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Now You Can Do It Too: Surveying the Public After High Impact Weather Events

By Brent MacAloney, NWS Headquarters

About three years ago, I was tasked with leading a team to develop a process that allows NWS to gather rapid feedback following high impact weather events. This was to be done through a series of survey questions. The intent was for the NWS to better understand how their products, information and services are received, understood and utilized. This task stemmed from actions of two service assessments as follows:

Action 8b from the Super Tuesday Tornado Outbreak of February 5-6, 2008 states:

> Develop a common set of societal impacts survey questions for use in all future service assessments.

Completion of this action would support Action 1b from the May 22, 2011 Joplin Tornado Regional Service Assessment report which states:

> Create a national list of "quick response" social scientists to deploy quickly after weather-related disasters. All local offices will have a subset of trained "quick-response" meteorologists, hydrologists, and subject matter experts, who have access to OMB-approved, survey questions for various hazards.

Not that I viewed this tasking as trivial, but it seemed pretty straight forward in that the team had to draft the questions, work with social scientists to ensure the questions

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were meaningful, and then get the questions approved by the Office of Management and Budget (OMB). Little did I know that I would be in for a project that took almost 3 years to complete.

Thanks to a team of very hardworking representatives from the field, regions, and other NOAA line offices, I am proud to report that we received OMB approval for our survey questions on September 12, 2013. The questions that were approved cover various high impact weather events that include: Air Stagnation, Coastal Flood, Dense Fog, Dust Storm, Flash Flood, Flood, Freeze and Frost, Heat and Excessive Heat, High Surf, Hurricane, Marine – Convective, Marine – Non-Convective, Severe Thunderstorm, Tornado (**Figure 1**), Tropical Storm, Wind and High Wind, Wind Chill and Extreme Cold, and Winter Storm and Winter Weather.

Many of the questions for each weather type are similar, but they focus around the following key areas that are of interest to the forecast offices:

Source of weather information leading up to and before the event. For the specific event, those being surveyed are asked how various weather information sources influence their decision making, what precautions are taken based on that information, how much lead time the surveyor felt they received, and what the perceived threat was.

Actions taken once the warning was issued. For the specific event, those being surveyed are asked what actions they took when the warning product was issued and why they did or did not alter their behavior or routine based on this warning.

Source of weather information and actions taken once the event was ongoing. For the specific event, those being surveyed are asked how various weather information sources influence their decision making once the event was ongoing.

Satisfaction with NWS products. For the specific event, those being surveyed are asked to give a level of satisfaction with regard to the quality, timeliness, accuracy, threat explanation, and format of the products. Those being surveyed are also asked the degree to which the NWS product helped in decision making, as well as the overall satisfaction with NWS products during the event.

Understanding of advisories, watches, and warnings. Stepping away from the specific weather event for which the NWS is trying to obtain feedback, those being surveyed are asked to explain in their own words their understanding of an advisory, watch, and warning. They are also asked how likely they are to take action based on their understanding of these products.

Demographics. There are standard, optional demographic questions at the end of the survey such as gender, age, race, education level, and household income.

Currently, these surveys can be used to collect information in a face to face survey format or via email as long as the OMB Control Number: 0648-0342 is displayed. As time permits, the Performance Branch will be working to create a system to better collect and analyze the responses.

Additionally, a big thanks needs to go out to the hard working members of the NWS Survey

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OMB Approval No. 0648-0342 / Expires: 4/30/2015

Paperwork Reduction Act Statement

Public reporting burden for this collection of information is estimated to average 7 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 Chris Ellis, NOAA National Ocean Service, at Chris.Ellis@noaa.gov, or contact him at 843-740-1195.

Respondents are not identified on their questionnaires, and any reports will present data in aggregate form only. 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.

Tornado Survey Questions

There was a tornado event that occurred in your area on the (morning, afternoon, evening) of (month) (date), (year). The National Weather Service is looking to receive feedback on the weather information you may have received during this event. We would appreciate it if you answered the following questions regarding that specific tornado event. Feedback collected from this survey will help the NWS improve products and services with future events in your area.

The following questions have to deal with the information you may have received ***before the tornado event*** and the actions you may have taken.

1. People rely on various sources of information when making a decision to prepare for hazardous weather events. Please indicate how the following sources influenced your decisions on how to prepare ***before this tornado event occurred***.

