

NATIONAL WEATHER SERVICE EASTERN REGION SUPPLEMENT 02-2003
APPLICABLE TO NWSI 10-513
October 1, 2015

Operations and Services
Public Weather Services, NWSPD 10-5
WFO Winter Weather Products Specification, NWSI 10-513

WINTER WEATHER WATCH/WARNING/ADVISORY PROCEDURES AND
THRESHOLDS

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

OPR: W/ER1x6 (R. Watling)

Certified by: W/ER1 (J. Guiney)

Type of Issuance: Routine Update

SUMMARY OF REVISIONS: This Supplement updates ERS 02-2003, “Winter Weather Watch/Warning/Advisory Policy, Procedures, and Thresholds,” dated December 1, 2014, issued with NWSI 10-513, and contains the following revisions:

1. Triggering procedures in section 4.2 have been modified to specify storm total snow grids will go out through the first six forecast periods, but not beyond that, for consistency purposes. If more than one storm is expected in the 72 hour period, storm total snow grids will focus on the first storm.
2. Section 4.6 has been changed to require Local Storm Report (LSR) issuances for winter weather events in Eastern Region. LSRs will be sent in near real-time for winter phenomena (e.g. snowfall accumulations considered significant by partners within your County Warning Area) and *any* ice accretion reports.

< signed >

September 9, 2015

Jason P. Tuell
Director, NWS Eastern Region

Date

<u>Table of Contents:</u>	<u>Page</u>
1. Purpose.....	3
2. Background.....	3
3. Policy.....	3
4. Issuance Procedures	
4.1 Software.....	3
4.2 Trigger Procedures.....	3
4.3 Authorized Headlines.....	4
4.4 Content of Segments.....	4
4.5 Recommended Order of Bullets.....	5
4.6 Reporting Storm Events.....	5
4.7 Local Issuance Delays.....	5
4.8 NWS Attribution.....	6
4.9 Winter Weather in Outlooks.....	6
4.10 High Impact Sub-Advisory Events.....	6
5. Criteria.....	6
6. Appendices	
Appendix A – Snow Thresholds.....	A1-A3
Appendix B – Freezing Rain Thresholds.....	B1-B2
Appendix C – Wind Chill Thresholds.....	C1-C2

NWS ERS 02-2003 October 1, 2015

- 1) Purpose. The purpose of this Supplement is to document Eastern Region (ER) procedures for winter weather products in addition to the guidelines set forth in NWS Instruction 10-513 *WFO Winter Weather Product Specification*.
- 2) Background. Winter weather product inconsistencies between offices cause confusion and diminished customer confidence. In addition, widespread use of computer graphics makes spatial/temporal inconsistencies very noticeable.
- 3) Policy. To maximize product utility, ER field offices must strive to issue externally consistent watch, warning and advisory (WWA) products. To accomplish this goal, forecasters must understand issuance thresholds, use the same interpretation of these thresholds, and collaborate with adjacent offices on hazard type, timing, and magnitude. Collaboration of forecasts delivers more consistent products and yields more accurate forecasts.
- 4) Issuance Procedures.

4.1 Software. All ER offices will use the latest nationally approved software, as the primary issuance tool for all winter weather watch/warning/advisory products. ECLAIRS will be used by ER offices to database winter storm reports.

4.2 Triggering Procedures. The potential for winter weather should be mentioned in the Hazardous Weather Outlook (HWO) when there is a 30-49% chance of reaching warning or high-impact advisory level thresholds. Watches are recommended when there is a 50-79% chance of reaching warning or high-impact advisory level criteria; warnings/advisories are issued when there is an 80% or greater chance of reaching warning/advisory criteria. In rare situations when it's unclear whether to issue a warning or advisory within 12 hours of storm impact, forecasters should choose one or the other to end the indecision.

Winter precipitation forecasts (including hazards grids, floating snow and ice grids and NDFD 6-hourly snow and ice grids) must be published through 72 hours (but not beyond), which is the first six periods of both the 00 and 12 UTC forecast cycles. NWS web point and click forecasts will contain snow and ice accumulation through six periods. Snowfall and ice accretion forecasts contained in text products such as the Zone Forecast Product (ZFP), Area Forecast Matrices (AFM) and Point Forecast Matrices (PFM) will be consistent with amounts provided in the local database. Snowfall forecast data are not to be included in the State Forecast Tabular (SFT).

