

WFO Winter Weather Products Specification

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1. Introduction. This supplement codifies regional snow criteria for winter weather warnings and advisories, including wind chill related warnings and advisories.

2. Winter Storm Outlook (product category HWO).

2.1 Issuance Guidelines. In Central Region, the Hazardous Weather Outlook (product category HWO) is the product used to convey winter weather event potential.

2.1.1 Issuance Criteria. Hazardous Weather Outlooks are described in the Central Region Supplement with NWSI 10-517 (Multi-Purpose Weather Products Specification).

3. Winter Weather Warnings (Product Category WSW)

3.1 Issuance Guidelines. See NWSI 10-513.

3.1.1 Issuance Criteria.

Watches: Traditionally, watches are issued when the risk of a hazardous weather event is significant in the 12 to 48 hour time frame, but occurrence, location, severity, and/or timing are

uncertain. However, when forecaster confidence is high and neighboring offices affected by the event concur, watches may be issued beyond 48 hours. 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.

Warnings: In Central Region, warning criteria applicable to issuing winter storm warnings for heavy snow are generally defined as an average snowfall with an accumulation equaling or exceeding 6 inches in 12 hours or less; or an average snowfall with an accumulation equaling or exceeding 8 inches in 24 hours or less with the following exceptions:

A. A snowfall in the mountains of Colorado, Wyoming, and eastern Utah with an average accumulation locally defined by customer requirements and coordinated with Chief, Central Region Services Division.

B. A snowfall in Kentucky, a portion of southern Missouri, a portion of southern Illinois, and a portion of southern Indiana with an average accumulation equaling or exceeding 4 inches or more in 12 hours or less; or 6 inches or more in 24 hours or less.

C. For the Upper Peninsula of Michigan counties of Alger, Baraga, Chippewa, Gogebic, Houghton, Keweenaw, Luce, Mackinaw, Marquette, Ontonagon and northern Schoolcraft, snowfall with an average accumulation equaling or exceeding 8 inches or more in 12 hours or less, or 10 inches or more in 24 hours or less. For the southern Upper Peninsula of Michigan counties of Iron, Dickinson, Menominee, Delta and southern Schoolcraft, snowfall with an average accumulation equaling or exceeding 6 inches or more in 12 hours or less, or 8 inches or more in 24 hours or less.

Refer to Appendix A for WFO-specific heavy snow and winter storm warning criteria.

4. Winter Weather Advisories (product category WSW)

4.1 Issuance Guidelines. See NWSI 10-513

4.1.1 Issuance Criteria. Winter Weather Advisory criteria should be established locally based on a thorough assessment of customer requirements.

4.1.2 Winter Weather Advisory Products

In addition to the individual winter weather advisory products outlined in this NWSI section, Great Lakes offices, after coordinating with local customers, may use the headline Lake Effect Snow Advisory, when appropriate.

Refer to Appendix A for WFO-specific winter weather advisory criteria for snow. In addition, for the southern Upper Peninsula of Michigan counties of Iron, Dickinson, Menominee, Delta, and southern Schoolcraft, snowfall advisory criteria is defined as 3 to 5 inches in 12 hours or less.

