



MURRAY AND TRETTEL, INCORPORATED

November 8, 2011

ComEd
Lincoln Centre Two
Two Lincoln Centre
Oakbrook Terrace, Illinois 60181

Re: Detailed Report for Weather Event July 27 and 28, 2011

Introduction:

I, Thomas R. Piazza, Certified Consulting Meteorologist and President of Murray and Trettel, Inc. of Palatine, Illinois, have been asked by the Commonwealth Edison Company (“ComEd”), to provide a written report on the Weather Pattern and associated Severe Weather Event that occurred in Northern Illinois on July 27 and 28, 2011.

In the process of formulating my conclusions and opinions expressed in this report, I examined the weather data reports, images and maps, documents and other information and reports listed in Appendix A.

Executive Summary:

The intent of this report is to describe the weather events and their severity, in a meteorological context, that occurred across ComEd’s service territory in Northern Illinois on July 27 and 28, 2011. This event was comprised of two lines of severe thunderstorms that moved from the Freeport Region east-southeastward through the Interstate 90 (“I-90”)/Interstate 88 (“I-88”) corridor into South-Central Cook County. These two lines caused damaging winds, intense lightning (over 18,400 in a two hour window) and torrential rains. In addition there was “training” (the term used when several clusters of thunderstorms move over the same geographic area causing excessive rainfall) of numerous clusters of heavy thunderstorms over sections of the Freeport, Dixon and Rockford Regions that brought excessive amounts of rainfall that caused Flash Flooding.

Highlights of the event were:

1. Cloud to Ground Lightning Strokes...over 44,000 compared to the average 21,000 strokes for major storm events in ComEd’s territory
2. Tornadoes...2 unconfirmed near Galena, Illinois
3. Wind Reports...60 to 80 mph in Winnebago County and 60 to 70 mph in Dupage County
4. Heavy rain...3 to nearly 10 inches/Flash Flood Warning were issued by the National Weather Service for all or parts of; Jo Daviess, Stephenson and Winnebago Counties

The most severe weather of this event affected the Freeport, Northern Dixon and Rockford regions east-southeastward across the I-90 and I-88 corridors all the way to the Lake Michigan Shoreline and Indiana state line.

Event July 27 and 28, 2011:

Background and Supporting Information

Radar images are from the National Weather Service Doppler Radar Sites in Davenport, IA (“KDVN”) and Romeoville, IL (“KLOT”).

All wind speed reports that are indicated with a +, e.g., 70+ mph, are estimated wind speeds made by this author that are based upon the measured speeds with associated damage descriptions for that particular event, and the guidelines outlined in, A Recommendation for an Enhanced Fujita Scale.

Lightning count information shown on the radar images represent the total number of lightning strokes in the previous fifteen (15) minute timeframe, unless otherwise noted. E.g., on the image labeled “approximately 2000 hours”, the lightning count is the total number of strokes from 1945 to 1959 hours inclusive.

The outage and severe weather reports plotted on the radar images follow the same guideline as the lightning counts noted in the above paragraph.

All times are Central Daylight Time (“CDT”) unless otherwise noted.

Meteorological Situation

The upper air pattern had not changed much for most of the month. An extensive area of low pressure was over most of Central Canada with a large west to east high pressure system over the southern half of the United States. The primary jet stream aloft was across the Northern United States and Southern Canada. This pattern had allowed the strong heat ridge to continue across the southern and central portions of the country causing unprecedented heat in some locations. On the morning of the 27th an upper air trough was moving out of the Northern Rockies into the Northern Plains.

At the surface a cool front extended from Northwest Minnesota southwestward into Wyoming. A warm front extended from Northern Indiana through Northern Illinois (through ComEd’s service territory), across Iowa into a low pressure system in Central Kansas. Hot, humid and unstable air was south of this warm front covering most of the southern two thirds of the country. The combination of the upper air disturbance approaching from the west, the frontal boundary and the moist unstable air created excellent conditions for thunderstorms.

Chronology of events

Between 1800 and 1900 hours on July 27th, thunderstorms developed over extreme Northeast Iowa and Jo Daviess County and by 2000 hours they intensified into severe storms with torrential rain. These storms continued to develop eastward into Southern Wisconsin and along the frontal boundary that was stationary across ComEd’s service territory.