Storm Total Snow and Storm Total Ice grids are produced independently of the floating snow and ice grids. Storm Total grids may be aggregated over any time period from 12 to 72 hours, but should center around the first snowfall maximum if one exists. If two storm systems are expected within the 72 hour forecast period, storm total graphics should focus on the first system impacting a CWA rather than the later event; once the first storm is winding down, the second system can be addressed.

For a single long-range storm expected to extend beyond 72 hours, aggregate the appropriate periods out to 72 hours only; in time, the entire storm will move within the 72 hour forecast projection.

The primary criterion for WWA issuance is snow/ice grid values meeting or exceeding warning/advisory thresholds across half or more of a zone. However, WWA issuances can be based on anticipated public impact.

For example, if a storm is not expected to reach warning criteria, but heavy, wet snow, or a mixture of snow, freezing rain and ice pellets will significantly affect rush hour or transportation, commerce or electrical power service, a warning headline can be used. This rule applies especially during early and late season storms, and in locations where winter weather is rare.

Wind Chill (WC) products are issued for apparent temperatures meeting or surpassing WC criteria when wind speeds are 6 mph or greater. If significant ambient cold temperatures occur with wind speeds 5 mph or less, WFOs may issue Special Weather Statements (SPS) highlighting the conditions and impacts.

When periods of extended cold temperature are expected, WFOs are encouraged to address the situation via SPS just prior to and during cold snaps. Empirical data suggests that when the *average daily* temperature is 12°F or more below normal mid-January *average daily* temperatures, for 48 hours or longer, significant infrastructure impacts begin to occur. Significant impacts include frozen water pipes and frozen fire sprinkler systems, especially during holidays and long weekends in northern locations, and warrant extra caution by emergency managers, fire departments, building managers, and the public at-large.

Release of winter storm products and their updates should be coordinated with surrounding WFOs to ensure consistency of information.

4.3 Authorized Headlines. Table 1 shows authorized winter weather headlines in WSW segments for ER offices.

Table 1. Authorized ER winter weather headlines for WSW segments (X).

HEADLINE TYPE	WATCH	WARNING	ADVISORY
<i>Blizzard</i>	X	X	
<i>Winter Storm</i>	X	X	
<i>Lake Effect</i>	X	X	X
<i>Ice Storm</i>		X	
<i>Freezing Rain</i>			X
<i>Winter Weather</i>			X
<i>Wind Chill</i>	X	X	X

4.4 Content of Segments. The four basic segment types (cancellation, warning, advisory or watch) may be subdivided into as many zone groupings as needed to address differing precipitation types or amounts across the forecast area. For cancellation segments, a UGC expiration time of one hour will be used. Forecasters must keep each segment's text **brief and to the point**. Short bullets of one or two sentences, describing the phenomena, quantitative magnitude, timing, impacts, precautions, etc. will be used to present critical information.

Localized extreme snowfall values should not be mentioned, as most people will not observe the extremes. References and/or comparison to historical events will be reserved for warning situations and should only be mentioned if confidence is high that a comparable event is unfolding.

4.5 Recommended Bullet Order. Bullets should be ordered with the highest impact element first then others listed in descending order of importance. Most frequently this will be snow/ice amounts first then timing of the start/end of precipitation, temperatures, wind velocity, expected impacts, safety precautions, etc. Other orderings are permissible, always based on the hierarchy of impacts.

4.6 Reporting Storm Events. Local Storm Reports (LSR) issuances are now required at all Eastern Region WFOs for winter weather events meeting thresholds established with local partners. This is being done to support national vendors plotting of weather information and to be consistent with how other NWS regions send out winter event reports. LSRs will be sent as close to real-time as possible for winter phenomena (e.g. snowfall accumulations considered significant within your County Warning Area), high rates of snowfall (2 inch/hour or greater) and any ice accretion reports. (Note: Frequent LSR alerts from neighboring WFOs can be filtered by adding certain text string filters in AWIPS if necessary).

Public Information Statements (PNSs) will continue to be sent as well, summarizing the latest winter precipitation, high wind observations or wind chill values to the public during winter weather events. A summary PNS will be issued after the event ends and may take the place of a summary LSR. A disclaimer must be appended to the PNS noting that information within the PNS is **UNOFFICIAL**.