5. Wind Chill Advisories and Warnings

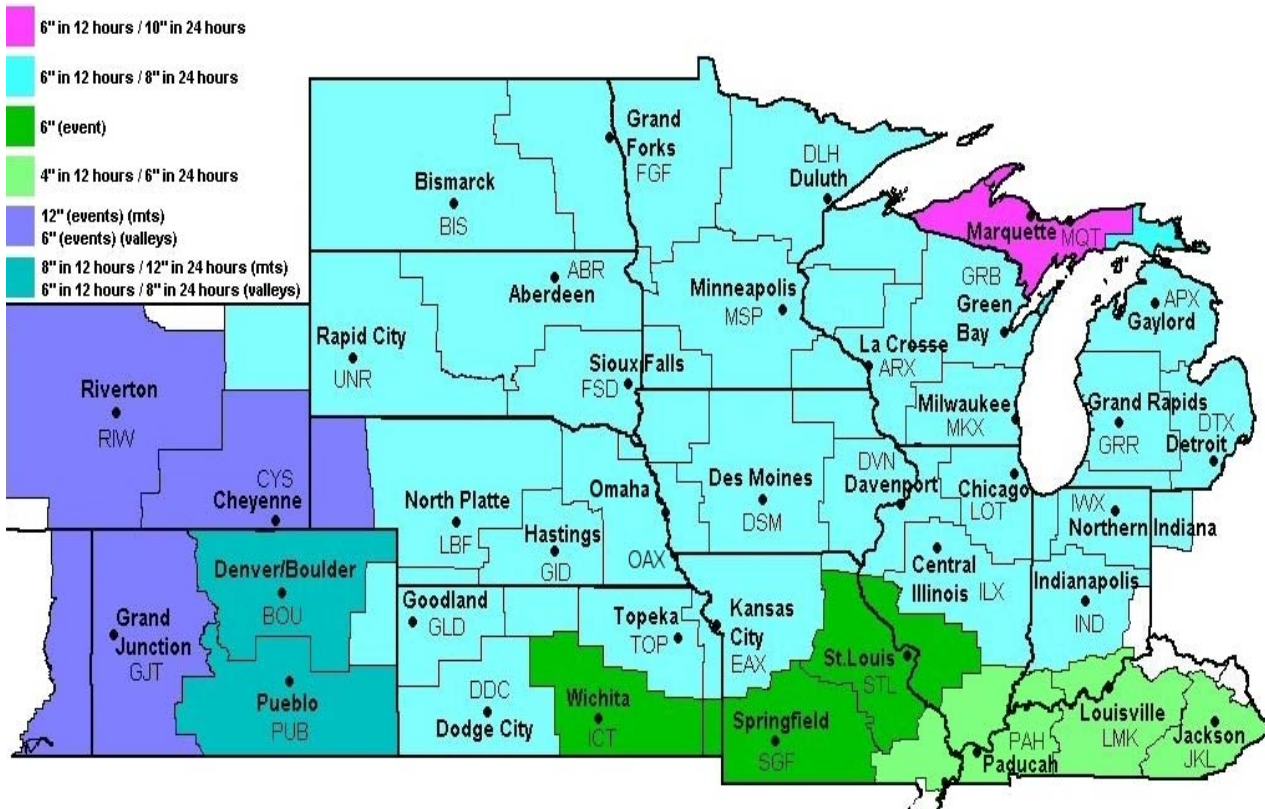
5.1 Wind Chill Warning Issuance Guidelines. A Wind Chill Warning (WSW) should be issued whenever wind chill values are forecast to be at or below the warning thresholds as depicted in Appendix C for more than an hour. Forecasters should also take other factors into consideration when making a warning decision. Examples of these factors include consistency with surrounding WFOs, time of year, longevity of event, and areal coverage of expected hazardous weather. Forecast wind chill values and the coincidental frostbite times will be mentioned in the warning product to ensure our customers' understanding of the threat.

5.1.1 Issuance Criteria. Refer to Appendix C for regional Wind Chill Warning criteria.

5.2 Wind Chill Advisory Issuance Guidelines. A Wind Chill Advisory (WSW) should be issued when wind chill values are forecast to be at or below the advisory thresholds as depicted in Appendix D for more than an hour. Forecasters should take other factors into consideration when making a decision on issuing an advisory. Examples of these factors include consistency with surrounding WFOs, time of year, longevity of event, and areal coverage of expected hazardous weather. Forecast wind chill values and the coincidental frostbite times will be mentioned in the advisory product to ensure our customers' understanding of the threat.