Source Type	No Influence At All	Very Little Influence	Some Influence	A Lot of Influence	I Have No Access
Local Television Broadcast (e.g., ABC, NBC, CBS, FOX, etc.)	o	o	o	o	o
National Television Broadcast (e.g., Weather Channel, CNN, FoxNews, MSNBC, etc.)	o	o	o	o	o
NOAA Weather Radio Broadcast	o	o	o	o	o
Commercial Radio Broadcast (e.g., AM, FM, HD, Satellite Radio, etc.)	o	o	o	o	o
Print Media (e.g., local newspapers)	o	o	o	o	o
National Weather Service Website	o	o	o	o	o

Figure 1: Sample of Tornado Survey Questions approved by OMB.

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Team which consisted of the following individuals: JJ Brost (WFO TWC), Vankita Brown (NWS HQ), Greg Carbin (SPC), Duane Carpenter (NWS HQ), Chris Ellis (NOAA CSC), Aimee Fish (ARH), Greg Grosshans (SPC), Darone Jones (NOAA CIO), Jim Keeney (CRH), Alicia Miller (WFO PBZ), Don Moore (ARH), Rich Okulski (WFO CAR), John Ogren (NWSTC), Bethany Perry (CRH), Sal Romano (NWS HQ), Craig Schmidt (WRH), Jennifer Sprague (NWS HQ), Heidi Stiller (NOAA CSC), Neil Stuart (WFO ALY), Britt Westergard (WFO ALY), Doug Young (NWS HQ), and Jennifer Zeltwanger (CRH). Without the hard work of these individuals, it may be another three years before this task was completed.

To review the approved questions, please visit the Evaluation >> Quick Response Survey section of the Performance Management website located at: https://verification.nws.noaa.gov/content/pm/evaluation/QRSurveys.aspx

It is the hope of the Performance Branch and the team which developed these surveys that the questions will be extremely helpful in gathering the feedback that your office needs to improve your forecast and warning products and services. If you have any questions, please feel free to contact me at Brent.MacAloney@noaa.gov and I'll do my best to help you make the most out of this surveying tool.

CONS Grids Performance at NOAA/NWS Hanford, CA

Paul M. Iñiguez, NWS San Joaquin Valley/Hanford, CA

In late June 2012, NOAA/NWS Hanford, CA (HNX) installed the consensus (CONS) grid package for GFE, initially created by NOAA/NWS Sullivan/Milwaukee, WI. Consensus models are a nearly equal blend of all available forms of raw model output and MOS in the Graphical Forecast Editor (GFE). Bias corrected versions using a 30-day linear regression for each of the individual model inputs for each parameter are also available. The CONS grids leverage these numerous various data sets already available at each forecast office. For example, the CONSRaw data set will combine the raw output from several models (NAM, GFS, ECMWF, etc.) into a single averaged "model." This can help the forecaster by reducing the number of models to look at and work with (which can number upwards of 30) and increase the accuracy of the forecast by minimizing any individual model's biases. By reducing the time spent editing grids, NWS WFO resources can be better leveraged to provide impact-based decision support services (iDSS)—a cornerstone of the Weather-Ready Nation initiative.

A need was identified to establish the validity and accuracy of the CONS grids. To do so, the variable "percent of county warning area with absolute temperature error less than 3 °F" (%<3F) was selected as it is widely seen and understood via daily

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CONS Grids Performance at NOAA/NWS Hanford, CA – Continued from Page 4

BOIVerify summary emails. This variable also allows for models to be easily ranked by percent; the goal of the local NWS WFO is to provide a forecast that improves (i.e., ranks higher than) as many available models as possible, thus "adding value" to the forecast. The %<3F for maximum and minimum temperature was extracted for all models available from 1 July 2012 through 30 June 2013 for the Day 1, 3, 5 and 7 periods. The hypothesis is the Official forecast "beats" each individual model by consistently ranking higher than it at all forecast periods.

For each forecast day, the Official forecast was compared to each model and their respective ranks among all models was calculated (largest %<3F ranked 1, smallest ranked last). A "rank improvement" was then determined by simply subtracting the individual model's rank from the Official rank. For example, if Official ranked #2 and NAM12BC was #10, the rank differential is +8. This was done for all days in the study year, creating arrays of up to 365 rank differential values. The mean of each array represented how many ranks Official differs from the model.

For maximum temperatures, it was found that compared to practically all models at all forecast periods, Official ranked significantly higher (at least one full place). The largest improvement was against the ADJMEL (raw GFS adjusted to lowest GFS MOS ensemble member) guidance on Day 1. However, when compared to the CONS data sets, especially BCCONSAll (average of all bias-corrected data sets), Official did not show the same performance. In fact, the Day 1 forecast from BCCONSAll on average ranked four places higher than the Official. Similar results were found for minimum temperature **(Figure 1)**.

