
The Winter Partners Webinar Is Available Online

By: NWS Staff

National Weather Service Update on Winter Weather Initiatives



Winter Partners Webinar
October 26, 2021

Stephen Baxter, Sarah Perfater, Michael Muccilli



The National Weather Service Winter Program held the annual Winter Partners Webinar on October 26, 2021 to share updates with partners who have an interest in the Winter Weather Program and the NWS winter weather products and services it provides.

This annual briefing began several years ago, and it has grown from just a couple dozen participants to over 400 people in attendance.

The briefing this year covered many topics, including updates to the Probabilistic Snow pages and graphics, future Impact-Based Warning tags for snow squalls, updates on an Avalanche Weather Initiative, the Winter Storm Severity Index, the experimental Winter Storm Outlook, and some regional experiments such as the Days 3-7 Winter Storm Threat and Lake Effect Snow Warning Polygon projects. The briefing also summarized the overall vision of the Winter Weather Program and the latest safety and outreach materials.

For those who missed the briefing in October, links to the Winter Partners Webinar [recorded briefing](#) and [slide deck](#) are now available on the NWS [Calendar page](#).

Automated Spanish Translation of National Hurricane Center Products

By: Monica Bozeman and Wendy Sellers, AWIPS Program



Did you know that the U.S. has the [second largest Spanish-speaking population in the world](#), even higher than Spain, and trailing only Mexico? [Latest estimates from 2019](#) indicate that 60.6 million people in the U.S. speak Spanish as a first or second language, suggesting that potentially 18.5% of the population may

not properly understand critical weather information provided by the National Weather Service (NWS) in English. This concern is especially heightened for the NOAA's National Hurricane Center (NHC), as Spanish is the primary language spoken in the majority of its area of responsibility.

There are various activities occurring in the NWS to translate forecast and hazard products into Spanish; however, these methods are often challenging and time-consuming. The goal of the NWS Automated Spanish Translation Project is to set the groundwork for developing a nationally supported, consistent, automated approach to translating NWS products. The Project Team is led by the NWS Office of Central Processing and includes members from NWS Headquarters, Weather Forecast Office (WFO) San Juan, the NWS [Multimedia Assistance in Spanish \(MAS\)](#) and [Spanish Outreach](#) Teams, as well as consultation with multiple NWS Southern Region WFOs and NHC. An exciting aspect of this project is its methodology using machine learning (ML), making this effort one of the first in the NWS to utilize this powerful emerging technology to improve operations and unlock time for forecasters.

The Project Team has been experimenting with Google AutoML to translate the NHC Tropical Cyclone Public Advisory (TCP), the Tropical Weather Outlook (TWO), and Key Messages products for the 2021 Hurricane Season. Free-form products are currently being used to train the system, thus requiring the rigorous assessment of hundreds of different sentences. The desired outcome of this translation experiment is to provide on-the-fly translations of NWS free-text products from English to Spanish and eventually expand into creating Spanish products directly from the graphical grids produced by NWS forecasters.

While the project work is exciting, there have been challenges training an ML algorithm to interpret slight variations in human language yet still produce consistent translations with the same meaning. One example of this challenge is trying to decide on a single Spanish translation that a majority of the speakers throughout the regional dialects will understand. The Project Team has found that, while ML can reduce the workload for forecasters once a system has been properly trained, there is a lot of upfront data analysis to prepare the algorithms to run autonomously.

One of the next steps for this innovative project is to develop a method for scoring performance and-accuracy of the ML translations, thereby providing metrics to support the reduced need for manual quality control. The Project Team will also select NWS products to use in the development of a prototype product formatter that pulls information directly from the forecaster's graphical grids. The end result would be to increase the number of automated translations of-products for NWS-wide distribution in the next few years.

The Project Team plans to keep the NWS community and interested partners updated on its progress via additional articles and outreach opportunities. If you have any questions, please contact project lead [Monica Bozeman](#) at the NWS Office of Central Processing.

Building Preparedness with the Weather Resilient Tennessee Project

By: NWS Staff



The Weather-Resilient Tennessee (WRT) project is a multi-office effort that builds preparedness across a diverse set of communities and users and ensures consistency in IDSS products, messaging, scientific infusion, and partnership building. WRT is a collaborative effort from the four WFO offices that cover counties in Tennessee: Nashville, Memphis, Morristown, and Huntsville, AL. Together, the WRT team has accomplished many notable highlights.

On August 18, 2021, the Probabilistic IDSS/QPF team held an Emergency Management Focus Group. The feedback provided consistent baseline requirements for partner briefings and IDSS.

In July 2021, the Statewide Risk Communication subgroup held a Risk Communication workshop for Tennessee TV Broadcast Meteorologists. Emergency Management and social scientists also participated. Special guests included: Dr. Daphne LaDue, Senior Research Scientist, OU Center for Analysis; and Prediction of Storms and Brandon Smith, PIO from Putnam County.

In spring of 2020, the mesoanalysis collaborative chat room was established and has since been utilized during numerous events, including the August 20-21, 2021 catastrophic flood event in Middle Tennessee. This chat room has proven to be instrumental in coordinating threat messaging, sources of uncertainty, and relaying environmental analyses.

