

Peak Performance Newsletter

Performance & Evaluation Branch
Operations Division
NWS Office of Chief Operating Officer
Silver Spring, Maryland

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NWS FY2016 Q1 Customer Satisfaction Survey Update

Sal Romano, NWS Headquarters

The Performance and Evaluation Branch in the Operations Division of the Office of Chief Operating Officer continues to contract with the Claes Fornell International (CFI) Group to assist in the development and implementation of the NWS customer satisfaction surveys. The CFI Group staff are experts in the science of customer satisfaction and use the American Customer Satisfaction Index (ACSI) methodology. The ACSI was created by CFI Group's founder, Claes Fornell, under the auspices of the University of Michigan. It is the only uniform measure of customer satisfaction in the U.S. economy and is used by more than 200 companies and government agencies.

This article is about the Fiscal Year 2016 first quarter, continuous, pop-up survey on NWS websites (e.g., weather.gov, forecast.gov, WFOs' web pages) that was "live" from early October 2015 to early January 2016 and the Internet Panel survey that was taken in October 2015. This fall/early winter survey provided continuous data collection via the pop-up survey as respondents were exiting the websites, resulting in a total of 4,771 respondents over the 3-month period. In addition, there were 246 respondents to the Internet Panel.

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NWS FY2016 Q1 Customer Satisfaction Survey Update – Continued from Page 1

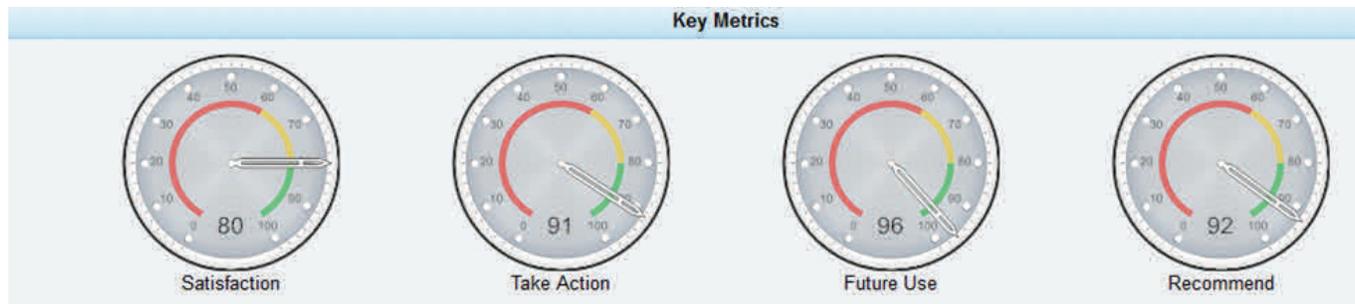


Figure 1. Screen capture from a graphic in the results portal showing an overall Satisfaction score of 80.

The pop-up survey respondents had an Overall Satisfaction score of 80, as shown above (**Figure 1**) from a screen capture of a graphic in the survey results portal. The survey results portal is discussed toward the end of this article.

The other three measures shown in the above graphics are scores resulting from these questions:

1. Using a 10-point scale on which 1 means “Not at all Likely” and 10 means “Very Likely,” how likely would you be to **take action based on the information you receive from the NWS?**
2. Using a 10-point scale, on which 1 means “Not at all Likely” and 10 means “Very Likely,” how likely are you to **use the NWS as a source of weather information in the future?**
3. Using a 10-point scale on which 1 means “Not at all Likely” and 10 means “Very Likely,” how likely are you to **recommend the NWS to a colleague or friend?**

These scores have been very consistent since the start of the continuous, web-based, pop-up surveys on May 9, 2015.

Each of these quarterly surveys contains approximately 25 questions. The customer satisfaction index questions to determine the satisfaction score, desired outcomes questions, and demographics questions make up about 15 questions. These questions are never changed. In

addition, there are about 10 seasonal/topical questions. These questions are changed from quarter-to-quarter. For example, these surveys began in spring 2015 and included winter weather and Weather Ready Nation questions. The summer survey included severe thunderstorms and flash flooding questions. Those seasonal questions were swapped out, for the fall survey in October, and replaced with extreme heat-related questions and weather threat to rangeland fire-related questions. The winter version of the survey went “live” in early January and contained questions on winter weather and flash flooding.

