

Weather Products

Forecast Products

Zone Forecast Product	ZFP	Probably the most widely used product is the Zone Forecast Product. A zone forecast highlights the expected sky condition, temperature, type and probability of precipitation, and any visibility restrictions affecting various <i>zone</i> groups 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 now 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. These intervals, incorporated into a matrix format, create a highly detailed forecast, allowing for rapid visual scanning 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 around 4 a.m. and 3:30 p.m. under the respective headers of AFMPAH and PFMPAH. These products are updated as needed to meet changing weather conditions. Refer to Appendix B for a detailed guide to interpreting the AFM/PFM.
Tabular State Forecast	SFT	The Tabular State Forecast is routinely issued twice daily by approximately 4 a.m. and 4 p.m. However, it may be updated when changes are needed. This is a generalized tabular forecast of weather conditions through 7 days for specific cities within a state. The WFO's in St. Louis, Lincoln, Indianapolis, and Louisville issue this product under the respective headers SFTMO, SFTIL, SFTIN, and SFTKY.
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. It provides scientific insight into the thought process of the forecaster at Paducah and is meant as a tool to help <i>coordinate</i> forecasts with surrounding offices. In this product, the forecaster 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 (<i>watches, advisories, etc.</i>) are detailed by each state.
Area Weather Summary	AWS	Issued by WFO Paducah under the header AWSPAH by 5 a.m. and 4 p.m., the Area Weather Summary provides an overview of weather conditions over the past 12 hours. This is followed by a synopsis of the upcoming weather and generalized 24-hour forecast for the four-state region. This product may be supplemented with regional temperatures, precipitation reports, or a radar summary if weather and time permit.

Short Term Forecast	NOW	The Short Term Forecast (NOWcast) is the primary method of communicating plain-language forecasts of <i>short-term</i> weather to the general public. Issued by WFO Paducah under the header NOWPAH, the short-term forecast is generally valid for up to the next 6 hours. The product is written in a conversational style that flows smoothly, providing the most important weather elements at the beginning, sometimes in the form of a headline. Issued as needed, the nowcast is an event-driven forecast designed to handle all weather conditions except severe weather.
Terminal Aerodrome Forecast	TAF	The Terminal Aerodrome Forecast is valid for 24 hours from the issuance time and provides a forecast of wind, visibility, weather, and sky condition for a particular airport. WFO Paducah routinely disseminates TAF's four times daily for three airports, including Paducah, Evansville, and Cape Girardeau, under the respective headers TAFPAH, TAFEVV, and TAFCGI.
Transcribed Weather Broadcast	TWB	Transcribed Weather Broadcasts are another means of service to the aviation community. These forecasts are valid for 12 hours and describe the weather along major aircraft routes in the region. WFO Paducah forecasts for two TWEB routes. Route 236, under the header TWB236, covers flights between Cape Girardeau and Springfield, Missouri. Route 232, under the header TWB232, covers flights between St. Louis, Missouri; Cape Girardeau, Missouri; and Memphis, Tennessee. TAF's and TWEB's are not disseminated via the NOAA Weather Wire Service (NWWS) or through the Family of Services, thus limiting public access.
Fire Weather Forecast	FWF FWM	The Fire Weather Forecast is a service provided to federal and state 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 management and smoke dispersal. The Fire Weather program is most active in the spring, when new foliage is emerging, and again in the fall, when vegetation is transitioning into winter. WFO Paducah disseminates the fire weather forecast by 8:30 a.m. and 3 p.m. year-round under the header FWFPAH. A separate NFDRS coded point forecast is issued under the header FWMPAH between 1 and 2 p.m. daily for Big Springs, Carr Creek, and Doniphan, Missouri; Dixon Springs and Bean Ridge, Illinois; and Golden Pond and Greenville, Kentucky.

Severe Weather Products

Severe Thunderstorm & Tornado Watch	SAW SEL WOU WWA	Among the numerous products issued by the Storm Prediction Center in Norman, Oklahoma is SAWn, where n=0-9 and is the last digit in the watch number. This product provides vital preliminary information for Severe Thunderstorm and Tornado Watches in an abbreviated format. The product SELn is always issued immediately after SAWn and gives more specific watch information. Updates on severe weather watches are disseminated in status reports under the headers WOU _n and WWASPC. Severe weather outlook information may be found in the products issued under the headers SWODY1, SWODY2, SWOMCD, and PWOSPC.
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> . $\frac{3}{4}$ " diameter <i>hail</i> or larger, <i>winds</i> of at least <i>50 knots (58 mph)</i> . 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.

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 directly in the path of the storm. A call-to-action is also included. WFO Paducah issues a Tornado Warning under the header TORPAH.
Severe Weather Statement	SVS	Issued by WFO Paducah under the header SVSPAHA, a Severe Weather Statement is used to follow-up a severe weather 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. (Please note: the ampersand (&) at the end of a product, such as the SVS, is intentionally placed there to alert the Storm Prediction Center that the product contains a storm report.)
Weather Watch Redefining Statement	SLS	A Redefining Statement is issued for every tornado and severe thunderstorm watch that affects at least one of the four states covered by WFO Paducah. This product is disseminated by the WFO's in St. Louis, Chicago, Indianapolis, and Louisville under the respective headers SLSMO, SLSIL, SLSIN, and SLSKY. A Redefining Statement lists the type of watch, its corresponding number, the expiration time of the watch, all counties in a particular state in the watch (counties listed by geographical area), and relatively large cities and towns in the watch area.
Watch County Notification Message	WCN	Issued by WFO Paducah under the header WCNPAH, the Watch County Notification Message provides a final list of all counties in WFO Paducah's CWA included in a severe thunderstorm or tornado watch. This product may be issued to adjust the counties included in the watch, extend the valid time of the watch, or cancel the watch. This product remains under evaluation and may eventually replace the SLS in 2005.
Local Storm Report	LSR	A Local Storm Report is used to distribute severe weather and flood reports to the public. It is issued as reports are received and may occasionally be issued as a collection of all reports received after an event is over. Delayed verification reports are disseminated after an event is over 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 brief call-to-action statements to advise the public of safety precautions. It focuses on communities and areas where flooding is <i>imminent</i> or is 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 is 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 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 FLWPAHA, 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 plethora 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 all the 24-hour 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 information. Both products are issued under the header RVAPAHA.
Hydrologic Statement	RVS	A Hydrologic Statement provides a summary of river stage forecasts out to three 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 can take the form of a Flood Potential Outlook, Spring Flood Outlook, or Drought Statement. This product is typically issued for extreme hydrologic conditions (wet or dry) that are expected to occur beyond 36 hours. WFO Paducah disseminates the Hydrologic Outlook under the header ESFPAHA.

