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APPLICABLE TO NWSI 10-513
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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)
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SUMMARY OF REVISIONS: This Supplement updates ERS 02-2003, "Winter Weather Watch/Warning/Advisory Policy, Procedures, and Thresholds," dated November 1, 2012, issued with NWSI 10-513, and contains the following revisions:

1. Triggering thresholds in section 4.2 have been modified to include high-impact advisory situations.
2. Section 4.10 has been updated to substitute the old Best Practices document with High-Impact Sub-Advisory (HISA) guidance.
3. Winter weather threshold maps are now included as appendices to this document.

< signed > November 3, 2014

Jason P. Tuell Date
Director, NWS Eastern Region

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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 onset, forecasters should choose one or the other to end the indecision.

Winter precipitation forecasts (including hazards grids) must be included in the first 72 hours of the forecast database to ensure national requirements are met. Snowfall and ice accretion forecasts contained in text products such as the Zone Forecast Product, 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).

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. Winter Weather Advisories may also be issued for black ice conditions or short-duration, high rates of snowfall, when significant impact is expected.

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 a*verage 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
Blizzard	X	X	
Winter Storm	X	X	
Lake Effect	X	X	X
Ice Storm		X	
Freezing Rain			X
Winter Weather			X
Wind Chill	X	X	X

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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. Public Information Statements (PNSs) will be the primary public product to report/summarize the latest winter precipitation, high wind observations or wind chill values to the public during winter weather events and will follow the format shown in resource links (see Section 5). 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. WFOs should also produce a summary PNS at the end of an event. Observations and related reports are permitted in other products to support warning or advisory content.

Issuance of Local Storm Reports (LSRs) for winter phenomena are allowed and encouraged, *especially for fast-breaking, short-fused situations* such as freezing rain episodes or high snow accumulation rates, when public impacts are the greatest.

Any non-zero snow, sleet or ice accumulation observations will be entered into the Eastern Region Hydromet Database via ECLAIRS. This can be accomplished in two ways:

1) Via transmission of a PNS using ECLAIRS, which will send the reports to Hydromet automatically,
2) Via a command in the LSR/PNS options menu: Send Reports to Hydromet (No PNS), which will send the reports to Hydromet without transmitting a PNS.

The process to send observations to the Hydromet database is independent of the local office decision on whether or not to issue an LSR.

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)."

