

Support for Effective Communication of SPC Day 1 Outlook with Increased Temporal and Spatial Resolution

Focus Group and Interview Protocols, August 19, 2015

Protocol for State and Local Emergency Management Personnel

Paperwork Reduction Act Statement

Public reporting burden for this collection of information is estimated to average 60 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Jennifer Sprague, NOAA National Weather Service, jennifer.sprague@noaa.gov.

Abt Associates will not release your name or information that could identify you as part of this focus group process or in our subsequent reports to NOAA's Storm Prediction Center. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Begin with short introduction of the project (5 min)

- I am _____ from Abt Associates, which is a contractor to the Federal Government and is helping SPC with this study. During this meeting, I will ask questions about how you use weather forecast information in your work.
- The National Weather Service's Storm Prediction Center, or SPC, produces a "Day 1 Outlook", which provides forecast information about severe thunderstorms, tornadoes, other wind gusts and hail for the current day. By the current day, we mean that the Outlook provides forecast information for the same day on which it is produced.
- SPC is planning to modify or add to the Day 1 Outlook to include more detail on the timing of forecasted hazards and possibly more spatial detail. We will describe the kinds of changes they are considering later in this discussion.
- SPC would like to gather input from core partners and customers, including the emergency response community, to help guide future changes to the Outlook. They want to know how local personnel make emergency preparedness decisions with regard to severe thunderstorms, tornadoes, hail and other hazards. They want to know if and how the current Day 1 Outlook is

used to support decisions for the current day, what other information would be useful in the Day 1 Outlook and whether and how increased detail about timing and location of risks would help.

- With better knowledge about how emergency preparedness decisions are made, SPC will be able to design a more useful version of the Day 1 Outlook.

Questions

- How does risk of severe thunderstorms and tornadoes affect your operations and activities?
- What kinds of decisions, if any, do you make based on forecasted storm risk for the current day?
By current day, we mean starting in the early morning, for potential storms that day or night.
 - Probe: When do you make these decisions?
 - Probe: What kind of information do you use to make these decisions?
 - Probe: Why do you use these sources of information?
 - Probe: Where and how do you obtain this information?
 - Probe: Do you think the storm, tornado and other hazard forecast information available for making these decisions is sufficient? If not, what is missing?
- Do you communicate severe weather forecast information to other agencies or organizations or to the public?
 - Probe: In what way do you communicate information to other agencies or organizations or to the public?
 - Probe: What kind of information do you communicate to other agencies, organizations or the public?
 - Probe: Are there kinds of severe weather forecast information for the current day that other agencies or organizations or members of the public request from you that you do not have available?
- **[Bring up Day 1 Outlook on screen or hand out hard copy(TBD)]** Are you familiar with the SPC Day 1 Outlook? Do you use the Day 1 Outlook?
 - **[If anyone is not familiar with Day 1 Outlook, describe the example (on screen and/or in hard copy)]**
 - Probe: Please describe what the Day 1 Outlook tells you about risk of severe weather for the current day. Describe what you think the categorical risk categories mean.
 - Probes: How do you use the Day 1 Outlook? When and how often do you check it? Do you have formal decision rules about how to use information in the Outlook?
 - Probes: Which portions of Day 1 Outlook do you use? The Categorical Outlook? The text portion? Specific hazard (i.e., the tornado, wind, hail) probability forecasts?
 - Probe: How does the Day 1 Outlook compare to other sources of information that you use to make decisions related to storm/tornado risk?
 - Probes: How does your use of the Outlook compare to your use of storm and tornado watches and warnings issued by the National Weather Service? Do you think that the information provided by these products is consistent?
 - Probes: What do you think about the format and layout of the current Day 1 Outlook? Is it user-friendly and easy to navigate and use?
 - Probe: Is there anything that could be improved about Day 1 Outlook to better meet your needs?
- **[Bring up example #1 of modified Day 1 Outlook on screen and/or hand out hard copy (TBD). Point out the primary changes from the current Outlook]**

- o This example shows a possible modification of the Day 1 Outlook.
- o Probes: Could you tell me how you interpret the additional information that is provided here? Is there anything that is unclear or confusing?
- o Probes: Is the additional information on the timing of risk understandable?
- o Probes: Is it useful to have additional information on timing for each of the hazards (tornado, wind, and hail) or just for the overall categorical risk?
- o Probes: Would you use the additional information on timing? How? Would it change the way you make decisions or help you make better decisions?
- o Probes: The information about timing does not use the categorical risk terminology. Does that fact affect how you would interpret and use this information? If so, how?
- o Probes: Would you communicate the additional information on timing to partner agencies/organizations? To the public?
- o Probes: How do you think your use of this modified version of the Outlook would compare to your use of watches and warnings issued by the National Weather Service?
- o Do you have any other comments or suggestions?