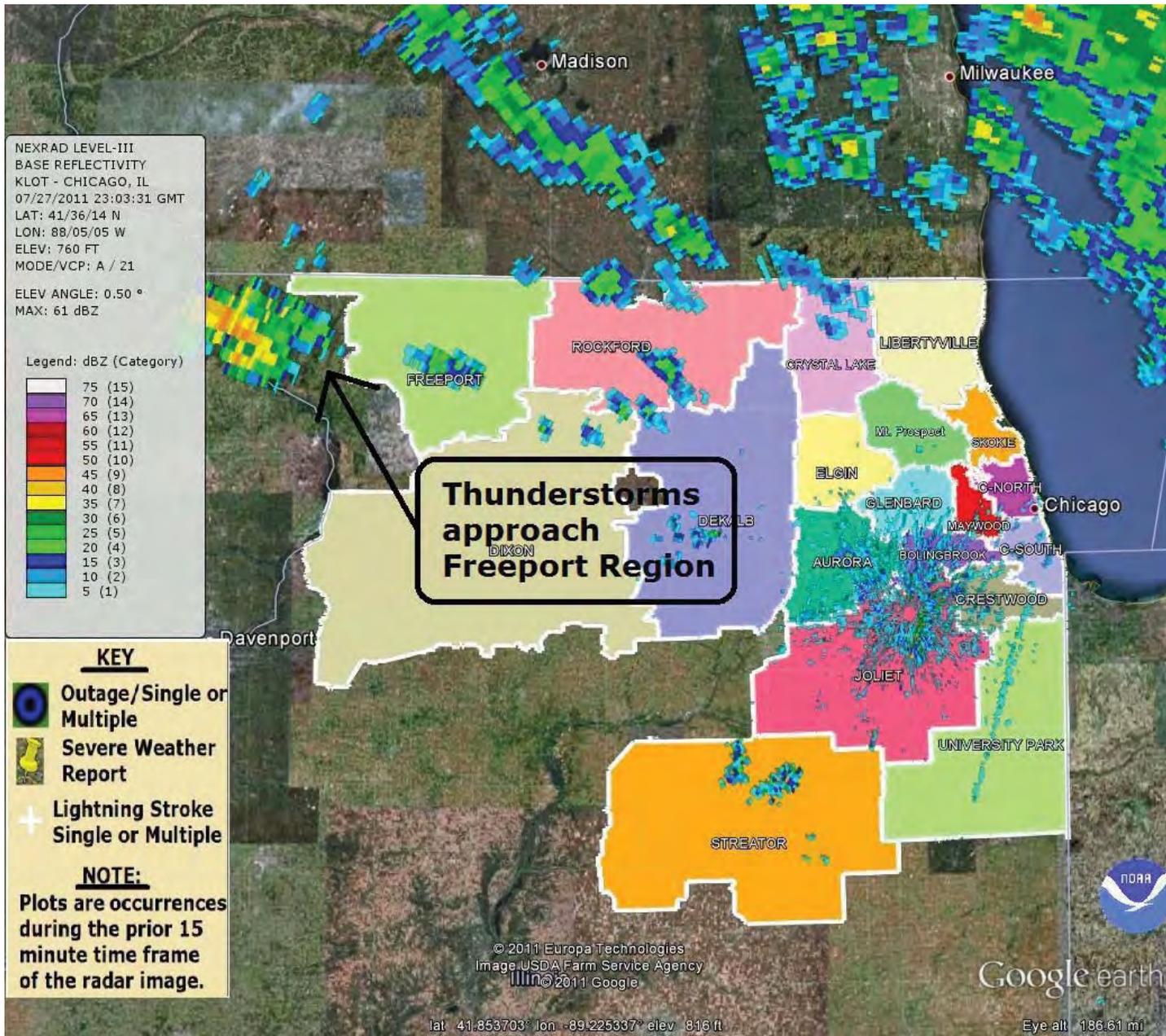


Image 1 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1800 hours

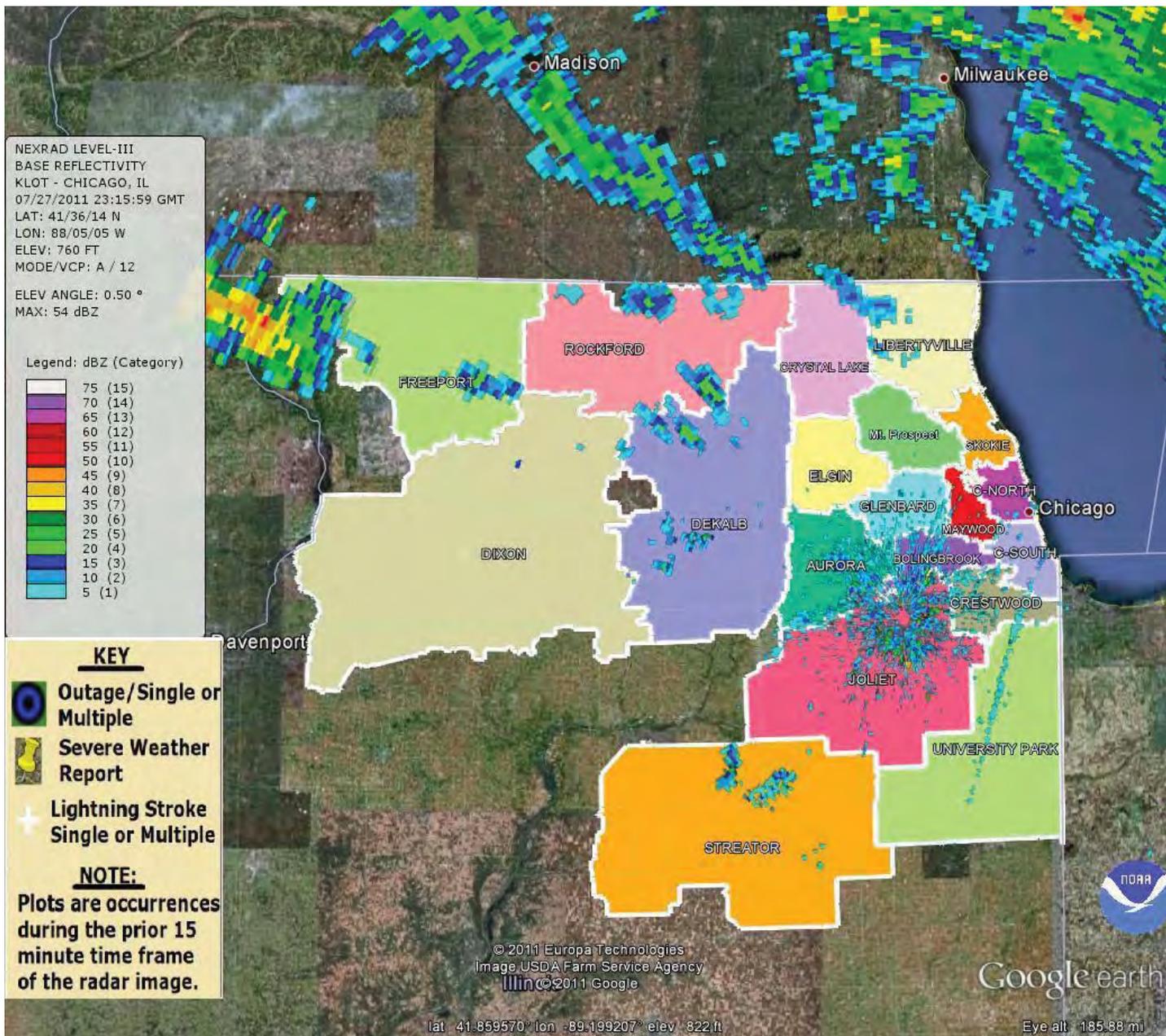


Image 2 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1815 hours

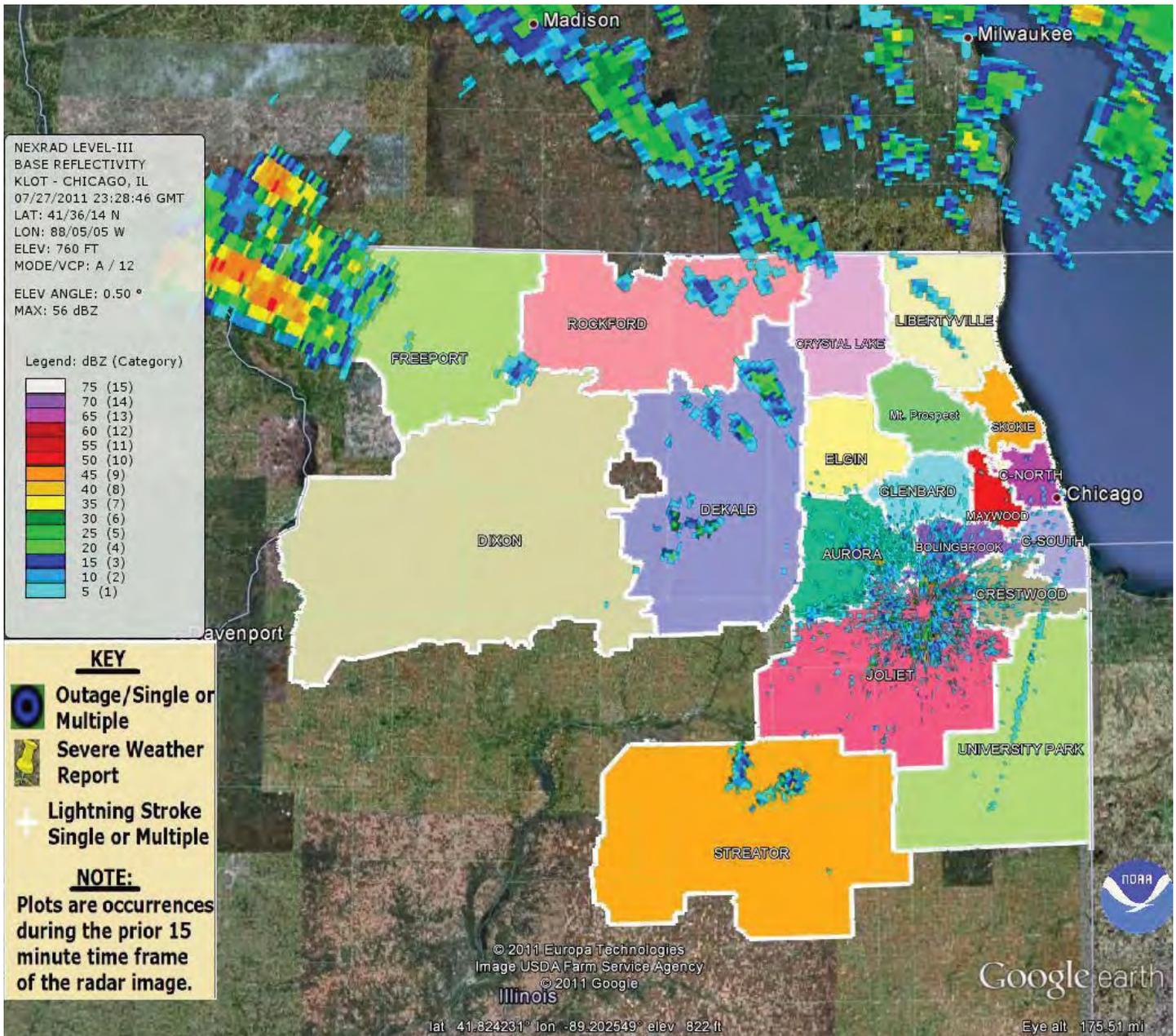


Image 3 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1830 hours

