2021/2022 Winter Outlook & Services Update

Agenda

• **NOAA Winter Outlook** – What it means for our region.

• **NWS Product/Services Updates**
  • Changes to the Winter Weather Forecast pages
  • Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts
  • Flood product simplification
  • Rainfall Monitoring webpage
  • Snow Squall Warning and Wireless Emergency Alerts (WEA)
  • Non-Weather Emergency Message alerting

• **Question/Answer**
NOAA Winter 2021/22 Outlook

2021-22 WINTER OUTLOOK
Frosty Flip-Flop Winter

Typical Winter Temperatures & Precipitation
Numb’s the Word, Just Shovelin’ Along
Icy, Flaky

Average Wintry Temperatures & Precipitation
Chilled to the Bone, Near Normal Precipitation
Quite Chilly, Mixed Bag of Precipitation


THE OLD FARMER’S ALMANAC WEATHER MAP FOR WINTER 2021-22

Map showing weather patterns across the United States with regions color-coded for different weather conditions.
La Nina is a pattern of abnormally cool water temperatures in the central Pacific Ocean which has long reaching impacts on the weather across the Northern Hemisphere.

A moderate La Nina is forecast this winter.

A typical La Nina winter features a storm track that favors a wetter than normal winter across the Ohio Valley with warmer than normal temperatures over the Mid-Atlantic and Southeast United States.

La Nina was the main influence on our weather pattern last winter as well.
NOAA Winter 2021/22 Outlook

Winter 2021
Precipitation Outlook

OHIO VALLEY:
PORTIONS OF THE OHIO VALLEY WILL HAVE THE GREATEST CHANCES FOR WETTER THAN AVERAGE CONDITIONS

ELSEWHERE:
DRIER THAN AVERAGE CONDITIONS ARE FAVORED IN SOUTHERN CALIFORNIA, THE SOUTHWEST, AND THE SOUTHEAST

THE FORECAST FOR THE REMAINDER OF THE U.S. SHOWS EQUAL CHANCES FOR BELOW- NEAR- OR ABOVE-AVERAGE PRECIPITATION DURING THE WINTER MONTHS
Winter 2021

Temperature Outlook

OHIO VALLEY:
THE OHIO VALLEY WILL MOST LIKELY SEE ABOVE NORMAL TEMPERATURES THIS WINTER

ELSEWHERE:
BELOW AVERAGE TEMPERATURES ARE FAVORED FOR SOUTHEAST ALASKA AND THE PACIFIC NORTHWEST INTO THE NORTHERN PLAINS
What About Snowfall?

• Arctic outbreaks, ice storms and snow storms are difficult to predict more than 1 to 2 weeks in advance. The frequency, number and intensity of these events cannot be predicted on a seasonal timescale.

• Snowfall tends to be highly variable during La Niña winters in our region, with a trend toward BELOW average snowfall.

• Major winter weather events have occurred during past La Nina winters
  • New Years Storm 1970/1971
  • Arctic outbreak of Jan 1985
  • Cold, snowy December 2010
  • Ice Storms of 2021
• Looking further out, there can be an increased probability of severe weather (hail and tornadoes) during the spring months following a La Niña winter.

• While increased probabilities are greatest in the southern Plains and lower Mississippi Valley, in general, springtime hailstorms and tornadoes are more frequent across the Ohio Valley and central Appalachians.
NWS Product/Services Updates

- Winter Weather Forecast page updates
- Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts
- Flood Product Simplification
- Rainfall Monitor
- Snow Squall Warnings & Wireless Emergency Alerts (WEA)
- Non-Weather Emergency Message Alerting
Winter Forecast Page Updates

- Comprehensive winter weather forecast information can be found by looking for the icon on your local NWS office's webpage.
Winter Forecast Page Updates

- Menu/tabs have been streamlined so they are the same no matter which NWS office you are looking at.
- New graphics packages
- Statewide graphics for snow and ice accumulation
  - WV- www.weather.gov/rlx/winter
  - OH- www.weather.gov/iln/winter
  - KY- www.weather.gov/lmk/winter
  - VA- www.weather.gov/akq/winter
Winter Storm Severity Index

www.wpc.ncep.noaa.gov/wwd/wssi/wssi.php?id=RLX

• Provides winter storm impact information out to 72 hours, with a new Experimental Day 4 and new 6-hour visualization option.

• Includes meteorological and non-meteorological factors
  • Snow Load (weight of snow)
  • Snow Amount
  • Ice Accumulation
  • Ground Blizzard
  • Flash Freeze (during and after precipitation)
  • Blowing Snow
Graphical Hazardous Weather Outlook

- Revamped Graphical Hazardous Weather Outlook can be found by looking for the icon on you local NWS office’s webpage.