For your information, there is another continuous pop-up survey being administered for the NWS by the Office of the CFO. That survey is mainly concerned with the NWS’s weather.gov site and the pop-ups only occur on that website and not on the WFOs’ web pages. A different survey company, ForeSee, is administering the survey.

In addition to the pop-up surveys, CFI selects a panel consisting of approximately 250 individuals each quarter and compensates them to take a very similar survey on the Internet. These Internet panelists/respondents more closely represent the demographics of the United States according to the 2010 U.S. Census. The first group of Internet panelists, consisting of 293 respondents, took the spring survey, containing the winter weather-related questions, in May 2015. The second group of Internet panelists, consisting of 246 respondents, took the summer survey, containing

NWS FY2016 Q1 Customer Satisfaction Survey Update – Continued from Page 2

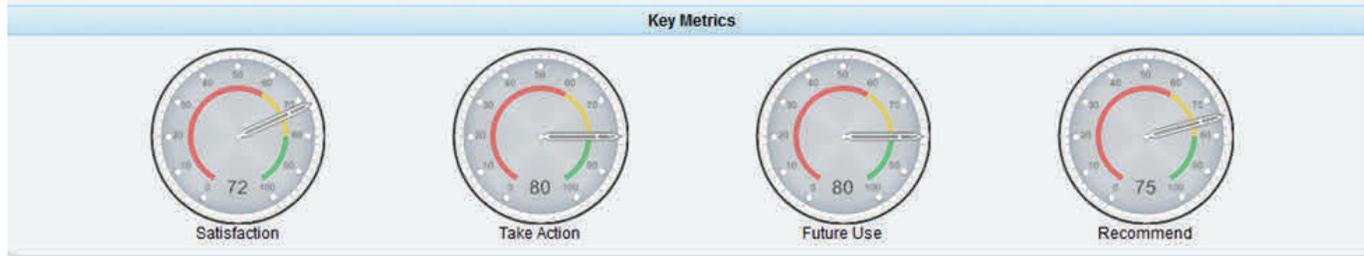


Figure 2. Screen capture from a graphic in the results portal showing October 2015 Internet Panel scores.

flooding and severe thunderstorm-related questions, in July 2015. The third group of Internet panelists, also consisting of 246 respondents, took the fall/early winter survey, containing winter weather and flooding-related questions, in October 2015. The October 2015 Internet Panel scores are shown above (Figure 2) from a screen capture of a graphic in the results portal. Respondents had an Overall Satisfaction score of 72, a Take Action score of 80, the Future Use score was 80, and the Recommend score was 75.

you can then go to the far left side of the page and click on "Questions" (Figure 4). A scroll-down menu will appear containing three WFO options: WFO – Group 1, WFO – Group 2, WFO – Group 3. Each of these options contains about 40 WFO identifiers in alphabetical order. You can obtain the results for one or more particular WFO(s) by selecting the desired identifier(s).

The pop-up and Internet panel survey results are available through a Web portal provided by CFI. You may access the survey results' Web portal at: <https://portal.cfigroup.com/Portal>

The generic username and password are:
 Username: NWSwm@noaa.gov
 Password: NWSportal1

Once you have gained access to the portal you will see the following survey menu selections:

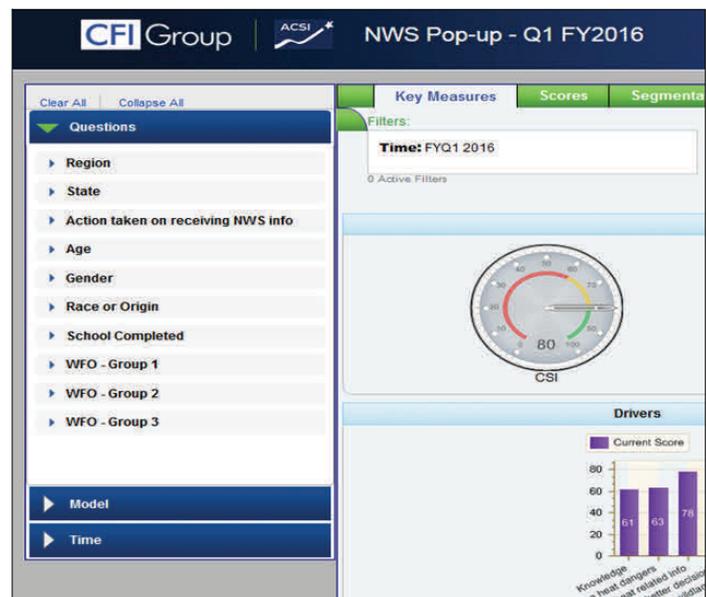


Figure 4. Example of options listed under "Questions."