5.2.1 Issuance Criteria. Refer to Appendix D for regional Wind Chill Advisory criteria.

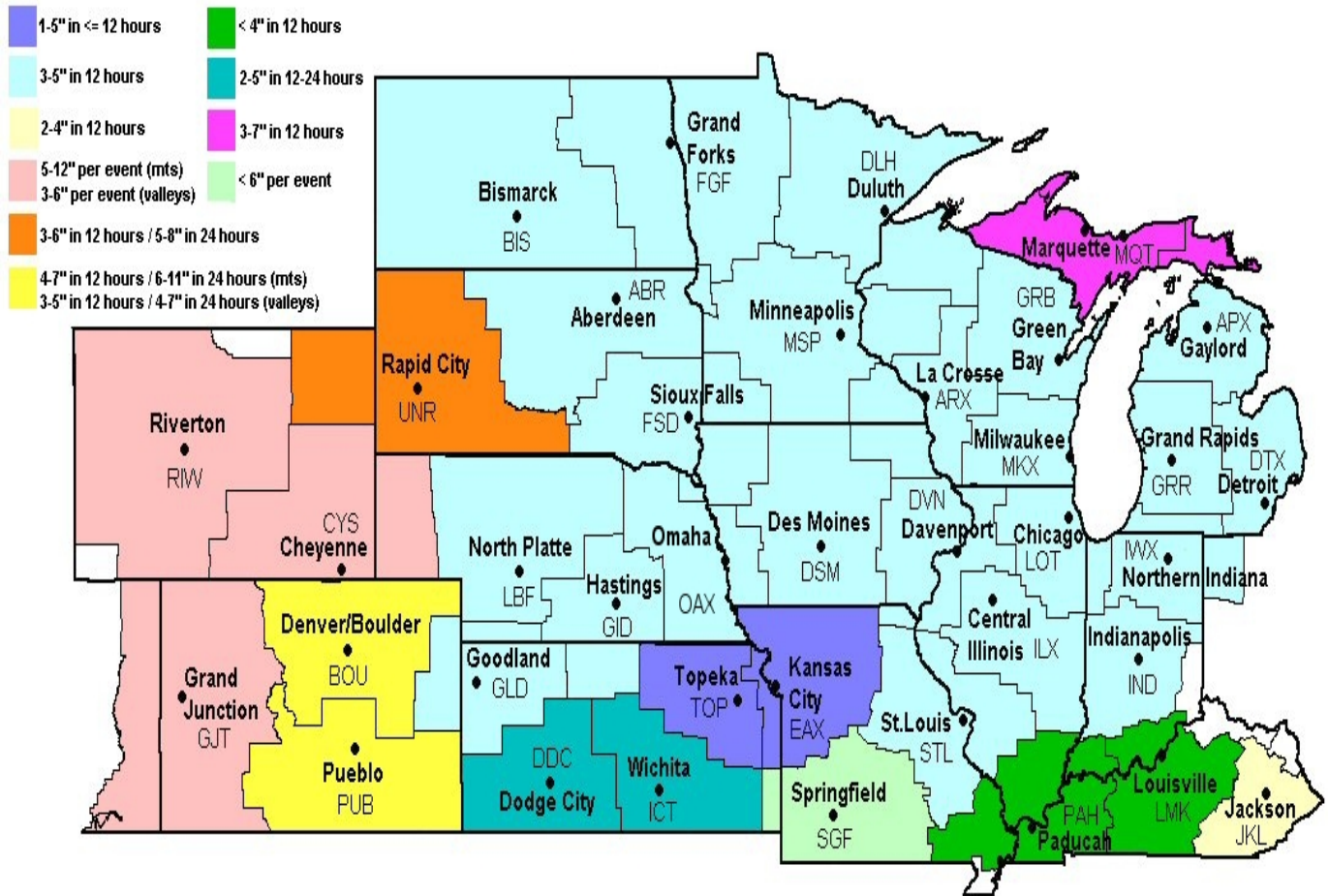
Appendix A. WFO Winter Storm Warning for Heavy Snow Criteria



WFO	Heavy Snow Criteria	WFO	Heavy Snow Criteria
Aberdeen (ABR)	6" in 12 hrs 8" in 24 hrs	Wichita (ICT)	6" per event
Gaylord (APX)	6" in 12 hrs 8" in 24 hrs	Central Illinois (ILX)	6" in 12 hrs 8" in 24 hrs
LaCrosse (ARX)	6" in 12 hrs 8" in 24 hrs	Indianapolis (IND)	6" in 12 hrs 8" in 24 hrs
Bismarck (BIS)	6" in 12 hrs 8" in 24 hrs	Northern Indiana (IWX)	6" in 12 hrs 8" in 24 hrs
Denver/Boulder (BOU)	6" in 12 hrs/8" in 24 hrs (Valleys) 8" in 12 hrs/12" in 24 hrs (Mountains)	Jackson, KY (JKL)	4" in 12 hrs 6" in 24 hrs
Cheyenne (CYS)	6" per event (Valleys) 12" per event (Mountains)	North Platte (LBF)	6" in 12 hrs 8" in 24 hrs
Dodge City (DDC)	6" in 12 hrs 8" in 24 hrs	Louisville (LMK)	4" in 12 hrs 6" in 24 hrs

