

SAMPLE HAIL IMPACT REPORT

Report Generated: 3 June 2015
Prepared For: Mr. Jack Smith
Prepared By: Steve Caparotta, PhD, Forensic Meteorologist

Incident Date: 15 April 2015
Incident Location: Kenner, LA

Summary:

Mr. Smith reports receiving hail damage to the roof of his business, A+ Office Supplies, located at ##### Main Blvd. in Kenner, LA, on the afternoon of 15 April 2015. Mr. Smith filed a claim with his insurance company and the provider has requested proof of hail in the area before proceeding with his claim.

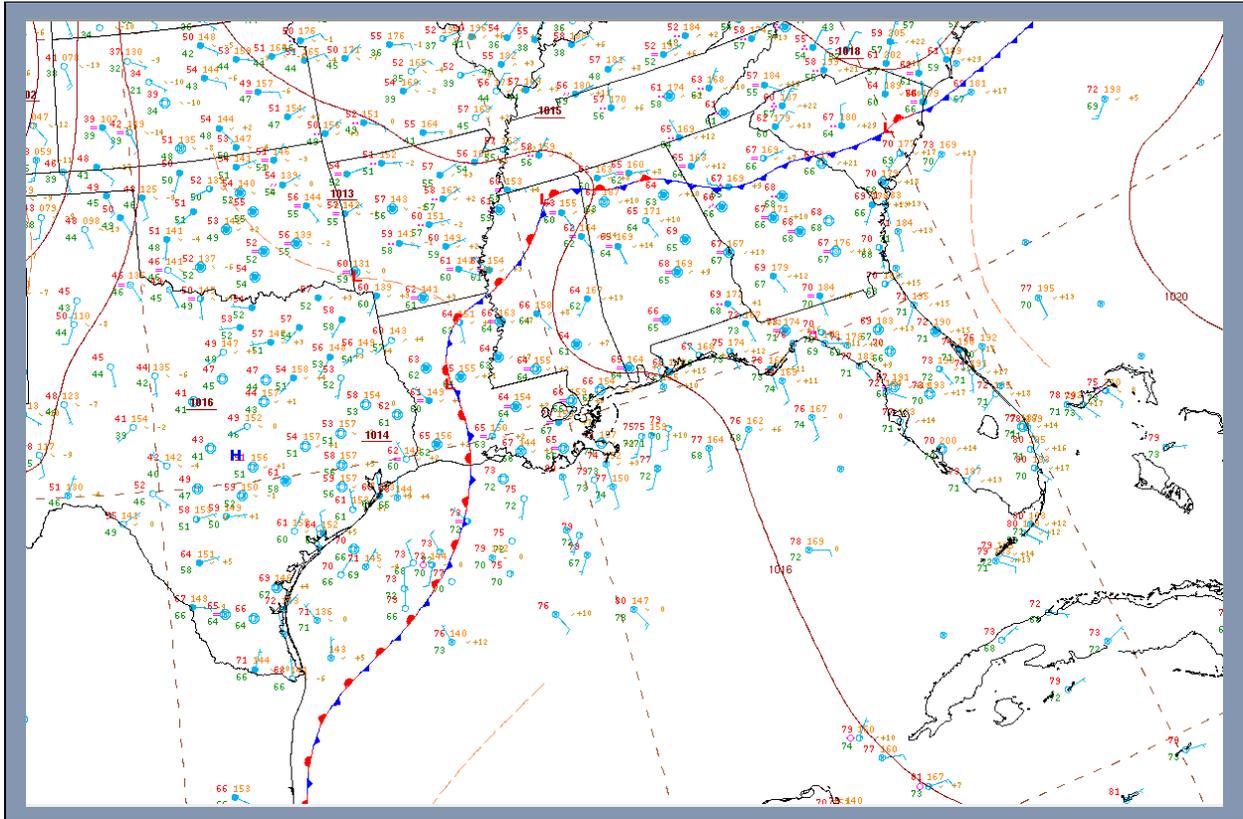
Supporting data included in this report:

- NWS Doppler radar imagery from the radar located in Slidell, LA
- Official watch, warning, and local storm report (LSR) statements issued by NWS New Orleans/Baton Rouge
- Social media reports

