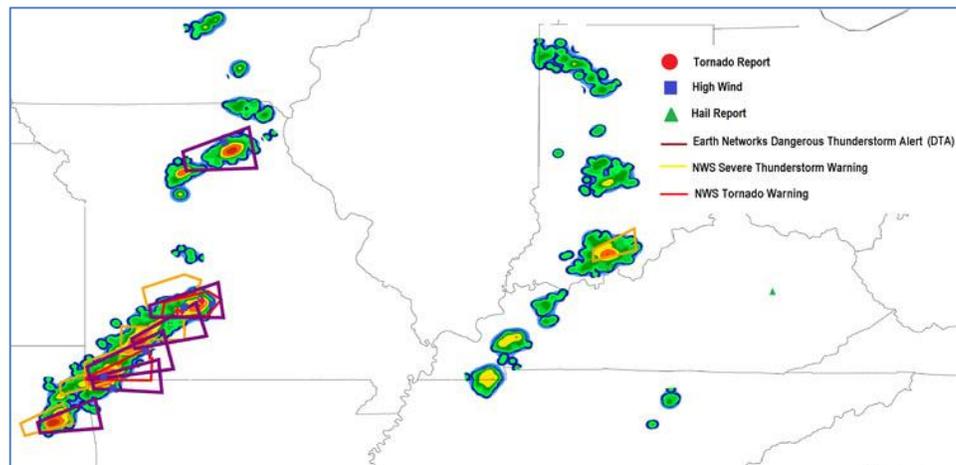


Revolutionary Technology from Earth Networks Shows 50% Improvement in Lead Times for Most Tornado Warnings

Analysis of Lead Times Provided by Earth Networks' Dangerous Thunderstorm Alerts (DTAs) to be Presented at Annual AMS Meeting

2013 American Meteorological Society (AMS) Annual Meeting and Germantown, MD – January 7, 2013 – [Earth Networks](#)SM the operator of the largest weather, lightning and climate observation networks and owner of [WeatherBug](#)[®], is presenting an analysis of its [Dangerous Thunderstorm Alert](#)TM (DTA) storm warning technology at the 2013 American Meteorological Society (AMS) Annual Meeting this week in Austin, Texas. Dr. Chonglin (Charlie) Liu will discuss DTAs in his presentation "PulseRadSM: A Proxy Radar based on Total Lightning Data" on January 9 in Room 14 at 10:30 am. Dr. Liu will also share an examination of all DTAs issued within the continental U.S. (CONUS) by Earth Networks in 2011 during a poster session titled "The Effectiveness of Using Total Lightning Data for Severe Storm Prediction." The session (#751) will be held on Thursday, January 10 in Exhibit Hall 3 from 9:45 - 11:00 am.

Earth Networks analyzed all tornado reports in 2011 which were covered by both National Weather Service (NWS) Warnings (Severe Thunderstorm or Tornado) and Earth Networks DTAs. Dangerous Thunderstorm Alerts (DTAs) improved median lead times by 50%, or an additional 9 minutes, over the 18 minute lead time afforded by National Weather Service (NWS) Warnings for these reports. NOAA/NWS has made major investments over the past 25 years to significantly improve tornado warning lead times from 4 minutes in 1987 to more than 14 minutes today. The effective integration of DTAs as a complementary and supplementary source of information for forecasters could yield a substantial jump in warning lead time.



This image is from the Leap Day Tornado Outbreak on February 29, 2012 at 0625 UTC. The image depicts the output of the Earth Networks Total Lightning Network (ENTLN) and the associated Dangerous Thunderstorm Alerts, together with National Weather Service Severe Thunderstorm Warnings and Tornado Warnings. The "radar-like" display is actually Earth Networks' PulseRad – a proxy radar based on ENTLN total lightning rates. DTAs are issued automatically based on ENTLN total lightning rates and are indicated by Purple Polygons. NWS Warnings are Orange or Red Polygons. Watch the full timelapse video: <http://youtu.be/3l6GnTYRaM8>.