WFO	Heavy Snow Criteria	WFO	Heavy Snow Criteria
Des Moines (DMX)	6" in 12 hrs 8" in 24 hrs	St. Louis (LSX)	6" per event
Detroit (DTX)	6" in 12 hrs 8" in 24 hrs	Milwaukee (MKX)	6" in 12 hrs 8" in 24 hrs
Quad Cities (DVN)	6" in 12 hrs 8" in 24 hrs	Minneapolis/Twin Cities (MPX)	6" in 12 hrs 8" in 24 hrs
Kansas City/Pleasant Hill (EAX)	6" in 12 hrs 8" in 24 hrs	Marquette (MQT)	6" in 12 hrs 10" in 24 hrs
Grand Forks (FGF)	6" in 12 hrs 8" in 24 hrs	Omaha (OAX)	6" in 12 hrs 8" in 24 hrs
Sioux Falls (FSD)	6" in 12 hrs 8" in 24 hrs	Paducah (PAH)	4" in 12 hrs 6" in 24 hrs
Hastings (GID)	6" in 12 hrs 8" in 24 hrs	Pueblo (PUB)	6" in 12 hrs/8" in 24 hrs (Valleys) 8" in 12 hrs/12" in 24 hrs (Mountains)
Grand Junction (GJT)	6" per event (Valleys) 12" per event (Mountains)	Riverton (RIW)	6" per event (Valleys) 12" per event (Mountains)
Goodland (GLD)	6" in 12 hrs 8" in 24 hrs	Springfield (SGF)	6" per event
Green Bay (GRB)	6" in 12 hrs 8" in 24 hrs	Topeka (TOP)	6" in 12 hrs 8" in 24 hrs
Grand Rapids (GRR)	6" in 12 hrs 8" in 24 hrs	Rapid City (UNR)	6" in 12 hrs 8" in 24 hrs
Grand Junction (GJT)	6" per event (Valleys) 12" per event (Mountains)	Riverton (RIW)	6" per event (Valleys) 12" per event (Mountains)