Forecasters at HNX are encouraged to leverage these well-performing data sets when generating the Official forecast to reduce time editing grids, allowing for more time to focus on iDSS activities. This raises the level of service we provide overall. Future work will focus on determining when the accuracy of the CONS grids significantly dips, allowing for greater forecaster intervention.

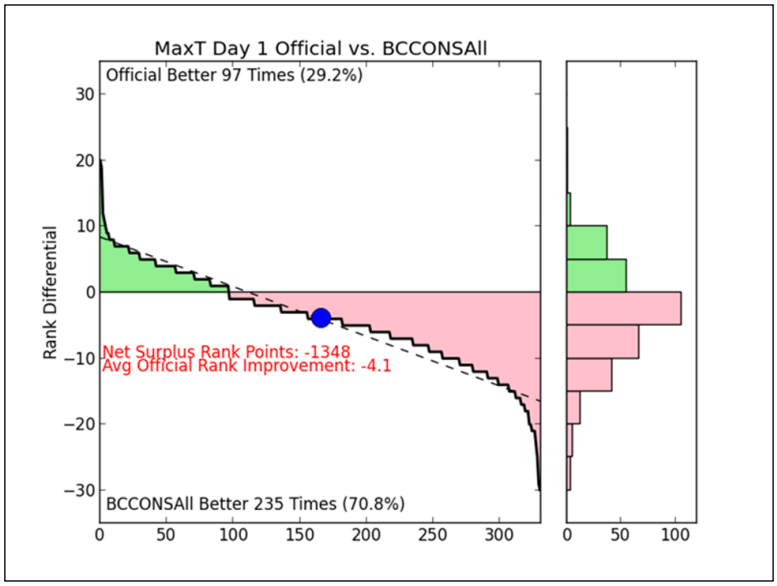

Figure 1: Rank differential for the Day 1 forecast between Official and BCCONSAll from 1 July 2012 through 30 June 2013. Right-side vertical chart is histogram of values while larger, main chart provides a more in-depth look at the data. A linear regression line (dashed black) is plotted to help identify outliers (green/pink tails above/below the line). Net surplus rank is difference between above/below (green/pink) areas divided by number of forecasts. The blue dot represents the average Official rank improvement, in this instance -4.1, indicating on average BCCONSAll placed four spots ahead of Official for the Day maximum temperature forecast Overall, Official was better 29.2% of Day 1 forecasts while BCCONSAll excelled 70.8%.

Can We Objectively Evaluate the Need for a National Service Assessment?

By Doug Young, NWS Headquarters

The Performance Branch often receives the question, "*What determines when we initiate a national service assessment?*" The answer is not straightforward and has various dependencies. Nonetheless, we considered whether there may be a more objective way to determine when an event reaches the level of a national service assessment.

Brief Background

As a general guideline, NWSI 10-1606, *Service Assessment*, establishes a broad minimum threshold that should be met before considering a national assessment.

Section 3.1 states that "*A service assessment may be conducted if an event results in any of the following conditions:*

a. Multiple fatalities

b. Numerous injuries requiring hospitalization

c. Significant impact on the economy of a large area or population

d. Extensive national public interest or media coverage

e. Unusual level of attention to NWS operations (performance of systems or adequacy of warnings, watches, and forecasts) by the media, emergency management community, or elected officials"

The adjectives, "Multiple," "Numerous," Significant," "Extensive," and "Unusual," intentionally leave room for interpretation. The purpose is to allow flexibility in determining whether a national assessment should be conducted when considering other unique factors beyond those conditions listed in (a-e). Unfortunately, providing flexibility may also confuse people when either national assessments are triggered for events that fall below the conditions or national assessments are not initiated for events that exceed many of the conditions in (a-e).

Brainstorming

This apparent inconsistency started us thinking about whether or not there was a way to determine more systematically whether a service assessment should be triggered. Brent MacAloney and Sal Romano (from my staff) and I got together and considered how this might be accomplished. After some brainstorming, we thought that the best approach was to research the hazards identified in our past national service assessments. We searched through about 10 years of national assessments and recorded the various hazards primarily found in the event summaries. This resulted in a whiteboard full of sticky notes. Upon review of these data, themes began to emerge that allowed us to separate the hazards into primary categories as follows:

1. Number of Tornadoes
2. Amount of Rainfall
3. Number of Fatalities
4. Number of Homes/Structures Destroyed

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Can We Objectively Evaluate the Need for a National Service Assessment? – Continued from Page 6

5. Number of States Affected (Scope)
6. Damage Estimates ($$)
7. Power Outages

The next step involved placing the impacts in descending order within each of the categories so we could see the full range of values (**Figure 1**). Finally, we determined break points in the values. Some of these break points fell naturally and were obvious. Other break points were determined qualitatively.

