Department of Commerce • National Oceanic & Atmospheric Administration • National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 10-515 APRIL 2, 2024

Operations and Services Public Weather Services, NWSPD 10-5

WFO NON-PRECIPITATION WEATHER PRODUCTS SPECIFICATION

NOTICE: This publication is available at: <u>https://www.weather.gov/directives/</u>

OPR: W/AFS21 (K. McMahon)

Certified by: W/AFS21 (S. Bieda)

Type of Issuance: Routine

SUMMARY OF REVISIONS: This directive supersedes NWSI 10-515, "WFO Non-Precipitation Weather Products (NPW) Specification," dated December 27, 2019.

- 1) Section 4, replace "warnings" with "products" for clarity.
- 2) Addition of Hazard Services to Section 6.2.1.
- 3) Addition of missing Blowing Dust Warning and update of Blowing Dust Advisory in Table 1, Section 6.2.3.
- 4) Addition of "Zone" in Section 6.3.1.
- 5) Correction to headline examples to capitalize "Monday" and "Wednesday" in Section 6.3.4.1.
- 6) Addition of Section 7: Dust Storm Warnings and Dust Advisories (product category DSW).
- 7) Addition of Appendix table of contents and examples of Dust Advisory, Blowing Dust Advisory, and Dust Storm Warning products in Appendix A.

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March 19, 2024 Date

Allison Allen Director Analyze, Forecast and Support Services

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WFO Non-Precipitation Weather Products Specification

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1 Introduction

This procedural directive describes the non-precipitation weather products issued by National Weather Service (NWS) Weather Forecast Offices (WFOs) and Weather Service Offices (WSOs), guidelines associated with these products, and detailed content and format for each product type.

2 Non-Precipitation Weather Event and Definitions

2.1 Non-Precipitation Weather Event

A non-precipitation weather event is a meteorological phenomenon such as wind, extreme heat, extreme cold, etc. that impacts public safety, transportation, and/or commerce.

2.2 Non-Precipitation Weather Event Beginning Time

A non-precipitation weather event begins when either the issuance criteria are forecast to be initially met or exceeded, or when public safety, transportation and/or commerce are adversely affected as a direct result of the expected or occurring meteorological conditions before criteria are met.

2.3 Non-Precipitation Weather Event Ending Time

A non-precipitation weather event ends when the issuance criteria are forecast to no longer be met, when meteorological conditions are expected to no longer pose a threat to public safety, transportation and/or commerce, or when such conditions are forecast to end.

3 Multi-tiered Concept

The NWS non-precipitation weather warning program will use, when appropriate, the multi-tiered concept to increase public awareness and promote a proper response to the impending hazardous non-precipitation weather event. Generically, the multi-tiered concept is:

- a. **Outlook:** An outlook is issued to indicate that a hazardous non-precipitation weather event may develop. It is intended to provide information to those who need considerable lead time to prepare for the event.
- b. **Watch:** A watch is issued when the risk of a hazardous non-precipitation weather event has increased, but its occurrence, location, and/or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so.
- c. **Warning/Advisory:** A warning or advisory is issued when a hazardous nonprecipitation weather event is occurring, is imminent, or has a very high probability of occurrence. A warning is used for conditions posing a threat to life or property. An advisory is for less serious conditions that cause significant inconvenience and, if caution is not exercised, could lead to situations that may threaten life and/or property.

To properly apply the multi-tiered concept, it is important to have consensus between the forecast staff and other affected WFOs/WSOs. This enhances consistency and minimizes geographical/time discontinuities, especially for the longer duration products such as outlooks and watches. Proper coordination will enable the NWS to speak with one voice when alerting users to the potential for such an event.

4 Forecaster Judgment

Written instructions cannot address every operational situation. All WFO/WSO personnel exercise initiative and professional judgment to minimize risk to public safety and property in situations not explicitly covered by written instructions. Protection of life and property takes precedence in these decision-making processes. As such, criteria for non-precipitation weather products are to be considered as guidance only, not strict thresholds. Forecasters may issue warnings and advisories based upon lower criteria if the event in question poses a significant threat to life due to timing or other circumstances. For example, an advisory may be appropriate for a heat event that takes place early in the season when people are less acclimated, even if the temperatures do not meet strict criteria.

5 Non-Precipitation Outlook (product category HWO)

5.1 Mission Connection

Non-precipitation outlooks provide our users and partners three to seven day (3-7) advance notice of hazardous non-precipitation weather events which have the potential to threaten life and/or property. The primary goal of this product is to provide information to those who need considerable lead time to prepare for the event.

5.2 Issuance Guidelines

WFOs should use the Hazardous Weather Outlook (HWO) to issue non-precipitation outlooks in the Days Two through Seven section. Non-precipitation outlooks should follow the issuance guidelines described in National Weather Service Instruction (NWSI) 10-517, section 4.2.

<u>Exception</u>: Based on local user requirements for high impact events, some WFOs may issue a nonprecipitation outlook under the product category Special Weather Statement (SPS) in addition to the HWO.

5.3 Technical Description

Non-precipitation outlooks should follow the format and content described in NWSI 10-517, section 4.3.

6 Non-Precipitation Weather Watches, Warnings and Advisories (product category NPW)

6.1 Mission Connection

Non-precipitation weather watches, warnings and advisories provide our users and partners with advance notice of hazardous non-precipitation weather events which have the potential to threaten life and/or property. The primary goal of these products is to provide users and partners enough lead time to take appropriate action, and to describe the severity, location, timing and evolution of hazardous non-precipitation weather events occurring or forecast to occur.

6.2 Issuance Guidelines

6.2.1 Creation Software

WFOs/WSOs will use either the Advanced Weather Interactive Processing System (AWIPS) Graphical Forecast Editor (GFE) Graphical Hazard Generator (GHG) or Hazard Services as the primary software to create and issue NPWs.

6.2.2 Issuance Criteria

6.2.2.1 Non-Precipitation Weather Watch Issuance Criteria

WFOs/WSOs will issue a non-precipitation weather watch when conditions are favorable for a hazardous non-precipitation weather event to develop over part or all of the forecast area, but the timing or occurrence is uncertain. WFOs/WSOs should issue non-precipitation weather watches with as much lead time as possible when there is a 50 percent or greater chance of a hazardous non-precipitation weather event meeting or exceeding local warning and/or impact criteria.

Watches are typically issued with lead times of 36 to 48 hours, and are encouraged to be issued with longer lead times in the three- to four-day time period when confidence is high. Care should be taken to balance the need to inform the public of impending hazardous weather with the need to avoid reducing the effectiveness of watches by issuing too many false alarms.