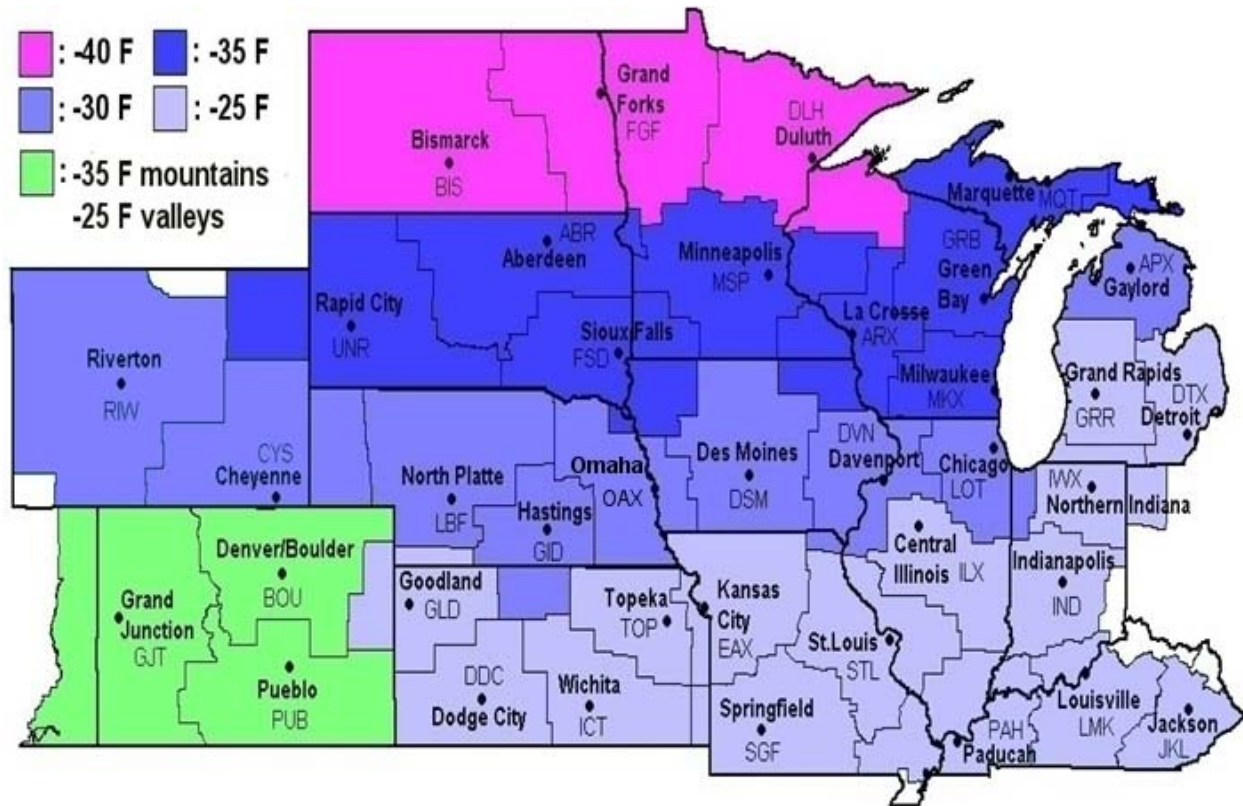
Appendix B – WFO Winter Weather Advisory for Snow Criteria



WFO	Advisory Criteria	WFO	Advisory Criteria
Aberdeen (ABR)	3-5" in 12 hrs	Wichita (ICT)	2-5" in 12-24 hrs
Gaylord (APX)	3-5" in 12 hrs; 3-7" in 12 hrs for Mackinac and Chippewa Counties, MI	Central Illinois (ILX)	3-5" in 12 hrs
LaCrosse (ARX)	3-5" in 12 hrs	Indianapolis (IND)	3-5" in 12 hrs
Bismarck (BIS)	3-5" in 12 hrs	Northern Indiana (IWX)	3-5" in 12 hrs
Denver/Boulder (BOU)	4-7" in 12 hrs/6-11" in 24 hrs (Mountains) 3-5" in 12 hrs/4-7" in 24 hrs (Valleys)	Jackson, KY (JKL)	2-4" in 12 hrs

WFO	Snow Advisory Criteria	WFO	Snow Advisory Criteria
Cheyenne (CYS)	5-12" per event (Mountains) 3-6" per event (Valleys)	North Platte (LBF)	3-5" in 12 hrs
Dodge City (DDC)	2-5" in 12-24 hrs	Louisville (LMK)	<4" in 12 hrs/
Duluth (DLH)	3-5" in 12 hrs	Chicago (LOT)	3-5" in 12 hrs
Des Moines (DMX)	3-5" in 12 hrs	St. Louis (LSX)	3-5" in 12 hrs
Detroit (DTX)	3-5" in 12 hrs	Milwaukee (MKX)	3-5" in 12 hrs
WFO	Advisory Criteria for Snow	WFO	Advisory Criteria for Snow
Quad Cities (DVN)	3-5" in 12 hrs	Minneapolis/Twin Cities (MPX)	3-5" in 12 hrs
Kansas City/Pleasant Hill (EAX)	1-5" in <= 12 hrs	Marquette (MQT)	3-7" in 12 hrs
Grand Forks (FGF)	3-5" in 12 hrs	Omaha (OAX)	3-5" in 12 hrs
Sioux Falls (FSD)	3-5" in 12 hrs	Paducah (PAH)	<4" in 12 hrs
Hastings (GID)	3-5" in 12 hrs	Pueblo (PUB)	4-7" in 12 hrs/6-11" in 24 hrs (Mountains) 3-5" in 12 hrs/4-7" in 24 hrs (Valleys)
Grand Junction (GJT)	5-12" per event (Mountains) 3-6" per event (Valleys))	Riverton (RIW)	5-12" per event (Mountains) 3-6" per event (Valleys)
Goodland (GLD)	3-5" in 12 hrs	Springfield (SGF)	< 6" per event
Green Bay (GRB)	3-5" in 12 hrs	Topeka (TOP)	1-5" in <= 12 hrs
Grand Rapids (GRR)	3-5" in 12 hrs	Rapid City (UNR)	3-6" in 12 hrs/ 5-8" in 24 hrs

