

NATIONAL WEATHER SERVICE ALASKA REGION SUPPLEMENT 07-2002

APPLICABLE TO NWSI 10-513

APPLICABLE TO NWSI 10-515

April 26, 2019

Operations and Services

Public Weather Services, NWSPD 10-5

WFO Winter Weather Products Specification, NWSI 10-513 and

WFO Non-Precipitation Weather Products Specification, NWSI 10-515

ALASKA WFO WINTER WEATHER AND

NON-PRECIPIATION WEATHER PRODUCTS SPECIFICATION

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OPR: W/AR1x4 (D. Kochevar)

Certified by: W/AR1 (M. Mercer)

Type of Issuance: Routine

SUMMARY OF REVISIONS: This supplement supersedes Alaska Region Supplements (ARS) 07-2002, Alaska WFO Winter Weather Products Specification, dated October 13, 2011, applicable to National Weather Service Instruction (NWSI) 10-513 and NWSI 10-515.

The following changes were made in this issuance:

1. Removed Section 6: Special Weather Statements and moved instructions to ARS 02-2003 Alaska Multi-purpose Weather Products Specification.
2. Removed Appendix A: Waiver for Issuance of Product Category SPS instead of HWO for Winter Weather Non-Precipitation Outlooks
3. Added a new Appendix A: (Criteria Guidelines for Winter Weather (WSW)) and updated guidelines.
4. Added Appendix B: (Criteria Guidelines for Non-Precipitation Weather (NPW)) and updated guidelines.
5. Added Appendix C: (Volcanic Ashfall Event Products and Statement Guidelines) and removed associated links to these criteria that had been hosted on ARH websites.
6. Removed outdated ARH links to WSW and NPW Product Format and referenced applicable NWS directives.

/SIGNED/

April 12, 2019

Carven Scott

Date

Regional Director

WFO Winter Weather and Non-Precipitation Weather Products Specification

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1. Introduction. The items, links and appendices contained in this document compile the Alaska Region Winter Weather and Non-Precipitation program policies which supplement those stated in [NWSI 10-513](#), [NWSI 10-515](#), and [NWSI 10-517](#).
2. Societal Impacts and Forecaster Judgment. Written instructions cannot address every operational situation. All Weather Forecast Office (WFO) personnel must 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 and impact to commerce shall take precedence in these decision making processes.

As such, criteria for watches, warnings and advisories are to be considered guidance only, not strict thresholds. Forecasters may issue watches, warnings or advisories for societal impacts such as significant travel hazards or power outages, even if the stated thresholds are not met.

For example, an advisory may be appropriate for a snowfall event that does not meet strict advisory criteria if it occurs near rush hour when societal impacts are greater. Other examples include early or late season events or climatologically unusual or infrequent events such as the first snowfall of the season or strong wind in a typically more sheltered area.

3. Warnings and Advisories. Warnings and Advisories provide the public and public safety officials with detailed alerts of weather events that impact safety, property and/or commerce. WFOs will strive to provide as much lead time as scientifically possible in order to aid decision makers.

3.1 Criteria Guidelines. Criteria guidelines for Winter Weather (WSW) and Non-Precipitation Weather (NPW) hazards for all Alaska zones are available in Appendix A and B. Special guidelines for Volcanic Ashfall events are available in Appendix C. WFOs will issue WSW and NPW warnings and advisories generally based upon these regionally and locally defined criteria, though as noted in section 2, forecaster judgment takes precedence as not all events of high impact fall into strict criteria. WFO Station Duty Manuals (SDM) will contain current Criteria guidelines.

Changes to criteria guidelines shall be coordinated and approved by the Alaska Region Environmental and Scientific Services Division (ESSD). Requests for change shall, at minimum, include documentation of local requirements, impacts, outreach conducted, and a summarized review of pertinent local climatology.

- 3.2 Content and Format: It is imperative to provide updated information within the warning and advisory statements that describe the evolution of conditions and/or changes in the forecast leading up to and during the event.