Figure 1. Doug Young (Left) and Sal Romano (Right) categorize and prioritize service assessment hazards.

The results are summarized in Table 1. For the first time, collecting and qualitatively analyzing this information allowed us to more clearly see the general hazard thresholds derived from past national service assessments.

Establishing Objective Thresholds and Associated Complexities

So, how can we use this information? Based on past precedence, we felt confident that if a hazardous event creates an impact reaching the top level in any of the categories (See cells highlighted in yellow in Table 1), it is highly likely that a national service assessment should be initiated. The exception would be an unusually low impact from the hazard (e.g., 15 inches of rain along a sparsely populated, sandy coast wouldn't create the same impact as if the rain fell over a highly populated locality in mountainous terrain). Beyond the top level of extreme hazards/impacts, we found there were other complexities in establishing national service assessment trigger thresholds. Various combinations of the lower categories can result in major impacts. For example, while there may have been less than 25 fatalities in a certain event, perhaps 35,000 homes were destroyed across 12 states resulting in $2.5 billion in damages. This combination could be enough for a national assessment (See cells highlighted in blue in Table 1).

Tornadoes	Rainfall	Fatalities	Homes/ Structures Destroyed	Area/Scope	Damages	Power Outages
100+	15 inches or more	100+	50,000 or more	15 or more states	$10 billion or more	5 million homes or more
50-99	Less than 15 inches	50-99	20,000 to less than 50,000	6-14 states	$3 billion to less than $10 billion	Less than 5 million homes
25-49		25-49	10,000-to less than 20,000	5 or less states	$1 billion to less than $3 billion	
<25		Less than 25	Less than 10,000		$100 million to less than $1 billion	
					Less than $100 million	

Table 1. Impact categories for various hazards identified in past service assessments. Yellow represents the highest impact levels in each category. Blue represents an example of mixed-level impacts which, in combination, could create the need for a national service assessment.

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Can We Objectively Evaluate the Need for a National Service Assessment? – Continued from Page 7

Not only are the combinations of hazard impacts numerous, but we have not addressed non-meteorological impact factors that come into play when considering a national service assessment. In particular, how did the NWS perform during the event? Did NWS process and performance issues reach the ears and eyes of the media or Congress? Did another similar event recently take place? Are resources available to support a national assessment? Good forecast and warning services and/or decision support can either avert the need for an assessment of our services or present an opportunity to demonstrate the progress the agency has made in its performance.

Summary

Overall, we found this to be a useful step in finding a more objective way to initially determine the need for a national service assessment and will begin to use this table internally. Future efforts will focus on adding other factors that also influence the decision-making process. At a minimum, we hope you have a better understanding and appreciation for the complexities involved when determining whether or not a national service assessment will be conducted. If you have any thoughts about the triggering process, we welcome your comments. Please do not hesitate to send an email to Douglas.young@noaa.gov or Salvatore.romano@noaa.gov.

The Marine Verification Program - An Update

By Chuck Kluepfel, NWS Headquarters

Coding for the new marine verification program is progressing on schedule. We expect it to be complete by the end of this calendar year. You probably won't get to use the program until January 2014, but data back to the beginning of October should be in the system at that time. We are continuing to work tirelessly on prodding the old system to produce data for FY13 so we have marine data for the Government Performance and Results Act (GPRA).

We are currently in the process of adding verification sites to the new system. We started with the sites used in the old system, which are primarily buoys over the open waters and the coastal land points, often called CMAN (Coastal-Marine Automated Network) stations. In August, we distributed a list of proposed marine verification sites for field examination. This list all sites archived on the National Data Buoy Center web page. Quite a few coastal land-based sites owned by the National Ocean Service have been added to this list. Just because an unfamiliar site may be located on a coastal pier doesn't mean the wind equipment has good exposure to the local marine environment. Therefore, it was important for each office to review this list and remove any unrepresentative sites. If your office or national center responded, we have recorded your wishes. If you discover any other sites that you think should be removed or added, please drop me an email, state the reason, and we'll continue to follow your wishes. The new verification

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The Marine Verification Program: An Update – Continued from Page 8

software will be a lot easier than the old to add or remove stations, so these kinds of adjustments can be made at any time. Our goal isn't to have as many verification sites as possible, but to have as many *good* verification sites as possible. Thanks to your responses, our list of active marine verification sites is now up to about 520, more than three times the number of sites in the old system.

