

Regional Science Olympiad

2005 Meteorology Answer Sheet

Names Answer Key

School Name _____

School Number _____

- 1) Yes sea-surface temperatures above 80°F
No intense wind shear
Yes small (but present) Coriolis force
No moving over a land surface
- 2) C
- 3) OK Winds are 58 mph or higher OR there is hail $\frac{3}{4}$ of an inch in diameter (or larger).
None 3 inches of rain are expected in the next 6 hours.
MN Snow and/or blowing snow is reducing visibility to $\frac{1}{4}$ mile or less for 3 hours or longer.
FL Winds between 39 mph and 73 mph are occurring now or will be soon.
OK Severe thunderstorms are occurring now or will be in the next few minutes.
None Temperatures are well below freezing at the surface.
MN Frequent gusts of wind to 35 mph or greater, or sustained winds of 35 mph or greater, are expected to occur within the next few hours.
None A tornado has been spotted in the city.

4) B

5)

 C

 A

 D

 B

6) D

7) A

8) February Which month on average has the least number of tornadoes?

May Which month in 2003 had the greatest number of tornadoes?

~85 How many more tornadoes occurred in May 2003 than average?

9) B

10) A

11) Lightning – Myth or Fact

MYTH People struck by lightning carry an electrical charge and should not be touched.

MYTH If it is not raining, then there is no danger from lightning.

FACT The average flash of lightning will light a 100 watt bulb for more than three months.

MYTH Lightning never strikes the same place twice.

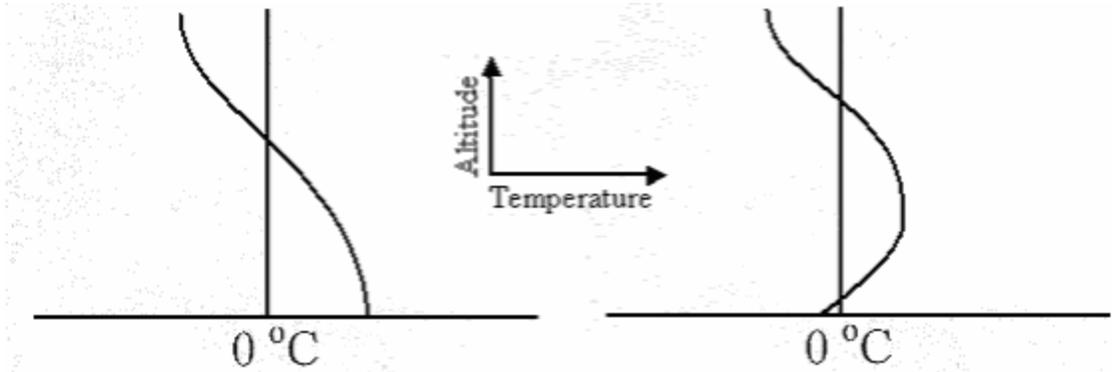
FACT If you feel your hair stand on end during a storm, crouch down to the ground – you are in danger of being struck by lightning!

FACT If you are caught outdoors during an electrical storm, one of the safest places to be is in your car.

FACT It is unsafe to be indoors near appliances or plumbing during a lightning event.

MYTH The rubber soles of your shoes will protect you from being struck by lightning.

12) Temperature Profiles:

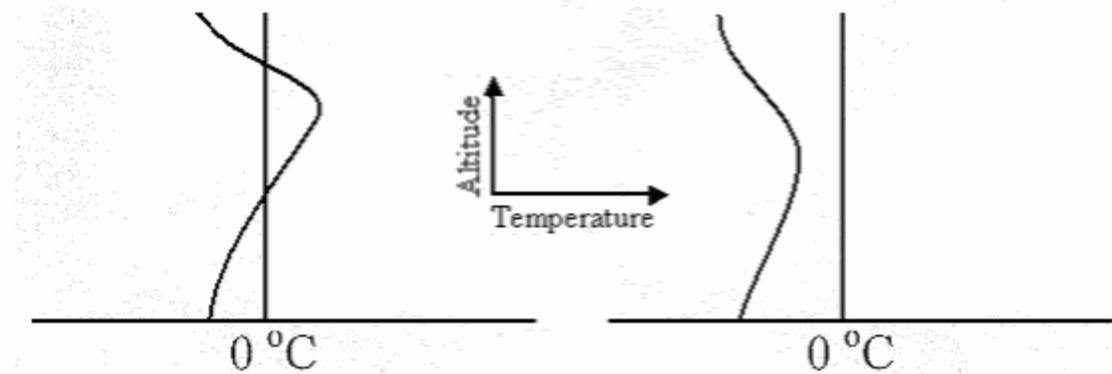


Location: D

Location: C

Precipitation Type: Rain

Precipitation Type: Freezing Rain



Location: B

Location: A

Precipitation Type: Sleet

Precipitation Type: Snow

13) Supercell Thunderstorm Diagram:

A Hail

B Heavy Rain

C Light Rain

D No Precipitation

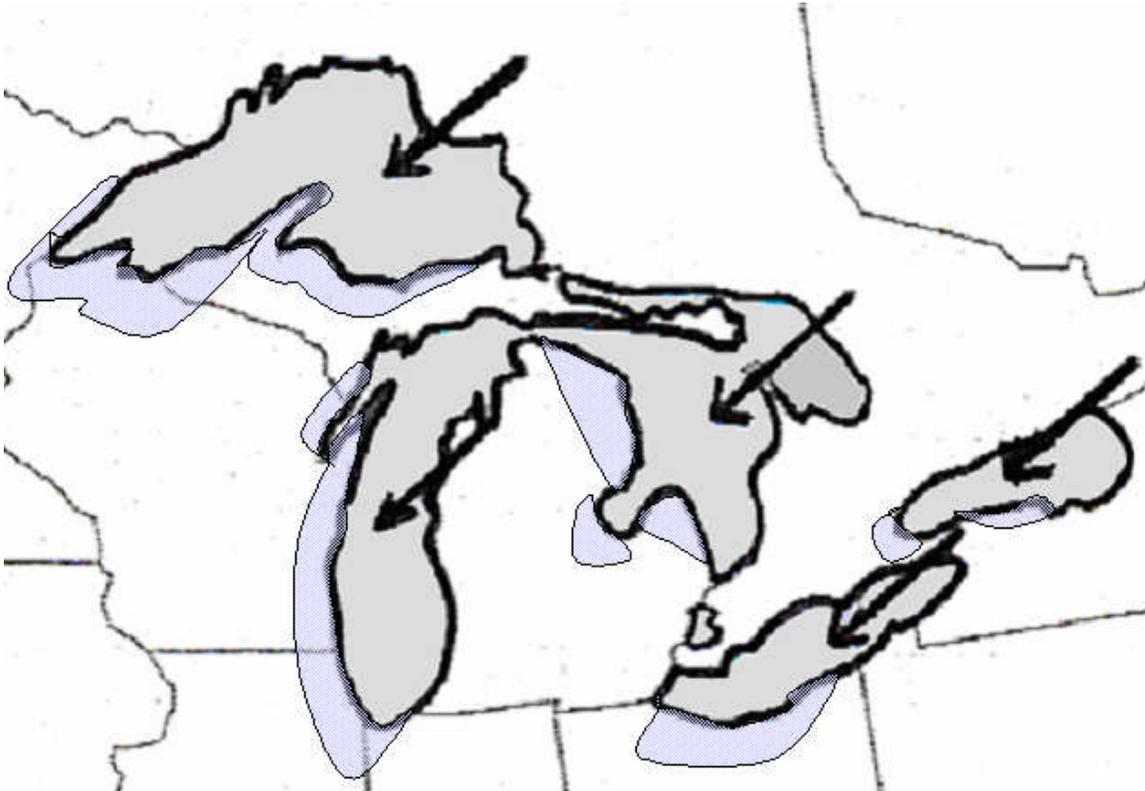
14) Radar Analysis:

A Supercell _____

B Squall Line _____

C Multicell cluster _____

15) Lake Effect Snow

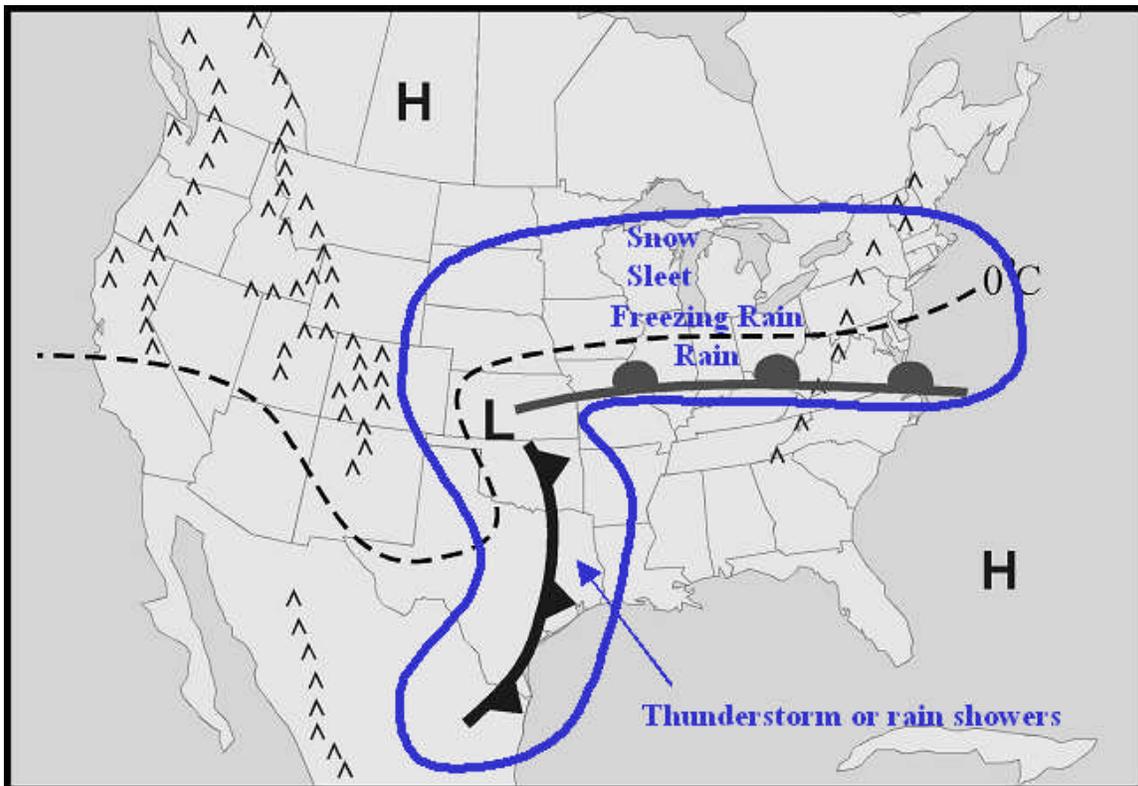


Scale: = 50 miles

Tie Breaker Question 1



Tie Breaker Question 2



Credits:

1. “Severe and Hazardous Weather” by Rauber, Walsh, and Charlevoix were used in creating the Myth/Fact questions, question number 12, and Tie Breaker number 2.
2. “Meteorology Today” by Aherns for question number 6.
3. Storm Prediction Center for outline maps
4. UIUC for radar and satellite images
5. Mike Wilson, Joe Brewer, Redina Herman, and Mike Spinar for writing and submitting the exam.