Statements will describe the severity of conditions (i.e., wind speed, snowfall amounts, reduction to visibility, etc.), timing, description of area(s) to be impacted, expected impacts, and appropriate call-to-action statements.

Call-to-action statements should be pre-coordinated with public safety officials to convey

appropriate information for the type and severity of event. Statements will also follow the format described in [NWSI 10-513](#) and [NWSI 10-515](#).

3.3 Winter Storm vs. Ice Storm Warnings. Occasionally, significant rainfall (ambient air temperature above 32° F) occurs during the cold season in Alaska when the ground surface temperature remains well below freezing. Under these conditions, rain freezes on contact with ground surfaces (NOT tree limbs, power lines, etc. as with an Ice Storm) and severely impacts transportation and commerce. To clearly convey this hazard, the terminology WINTER STORM WARNING may be used in lieu of ICE STORM WARNING. Instructions and criteria for this instance of issuing a WINTER STORM WARNING will be documented in the WFO SDM.

3.4 Wind Advisory Exemptions. In Alaska Region, wind advisories are optional as defined by local criteria, and as noted in the Appendix B. In lieu of advisories, headlines will be used in the zone forecast product (ZFP) to highlight significant wind events that do not meet warning criteria. These headlines will adhere to the format stated in [ARS 09-2004, Alaska Region Public Weather Products](#).

3.5 Dense Fog Advisory Exemptions. According to customer outreach, dense fog does not meet the advisory criteria of “hazardous” as defined in NWSI 10-515 for all zones in Alaska Region. This is due to the frequency of dense fog in many maritime locations and the lack of highway thoroughfares. Appendix B notes where dense fog advisories are required. In lieu of advisories, headlines will be used in the ZFP to highlight the occurrence of dense fog. Such headlines will adhere to the format stated in [ARS 09-2004, Alaska Region Public Weather Products](#).

3.6 Volcanic Ashfall Events. While relatively rare, ashfall events are generally of high impact and a potential source for public confusion. To mitigate confusion and highlight impacts, volcanic ashfall event products and statement guidelines were developed with the Alaska Volcano Observatory, which are available in Appendix C. These guidelines outline the appropriate product (Ashfall Warning, Ashfall Advisory, or Special Weather Statement), accumulation terminology, and call to action phrases based on eruptive activity and anticipated ashfall amounts.

When an eruption occurs, WFO forecasters will coordinate closely with the Alaska Aviation Weather Unit (AAWU) lead forecaster and the Alaska Volcanic Observatory when composing volcanic ashfall products. The AAWU lead forecaster also serves as lead forecaster for the Anchorage Volcanic Ash Advisory Center (VAAC). The Anchorage VAAC is responsible for the preparation and dissemination of aviation products (SIGMETs and Volcanic Ash Advisories) associated with the event.

Immediately upon learning of a possible volcanic event, the VAAC will collect additional information from various sources and will have the most current and accurate information about the volcanic event. WFO forecasters must ensure there is consistency between WFO and VAAC products. In all cases, the VAAC lead forecaster will have the final determination concerning key points in the event.

4. Watches. WFOs will issue Winter Weather (product category WSW) or Non-

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Precipitation (product category NPW) watches when conditions are favorable for a hazardous weather event to develop over part or all of the forecast area, but the occurrence is uncertain. Watches are generally issued 24 to 48 hours prior to the event beginning time when there is a 60-percent or greater probability of a hazardous weather event meeting or exceeding warning conditions as described section 3.1. Watches shall not be issued within 12 hours of the event start time, unless the WFO gathers user feedback and performs verification that supports shorter lead times. This documentation shall be coordinated and approved by the Alaska Region ESSD. Zone specific criteria for Alaska Region WSW and NPW Watch products are defined in Appendix A and B.

