



Report ID	AF838F1662E2	Generated	2026-03-31 00:11 UTC
Location	40.0062°N, 88.8597°W	Event Time	2025-05-15 06:00 PM CDT
Window (UTC)	2025-05-15 21:00 to 2025-05-16 03:00	Window (Local)	04:00 PM to 10:00 PM CDT
Timezone	America/Chicago	Search Radius	25 mi

Nearby Weather Stations

Station	Name	Dist (mi)	Bearing	Elev (ft)	Network
CL1588	I-72 @ US-36 / US-51	8.4	216.8° SW	650	IL_RWIS
DEC	DECATUR	11.9	181.5° S	679	IL_ASOS
CL1583	US-51 @ Heyworth	21.9	341.9° NNW	728	IL_RWIS

Station Observations

Station	Date	Time (UTC)	Temp (°F)	Dwpt (°F)	RH (%)	Wind (mph)	Gust (mph)	Dir (°)	Precip (in)	Wx	ΔT (°F)
DEC	2025-05-15	21:54	88	71	57.33%	25.3	38	200	0	M	*11.8**
DEC	2025-05-15	22:54	86	70	59.04%	25.3	40.3	210	0	M	*11.1**
DEC	2025-05-15	23:54	83	71	67.24%	27.6	35.7	200	0	M	8.5°
DEC	2025-05-16	00:54	72	67	84.3%	23	44.9	260	0.15	+TSRA	3.6°
DEC	2025-05-16	01:54	68	66	93.33%	4.6	—	250	0.3	M	*1.5**
DEC	2025-05-16	02:54	73	69	87.31%	11.5	—	230	0	M	2.9°
DEC	2025-05-16	03:54	73	66	78.74%	8.1	—	240	0	M	4.9°

RTMA Gridded Surface Analysis

RTMA (Real-Time Mesoscale Analysis) is a 2.5 km observation-assimilated surface analysis. Values are for the nearest grid point to the query location. Supplementary to station observations.

Time (UTC)	Temp (°F)	Dwpt (°F)	Wind (mph)	Dir (°)	Gust (mph)	Vis (mi)
05-15 21:00	89	72.2	26.1	196	37.3	9.9
05-15 22:00	88.1	71.8	28.7	205	36.6	9.9
05-15 23:00	86.5	73.1	28.2	209	37.3	9.9
05-16 00:00	82.2	71.6	32.9	195	37.5	7.7
05-16 01:00	73.1	62.4	20.2	234	38.8	6.9
05-16 02:00	70.1	67.1	7.6	178	28.7	9.9
05-16 03:00	71.6	65.2	13.5	198	13.5	9.9



Atmospheric Stability (HRRR Model Analysis)

HRRR (High-Resolution Rapid Refresh) 3 km analysis. PBL height, 925 mb temperature, and derived lapse rate are model-derived fields, not direct observations. Used for inversion detection.

Time (UTC)	2m Temp (°F)	2m Dwpt (°F)	Wind (mph)	Dir (°)	PBL Ht (m)	925 mb (°F)	Lapse Rate (°C/km)	Inversion
05-15 21:00	89.8	71.4	22.3	190	1347	78.5	-11.38	No
05-15 22:00	89.1	69.9	25.3	201	1721	78.9	-10.24	No
05-15 23:00	86.5	68.5	23.9	195	1176	77.6	-9	No
05-16 00:00	84.3	68.3	24.7	194	704	75.2	-9.18	No
05-16 01:00	75.3	65.3	24	214	293	74.5	-0.84	No
05-16 02:00	73.9	64.7	12.3	225	319	74.2	0.25	YES
05-16 03:00	72	64.8	10.8	189	355	71.2	-0.83	No

Radar-Derived Precipitation (MRMS)

Time (UTC)	Precip (mm)	Precip (in)
05-15 (daily total)	18.03	0.71
05-16 (daily total)	0.51	0.02
TOTAL	18.54	0.730

Conditions Assessment

Warnings

- [DEC 2025-05-15 21:54] Wind speed 25 mph exceeds label maximum (15 mph)
- [DEC 2025-05-15 21:54] Delta-T 11.8°F above label maximum (10°F) — excessive evaporation / fine droplet risk
- [DEC 2025-05-15 22:54] Wind speed 25 mph exceeds label maximum (15 mph)
- [DEC 2025-05-15 22:54] Delta-T 11.1°F above label maximum (10°F) — excessive evaporation / fine droplet risk
- [DEC 2025-05-15 23:54] Wind speed 28 mph exceeds label maximum (15 mph)
- [DEC 2025-05-16 00:54] Wind speed 23 mph exceeds label maximum (15 mph)
- [HRRR 05-16 01:00] PBL height 293 m — shallow boundary layer, poor atmospheric mixing
- [DEC 2025-05-16 01:54] Delta-T 1.5°F below label minimum (2°F) — inversion conditions likely
- [DEC 2025-05-16 01:54] Dewpoint depression 2.0°F — narrow spread indicates inversion development likely
- [HRRR 05-16 02:00] Temperature inversion indicated (lapse rate 0.25°C/km)

Informational

- [DEC 2025-05-16 00:54] Precipitation (RA) reported at station



Herbicide Label Reference Thresholds

Common weather-related restrictions from dicamba and 2,4-D product labels. Actual label requirements vary by product — always consult the specific product label.

Condition	Threshold	Concern
Wind Speed (max)	> 15 mph sustained	Off-target drift movement
Wind Speed (min)	< 3 mph (calm/variable)	Inversion conditions, unpredictable drift
Delta-T (min)	< 2°F	Temperature inversion likely present
Delta-T (max)	> 10°F	Excessive evaporation, fine droplets
PBL Height (model)	< 300 m	Shallow mixing layer, poor dispersion
Dewpoint Depression	< 3°F	Near-saturation, inversion development
Fog/Mist/Haze	FG, BR, or HZ present weather	Observational evidence of inversion

Data Sources & Methodology

Station Observations: NWS ASOS/AWOS routine METAR and special observations for the analysis window.

RTMA Surface Analysis: NOAA/NCEP Real-Time Mesoscale Analysis (RTMA) 2.5 km CONUS domain — observation-assimilated gridded surface analysis.

HRRR Model Analysis: NOAA High-Resolution Rapid Refresh (HRRR) 3 km analysis fields — PBL height, 2m temperature, 925 mb temperature.

MRMS Precipitation: NOAA Multi-Radar Multi-Sensor (MRMS) gauge-corrected hourly quantitative precipitation estimate.

Wet Bulb / Delta-T: Stull (2011) empirical approximation. J. Appl. Meteor. Climatol., 50, 2267–2269.

DISCLAIMER: This report is generated using automated retrieval and analysis of publicly available NOAA data products. Gridded model fields (HRRR, RTMA) are analysis output, not direct observations, and are subject to model limitations. Station observations are from automated surface observing systems and may contain instrumentation artifacts. This report is intended as supporting documentation and does not constitute a certified weather observation or expert meteorological opinion. For use in legal proceedings, the report should be reviewed and attested to by a Certified Consulting Meteorologist (CCM). The generating party assumes no liability for decisions made based on this report.

