordingly

    - Providers should keep in mind how and when social media posts are distributed to their users. Depending on the website's algorithm, posts seen by users may prioritize engagement over timeliness. As such, cases may arise where time-sensitive posts will be seen after they are expired.
    - Providers should inform users they may need to look elsewhere if they require more up-to-date information in a dynamic weather situation, such as a local TV station or NOAA weather radio.

- Differentiate between short-range forecasts, extended-range forecasts, and outlooks
    - In short- or medium-range forecasts (i.e., less than 7 days) providers should offer as much detail as the science allows concerning the sensible weather elements (e.g., temperature, wind, and precipitation).
        - Providers should not imply that extended-range forecasts (i.e., 8 days and beyond) are as reliable as short-range forecasts by offering the same amount of detail. Presently, forecasts of specific weather elements in this range are rarely skillful, meaning they are usually no more accurate than predicting that the current conditions will persist or that average conditions will occur. However, forecasts issued to highlight the probability of above average or below average conditions occurring in general can be skillful in this range (AMS Statement on Weather Analysis and Forecasting, 2021, https://www.ametsoc.org/index.cfm/ams/about-ams/ams-statements/statements-of-the-ams-in-force/weather-analysis-and-forecasting2/).
    - Providers of social media weather information should clearly identify weather pattern outlooks as such when sharing them. "Outlooks" are intended to identify whether the overall atmospheric pattern is conducive to wide-ranging conditions (e.g., warmer than normal, drier than normal) or to the development of hazardous weather, while conveying the probability of that weather occurring, in general, over a large area. Providers should avoid misrepresenting an outlook as a specific forecast of weather elements for a specific area.
    - Since the science of meteorology is constantly evolving, providers and users of social media weather information are encouraged to review the latest appropriate AMS Statements or the frequently updated AMS Glossary (https://www.ametsoc.org/ams/index.cfm/publications/glossary-of-meteorology/) for suggestions on what level of detail is appropriate for forecasts.

- Recognize and explain the limitations of numerical weather predictions
    - When displaying or sharing computer model forecasts, providers of social media weather information should identify them as such. Computer model forecasts, or numerical weather predictions, provide specific calculations of weather elements.

However, those calculations are based on assumptions and estimations that are incomplete, limited by computational resources, or inadequately representative of the actual atmosphere. Providers should take into account the fact that errors can become exaggerated in the extended range.
    - Only a skilled forecaster has the knowledge to recognize these limitations and their effects on the computer model forecast. Providers of social media weather information should alert the user when sharing a strictly computer-generated forecast. This is especially true when sharing experimental products.

- Communicate uncertainty and be transparent
    - When displaying or sharing forecasts that are highly complex and/or involve longer lead times, providers are encouraged to communicate the full range of scenarios for a weather event rather than just providing a single, specific forecast.
    - Providers are encouraged to communicate the degree of confidence they have in their forecasts and educate their users about the level of agreement among forecast models and the likelihood of a particular outcome.
    - A good forecast will place possibilities within the reality of the limits of the science and not be perceived by peers as being an exaggeration.
    - Providers are encouraged to respond to all comments and replies to their social media posts in a manner that offers insight into their forecast reasoning while being professional and respectful.

- Carefully and responsibly craft headlines and key messages
    - Providers are encouraged to strike a balance between calling attention to a significant weather event and credibly, succinctly, characterizing the risks it poses. Sensational headlines, or “clickbait,” may attract views but it can be a disservice to users by oversimplifying or exaggerating a complex weather situation.
    - If providers work in organizations where they do not have total control of all weather-related content, they should work diligently to educate and influence the appropriate content producers, managers, and editors regarding the responsible communication of weather information.
    - Providers should focus on the impacts of the weather event, e.g., what types of hazards users should expect when a storm is arriving in their area.
    - Providers should always craft messages with the intended users or audience in mind.

- Offer a schedule for updates

    - When a regular schedule may not be applicable, providers of social media weather information should advise users when and where they can expect more information.
    - Provide a time stamp of when the information is available. Ideally, the time stamp should be placed in the post, as well as the graphic (if provided).

- Use discretion when disagreeing with "official" NOAA forecasts, especially during high-impact events
    - If a provider of social media weather information shares a forecast that differs significantly from any NOAA agency forecast or disagrees with instructions from emergency management officials, the provider should make that distinction clear to the user. The reasoning behind the forecast and the disagreement should be explained. The provider should avoid causing confusion with mixed messages wherever possible, especially in cases where the weather may threaten lives or property. Providers of social media weather information should not present their own forecast in a way that makes it appear to be official government information.

