AccuWeather
ENTERPRISE SOLUTIONS™

Extreme Storms and Flooding of Spring 2015

Presented By: Mike Smith / Senior Vice President, Chief Innovation Executive,
Certified Consulting Meteorologist / AccuWeather Enterprise Solutions

Spring 2015

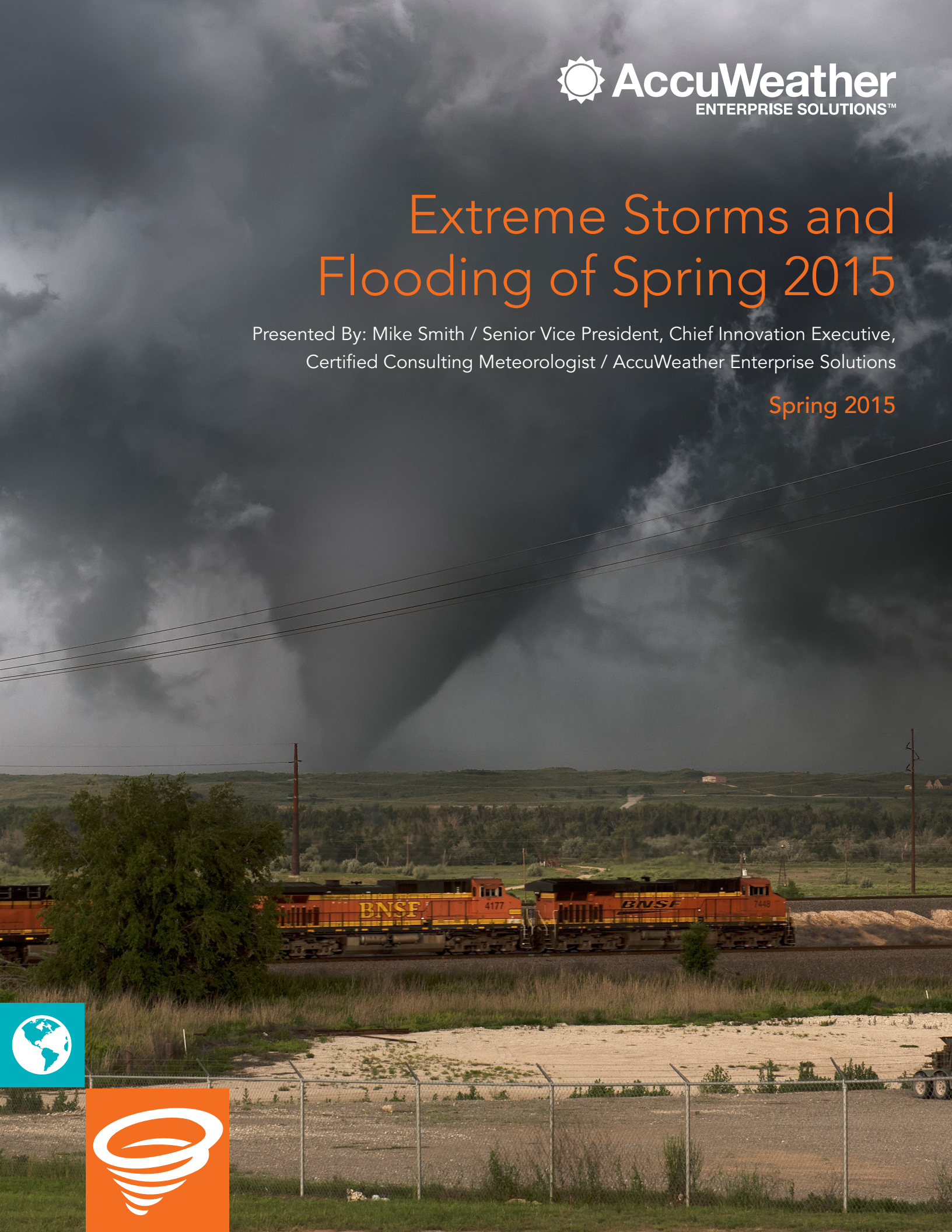


Photo by Jeff Lassahan

After four years of severe drought, Mother Nature roared back with a vengeance throughout the center of the nation. The state of Texas had the wettest month ever. Oklahoma City had its wettest month ever. Rivers in Texas and Oklahoma reached record flood levels and swept away homes, businesses, and – most tragically – people.