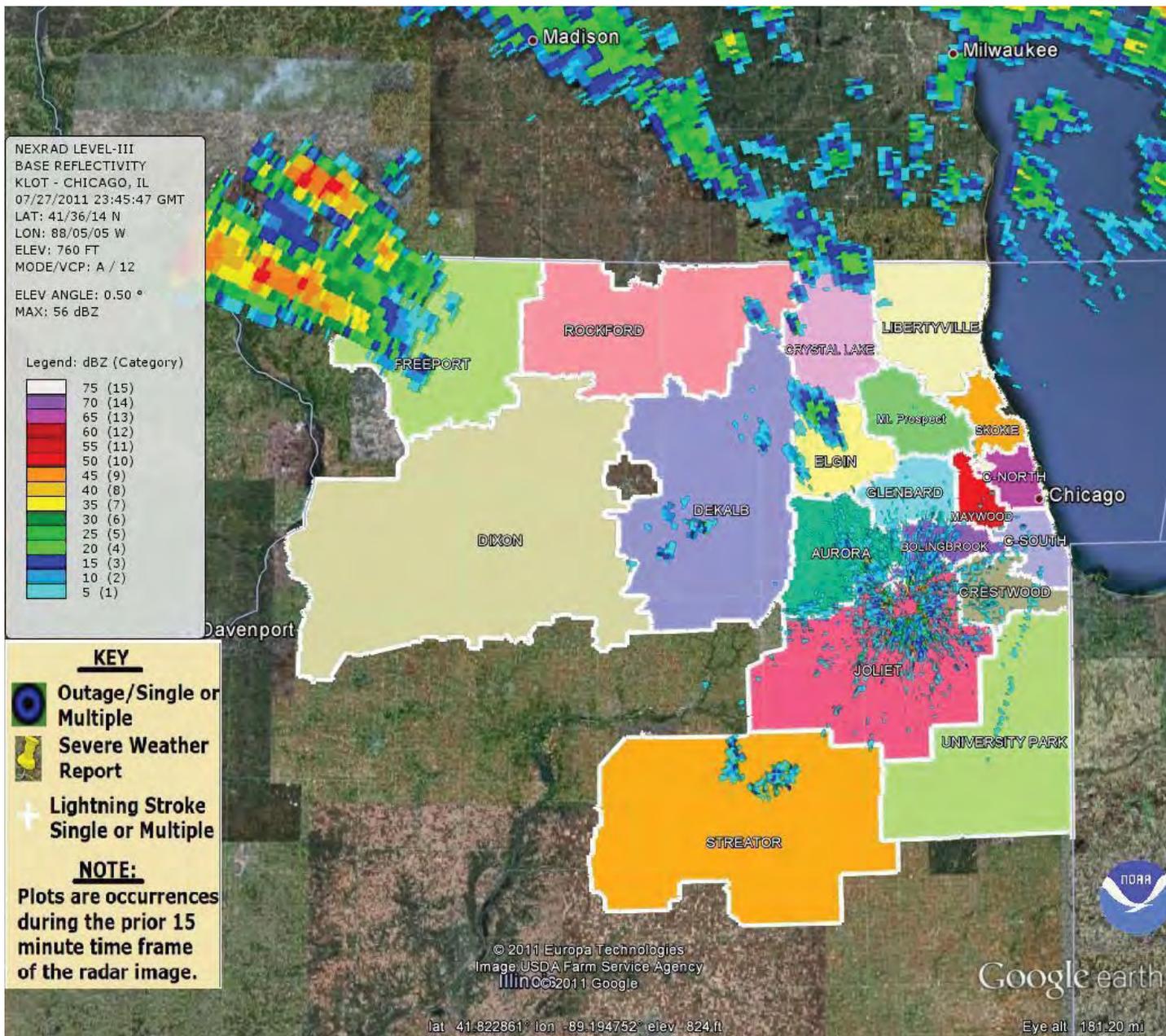


Image 4 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1845 hours

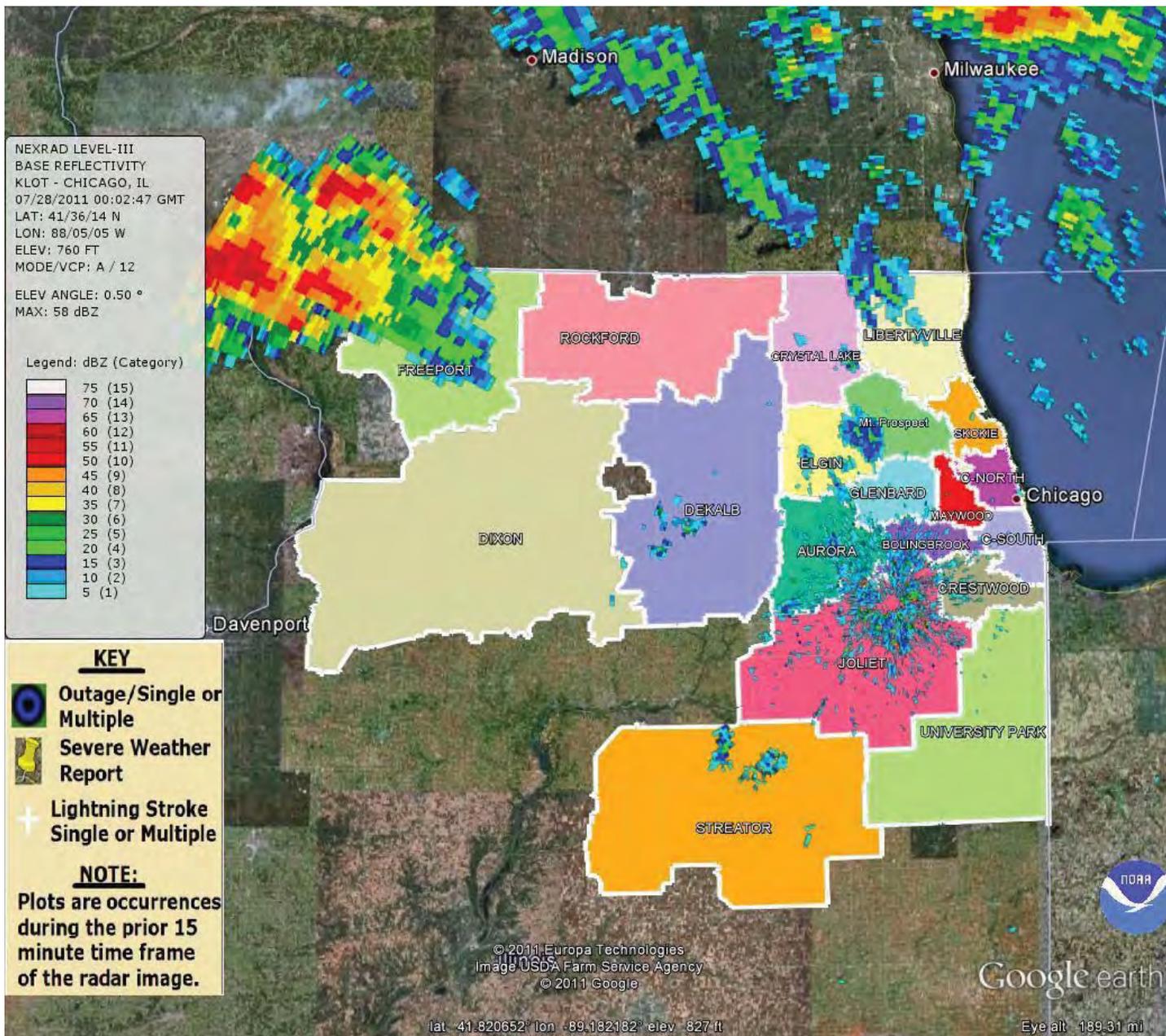


Image 5 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1900 hours

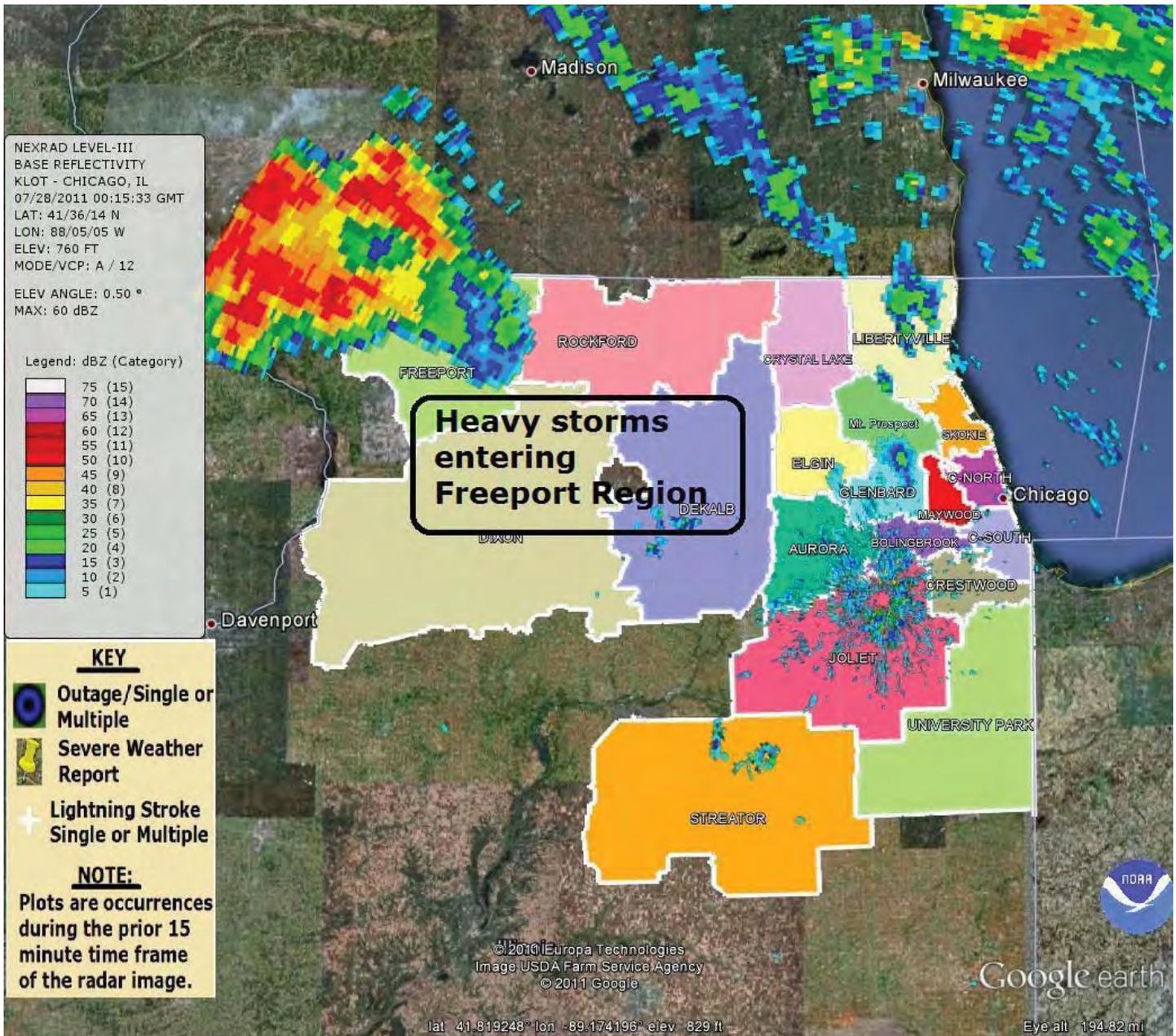


Image 6 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1915 hours