6.2.2.2 Non-Precipitation Weather Warning and Advisory Criteria

WFOs/WSOs will issue non-precipitation weather warnings or advisories when hazardous nonprecipitation weather is occurring, imminent, or has a high probability of occurrence over part or all of the forecast area. WFOs/WSOs should issue non-precipitation weather warnings and advisories with as much lead time as possible for the first and second periods, and occasionally third or fourth forecast periods, when there is an 80 percent or greater chance of a hazardous non-precipitation weather event meeting or exceeding local warning, advisory and/or impact criteria.

6.2.2.3 Impact Criteria

The following is an example of impact vs. strict criteria: A heat event is forecast but temperature and humidity combined will not meet heat warning criteria. However, if it is early in the season or unusually warm at night when the impact will likely be high, then a Heat Advisory or Excessive Heat Warning might be warranted. The forecaster has the discretion and should not be held back from issuing what best mitigates the impending non-precipitation hazard even if traditional criteria are not met. WFOs/WSOs will coordinate with adjacent WFOs/WSOs regarding the warning type to provide consistency.

6.2.3 Non-Precipitation Weather Products

WFOs/WSOs will issue the following non-precipitation weather products, as appropriate:

| Watch Product Name | Description | | | |
|-----------------------------|--|--|--|--|
| Excessive Heat Watch | Conditions are favorable for an excessive heat event to meet or exceed local Excessive Heat Warning criteria in the next 24 to 72 hours. | | | |
| Freeze Watch | Conditions are favorable for a freeze event to meet or exceed Freeze Warning criteria in the next 12 to 48 hours during the locally defined growing season. | | | |
| Hard Freeze Watch | Conditions are favorable for a freeze event to meet or exceed Hard Freeze Warning criteria in the next 12 to 48 hours during the locally defined growing season. | | | |
| High Wind Watch | Conditions are favorable for a high wind event to meet or exceed High Wind Warning criteria in the next 12 to 48 hours. | | | |
| Extreme Cold Watch | Operational in Alaska only. Conditions are favorable for an extreme cold event to meet or exceed local Extreme Cold Warning criteria. | | | |
| Warning Product Name | Description | | | |
| Ashfall Warning | A warning issued for a volcano undergoing a major eruption where the public will be affected to a significant extent such as greater than or equal to ¹ / ₄ inch of ashfall accumulation, significant debris, lava or lahar flows. | | | |
| Blowing Dust Warning* | *Widespread synoptically driven blowing dust reducing visibilities to 1/4 mile or less. Winds of 25 mph or greater are usually required. Generally, for a duration of longer than 90 minutes. | | | |
| Excessive Heat Warning** | **Heat Index (HI) values forecast to meet or exceed locally defined warning criteria for at least two days (Typical values: 1) Maximum daytime HI \geq 105°F north to110°F south and 2) Minimum nighttime lows \geq 75°F). | | | |

 Table 1: Non-Precipitation Weather Products Table

| Extreme Cold Warning | Operational in Alaska only. When forecast to occur for at least three consecutive days: Shelter temperature of -50°F or colder and air temperature remains below -40°F up to the 700-mb level. |
|----------------------------|---|
| Freeze Warning | Minimum shelter temperature is forecast to be 32°F or less during the locally defined growing season. |
| Hard Freeze Warning | Minimum shelter temperature is forecast to be 28°F or less (slightly lower or higher based on local criteria) during the locally defined growing season. |
| High Wind Warning | Wind speeds forecast to meet or exceed locally defined warning criteria. (Typical values are sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration). |
| Advisory Product Name | Description |
| Air Stagnation Advisory | Atmospheric conditions stable enough to cause air pollutants to accumulate in a given area. Criteria developed in conjunction with the local or state EPA and product issued at EPA request. |
| Ashfall Advisory | An advisory is issued for a volcano undergoing a minor eruption where the public will be affected by a limited hazard extent such as less than ¹ / ₄ " of ashfall accumulation. |
| Blowing Dust Advisory* | *Widespread synoptically driven blowing dust reducing visibilities to one mile or less, but greater than 1/4 mile. Winds of 25 mph or greater are usually required. Generally for a duration of longer than 90 minutes. |
| Dense Fog Advisory | Widespread or localized fog reducing visibilities to 1/4 mile or less. |
| Dense Smoke Advisory | Widespread or localized smoke reducing visibilities to 1/4 mile or less. |
| Freezing Fog Advisory | Very light ice accumulation from freezing fog. |
| Frost Advisory | Minimum shelter temperature forecast to be 33°F to 36°F during the locally defined growing season, on nights with good radiational cooling conditions (e.g., light winds and clear skies). |
| Heat Advisory** | **Heat Index values forecast to meet or exceed locally defined advisory criteria for one to two days. Typical values: 1) Maximum daytime $HI \ge 100^{\circ}F$ north to $105^{\circ}F$ south 2) Minimum nighttime lows $\ge 75^{\circ}F$). |
| Lake Wind Advisory | Sustained wind speeds of 20 to 29 mph (or locally defined) lasting for 1 hour or longer for regions which have a significant user community. Need for this product is locally determined. |
| Wind Advisory | Sustained wind speeds of 30 to 39 mph lasting for 1 hour or longer or locally defined. |

Notes:

*For shorter-duration, localized dust events with similar impacts, these will be handled by Dust Storm Warnings and Dust Advisories (see section 7).

**The Excessive Heat Warning/Heat Advisory criteria are highly variable in different parts of the country due to climate variability and the effect of excessive heat on the local population. WFOs/WSOs are strongly encouraged to develop local criteria in cooperation with local emergency and health officials, and/or utilize detailed heat-health warning systems based on scientific research.

In the event of a power outage during a heat event due to a severe event such as high winds, severe thunderstorms, or a derecho, WFOs/WSOs are strongly encouraged to lower their heat advisory/warning criteria and emphasize the impact of potential loss of air conditioning.

6.2.4 Issuance Time

Non-precipitation watches, warnings and advisories are event-driven products.

6.2.5 NPW Watch Issuance Time

WFOs/WSOs should issue the initial watch when the watch issuance criteria are met but not within 12 hours of the event start time; by this time, a decision should be made to either cancel or upgrade to a warning or advisory. Subsequent updates are issued at least once every 12 hours until a warning or advisory is issued or the watch is cancelled.

6.2.6 NPW Warning/Advisory Issuance Time

WFOs/WSOs should initially issue a non-precipitation weather warning or advisory when a hazardous non-precipitation weather event is expected to meet or exceed local warning/advisory and/or impact criteria. WFOs/WSOs should issue updated warnings or advisories at least once every six to eight hours until the event ends or is cancelled.