- Or go to [www.weather.gov/erh/ghwo?wfo=rlx](http://www.weather.gov/erh/ghwo?wfo=rlx)
Graphical Hazardous Weather Outlook

www.weather.gov/erh/ghwo?wfo=rlx

Experimental Graphical Hazardous Weather Outlook

Select Zoom Area: WV

24 Hr Hazard Risks

<table>
<thead>
<tr>
<th>24 Hr Hazard Risks</th>
<th>Today</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
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<tbody>
<tr>
<td>Severe Thunderstorm</td>
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<td>Excessive Rainfall</td>
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<td>Excessive Cold</td>
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<td>Excessive Cold</td>
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<td>Ice Accumulation</td>
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<td>Snow/Sleet</td>
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</tbody>
</table>
NWS Product/Services Updates

- Winter Weather Forecast page updates
- Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts
- Flood Product Simplification
- Rainfall Monitor
- Snow Squall Warnings & Wireless Emergency Alerts (WEA)
- Non-Weather Emergency Message Alerting
Consolidation of NWS Flood Products

Flash Flood Watch
Flood Watch

Consolidated into

Flood Watch*

*Flash Flood Watches will still be issued for non-convective events (e.g., dam break) or excessive rain over a burn scar

Urban & Small Stream Flood Advisory
Arroyo & Small Stream Flood Advisory
Small Stream Flood Advisory
Flood Advisory
Hydrologic Advisory

Consolidated into

Flood Advisory

weather.gov/hazsimp
Flood products will be reformatted to simplify wording, which will now include:

- **WHAT**
- **WHERE**
- **WHEN**
- **IMPACTS**
- **ADDITIONAL DETAILS**
Comprehensive rainfall monitoring for all of WV, southeast OH, northeast KY and southwest VA.

Dynamic mapping of gauges for various time intervals combined with radar estimated rainfall.

Sortable table displays all available gauges.

Rain gauges include:
- Airport stations
- Cooperative weather observers
- CoCoRaHS observers
- IFLOWS gauges
- Citizens Weather Observer Program stations

If you have gauges in your county that need to be added, contact Tony.Edwards@noaa.gov.

www.weather.gov/rlx/rainfall-monitoring
Rainfall Monitor

www.weather.gov/rlx/rainfall-monitoring
NWS Product/Services Updates

- Winter Weather Forecast page updates
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- Rainfall Monitor

- Snow Squall Warnings & Wireless Emergency Alerts (WEA)
- Non-Weather Emergency Message Alerting
Snow Squall Warning Criteria
• Snow squalls reducing the visibility to 1/4 statute miles or less,
• AND sub-freezing ambient road temperatures or plunging temperatures sufficient to produce flash freezes,
• AND gusty winds and blowing snow.

SNOW SQUALL WARNINGS WILL ALERT ON CELL PHONES (WEA) AGAIN THIS WINTER!
• We will limit their issuance between late evening and morning rush.
• Warnings will be focused when squalls target interstates and main highways and Special Weather Statements will be used for the rest.

No earlier than October 2022, categories will be added to allow for more targeted WEA activations for Snow Squall Warnings.
## NWS WEA Activation Schedule

<table>
<thead>
<tr>
<th>Category</th>
<th>Activation Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tornado Warning</td>
<td>- New warning&lt;br&gt;- Threat is upgraded to catastrophic&lt;br&gt;- Any additional updates with catastrophic</td>
</tr>
<tr>
<td>Flash Flood Warning</td>
<td>- New warning <strong>if</strong> threat tag is considerable or catastrophic&lt;br&gt;- Threat is upgraded to considerable&lt;br&gt;- Threat is upgraded to catastrophic</td>
</tr>
<tr>
<td>Severe Thunderstorm Warning</td>
<td>Activate for first occurrence (i.e. new or updated warning) of a destructive threat</td>
</tr>
<tr>
<td>Hurricane/Typhoon Warning</td>
<td>Activate for new warning</td>
</tr>
<tr>
<td>Storm Surge Warning</td>
<td>Activate for new warning</td>
</tr>
<tr>
<td>Extreme Wind Warning</td>
<td>Activate for new warning</td>
</tr>
<tr>
<td>Tsunami Warning</td>
<td>Activate for new warning</td>
</tr>
<tr>
<td>Dust Storm Warning</td>
<td>Activate for new warning.</td>
</tr>
<tr>
<td>Snow Squall Warning</td>
<td>Activate for new warning</td>
</tr>
</tbody>
</table>

See wording used in NWS WEA messages at [https://www.weather.gov/wrn/wea360](https://www.weather.gov/wrn/wea360)
Non-Weather Emergency Messages & EAS

- Once authorized by FEMA to send alerts to IPAWS, you are known as a Collaborative Operating Group (COG).
- As a COG, you have authority to send alerts through IPAWS to NWS, EAS, WEA and a Public Channel for all other IPAWS alert users.

