

SEVERE WEATHER EVIDENCE PACKET

# Hail evidence

## Okeene area, Oklahoma

Event date 6 May 2024 · review window 18:00–19:30 CDT

CASE CW-OK-20240506 · HAIL · PUBLIC EDITION

### Determination

The available meteorological evidence supports hail in the immediate property area during the review window.

Two Local Storm Reports were recorded within half a mile of the property. The closest reported 1.25-inch hail at 18:35 CDT; the second reported 1.75-inch hail at 18:45 CDT. NOAA MRMS estimated 1.70 inches within 0.6 miles at 18:40 CDT.

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EVIDENCE SCORE

Configured factors  
not a probability

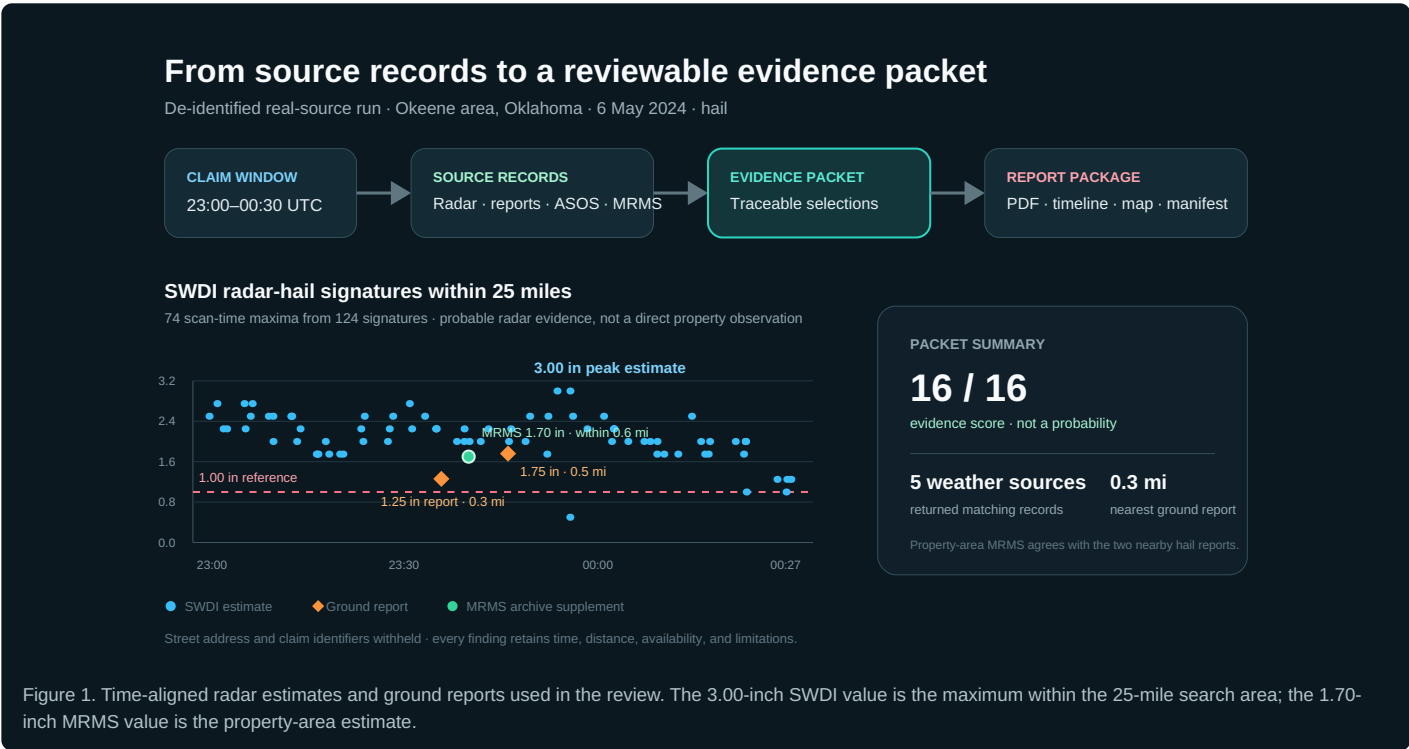
|                     |                    |                     |                      |
|---------------------|--------------------|---------------------|----------------------|
| 0.31 mi             | 1.70 in            | 44.4 mi             | 124                  |
| NEAREST HAIL REPORT | MRMS WITHIN 0.6 MI | NEAREST NEXRAD SITE | SWDI HAIL SIGNATURES |