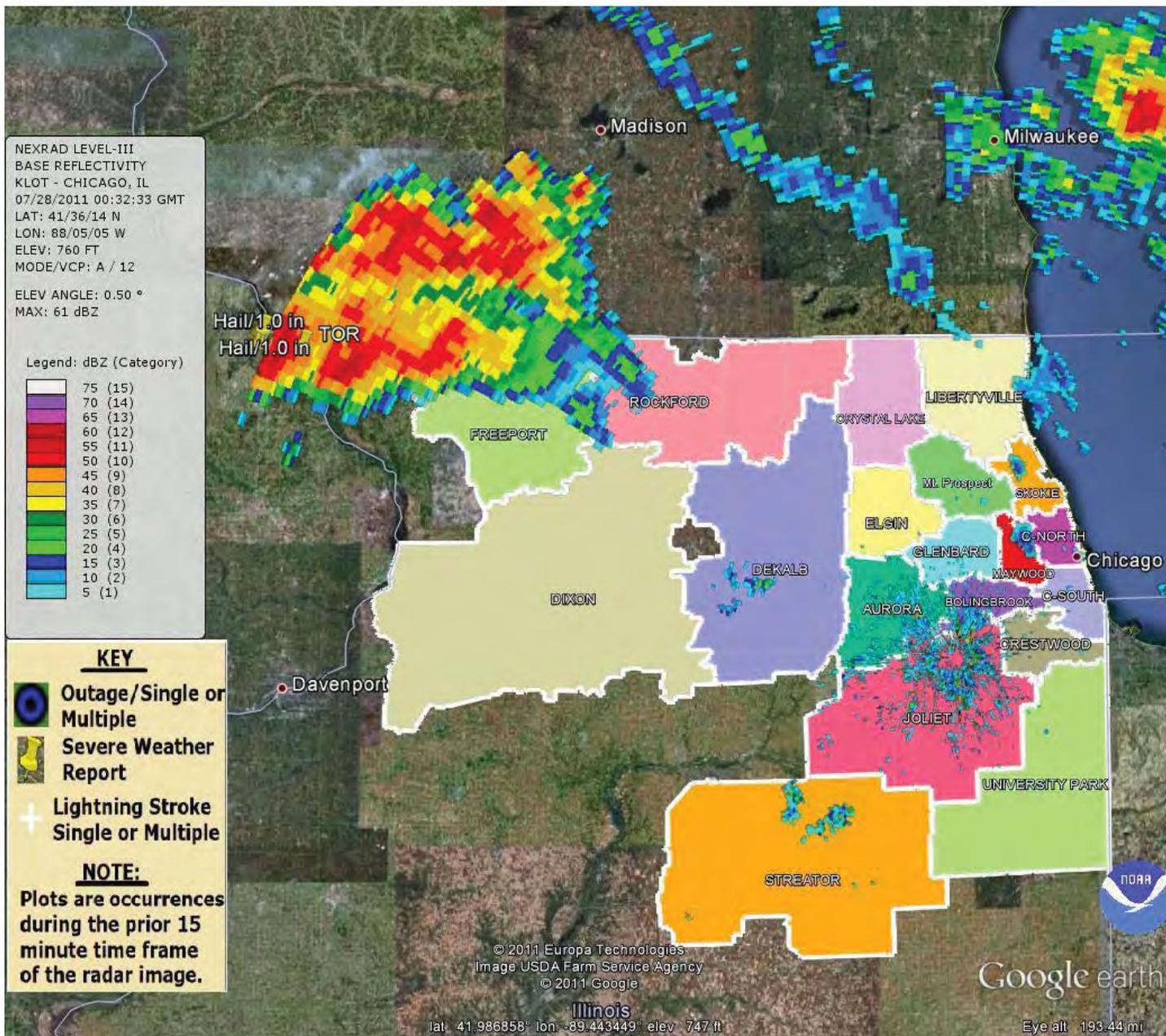


Image 7 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1930 hours

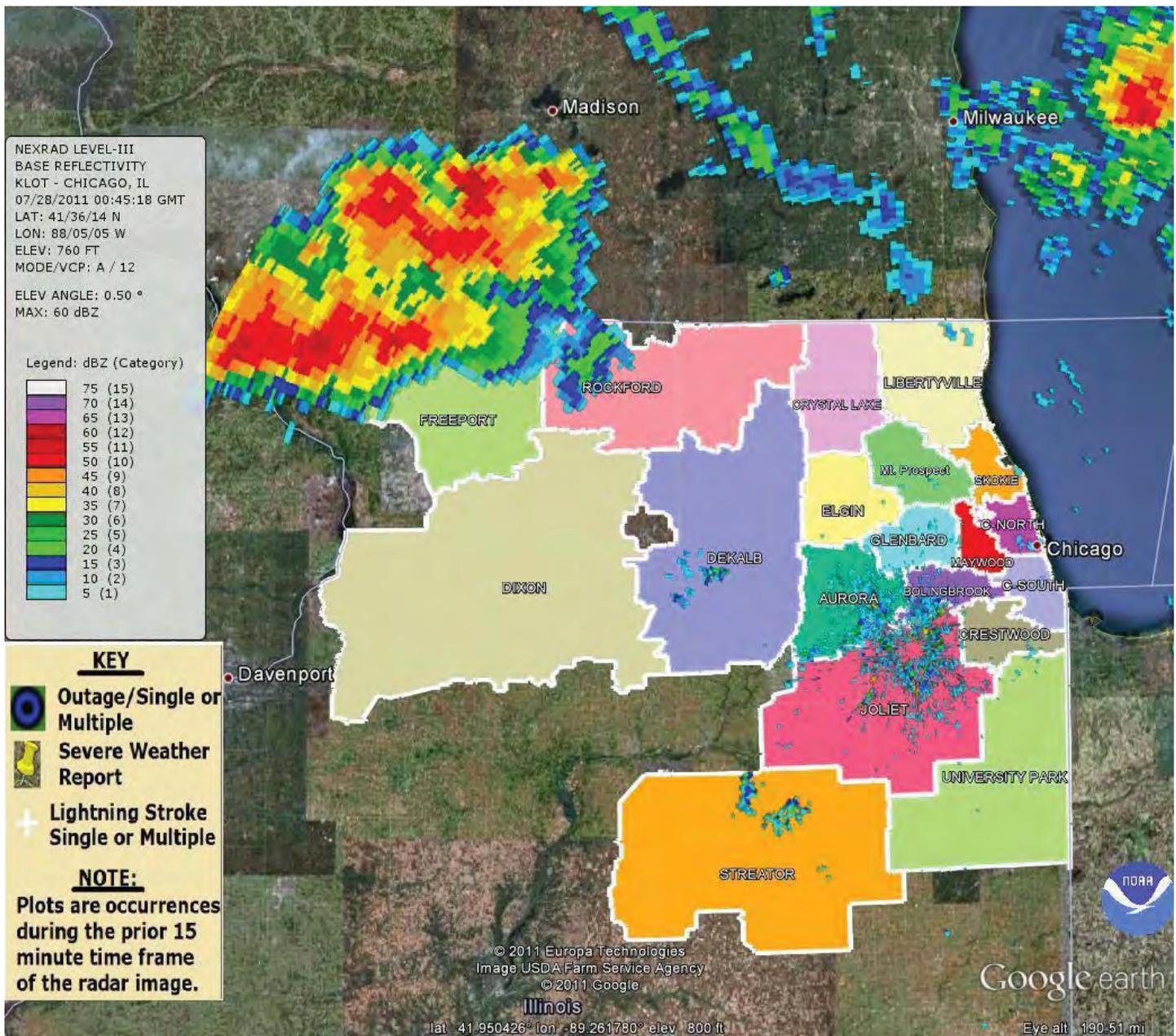


Image 8 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 1945 hours

Two separate, short intense lines of severe storms evolved and moved east southeastward across Northern Illinois. The