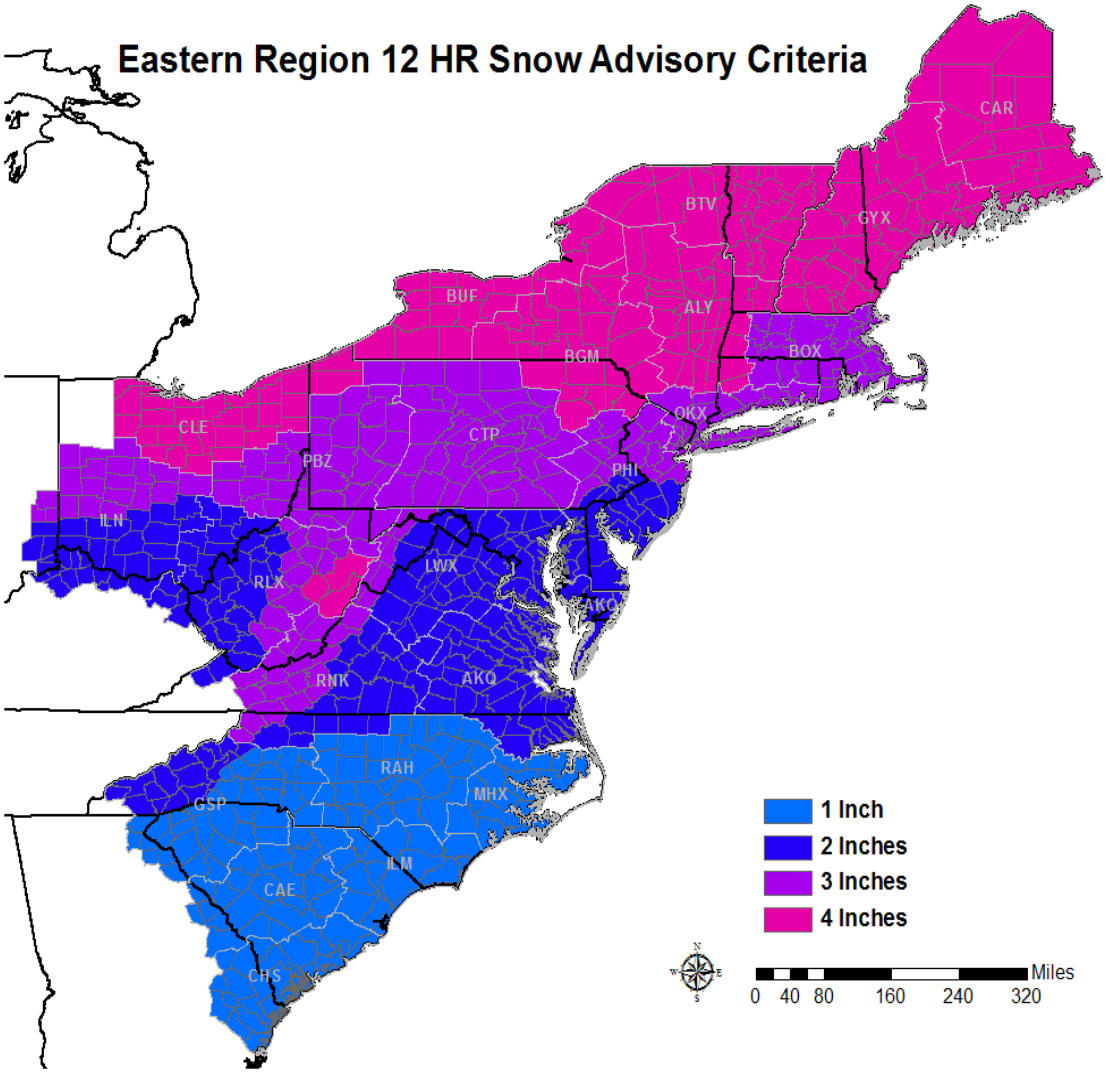
4.9 Winter Weather in Outlooks: General information on impending winter storms in days 1-7 will be included in the HWO. Once watches/warnings/advisories are in effect, the HWO can just reference the active WWA product.