PNSs should be issued every three hours during an event, with more frequent issuances if possible, especially prior to local newscasts. WFOs will produce a summary PNS at the end of a storm. Observations and related reports are permitted in other products to support warning or advisory content.

Snow, sleet and ice observations will be entered into the Eastern Region Hydromet Database via ECLAIRS. This can be accomplished as follows:

- 1) Type the observation (or group of observations) into ECLAIRS,

- 2) Send the report(s) out as an LSR product. This can be done for an individual report upon entry or for multiple reports via the LSR/PNS options menu.
- 3) Every three hours (or more frequently if needed), create/send a PNS using ECLAIRS. The Hydromet database will automatically be populated whenever the PNS is sent.

4.7 Local Issuance Delays. Offices will not develop local policies which routinely mandate delays in issuing WWAs, e.g., never issuing a “Winter Storm Watch” for the third period or a “Winter Storm Warning” for the second period. Issuances should be based on science and forecaster consensus. In addition, extensions in time should be issued prior to the expiration time of the earlier warning to avoid gaps in warning coverage. Warnings scheduled to expire should be canceled to positively confirm that the weather threat is over.

4.8 NWS Attribution. To identify the NWS as the information source, all **initial** advisory, watch, and warning segments should begin with “The National Weather Service...” Additionally, the segment should end with “Stay tuned to NOAA Weather Radio or your favorite source of weather information for the latest updates. Additional details can also be found at [www.weather.gov/\(your WFO's name\)](http://www.weather.gov/(your WFO's name)).”

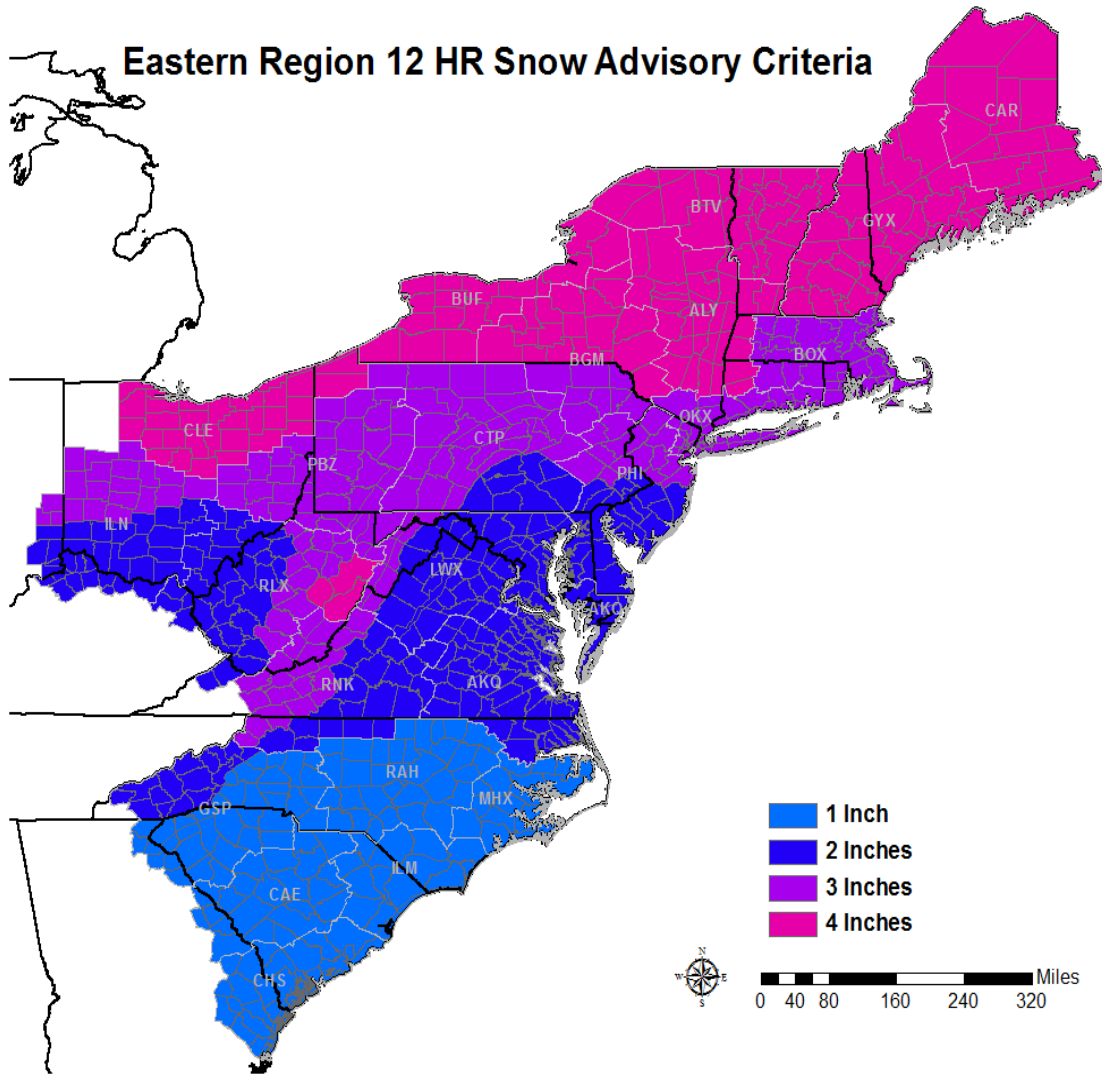
4.9 Winter Weather in Outlooks: General information on impending winter storms in days 1-7 will be included in the HWO. Once watches/warnings/advisories are in effect, the HWO can just reference the active WWA product.