first line starting around 2030 hours moved from Jo Daviess County through Stephenson County then into Winnebago and Boone Counties following I-90 to Central Cook County and reached the Lake Michigan Shoreline by 0030 hours on July 28th. Two twisters were sighted in Jo Daviess County near the towns of Galena and Stockton and one in Stephenson County near Lena. Several reports of 70 to 80 mph winds were reported in Stephenson and Winnebago Counties.

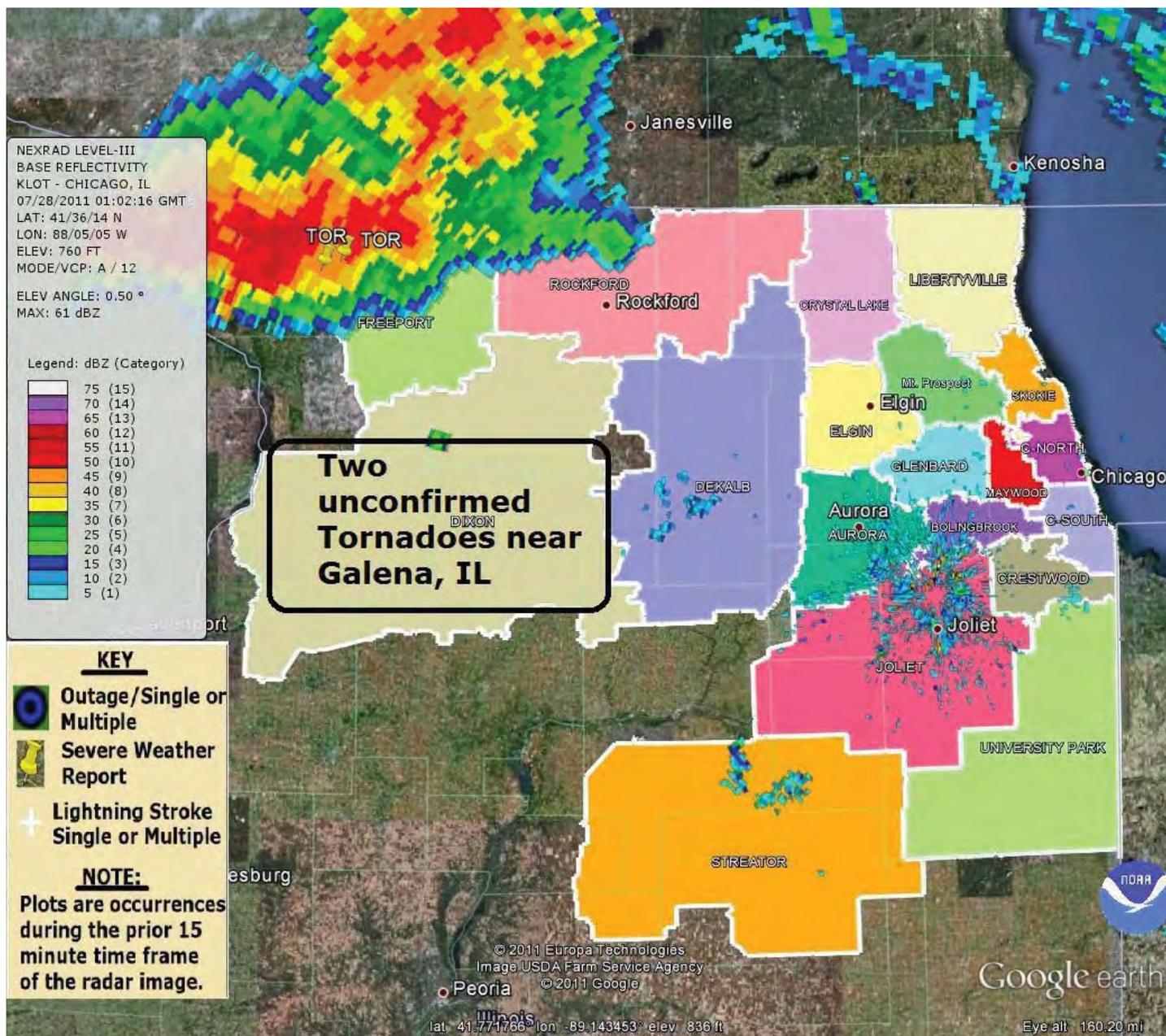


Image 9 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 2000 hours

Total ComEd Customers Who Lost Power (Cumulative)	Customers Restored (Cumulative)	Customers Still Without Power
0	0	0