Note: Client and business name/location were changed to preserve confidentiality

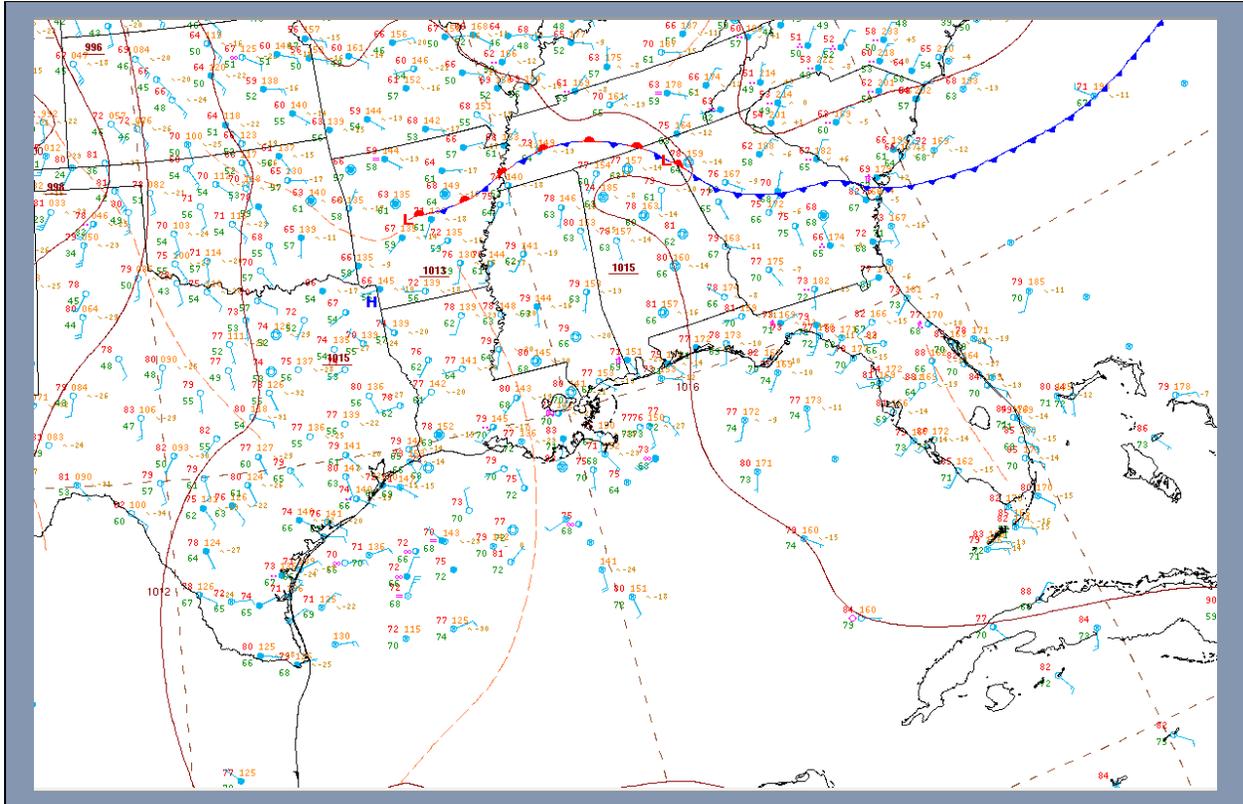
WEATHER OVERVIEW

Archived surface weather analyses available from NOAA's Weather Prediction Center show a stationary front across southwest, central, and northern Louisiana on the morning of 15 April 2015. The front would drift slowly eastward through the day.



WEATHER OVERVIEW

A subsequent analysis valid at 4:00 PM that afternoon no longer showed a front, but instead had a trough (dashed orange line) of low pressure moving eastward across southeast Louisiana. The change from stationary front to a trough in the analysis is indicative of a lack of a temperature contrast on either side of the boundary. The important point is that this boundary served as a focus for widespread shower and t-storm development as it moved eastward through the day.



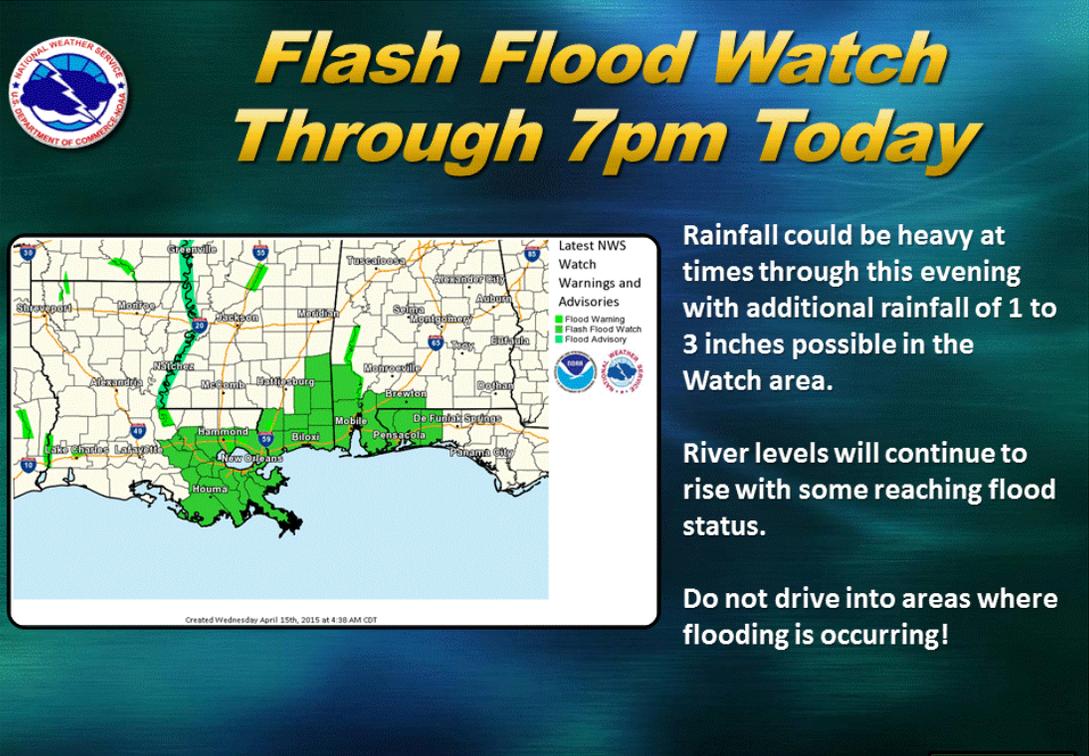
WEATHER OVERVIEW

The forecast issued by NWS New Orleans/Baton Rouge at 3:20 AM on 15 April 2015 indicated an 80% chance for showers and thunderstorms in Kenner, the incident location. A Flash Flood Watch was also in effect through that evening.

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LAZ061-160015-  
UPPER JEFFERSON-  
INCLUDING THE CITIES OF...METAIRIE...KENNER  
320 AM CDT WED APR 15 2015  
  
...FLASH FLOOD WATCH IN EFFECT THROUGH THIS EVENING...  
  