Conclude by thanking them for their participation, providing contact information if they have any questions, and letting them know that the study will be concluded by Spring (2016).

Protocol for Private Sector Meteorologists (small group or individual interviews)

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Abt Associates will not release your name or information that could identify you as part of this interview process or in our subsequent reports to NOAA's Storm Prediction Center. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Begin with short introduction of the project (5 min)

- I am _____ from Abt Associates, which is a contractor to the Federal Government and is helping SPC with this study. During this meeting I will be asking you questions about your use of various thunderstorm forecast products.
- The National Weather Service's Storm Prediction Center, or SPC, produces a "Day 1 Outlook", which provides forecast information about severe thunderstorms, tornadoes, other wind gusts

and hail for the current day. By the current day, we mean that the Outlook provides forecast information for the same day on which it is produced.

- SPC is planning to modify or add to the Day 1 Outlook to include more detail on the timing of forecasted hazards and possibly more spatial detail. We will describe the kinds of changes they are considering later in this discussion.
- SPC would like to gather input from core partners and customers to help guide future changes to the Outlook. They want to know how broadcast and other private sector meteorologists use and communicate forecasts of severe thunderstorms, tornadoes, hail and other hazards for the current day. They want to know whether and how the current Day 1 Outlook is used to support broadcast forecasts, what other information would be useful in the Day 1 Outlook, and whether and how increased detail about timing and location of risks would help.
- With better knowledge about how broadcasters and other private sector meteorologists use and communicate this information, SPC will be able to design a more useful version of the Day 1 Outlook.

Questions

- *[Bring up Day 1 Outlook on screen or hand out hard copy(TBD)]* Are you familiar with the SPC Day 1 Outlook?
- *[if they are not familiar with the SPC Day 1 Outlook, describe the example]*
- I'm interested to know how you interpret the information presented in the Outlook: can you tell me how you interpret the information in the Outlook?
- Do you use other tools for forecasting and communicating severe storm risk for the current day? If so, which ones?
 - Probe: If so, how is the Day 1 Outlook similar to or different from other sources of weather information that you use?
- What is your primary audience for broadcasting/disseminating forecasts? The public? Specific customers?
- How do you use severe weather forecasts for the current day in preparing the forecast that you deliver on broadcasts or on websites? What do you aim to communicate to your audience?
- Do you use the Day 1 Outlook for preparing your forecast? Why or why not?
 - Probe: How do you use the Day 1 Outlook, if at all?
 - Probes: Which portions of the Outlook do you use? The Categorical risk? The text discussion? The tornado, hail, or wind forecast probabilities?
 - Probe: Do you use the Outlook map/graphic?
 - Probes: If not, why? Do you use other map/graphics of risk?
 - Probes: How does the Outlook compare to watches and warnings issued by the National Weather Service? Do you think that the information provided by these products is consistent?
- Is there anything that could be improved about the Day 1 Outlook to better meet your needs?
- How do you report/relay/interpret different levels of forecast risk (Slight, Moderate, etc.)?

- o Probe: Do you use the same terminology? If not, why, and what terminology do you use?
- [Bring up example #1 of modified Day 1 Outlook on screen and/or hand out hard copy (TBD)]
 - o This example shows a possible modification of the Day 1 Outlook.
 - o Probes: Could you tell me how you interpret the additional information that is provided here? Is there anything that is unclear or confusing?
 - o Probe: Is the additional information on the timing of risk understandable?
 - o Probe: Is it useful to have additional information on timing for each of the hazards (tornado, wind, and hail) or just for the overall categorical risk?
 - o Probes: Would you use the additional information on timing? How? Would it change the way you communicate forecasts via your broadcast or website?
 - o Probe: The information about timing does not use the categorical risk terminology. Does that fact affect how you would interpret and use this information? If so, how?
 - o Probe: How do you think your use of this modified version of the Outlook would compare to your use of severe thunderstorm and tornado watches and warnings issued by the National Weather Service?
 - o Do you have any other comments or suggestions?
- What do you think the public needs to know about severe weather risk for the current day? How did you learn about what the public needs? Do you have research about how the public receives and understands this type of information?

Conclude by thanking them for their participation, providing contact information if they have any questions, and letting them know that the study will be concluded by Spring (2016).