6.2.7 Valid Time

A non-precipitation watch, warning or advisory is valid for the appropriate time period for which impacts will be experienced during the event. The valid time (event beginning and end time) is placed in the Primary Valid Time Event Code (P-VTEC) line and described in the headline. Excessive heat watches should be valid for the entire time of the expected heat episode, not just the daytime hours. For example, a heat episode expected to last three days should be covered by a single Excessive Heat Watch for the entire period rather than three separate daytime watches.

6.2.7.1 Event Beginning Time

The event beginning time is when the hazardous event is expected to begin described in Section 2.2. The event beginning time is placed in the P-VTEC line when issuance time is prior to the event beginning time. Otherwise, the event beginning time is zeroed out to indicate the event has begun (e.g., 000000T0000Z).

The event beginning time is also described in the watch, warning or advisory headline. If the issuance time is three or more hours prior to the event beginning time, the event beginning time is placed in the warning or advisory headline (e.g., HIGH WIND WARNING IN EFFECT FROM <u>10</u> <u>PM THIS EVENING</u> TO 9 AM EST MONDAY). Otherwise, the event beginning time is omitted (e.g., HIGH WIND WARNING IN EFFECT UNTIL 9 AM EST MONDAY).

6.2.7.2 Event Ending Time

The event ending time is when the hazardous event is expected to end. The event ending time is placed in the P-VTEC line and described in the watch headline (e.g., FREEZE WATCH IN EFFECT FROM LATE SUNDAY NIGHT THROUGH **MONDAY MORNING**).

6.2.7.3 Product Expiration Time

The product expiration time is the time when users can expect to receive an updated NPW.

6.2.7.4 NPW Watch Expiration Time

The watch product expiration time is generally 12 hours after the issuance time and is placed at the end of the Universal Geographic Code (UGC) string.

6.2.7.5 NPW Warning or Advisory Expiration Time

The warning/advisory product expiration time is generally 6 to 8 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end. The product expiration time is placed in the UGC line.

6.3 Technical Description

NPWs follow the format and content described in this section.

6.3.1 Universal Geographic Code (UGC) Type

NPWs will use the Zone (Z) form of the UGC.

6.3.2 Mass News Disseminator (MND) Broadcast Instruction Line

Not applicable.

6.3.3 MND Product Type Line

The NPW MND line is "URGENT - WEATHER MESSAGE".

6.3.4 NPW Content

The NPW will not contain an overview section, but will include segmented forecast information.

6.3.4.1 Segmented Forecast Information

Each segment of the NPW will include a watch headline followed by a descriptive text describing why the product was issued. Each segment describes a specific hazardous NPW event(s) for the same geographical area.

- a. <u>Headline</u>. The NPW headline will include the following elements in the order shown:
- (1) Leading ellipsis (...).

- (2) Valid watch product name listed in Table 1.
- (3) Event action phrase defined in Table 2.
- (4) General event beginning day and time phrase defined in Appendix C (when applicable).
- (5) General event ending day and time phrase defined in Appendix C (when applicable).
- (6) Trailing ellipsis (...).

Exception: When necessary (e.g., mountainous terrain), areal descriptive terms and elevation indicators are permitted after the ending day and time phrase and before the trailing ellipsis.

Generic Headline Format:

Used when watch, warning or advisory product is in effect:

...<watch product name> <event action phrase> FROM <event beginning date and time phrase> TO <event ending date and time phrase>...

Used when a warning or advisory product issuance time equals event beginning time: ...<warning product name> <event action phrase> UNTIL <event ending date and time phrase>...

Used to cancel a watch, warning or advisory prior to event beginning date and time: ... <watch product name> <event action phrase>...

Event Action Phrase: The event action phrase in the headline corresponds with the VTEC action code. Only the following event action phrases in Table 2 will be used in NPW headlines:

| VTEC Action Code | Description | Required Event Action Phrase | Include Time/ Date? |
|------------------------|---|------------------------------------|---------------------------|
| NEW | Initial watch, warning, advisory issuance. | IN EFFECT | Yes |
| EXA | Expansion of watch/warning/advisory area. | IN EFFECT | Yes |
| EXB | Expansion of advisory area and change to advisory valid time. | IN EFFECT | Yes |
| CON | Continuation or update of watch/warning/ advisory. | REMAINS IN EFFECT | Yes |
| EXT | Extend/shorten advisory start and/or ending date/time. | NOW IN EFFECT | Yes |
| CAN | Watch/warning/advisory cancelled prior to event end time. | IS CANCELLED | No |
| EXP | Warning/advisory approaching the expiration time. Used up to 30 minutes prior to advisory end time. *Note: Not valid for Watches. | WILL EXPIRE AT | Yes |

Table 2: Event Action phrases for NPW Headlines

| | Warning/advisory has expired. Used up to 30 minutes after advisory expiration has passed. *Note: Not valid for Watches. | HAS EXPIRED | No |
|-----|---|-------------|----|
| UPG | Upgrade watch to warning/advisory or advisory to warning. No headline. *Note: Warnings cannot be upgraded. | | |

b. <u>NPW Headline Examples</u>:

(1) Initial issuance:

...High Wind Watch in effect from Sunday morning through Monday morning... ...High Wind Warning in effect from 7 am this morning to 11 am EST Wednesday...

(2) <u>Update</u>:

...High Wind Watch remains in effect from Sunday morning through Monday morning... ...High Wind Warning remains in effect until 11 am EST Wednesday...

(3) Extended event end time:

...High Wind Watch now in effect from Sunday morning through Monday afternoon... ...High Wind Warning now in effect until 5 pm EST Wednesday...

(4) Cancelled prior to event end time/date:

...High Wind Watch is cancelled...

...High Wind Warning is cancelled...

(5) <u>Expiration statement up to 30 minutes prior to event end time</u>: ...High Wind Warning will expire at 5 pm EST Wednesday...

(6) <u>Expiration statement up to 30 minutes after event end time</u>: ...High Wind Warning has expired...

c. <u>Descriptive Text</u>: This section will provide the following NPW information:

- As part of the ongoing Hazard Simplification Project, all Non-Precipitation Weather Hazard products (NPW) will reformat into a "What", "Where", "When", "Impacts", "Additional Details", and "Precautionary/Preparedness Actions" information ordering format for clarifying hazard messages.
- (2) Generalized quantitative wind speed amounts or heat index values, etc., and event timing, based upon local <u>warning</u> criteria (e.g., wind speeds greater than 40 mph possible, heat index values greater than 110°F possible).
- (3) Reason NPW was issued.
- (4) Explanation of a watch/warning/advisory and uncertainty involved. Include the impact phrase to define an NPW:

IMPACTS... Damaging winds will blow down trees and power lines. Widespread power outages are expected. Travel will be difficult, especially for high profile vehicles.