.TODAY...PATCHY FOG IN THE MORNING. SHOWERS AND THUNDERSTORMS  
LIKELY IN THE MORNING...THEN SHOWERS AND THUNDERSTORMS IN THE  
AFTERNOON. HIGHS IN THE UPPER 70S. SOUTHWEST WINDS 5 TO 10 MPH.  
CHANCE OF PRECIPITATION 80 PERCENT.  
.TONIGHT...PARTLY CLOUDY WITH A 30 PERCENT CHANCE OF SHOWERS AND  
THUNDERSTORMS. LOWS IN THE UPPER 60S. SOUTH WINDS 5 TO 10 MPH.  
.THURSDAY...CLOUDY WITH SHOWERS AND THUNDERSTORMS LIKELY. HIGHS  
IN THE UPPER 70S. SOUTH WINDS 5 TO 10 MPH. CHANCE OF  
PRECIPITATION 70 PERCENT.  
.THURSDAY NIGHT...MOSTLY CLOUDY WITH SHOWERS AND THUNDERSTORMS  
LIKELY. LOWS AROUND 70. SOUTHEAST WINDS 5 TO 10 MPH. CHANCE OF  
PRECIPITATION 60 PERCENT.  
.FRIDAY...SHOWERS AND THUNDERSTORMS. HIGHS IN THE UPPER 70S.  
SOUTH WINDS TO 10 MPH. CHANCE OF PRECIPITATION 90 PERCENT.  
.FRIDAY NIGHT...MOSTLY CLOUDY WITH SHOWERS AND THUNDERSTORMS  
LIKELY. LOWS AROUND 70. CHANCE OF PRECIPITATION 70 PERCENT.  
.SATURDAY...CLOUDY WITH SHOWERS AND THUNDERSTORMS LIKELY. HIGHS  
IN THE UPPER 70S. CHANCE OF PRECIPITATION 70 PERCENT.  
.SATURDAY NIGHT AND SUNDAY...MOSTLY CLOUDY WITH A 40 PERCENT  
CHANCE OF SHOWERS AND THUNDERSTORMS. LOWS IN THE UPPER 60S. HIGHS  
IN THE UPPER 70S.  
.SUNDAY NIGHT...MOSTLY CLOUDY WITH A 40 PERCENT CHANCE OF SHOWERS  
AND THUNDERSTORMS IN THE EVENING...THEN PARTLY CLOUDY AFTER  
MIDNIGHT. LOWS IN THE MID 60S.  
.MONDAY THROUGH TUESDAY...PARTLY CLOUDY. HIGHS IN THE UPPER 70S.  
LOWS IN THE MID 60S.
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WEATHER OVERVIEW

Image shared by NWS New Orleans/Baton Rouge on Twitter at 4:32 AM Wednesday, 15 April 2015 indicating a Flash Flood Watch was in effect through 7:00 PM for most of southeast Louisiana, including the city of Kenner.



Flash Flood Watch Through 7pm Today

Latest NWS Watch Warnings and Advisories

- Flood Warning
- Flash Flood Watch
- Flood Advisory

Rainfall could be heavy at times through this evening with additional rainfall of 1 to 3 inches possible in the Watch area.

River levels will continue to rise with some reaching flood status.

Do not drive into areas where flooding is occurring!

weather.gov/NewOrleans National Weather Service New Orleans @NWSNewOrleans 4/15/2015 4:32 AM Central

Created Wednesday April 15th, 2015 at 4:38 AM CDT

NATIONAL WEATHER SERVICE WARNINGS

The National Weather Service issued a Severe Thunderstorm Warning at 4:24 PM, effective through 5:00 PM, for 3 parishes, including Jefferson Parish (and the city of Kenner). It warned of hail up to the size of ping pong balls and damaging winds in excess of 60 mph.

106
WUUS54 KLIX 152124
SVRLIX
LAC051-071-089-152200-
/O.NEW.KLIX.SV.W.0007.150415T2124Z-150415T2200Z/

BULLETIN - IMMEDIATE BROADCAST REQUESTED
SEVERE THUNDERSTORM WARNING
NATIONAL WEATHER SERVICE NEW ORLEANS LA
424 PM CDT WED APR 15 2015

THE NATIONAL WEATHER SERVICE IN NEW ORLEANS HAS ISSUED A

* SEVERE THUNDERSTORM WARNING FOR...
NORTH CENTRAL ST. CHARLES PARISH IN SOUTHEASTERN LOUISIANA...
NORTHWESTERN JEFFERSON PARISH IN SOUTHEASTERN LOUISIANA...
SOUTHWESTERN ORLEANS PARISH IN SOUTHEASTERN LOUISIANA...

* UNTIL 500 PM CDT

* AT 424 PM CDT...DOPPLER RADAR INDICATED A SEVERE THUNDERSTORM
CAPABLE OF PRODUCING LARGE HAIL UP TO PING PONG BALL SIZE AND
DAMAGING WINDS IN EXCESS OF 60 MPH. THIS STORM WAS LOCATED NEAR ST.
ROSE...OR NEAR METAIRIE...AND MOVING EAST AT 25 MPH.

* LOCATIONS IMPACTED INCLUDE...
NEW ORLEANS...METAIRIE...JEFFERSON...GRETNA...HARAHAN...ELMWOOD...
RIVER RIDGE...ST. ROSE...BRIDGE CITY...DESTREHAN...WAGGAMAN...
AMA...TERRYTOWN...NEW ORLEANS ARMSTRONG AIRPORT AND LAKEFRONT
AIRPORT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

SEVERE THUNDERSTORMS PRODUCE DAMAGING WINDS...DESTRUCTIVE HAIL...
DEADLY LIGHTNING AND VERY HEAVY RAIN. FOR YOUR PROTECTION...MOVE TO
AN INTERIOR ROOM ON THE LOWEST FLOOR OF YOUR HOME OR BUSINESS. HEAVY
RAINS FLOOD ROADS QUICKLY SO DO NOT DRIVE INTO AREAS WHERE WATER
COVERS THE ROAD.

&&

LAT...LON 2997 9036 3006 9037 3005 9026 3003 9020
3004 9005 3003 9004 3005 9003 3004 9002
3005 8999 2992 9003
TIME...MOT...LOC 2124Z 270DEG 21KT 3002 9029

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NATIONAL WEATHER SERVICE WARNINGS

A Severe Weather Statement was issued at 4:34 PM to remove St. Charles Parish from the original warning since the storm had moved out of that parish, but it was continued for Jefferson & Orleans parishes. The statement indicated that quarter-sized hail and damaging winds were possible.

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831
WWUS54 KLIX 152134
SVSLIX

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
434 PM CDT WED APR 15 2015

LAC089-152142-
/O.CAN.KLIX.SV.W.0007.000000T0000Z-150415T2200Z/
ST. CHARLES LA-
434 PM CDT WED APR 15 2015

...THE SEVERE THUNDERSTORM WARNING FOR NORTH CENTRAL ST. CHARLES
PARISH IS CANCELLED...

THE WARNING HAS BEEN CANCELLED.

LAT...LON 2996 9023 3005 9026 3003 9020 3004 9005
      3003 9004 3005 9003 3004 9002 3005 8999
      2993 9003
TIME...MOT...LOC 2132Z 270DEG 21KT 3001 9021

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LAC051-071-152200-
/O.CON.KLIX.SV.W.0007.000000T0000Z-150415T2200Z/
JEFFERSON LA-ORLEANS LA-
434 PM CDT WED APR 15 2015

...A SEVERE THUNDERSTORM WARNING REMAINS IN EFFECT UNTIL 500 PM CDT
FOR NORTH CENTRAL JEFFERSON AND SOUTHWESTERN ORLEANS PARISHES...

