

Weather Products

Forecast Products

Zone Forecast Product	ZFP	The Zone Forecast Product highlights the expected sky condition, type and probability of precipitation, visibility restrictions, and temperature affecting individual counties for each 12-hour period out through 7 days. Wind direction and speed are also included in the forecast out to 60 hours. WFO Paducah issues the zone forecast by 4 a.m. and 3:30 p.m. under the header ZFPPAH. This forecast is updated as needed to meet changing weather conditions. Refer to Appendix A for a guide to ZFP terminology.
Area/Point Forecast Matrices	AFM PFM	WFO Paducah provides detailed digital forecast data via the Area/Point Forecast Matrices. These products display forecast weather parameters in 3, 6, and 12-hour intervals through 7 days. Incorporated into a matrix format, this product creates a highly detailed forecast, allowing for an at-a-glance view of a large number of forecast elements. The AFM contains forecasts for each county within the WFO Paducah forecast area, while the PFM shows forecasts for specific cities. WFO Paducah issues the Area/Point Forecast Matrices by 4 a.m. and 3:30 p.m. under the respective headers of AFMPAH and PFMPAH. These products are updated every 3 hours and as needed to meet changing weather conditions. Refer to Appendix B for a detailed guide to interpreting the AFM and PFM.
Area Forecast Discussion	AFD	WFO Paducah issues the Area Forecast Discussion twice daily by 4 a.m. and 3:30 p.m. under the header AFDPAH. This product provides scientific insight into the thought process of the forecast team at Paducah. The discussion usually focuses on one or more forecast challenges and utilizes meteorological reasoning to compare numerical models, indicate temperature and precipitation trends, etc. At the end of the product, any weather headlines (watches, warnings, & advisories) are listed by state.
Weather Summary	RWS	Issued by WFO Paducah under the header RWSPAH by 5 a.m. and 4 p.m., the Weather Summary provides an overview of weather conditions over the past 12 hours. This is followed by a general synopsis of the upcoming weather pattern influencing the four-state region over the next several days. This product may be supplemented with regional temperatures or precipitation reports as needed.
Terminal Aerodrome Forecast	TAF	The Terminal Aerodrome Forecast is valid for 24 hours from issuance and provides a forecast of wind, visibility, weather, and sky condition for a particular airport. WFO Paducah routinely issues TAFs every six hours for airports in Cape Girardeau, Paducah, Evansville, and Owensboro, under the headers TAF CGI, TAFPAH, TAFEVV, and TAFOWB.
Fire Weather Forecast	FWF FWM	The Fire Weather Forecast is a service provided to federal and state land management agencies. The forecast contains information on sky cover, chance and type of precipitation, temperature, humidity, wind, stability, mixing height, and other factors pertinent to fire and smoke management. The Fire Weather program is most active in the late winter and early spring prior to green-up, and again in the autumn as vegetation is transitioning into winter. WFO Paducah issues the fire weather forecast by 5 a.m. and 3 p.m. year-round under the header FWFP AH. A separate NFDRS point forecast is issued under the header FWMPAH between 1 and 3 p.m. daily for Big Springs, Doniphan, and Piedmont, Missouri; Crab Orchard, Dixon Springs, and Bean Ridge, Illinois; Greenville, Golden Pond, and Fort Campbell, Kentucky; and Stilly Hollow, Tennessee.