(5) Generally brief potential impact or Call to Action (CTA) statements. CTAs can be effective in reminding people of what actions to take in preparing themselves for the potentially hazardous non-precipitation weather event.

The NWS and Occupational Safety Administration (OSHA) have agreed to include the following text in CTAs in all NWS Heat Advisories and Warnings:

TAKE EXTRA PRECAUTIONS IF YOU WORK OR SPEND TIME OUTSIDE. WHEN POSSIBLE...RESCHEDULE STRENUOUS ACTIVITIES TO EARLY MORNING OR EVENING. KNOW THE SIGNS AND SYMPTOMS OF HEAT EXHAUSTION AND HEAT STROKE. WEAR LIGHTWEIGHT AND LOOSE FITTING CLOTHING WHEN POSSIBLE AND DRINK PLENTY OF WATER.

TO REDUCE RISK DURING OUTDOOR WORK...THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RECOMMENDS SCHEDULING FREQUENT REST BREAKS IN SHADED OR AIR CONDITIONED ENVIRONMENTS. ANYONE OVERCOME BY HEAT SHOULD BE MOVED TO A COOL AND SHADED LOCATION. HEAT STROKE IS AN EMERGENCY - CALL 911.

In addition, the following text is optional at each Region's discretion: THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION ADVISES THAT WORKERS WHO WEAR PROTECTIVE SUITS MAY BE AT INCREASED RISK BECAUSE SUITS CAN BLOCK COOLING.

d. <u>Order of Segments</u>. Non-precipitation watches are usually placed last in the order of segments. This order was designed to place the most important or time sensitive information near the beginning of the message. The order of segments is:

- (1) Cancellation
- (2) Warnings
- (3) Advisories
- (4) Watches

e. <u>Order of Headlines</u>. More than one headline is required in a segment when two or more non- precipitation weather events are forecast to occur for the same UGC or geographical area.

The order of headlines will follow the order of segments. Examples:

(1) Dense Fog Advisory and Excessive Heat Watch in effect for the same geographical area.

...Dense Fog Advisory in effect until 9 am EST this morning...

...Excessive Heat Watch in effect from Thursday afternoon through Friday afternoon...

(2) High Wind Warning and Wind Advisory in effect for the same mountain zone(s).

...High Wind Warning in effect until 11 am PST Wednesday above 3000 ft... ...Wind Advisory in effect until 11 am PST Wednesday at or below 3000 ft...

6.3.5 Format

Table 3: Generic Format for NPWs

```
URGENT - WEATHER MESSAGE
National Weather Service (Office)
(Time and Date)
(Zone identifiers)- (valid time)-
(VTEC information)
(Location(s) (Zones/polygons included)
(Time and date)
...(HAZARD)
WATCH/WARNING/ADVISORY/STATEMENT IN
EFFECT UNTIL (TIME) ...
* WHAT...(Bulleted text)
* WHERE...(Bulleted text)
* WHEN...(Bulleted text)
* IMPACTS...(Bulleted text)
ADDITIONAL DETAILS...(Optional Text)
PRECAUTIONARY/PREPAREDNESS
ACTIONS...(Text)
&&
$$
```

6.3.5.1 Bulleted Text Items

As part of the ongoing Hazard Simplification Project, all Non-Precipitation Weather Hazard products (NPW) will reformat into a "What", "Where", "When", "Impacts", "Additional Details", and "Precautionary/Preparedness Actions" information ordering format for clarifying hazard messages.

Bullets should be as short and simple as possible to convey significant information for an event. Generally, only one or two sentences should suffice. Bullets can be locally or regionally defined in order to meet users' needs, but should always include an impact bullet. In addition to impact, other bullets should be used to describe the severity and evolution of the event. They may include, but are not limited to: Hazard, Timing, Location, Level of Confidence, Temperatures, and Wind. In the event of a power outage during a heat event, such as after a severe thunderstorm, high winds or derecho, additional CTA statements should be added as appropriate.

Two examples of bullets:

Example 1:

...WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 6 AM EST THURSDAY...

- * WHAT...West winds 20 to 30 mph with gusts up to 50 mph expected.
- * WHERE...Portions of southwest Virginia, north central and northwest North Carolina and southeast West Virginia.
- * WHEN...From noon Wednesday to 6 AM EST Thursday.
- * IMPACTS...Gusty winds will blow around unsecured objects. Tree limbs could be blown down and a few power outages may result.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Use extra caution when driving, especially if operating a high-profile vehicle. Secure outdoor objects.

Example 2:

...DENSE FOG ADVISORY IN EFFECT UNTIL 11 AM MST /10 AM PST/ THIS MORNING... ...AIR STAGNATION ADVISORY REMAINS IN EFFECT UNTIL 2 PM MST /1 PM PST/ FRIDAY...

- * WHAT...For the Air Stagnation Advisory, an extended period of stagnant air, with light winds and little vertical mixing. For the Dense Fog Advisory, visibility one quarter mile or less in dense fog.
- * WHERE...Treasure Valley and Upper Weiser River zone.

- * WHEN...For the Air Stagnation Advisory, until 2 PM MST /1 PM PST/ Friday. For the Dense Fog Advisory, until 11 AM MST /10 AM PST/ this morning.
- * IMPACTS...Hazardous driving conditions due to low visibility. Periods of air stagnation can lead to the buildup of pollutants near the surface.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If driving, slow down, use your headlights, and leave plenty of distance ahead of you. If possible, reduce or eliminate activities that contribute to air pollution, such as outdoor burning, and the use of residential wood burning devices. Reduce vehicle trips and vehicle idling as much as possible. Check with local agencies for possible restrictions in your area.

6.4 Updates, Cancellations, and Corrections

WFOs/WSOs will update NPWs at least once every 12 hours, or when there is a change in timing, areal extent, or expected conditions. WFOs/WSOs should issue the updated NPW <u>before</u> the product expiration time is reached.

Non-precipitation watches are either upgraded into warnings or advisories, or cancelled. WFOs/WSOs will issue a NPW to cancel a watch when the forecaster believes the threat of hazardous non-precipitation weather will not develop.

WFOs/WSOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

GHG provides the capability for forecasters to edit the headlines by "unlocking" them (Note, the default setting keeps headlines "locked").