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.

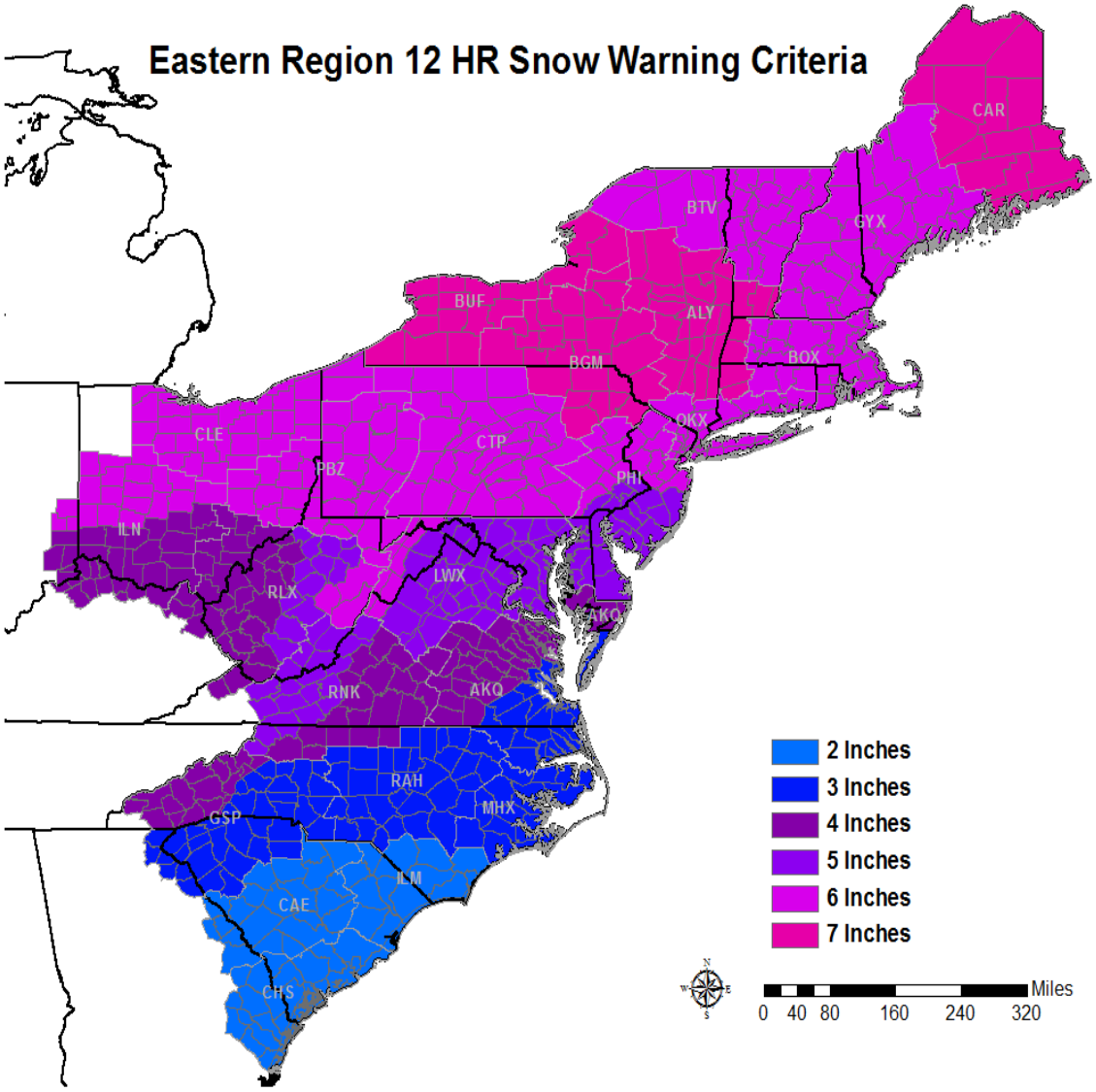
5) Criteria. Warning and Advisory criteria can be viewed by accessing the Eastern Region Watch/Warning/Advisory Resource Page or by referring to the appendices in this document.