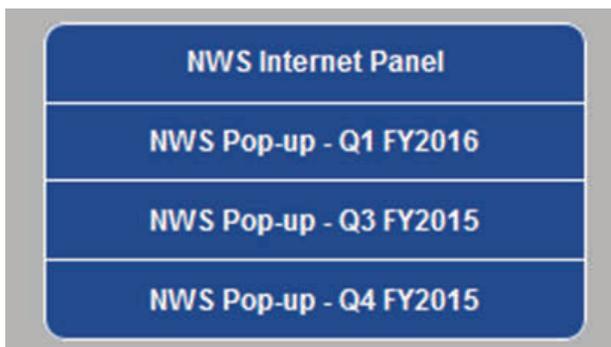


Figure 3. Graphic showing the "NWS Pop-up" options.

If you select any of the "NWS Pop-up" options (Figure 3), for example "NWS Pop-up Q1 FY2016,"

In the center, top of the page, the "Comments" selection tab will provide all of the open-ended comments provided by the respondents for the selected WFOs (Figure 5 on next page). Once the "Comments" selection tab is clicked, a page will be displayed and on the left side of the page there is a "Comment Selection" option.

Here is some more information about the meaning of two of the selection options. First, the "Changes to improve your satisfaction" selection

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is based on the initial question asked of respondents: "First, please consider all of your experiences with the NWS. Using a 10-point scale on which 1 means "Very Dissatisfied" and 10 means "Very Satisfied," how satisfied are you with the NWS?" If the respondent gives a low score (i.e., 6 or lower), then this question is asked: "Please indicate what the NWS should change to improve your

satisfaction,." Second, "Ways NWS could improve its services to you" is based on this survey questions: "Please share with us any final thoughts you have about the ways the NWS could improve our services to you." This question is asked of all respondents and not just those who gave a low score.

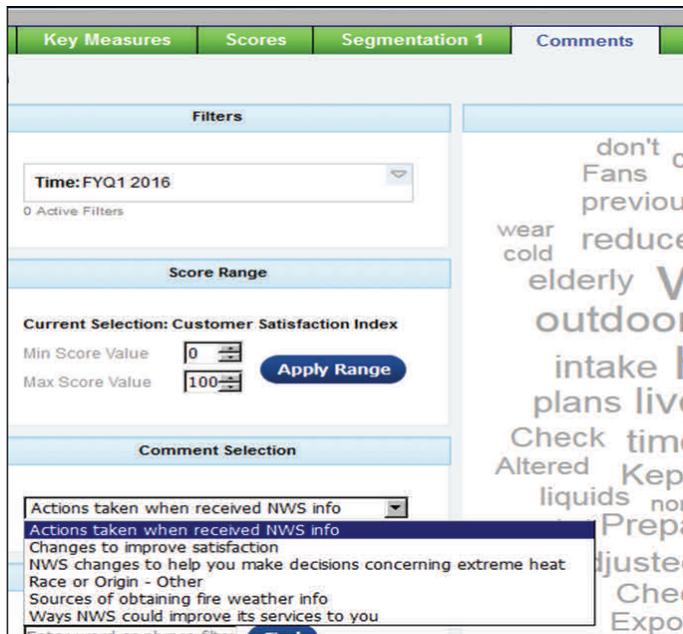


Figure 5. Graphic shows example of "Comments" selection tab.