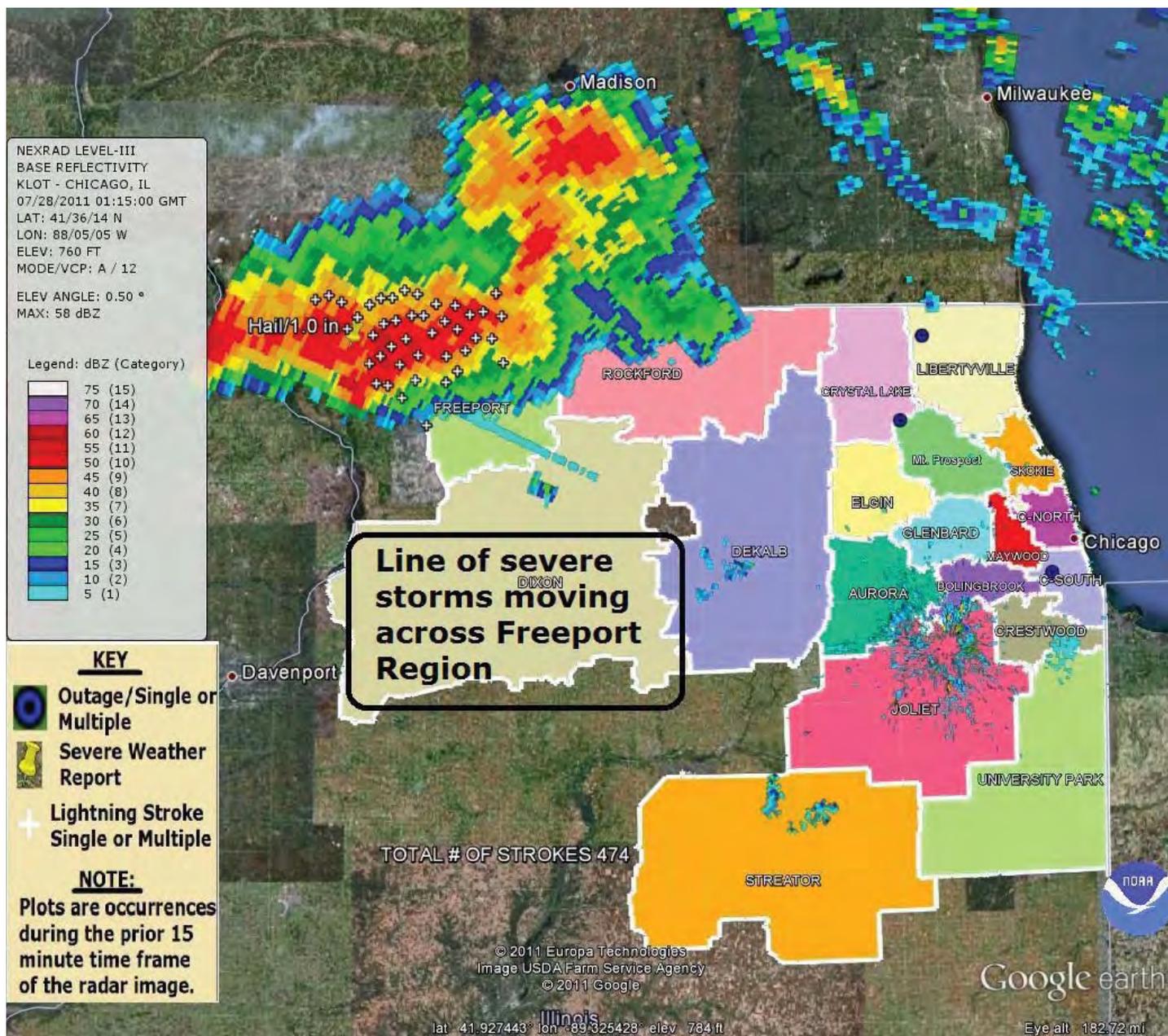


Image 10 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 2015 hours

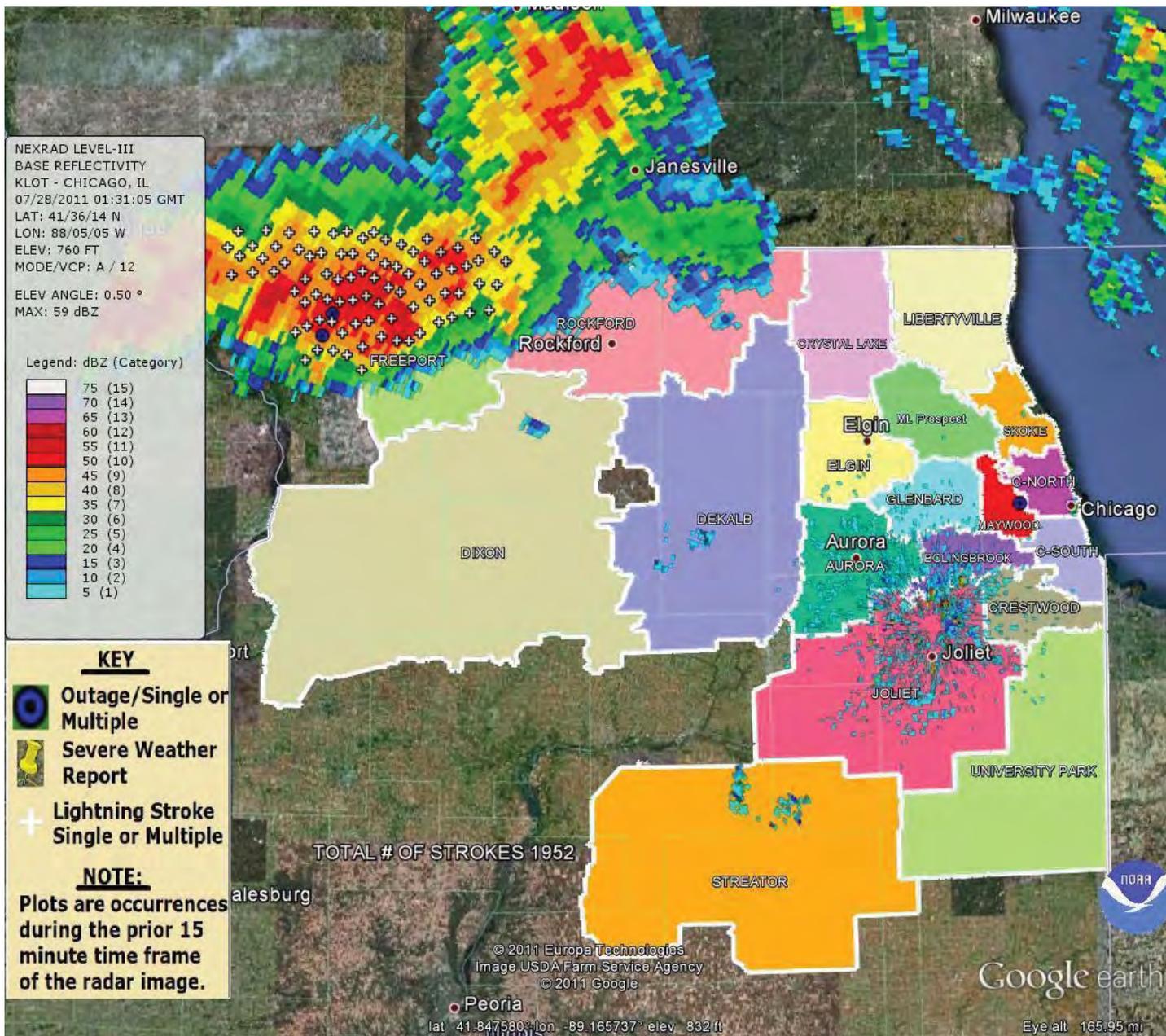


Image 11 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 2030 hours

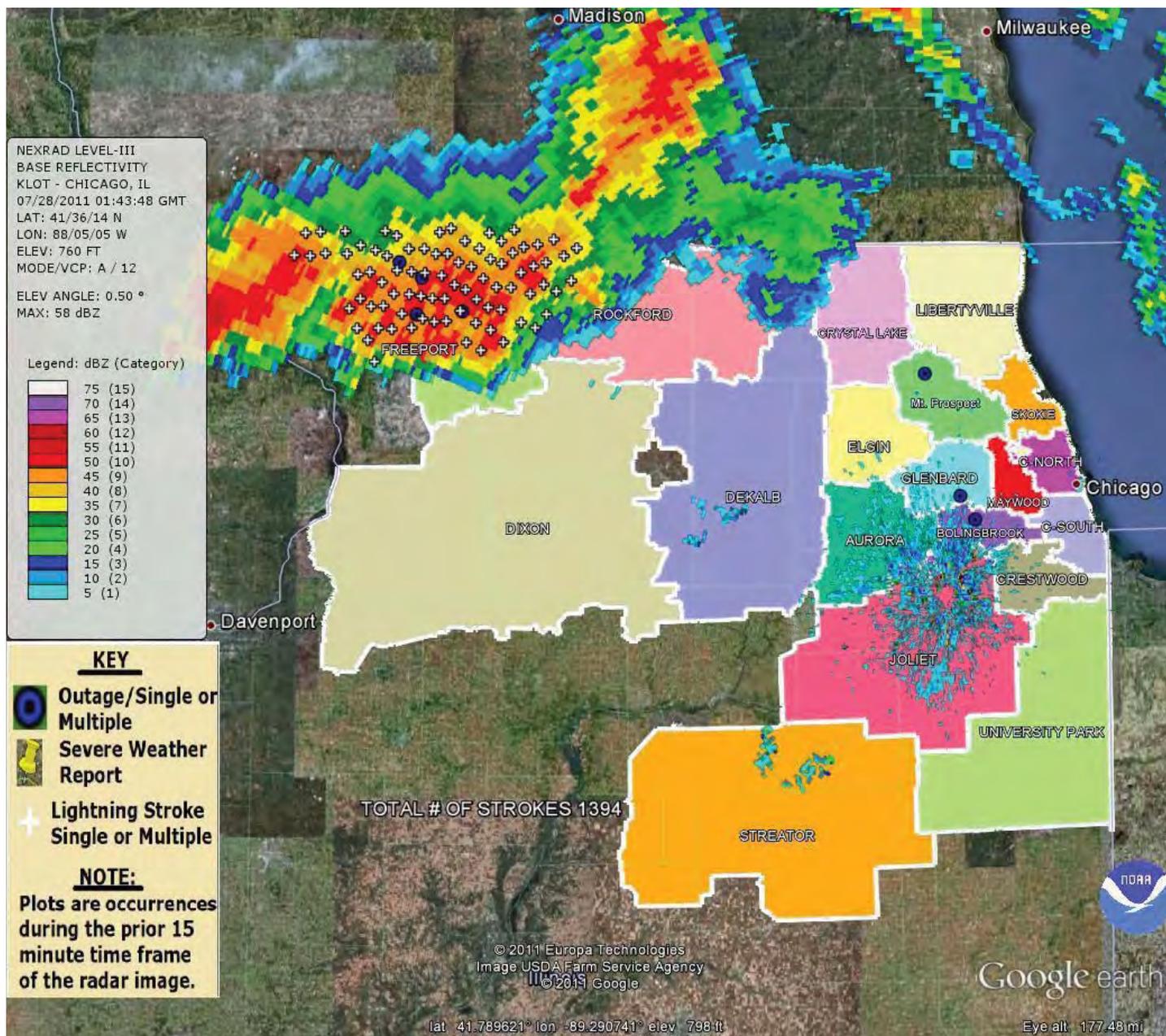