AT 432 PM CDT...DOPPLER RADAR CONTINUES TO INDICATE A SEVERE
THUNDERSTORM PRODUCING QUARTER SIZE HAIL AND DAMAGING WINDS IN
EXCESS OF 60 MPH. THIS STORM WAS LOCATED OVER METAIRIE...MOVING EAST
AT 25 MPH.

LOCATIONS IMPACTED INCLUDE...
NEW ORLEANS...METAIRIE...JEFFERSON...GRETNA...HARAHAN...ELMWOOD...
RIVER RIDGE...BRIDGE CITY AND LAKEFRONT AIRPORT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

SEVERE THUNDERSTORMS PRODUCE DAMAGING WINDS...DESTRUCTIVE HAIL...
DEADLY LIGHTNING AND VERY HEAVY RAIN. FOR YOUR PROTECTION MOVE TO AN
INTERIOR ROOM ON THE LOWEST FLOOR OF YOUR HOME OR BUSINESS. HEAVY
RAINS FLOOD ROADS QUICKLY SO DO NOT DRIVE INTO AREAS WHERE WATER
COVERS THE ROAD.

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LAT...LON 2996 9023 3005 9026 3003 9020 3004 9005
      3003 9004 3005 9003 3004 9002 3005 8999
      2993 9003
TIME...MOT...LOC 2132Z 270DEG 21KT 3001 9021

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NATIONAL WEATHER SERVICE WARNINGS

An updated Severe Weather Statement was issued at 4:42 PM to continue the warning for Jefferson & Orleans parishes. The statement indicated that hail "up to 2 inches or more" and damaging winds were possible. At this point, hen egg size hail and damaging winds had been reported near the Kenner/Metairie border, or about 2.5 miles from Armstrong International Airport in Kenner.

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288
WWUS54 KLIX 152142
SVSLIX

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
442 PM CDT WED APR 15 2015

LAC051-071-152200-
/O.CON.KLIX.SV.W.0007.000000T0000Z-150415T2200Z/
JEFFERSON LA-ORLEANS LA-
442 PM CDT WED APR 15 2015

...A SEVERE THUNDERSTORM WARNING REMAINS IN EFFECT UNTIL 500 PM CDT
FOR NORTH CENTRAL JEFFERSON AND SOUTHWESTERN ORLEANS PARISHES...

AT 440 PM CDT...DOPPLER RADAR INDICATED A SEVERE THUNDERSTORM
CAPABLE OF PRODUCING LARGE DAMAGING HAIL UP TO 2 INCHES OR MORE AND
DAMAGING WINDS IN EXCESS OF 60 MPH. THIS STORM WAS LOCATED OVER
METAIRIE... MOVING EAST AT 25 MPH.

IN ADDITION...HEN EGG SIZED HAIL WAS REPORTED LAFRENIERE AND WINDS
UP TO 58 MPH.

LOCATIONS IMPACTED INCLUDE...
NEW ORLEANS...METAIRIE...JEFFERSON...GRETNA...HARAHAN...ELMWOOD...
RIVER RIDGE...BRIDGE CITY AND LAKEFRONT AIRPORT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

SEVERE THUNDERSTORMS PRODUCE DAMAGING WINDS...DESTRUCTIVE HAIL...
DEADLY LIGHTNING AND VERY HEAVY RAIN. FOR YOUR PROTECTION MOVE TO AN
INTERIOR ROOM ON THE LOWEST FLOOR OF YOUR HOME OR BUSINESS. HEAVY
RAINS FLOOD ROADS QUICKLY SO DO NOT DRIVE INTO AREAS WHERE WATER
COVERS THE ROAD.

IF YOU ARE IN THE PATH OF THIS STORM...PREPARE IMMEDIATELY FOR LARGE
HAIL AND DEADLY CLOUD TO GROUND LIGHTNING. PEOPLE OUTSIDE SHOULD MOVE
TO A SHELTER...PREFERABLY INSIDE A STRONG BUILDING AND AWAY FROM
WINDOWS.