Severe Weather Products

SPC Convective Outlooks	SWO PWO	Among the numerous products issued by the Storm Prediction Center in Norman, Oklahoma, the Severe Weather Outlook is issued for Day 1 (SWODY1), Day 2 (SWODY2), Day 3 (SWODY3), and Days 4-8 (SWOD48). These products provide an assessment of the risk for severe weather within the period in question. The Day 1 and Day 2 Outlooks may include as many as five categories of severe risk. These escalate from Marginal to Slight, Enhanced, Moderate, and High. The Day 3 Outlook may include all categories except High. The Days 4-8 Outlook is more general and only highlights geographic areas of severe potential. In addition, the Mesoscale Discussion contains information on potential watch issuance under the header SWOMCD. Higher risk days may also be highlighted in the Public Severe Weather Outlook under PWOSPC.
SPC Tornado & Severe Thunderstorm Watch	SAW SEL WOU WWA	The Storm Prediction Center in Norman, Oklahoma is also responsible for issuing Tornado and Severe Thunderstorm Watches. The initial product, SAWn, where n is the last digit in the watch number, provides vital preliminary details for Tornado and Severe Thunderstorm Watches in an abbreviated format. The product SELn is issued immediately after SAWn and gives more specific watch information. Updates to severe weather watches are disseminated in status reports under the headers WOU and WWASPC. In cases where significant tornado outbreaks or widespread severe events are expected, the Tornado or Severe Thunderstorm Watch products may contain the phrase " <i>Particularly Dangerous Situation.</i> " These are often referred to as PDS Watches.
Watch County Notification	WCN	Issued by WFO Paducah under the header WCNPAH, the Watch County Notification provides an official list of all WFO Paducah counties included in a tornado or severe thunderstorm watch, along with the watch expiration time and larger communities in the watch area. This product may be issued to adjust the counties included in the watch, extend the valid time of the watch, or cancel the watch.
Tornado Warning	TOR	A Tornado Warning is issued when a tornado is expected to develop or one is sighted by a SKYWARN spotter or public official. A Tornado Warning may also be issued if Doppler radar shows the development of strong rotation within a storm. The warning is as specific as possible, including the counties affected, duration, and towns in the path of the storm. A call-to-action is also included. WFO Paducah issues a Tornado Warning under the header TORPAH.
Severe Thunderstorm Warning	SVR	A Severe Thunderstorm Warning is issued when either or both of the following is <i>occurring</i> or <i>imminent</i> : 1" diameter <i>hail</i> or larger, <i>winds</i> of at least 50 knots (58 mph). The warning includes the counties affected, duration, basis for the warning, communities in the path, an indication of the primary threat, and a call-to-action for public safety. WFO Paducah issues a Severe Thunderstorm Warning under the header SVRPAH.
Severe Weather Statement	SVS	Issued by WFO Paducah under the header SVSPA, a Severe Weather Statement is used to follow-up a Severe Thunderstorm Warning or Tornado Warning. This product updates the user on the current position and expected movement of the storm and includes timely reports of severe weather that have already occurred with the storm. An SVS is also issued to cancel a warning early.
Local Storm Report	LSR	A Local Storm Report is used to distribute hazardous weather reports to the public. It is issued as reports are received and may occasionally be issued as a collection of all storm reports at the end of an event. Delayed reports are disseminated after an event has ended as well. WFO Paducah issues the Local Storm Report under the header LSRPAH.