5. WFO and WSO Coordination. When available, WSO staff will contact the responsible WFO when, in the opinion of the WSO staff, warning or advisory conditions are likely or occurring while there is no warning or advisory in effect
6. Creation Software. WFOs will generate all WSW and NPW statements with the Graphical Forecast Editor (GFE) Graphical Hazards Generator (GHG) and will include VTEC codes.

APPENDIX A

Criteria Guidelines for Winter Weather (WSW)

Watch Criteria Guidelines
For the Alaska Region

(WSW) Watch Product	Criteria Guidelines
Wind Chill Watch	Conditions are favorable for wind chill temperatures to meet or exceed local Wind Chill Warning criteria.
Winter Storm Watch	Conditions are favorable for a winter weather event having one or more hazards (i.e., snow, snow and blowing snow, snow and ice, snow and sleet, snow, ice and sleet, freezing rain, or lake effect snow) to meet or exceed local Winter Storm Warning criteria.

Advisory and Warning Criteria Guidelines
Zone Specific for the Alaska Region

Zones (WFO)	Advisory Criteria Guidelines	Warning Criteria Guidelines
	Winter Weather Advisory	Winter Storm Warning
All Zones	Winter weather event having one or more hazards (i.e., snow, snow and blowing snow, snow and ice, snow and sleet, snow, ice and sleet, freezing rain) meeting or exceeding locally defined 12 and/or 24 hour advisory criteria for at least one of the precipitation elements, but remaining below warning criteria or based on Impact Driven criteria	Winter weather event including: <ol style="list-style-type: none"> 1. Singular Event: snow, ice (freezing rain), or sleet meeting or exceeding locally defined 12 or 24 hour warning criteria. 2. Multiple Event: a combination of snow, ice (freezing rain), wind, sleet and blowing snow with at least one of the precipitation elements meeting or exceeding locally defined 12 or 24 hour warning criteria. 3. Impact Driven: Warning level impacts are expected but conditions will not meet traditional warning criteria. <p><u>Exception:</u> Multiple hazard events meeting blizzard-warning criteria should be issued as Blizzard Warnings, to bring heightened attention to the dangerous event.</p>

Freezing Rain	Winter Weather Advisory	Ice Storm Warning (Refer to ARS 07-2002e Section 3.3)
017-029 (AJK) 101-195 (AFC)	Ice accumulation (freezing rain and/or freezing drizzle) Trace to 0.24 inch	Ice accumulation of 0.25 inch or greater
201-214 (AFG)	Ice accumulation (freezing rain) 0.01 inch to less than 0.10 inch	Ice accumulation of 0.10 inch or greater
215-226 (AFG)	Ice accumulation (freezing rain and/or freezing drizzle) Trace to 0.10 inch	Ice accumulation of 0.10 inch or greater
Wind Chill	Wind Chill Advisory	Wind Chill Warning
017-029 (AJK)	Wind chill -30° F with 15 mph sustained winds for 3 hours or more	Wind chill -55° F with 15 mph sustained winds for 3 hours or more
101-195 (AFC)	Wind chill -40° F with 15 mph sustained winds for 3 hours or more	Wind chill -60° F with 15 mph sustained winds for 3 hours or more
201-206 (AFG)	Wind chill -50° F with 15 mph sustained winds for 3 hours or more	Wind chill -60° F with 15 mph sustained winds for 3 hours or more
207-226 (AFG)	Wind chill -40° F with 15 mph sustained winds for 3 hours or more	Wind chill -60° F with 15 mph sustained winds for 3 hours or more
Snow	Winter Weather Advisory	Winter Storm Warning
017-026 (AJK)	4-5 inches in 12 hours	6 inches in 12 hours or 12 inches in 24 hours
027-028 (AJK)	3-5 inches in 12 hours	6 inches in 12 hours or 12 inches in 24 hours
029 (AJK)	8-11 inches in 12 hours	12 inches in 24 hours
101-121 & 141-195 (AFC)	6-11 inches in 12 hours or 12-23 inches in 24 hours	12 inches in 12 hours or 24 inches in 24 hours
125 & 135 (AFC)	None	24 inches in 12 hours
131 (AFC)	18-23 inches in 12 hours	24 inches in 12 hours
201-214 (AFG)	None	6 inches in 24 hours