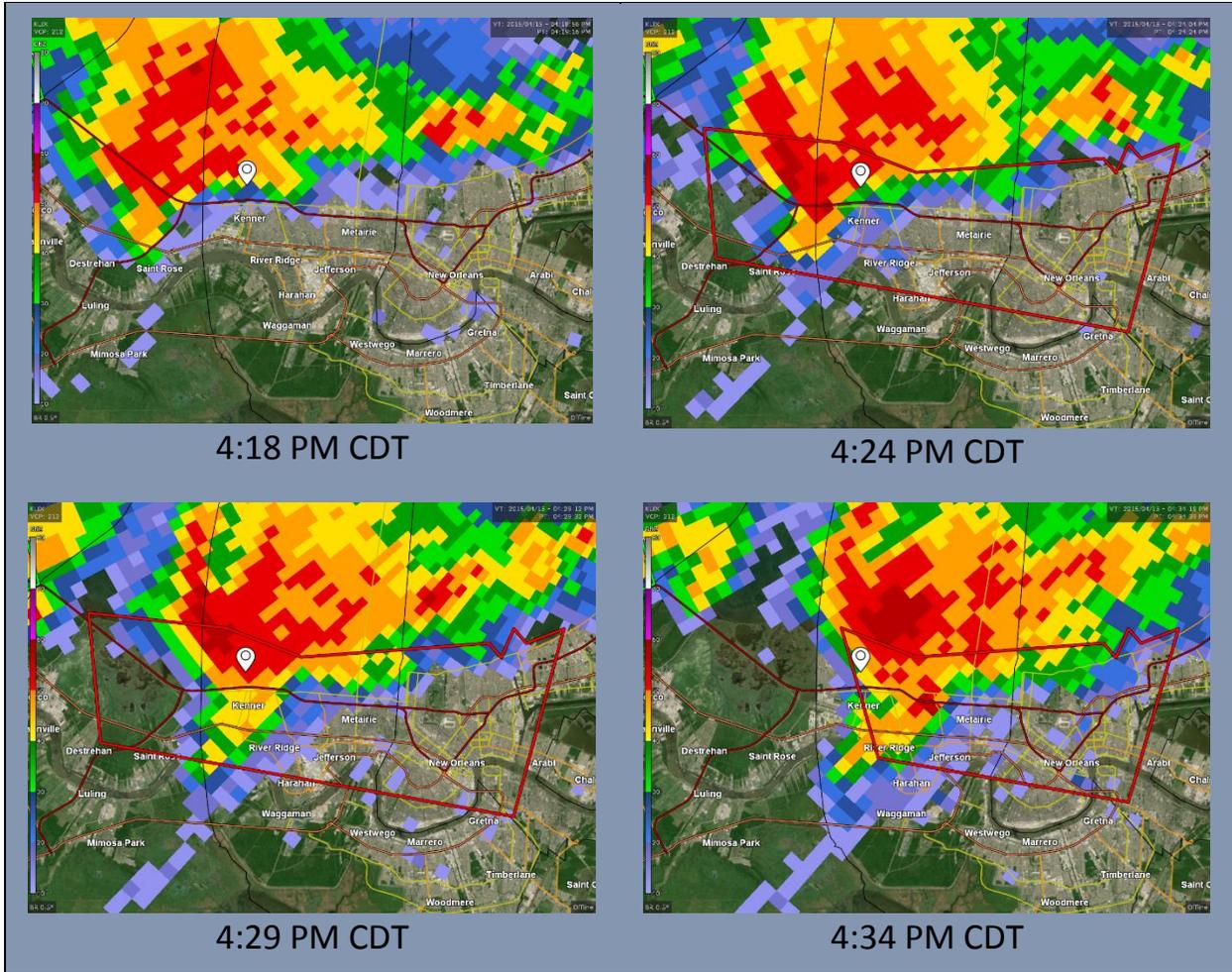
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LAT...LON 2996 9023 3002 9021 3003 9020 3004 9005
3003 9004 3005 9003 3004 9002 3005 8999
2993 9003
TIME...MOT...LOC 2140Z 270DEG 21KT 3001 9015

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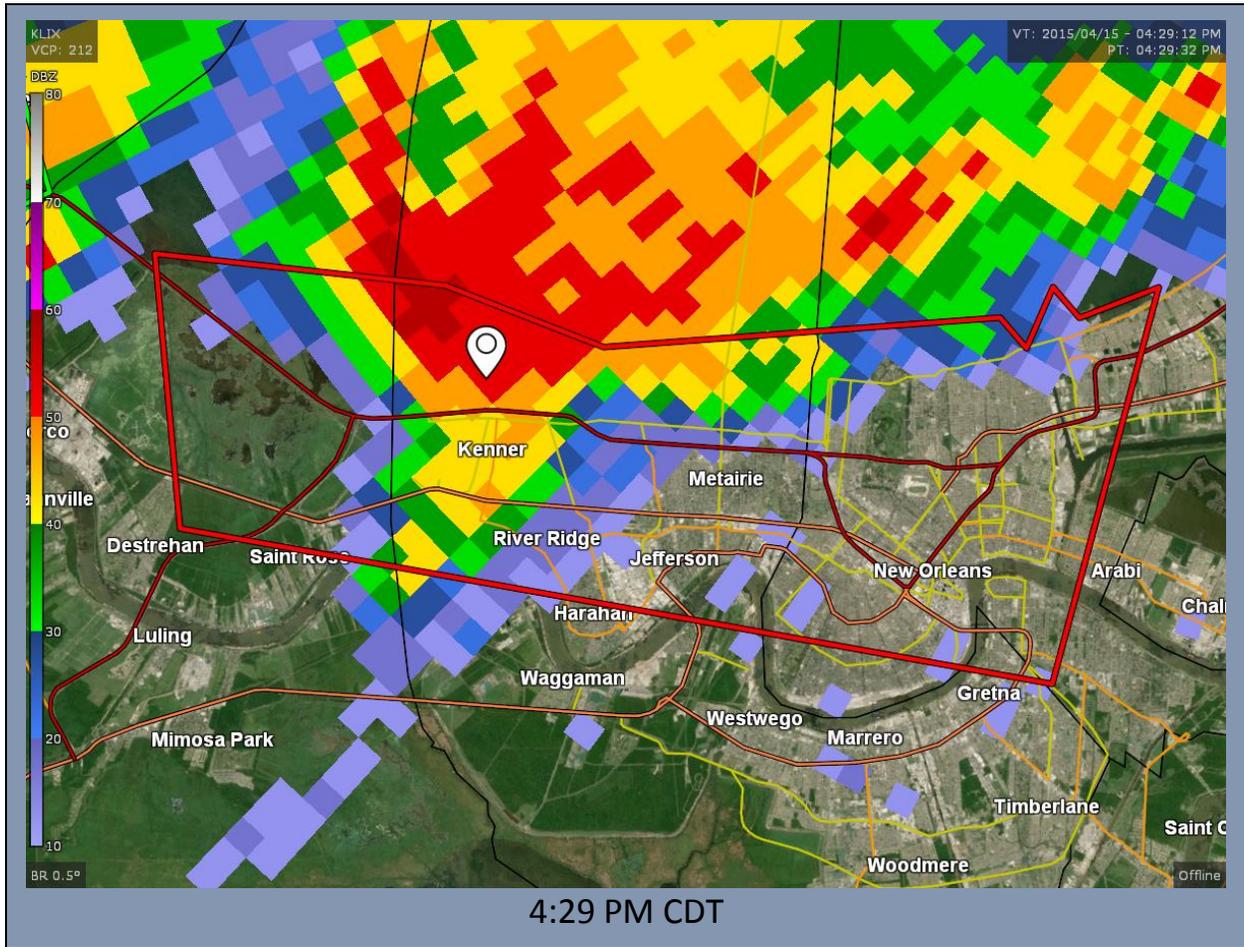
RADAR ANALYSIS

Archived radar data from the nearest National Weather Service (NWS) Doppler radar located about 32 miles to the northeast in Slidell, LA, is shown below. The base reflectivity imagery indicates that the strongest storms passed over the incident location between approximately 4:15 PM – 4:35 PM on 15 April 2015. The incident location is noted by the white marker on each image. The red polygon that first appears on the second image shows the Severe Thunderstorm Warning that was issued by NWS New Orleans/Baton Rouge at 4:24 PM, effective through 5:00 PM.