In August 2012, Earth Networks announced that NOAA and NWS are utilizing data from the Earth Networks Total Lightning NetworkTM, both operationally and in research, to advance severe weather forecasting and warning applications. In contrast with older systems that only detect cloud-to-ground strikes, the Earth Networks Total Lightning Network also detects in-cloud lightning, which comprises the vast majority of lightning activity in the atmosphere and often serves as a precursor to extreme weather conditions, including heavy rain and hail, high wind and gust fronts, dangerous cloud-to-ground lightning strikes and tornadoes.

"It is incredible to think that our innovative new technology can add 9 minutes to lead times for most tornadoes," says Earth Networks President and CEO Bob Marshall. "Minutes truly matter when it comes to severe weather and this technology will help save lives. The opportunity for this automated technology to cost effectively provide early storm

warnings to people around the globe is unprecedented, as there are literally billions of people who have never received a severe weather warning. We are committed to working in partnership with NOAA/NWS and other public and private meteorological organizations around the world to see that our technology makes a real difference globally, and helps save lives and livelihoods.”

Earth Networks generates Dangerous Thunderstorm Alerts using a fully automated system that utilizes its Total Lightning Network. The company distributes these alerts via its [desktop application](#), [mobile apps](#) and professional enterprise solutions. The methodologies employed in creating these patent-pending, groundbreaking Dangerous Thunderstorm Alerts (DTAs) and the statistical analysis on the performance of the DTAs will be discussed in Dr. Liu's AMS presentations.

[Dangerous Thunderstorm Alerts](#) are made possible by the [Earth Networks Total Lightning Network™ \(ENTLN\)](#), the world's largest total lightning network with more than 600 sensors worldwide. The number of ENTLN sensors continues to grow rapidly and is projected to reach over 1,000 sensors over the next 12-24 months. ENTLN sensors detect both cloud-to-ground and, importantly, in-cloud lightning. The presence of high rates of in-cloud lightning often indicates the potential of severe weather phenomena, including heavy rain, large hail, dangerous cloud-to-ground lightning strikes, tornadoes and downburst winds. When total lightning rates exceed “severe” thresholds, there is an increased threat for severe weather, and Dangerous Thunderstorm Alerts are issued.

Research scientists have long believed that total lightning can be utilized to further improve warning times, but until now, no network has ever been able to detect total lightning on continental scales. The Earth Networks Total Lightning Network monitors total lightning minute-by-minute across the continental U.S. and many other areas around the world. Since severe storms often have very high total lightning signatures, the Earth Networks early warning system automatically tracks these severe storm cells and issues advanced warnings.

The combined spatial and temporal resolution of the Earth Networks system offers many benefits that are complementary to forecasters accustomed to primarily using traditional radar, satellite and surface observations to issue storm warnings, while holding special promise for developing nations with a critical need for advanced alerting to severe weather to help save lives and livelihoods.

About [Earth NetworksSM](#)

For 20 years, Earth NetworksSM has been Taking the Pulse of the Planet with the world's largest weather observation, lightning detection, and greenhouse gas monitoring networks and is establishing a network for collecting data within the planetary boundary layer. The company's popular WeatherBug® [website](#), [desktop application](#) and [mobile](#) apps for major smartphone platforms provide real-time neighborhood-level weather and advanced severe weather alerts to millions of consumers. Enterprise solutions from Earth Networks enable organizations and markets, including energy and utilities, agriculture, schools, sports and recreation, emergency operations and government entities, to safeguard lives, prepare for weather and climate events and improve business operations. Founded in 1993, Earth Networks (www.earthnetworks.com) is headquartered in the Washington, D.C. area with additional locations in Mountain View, Calif.; New York, NY; Milan, Italy and a local presence in 50 countries worldwide.

###