In September, we proposed adding another 340 sites owned and operated by the private company *WeatherFlow.* They only seem to benefit CONUS and Hawaii coastal points, and sometimes the coastal points are not very representative of the adjacent marine forecast waters. *Weatherflow* does not serve the offshore waters, high seas waters, Alaska, nor most of the Great Lakes. We just became aware of the *WeatherFlow* sites when a couple field offices in Eastern Region asked if they could use them for verification; they were already using them for routine forecast analysis. Once we learned that the NWS has a formal agreement with *Weatherflow* to use their data internally, we thought we'd see how well they work for verification throughout the National Weather Service (NWS).

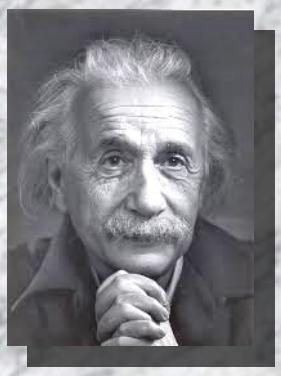
So far, reaction has been mixed. That is probably because *Weatherflow* data aren't available to the Advanced Weather Interactive Processing System (AWIPS) in all places. However, the data can be added to AWIPS through the Meteorological Assimilation Data Ingest System (MADIS) via a script.

If you're having any problems viewing *Weatherflow* data on your AWIPS, your regional headquarters may be able to help. If you still have trouble after that, please give me a call, and I'll send you the script or try to find someone who can help. Many offices are just beginning to receive *Weatherflow* data for the first time so it is taking them time to become comfortable with the data. In a few cases, *Weatherflow* has taken the initiative to consult NWS field offices for advice about siting new instruments in operationally relevant locations.

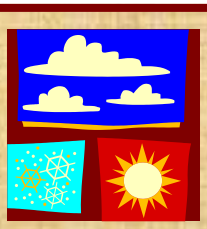
If your office hasn't responded yet to my email concerning which sites to use and which ones to remove, please familiarize yourself with the data and get back to me.

"Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted"

—Albert Einstein



Fly...with Ointment



By Beth McNulty, NWS Headquarters

Aviation-related Surveys

Part 2: Asking Relevant Survey Questions

If one day you opened an email to find a survey sitting there, what would be your reaction?

a. Yuck, why do "they" send these things?
Some surveys (email or otherwise) are annoying when received out of the blue.

b. Why can't the questions be logically related to the topic?
You are most likely to get responses if you ask questions in a logical order. Random questions lead to confusion, and irritated respondents.

c. Oh Boy! I get to tell someone what I think!
Apparently you either really like surveys, or simply like to speak your mind.

Do you focus your survey? If the survey covers a wide scope of the subject, how useful will the results be to you? A focused survey allows you to ask more in depth questions that drill down to a core concern or reason held by the respondent. Consider what aspect of your service you need feedback on most before creating your survey questions.

When creating your survey questions take a moment to reflect on the types of survey questions you like best, and those that irk you most. Try to format questions that ask only one thing at a time.

How do you test your survey questions to ensure they are focused?

a. Check to make sure there are no "friendly and courteous" questions.
The classic question: "Was our service friendly and courteous?" is really asking two questions. Those are: "Was our service friendly?" and "Was our service courteous?"

b. Ask a friend to take the survey, and rate the question quality.
Sometimes our favorite questions are so poorly written that your respondent will say "Huh?", and try to skip the question instead of answering. Having a neutral party review the survey before you go live will help you find (and correct) the poor questions.

c. Just throw it to the public and see how many respond.
As a government agency we can't just "throw it to the public". No official survey can go live without Office of Management and Budget (OMB) approval.

Using a scale of 1 to 10, where 1= not relevant and 10= relevant, answer the following eight questions.

Do your survey questions gather useful data?
Are you asking what you <u>really</u> want to know? Another way of looking at it: will anybody else interpret the question the same you do?

Are your questions limited to only what you need?
Make sure your survey does NOT morph into a fishing expedition. Not only will you get data you cannot use because it is irrelevant to what need to know, you will tick off your survey audience.