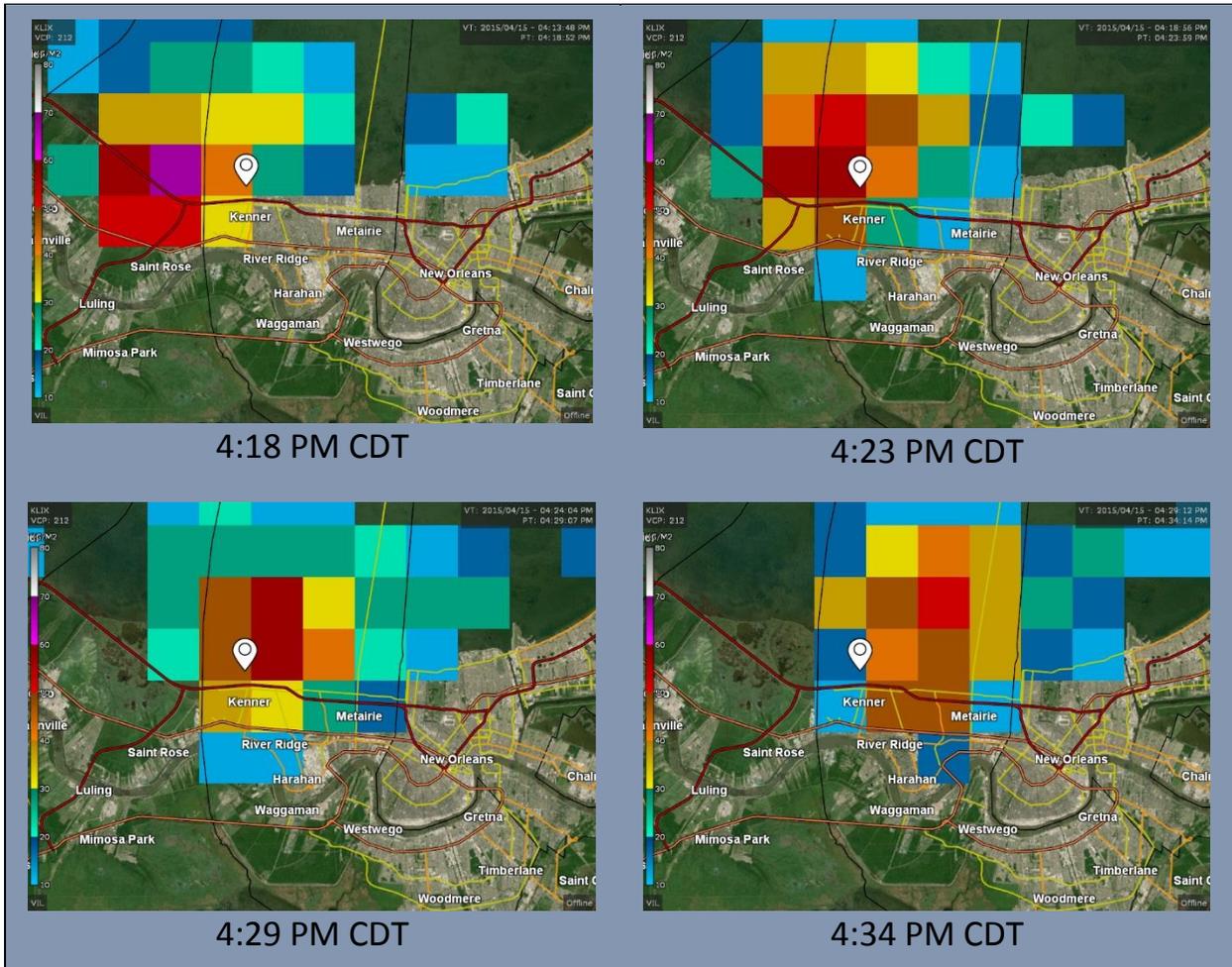
RADAR ANALYSIS

Close-up view of the base reflectivity (traditional) radar image from 4:29 PM on 15 April 2015, showing strong to severe storms extending from the incident location (white marker) northward over Lake Pontchartrain.