6.5 Upgrade Watch to Warning or Advisory

When a non-precipitation weather watch is upgraded to a non-precipitation weather warning or non-precipitation weather advisory for the same geographical area, the NPW segment will contain one headline and two P-VTEC lines. The headline will list the new warning or advisory only. The first P-VTEC line will use the UPG action code to show the old non-precipitation weather watch is being upgraded. The second P-VTEC line will either use the NEW action code to start the new non-precipitation weather warning or advisory, or use the EXA or EXB action code to extend an existing weather warning or advisory into this geographical area.

6.5.1 Upgrade Watch to Warning Segment Example

MIZ001>003-031100 /O.UPG.KMQT.HW.A.0002.040103T0800Z-040103T2300Z/ (P-VTEC line 1)

/O.NEW.KMQT.HW.W.0003.040103T0800Z-040103T2300Z/ (P-VTEC line 2) KEWEENAW-NORTHERN HOUGHTON-ONTONAGONINCLUDING THE CITIES OF...COPPER HARBOR...HOUGHTON...ONTONAGON 400 PM EST FRI JAN 2 2004

...HIGH WIND WARNING IN EFFECT FROM 3 AM TO 6 PM EST SATURDAY...

(Only one headline used - lists active non-precipitation weather warning) <descriptive text>

7 Dust Storm Warnings and Dust Advisories (product category DSW)

7.1 Mission Connection

Dust Storm Warnings and Dust Advisories provide our users and partners with advance notice of hazardous convectively-driven dust events which have the potential to threaten life and/or property. The primary goal of these products is to provide users and partners enough lead time to take appropriate action, and to describe the severity, location, timing and evolution of hazardous dust events occurring or forecast to occur.

7.2 Issuance Guidelines

7.2.1 Creation Software

WFOs will use WarnGen to create and issue Dust Storm Warnings and Dust Advisories, which are polygon-based. This is separate from Blowing Dust Warnings and Advisories (NPW) which are issued using zones through GHG or Hazard Services.

7.2.2 Issuance Criteria

DSWs will be issued when the following warning/advisory criteria are occurring, imminent, or have a high probability of occurrence:

- a) Dust Advisory: dust reducing visibilities to one mile or less, but greater than 1/4 mile. Winds of 25 mph or greater are usually required.
- b) Dust Storm Warning: dust storm reducing visibilities to 1/4 mile or less. Winds of 25 mph or greater are usually required.

7.2.3 Issuance Time

DSWs are event-driven products.

7.2.4 Valid Time

Dust Storm Warnings and Dust Advisories will be issued using polygons for a valid period of 20 or more minutes, not to exceed 2 hours.

7.2.5 **Product Expiration Time**

The product expiration time is the end of warning/advisory valid time and should coincide with the next expected update or when the event is forecast to end.



Figure 1: Description of NWS Dust Products

7.3 Technical Description

DSWs follow the format and content described in this section.

7.3.1 Universal Geographic Code (UGC) Type

County (Zone for Alaska and parts of Pacific Region).

7.3.2 Mass News Disseminator (MND) Broadcast Line

Dust Storm Warnings should include the broadcast line: "BULLETIN - EAS ACTIVATION REQUESTED."

7.3.3 MND Header

The Dust Storm Warning MND header is "Dust Storm Warning." The Dust Advisory MND header is "Dust Advisory."

7.3.4 DSW Content

DSWs will contain information in the following order, through the Impact Based Warning (IBW) format:

<u>First Bullet</u>: Type of warning/advisory; and warning/advisory location(s);

Second Bullet: Expiration time of warning/advisory;

<u>Third Bullet</u>: Time; type of dust storm and physical distance (in miles) from the closest location; storm motion. If edits of more than 10 mph or more than 45 degrees are required for storm motion, the forecaster should adjust the track in WarnGen, rather than manually edit the test, in order to keep in agreement with TIME...MOT...LOC line.

HAZARD... Basis for warning/advisory.

SOURCE... Select one of these accepted source types (NWS Meteorologist Detected, Satellite Imagery, Doppler Radar, Trained Spotter(s), Law Enforcement, Emergency Management, Department of Transportation Officials, or public).

IMPACT: This section contains predetermined statements that are based on the selected hazard.

Fourth Bullet: Locations to be impacted during the warning/advisory;

PRECAUTIONARY/PREPAREDNESS ACTIONS: One or two short, concise, action-oriented CTA statements.

LAT...LON: The warning/advisory area polygon as described by a series of latitude/longitude coordinates in decimal degrees. The polygon will contain as few as three and as many as twenty vertices.

TIME...MOT...LOC: The tracking information gives the location and movement of the event being tracked.

Table 4: Impact-Based Warning Format for Dust Storm Warning and Dust Advisory

```
(Dust Storm Warning/Dust Advisory)
National Weather Service (Office)
(Time and Date)
(Zone identifiers) (valid time)
(VTEC information)
(Location(s)) (Zones/Polygons included)
(Time and Date)
The National Weather Service in (WFO City) has issued a
* Dust (Storm) Advisory/Warning for...
  (Locations)...
* Until (Time).
* At (Time), (Bulleted text).
 HAZARD...(Bulleted text).
 SOURCE...(Bulleted Text).
 IMPACT...(Bulleted text).
* (Additional details - Bulleted text).
Locations impacted include...
 (Locations).
```

7.3.5 Format

Table 5: Generic format for a Dust Storm Warning

```
WWaa5i cccc ddhhmm
DSWccc
BULLETIN - EAS ACTIVATION REQUESTED
Dust Storm Warning
National Weather Service City State
time AM/PM time zone Day Mon dd yyyy
UGCnnn-ddhhmm-
/k.aaa.cccc.pp.s.####.yymmddThhnnZ-yymmddThhnnZ/
(County State)
time AM/PM time zone Day Mon dd yyyy
The National Weather Service in City has issued a
* Dust Storm Warning for...
  Portion County one in section State... (List warned counties)
* Until hhmm AM/PM time zone. (Expiration time of warning)
* At hhmm AM/PM time_zone, warning basis, forward speed and direction.
  HAZARD...Warning basis elements (Less than a quarter mile and wind
speed (mph)).
  SOURCE...(Choose one) (NWS Meteorologist Detected, Satellite Imagery,
Doppler Radar, Trained Spotter(s), Law Enforcement, Emergency Management,
Department of Transportation Officials, or public).
  IMPACT...Dangerous life-threatening travel.
Locations impacted include...
Location #1, Location #2, Location #n. (n = variable number of locations)
PRECAUTIONARY/PREPAREDNESS ACTIONS...
(Call-to-Action statements).
&&
LAT...LON (Required list of latitude/longitude coordinate pairs outlining
the forecaster-drawn warning area)
TIME...MOT...LOC hhnnZ xxxDEG xxKT xxxx xxxx (lat/lon couplet(s))
$$
```

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|----------------|--------------|-------------------|-----------------|----------|
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This section contains guidelines and examples of non-precipitation weather products.