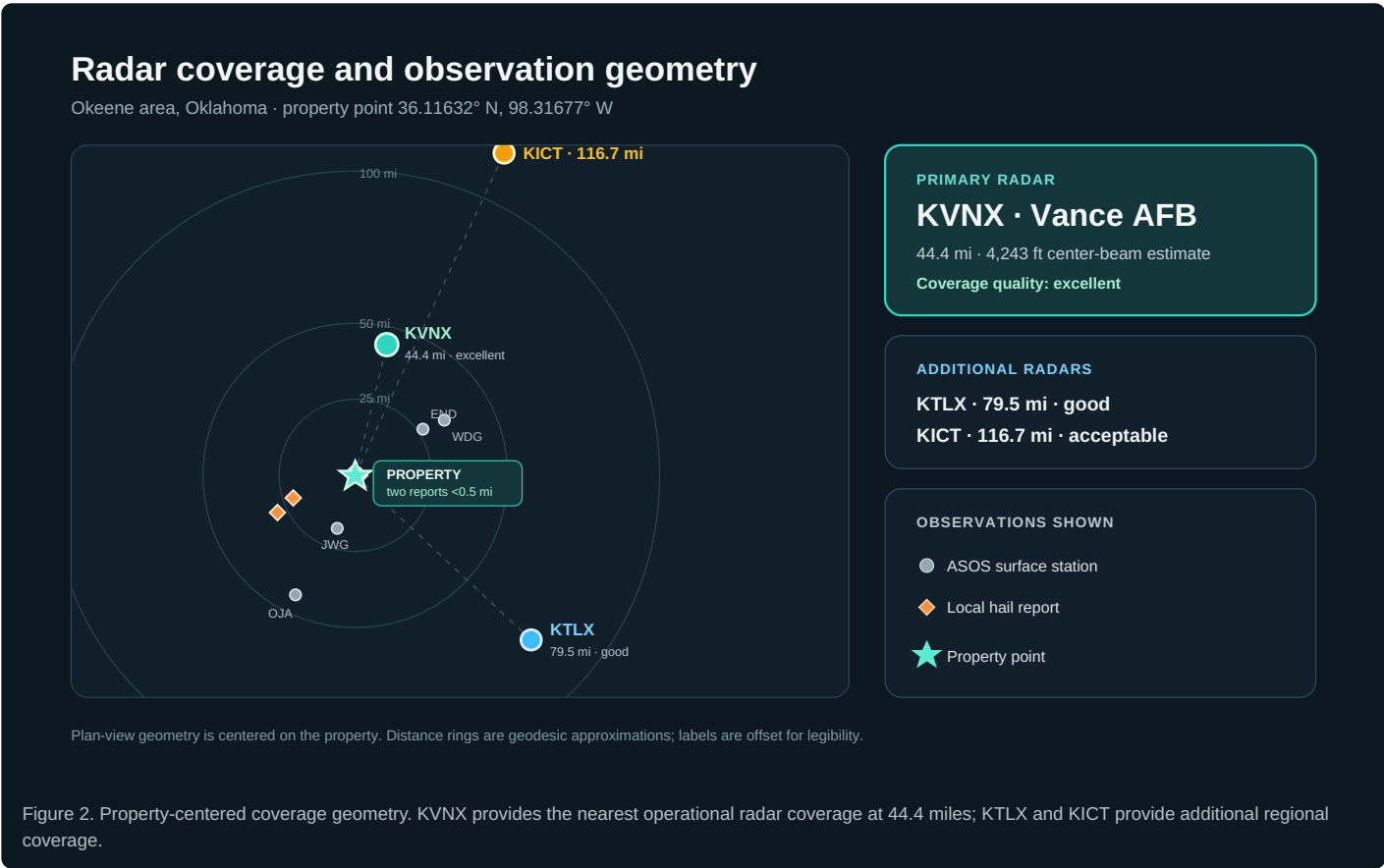
### CASE PARTICULARS

|                 |                          |
|-----------------|--------------------------|
| PROPERTY POINT  | 36.11632° N, 98.31677° W |
| HAZARD REVIEWED | Hail                     |
| SEARCH RADIUS   | 25 miles                 |
| TIME BASIS      | Central Daylight Time    |
| PRIMARY RADAR   | KVNX · Vance AFB         |

