
NWS Heat Program: Expanding our tools and safety messaging

By NWS Public Program

Heat Safety and Awareness

As we approach summer, the NWS Public Program would like to share several updates, reminders, and new materials. We have made some exciting improvements to our NWS Heat Safety webpage (<https://www.weather.gov/safety/heat>) including new graphics, updated links, and organized bullets on how to stay safe during a heat wave, and information on infrastructure impacts. In addition, we now have a new “Heat Forecast Tools” tab that features detailed descriptions of Heat Index, NWS [HeatRisk](#) prototype, and Wet Bulb Globe Temperature ([WBGT](#)).

On our main heat safety page, you will also notice new graphics and information pertaining to heat and vulnerable populations (as one of the rotating graphics). We emphasize that everyone is at risk from the dangers of extreme heat, but pregnant women, newborns, children, elderly, and those with chronic illnesses are more vulnerable than most. Our NWS [Summer Safety Campaign](#) now features this material. The campaign website offers a selection of useful tools such as social media plans, infographics, videos and more.

Wet Bulb Globe Temperature

In addition to these outreach materials, the NWS also provides a variety of heat tools including Heat Index, the [HeatRisk](#) prototype, and the experimental [WBGT](#). As a reminder, experimental WBGT forecasts are available at <https://digital.mdl.nws.noaa.gov/>. Both the Heat Index and WBGT account for temperature and humidity, but the WBGT also takes wind speed and sky cover into account. Therefore, the WBGT is more comprehensive in determining how our bodies respond to the heat when engaging in strenuous outdoor activities. This parameter is most helpful for active people, including outdoor workers, athletes, marching band members, and others conducting strenuous outdoor activities.

Don't Fry Day

The NWS Public Program also sits on the National Council on Skin Cancer Prevention's **[“Don't Fry Day”](#)** committee. Heat preparedness and sun safety go hand in hand; in fact CDC notes that “sunburn affects your body's ability to cool itself and causes a loss of body fluids” ([Source](#)). Don't Fry Day encourages sun safety awareness leading into summer. This year Don't Fry Day is on May 28, 2021, with a theme of *“Small Steps for Sun Safety.”* For those interested in learning more or supporting this initiative, the committee has created a [comprehensive toolkit](#) ([download accompanying resources](#)) that includes

additional background information, as well as ready-to-use social media posts, infographics, talking points, and more.

Direct all questions/comments to the NWS Public Program:

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Heat Impacts: Vulnerable Populations

PREGNANT **NEWBORNS** **CHILDREN** **ELDERLY** **CHRONIC ILLNESS**

Everyone is at risk from the dangers of extreme heat, but these groups are more vulnerable than most. Age and certain conditions make the body less able to regulate temperature.

- NEVER leave anyone alone in a closed car
- Use air conditioners and stay in the shade
- Drink plenty of water, even if not thirsty
- Wear loose-fitting, light-colored clothing

weather.gov NOAA

Heat infographic targeting vulnerable populations and what protective actions they can take to avoid heat impacts.

New Chat Platform Demonstration Project Moving Forward

By: NWS Communications Staff, Silver Spring, MD

The National Weather Service is moving forward with a demonstration of an alternative solution to NWSChat. In the coming months, the NWS will work with Slack to analyze and demonstrate the capabilities of the Slack cloud platform to serve in the capacity that NWSChat currently does as well as the NWSBot automated feature.

This pilot project will occur in two phases. The first phase will be technical, ensuring that the Slack platform can support the needs for NWSChat, including how rooms are created, permission assignment, and NWSBot functionality. This phase will run between May - September 2021.



Phase two will involve a demonstration involving a small group of NWS operational users and partners. First, participants will receive training from Slack on using the platform, then they will use it in operations to test its capability. This phase will run between October 2021 - January 2022.

At the end of phase two, the NWS will review the outcome of the demonstration and decide whether to proceed to full operational implementation. We look forward to exploring this new tool to enhance our messaging and IDSS infrastructure and learning about its capabilities in the coming months.

18th Annual Climate Prediction Applications Science Workshop: *Providing services for the cascading effects of intensifying heat in a rapidly growing region*

By: Jenna Meyers, Marina Timofeyeva, Margaret Hurwitz & Viviane Silva, National Weather Service

The National Weather Service's Climate Services Branch co-hosted the 18th Annual Climate Prediction Applications Science Workshop (CPASW) in partnership with Arizona State University and the Arizona State Climate Office. The workshop was held virtually from April 20-22, 2021 and brought together our largest audience ever representing a diverse group of climate researchers, information producers, and users to share developments in the research and applications of climate predictions for societal decision-making. A large focus of the workshop surrounded the cascading effects of extreme heat, including social vulnerability aspects, urban planning and heat islands, as well as drought and vegetation issues. Participants discussed measures for building resilience, mitigation actions, and improving communication strategies for heat episodes, especially for underserved communities. Many presenters emphasized the importance of improving monitoring and predictions and shared best practices of heat-related tools and applications for recreation, agriculture, health, water resources, and ecosystems.

The City of Phoenix Mayor Kate Gallego opened the meeting by providing her support and encouragement for climate research and applications as she promotes initiatives to combat climate change and mitigate impacts from extreme heat, such as increasing tree canopy and implementing tools developed in partnership with ASU researchers. Keynote speaker Gregg Garfin (University of Arizona) discussed the climate challenges that the Southwest faces including increased wildfires, drought, extreme precipitation, and heat and the associated lack of sufficient support and adaptation resources.