Non-Precipitation Weather Watch Examples

Freeze Watch

Example of a Freeze Watch, first issuance.

```
WWUS72 KFFC 082007
NPWFFC
```

URGENT - WEATHER MESSAGE National Weather Service Peachtree City GA 307 PM EST Thu Nov 8 2018

```
GAZ001>009-011>016-019>021-030-031-041-090415-
/O.NEW.KFFC.FZ.A.0011.181110T0800Z-181110T1500Z/
Dade-Walker-Catoosa-Whitfield-Murray-Fannin-Gilmer-Union-Towns-
Chattooga-Gordon-Pickens-Dawson-Lumpkin-White-Floyd-Bartow- Cherokee-
Polk-Paulding-Haralson-Including the cities of Calhoun,
Dahlonega, Cleveland, Rome, and Cartersville
307 PM EST Thu Nov 8 2018
```

```
...FREEZE WATCH IN EFFECT FROM LATE FRIDAY NIGHT THROUGH SATURDAY
MORNING...
```

- * WHAT... Subfreezing temperatures are possible.
- * WHERE... Northwest and far north Georgia, along and north of a line from Buchanan to Canton and Cleveland.
- * WHEN... From late Friday night through Saturday morning.
- * IMPACTS... Frost and freeze conditions could kill crops, other sensitive vegetation and possibly damage unprotected outdoor plumbing.

PRECAUTIONARY/PREPAREDNESS ACTIONS... Take steps now to protect tender plants from the cold. To prevent freezing and possible bursting of outdoor water pipes they should be wrapped, drained, or allowed to drip slowly. Those that have in-ground sprinkler systems should drain them and cover above-ground pipes to protect them from freezing &&

\$\$

High Wind Watch

Example of a High Wind Watch, first issuance.

WWUS71 KBOX 260733 NPWBOX

URGENT - WEATHER MESSAGE National Weather Service Boston/Norton MA 333 AM EDT Fri Oct 26 2018

MAZ022>024-RIZ008-261545-/O.NEW.KBOX.HW.A.0005.181027T1000Z-181027T2100Z/ Barnstable MA-Dukes MA-Nantucket MA-Block Island RI-Including the cities of Chatham, Falmouth, Provincetown, Vineyard Haven, Nantucket, and New Shoreham 333 AM EDT Fri Oct 26 2018

...HIGH WIND WATCH IN EFFECT FROM SATURDAY MORNING THROUGH SATURDAY AFTERNOON...

- * WHAT... East winds 25 to 35 mph with gusts up to 60 mph are possible.
- * WHERE... Cape Cod, Nantucket, Martha's Vineyard and Block Island.
- * WHEN... From Saturday morning through Saturday afternoon.

* IMPACTS... Potential widespread power outages from downed trees and power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Monitor the latest forecasts and warnings for updates on this situation. Fasten loose objects or shelter objects in a safe location prior to the onset of winds.

& &

\$\$ Excessive Heat Watch

Example of an Excessive Heat Watch, first issuance.

WWUS71 KALY 291922 NPWALY URGENT - WEATHER MESSAGE National Weather Service Albany NY 322 PM EDT Fri Jun 29 2018 CTZ001-013-MAZ001-025-300900-/0.NEW.KALY.EH.A.0001.180701T1600Z-180703T0200Z/ Northern Litchfield-Southern Litchfield-Northern Berkshire-Southern Berkshire-Including the cities of Torrington, Oakville, Gaylordsville, New Milford, Terryville, Thomaston, Dalton, Hancock, Pittsfield, Florida, North Adams, Sandisfield, Great Barrington, and South Egremont 322 PM EDT Fri Jun 29 2018

... EXCESSIVE HEAT WATCH IN EFFECT FROM SUNDAY AFTERNOON THROUGH MONDAY EVENING...

- * WHAT... Prolonged period of dangerously hot temperatures and high humidity are possible.
- * WHERE... The Berkshires of Massachusetts and Litchfield County in Connecticut.
- * WHEN... From Sunday afternoon through Monday evening.
- * IMPACTS... The combination of hot temperatures and high humidity will combine to create a dangerous situation in which heat illnesses are possible.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Monitor the latest forecasts and warnings for updates on this situation. Be prepared to drink plenty of fluids, stay in an air- conditioned room, stay out of the sun, and check up on relatives and neighbors.

Young children and pets should never be left unattended in vehicles under any circumstances. This is especially true during

warm or hot weather when car interiors can reach lethal temperatures in a matter of minutes. &&

\$\$

Non-Precipitation Weather Warning Example

Hard Freeze Warning

Example of a Hard Freeze Warning, first issuance.

WWUS72 KFFC 150828 NPWFFC

URGENT - WEATHER MESSAGE National Weather Service Peachtree City GA 328 AM EST Thu Nov 15 2018

```
GAZ001>009-011>016-019>025-027-030>039-041>062-066>073-075-151630-
/O.NEW.KFFC.HZ.W.0015.181116T0400Z-181116T1300Z/
Dade-Walker-Catoosa-Whitfield-Murray-Fannin-Gilmer-Union-Towns-
Chattooga-Gordon-Pickens-Dawson-Lumpkin-White-Floyd-Bartow-
Cherokee-Forsyth-Hall-Banks-Jackson-Madison-Polk-Paulding-Cobb-
North Fulton-Gwinnett-Barrow-Clarke-Oconee-Oglethorpe-Wilkes-
Haralson-Carroll-Douglas-South Fulton-DeKalb-Rockdale-Walton-
Newton-Morgan-Greene-Taliaferro-Heard-Coweta-Fayette-Clayton-
Spalding-Henry-Butts-Jasper-Putnam-Hancock-Warren-Troup-
Meriwether-Pike-Upson-Lamar-Monroe-Jones-Baldwin-Glascock-
Including the cities of Calhoun, Dahlonega, Cleveland, Rome,
Cartersville, Gainesville, Marietta, Atlanta, Lawrenceville,
Athens, Carrollton, Douglasville, East Point, Decatur, Conyers,
Covington, Newnan, Peachtree City, Griffin, and Milledgeville
328 AM EST Thu Nov 15 2018
```

...HARD FREEZE WARNING IN EFFECT FROM 11 PM THIS EVENING TO 8 AM EST FRIDAY...

- * WHAT... Sub-freezing temperatures are expected.
- * WHERE... North and portions of central Georgia, along and north of a West Point to Macon to Louisville line.
- * WHEN... From 11 PM this evening to 8 AM EST Friday.
- * IMPACTS... Frost and freeze conditions will kill crops, other sensitive vegetation and possibly damage unprotected outdoor plumbing.