4.10 High Impact Sub-Advisory (HISA) Precipitation. WFOs are encouraged to issue Special Weather Statements for HISA events when forecaster analysis and judgment, augmented by high resolution rapid refresh guidance, suggest brief, excessive rates of snow accumulation (two inches/hour or more) across urban areas at peak commute time, hub airports at push time or known interstate highway trouble spots at any time. Issue an SPS a few hours prior to the event describing expected weather, potential impacts (slick pavement/low visibilities) and mitigation measures (e.g. reducing speed and allowing extra time for travel). A heads up call to transportation and public safety officials is also encouraged.

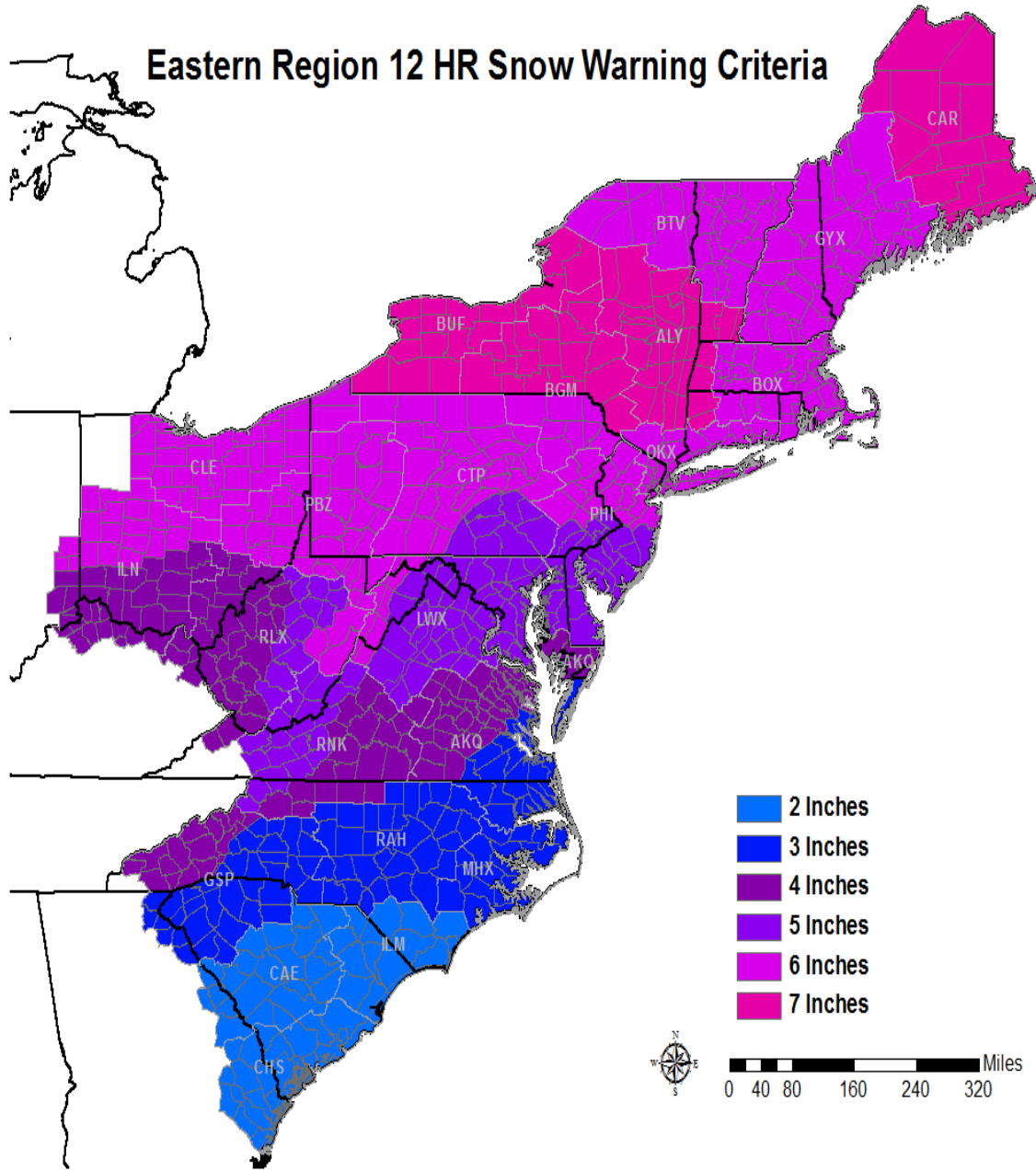
- 5) Criteria. Warning and Advisory criteria can be viewed by referring to the appendices in this document.