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



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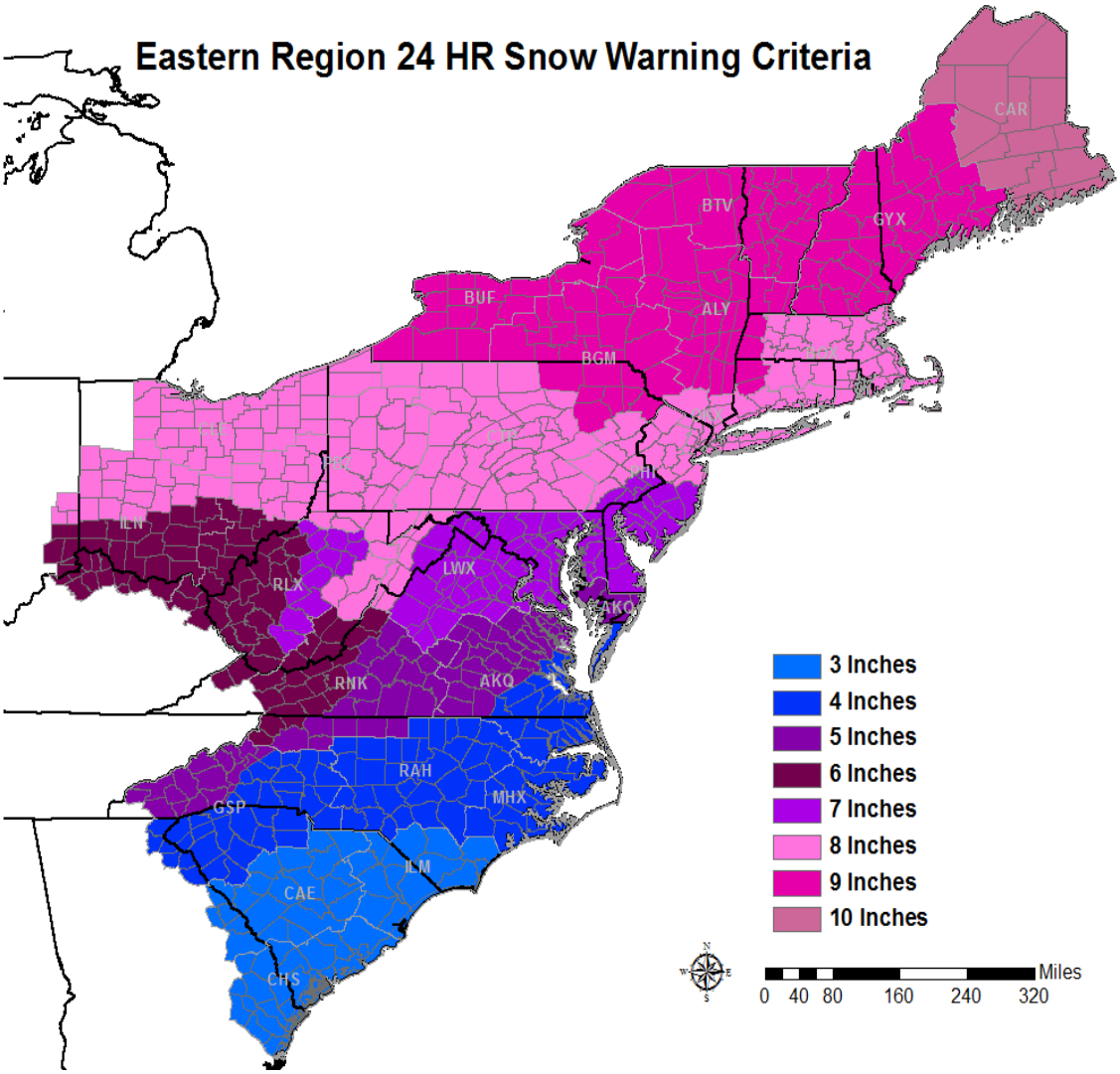
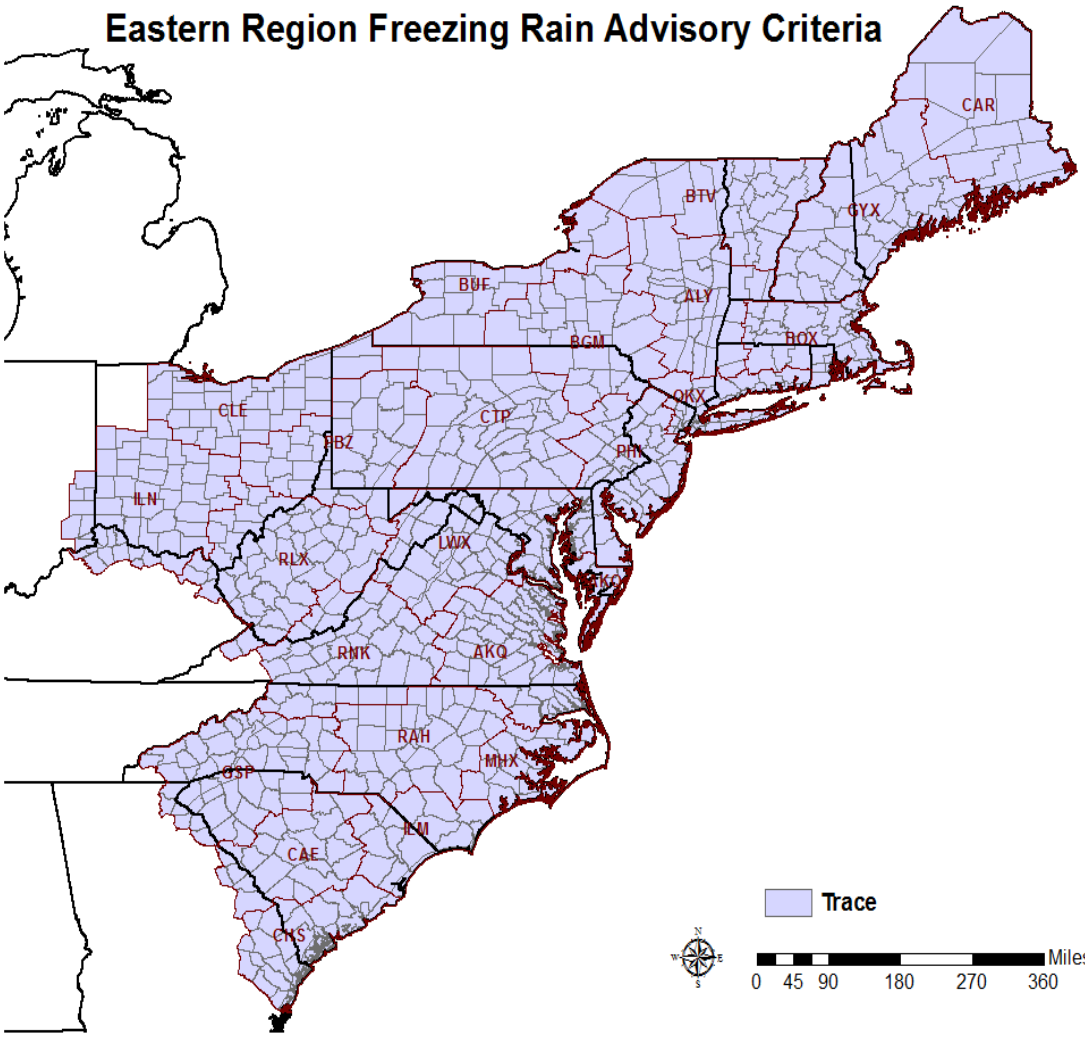