In regard to the Internet Panel, the results are provided for each of the three quarters by first clicking on "NWS Internet Panel" from the main portal menu selection screen. Then, on the far left side of the page, click on "Time." A scroll-down menu will appear containing these three options:

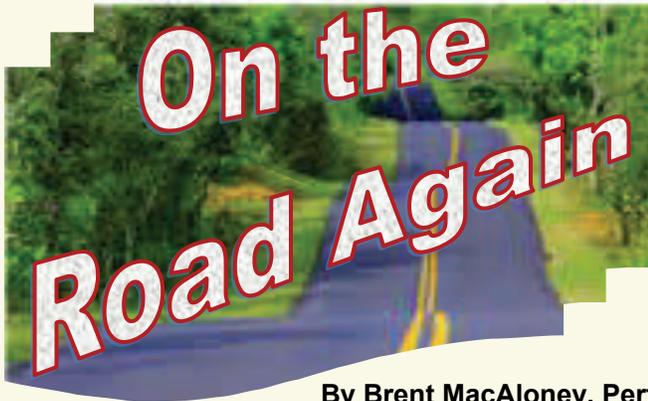
- ◆ May 2015 (containing the results obtained during Q3 FY2015)
- ◆ July 2015 (containing the results obtained during Q4 FY2015)
- ◆ October 2015 (containing the results obtained during Q1 FY2016).

Please take a few moments to complete the survey if you receive our CFI Customer Satisfaction Survey pop-up. ◆

Quotes From the NWS Customer Satisfaction Quarterly Website Survey "Thoughts on Products, Services and Overall Satisfaction"

- ⇒ **Severe Weather/ Use of NWS Information:** I live in NE Missouri and we have had a good deal of thunderstorm activity and rainfall that has caused flooding and flash flooding. I used both the website and the announcements on the weather radio to inform and update my colleagues on the University of Missouri Extension staff in our NE region. Part of that was educating staff about where they can find information on your website. Our State Emergency Management Specialist shared that information with other regions in the state. Your information goes hand-in-hand with our MO Dept of Transportation (MODOT) to help people avoid dangers and to "Turn Around. Don't Drown." Thanks for all the lifesaving information that our TV stations use (KHQA and WGEM) to make sure the public stays safe. We couldn't do it without you.
- ⇒ **NWS Website:** It takes a while to sort through all of the information and navigate the site, but the information available is very helpful.

[View more comments on page 7](#)



By Brent MacAloney, Performance and Evaluation Branch, NWS Headquarters

"One of the highlights of this trip was seeing NWS Director, Dr. Louis Uccellini and Deputy Administrator of the Federal Emergency Management Agency (FEMA), Joseph Nimmich, give a joint presentation."



Every year, as winter comes to an end and we head into March, there is usually one constant in my work life that I can always depend on—a trip to Oklahoma City, Oklahoma, for the National Tornado Summit. This year, I arrived just in time as there was a Severe Thunderstorm Watch issued for Oklahoma City within an hour of my plane touching down. Unbelievably, until this trip I had never seen anything larger than pea size hail in my life. So, when we ended up getting half-inch size hail (**Figure 1**), I was very excited.



Figure 1. Pea size hail that fell in the Bricktown section of Oklahoma City, OK on February 29th. Photo by: Brent MacAloney

National Tornado Summit

For those who are not familiar, the National Tornado Summit is an annual meeting that brings together professionals from the insurance, engineering, emergency management and meteorological industries for discussions on disaster mitigation, preparedness, response, and recovery. The intent of the meeting is to help to save lives and protect property in the United States. I usually attend this summit as it provides me with the opportunity to interact and network with this unique audience.

As I continue to work on developing a modernized program to collect Storm Data, it is beneficial to see the other tools that are being used to collect information on damage caused from weather events. Several vendors annually attend this event with applications they developed to provide high-level assessments of the extent of damage caused by a severe weather event, such as a tornado. These vendors always seem to be unaware that this damage information could be very useful to the NWS. Having this information would help the NWS better define the impact area when logging the event into Storm Data.

I also enjoy speaking to those in the insurance industry who come up with loss estimates after an event takes place. In the Performance and Evaluation Branch (PEB), we are always looking for ways to measure the NWS's success in saving lives and property. However, this is a very tough task as there really is no good way to measure the cost of the damage caused by severe weather every year. The first step in collecting damage estimates is to network with the experts in gathering this information, those in the insurance industry. It is a slow process that will continue for a few more years, but we're finally getting to a point where we'll have some decent damage estimates from the insurance industry to supplement Storm Data in the not too distant future.