Hydrological Products

Flood Watch	FFA	A Flood Watch is issued to alert the public that there is a <i>threat</i> of (flash) flooding, but the occurrence is neither certain nor imminent. The watch usually covers a large geographic area. This product will be reissued to update, cancel, or expire a watch. WFO Paducah issues a Flood Watch under the header FFAPAH.
Flash Flood Warning	FFW	Disseminated by WFO Paducah under the header FFWPAH, a Flash Flood Warning is issued when <i>rapidly</i> rising water is expected to threaten life and/or property. A Flash Flood Warning includes the counties affected, duration, basis for the warning, and call-to-action statements to advise the public of safety precautions. It focuses on communities and areas where flooding is <i>imminent</i> or already <i>occurring</i> . This product is followed up with at least one Flash Flood Statement. If the flooding is expected to persist for a longer duration, typically greater than six hours, a Flood Warning may be issued instead.
Flash Flood Statement	FFS	A Flash Flood Statement is used as a follow-up to Flash Flood Warnings. The statement contains the latest and often more detailed information on the event. A Flash Flood Statement is also the means to disseminate any flooding reports received from emergency or public service officials. In addition, it serves to cancel a warning early and may be issued when a warning expires. The header for a Flash Flood Statement issued by WFO Paducah is FFSPAHA.
Flood Warning	FLW	Issued by WFO Paducah under the header FLWPAH, a Flood Warning is a dual-purpose product. (1.) A Flood Warning is issued when a <i>gradual</i> rise in waters resulting from heavy rains is expected to threaten life and/or property and persist for typically more than six hours. The format is similar to that of a Flash Flood Warning. (2.) A Flood Warning is also issued for a river forecast point that is expected to rise above flood stage or is already at or above flood stage during rapid rises. Included is detailed crest information for the river forecast point.
Flood Statement	FLS	A Flood Statement is used to follow-up a Flood Warning, whether for areal or river flooding. Other uses for this product include urban and small stream flooding, and river flooding at forecast points that are expected to approach but not exceed flood stage. Moreover, the last flood statement of a flood event is used to terminate a flood warning. WFO Paducah issues a Flood Statement under the header FLSPAHA.
Hydrologic Summary	RVA	The Hydrologic Summary takes on a couple of forms, providing the public with a variety of hydrologic information for the Paducah Hydrologic Service Area (HSA). WFO Paducah issues two RVA products in the course of a day around 9:30 a.m. The first lists daily precipitation amounts reported to our office by NWS cooperative observers. The second RVA details morning river and lake information along with 24-hour changes and precipitation data. Both products are issued under the header RVAPAH.
Hydrologic Statement	RVS	A Hydrologic Statement provides a summary of river stage forecasts out to five days for all river forecast points within the Paducah HSA. WFO Paducah issues the Hydrologic Statement under the header RVSPAHA. (This product can also be used to disseminate miscellaneous information such as recreational and ice information and unusual dam releases.)
Hydrologic Outlook	ESF	A Hydrologic Outlook is routinely issued monthly and provides a probabilistic assessment of long-term hydrologic conditions. It can also take the form of a Flood Potential Outlook for heavy rain events or a Spring Flood and Water Resources Outlook typically issued twice in late winter. These products can be issued for potentially extreme hydrologic conditions forecast to occur beyond 36 hours. WFO Paducah disseminates the Hydrologic Outlook under the header ESFPAH.

Drought Information Statement	DGT	A Drought Information Statement is issued when drought intensity reaches Severe (D2) based on the U.S. Drought Monitor. This product provides a summary of drought conditions, precipitation deficits, and impacts (agricultural, hydrological, fire weather, etc.). It also provides the expected short- and long-term forecast and drought outlook. WFO Paducah issues the Drought Information Statement under the header DGTPAH.
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Climatological Products

Daily Climate Report	CLI	The Daily Climate Report provides a daily summary of weather conditions. The product is routinely issued during the early morning hours under the header CLIEVV for Evansville, CLIPAH for Paducah, and CLICGI for Cape Girardeau. An abbreviated version of the climate report is issued just before 5 p.m. each day.
Monthly Climate Report	CLM	The Monthly Climate Report is issued at the beginning of each month and provides a summary of all the climatological parameters for the previous month's weather. It is issued under the header CLMEVV for Evansville, CLMPAH for Paducah, and CLMCGI for Cape Girardeau.
Seasonal Climate Report	CLS	The Seasonal Climate Report provides a climate summary for each of the four meteorological seasons. The product is issued at the beginning of March, June, September, and December under the header CLSEVV for Evansville, CLSPAH for Paducah, and CLSCGI for Cape Girardeau.
Annual Climate Report	CLA	The Annual Climate Report is issued at the beginning of each year and provides an annual summary of climate information. It is issued under the header CLAEVV for Evansville, CLAPAH for Paducah, and CLACGI for Cape Girardeau.
Record Report	RER	A Record Report is disseminated for record-breaking climate events. The product may be used for nearly all climatological conditions but most commonly for record maximum or minimum temperatures, rainfall, and snowfall. The product headers are REREVV for Evansville, RERPAH for Paducah, and RERCGI for Cape Girardeau.
State Weather Roundup	RWR	The State Weather Roundup is issued at the top of each hour and lists current weather conditions for major cities and towns in a particular state. This product is compiled for Missouri, Illinois, Indiana, and Kentucky under the respective headers RWRMO, RWRIL, RWRIN, and RWRKY.
Regional/State Temperature & Precipitation Summary	RTP	The Regional Temperature and Precipitation Summary is twice daily—morning and evening. It lists the high and low temperatures along with precipitation and snow depth for selected cities. A mid-morning update provides additional data from cooperative stations. This product is issued by WFO Paducah under the header RTPPAH. A state version of this product is issued twice daily by the WFO's in St. Louis, Chicago, Indianapolis, and Louisville under the respective headers RTPMO, RTPIL, RTPIN, and RTPKY.