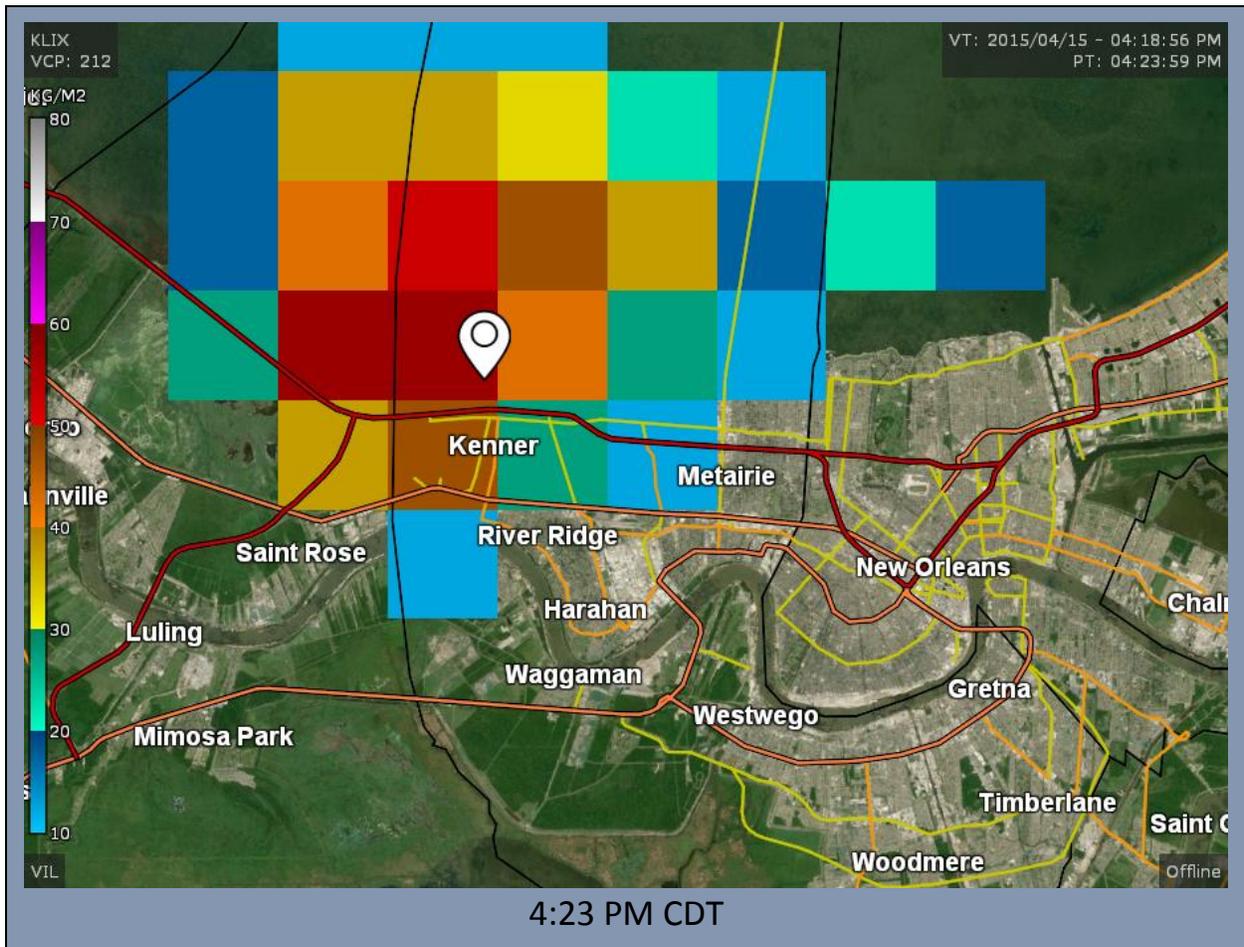
RADAR ANALYSIS

One way to assess hail potential in thunderstorms is the use of a radar product called vertically integrated liquid (VIL). VIL is calculated by measuring the amount of energy reflected from the radar beam back to the radar site. Since hail has a higher reflectivity than liquid rainfall, high VIL values are often indicative of hail within a thunderstorm. The imagery below between approximately 4:15 PM – 4:35 PM shows that some of the highest VIL values passed over the incident location, supporting the reports of hail in this area.



RADAR ANALYSIS

Zoomed-in view of the radar VIL image from 4:23 PM on 15 April 2015, showing some of the highest values passing over the incident site. The dark red shading represents a calculated VIL of 57.5 kg/m², a value that would typically be indicative of large hail.



LOCAL STORM REPORTS (LSR)

Several reports of hail, ranging in size from pennies (0.75" diameter) to hen eggs (2" in diameter), were received in St. James and St. John the Baptist parishes just west of Kenner between 3:25 PM – 3:50 PM.

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848
NWUS54 KLIX 152115
LSRLIX

PRELIMINARY LOCAL STORM REPORT...CORRECTED
NATIONAL WEATHER SERVICE NEW ORLEANS LA
414 PM CDT WED APR 15 2015

..TIME...   ..EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG...    ..COUNTY LOCATION..ST..   ...SOURCE...
..REMARKS..

0325 PM     HAIL         GRAMERCY              30.06N 90.70W
04/15/2015  E0.75 INCH  ST. JAMES             LA   TRAINED SPOTTER

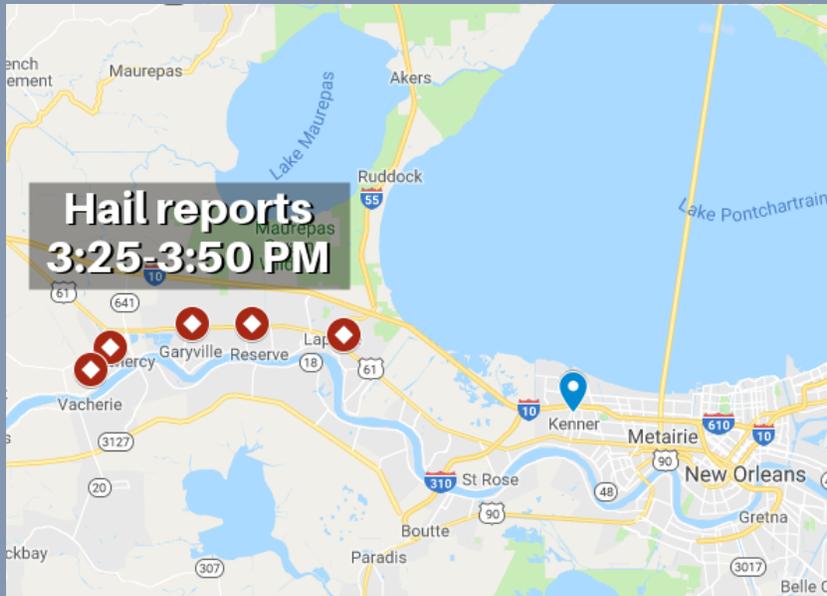
0327 PM     HAIL         2 SW GRAMERCY        30.04N 90.72W
04/15/2015  E1.00 INCH  ST. JAMES             LA   TRAINED SPOTTER

0345 PM     HAIL         LAPLACE               30.07N 90.47W
04/15/2015  E0.88 INCH  ST. JOHN THE BAPTI   LA   PUBLIC

0346 PM     HAIL         GARYVILLE           30.08N 90.62W
04/15/2015  E1.75 INCH  ST. JOHN THE BAPTI   LA   PUBLIC

          SEVERAL REPORTS OF QUARTER TO GOLF BALL SIZED HAIL ON
          SOCIAL MEDIA

0350 PM     HAIL         RESERVE              30.08N 90.56W
04/15/2015  E2.00 INCH  ST. JOHN THE BAPTI   LA   NWS EMPLOYEE
    
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LOCAL STORM REPORTS (LSR)

The NWS relayed several reports of severe weather in Jefferson Parish between 4:26 PM – 4:42 PM. Included in those was a report of golf ball sized hail in Kenner and Metairie by the Jefferson Parish Sheriff's Office (JPSO).