One of the highlights of this trip was seeing NWS Director, Dr. Louis Uccellini (**Figure 2**), and Deputy

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On the Road Again – Continued from Page 5

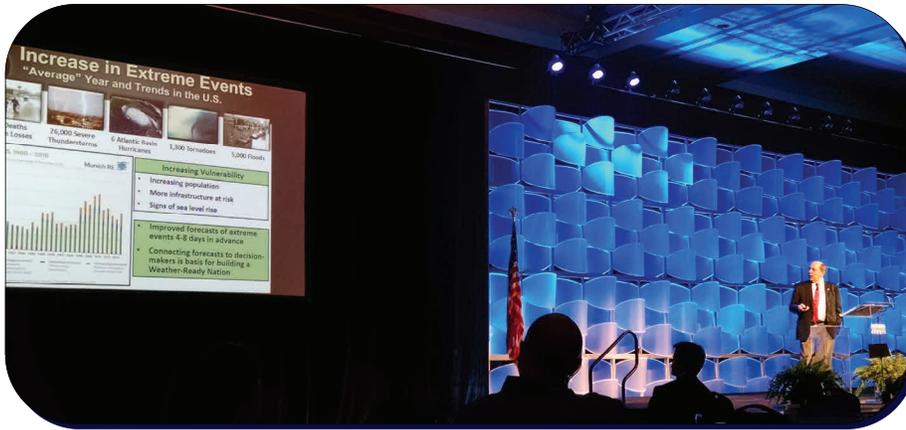


Figure 2. NWS Director, Dr. Louis Uccellini, gives his "A Weather-Ready Nation: Ready, Responsive, Resilient" presentation to the attendees at the 2016 National Tornado Summit in Oklahoma City, OK. Photo by: Brent MacAloney

Administrator of the Federal Emergency Management Agency (FEMA), Joseph Nimmich, give a joint presentation on the ways in which the NWS and FEMA work together prior to, during, and after high impact events. I thought the presentation provided a great example to those in attendance of how federal agencies work together to save lives and property.

Tornado Performance Discussion

After the National Tornado Summit, I headed south to the National Weather Center (NWC) in Norman, Oklahoma for the American Society of Civil Engineers (ASCE) Wind Speed Estimation in Tornadoes committee meeting. This is part of an ongoing effort in the weather enterprise to improve wind speed estimates associated with tornadoes. My role on this committee is the chair of the Data Archival sub-committee. However, prior to that event, I met with experts at the NWC about the multiyear dip in the NWS's tornado warning performance with regard to Probability of Detection (POD) and Lead Time (LT). This has been an ongoing trend for three years now where the NWS has significantly missed the POD and LT goals. Initially, some thought this was due to a lull in tornado activity. However, as Dr. Harold Brooks, National Severe Storms Laboratory (NSSL) and James Correia, Storm Prediction Center (SPC) were able to demonstrate, through a series of slides, this is not the case. Initially it seems as though forecasters are more focused on reducing the False Alarm Rate (FAR) and in doing so are

making smaller and shorter tornado warnings. Evidence seemed compelling that without significant changes in science and technology, a reduction in FAR usually coincides with a reduction in POD and LT. This appears to be the case for the last three years.

Since Dual-Pol radar technology was implemented, in the case of storms with marginal rotation, I suspect (but do not have the evidence to support) forecasters may be waiting a minute or two longer for the radar's next scan to be certain a storm is tornadic before issuing warnings. This is an issue the NWS would need to investigate further.

ASCE Wind Speed Estimation in Tornadoes Committee Meeting

This ASCE Wind Speed meeting was the third meeting the committee has held to discuss and draft a wind speed standard document. Over 50 committee members attended for the purpose of creating a framework for the report, which included developing a scope and outline for each section of the document. The previous two meetings were held in Reston, Virginia and McKinney, Texas in 2015.

As a member of the EF-scale sub-committee, I spent a lot of time discussing ways in which the team could create better guidance, both in the form of Damage Indicators (DI) and photographic

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On the Road Again – Continued from Page 6

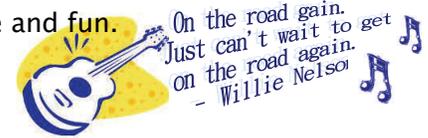
examples of Degrees of Damage (DoD), to assist with rating tornado events. The working group I am on will be working to build a library of photographs showing accurate examples of various DIs and DODs. These photos are primarily obtained from images uploaded to the NWS's Damage Assessment Toolkit (DAT). The working group will be using a tool developed within the PEB to collect and organize these images.