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Aviation-related Surveys – Continued from Page 10

Do your questions always provide a way to skip the question?

Keep your respondents happy, and answering your questions by giving them a way to skip those questions they deem too personal (for whatever reason), not applicable to themselves, or simply choose to omit.

Have you asked so many "rate on scale of 1 to 10" questions that you've ticked off your respondent?

This sequence of questions should get the point across. How many times do you think someone will be willing to rate topics on a scale from 1 to 10? At some point they will begin to settle on a number and repeat it for the remainder of the sequence regardless of their true opinion.

Do you ask simple, one-subject questions?

This is another way of reminding you to keep the survey questions simple, to the point, and only about one thing.

Have you allowed a space for respondents to elaborate as they wish to in a comment box?

Some people have a lot to say, and are quite willing to give you a piece of their minds. Providing a comment box for elaboration, or asking an open-ended question, or an "other, please specify" option, will garner more detail than you know what to do with. Caveat: make sure you're prepared to manually analyze these unscripted responses before you make the option available. The information you gather will collect dust and be useless to you until it is cataloged and analyzed.

Do you indicate the units to use for questions requiring a numeric response?

This should be obvious, but because it is so obvious it can be overlooked. If you ask a length of time question, do you want the answer in seconds, minutes, or hours? If you ask a distance question do you want inches, yards, miles, centimeters, meters, or kilometers? Similarly, if you're asking a weight or mass question is the desired response in pounds or kilograms?

Are you excited about survey writing?

Next time: Part 3: Five Tips for deciding what to measure

Service Assessment Program

By Sal Romano, NWS Headquarters

One Assessment Team Winds Down while another Spins Up

The May 2013 Oklahoma Tornadoes and Flash Flooding Service Assessment report is undergoing review while the NOAA-NWS Operations and Services for Flooding in Colorado from September 11-17, 2013 Service Assessment on-site activities took place from November 3-8, 2013.

Oklahoma Tornado and Flash Flooding Assessment

From May 19-31, 2013, a series of devastating weather events affected the area in and around Oklahoma City. Although the service assessment focuses on three specific days: May 19, 20, and 31, the entire period was characterized by an active weather pattern and multiple tornadoes across several National Weather Service (NWS) Weather Forecast Office (WFO) areas of responsibility. The historic flash flooding that occurred in Oklahoma City on May 31 is also of note. This flash flooding caused more fatalities on May 31 than the tornadoes on that day.

NWS formed a Service Assessment Team to evaluate NWS performance and to undertake a detailed social science review to examine the effectiveness of messaging and the behavior of the public in each severe weather event. The team concentrated its efforts primarily on counties and cities affected by the strongest tornadoes during this period. NWS also conducted a complete review of the WFO Norman and Storm Prediction Center operations. The service assessment team providing their results in a draft report. After the events on May 20 and May 31, NWS Southern Region Regional Operations Center conducted a Rapid Evaluation of Service Activities and Performance (RESAP). Several of the RESAP findings have been incorporated into the draft service assessment report. The service assessment team's draft report is now undergoing review and edit throughout the NWS Regions and various NWS Headquarters' Offices.

Colorado Flooding Assessment

Heavy rain fell across portions of the foothills of Colorado on the night of September 11-12, 2013. Catastrophic flooding occurred across large portions of northern Colorado, as well as in El Paso County in the vicinity of Colorado Springs. Flash floods affected communities from Boulder to Lyons, and this water transitioned into longer-term river flooding

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One Assessment Team Winds Down while another Spins Up – Continued from Page 12

that affected locations well east of the foothills, into northeast Colorado and even Nebraska. The observed rainfall totals of 12-16 inches northwest of Denver broke monthly and annual rainfall records. Early analysis of this event indicates a return frequency of once every 1,000 years for these locations. Six fatalities have been confirmed, with around 200 people still unaccounted for in areas affected by the flood. Over 1,600 homes have been destroyed by floodwaters, and infrastructure across the foothills has been crippled significantly. Some residents may not be able to reach their homes through normal means of transportation until the spring of 2014.

The NOAA-NWS Operations and Services for Flooding in Colorado from September 11-17, 2013 Service Assessment Team completed on-site visits and telephone interviews. The team is writing a draft of its findings, recommendations, and best practices.

Google Map Issues on Performance Management Website

By Brent MacAloney, NWS Headquarters

Depending on what web browser version you are using, we have heard an increasing number of users reporting issues using one of our many interfaces using the Google Maps API. This is based on a series of changes being programmed into the latest browsers, where by default, pages with a mix of secure and non-secure content on the same page cannot be loaded.