General Public Information Products

Hazardous Weather Outlook	HWO	The Hazardous Weather Outlook is an all-season, event-driven product that gives a general assessment of the potential for hazardous weather across the 58-county forecast area. The product is subdivided into “Day One” and “Days Two through Seven”. In addition, a “Spotter Information Statement” gives a brief narrative on the potential for spotter activation. WFO Paducah issues the Hazardous Weather Outlook under the header HWOPAH by 5 a.m. daily. The product is updated as needed to convey new information regarding the hazardous weather potential.
Civil Emergency Message	CEM	The Civil Emergency Message is issued to alert the public of a potentially life-threatening, non-weather emergency. This includes such events as a hazardous chemical release, earthquake, and nuclear attack. Such a product is usually issued upon the request of state or local emergency management officials. WFO Paducah issues the Civil Emergency Message under the header CEMPAH.
Child Abduction Emergency	CAE	A Child Abduction Emergency is relayed by the NWS at the request of state law enforcement officials. Also called an Amber Alert, the CAE contains information on an abducted child believed by law enforcement to be in imminent danger. A Child Abduction Emergency is issued under the header CAEILX in Illinois, CAEIN in Indiana, CAEKY in Kentucky, and CAETN in Tennessee. WFO Paducah also broadcasts the information on NOAA Weather Radio All Hazards.
Significant Weather Advisory	SPS	Issued by WFO Paducah under the header SPSPAH, the Significant Weather Advisory alerts the public to thunderstorms approaching severe criteria. This includes strong storms that generally produce winds of at least 40 mph, hail ½ inch or larger, and/or very intense cloud-to-ground lightning. This product may be replaced by a Tornado or Severe Thunderstorm Warning as conditions warrant.
Special Weather Statement	SPS	The Special Weather Statement is mainly used to highlight the potential for weather which may have a higher public impact. For example, the product may be issued days in advance of an impending winter weather event. It may also be used to alert the public to near severe weather conditions. WFO Paducah issues the Special Weather Statement under the header SPSPAH.
Public Information Statement	PNS	Disseminated under the header PNSPAH, the Public Information Statement is used to provide extra <i>value-added</i> information. A wide range of topics may be covered, including storm damage survey assessments, summaries of past weather events, climatological events and anomalies, precipitation reports from our network of weather observers, safety rules for various weather phenomena, and announcements of upcoming events.
Earthquake Report	EQR	The Earthquake Report is used to relay information about the recent occurrence of an earthquake which is generally strong enough to be perceived by the general public. WFO Paducah issues the Earthquake Report under the header EQRPAH.

Winter Weather Products (WSW)

Unlike severe weather events, winter storms have the capacity to completely immobilize several states simultaneously. Thus, winter weather watches, warnings, and advisories are issued for relatively *large* geographic areas rather than for one specific county. WFO Paducah issues winter weather products entitled “WINTER WEATHER MESSAGE” under the header WSWPAH.