As the chair of the Data Archival sub-committee, I am working with all of the sub-committees to gather their data archival requirements. This will ensure all of the necessary data and documentation justifying tornado wind speed estimates will be kept for future analysis and reference. Specific requirements have yet to be defined, but at a minimum, we will likely archive photographs,

in-situ observations, and radar data associated with tornadoes.

Overall, the trip went well and a lot was accomplished over the 5-day period that I was in Oklahoma. Although I spent nearly every waking hour working, I was able to enjoy the warm spring weather and sneak in a round of disc golf at the Noble Disc Golf Course (southeast of the NWC) just before my Saturday afternoon flight back to Maryland. That was a nice bonus!

I hope you all have a great spring and we will catch up again in the summer, when I expect to have some updates on the development of the new StormDat program. Until then, I hope your travels, whether they are personal or business related, are safe and fun.
Cheers! ♦



Quotes From the NWS Customer Satisfaction Quarterly Website Survey "Thoughts on Products, Services and Overall Satisfaction"

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⇒ Recommended Improvements:

- * Accuracy: Our critical weather time is in the spring and fall when a few degrees either side of freezing greatly affects our orchard management. Better accuracy with point forecast for minimum temps would be very useful.
- * Winter Weather: Display better information. Perhaps using a winter weather forecast model like severe storms, to pinpoint the locations of the heaviest snow/freezing rain etc.
- * NWS Website: It's a great service. The radar maps are a little hard to find. Would be nice if all pertinent info was on the same page but that would change depending on the person. Maybe have a personalized page that users could customize so all relevant information to them is found on one page and you would not have to navigate around after setting up your custom page.

⇒ Forecasts / Overall Satisfaction: I'm very satisfied with the quality and accuracy of the forecasts, and they've been very helpful when planning travel, outdoor activities and home improvement projects. So, I can't think of any additional improvements to the NWS forecasts.

Survey period – December 8, 2015 to January 7, 2016



Service Assessment Program

By Sal Romano, Performance Branch, NWS Headquarters

One Assessment Team Winding Down, One Team Adjudicating Review Comments, While Another Team is Working on First Draft

The May 2015 Texas Flooding Regional Service Assessment report is undergoing final review. The Historic South Carolina Floods of October 1–5, 2015 Service Assessment team is preparing for its briefing to the NWS Mission Delivery Council. The Historic Blizzard of January 22–24, 2016 Service Assessment team has returned from its on-site activities and telephone interviews. The team is currently writing the first draft of its report.

May 2015 Texas Flooding Regional Service Assessment

A prolonged period of heavy rain and severe weather impacted much of Texas and Oklahoma for the majority of May, 2015. This event presented a unique learning opportunity in regard to forecast and warning operations—including collaboration between offices, regional response—provision of decision support services, and service backup operations. It was determined that a Regional Service Assessment be undertaken to identify findings and recommendations resulting from the evaluation of NWS performance during the heavy rains and subsequent river and flash flooding across Texas and Oklahoma during much of May 2015. This Regional Service Assessment report is currently undergoing final review and is on track for public release this spring.

Historic South Carolina Floods of October 1–5, 2015 Service Assessment

Several ingredients were in place that led to the historic flooding across South Carolina during October 1–5, 2015. In particular, a surface

frontal boundary was stalled just off the coast with an area of low pressure along the front. A slow moving upper low to the west and surface high pressure over eastern Canada helped to produce a strong easterly flow component off the Atlantic Ocean. Hurricane Joaquin was located to the east and provided a persistent source of deep tropical moisture. Widespread, heavy rainfall resulted in major flooding in areas from the central part of South Carolina to the coast. Some areas experienced more than 20 inches of rainfall over the period October 1–5, 2015. Flooding from this event resulted in 19 fatalities.

The service assessment team's report is now undergoing final review and editing in the Office of Chief Operating Officer.

