

Name: _____

Date: _____ Period: _____

Lab Activity: Atmospheric Variables

INTRODUCTION:

A meteorologist is an individual with specialized education who uses scientific principles to explain, understand, observe or forecast the earth's atmospheric phenomena and/or how the atmosphere affects the earth and life on the planet.

To make an accurate weather forecast, meteorologists observe and record all different type of weather variable. Some of these variables include temperature, air pressure, wind velocities, wind directions, and precipitation amounts. When these weather variables are mapped together on a synoptic map a picture of past and present conditions emerges.

OBJECTIVE:

To construct field maps to and learn how weather variables help identify a pattern that can help forecast future weather events.

VOCABULARY:

Isotherm -

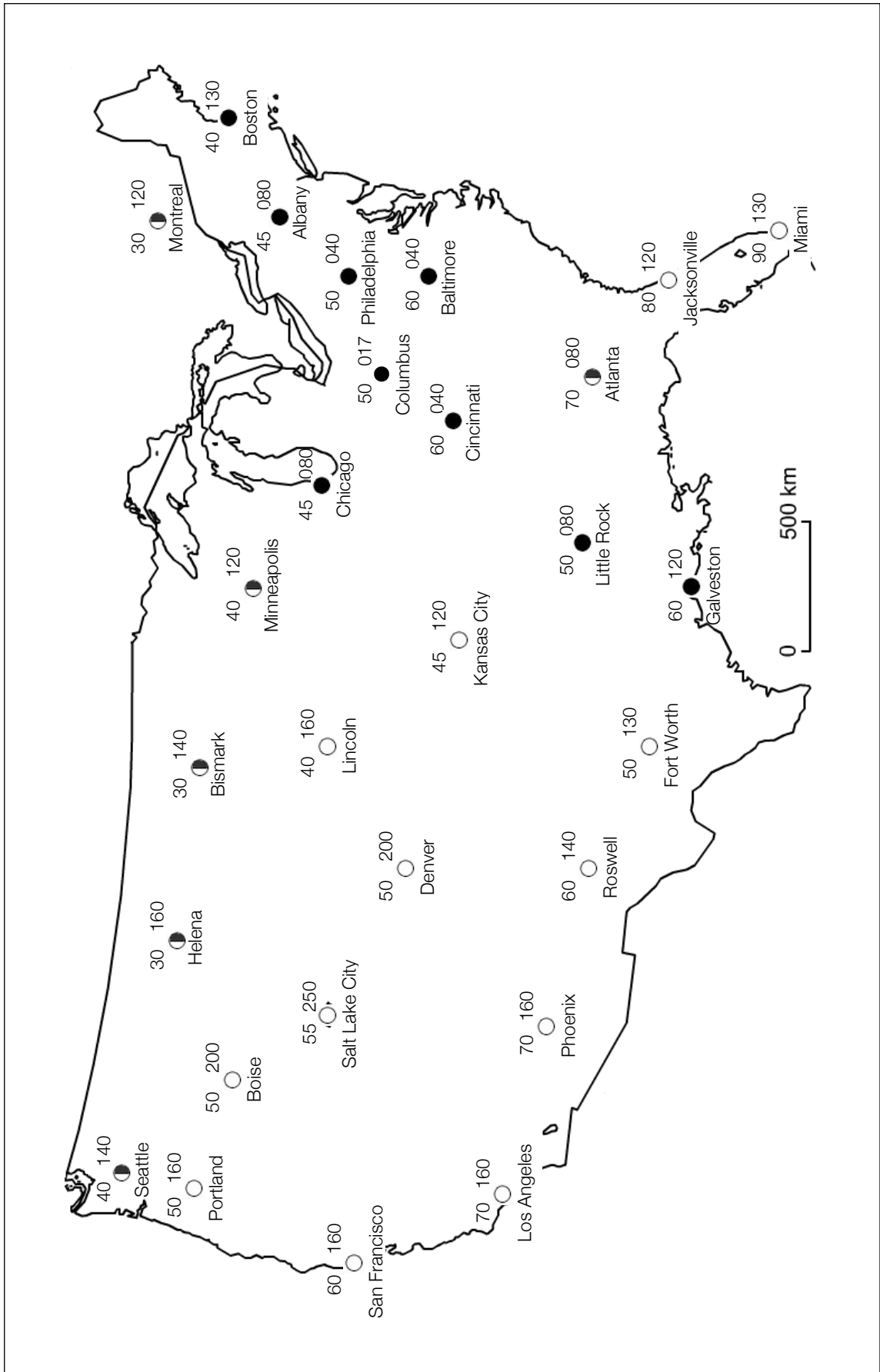
Isobar -

Low Pressure -

High Pressure -

Gradient -

Map B: Pressure



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PROCEDURE C:

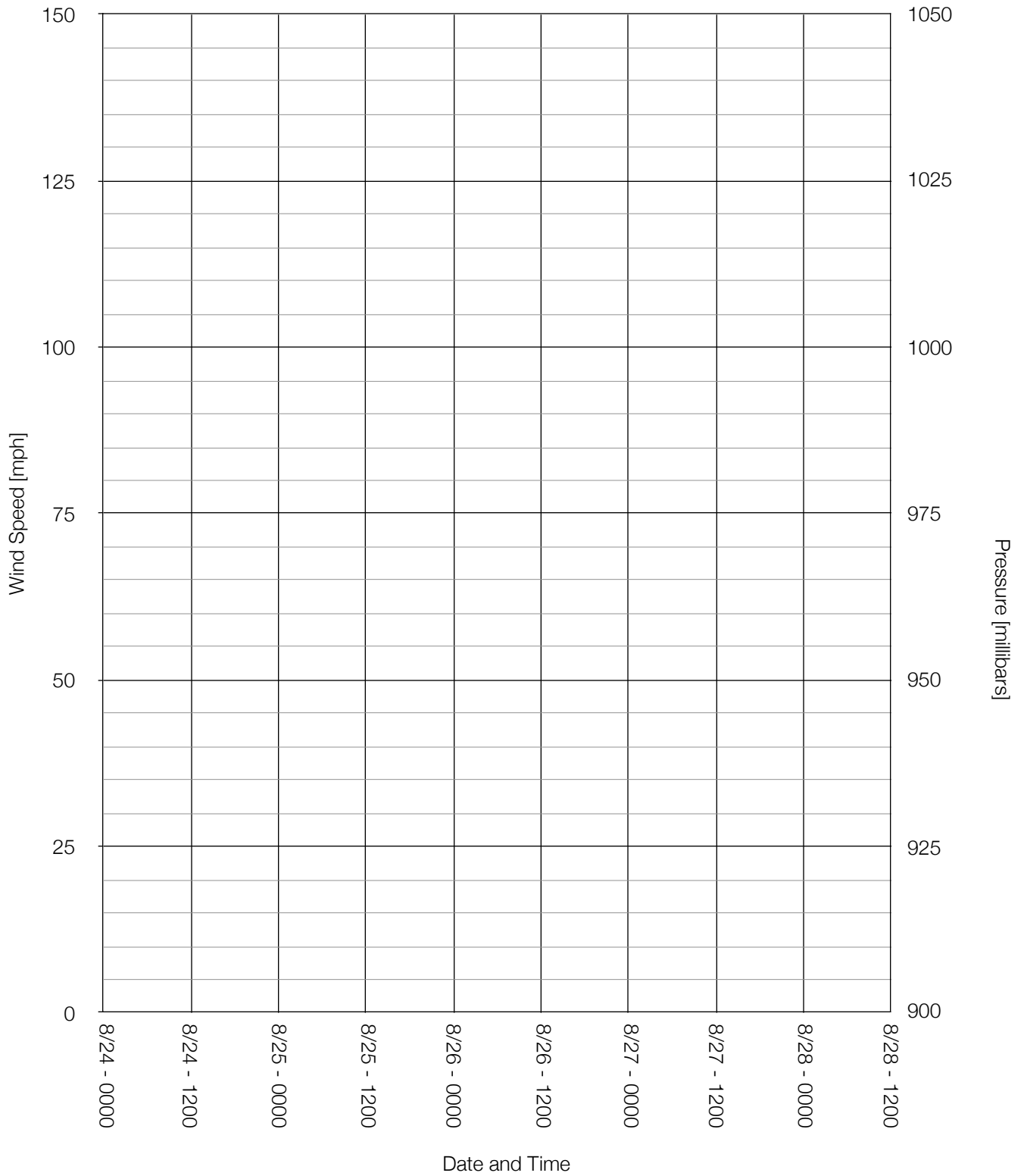
Using the Hurricane Katrina Data Chart below, plot the air pressure and wind speed on the Hurricane Katrina Graph. Please note that the windspeed is on the left hand x-axis and the pressure is on the right hand side of the x-axis.

HURRICANE KATRINA DATA CHART

Date / Time [2005]	Wind Speed [mph]	Pressure [millibars]
8/24 - 0000	30	1007
8/24 - 1200	35	1006
8/25 - 0000	45	1000
8/25 - 1200	55	994
8/26 - 0000	70	983
8/26 - 1200	75	979
8/27 - 0000	90	959
8/27 - 1200	100	942
8/28 - 0000	100	941
8/28 - 1200	145	909

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HURRICANE KATRINA GRAPH



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DISCUSSION QUESTIONS:

1. What type of pressure is associated with cloudy skies or bad weather?
2. What type of pressure is associated with clear skies and fair weather?
3. Is the weather for a region static or dynamic? Explain your answer.
4. What type of relationship exists between wind speed and pressure?
5. List some variables that meteorologist can use to help forecast weather?

CONCLUSION: How can synoptic weather maps help us forecast weather patterns?