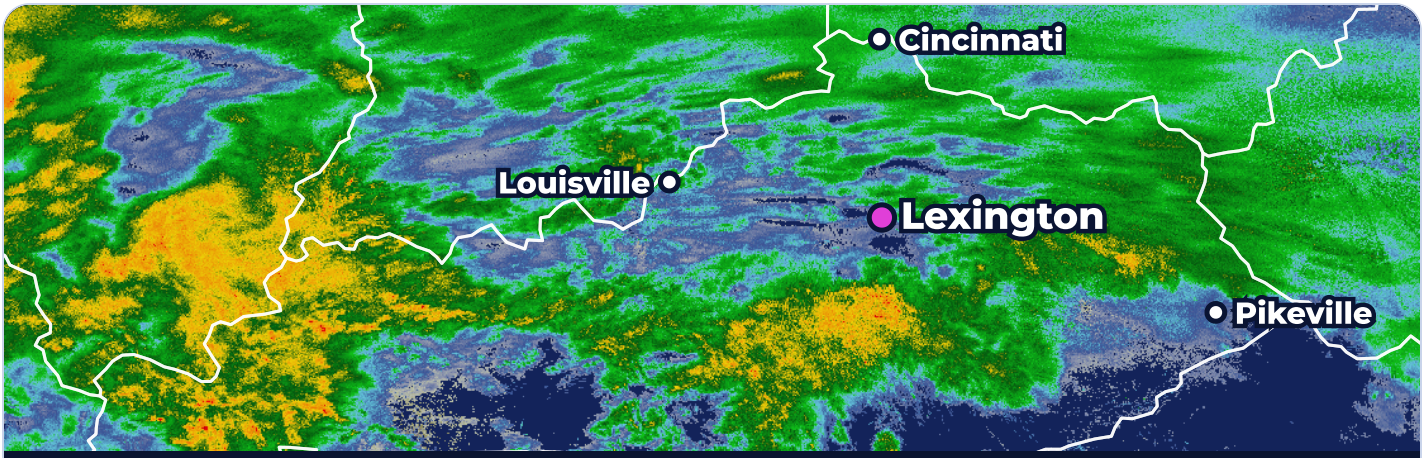
MISSION 3 · GRADES 6-8 · BRIEFING A

Read the Storm

Real radar and real airport reports from Lexington, Kentucky.

Name _____

Date _____



Sunday, January 5, 2025, 3:00 PM: the storm covers Kentucky light heavy NWS NEXRAD radar via Iowa Environmental Mesonet, January 5, 2025, 3:00 PM EST

Lexington airport	Temp	Falling	Precip
Sun 2:53 PM	27°F	Light snow	0.06
Sun 3:17 PM	27°F	Light freezing rain	trace
Sun 4:54 PM	29°F	Freezing rain	0.06
Sun 5:54 PM	30°F	Freezing rain	0.12
Sun 6:54 PM	31°F	Freezing rain	0.21
Sun 7:54 PM	32°F	Light freezing rain	0.11
Sun 9:54 PM	32°F	Mixed (likely sleet)	0.07
Mon 2:54 AM	32°F	Mixed (likely sleet)	0.03
Mon 7:54 AM	27°F	Mixed (likely sleet)	0.01
Mon 8:12 AM	26°F	Light snow	trace

OFFICIAL TOTALS, SUNDAY

5.5 inches of snow and 1.22 inches of precipitation (melted) at Lexington.

DECODE IT

Precip: water that fell in the hour before each report, in inches. Mixed: the sensor couldn't name it.

1. About what time did snow turn to freezing rain? _____

2. Temperature range during the freezing rain: _____

3. Freezing rain falls as liquid and freezes when it hits the ground. Why is it worse for school buses than snow?

4. Add the precipitation from the 4:54 PM report through the 7:54 PM report: _____ inches in 4 hours

Data: NWS NEXRAD and KLEX observations via the Iowa Environmental Mesonet; NWS daily climate report

Free from Snow Day Radar

MISSION 3 · GRADES 6-8 · BRIEFING B

The 4 AM Call

You're the superintendent. Open, delay, close, or learn at home?

Name _____

Date _____

It's 4:30 AM Monday. You're the superintendent of a central Kentucky district. Road crews have been checking bus routes since 3 AM. Buses leave at 6:30. Every family in the district is waiting on you.

The warning

The National Weather Service has a **Winter Storm Warning** in effect.

The roads

About **5½ inches of snow** fell Sunday, then **freezing rain** glazed it with ice.

The cold

32°F and falling. Forecast for bus time: about 27°F, with a wind chill near **15°F**.

The odds

Snow Day Radar, Sunday evening: **80%**, a strong chance of no in-person school.

1 **Make the call:**

☐ **Open on time** ☐ **2-hour delay** ☐ **Closed** ☐ **Learning day at home**

CLAIM

My decision is right because...

_____

_____

_____

EVIDENCE

Three facts that back it up:

_____

_____

_____

WHO IT AFFECTS

Three groups and how:

_____

_____

_____

2 Snow Day Radar said 80%, not 100%. How should a superintendent use a forecast like that?

_____

_____

What really happened: Lexington's district didn't wait for 4 AM. On Sunday evening it called off Monday for students, then stayed closed all week. Side roads were still iced in, bus stops were dangerously cold and some schools had heating problems.

Facts: NWS, airport observations, Snow Day Radar's Jan 6, 2025 run; decision: Kentucky Department of Education

Free from Snow Day Radar

MISSION 3 · GRADES 6-8 · BRIEFING C

Snow from Space

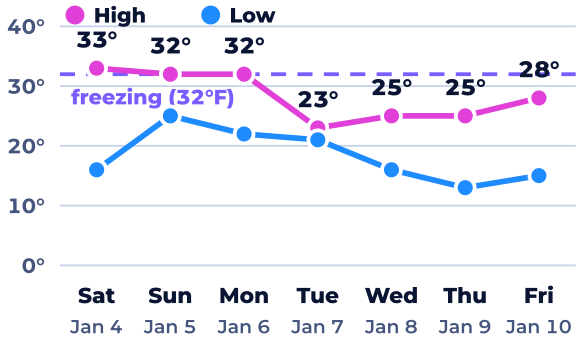
Why the 3-day forecast missed, seen from a satellite.

Name _____

Date _____



Thursday, January 9, 2025: four days after the storm, Kentucky is still white NASA Worldview / VIIRS, January 9, 2025



Day	Snow Day Radar said Sunday	Schools
Mon Jan 6	80% (next school day)	**Closed**
Tue Jan 7	60% (2-day outlook)	**Closed**
Wed Jan 8	under 5% (3-day outlook)	**Closed**

AIR MASSES

Behind the storm, cold, dry arctic air from Canada flowed in. Highs never got above freezing, and 4 to 6 inches of snow stayed on the ground all week.

1 Monday to Friday, how many days was the high at or below 32°F? _____

2 Why do 2- and 3-day outlooks use bigger steps?

3 Snow Day Radar said *under 5%* for Wednesday, but schools closed. Use the satellite picture, the chart and the reading to give two reasons.

4 Teach Snow Day Radar: what should it watch after a big storm?

Image: NASA Worldview / VIIRS. Data: NWS daily climate report for Lexington; KDE weather days (Jan 6, 7, 8 and 10)

Free from Snow Day Radar