215-224 (AFG)	4-7 inches in 24 or less hours	8 inches in 24 or less hours
225-227 (AFG)	6-11 inches in 12 hours or less or 12-23 inches in 24 hours or less	12 inches in 12 hours or less 24 inches in 24 hours or less
Blowing Snow	Winter Weather Advisory	Blizzard Warning
All Zones	When one of the following combinations are forecast to occur for at least 3 hours: 1. Sustained wind or frequent gusts 25 mph or greater and visibility less than or equal 1/2 mile (but greater than 1/4 mile) ...OR... 2. Visibility is 1/4 mile or less , and winds are at least 25 mph but less than 35 mph	When forecast to occur for at least 3 hours: Blowing snow (with or without falling snow) reducing visibility to \leq 1/4 mile when accompanied by sustained wind or frequent gusts \geq 35 mph.

APPENDIX B**Criteria Guidelines for Non-Precipitation Weather (NPW)****Watch Criteria Guidelines**
For the Alaska Region

(NPW) Watch Product	Criteria Guidelines
Extreme Cold Watch	Conditions are favorable for an extreme cold event to meet or exceed local Extreme Cold Warning criteria.
Freeze Watch	Conditions are favorable for a freeze event to meet or exceed local Freeze Warning criteria.
High Wind Watch	Conditions are favorable for a high wind event to meet or exceed local High Wind Warning criteria.

Advisory and Warning Criteria Guidelines
Zone Specific for the Alaska Region

Zones (WFO)	Advisory Threshold	Warning Threshold
	Wind Advisory	High Wind Warning
017-029 (AJK)	Sustained wind or frequent gusts of 40 mph – 59 mph for one or more hours. Optionally use “strong wind” headline in lieu of an advisory.	Sustained wind or frequent gusts of 60 mph or more for one or more hours.
101 (AFC)	Sustained wind or frequent gusts of 43 mph - 72 mph , except 43 mph - 59 mph in the Anchorage Bowl for one or more hours. Optionally use “strong wind” headline in lieu of an advisory.	<u>Anchorage Bowl:</u> Sustained wind or frequent gusts of 60 mph or more for one or more hours. <u>Elsewhere:</u> Sustained wind or frequent gusts of 73 mph or more for one or more hours.
111-195 (AFC)	Sustained wind or frequent gusts of 43 mph - 72 mph for one or more hours. Optionally use “strong wind” headline in lieu of an advisory.	Sustained wind or frequent gusts of 73 mph or more for one or more hours.

201-212 & 214 (AFG)	Sustained wind or frequent gusts of 40 mph – 59 mph for one hour or more. Optionally use “strong wind” headline in lieu of an advisory.	Sustained wind or frequent gusts of 60 mph or more for one or more hours.
213 (AFG)	Sustained wind or frequent gusts of 50 mph – 59 mph for one or more hours. Optionally use “strong wind” headline in lieu of an advisory.	Sustained wind or frequent gusts of 60 mph or more for one or more hours.
215-221 & 224 (AFG)	Sustained wind or frequent gusts of 40 mph – 49 mph for one or more hours.	Sustained wind or frequent gusts of 50 mph or more for one or more hours.
222 (AFG)	Sustained wind or frequent gusts of 35 mph – 49 mph for one or more hours.	Sustained wind or frequent gusts of 50 mph or more for one or more hours.
223 & 226 (AFG)	Sustained wind or frequent gusts of 50 mph – 69 mph for one or more hours.	Sustained wind or frequent gusts of 70 mph or more for one or more hours.
225 (AFG)	Sustained wind or frequent gusts 60-69 mph for one or more hours	Sustained wind or frequent gusts of 70 mph or more for one or more hours.
227 (AFG)	Sustained wind or frequent gusts 40-69 mph for one or more hours	Sustained wind or frequent gusts of 70 mph or more for one or more hours.
Ashfall Advisory		Ashfall Warning
All Zones	Ashfall accumulation of 0.03” to < 1/4” from a volcanic eruption, or re-suspension of relic ash. See Appendix D	Ashfall accumulation of 1/4” or more from a volcanic eruption, or re-suspension of relic ash. See Appendix D.
Blowing Dust Advisory		Dust Storm Warning
All Zones	Widespread or consequential area(s) of blowing dust reducing visibility to 1 mile or less , but greater than 1/4 mile for one or more hours.	Widespread or consequential area of blowing dust reducing visibility to 1/4 mile or less for three or more hours.
Dense Fog Advisory		