Historic Blizzard of January 22–24, 2016 Service Assessment

A major winter storm produced 18–36 inches of snow over a wide area of the eastern United States, from West Virginia to southeastern New York. Baltimore–Washington International Thurgood Marshall Airport set a new record

[Continued on next page...](#)

Service Assessment Program – Continued from Page 8

snowstorm total snowfall of 29.2 inches. Washington–Dulles International Airport (28.3 inches) and New York Central Park (27.5 inches) recorded their second highest storm total snowfall in recorded history. The storm produced wind gusts exceeding 60 mph at numerous locations along the Atlantic Coast in Massachusetts, New Jersey, Delaware, and Virginia. The peak gust reported

was 85 mph in Assateague, Virginia. Major coastal flooding occurred in southern New Jersey and Delaware.

The service assessment team completed on-site visits and telephone interviews. The team is now writing a draft of its findings, recommendations, and best practices. ♦

Storm Data Preparation Directive Updated

By Brent MacAloney, NWS Headquarters

It has been a long time coming, but NWSI 10–1605, Storm Data Preparation, has finally been updated and signed. On March 9, 2016, the National Weather Service (NWS) Chief Operating Officer, John Murphy, signed the Storm Data Preparation directive into policy beginning March 23, 2016 (Figure 1). This is the first time this policy has been updated since 2007. There are some changes to the policy from the previous version, but none of the changes should be considered significant.

The update to this directive began around 2011 or 2012. This effort was led by the former Warning Coordination Meteorologist (WCM) at the Milwaukee forecast office, Rusty Kapela who has since retired. However, due to the departure of

a staff member who supported the Storm Data program, coupled with higher priority items in the Performance and Evaluation Branch (PEB), and a re-organization at NWS Headquarters, updating this directive was placed on hold until late in 2015.

The biggest change to the document is the formal addition of several new event types. These new event types include Marine Dense Fog, Marine Heavy Freezing Spray, Marine Hurricane/Typhoon, Marine Lightning, Marine Tropical Depression, Marine Tropical Storm, and Sneaker Wave. For those who have been working with Storm Data at forecast offices with marine forecast responsibilities, you may recognize these events have been in the program and available to use for some time. This is true. Unlike most programming tasks, the addition of these events to the StormDat program occurred before the policy was put into place.

Another important change was the addition of ability to rate Tornado events as EF–Unknown. Every year there are several cases of Tornado events which occur, but do not cause any damage. Since the EF–scale is a damage scale used to estimate wind speeds, this leaves the forecaster unable to assign a proper rating. Unfortunately, since all Tornado events must receive a

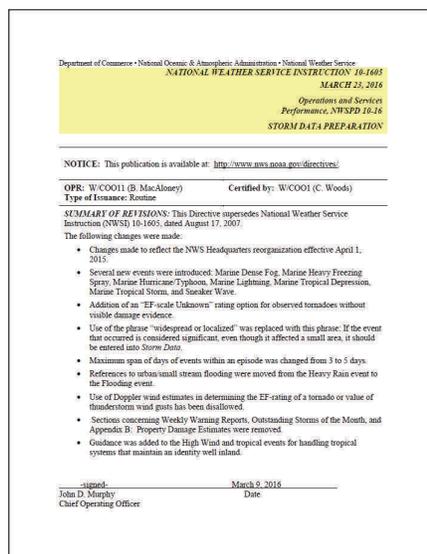


Figure 1. Screen shot of the cover of NWSI 10–1605.

Storm Data Preparation Directive Updated – Continued from Page 9

rating and there was no way of stating the tornado did not cause any damage, a majority of these tornadoes received a rating of EF0. This, in turn, has led to an increased number of falsely rated EF0s over recent years. Storm Data Focal Points (SDFP) now have the ability to correctly rate those Tornado events causing no damage as EF-Unknown or EFU.

One final change was the removal of *Appendix B: Property Damage Estimates* from the directive. There are several reasons why this was done. First, the value of objects change over time and the directive was not being updated regularly to account for these changes. Second, although this appendix contained valuable information on damage estimates, it was nowhere close to an extensive list of the most commonly seen items that are damaged

due to weather. In order to do this properly, the PEB should consider forming a team of SDFP, WCMs, and economists to create a list of commonly damaged items which can be used as a reference in the future. This list should be placed on the Performance Management website and updated annually to include inflation and varying rebuilding/replacement costs.