PRECAUTIONARY/PREPAREDNESS ACTIONS... Take steps now to protect tender plants from the cold. To prevent freezing and possible bursting of outdoor water pipes they should be wrapped, drained, or allowed to drip slowly. Those that have in-ground sprinkler systems should drain them and cover aboveground pipes to protect them from freezing.

& &

\$\$

High Wind Warning

Example of a High Wind Warning, first issuance.

WWUS71 KBOX 260733 NPWBOX

URGENT - WEATHER MESSAGE National Weather Service Boston/Norton MA 333 AM EDT Fri Oct 26 2018

```
MAZ022>024-RIZ008-261545-
/O.NEW.KBOX.HW.W.0005.181027T1000Z-181027T2100Z/
Barnstable MA-Dukes MA-Nantucket MA-Block Island RI-
Including the cities of Chatham, Falmouth, Provincetown,
Vineyard Haven, Nantucket, and New Shoreham
333 AM EDT Fri Oct 26 2018
```

...HIGH WIND WARNING IN EFFECT FROM SATURDAY MORNING THROUGH SATURDAY AFTERNOON...

- * WHAT... East winds 25 to 35 mph with gusts up to 60 mph are expected.
- * WHERE... Cape Cod, Nantucket, Martha's Vineyard and Block Island.
- * WHEN... From Saturday morning through Saturday afternoon.

* IMPACTS... Damaging winds will blow down trees and power lines. Widespread power outages are expected. Travel will be difficult, especially for high profile vehicles.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

People should avoid being outside in forested areas and around trees and branches. If possible, remain in the lower levels of your home during the windstorm, and avoid windows. Use caution if you must drive.

& &

\$\$

Blowing Dust Warning

Example of a Blowing Dust Warning, first issuance.

WWUS75 KPSR 281739 NPWPSR

URGENT - WEATHER MESSAGE National Weather Service Phoenix AZ 1039 AM MST Sat Jul 28 2018

AZZ534-537>540-542>544-546-548-550-551-553>555-559-290500-/O.NEW.KPSR.DU.W.0015.180728T2200Z-180729T0500Z/ Aguila Valley-Northwest Valley-Tonopah Desert-Gila Bend-Buckeye/Avondale-Deer Valley-Central Phoenix-North Phoenix/Glendale-Scottsdale/Paradise Valley-East Valley-South Mountain/Ahwatukee-Southeast Valley/Queen Creek-Northwest Pinal County-West Pinal County-Apache Junction/Gold Canyon-Sonoran Desert Natl Monument- Including the cities of Aguila, Gladden, Wickenburg, Circle City, Surprise, Wittmann, Beardsley, Sun City West, Arlington, Hassayampa, Tonopah, Wintersburg, Gila Bend, Sentinel, Avondale, Cashion, Goodyear, Liberty, Peoria, Phoenix, Paradise Valley, Mesa, Chandler, Tempe, Gilbert, Sun Lakes, Queen Creek, Casa Grande, Cactus Forest, Florence, Coolidge, and Apache Junction 1039 AM MST Sat Jul 28 2018

...BLOWING DUST WARNING IN EFFECT FROM 3PM THIS AFTERNOON TO 10 PM MST THIS EVENING...

- * WHAT...Widespread blowing dust is expected.
- * WHERE...The lower elevations of Maricopa and Pinal Counties including metro Phoenix, Casa Grande, Gila Bend, I-10, and I-8.

- * WHEN... From 3 PM this afternoon to 10 PM MST this evening.
- * IMPACTS... Severely limited visibilities are expected. Travel will be dangerous and possibly life-threatening.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Persons with respiratory problems should make preparations to stay indoors until the storm passes. Be ready for a sudden drop in visibility to near zero. If you encounter blowing dust or blowing sand on the roadway or see it approaching, pull off the road as far as possible and put your vehicle in park. Turn the lights all the way off and keep foot off the brake pedal. Remember, Pull Aside, Stay Alive.

& &

\$\$

Dust Storm Warning

Example of a Dust Storm Warning, first issuance.

- Note: Impact-Based Warning format is used.

351 WWUS54 KAMA 301818 DSWAMA BULLETIN - EAS ACTIVATION REQUESTED Dust Storm Warning National Weather Service Amarillo TX 118 PM CDT Thu Mar 30 2023 OKC025-301915-/O.NEW.KAMA.DS.W.0002.230330T1818Z-230330T1915Z/ Cimarron OK-118 PM CDT Thu Mar 30 2023 The National Weather Service in Amarillo has issued a * Dust Storm Warning for ... Western Cimarron County in the Panhandle of Oklahoma... * Until 215 PM CDT. * At 116 PM CDT, a dust channel was 4 miles west of Boise City, moving northeast at 35 mph. HAZARD...Less than a quarter mile visibility with damaging wind in excess of 60 mph.

SOURCE... Emergency Management.

IMPACT...Dangerous life-threatening travel.

* Highways impacted could include US Highway 412, US Highway 385, US Highway 56, and Oklahoma State Highway 325.

Locations impacted include... Boise City, Kenton, Wheeless, Black Mesa Park and Felt.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Dust storms lead to dangerous driving conditions with visibility reduced to near zero. If driving, avoid dust storms if possible. If caught in one, pull off the road, turn off your lights and keep your foot off the brake.

Motorists should not drive into a dust storm. PULL ASIDE STAY ALIVE!

&&

LAT...LON 3699 10229 3651 10265 3650 10300 3700 10300 TIME...MOT...LOC 1816Z 210DEG 32KT 3675 10259

\$\$

Non-Precipitation Weather Advisory Examples

Lake Wind Advisory

Example of a Lake Wind Advisory, first issuance.

WWUS72 KCAE 081910 NPWCAE

URGENT - WEATHER MESSAGE National Weather Service Columbia SC 210 PM EST Fri Feb 8 2019

SCZ031-036>038-092100-/O.NEW.KCAE.LW.Y.0005.190209T0600Z-190209T2100Z/ Sumter-Orangeburg-Calhoun-Clarendon-Including the cities of Sumter, Orangeburg, Brookdale, St. Matthews, Manning, and Summerton 210 PM EST Fri Feb 8 2019 ...LAKE WIND ADVISORY IN EFFECT FOR LAKE MARION FROM 1 AM TO 4 PM EST SATURDAY...

- * WHAT... Northeast winds 15 to 20 knots with gusts up to 25 knots are expected.
- * WHERE... Lake Marion.
- * WHEN... From 1 am to 4 pm EST Saturday.
- * IMPACTS... Strong winds and rough waves on area lakes will create hazardous conditions for small craft.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Winds will make boating difficult...especially for small craft that will be prone to capsizing. Use extra caution. $_{\&\&}$

```
$$
```

Wind Advisory

Example of a Wind Advisory, first issuance.