An optional method of verifying winter storm events when mixed precipitation occurs is available on the [Eastern Region Watch/Warning Advisory Resource Page](#). Eastern Region offices may find this technique useful in quantifying the magnitude of mixed precipitation events when no individual winter weather element reaches warning criteria and simple subjective classification using storm impacts both fail to define whether a winter storm event has occurred or not.

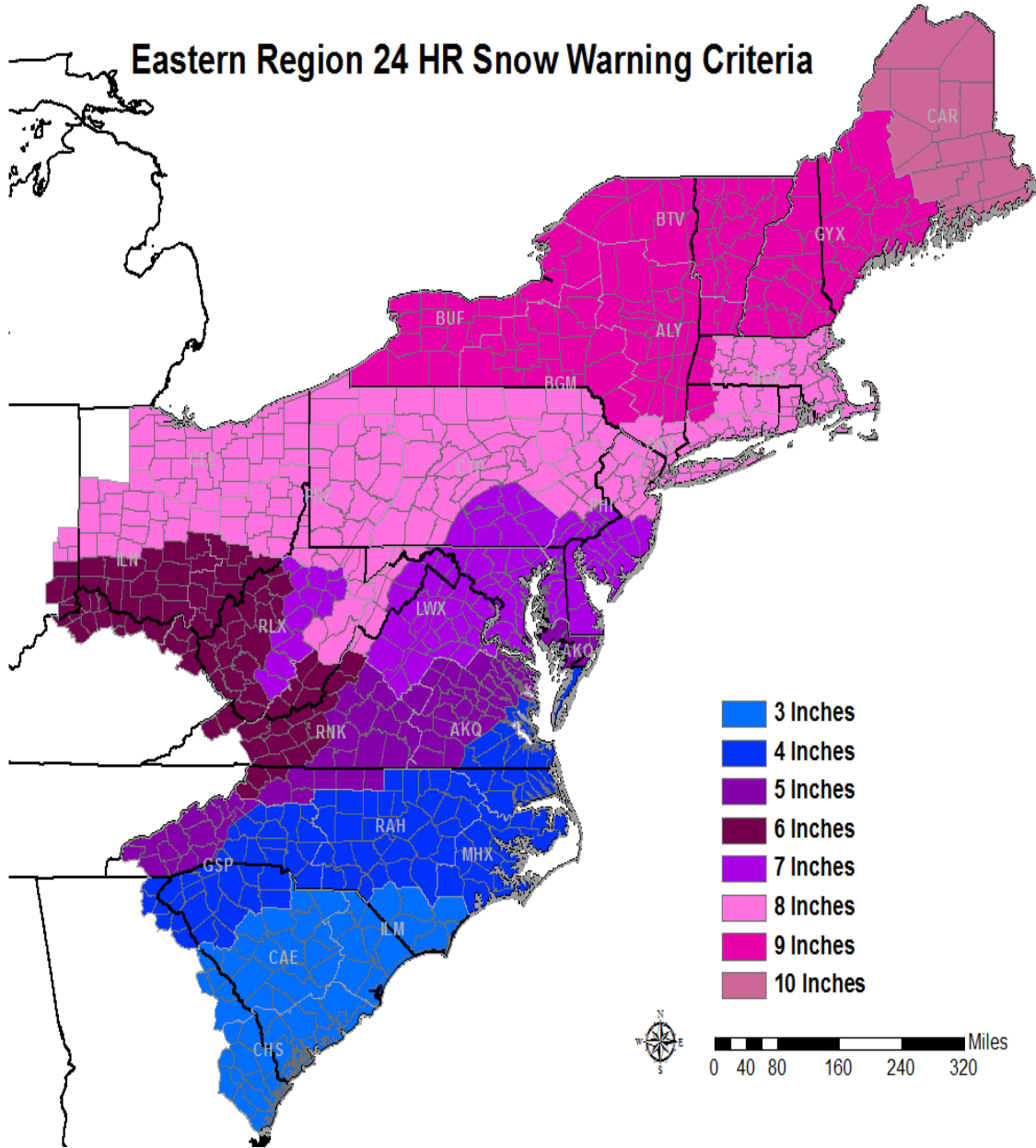
APPENDIX A – SNOW CRITERIA



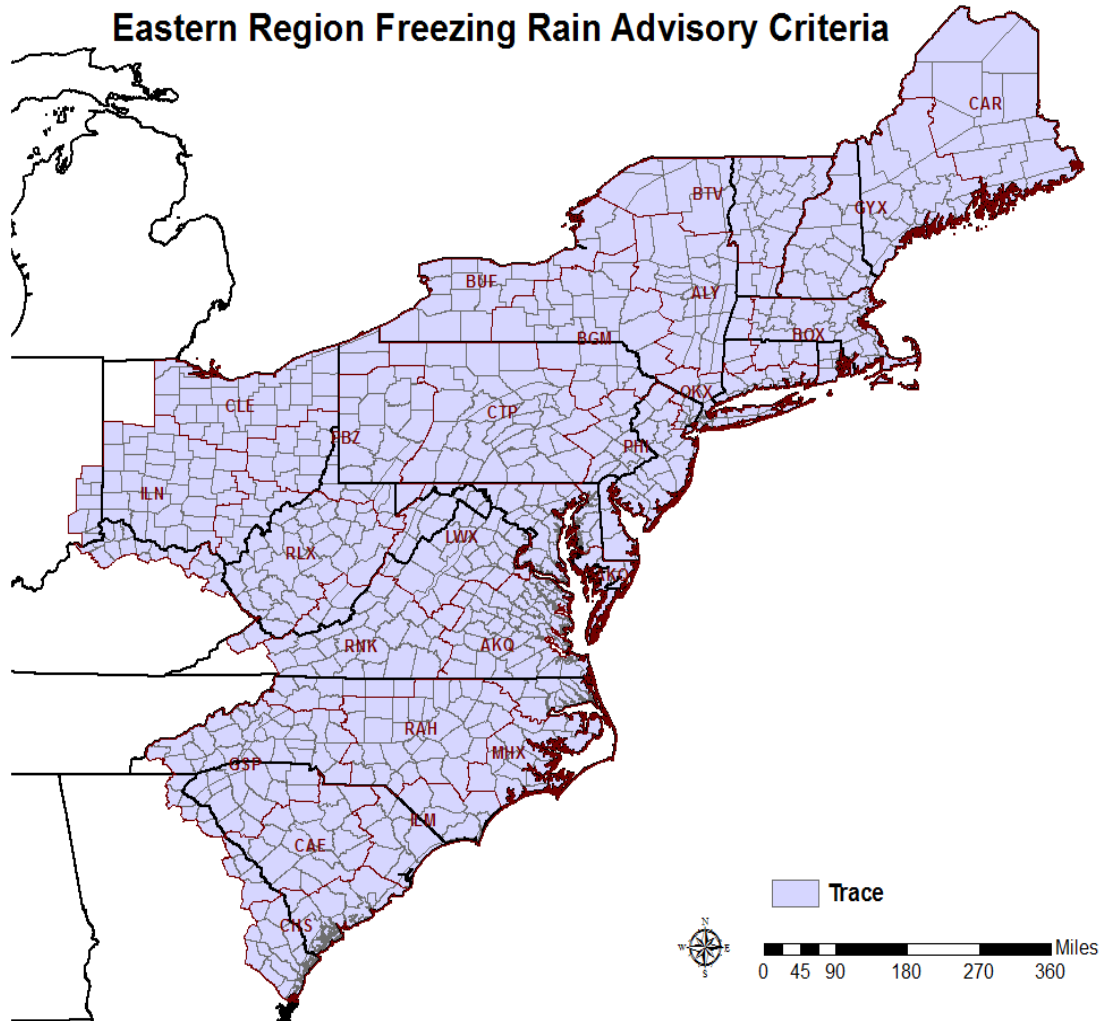
APPENDIX A – CONTINUED



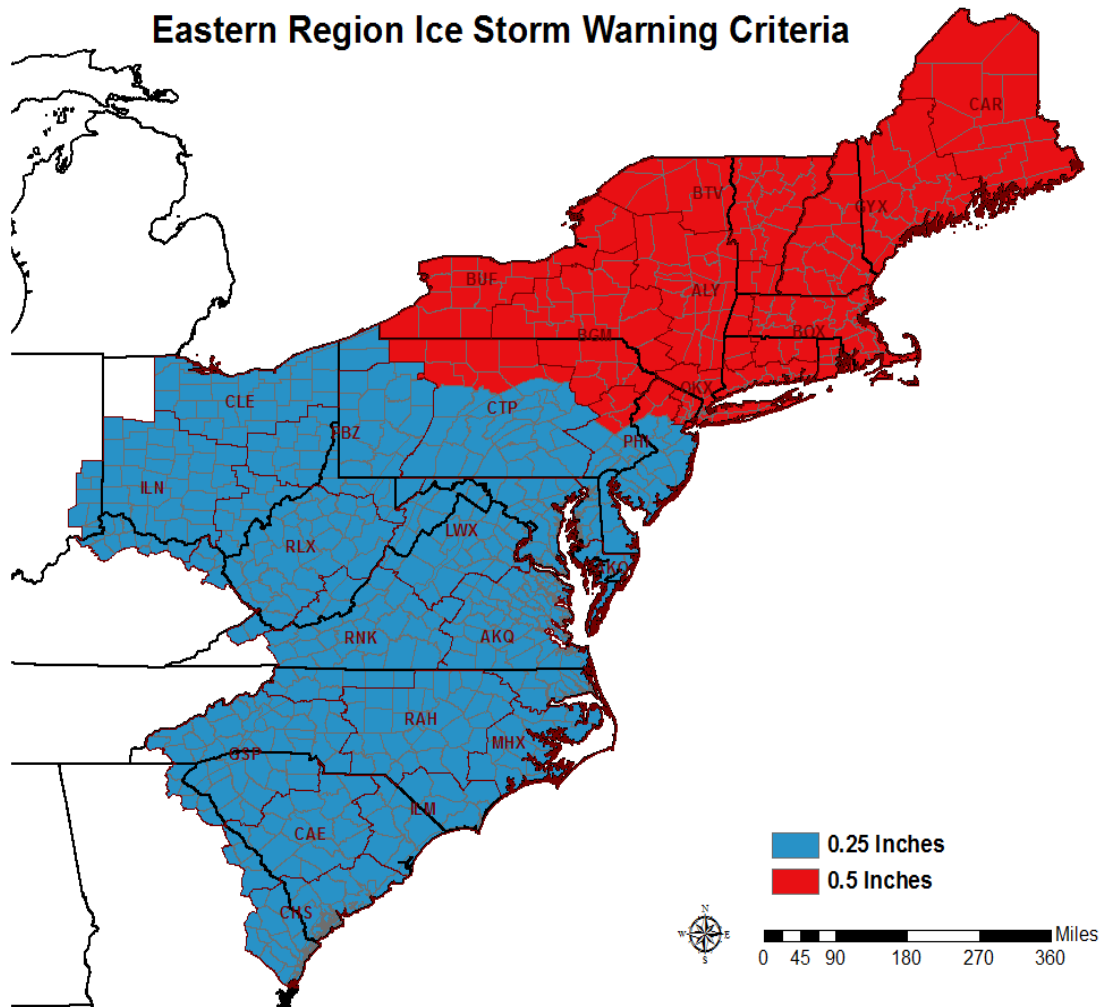