The problem stems from the majority of the content and data on our website being passed across the Internet as secure data. The data plotted in the Google Mapping API, however, is not secure. It is this mix of secure and insecure content that is causing problems with the most current browsers similar to what is shown in Figure 1.

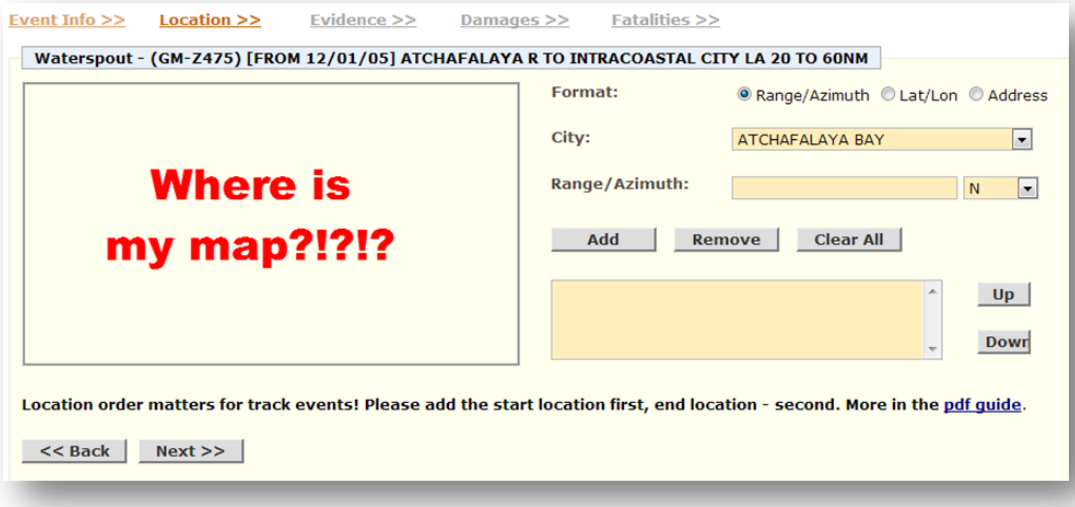

Figure 1: Sample of browser containing both *secure* and *insecure* content, causing mapping issues.

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Google Map Issues on Performance Management Website – Continued from Page 13

It took a while and some help from some crafty folks in the field, but we were able to find temporary and permanent fixes to these issues and have created a guide to fixing map loading issues. Here are quick recaps of how to permanently fix this issue in Internet Explorer, Chrome, and Firefox:

Microsoft Internet Explorer – The fix is located in the Tools>>Explorer Options>>Security section of the browser. Once you are in there, select the "Custom Level" button, and set the "Display mixed content" button to "Enable."

Google Chrome – The fix resides in the URL you use to launch the browser. By right clicking on the link you use to start Chrome, selecting "properties" and adding a "-allow-running-insecure-content" after chrome.exe in the target line, you will let the browser know you wish to display both secure and insecure content.

Mozilla Firefox – The fix can be made by typing "about:config" in the URL line of the browser, selecting the "I'll be careful I promise" button, searching for "mixed", and double clicking the "security.mixed_content.block_active_content" setting to set it to "False." Doing so will display both secure and insecure content.

For temporary fixes or more detailed explanations of the instructions above, including step by step screen captures showing exactly what to do, please go to the guide located on the Performance Management website at this location: https://verification.nws.noaa.gov/stormdat/help/MappingIssues.pdf

Results of the National Weather Service 2013 Customer Satisfaction Survey

By Sal Romano, NWS Headquarters

A team of NWS employees developed the NWS 2013 Annual Customer Satisfaction Survey questions. The survey this year consisted of a core section that respondents must complete and four optional sections that respondents had the choice to complete. The core section contained questions about Hazardous Services, Weather Ready Nation and Decision Support, Dissemination Services, Outreach and Weather Education, and Demographics. The four optional sections contained questions concerning the (1) National Fire Weather Program, (2) National Hurricane Center Program, (3) National Hydrologic Services Program, and (4) National Climate Services Program.

The independent survey firm Claes Fornell International (CFI) Group administered the survey, which had 27,973 respondents between September 10, 2013 and September 30, 2013. As in previous years, the majority of respondents were from the NWS Central Region (33%), with nearly equal numbers of respondents from the other three NWS CONUS regions (21-23%). The two NWS OCONUS Regions each had just under 100 respondents.