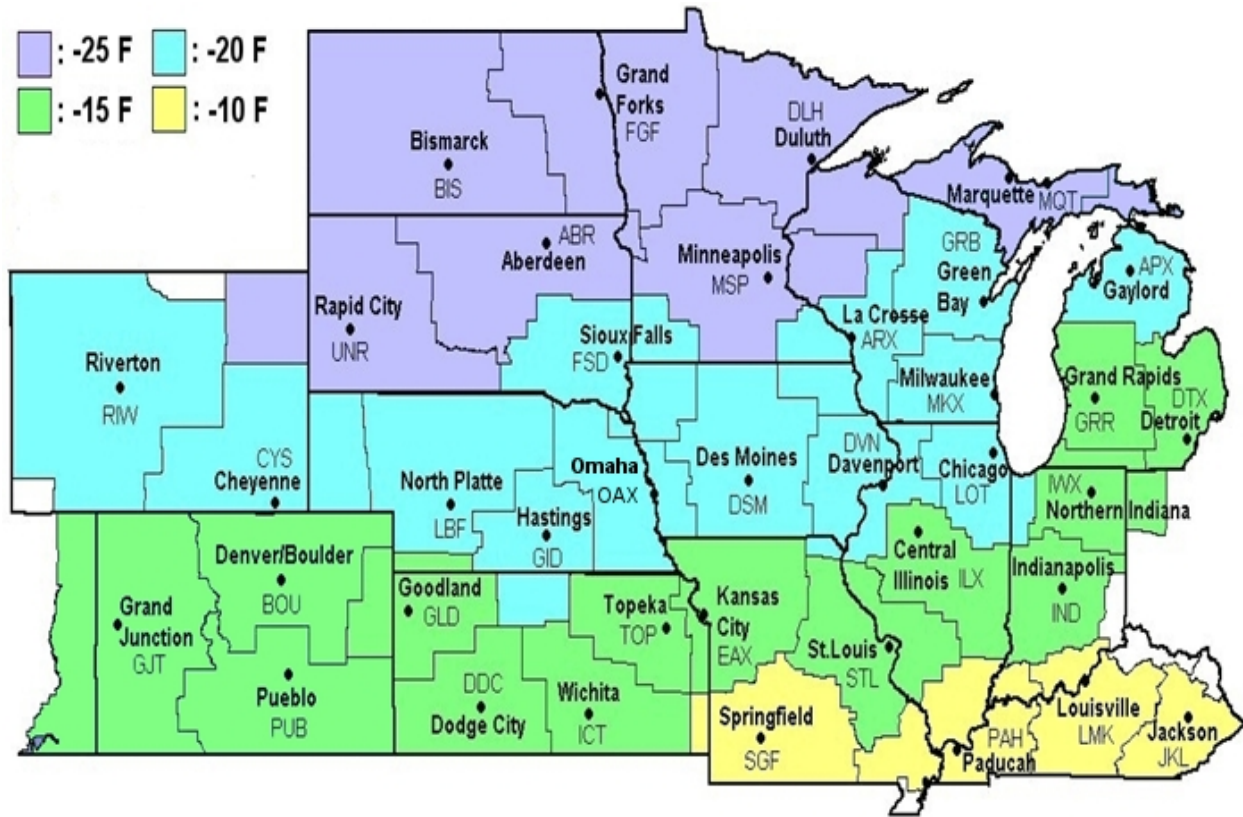
Appendix C – Wind Chill Warning Criteria