A full summary of changes can be found on the cover of the NWSI 10-1605, Storm Data Preparation directive document on the NWS's Directive page, located in Section 16 of: <http://www.nws.noaa.gov/directives/010/010.htm>) or on the Performance Management website (located under the Resources>>Directives tab of <https://verification.nws.noaa.gov>).◆

**Did You
KNOW**



**By Doug Young, Performance and Evaluation Branch,
NWS Headquarters**

***Did You Know* the NWS has awarded a new support contract for our Branch?**

We've had an ongoing need to better support forecast and warning verification across the expanding NWS national program areas and measure the value of emerging services related to a Weather-Ready Nation (e.g., societal outcomes, impacts). To help address that need, we have worked hard to define the scope of work and solicit a new contract with expanded capabilities. The contract was awarded on April 12, 2016. We are excited to welcome our new contract team during the month of May 2016.

Look for more details about this expanded contract and meet the staff in our summer edition of Peak Performance.◆

Status of Service Assessment Action Items

Summary

- ◆ There are **264** total actions from open events.
- ◆ **6** actions closed in FY16.
- ◆ **224** actions are closed.
- ◆ **40** actions remain open.

Recent Service Assessments

- 1) Texas/Oklahoma May 2015 Flooding-Regional Service Assessment: The service assessment report is undergoing final review.
- 2) South Carolina Historic Flooding of October 2–5, 2015: The Service Assessment team is preparing for its briefing to the NWS Mission Delivery Council.
- 3) Historic January 2016 Blizzard: The Service Assessment team has returned from its on-site activities and telephone interviews. The team is currently writing the first draft of its report.

Open Service Assessments

- | | |
|---|---|
| ⇒ Colorado Flooding of September 11–17, 2013
Released June 24, 2014
26 Total Actions, 21 (81%) Closed Actions
5 (19%) Open Actions | ⇒ Hurricane Irene in August 2011
Released October 05, 2012
94 Total Actions, 85 (90%) Closed Actions
9 (10%) Open Actions |
| ⇒ May 2013 Oklahoma Tornadoes and Flash Flooding
Released March 21, 2014
29 Total Actions, 20 (69%) Closed Actions
9 (31%) Open Actions | ⇒ The Missouri/Souris River Floods of May – August 2011 (Regional Service Assessment)
Released June 05, 2012
29 Total Actions, 26 (90%) Closed Actions
3 (10%) Open Actions |
| ⇒ Hurricane and Post-Tropical Cyclone Sandy, October 22–29, 2012
Released May 05, 2013
25 Total Actions, 22 (88%) Closed Actions
3 (12%) Open Actions | ⇒ May 22, 2011 Joplin Tornado (Regional Service Assessment)
Released September 20, 2011
16 Total Actions, 14 (88%) Closed Actions
2 (12%) Open Actions |
| ⇒ Historic Derecho of June 29, 2012
Released February 05, 2013
14 Total Actions, 8 (57%) Closed Actions
6 (43%) Open Actions | ⇒ Spring 2011 Mississippi River Floods
Released April 11, 2012
31 Total Actions, 28 (90%) Closed Actions
3 (10%) Open Actions |

Last Closed Events (all actions completed)

- | | |
|---|---|
| ● Remnants of Tropical Storm Lee and the Susquehanna River Basin Flooding of September 6–10, 2011 (Regional Service Assessment)
Released July 26, 2012
11 Total Actions - Closed | ● Record Floods of Greater Nashville: Including Flooding in Middle Tennessee and Western Kentucky, May 1–4, 2010
Released January 12, 2011
17 Total Actions - Closed |
| ● The Historic Tornado Outbreaks of April 2011
Released December 19, 2011
32 Total Actions - Closed | ● South Pacific Basin Tsunami of September 29–30, 2009
Released June 04, 2010
131 Total Actions - Closed |
| ● Washington, D.C. High-Impact, Convective Winter Weather Event of January 26, 2011
Released April 01, 2011
6 Total Actions - Closed | ● Central US Flooding of June 2008
Released February 03, 2010
34 Total Actions - Closed |

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Spring 2016

Peak Performance Quote

"You get what you measure.
Measure the wrong thing and
you get the wrong behaviors."

- John H. Lingle

Please consider contributing to our
next edition of Peak Performance.



Articles due: June 15, 2016

Questions and comments on this publication
should be directed to Freda Walters.