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CFI measures customer satisfaction with the American Customer Satisfaction Index (ACSI), the standard methodology used across public and private sectors to evaluate public opinion and help prioritize organizational changes that will improve the customer experience. The 2013 NWS survey resulted in a score of 82 on a scale of 0 to 100, which is considered "excellent" by CFI. While the NWS customer satisfaction index was 2 points lower than 2012, by comparison, the score is 14 points higher than the aggregate Federal Government ACSI of 68.

Almost all respondents use NWS Web Sources to get weather information. In addition, little more than a half (54%) of respondents use local/cable TV, little less than half of the respondents (48%, up from 37% last year) use mobile devices, and 43% use NOAA Weather Radio/All Hazards to get weather information.

Most respondents think that an actual tornado occurring within 5-10 miles of their location would result in an accurate warning.

The vast majority of respondents (greater than 90%) are likely to take action based on information they receive from the NWS, are likely to use the NWS as a source of information in the future, and are likely to recommend the NWS to a colleague or friend. In particular, the majority of respondents (80%) are very likely to take protective action if a tornado warning is issued for their area. Seventy-four percent of respondents have a hazardous weather safety plan while half of the respondents also have a hazardous weather emergency preparedness kit.

The various Hazardous Services Warning scores were high last year and even slightly higher this year. The scores for User Support Services and Dissemination Services were also high. The Effectiveness of NWS Safety Campaigns were rated somewhat lower.

A CFI representative will brief the NWS 2013 Customer Satisfaction Survey results at National Weather Service Headquarters later this year. As in previous years, the briefing will be available to the NWS Regions via Webinar. The survey results will be contained in a report created by CFI and will be available through a Web portal provided by CFI.

Thousands of open-ended comments are received each year from the survey participants. The NWS program areas review the survey results including comments concerning their programs. In the past, and hopefully again with the comments received during this 2013 Survey, the NWS regions, social scientists, and interns helped analyze the comments.

Snapshot: Service Assessment Actions

- **Hurricane and Post-Tropical Cyclone Sandy** - Released May 5, 2013
  25 Total Actions, 4 (16%) Closed Actions.

- **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, 1 (9%) Closed Actions

- **Historic Derecho of June 29, 2012** - Released February 05, 2013
  14 Total Actions, 4 (29%) Closed Actions

- **The Missouri/Souris River Floods of May – August 2011 (Regional Service Assessment)** - Released June 05, 2012
  29 Total Actions, 17 (59%) Closed Actions

- **May 22, 2011 Joplin Tornado (Regional Service Assessment)** - Released September 20, 2011
  16 Total Actions, 12 (75%) Closed Actions

- **Hurricane Irene in August 2011** - Released October 05, 2012
  94 Total Actions, 61 (65%) Closed Actions

- **Spring 2011 Mississippi River Floods** - Released April 11, 2012
  31 Total Actions, 17 (55%) Closed Actions

- **Washington, D.C. High-Impact, Convective Winter Weather Event of January 26, 2011 - Released April 01, 2011**
  6 Total Actions, 6 (100%) Closed Actions

- **The Historic Tornado Outbreaks of April 2011** - Released December 19, 2011
  32 Total Actions, 30 (94%) Closed Actions

- **Record Floods of Greater Nashville: Including Flooding in Middle Tennessee and Western Kentucky, May 1-4, 2010** - Released January 12, 2011
  17 Total Actions, 16 (94%) Closed Actions

- **South Pacific Basin Tsunami of September 29-30, 2009** - Released June 04, 2010
  131 Total Actions, 130 (99%) Closed Actions

- **Southeast US Flooding of September 18-23, 2009 - Released May 28, 2010**
  29 Total Actions, 29 (100%) Closed Actions

- **Mount Redoubt Eruptions of March - April 2009 - Released March 23, 2010**
  17 Total Actions, 17 (100%) Closed Actions

- **Central US Flooding of June 2008** - Released February 03, 2010
  34 Total Actions, 33 (97%) Closed Actions

- **Mother's Day Weekend Tornadoes of May 10, 2008 - Released November 06, 2009**
  17 Total Actions, 17 (100%) Closed Actions

- **Super Tuesday Tornado Outbreak of February 5-6, 2008 - Released March 02, 2009**
  17 Total Actions, 17 (100%) Closed Actions

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Web Links

Stats on Demand

https://verification.nws.noaa.gov

Real-Time Forecast System:

http://rtvs.noaa.gov/

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