A WSW is used to:

- ✓ Issue the initial winter weather watch, warning, or advisory
- ✓ Change the type of watch, warning, or advisory
- ✓ Add or remove counties under a watch, warning, or advisory
- ✓ Change the expiration time of the watch, warning, or advisory
- ✓ Update information pertaining to the watch, warning, or advisory
- ✓ Cancel a winter weather watch, warning, or advisory

A WSW is issued for the following products, for which definitions are provided below:

Winter Storm Watch	Issued if there is a threat of heavy snow or sleet, significant accumulations of freezing rain or freezing drizzle, or any combination thereof. Usually issued for the second, third, and occasionally fourth periods of a forecast (i.e., 12 to 48 hours in advance). The definition of heavy snow in the Paducah forecast area is an average of at least 4 inches or more in 12 hours, or 6 inches or more in 24 hours.
Winter Storm Warning	Issued if there is a high probability that a mix of severe winter weather will occur, such as heavy snow or sleet, significant accumulations of freezing rain or freezing drizzle, or any combination thereof. Normally issued for the first, second, or occasionally third periods (i.e., up to 36 hours in advance). A Winter Storm Warning may be extended into later periods of the forecast for a prolonged weather event.
Blizzard Warning	Used for winter storms with sustained winds or frequent gusts of 35 mph or greater, and considerable falling and/or blowing snow frequently reducing visibilities to ¼ mile or less. These conditions should last for at least 3 hours.
Ice Storm Warning	Issued for winter weather events expected to produce a damaging ice accumulation of ¼ inch or more.
Winter Weather Advisory	Issued when such wintry precipitation as snow, sleet, freezing rain or drizzle, or a combination thereof is expected, but accumulations will not reach warning criteria. If all snow, accumulations should average at least 2 inches, but less than 4 inches. If all ice, accumulations should average under ¼ inch. At forecaster discretion, an advisory may be issued for snow accumulations of only 1 to 2 inches, as may be necessary for the first event of the season, or in other cases where public safety may be more readily compromised. A Winter Weather Advisory may also be issued when blowing and drifting snow will frequently reduce the visibility to ¼ mile or less and make for hazardous travel.
Wind Chill Warning	Issued when wind-chill temperatures are expected to reach –25°F or colder, preferably with wind speeds of at least 10 mph. A Wind Chill Watch may be issued in advance of a warning if conditions are favorable for wind chill temperatures to meet or exceed warning criteria in the next 12 to 48 hours.
Wind Chill Advisory	Issued when wind-chill temperatures are expected to reach –10°F to –24°F, preferably with wind speeds of at least 10 mph.

Non-Precipitation Weather Products (NPW)

Non-precipitation phenomena such as high wind, heat, frost, and fog can be just as hazardous as heavy rain or snow. Like winter weather events, non-precipitation events often cover large geographic areas, and thus advisories and warnings are issued for relatively *large* groups of counties. WFO Paducah issues non-precipitation weather products entitled “WEATHER MESSAGE” under the header NPWPAH.

A NPW is used to:

- ✓ Issue the initial non-precipitation warning or advisory
- ✓ Change the type of warning or advisory
- ✓ Add or remove counties under a warning or advisory
- ✓ Change the expiration time of the warning or advisory
- ✓ Update information pertaining to the warning or advisory
- ✓ Cancel a non-precipitation weather warning or advisory

A NPW is issued for the following products, for which definitions are provided below:

High Wind Warning	Used when sustained winds of 40 mph or greater are expected to last for one hour or longer, or for non-thunderstorm wind gusts of 58 mph or greater for any duration. Includes gradient and meso-high winds. A High Wind Watch may be issued in advance of a warning if conditions are favorable for a high wind event in the next 12 to 48 hours.
Wind Advisory	Used when sustained winds of 30 mph or greater are expected to last for one hour or longer, or for non-thunderstorm wind gusts to at least 45 mph for any duration.
Lake Wind Advisory	Issued for recreational boating interests during boating season (May–September) when sustained winds of at least 15 mph are forecast for more than one hour.
Excessive Heat Warning	Issued when daytime heat indices are forecast near or in excess of 110°F for two consecutive days, with nighttime lows of at least 75°F. An Excessive Heat Warning may also be considered if Heat Advisory criteria are forecast to persist for at least four consecutive days. An Excessive Heat Watch may be issued in advance of a warning if conditions are favorable for an excessive heat event in the next 24 to 72 hours.
Heat Advisory	Issued when daytime heat indices are forecast near or in excess of 105°F for any duration. A Heat Advisory may also be considered if sub-advisory criteria (100-105°) are forecast to persist for at least four consecutive days.
Freeze Warning	Used during the growing season (April–October) when air temperatures <i>at or below</i> 32°F are forecast over a widespread area for any duration. A freeze is locally classified as a <i>killing</i> freeze when temperatures fall to 30°F or lower for at least two consecutive hours. A Freeze Watch may be issued in advance of a warning if conditions are favorable for a freeze event in the next 12 to 48 hours.
Frost Advisory	Used during the growing season (April–October) if a <i>widespread</i> frost is expected to pose a danger to farmers and gardeners. Generally, overnight lows are forecast to fall into the lower to mid 30s with clear skies and light winds.
Dense Fog Advisory	Issued when dense fog, reducing visibilities to ¼ mile or less, covers a widespread area.

Standard Product Format

Each product issued by the National Weather Service follows a standardized format. A brief description of this basic format follows using a tornado warning as an example. This is only a generalization, as the exact format for each product does vary. For more information, consult Chapter 10: Operations & Services on the NWS Directives System web site at <http://www.nws.noaa.gov/directives>. Specifically, reference 10-1701: Text Product Formats & Codes and 10-1702: Universal Geographic Code (UGC).

NWS COMMUNICATIONS IDENTIFIER:

**TTAAii KXXX DDHHMM
NNNPAH
UNIVERSAL GEOGRAPHIC CODES—DDHHMM—**

This block identifies the WMO Product ID (TTAAii), originating weather office (KXXX), day and time the product is valid (first DDHHMM), AWIPS Product ID (NNNPAH), zone or county codes for which the product is valid (CODES), and the day and time the product expires (second DDHHMM). All times are in Coordinated Universal Time (UTC).

MASS NEWS DISSEMINATOR (MND) HEADER:

**BULLETIN — EAS ACTIVATION REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE PADUCAH KY
935 AM CDT FRI OCT 3 2014**

This section gives the name of the product (e.g., Tornado Warning), the originating office, and the date and time the product was issued, in plain English.

PRODUCT BODY:

THE NATIONAL WEATHER SERVICE IN PADUCAH KENTUCKY HAS ISSUED A

- * TORNADO WARNING FOR...
MCCRACKEN COUNTY IN WESTERN KENTUCKY...**
- * UNTIL 1015 AM CDT.**
- * AT 934 AM CDT...NATIONAL WEATHER SERVICE DOPPLER RADAR
INDICATED A SEVERE THUNDERSTORM CAPABLE OF PRODUCING A TORNADO
NEAR KEVIL...OR 12 MILES WEST OF PADUCAH...MOVING EAST AT 30 MPH...**
- * LOCATIONS IN THE WARNING INCLUDE HEATH AND PADUCAH.**

**SEEK SHELTER NOW! MOVE INTO A BASEMENT...OR INTERIOR ROOM ON THE
LOWEST FLOOR OF A STURDY BUILDING. ABANDON MOBILE HOMES AND
VEHICLES.**

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The main section of the product is the body. It provides the user with the what, where, when, and why for this particular weather product. At the end, the optional call-to-action statement offers the user event-relevant safety precautions. The \$\$ delimiter represents the end of the product. && may be inserted before \$\$ to supply additional value-added information.