

**NATIONAL WEATHER SERVICE INSTRUCTION 10-204**  
**OCTOBER 5, 2017**

*Operations and Services*

*Digital Services Specification, NWSPD 10-2*

**DERIVED FORECAST TEXT PRODUCTS SPECIFICATIONS**

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**NOTICE:** This publication is available at: <http://www.nws.noaa.gov/directives/>.

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Signed \_\_\_\_\_

9/21/2017 \_\_\_\_\_

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Date

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**WFO Derived Forecast Text Products Specifications**

1	Introduction.....	3
2	Product Preparation.....	3
3	Formatters.....	3
4	Consistency of Information.....	3
	4.1 Updates and Corrections.....	3
5	Product Format and Specification.....	3
	5.1 Zone Forecast Product (product category ZFP).....	3
	5.1.1 Mission Connection.....	3
	5.1.2 Issuance Criteria.....	3
	5.1.3 Valid and Expiration Time.....	4
	5.1.4 Format Link.....	4
	5.1.5 Product Specification Link.....	4
	5.2 Point Forecast Matrices (product category PFM).....	4
	5.2.1 Mission Connection.....	4
	5.2.2 Issuance Criteria.....	4
	5.2.3 Valid and Product Expiration Time.....	5
	5.2.4 Format Link.....	5
	5.2.5 Product Specification Document Link.....	5
	5.3 Area Forecast Matrices (product category AFM).....	5
	5.3.1 Mission Connection.....	5
	5.3.2 Issuance Criteria.....	5
	5.3.3 Valid and Product Expiration Time.....	6
	5.3.4 Format Link.....	6
	5.3.5 Product Specification Document Link.....	6
	5.4 State Forecast Product (product category SFP).....	6
	5.4.1 Mission Connection.....	6
	5.4.2 Issuance Criteria.....	6
	5.4.3 Valid and Product Expiration Time.....	6
	5.4.4 Format Link.....	6
	5.4.5 Product Specification Document Link.....	6
	5.5 Tabular State Forecast Product (product category SFT).....	6
	5.5.1 Mission Connection.....	6
	5.5.2 Issuance Criteria.....	7
	5.5.3 Valid and Product Expiration Time.....	7
	5.5.4 Format Link.....	7
	5.5.5 Product Specification Document Link.....	7

## **1 Introduction**

This procedural directive provides product specifications for the main alphanumeric (public) text-based forecast products issued by the National Weather Service's (NWS) Weather Forecast Offices (WFO). Specifications include the guidelines associated with these products, detailed content, and format for each product type.

## **2 Product Preparation**

All derived text products issued from digital databases will be formatted using Graphical Forecast Editor (GFE) based text formatters or with regionally approved alternative text formatters.

## **3 Formatters**

Formatters that reside within the GFE software are designed to produce output that is within the defined formats of products specified below within this directive. Alternative formatters other than GFE should also produce products within the prescribed formats and use of these formatters will be documented with and cleared through the appropriate NWS Regional Headquarters.

## **4 Consistency of Information**

Forecast collaboration is essential in the forecast process to ensure consistency in both public grid- and text-based products. WFOs are responsible for ensuring their forecast grids used to produce the text products will be as uniform as possible between adjacent County Warning and Forecast Areas (CWFAs) and within a CWFA.

### **4.1 Updates and Corrections**

Derived text products will be updated and corrected between expected issuances when the on-duty forecast team believes the current product is not representative, or an error is detected.

## **5 Product Format and Specification**

The product format and specification documents are intended to give direction to the formatters developed to produce each product. The specifications will also facilitate proper ingestion and decoding of text products by NWS users and partners.

### **5.1 Zone Forecast Product (product category ZFP)**

#### **5.1.1 Mission Connection**

The Zone Forecast Product (ZFP) provides expected weather conditions within each zone (during a specified time period) of a WFO's CWFA. A zone is a geographic location that has sufficient climatological and meteorological homogeneity to allow a single forecast to serve as the forecast for that area. The ZFP is a text product issued for a seven-day period. Zones may be grouped together based on similar meteorological conditions and potential weather hazards.