WWUS71 KBOX 260733 NPWBOX

URGENT - WEATHER MESSAGE National Weather Service Boston/Norton MA 333 AM EDT Fri Oct 26 2018

MAZ022>024-RIZ008-261545-/O.NEW.KBOX.HW.Y.0005.181027T1000Z-181027T2100Z/ Barnstable MA-Dukes MA-Nantucket MA-Block Island RI-Including the cities of Chatham, Falmouth, Provincetown, Vineyard Haven, Nantucket, and New Shoreham 333 AM EDT Fri Oct 26 2018

...WIND ADVISORY IN EFFECT FROM SATURDAY MORNING THROUGH SATURDAY AFTERNOON... * WHAT... Northeast winds 15 to 20 mph with gusts up to 45 mph are expected.* WHERE... Cape Cod, Nantucket, Martha's Vineyard and Block Island.* WHEN... From Saturday morning through Saturday afternoon.* IMPACTS... Gusty winds will blow around unsecured objects. Tree limbs could be blown down and a few power outages may result.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution. Secure outdoor objects.

& &

\$\$

Heat Advisory

Example of a Heat Advisory, first issuance.Note: OSHA language is included in the CTA statement.

```
WWUS71 KALY 041917
NPWALY
```

URGENT - WEATHER MESSAGE National Weather Service Albany NY 317 PM EDT Sat Aug 4 2018

```
NYZ059-060-064-065-050900-
/O.NEW.KALY.HT.Y.0006.180805T1600Z-180806T0100Z/
Eastern Greene-Western Columbia-Eastern Ulster-Western Dutchess-
Including the cities of Catskill, Coxsackie, Athens, Cairo,
Jefferson Heights, Hudson, Kingston, New Paltz, Poughkeepsie,
Beacon, and Arlington
317 PM EDT Sat Aug 4 2018
```

... HEAT ADVISORY IN EFFECT FROM NOON TO 9 PM EDT SUNDAY...

- * WHAT...A period of dangerously hot temperatures are expected.
- * WHERE... The mid Hudson River Valley of eastern Ulster, western Dutchess, eastern Greene and western Columbia Counties of eastern New York.
- * WHEN... Noon to 9 PM EDT Sunday.
- * IMPACTS... Hot temperatures will create a situation in which heat illnesses could occur.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Drink plenty of fluids, stay in an air-conditioned room, stay out of the sun, and check up on relatives and neighbors.

Take extra precautions, if you work or spend time outside. When possible, reschedule strenuous activities to early morning or evening. Know the signs and symptoms of heat exhaustion and heat stroke. Wear light weight and loose-fitting clothing when possible and drink plenty of water.

To reduce risk during outdoor work, the Occupational Safety and Health Administration recommends scheduling frequent rest breaks in shaded or air-conditioned environments. Anyone overcome by heat should be moved to a cool and shaded location. Heat stroke is an emergency, call 9 1 1.

& &

\$\$

Blowing Dust Advisory

Example of a Blowing Dust Advisory, first issuance.

```
WWUS74 KAMA 120027
NPWAMA
```

URGENT - WEATHER MESSAGE National Weather Service Amarillo TX 727 PM CDT Sun Oct 11 2020

```
OKZ001>003-TXZ001>020-317-120600-
```

```
/O.NEW.KAMA.DU.Y.0001.201012T0027Z-201012T0600Z/
Cimarron-Texas-Beaver-Dallam-Sherman-Hansford-Ochiltree-Lipscomb-
Hartley-Moore-Hutchinson-Roberts-Hemphill-Oldham-Potter-Carson-
Gray-Wheeler-Deaf Smith-Randall-Armstrong-Donley-Collingsworth-
Palo Duro Canyon-
Including the cities of Boise City, Keyes, Guymon, Beaver,
Forgan, Dalhart, Stratford, Spearman, Gruver, Perryton, Booker,
Higgins, Follett, Hartley, Channing, Dumas, Borger, Miami,
Canadian, Vega, Amarillo, Panhandle, White Deer, Pampa, Shamrock,
Wheeler, Hereford, Canyon, Claude, Clarendon, Wellington,
and Palo Duro Canyon
727 PM CDT Sun Oct 11 2020
```

... BLOWING DUST ADVISORY IN EFFECT UNTIL 1 AM CDT MONDAY...

- * WHAT...Visibility between one quarter mile and one mile in blowing dust.
- * WHERE...The Oklahoma and Texas Panhandle.

- * WHEN...Until 1 AM CDT Monday.
- * IMPACTS...Hazardous driving conditions due to reduced visibility. High profile vehicles traveling east and west bound will have both the difficulty of visibility reduction and cross wind gusts 40 to 55 mph, with isolated gusts to 60 mph possible.
- * ADDITIONAL DETAILS...Winds will shift out of the north with the cold front, strong wind gusts generally between 40 and 55 mph will be possible. Isolated gusts up to 60 mph can't be ruled out, but will be hit and miss locations if it occurs.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. Remember, Pull Aside, Stay Alive.

& &

\$\$

Dust Advisory

Example of a Dust Advisory, first issuance.

- Note: Impact-Based Warning format is used.

```
WWUS53 KGLD 011908
DSWGLD
```

Dust Advisory National Weather Service Goodland KS 208 PM CDT Sun Oct 1 2023

KSC193-012000-/O.NEW.KGLD.DS.Y.0004.231001T1908Z-231001T2000Z/ Thomas KS-208 PM CDT Sun Oct 1 2023

The National Weather Service in Goodland has issued a

- * Dust Advisory for... Thomas County in northwestern Kansas...
- * Until 300 PM CDT.
- * At 207 PM CDT, a dust channel was 4 miles southeast of Colby, moving northeast at 55 mph.

HAZARD...Less than two miles visibility with strong wind in excess of 50 mph.

SOURCE...Webcams. Kansas Department of Transportation camera at mile marker 57 along Interstate 70 shows reduction of visibility due to dust.

IMPACT...Hazardous travel.

* This includes Interstate 70 in Kansas between mile markers 43 and 73.

Locations impacted include... Colby, Oakley, Levant, Rexford, Gem, Menlo, and Mingo.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Blowing dust brings reduced visibility, leading to dangerous driving conditions. If driving, avoid blowing dust if possible.

&&

LAT...LON 3913 10085 3934 10130 3957 10098 3957 10072 3925 10072 TIME...MOT...LOC 1907Z 240DEG 49KT 3934 10099

\$\$