Workshop highlights included a session on air quality (a topic new to CPASW) where panelists discussed pathways for integration of air quality data as a resource for climate-sensitive decisions such as those related to health, wild animals, and adaptation planning. The final day was dedicated to the North American Climate Services Partnership (NACSP) forum and included our partners from Canada and Mexico. The NACSP forum focused on ways to engage with our partners on cross-border climate issues including drought, fire danger, and water resources. Workshop attendees also had a unique opportunity to hear how the Phoenix Zoo keeps their animals cool in the Sonoran Desert summer from the Zoo Animal Curator.

Lastly, attendees were provided with virtual tours to showcase several ASU projects: 1) MaRTy - a mobile heat monitoring unit that assesses thermal comfort in sun or shade (Figure 1); 2) ASU Decision Theater - an immersive space for decision makers to examine all outcomes of their decisions on a specific issue; and 3) ASU NetZero Carbon - a project about collecting and reusing carbon from the atmosphere.

Outcomes from the meeting included the need to continue emphasizing user needs, and engaging our communities at the local level with the support of state and federal government. Specific items to work collectively as researchers and practitioners include increasing data availability and accessibility, improving forecasting skill and attribution capabilities, and progressing communication practices to deliver relevant and actionable information to vulnerable populations. The workshop identified several opportunities for future collaboration bringing together climate science with infrastructure and natural adaptation measures.



MaRTy is a mobile heat monitoring unit, which measures temperature to assess human thermal comfort. MaRTy is used to evaluate comfort levels in sunny and shaded areas over a variety of surfaces to help with redevelopment of areas to achieve a great level of human comfort. Pictured: Ariane Middel, ASU.

NWS Seattle Supports Full Scale Virtual Oil Spill Exercise

By Maddie Kristell, meteorologist, NWS Seattle, WA

On April 8, 2021, NWS Seattle Meteorologist, Maddie Kristell, took part in a full-day virtual exercise with multiple Federal, state, and local government agencies. Marathon Oil hosted the event. This exercise simulated a Worst Case Discharge (WCD) oil spill in displaced real-time at the Port Angeles Terminal with oil spilling into the Strait of Juan de Fuca.

Hosted in the Microsoft Teams environment, NWS Seattle consulted with local environmental authorities as well as NOAA OR&R to provide weather related support for an array of operations and potential spill mitigation strategies being considered during the scenario. Other agencies involved in the exercise included, but were not limited to: USCG, EPA, DOI, USFWS, WA Dept. of Ecology, WA Dept. of Fish and Wildlife, 4 tribal nations, and other local officials.

Using real-time weather, NWS Seattle participated as a member of the Planning Section’s Environmental Unit while also providing briefings to Unified Command through the simulation. In addition, multiple HYSPLIT model runs were provided with support from Lead Meteorologist Justin Pullin, who supported and observed from the virtual WFO perspective.

Lessons learned from the tabletop exercise will be used to develop a response plan specifically for catastrophic oil spills that have the potential to occur within the CWA. Additionally, NWS Seattle will seek to develop enhanced staff training on HYSPLIT and the different conditions upon which it can be run.

Oil spill response efforts, such as in-situ burning, often have implications on air quality and downwind impacts to populated areas, so the lessons learned from this worst case scenario exercise will also inform local air quality training and knowledge going forward. The exercise has also enhanced local coordination efforts with NOAA OR&R’s Emergency Response Division, which will pay dividends in future events, both real and simulated. While there were challenges to communication in the virtual format, plenty of best practices have been identified and can be carried forward into the day where in-person deployments and involvement in full-scale exercises such as this one can resume.



Office of Organizational Excellence Shares NWS Partnership Strategy

By: Andrea Bleistein, Office of Organizational Excellence, Silver Spring, MD

One of the core principles of our NWS [Strategic Plan](#) is: “*We cannot do it alone; teamwork and partnerships are essential for success.*”

With that principle in mind, the NWS is proud to share with you the [NWS Partnership Strategy](#), which has the following **three goals**:

1. Improve the overall NWS partnership experience.
2. Further, enhance and develop new ways of leveraging and using partnership capabilities to help realize the NWS vision for a Weather-Ready Nation.
3. Understand the landscape of NWS partnerships and develop a clear strategic vision of which key partnerships we are looking to enhance or develop.



NWS PARTNERSHIP STRATEGY

Documenting strategies to support and develop partnerships throughout the NWS

Released March 2021

We recognize that Enterprise partnerships are essential as reflected in the following two NWS Strategic Plan objectives:

- 3.8. Clarify and leverage the unique roles and capabilities of the Enterprise partners to respond to the increasing demand for actionable weather, water, and climate information.
- 3.9. Expand public-private partnerships that fast-track Enterprise innovations, strengthen relationships, eliminate barriers, and share best practices to focus continuous improvements.

The NWS values all partnerships that help us in meeting, advancing and delivering our mission. Partnering includes our core partners (i.e. emergency and water resources management communities, government partners at all levels, and the media) who we work hand-in-hand with to ensure public safety while mitigating property loss. It also includes working with our partners in the broader weather, water and climate enterprise (e.g. academia and global

providers of weather services), as well as local community organizations, many of which have firmly committed to the strategic outcome of a Weather-Ready Nation as a WRN Ambassador working to improve preparedness and resilience in the face of oncoming extreme weather, water and climate events.

This strategy highlights the need for more emphasis on ensuring our partner interactions improve, with greater shared awareness and understanding of how partnerships can leverage both talent from the NWS and amplify it with the contributions and skills of others beyond the NWS. It is also a framework for how partnerships might strengthen what the NWS is already doing - from decision support and infrastructure improvements to administrative and policy development.

As our NWS Strategic Plan emphasized the need to leverage the Enterprise, we look forward to demonstrating that progress through partnerships towards a Weather-Ready Nation. If you have stories that you would like to share about successes in partnering with the NWS or suggestions for future partnership efforts, please reach out to Andrea.Bleistein@noaa.gov in the NWS Office of Organizational Excellence.



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