Alert origination software providers that have successfully demonstrated their IPAWS capabilities:
- AlertSense
- Asher Group – Hyper Reach
- Blackberry – AtHoc IWS
- Blackboard – Blackboard Connect
- Buffalo Computer Graphics – DisasterLAN
- CivicReady
- Comlabs – EMNet
- Desktop Alert
- Everbridge
- Genasys
- GSS Alert Studio – ALERT FM
- HipLink
- Information Logistics - IRIS/HELP
- Inspiron Logistics – WENS
- Juvare – WebEOC
- KDEE Technology LLC – On-The-Go Alerting
- Monroe Electronics – DAS-EOC
- Motorola Solutions – VESTA
- Nixle
- OnSolve – CodeRED
- Rave Mobile Safety
- Regroup Mass Notifications
- Singlewire – InformaCast
- SwiftReach – Swift911
- Titan HST

*Disclaimer: The IPAWS PMO does not certify or endorse any vendor product. This list includes Alert Origination Software Providers (AOSP) who voluntarily demonstrated their IPAWS capabilities. Demonstrated capabilities may or may not include WEA 2.0/2.1 capabilities. Please contact your vendor to inquire about your product’s specific capabilities. The IPAWS Program Management Office (PMO) is in the process of developing a method to re-evaluate vendor products after the next release of IPAWS OPEN. Stay tuned for more information.*
If you select “NWS or NWEM, Hazcollect”, your message is sent to us! We receive notification of incoming alert in NWS computer system.

Our staff reviews the alert and may make adjustments to the text to improve readability. We will likely call the alert originator to verify the message is legit.

We send the message over the NOAA Weather Radio for the alert duration.
Preparation:

- Ask your software vendor if they properly populate Requesting_Agency in CAP <senderName> as recommended in the IPAWS Design Guidance
- Practice so you are proficient. Know the knobs. Don’t wait for an emergency to happen.
- Know your State EAS Plan
- Leverage IPAWS resources

Operations:

- Select NWEM (or “HazCollect”, “NWS”, or similar) to achieve NWS (e.g. NWR) dissemination
- Enter good Description & Instruction because they make up the NWS alert narrative
- Check punctuation & avoid use of special characters
- Check for unexpected characters, particularly if pasting content in the alert software interface

If you would like to run a full test, including NWS activation, reach out to Tony.Edwards@noaa.gov.
FEMA Integrated Public Alert and Warning System Fact Sheet

Sign Up to Use IPAWS to Send Public Alerts and Warnings

A federal, state, local, tribal or territorial Alerting Authority that applies for authorization to use the Integrated Public Alert and Warning System (IPAWS) is designated as a Collaborative Operating Group (COG). Follow these steps to obtain access to IPAWS for COG-to-COG messaging and permission to disseminate your alerts to the public.

Before beginning the below process, consult with your State IPAWS representative, typically found in the State Emergency Management Agency, for your ability to become an IPAWS alerting authority.

**Step 1: Complete IPAWS Web-Based Training**
- EMI also offers course IS-251, [Integrated Public Alert and Warning System for Alerting Administrators](https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system/public-safety-officials/sign-up). This course is required to obtain public alerting authority.

**Step 2: Select IPAWS-Compatible Software**
- Confirm with your potential or current software provider that they can meet your public alerting needs. Find a list of Alert Origination Software Providers (AOSP) who have demonstrated their IPAWS compatibility [on this page](https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system/public-safety-officials/sign-up).
- Acquire your IPAWS-compatible alert origination software and AOSP training before proceeding to the next step.

**Step 3: Apply for a Memorandum of Agreement (MOA) with FEMA**
- Request the MOA application from the IPAWS office. Complete the application and return via email.
- You will receive an email from the IPAWS office containing your MOA for signature, public alerting application, COG identification, COG name and additional instructions. Sign and return the MOA to the IPAWS office.
- Your MOA will be reviewed and signed by FEMA authorizing officials and returned to you. You will receive your digital certificate, and a separate email with the password. Contact your AOSP to load your digital certificate and credentials into your alert origination software.

The Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) is a volunteer network of weather observers working together to measure and map precipitation in their local communities.

Can be individuals but also fire departments, water plants, DOH garages, etc. There’s also a program tailored to schools with lesson plans and teaching aids.

It is very important to have “trained” observers in your county for FEMA Disaster Declarations for winter storms!
We would LOVE to get access to any webcams you have in your county.

These would be kept internal and used for situational awareness purposes.

Please contact John.Peck@noaa.gov for more information or to notify of a camera.
Snowfall reports during and after winter storms are invaluable to us, and the more reports we get the better situational awareness we have!

Please send us reports by looking for the icon on your local NWS office website.

After we receive your report, we transmit it as a Local Storm Report, informing the media and public of your report.

Your reports help us adjust our forecasts, are used in storm summaries, and can be used to determine disaster declarations in major storms.
Thank You!

Questions? Raise Your Hand!

Tony.Edwards@noaa.gov