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845
NWUS54 KLIX 152133
LSRLIX

PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
433 PM CDT WED APR 15 2015

..TIME...   ..EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG....   ..COUNTY LOCATION..ST..   ...SOURCE....
..REMARKS..

0426 PM     HAIL         NEW ORLEANS ARMSTRONG A 29.98N 90.25W
04/15/2015  E0.50 INCH  JEFFERSON                LA  OFFICIAL NWS OBS
    
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192
NWUS54 KLIX 152139
LSRLIX

PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
439 PM CDT WED APR 15 2015

..TIME...   ..EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG....   ..COUNTY LOCATION..ST..   ...SOURCE....
..REMARKS..

0430 PM     TSTM WND GST NEW ORLEANS ARMSTRONG A 29.98N 90.25W
04/15/2015  M60 MPH     JEFFERSON                LA  OFFICIAL NWS OBS
    
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132
NWUS54 KLIX 152144
LSRLIX

PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
444 PM CDT WED APR 15 2015

..TIME...   ..EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG....   ..COUNTY LOCATION..ST..   ...SOURCE....
..REMARKS..

0442 PM     HAIL         METAIRIE                 30.00N 90.18W
04/15/2015  E0.88 INCH  JEFFERSON                LA  BROADCAST MEDIA
    
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075
NWUS54 KLIX 152146
LSRLIX

PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
446 PM CDT WED APR 15 2015

..TIME...   ..EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG....   ..COUNTY LOCATION..ST..   ...SOURCE....
..REMARKS..

0442 PM     HAIL         METAIRIE                 30.00N 90.18W
04/15/2015  E1.75 INCH  JEFFERSON                LA  LAW ENFORCEMENT

GOLF BALL SIZED HAIL IN KENNER AND METAIRIE REPORT BY
JPSO
    
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LOCAL STORM REPORTS (LSR)

A somewhat delayed report of baseball sized hail falling in Kenner around 4:30 PM was relayed by the National Weather Service a little after 6:00 PM. Photographic evidence of large hail, including up to the size of baseballs, can be found in the next section of this report (Social Media Reports).

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665
NWUS54 KLIX 152309
LSRLIX

PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE NEW ORLEANS LA
608 PM CDT WED APR 15 2015

..TIME...   ...EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG....   ..COUNTY LOCATION..ST..   ...SOURCE....
..REMARKS..

0430 PM     HAIL          KENNER                29.98N 90.25W
04/15/2015  E2.75 INCH   JEFFERSON             LA   BROADCAST MEDIA

          PHOTO OF BASEBALL SIZE HAIL SENT TO TV STATION THROUGH
          SOCIAL MEDIA IN KENNER. EVENT TIME BASED ON RADAR.
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SOCIAL MEDIA REPORTS



Link: https://twitter.com/carl_arredondo/status/588482328055414786?



Link: <https://twitter.com/wx4keg/status/588467882083819520>

SOCIAL MEDIA REPORTS

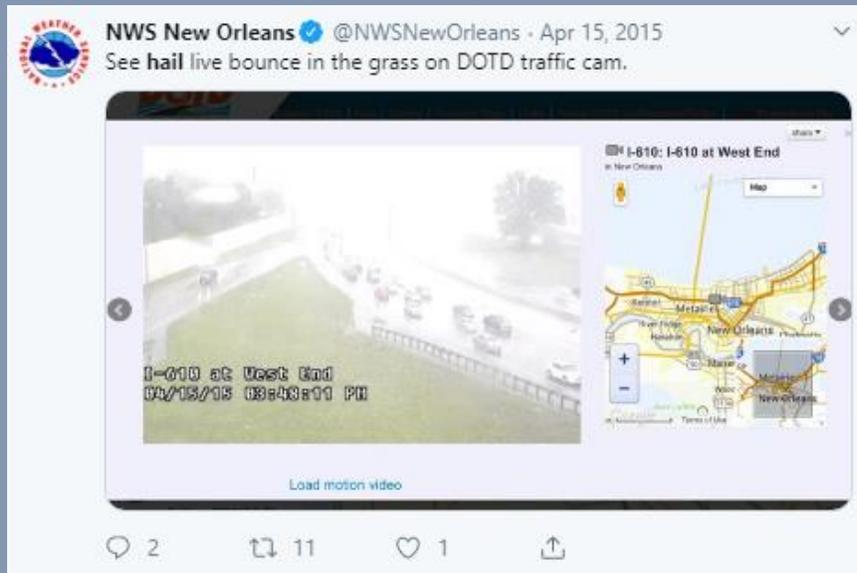


Link: <https://twitter.com/KteagueKaren/status/588459266639527936>



Link: <https://twitter.com/MatthewMalphurs/status/588456524403515393>

SOCIAL MEDIA REPORTS



Link: <https://twitter.com/NWSNewOrleans/status/588459180442292225>



Link: <https://twitter.com/CunninghamNola/status/588460418185592832>

CONCLUSION

An exhaustive analysis of archived NWS Doppler radar imagery, NWS text products, social media reports, and other relevant information indicates that large hail likely occurred in Kenner, LA, on the afternoon of 15 April 2015.

A weak front/trough of low pressure moved slowly eastward through the day, producing widespread shower and thunderstorm activity. There were several reports of hail in St. James and St. John the Baptist parishes in the 3:00 PM – 4:00 PM window, with some reports indicating the hail was as large as 1.75” to 2” in diameter.

Those storms translated eastward and continued to produce hail and damaging winds in the metropolitan New Orleans area. The client reports that large hail hit his business between 4:00 PM and 5:00 PM, producing significant damage to the roof.

The National Weather Service first issued a Severe T-Storm Warning for the impacted area at 4:24 PM, indicating the potential for hail and damaging winds. Analysis of archived radar imagery from shows strong support for the likelihood of large hail using the vertically integrated liquid (VIL) product.

Additionally, several social media posts produced images of large hail that had fallen in Kenner and farther to the east in Metairie. Using those pictures, the National Weather Service estimated that some of the hail may have been as large as baseballs.

It is my expert opinion that the forensic analysis conducted within this report supports Mr. Smith’s claim of large hail and resultant roof damage to his business in Kenner, LA, on Wednesday, 15 April 2015.

Steve Caparotta
Certified Broadcast Meteorologist, Forensic Meteorologist
Cap Weather Consulting