



# IMPACT BASED WARNINGS



## OVERVIEW / Background

2011 proved to be a historic year in terms of the number of tornado fatalities across the United States with over 550 fatalities. The May 22, 2011, Joplin tornado resulted in 158 of those, making it the deadliest single tornado since modern record keeping began in 1950. Following the historic Joplin tornado, the National Weather Service (NWS) conducted a service assessment for the purpose of evaluating NWS warnings and societal response to those warnings.

## KEY FINDINGS FROM THE 2011 JOPLIN ASSESSMENT

- \* The majority of people identified local outdoor warning systems as their first source of warning.
- \* The majority of people sought confirmation from additional sources before seeking shelter.
- \* Credible, extraordinary risk signals prompt people to take protective actions.

## DEMONSTRATION PROJECT

To address these findings the National Weather Service (NWS) has launched a demonstration project to explore the impact based convective warning experimental product to better communicate threats to partners and constituents. Due to positive feedback, the NWS will expand the demonstration project to include 13 Southern Region Coastal Weather Forecast Offices (WFOs) for a total of 80 WFOs participating nationwide beginning October 1, 2015. The goals in this process continue to focus on providing more information to media and EM partners, facilitating improved public response and decision making; and meeting societal needs in the most life-threatening weather events.

Any effort to change core convective warning products must operate under tight restrictions, including time constraints and procedural limitations. In addition, any radical changes to the convective warning products would demand a rather large adjustment by core customers and partners; and a massive public education effort. Therefore, this demonstration will work within the boundaries of the well-established weather enterprise infrastructure to ensure easy absorption into mass communication channels.

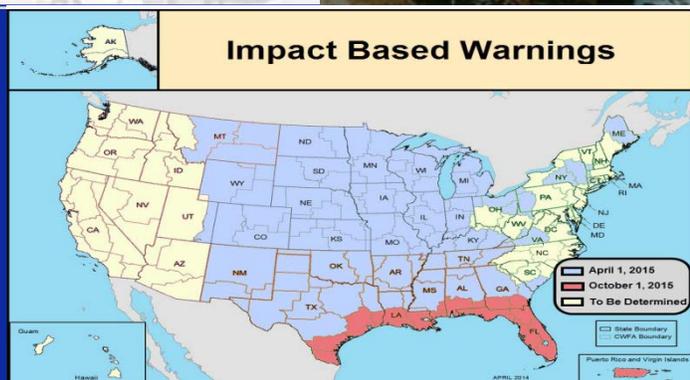
Initial efforts will build upon pre-existing concepts to employ "event tags" at the bottom of each severe thunderstorm and tornado warning. The event tags will contain more specific threat information as a quick means to provide users and partners with potential high impact risk signals that prompt faster risk assessment and protective action.

## INTENDED OUTCOMES OF THE IMPACT BASED WARNING DEMONSTRATION

- \* Optimize the convective warning system within the existing structure
- \* Motivate proper response to warnings by better distinguishing situational urgency
- \* Realign the warning message in terms of societal impacts
- \* Communicate recommended actions/precautions more concisely
- \* Evaluate NWS ability to distinguish between low impact and high impact convective events



*The goal is to provide more information to the media and Emergency Managers, to facilitate improved public response and decision making; and to better meet societal needs in the most life-threatening weather events.*



## Impact Based Warnings will Enhance Current Efforts

1. Impact Based Warnings will improve communication of critical information
2. Enhanced format will make it easier and quicker to identify the most valuable information
3. Will enable you to prioritize warnings in your area of interest
4. Provides different levels of potential impact within the same product
5. A particular warning might highlight a storm that is particularly dangerous
6. Allows users and vendors to develop apps and tools for the public and broadcast meteorologists to better communicate areas of increased risk
7. Tags will enable the NWS to express a level of confidence of potential impacts

## Examples of Tags

### Tornado Tags

#### **TORNADO...RADAR INDICATED**

Evidence on radar and near storm environment is supportive, but no confirmation. H

#### **TORNADO...OBSERVED**

Tornado is confirmed by spotters, law enforcement, debris ball signature, etc. Hh

### Tornado Damage Threat Tag

#### **TORNADO DAMAGE THREAT...CONSIDERABLE**

When there is credible evidence that a tornado, capable of producing considerable damage, is imminent or ongoing.

#### **TORNADO DAMAGE THREAT...CATASTROPHIC**

When a severe threat to human life and catastrophic damage from a tornado is occurring, and will only be used when reliable sources confirm a violent tornado.

### Tornado Tags for Severe Thunderstorm Warnings

#### **TORNADO...POSSIBLE**

A severe thunderstorm has some potential for producing a tornado although forecaster confidence is not high enough to issue a Tornado Warning.

To provide your input on the Impact Based Warning Demonstration Project, visit:

[goo.gl/buxTZ](http://goo.gl/buxTZ)

<http://www.weather.gov/survey/nws-survey.php?code=IBW>



For more information, please contact :

Jim Keeney, Weather Program Manager  
(816) 268-3141  
[jim.keeney@noaa.gov](mailto:jim.keeney@noaa.gov)