#### **5.1.2 Issuance Criteria**

The ZFP will be issued anytime the digital database is updated to reflect changing conditions. In the Alaska Region, offices issuing the ZFP will update the text product anytime the digital database is updated to reflect changing conditions. The ZFP also serves as a "push" product of NWS forecast information, so at a minimum, the ZFP will be generated twice daily to meet this need and to remove the outdated first period of the forecast. The exception to this policy will be

in the Alaska Region, where the ZFP is updated as conditions warrant. Times for ZFP issuance will be established by the WFOs to best serve its user needs.

WFOs may delay the morning and/or afternoon issuance of the ZFP until after the National Hurricane Center (NHC) issues its advisories. In these circumstances, the ZFP should be issued as soon as reasonably possible, but not later than 1.5 hours after receiving the NHC message. If a WFO chooses to issue the ZFP at the normal times (4 am and 4 pm), then the WFO should also update these products as soon as reasonably possible, but not later than 1.5 hours after receiving the NHC message.

### **5.1.3 Valid and Expiration Time**

The ZFP is valid from the time of release through Day 7. The ZFP expires when a new ZFP is issued. Use of a default duration of 12 hours ensures overlap with newer product issuances.

### **5.1.4 Format Link**

[https://www.weather.gov/media/notification/dir/ZFP\\_Format.pdf](https://www.weather.gov/media/notification/dir/ZFP_Format.pdf)

### **5.1.5 Product Specification Link**

[https://www.weather.gov/media/notification/dir/ZFP\\_Specifications.pdf](https://www.weather.gov/media/notification/dir/ZFP_Specifications.pdf)

## **5.2 Point Forecast Matrices (product category PFM)**

### **5.2.1 Mission Connection**

The Point Forecast Matrices (PFM) product displays various forecasted weather parameters for verification points, significant cities, and any other pre-defined points within a WFOs CWFA through Day 7. Forecasts for these parameters are at 3-hour, 6-hour, and/or 12-hour intervals. The PFM is intended for use by large volume users and by the general public. The PFM allows for rapid visual scanning of a large number of forecast parameters/values using a quasi-static matrix format. The forecast data is decodable by computers for creating derived products. Information in the PFM is provided to users as supplemental detail and/or higher resolution point forecast detail than can be found in other NWS-derived text products.

### **5.2.2 Issuance Criteria**

The PFM will be issued anytime the digital database is updated to reflect changing conditions. The PFM serves as a point matrix “push” product of NWS forecast information, so at a minimum, the PFM will be generated at least twice daily to meet this need and to remove the outdated first period of the forecast. Times for PFM issuance will be established by the WFOs to best serve its user needs. The PFM will be updated and corrected when the on-duty forecast team believes the current forecast is not representative, or when format or content errors are detected. When the PFM is updated, all forecast parameters prior to the update time (to the nearest three-hour period) are removed from the product. Occasionally, a forecast may need a correction. In these instances, the automated PFM product is replaced with the corrected version.

WFOs may delay the morning and/or afternoon issuance of the PFM until after the NHC issues its advisories. In these circumstances, the PFM should be issued as soon as reasonably possible, but not later than 1.5 hours after receiving the NHC message. If a WFO chooses to issue the PFM at the normal times (4 am and 4 pm), then the WFO should also update these products as soon as reasonably possible, but not later than 1.5 hours after receiving the NHC message.

### **5.2.3 Valid and Product Expiration Time**

The PFM is valid from the time of release through Day 7 and expires when a new PFM is issued. Use of a default duration of 12 hours ensures overlap with newer product issuances.

### **5.2.4 Format Link**

[https://www.weather.gov/media/notification/dir/PFM\\_Format.pdf](https://www.weather.gov/media/notification/dir/PFM_Format.pdf)

### **5.2.5 Product Specification Document Link**

[https://www.weather.gov/media/notification/dir/PFM\\_Specifications.pdf](https://www.weather.gov/media/notification/dir/PFM_Specifications.pdf)

## **5.3 Area Forecast Matrices (product category AFM)**

### **5.3.1 Mission Connection**

The Area Forecast Matrices (AFM) product displays various forecasted weather parameters conditions within each **zone** (see page 4 for zone description) in the WFO CWFA through Day 7. Forecasts for these parameters are at 3-hour, 6-hour, and/or 12-hour intervals. The AFM is intended for use by large volume users and the general public. The AFM allows for rapid visual scanning of a large number of forecast parameters/values using a quasi-static matrix format. The forecast data is decodable by computers for creating derived products. Information in the AFM is provided to users as supplemental detail and/or higher resolution zone-based forecast detail than can be found in other NWS derived text products.