Climatological Products

Daily Climate Report	CLI	The Daily Climate Report provides a summary of past weather conditions. The product is routinely issued during the early morning hours under the header CLIPAHA for Paducah and CLIEVV for Evansville. A shortened version of the climate report is issued around 5 p.m. each day. Daily information for Cape Girardeau may be found at the end of the early morning Paducah climate report.
Monthly Climate Report	CLM	The Monthly Climate Report is similar to the Daily Climate Report. The product is issued at the first 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 and CLMPAHA for Paducah.

Record Report	RER	A Record Report is disseminated whenever a record-breaking phenomenon occurs. The product may be used for nearly all climatological conditions but most commonly for record maximum or minimum temperatures. The header for Paducah's record report is RERPAH. For Evansville, the header is REREVV.
State Weather Roundup	SWR	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 SWRMO, SWRIL, SWRIN, and SWRKY.
State/Regional Temperature & Precipitation Summary	STP RTP	The State Temperature and Precipitation Summary is issued twice a day—morning and evening. It lists the high and low temperatures along with precipitation and snow depth for selected cities. This product is issued by the WFO's in St. Louis, Chicago, Indianapolis, and Louisville under the headers STPMO, STPIL, STPIN, and STPKY respectively. A regional version of this product is issued twice daily by WFO Paducah under the header RTPPAH.

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 type, location, and timing of hazardous weather potential across the 58-county forecast area. The product is subdivided into "Day One" and "Days Two through Seven". When appropriate, a "Spotter Information Statement" may be appended. 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 an earthquake, nuclear attack, and hazardous chemical release. Such a product is usually issued upon the request of local or state emergency management officials. WFO Paducah issues the Civil Emergency Message under the header CEMPAH.
Special Weather Statement	SPS	The Special Weather Statement is mainly used as a generic <i>update</i> product. For example, the product is used to drop counties from severe weather watches after the threat has subsided. It may also be used to alert the public to near severe weather conditions. WFO Paducah issues the Special Weather Statement under the header SPSPA.
Thunderstorm Advisory	SPS	Issued by WFO Paducah under the header SPSPA, the Thunderstorm Advisory alerts the public to thunderstorms approaching severe criteria. This includes strong storms that generally produce winds of at least 40 mph, hail of any size, and/or unusually intense cloud-to-ground lightning. This product may be replaced by a Tornado or Severe Thunderstorm Warning as conditions warrant.
Public Information Statement	PNS	Disseminated under the header PNSPAH, the Public Information Statement is used to disseminate extra <i>value-added</i> information. A wide range of topics may be covered, including 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.

Winter Weather Products (WSW)

Unlike severe weather events, winter storms have the capability 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 delete 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 and third periods of a forecast (i.e., 12 to 36 hours in advance of the event). 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 period (i.e., less than or equal to 12 hours in advance of the event), but may be issued for the second or third periods with a high-confidence forecast. A Winter Storm Warning may be extended into the later periods of the forecast if the weather situation warrants.
Blizzard Warning	Issued 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 those winter storms 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. For the first event of the season, an advisory may be issued for snow accumulations as little as an inch. These criteria are subjective and may vary depending on the time of year and the public's perceived acclamation to winter weather conditions. 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.
Wind Chill Advisory	Issued when wind-chill temperatures are expected to reach –10°F to –24°F.

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 delete 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 mesoscale-high winds.
Wind Advisory	Used when sustained winds of 30 mph or greater are expected to last for one hour or longer, or for sustained winds or gusts to at least 45 mph for any duration.
Excessive Heat Warning	Issued when the heat index equals or exceeds 115°F for three hours or longer with a minimum heat index of at least 80°F during a 24-hour period. Also issued when Heat Advisory criteria persist for at least 3 days.
Heat Advisory	Issued when daytime heat indices are at or above 105°F for at least 3 hours, preferably with nighttime heat indices at or above 80°F over a 24-hour period.
Freeze Warning	Used during the growing season when air temperatures <i>at or below</i> 32°F are forecast over a widespread area when wind or other conditions prevent frost formation. Even if frost is expected, a Freeze Warning is issued if temperatures are forecast at or below 28°F for at least 3 hours, or 26°F for any duration. Adjectives such as <i>killing, hard, or severe</i> may be used as appropriate to describe the freeze.
Frost Advisory	Used during the growing season (April–October) if a <i>widespread killing</i> frost is expected to pose a danger to farmers and gardeners. Generally, overnight lows are forecast to fall below the mid 30s with clear skies and light winds. For overnight lows between 28 and 32°F, a Frost Advisory takes precedence over a Freeze Warning.
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 2000**

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 WITH STRONG ROTATION 12 MILES
WEST OF PADUCAH NEAR KEVIL...MOVING EAST AT 30 MPH.**

*** LOCATIONS IMPACTED 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.