Tornadoes also roamed the Midwest but a combination of excellent warnings and some good luck (no major cities were targeted) kept the death toll extraordinarily low. As of June 30, just 10 people have lost their lives from tornadoes this year, a historically low figure.

On the Cover

Frame capture of a BNSF train being stopped by an AccuWeather Enterprise Solutions' tornado warning. The tornado was going to cross the track in the direction this train was traveling (right in this photo). If the tornado had been paralleling the track, the train would have continued normally. These track-specific warnings keep the trains, cargo, and crews safe.

Photo by Matt Grans

Throughout this period, meteorologists with AccuWeather Enterprise Solutions worked day and night to inform our clients of these hazards so they could take measures to proactively save lives and mitigate the effects of these violent storms on their enterprises.

No other organization can match the resources of AccuWeather when it comes to mitigating the effects of violent storms.

- 120 meteorologists
- Forecasters across the nation; headquartered in State College, PA, Severe Weather Center in Wichita, KS, with additional forecasters in Los Angeles, Jacksonville, Albany, and Philadelphia
- International offices in Beijing, plus additional offices currently being opened in South Korea and India
- Two live weather satellite downlinks
- Our own high resolution mesoscale meteorological computer model
- 288 live radars

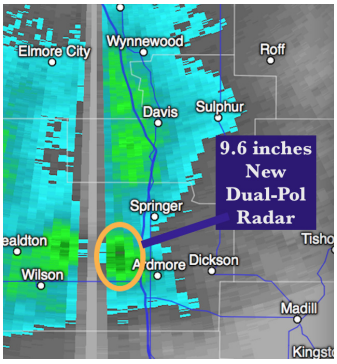
Most importantly, our meteorologists must be certified in storm warnings before they are allowed to issue warnings to our clients. In addition to recruiting meteorologists from across the United States and providing them with extensive training, we periodically bring in outside experts to provide state-of-the-art learning in related fields like hydrology and warning communications.

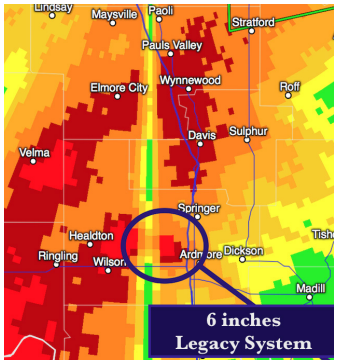
Because of the Central U.S. drought, the rapid progress made in recent years in the fields of rainfall and flood forecasting hasn't received the acclaim it has deserved. We want to brief you on all of the new tools we are using and the impacts they are having on the storm warnings and forecasts we provide to our clients.

David Ford, Ph. D teaching a hydrology seminar to meteorologists in Wichita

1 **Dual polarization radar** measures the size, shape, and density of raindrops, hailstones, and other precipitation. This eliminates previous issues with radar-based rainfall estimate such as hail contamination (inflates rainfall estimates).

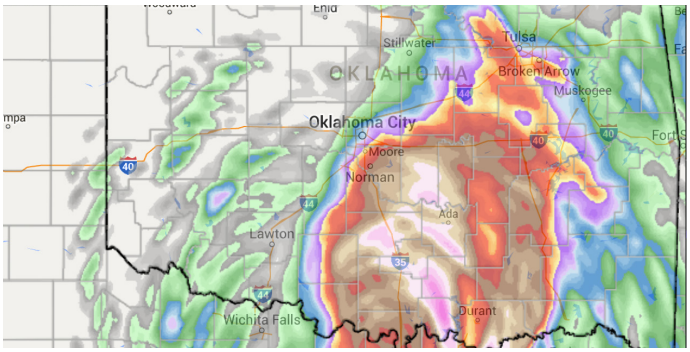
In addition to having higher resolution, the dual polarization radar is far better at measuring extreme rainfall, the type likely to lead to flash flooding.