APPENDIX B – FREEZING RAIN / ICE STORM CRITERIA



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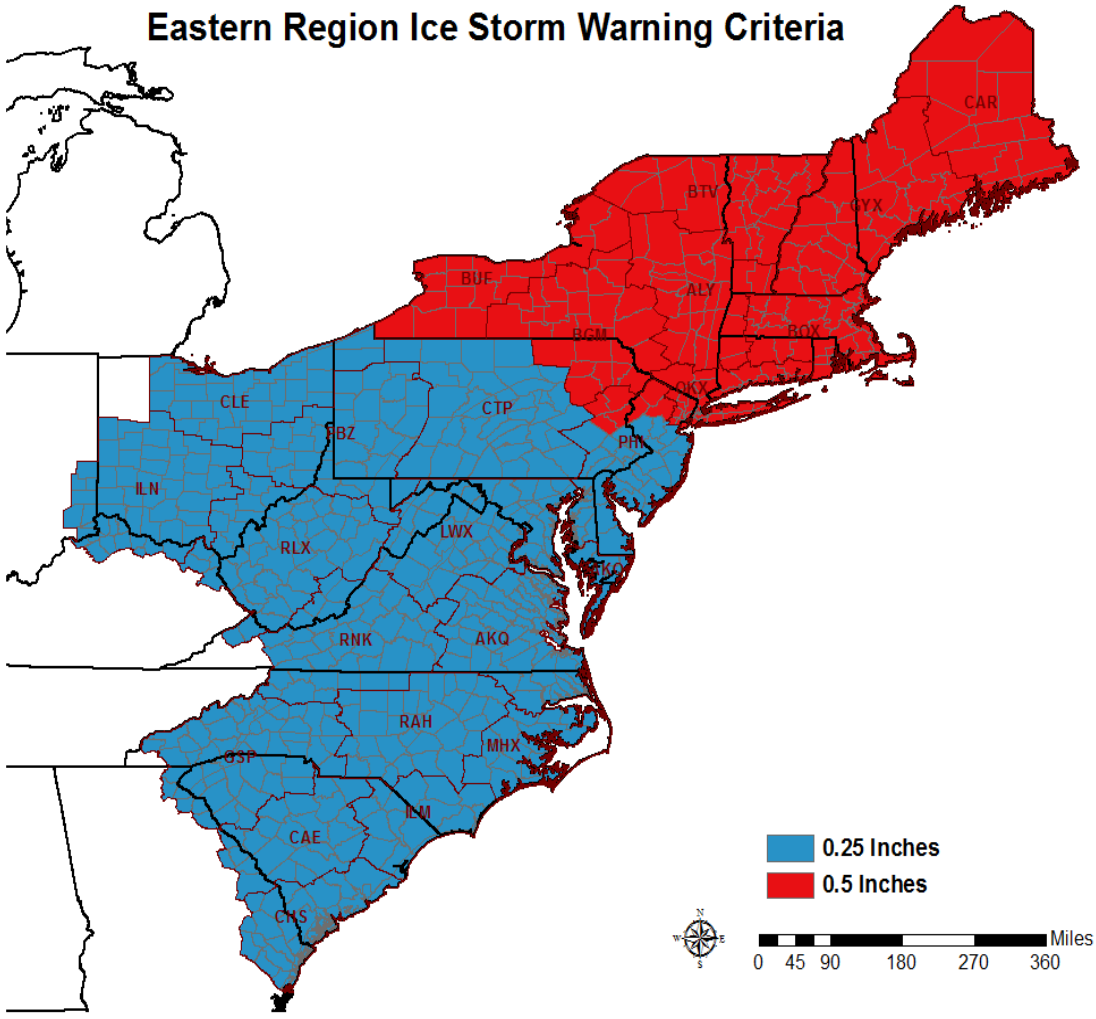
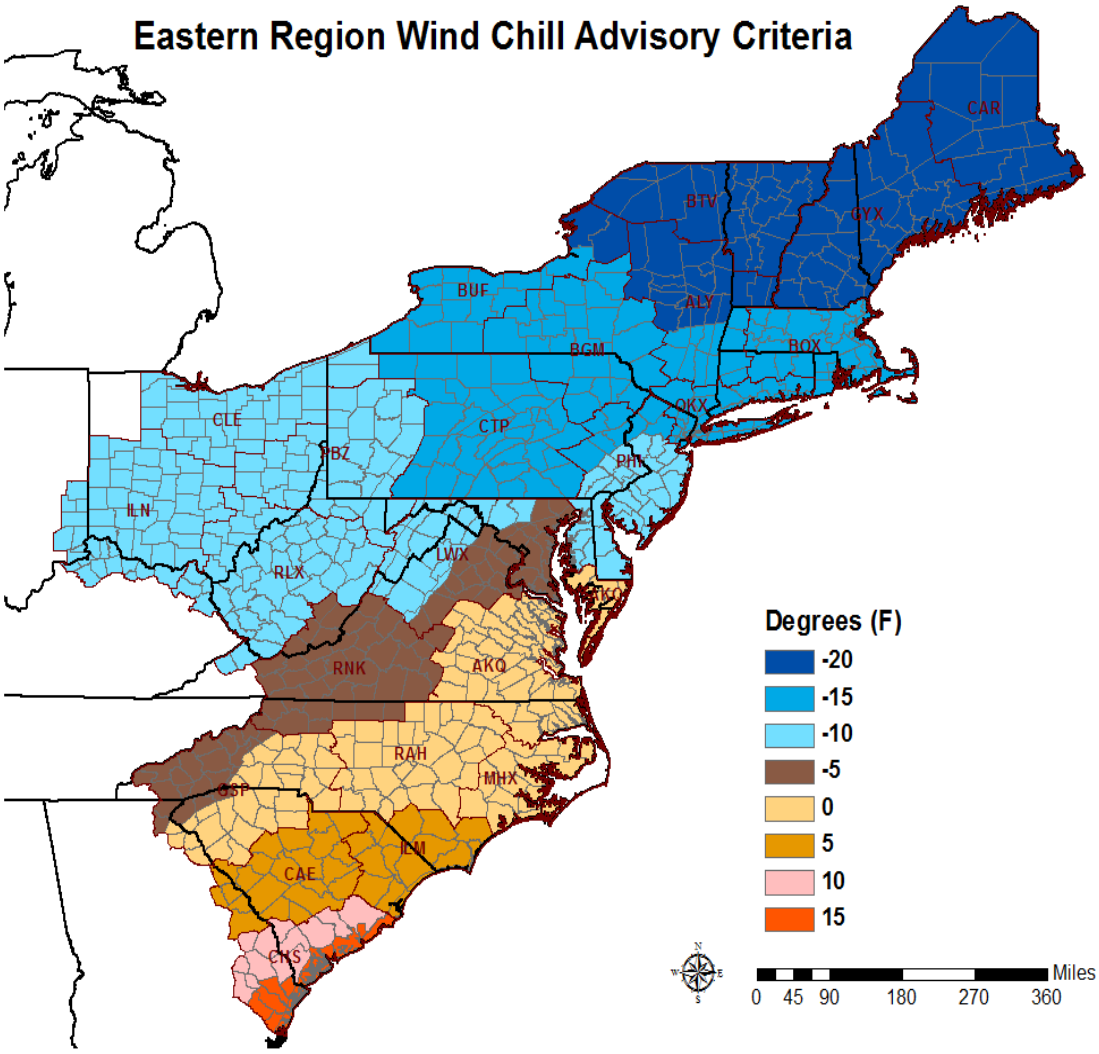


APPENDIX C – WIND CHILL THRESHOLDS



APPENDIX C – CONTINUED