017-029 (AJK) 101-121 (AFC) 125 (excluding Whittier) – (AFC) 131, 141, 145 (AFC) 222-226 (AFG)	Widespread or consequential area(s) of fog reducing visibility to 1/4 mile or less for one or more hours.	None
Dense Smoke Advisory		
017-029 (AJK) 101-195 (AFC)	Widespread or consequential area(s) of smoke reducing visibility to 1/4 mile or less for one or more hours.	None
201-226 (AFG)	Widespread or consequential area(s) of smoke reducing visibility to 1 mile or less for one or more hours.	None
Extreme Cold Warning		
101-195 (AFC) 201-226 (AFG)	None	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.
Frost Advisory		Freeze Warning
017-029 (AJK)	Minimum shelter temperature forecast to be 30-35°F for less than a 6 hour period, such that plant damaging frost will develop, between May 1 and September 15.	Minimum shelter temperature forecast to be 32°F or less for at least 6 hours and/or 28°F or less for any length of time between May 1 and September 15.
101 & 111 (AFC)	None	Minimum shelter temperature forecast to be 32°F or less. Valid between June 1 and September 15.
201-221, 223-226 (AFG)	None	None
222 (AFG)	Minimum shelter temperature at PAFA forecast to be below 35°F. Valid from June 1 to September 1.	None

APPENDIX C

Volcanic Ashfall Event Products and Statement Guidelines

<u>NWS Product</u>	<u>Accumulation (inches)</u>	<u>Accumulation Term</u>	<u>Impact Thresholds</u>	<u>Call-to-Action Statements</u>
Special Weather Statement (SPS)	Less than 0.03 in	Trace or dusting	Eye and respiratory irritant. Very low-level impacts for most people.	Avoid excessive exposure to ash, especially those with respiratory sensitivities. Protect critical electronics and other equipment from contamination.
Ashfall Advisory (NPW)	0.03 – 1/4 in	Minor	Possible harm to crops, animals; minor equipment and infrastructure damage. Reduced visibility. Widespread clean-up may be	Seal windows and doors. Protect electronics and cover air intakes and open water supplies. Minimize driving. Listen to your radio station for further information.
Ashfall Warning (NPW)	1/4 – 1 in	Substantial	Disruption of services and utilities (water, sewer, electric) possible. Ash removal efforts significant.	Seal windows and doors. Protect electronics and cover air intakes. Avoid driving. Listen to NOAA Weather Radio or local media for further information.
	1 – 4 in	Heavy	Weaker roofs and structures can fail at ~4-5 inches of wet ash (~40 lbs/square ft). Crop damage. Livestock loss. Services, utilities interrupted.	Remain indoors unless absolutely necessary. Use extreme caution clearing rooftops of ash. Avoid driving. Listen to NOAA Weather Radio or local media for further information.
	Greater than 4 in	Severe	Significant danger of roof collapse; heavy damage to trees and crops. Essential services severely disrupted. Heavy animal loss. Roads unusable.	