- Alert the public about appropriate response to severe weather events
    - Whenever hazardous weather is possible, the provider should also educate the user about the appropriate response to that weather. Examples include messages from NWS such as "Turn Around, Don't Drown," "When Thunder Roars, Go Indoors," and others NOAA Weather Ready Nation Resources (www.weather.gov/wrn).

- Include climatology information
    - Whenever possible, providers of social media weather information should put the current or predicted weather conditions into perspective with background climatology. This is especially appropriate when forecasting extreme or high-impact events where records may be exceeded.

- Identify where and when weather data originated and provide appropriate credit
    - Providers of social media weather information should not take credit for work done by others. Care should be taken to cite appropriate sources in online blogs as with scientific journals, where applicable.
    - While media and data from U.S. government agencies (e.g., NOAA or NASA) may be considered public domain and used without charge for a variety of purposes, providers should abide by the restrictions and guidelines set forth by the specific agency and still offer appropriate credit when using or sharing such media or data.

        - Providers should respect limitations placed on other sources of weather data and imagery and refrain from using them illegally, out of context, or without permission.

- Provide links to other relevant data
    - The provider should offer links to more information when appropriate. This is especially true during hazardous weather situations when the user may need a source for weather alerts or information about the appropriate response to the hazardous weather.

For references and more information:

- Climate Prediction Center Long Range Tools Discussion
    - http://www.cpc.ncep.noaa.gov/products/predictions/90day/tools.html
- Use of NOAA/NWS Data and Products
    - http://www.weather.gov/disclaimer
- NASA Media Usage Guidelines
    - http://www.nasa.gov/multimedia/guidelines/index.html
- Relevant American Meteorological Society Statements and Guidelines
    - Statement on Weather Analysis and Forecasting
        - https://www.ametsoc.org/ams/index.cfm/about-ams/ams-statements/statements-of-the-ams-in-force/weather-analysis-and-forecasting/
    - Professional Guideline on Use of the Term "Meteorologist"
        - https://www.ametsoc.org/AMS/index.cfm/about-ams/ams-statements/professional-guideline-on-use-of-the-term-meteorologist/
    - Statement on Expectations Concerning Media Performance During Severe Weather Emergencies (no longer in force but still relevant)
        - https://www.ametsoc.org/ams/index.cfm/about-ams/ams-statements/statements-of-the-ams-in-force/expectations-concerning-media-performance-during-severe-weather-emergencies/
    - Best Practices for the Dissemination of Weather Warnings to the Public
        - https://www.ametsoc.org/index.cfm/ams/about-ams/ams-statements/statements-of-the-ams-in-force/best-practices-for-the-dissemination-of-weather-warnings-to-the-public/
    - Weather Safety and Venues and Public Gatherings
        - https://www.ametsoc.org/index.cfm/ams/about-ams/ams-statements/statements-of-the-ams-in-force/weather-safety-at-venues-and-public-gatherings/
    - Tornado Sheltering Guidelines During the COVID-19 Pandemic

        - https://www.ametsoc.org/index.cfm/ams/about-ams/ams-statements/statements-of-the-ams-in-force/tornado-sheltering-guidelines-during-the-covid-19-pandemic/
    - Best Practices for Large Retail Outlets in Preparation for Severe Wind and Tornado Emergencies
        - https://www.ametsoc.org/index.cfm/ams/about-ams/ams-statements/statements-of-the-ams-in-force/best-practices-for-large-retail-outlets-in-preparation-for-severe-wind-and-tornado-emergencies/
- Meteorological Terms and Definitions
    - AMS Glossary
        - https://www.ametsoc.org/ams/index.cfm/publications/glossary-of-meteorology/
    - NWS Glossary
        - http://forecast.weather.gov/glossary.php
    - NHC Glossary
        - http://www.nhc.noaa.gov/aboutgloss.shtml
- BAMS Series on Ethics in the Meteorological Community
    - https://www.ametsoc.org/ams/index.cfm/education-careers/professional-development/ethics-articles/
- U.S. Climate Normals, Data and Frequently Asked Questions
    - https://www.ncei.noaa.gov/products/land-based-station/us-climate-normals

Questions and comments about this document should be directed to

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[This statement is considered in force until February 2 2028 unless superseded by a new statement issued by the AMS Council before this date]