APPENDIX A – CONTINUED



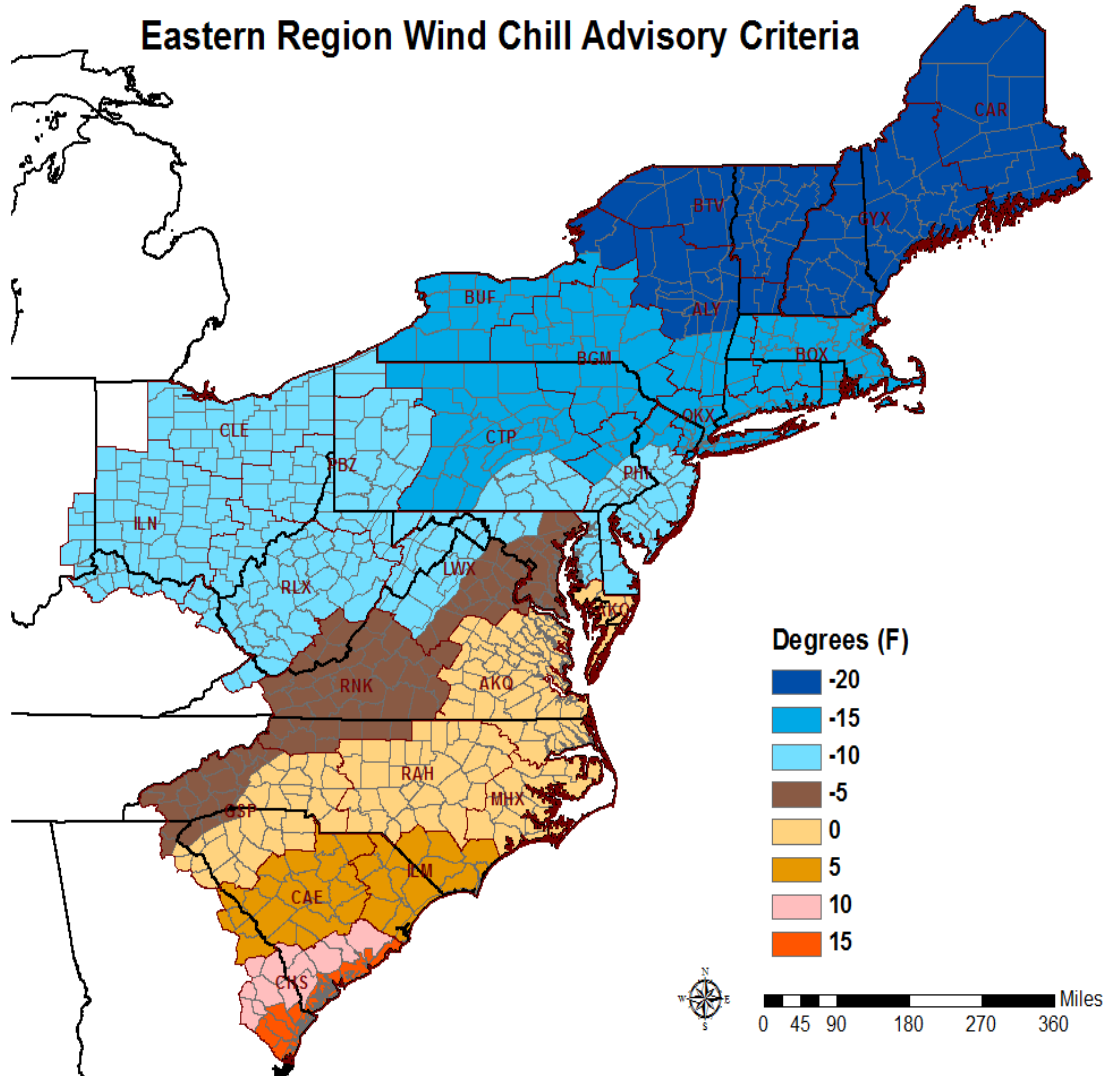
APPENDIX B – FREEZING RAIN / ICE STORM CRITERIA



APPENDIX B – CONTINUED



APPENDIX C – WIND CHILL THRESHOLDS



APPENDIX C – CONTINUED