### SCOPE OF OPINION

This packet evaluates weather evidence near the property. It does not determine whether hail struck a particular surface, caused damage, or created a covered loss. Those questions require site-specific inspection and policy review.





| RADAR | LOCATION            | DISTANCE | ESTIMATED BEAM HEIGHT | COVERAGE RATING |
|-------|---------------------|----------|-----------------------|-----------------|
| KVNK  | Vance AFB, Oklahoma | 44.4 mi  | 4,243 ft              | Excellent       |
| KTLX  | Norman, Oklahoma    | 79.5 mi  | 8,040 ft              | Good            |
| KICT  | Wichita, Kansas     | 116.7 mi | 13,525 ft             | Acceptable      |

Primary coverage

KVNK is the principal site for this review. Its 44.4-mile range and estimated 4,243-foot beam height support the highest stored coverage rating.

Multi-radar product

MRMS combines radar and supporting observations into a gridded analysis. Its MESH values are radar-derived hail-size estimates, not measurements at ground level.

Beam heights are modeled center-beam estimates recorded by the evidence packet. Coverage ratings describe retrieval geometry and do not guarantee that hail reached or damaged the property.

WEATHER SOURCES

| SOURCE                  | RECORDS REVIEWED               | STATUS  | PURPOSE                              |
|-------------------------|--------------------------------|---------|--------------------------------------|
| NOAA MRMS MESH          | Historical 60-minute grid      | Matched | Property-area hail estimate          |
| NCEI SWDI nx3hail       | 124 signatures / 74 scan times | Matched | Radar-hail timing and area magnitude |
| IEM Local Storm Reports | 4 hail reports                 | Matched | Time, size and distance evidence     |
| NCEI Storm Events       | 6 hail records                 | Matched | Historical event archive             |
| IEM ASOS                | 4 stations                     | Matched | Regional surface-weather context     |

Five weather-data sources returned relevant records. Geocoding is not counted as weather evidence. Local Storm Reports and Storm Events may describe the same underlying observations and are not treated as independent confirmations.

EVIDENCE SCORE

|                             |       |                         |       |
|-----------------------------|-------|-------------------------|-------|
| Radar beam quality          | 3 / 3 | Radar magnitude         | 3 / 3 |
| Temporal persistence        | 2 / 2 | Ground-report proximity | 4 / 4 |
| Radar/report size agreement | 2 / 2 | Station corroboration   | 2 / 2 |

Deterministic evidence score16 / 16

The size-agreement factor compares the 1.70-inch property-area MRMS estimate with the two nearby reports of 1.25 and 1.75 inches. The score summarizes configured evidence factors and is not an event probability.

MRMS ARCHIVE REVIEW

NOAA's public historical archive was queried for the 60-minute MESH product. At 18:40 CDT, the nearest grid cell was 42.3 mm (1.67 inches); the maximum within 0.6 miles was 43.1 mm (1.70 inches). Values were converted using 25.4 mm per inch.

LIMITATIONS

- MESH and SWDI values are radar-derived estimates, not physical hail measurements at the structure.
- A report's plotted point can differ from the exact place hail fell; distances are measured to reported coordinates.
- Local Storm Reports and Storm Events can contain related records; their counts should not be added as independent confirmations.
- ASOS stations are 18–44 miles from the property and provide regional context only.
- The 3.00-inch SWDI maximum occurred somewhere within the 25-mile search area, not necessarily at the property.
- This packet addresses meteorological evidence only. It does not determine impact, damage, repair scope, coverage or liability.

**Public edition.** The street address, claim identifiers, raw report narratives and source query boundaries are omitted. The property coordinate, times, rounded distances, magnitudes, source names and method notes are retained for review.

SOURCE DOCUMENTATION

1. [NOAA Multi-Radar/Multi-Sensor System on AWS](#) — historical MRMS archive.
2. [NSSL operational MRMS tables](#) — product cadence, units and definitions.
3. [NCEI Severe Weather Data Inventory](#) — radar and severe-weather data access.
4. [Iowa Environmental Mesonet LSR archive](#) — report archive and schema.

Weather records remain attributable to their source organizations. No affiliation or endorsement is implied.