### **5.3.2 Issuance Criteria**

The AFM is an optional product and, if utilized, should be issued anytime the digital database is updated to reflect changing conditions. The AFM serves as an areal matrix “push” product of NWS forecast information. If issued by an office, the AFM should be generated twice daily to meet this need and to remove the outdated first period of the forecast, except in the Alaska Region where this product is not issued. Times for AFM issuance will be established by the WFOs to best serve its user needs.

The AFM will be updated and corrected when the on-duty forecast team believes the current forecast is not representative, or when format or content errors are detected. When the AFM is updated, all forecast parameters prior to the update time (to the nearest three-hour period) are removed from the product. Occasionally, a forecast may need a correction. In these instances, the automated AFM product is replaced with the corrected version.

WFOs may delay the morning and/or afternoon issuance of the AFM until after the NHC issues its advisories. In these circumstances, the AFM should be issued as soon as reasonably possible, but not later than 1.5 hours after receiving the NHC message. If a WFO chooses to issue the

AFM at the normal times (4 am and 4 pm), then the WFO should also update these products as soon as reasonably possible, but not later than 1.5 hours after receiving the NHC message.

### **5.3.3 Valid and Product Expiration Time**

The AFM is valid from the time of release through Day 7. The AFM expires when a new AFM is issued. Using default duration of 12 hours ensures overlap with newer product issuances.

### **5.3.4 Format Link**

[https://www.weather.gov/media/notification/dir/AFM\\_Format.pdf](https://www.weather.gov/media/notification/dir/AFM_Format.pdf)

### **5.3.5 Product Specification Document Link**

[https://www.weather.gov/media/notification/dir/AFM\\_Specifications.pdf](https://www.weather.gov/media/notification/dir/AFM_Specifications.pdf)

## **5.4 State Forecast Product (product category SFP)**

### **5.4.1 Mission Connection**

The SFP is an optional product. It is a general five-day public forecast of hydrometeorological conditions across the state (or part of the state) in which a WFO resides. The SFP uses the discrete period format.

### **5.4.2 Issuance Criteria**

The SFP is an optional product that may be issued twice daily in addition to the Tabular State Forecast Product. The SFP should be issued in conjunction with, and within one hour of, ZFP releases.

### **5.4.3 Valid and Product Expiration Time**

The SFP is valid from the time of release through Day 5. The SFP expires when a new SFP is issued.

### **5.4.4 Format Link**

[https://www.weather.gov/media/notification/dir/SFP\\_Format.pdf](https://www.weather.gov/media/notification/dir/SFP_Format.pdf)

### **5.4.5 Product Specification Document Link**

[https://www.weather.gov/media/notification/dir/SFP\\_Specifications.pdf](https://www.weather.gov/media/notification/dir/SFP_Specifications.pdf)

## **5.5 Tabular State Forecast Product (product category SFT)**

### **5.5.1 Mission Connection**

The SFT is a tabular public forecast of hydrometeorological conditions at specific locations over a WFO's geographic area of responsibility and/or an entire state through Day 7. While the forecast area typically includes part of one or more states, designated WFOs issue the SFT for specified locations to adequately represent forecast conditions across one entire state. In some locations, generation of entire state SFTs will become available when fully supported by automated software.

### **5.5.2 Issuance Criteria**

The SFT is a snapshot of primary weather information through seven days. This, in combination with information in other derived products, can add value to the decision making process. The SFT will be issued at any time the digital database is updated. At a minimum, the SFT will be generated twice daily along with the ZFP.

### **5.5.3 Valid and Product Expiration Time**

The SFT is valid from the time of release through Day 7. The SFT expires when a new SFT is issued.

### **5.5.4 Format Link**

[https://www.weather.gov/media/notification/dir/SFT\\_Format.pdf](https://www.weather.gov/media/notification/dir/SFT_Format.pdf)

### **5.5.5 Product Specification Document Link**

[https://www.weather.gov/media/notification/dir/SFT\\_Specifications.pdf](https://www.weather.gov/media/notification/dir/SFT_Specifications.pdf)