Image 12 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 2045 hours

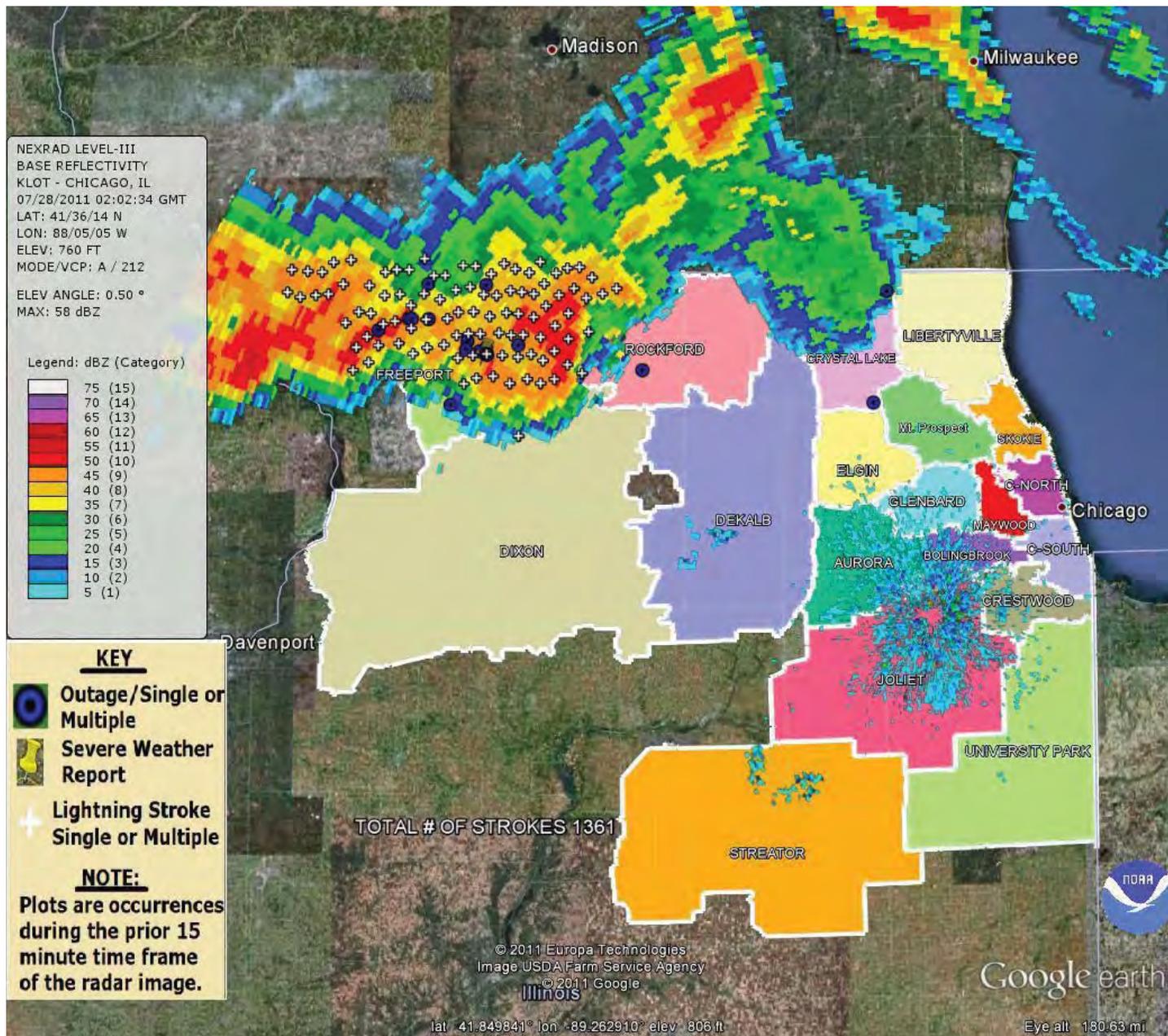


Image 13 KLOT NEXRAD Base Reflectivity image on July 27, 2011 at approximately 2100 hours

Total ComEd Customers Who Lost Power (Cumulative)	Customers Restored (Cumulative)	Customers Still Without Power
3,543	0	3,543