The collaboration and accomplishments of the WRT is a credit to the team of meteorologists coming together to better serve our partners and the public. For those interested in learning more about WRT, please feel free to contact current team leads [Krissy Hurley](#) and [David Hotz](#).



WRT Collaborative Mesoanalysis subteam meeting in July 2021

Seeking Comments for Experimental Winter Storm Threat Index

By: Monica Parker, Aware Editor

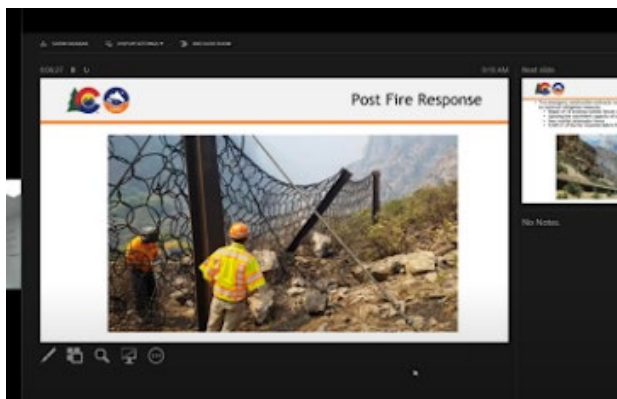
Don't forget to visit the winter webpages for Weather Forecast Offices in Baltimore/Washington D.C., State College, PA, and Wakefield, VA! The Days 3-7 Winter Storm Threat Index is available 24/7 as an experimental product through each of these webpages and is open to comments through April 15, 2022.

The Days 3-7 Winter Storm Threat Index graphically displays the location and threat level, accounting for winter precipitation probabilities and impact, of potential winter storm threats across a 3-7 day period. The graphic builds upon data generated by experimental Winter Weather Outlooks produced by the NWS Weather Prediction Center (WPC) and is intended to compliment and inform future NWS winter suite of products.

Updates to the current product occur twice daily at 0900 and 2100 Coordinated Universal Time (UTC), with additional updates occurring as needed. During this experimental period, your comments are crucial to informing future agency winter weather impact products, which will ultimately replace the experimental version. Resources to access the Days 3-7 Winter Storm Threat Index, send in your comments, and learn more about this product are available [here](#) in the original Public Information Statement.

WFO Grand Junction Hosts Monsoon IWT Series

By: NWS Staff



Andrew Knapp with the Colorado Department of Transportation discusses impacts to the Grizzly Creek Fire burn scar this monsoon season

After an active summer full of numerous wildfires, flash flooding, debris flows, large hail, damaging winds, and even a funnel cloud, WFO Grand Junction successfully held its fourth annual Integrated Warning Team (IWT) meeting virtually on October 19. This year's workshop was a debrief of the 2021 North American Monsoon season and its impacts across Eastern Utah and Western Colorado. Thirty representatives from emergency management (EM), state, and federal agencies attended the event, as well as partners from the local and state broadcast media.

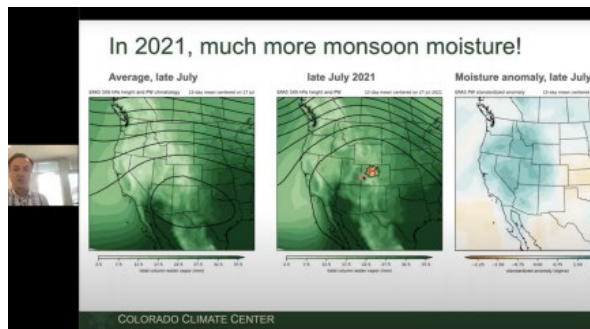
GJT MIC Ben Moyer kicked the day off with introductions and discussed the importance of collaboration and partnership across the agencies before Andrew Knapp and Todd Blake from the Colorado Department of Transportation gave a presentation on the Grizzly Creek Fire burn scar debris flows.

Numerous mudslide and debris flow events occurred over the burn scar this summer as a result of heavy monsoon rains with catastrophic damage to Interstate 70. Next was a presentation from Colorado State Climatologist Russ Schumacher who provided a recap of the 2021 monsoon season, including how it was compared to average across the region, notable events, and a quick plug for the CoCoRaHS program and the importance of observations.

The rest of the morning consisted of presentations by NWS team members. Brianna Bealo discussed NWS operations during the monsoon season and the variety of wild weather recorded across eastern Utah and western Colorado. Service Hydrologist Aldis Strautins compared high intensity and low intensity rainfall events and their differing impacts to the Grizzly Creek and Lake Christine burn scars.

Before GJT WCM **Jeff Colton** wrapped up the IWT, meteorologists **Erin Walter** and **Megan Stackhouse** led the group in an open forum discussion that sought input from the partners on what areas were prone to flooding in their counties of responsibility, if there was a better way for the NWS to receive storm reports, and how the advanced Flash Flood Watches and Warnings benefited partner operations last summer.

The 2021 IWT was incredibly beneficial for discussing the impactful monsoon season and highlighted the excellent coordination between WFO GJT and its partners throughout the summer months. The next IWT, held in spring 2022, will be part two in the monsoon series and will focus on monsoon planning and preparedness.



Colorado State Climatologist Russ Schumacher highlights how the 2021 monsoon season compared to previous years

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