WFO	Wind Chill Warning Criteria (degrees F)	WFO	Wind Chill Warning Criteria (degrees F)
Aberdeen (ABR)	-35 or colder	Wichita (ICT)	-25 or colder
Gaylord (APX)	-35 or colder Chippewa and Mackinac Counties -30 or colder all other counties in area	Central Illinois (ILX)	-25 or colder
LaCrosse (ARX)	-35 or colder	Indianapolis (IND)	-25 or colder
Bismarck (BIS)	-40 or colder	Northern Indiana (IWX)	-25 or colder
Denver/Boulder (BOU)	-35 or colder mountains -25 or colder valleys	Jackson, KY (JKL)	-25 or colder
Cheyenne (CYS)	-30 or colder	North Platte (LBF)	-30 or colder
Dodge City (DDC)	-25 or colder	Louisville (LMK)	-25 or colder

WFO	Wind Chill Warning Criteria (degrees F)	WFO	Wind Chill Warning Criteria (degrees F)
Duluth (DLH)	-40 or colder	Chicago (LOT)	-30 or colder
Des Moines (DMX)	-30 or colder	St. Louis (LSX)	-25 or colder
Detroit (DTX)	-25 or colder	Milwaukee (MKX)	-35 or colder
Quad Cities (DVN)	-30 or colder	Minneapolis/Twin Cities (MPX)	-35 or colder
Kansas City/Pleasant Hill (EAX)	-25 or colder	Marquette (MQT)	-35 or colder
Grand Forks (FGF)	-40 or colder	Omaha (OAX)	-30 or colder
Sioux Falls (FSD)	-35 or colder	Paducah (PAH)	-25 or colder
Hastings (GID)	-30 or colder	Pueblo (PUB)	-35 or colder mountains -25 or colder valleys
Grand Junction (GJT)	-35 or colder mountains -25 or colder valleys	Riverton (RIW)	-30 or colder
Goodland (GLD)	-25 or colder	Springfield (SGF)	-25 or colder
Green Bay (GRB)	-35 or colder	Topeka (TOP)	-25 or colder

Appendix D – Wind Chill Advisory Criteria



WFO	Wind Chill Advisory Criteria (degrees F)	WFO	Wind Chill Advisory Criteria (degrees F)
Aberdeen (ABR)	-25 to -34	Wichita (ICT)	-15 to -24
Gaylord (APX)	-25 to -34 Chippewa and Mackinac Counties -20 to -29 all other counties in area	Central Illinois (ILX)	-15 to -24
LaCrosse (ARX)	-20 to -34	Indianapolis (IND)	-15 to -24
Bismarck (BIS)	-25 to -39	Northern Indiana (IWX)	-15 to -24
Denver/Boulder (BOU)	-15 to -24 No advisories for mountains	Jackson, KY (JKL)	-10 to -24
Cheyenne (CYS)	-20 to -29	North Platte (LBF)	-20 to -29
Dodge City (DDC)	-15 to -24	Louisville (LMK)	-10 to -24

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WFO	Wind Chill Advisory Criteria	WFO	Wind Chill Advisory Criteria

	(degrees F)		(degrees F)
Duluth (DLH)	-25 to -39	Chicago (LOT)	-20 to -29
Des Moines (DMX)	-20 to -29	St. Louis (LSX)	-15 to -24
Detroit (DTX)	-15 to -24	Milwaukee (MKX)	-20 to -34
Quad Cities (DVN)	-20 to -29	Minneapolis/Twin Cities (MPX)	-25 to -34
Kansas City/Pleasant Hill (EAX)	-15 to -24	Marquette (MQT)	-25 to -34
Grand Forks (FGF)	-25 to -39	Omaha (OAX)	-20 to -29
Sioux Falls (FSD)	-20 to -34	Paducah (PAH)	-10 to -24
Hastings (GID)	-20 to -29	Pueblo (PUB)	-15 to -24 No advisories for mountains
Grand Junction (GJT)	-15 to -24 No advisories for mountains	Riverton (RIW)	-20 to -29
Goodland (GLD)	-15 to -24	Springfield (SGF)	-10 to -24
Green Bay (GRB)	-20 to -34	Topeka (TOP)	-15 to -24
Grand Rapids (GRR)	-15 to -24	Rapid City (UNR)	-25 to -34
Hastings (GID)	-20 to -29	Paducah (PAH)	-10 to -24