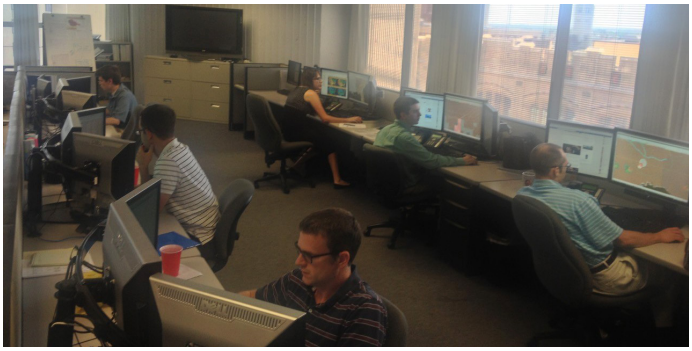


2 **HazWx Computer Model** shows heavy rain amounts and locations earlier than other models. This meteorological model is exclusive to AccuWeather.

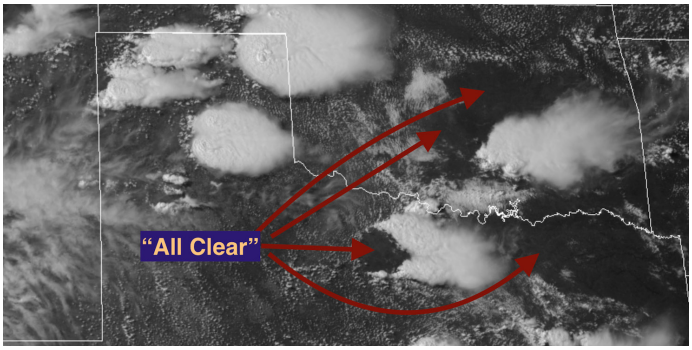
In this case, it forecasted 10 inches of rain within 15 miles of where it fell. (See, also, radar image above).



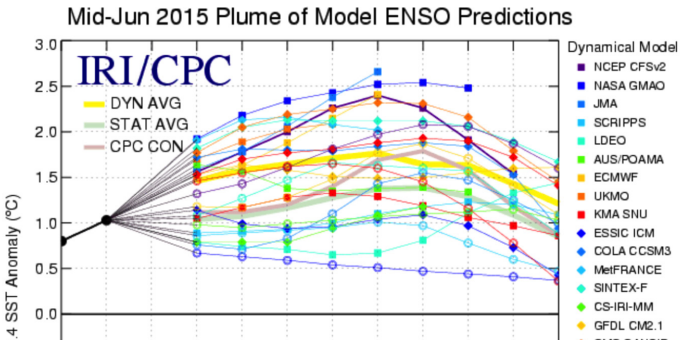
3 **SmartWarn® workstations** used by our meteorologists are the envy of the meteorological world. We have further enhanced them by adding daily rainfall reports from more than 10,000 volunteer sites, higher resolution watersheds and other pertinent information.



4 **One-Minute Weather Satellite Data** during the summer of 2015, the National Oceanic and Atmospheric Administration (NOAA) has tested one-minute weather satellite data and its utility during severe storm situations. AccuWeather participated in these tests and is modifying its satellite hardware to use the full data suite when the one-minute data becomes routinely available in late 2016.



5 **The unusual weather is likely to continue.** NOAA is forecasting a record El Nino (a warm ocean current associated with unusual storm and temperature patterns across the United States). It has the potential to cause unusually heavy rain in the southern half of the United States and Mexico.



Analytics: AccuWeather Enterprise Solutions' unique analytics group can help you assess the likely effects of the unusual weather pattern not only on your sales but on types of items that need to be placed in specific geographic areas.

Company	Analytics	Propriety Storm Warning	Tailored Flood Warnings	Seasonal Forecasts
AccuWeather	YES	YES	YES	YES
Ubimet	NO	–	NO	–
Schneider Electric	NO	NO	NO	NO
Impact Weather	NO	MIXED	NO	YES

Given the El Nino and the extreme and unusual storms it is likely to cause, call us today at 814.235.8600 or email us at sales@accuweather.com to learn more about AccuWeather Enterprise Solutions. After all, the next storm may already be on the way!

Mike Smith is a board-certified consulting meteorologist and a Fellow of the American Meteorological Society. He is founder of WeatherData, Inc. which became part of AccuWeather in 2006 and where he now serves as Senior Vice President and Chief Innovation Executive of AccuWeather Enterprise Solutions. Mike is the author of two books, *When the Sirens Were Silent* and *Warnings: The True Story of How Science Tamed the Weather*. Mike is a frequent speaker and author on both popular and technical weather-related topics. He has appeared on The Discovery Channel, The History Channel, Fox News, and all of the major networks.