

Name: _____

Date: _____ Period: _____

Lab Activity: Weather 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 types of weather variables. 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:

Synoptic Weather Map -

Isotherm -

Isobar -

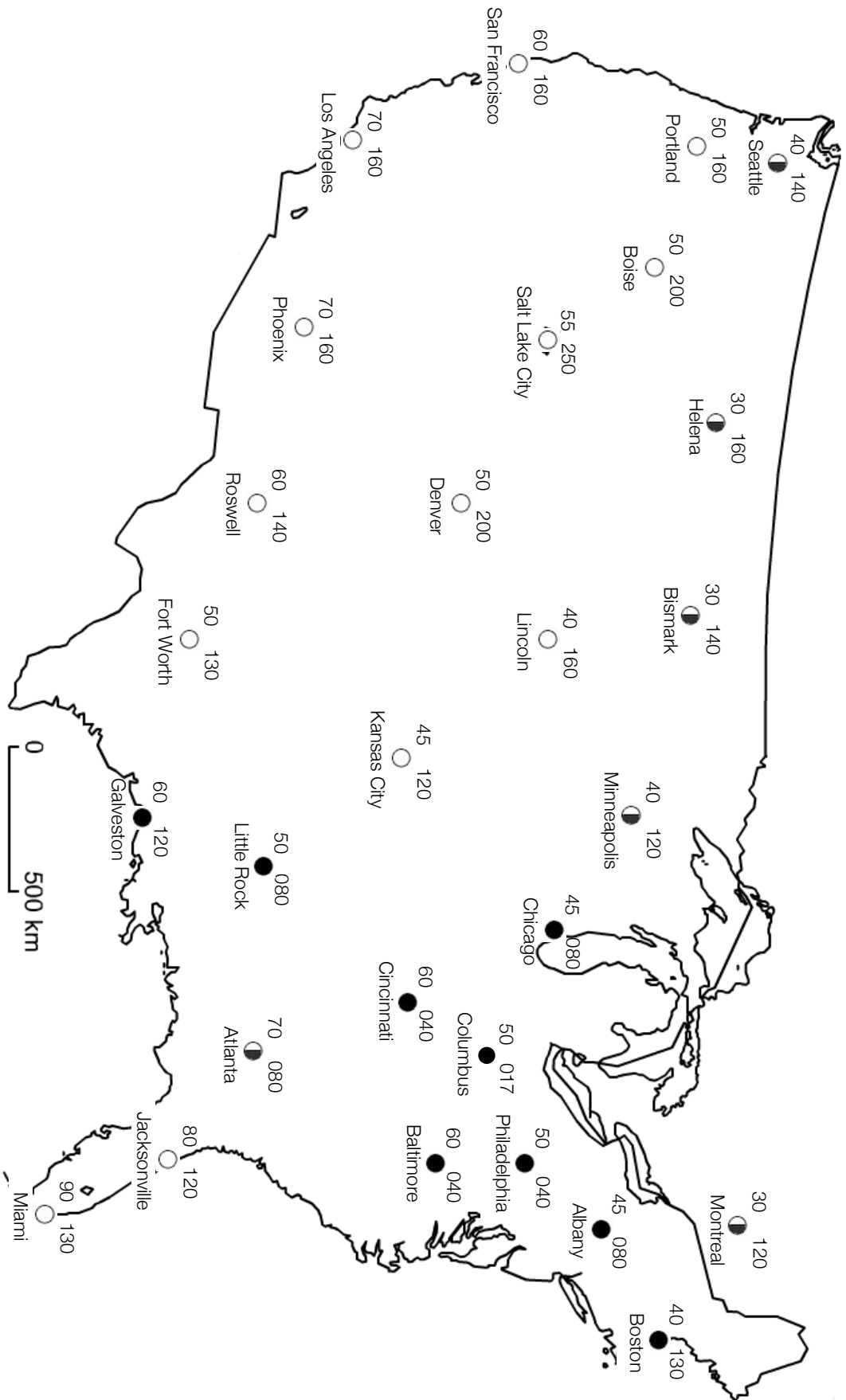
Low Pressure -

High Pressure -

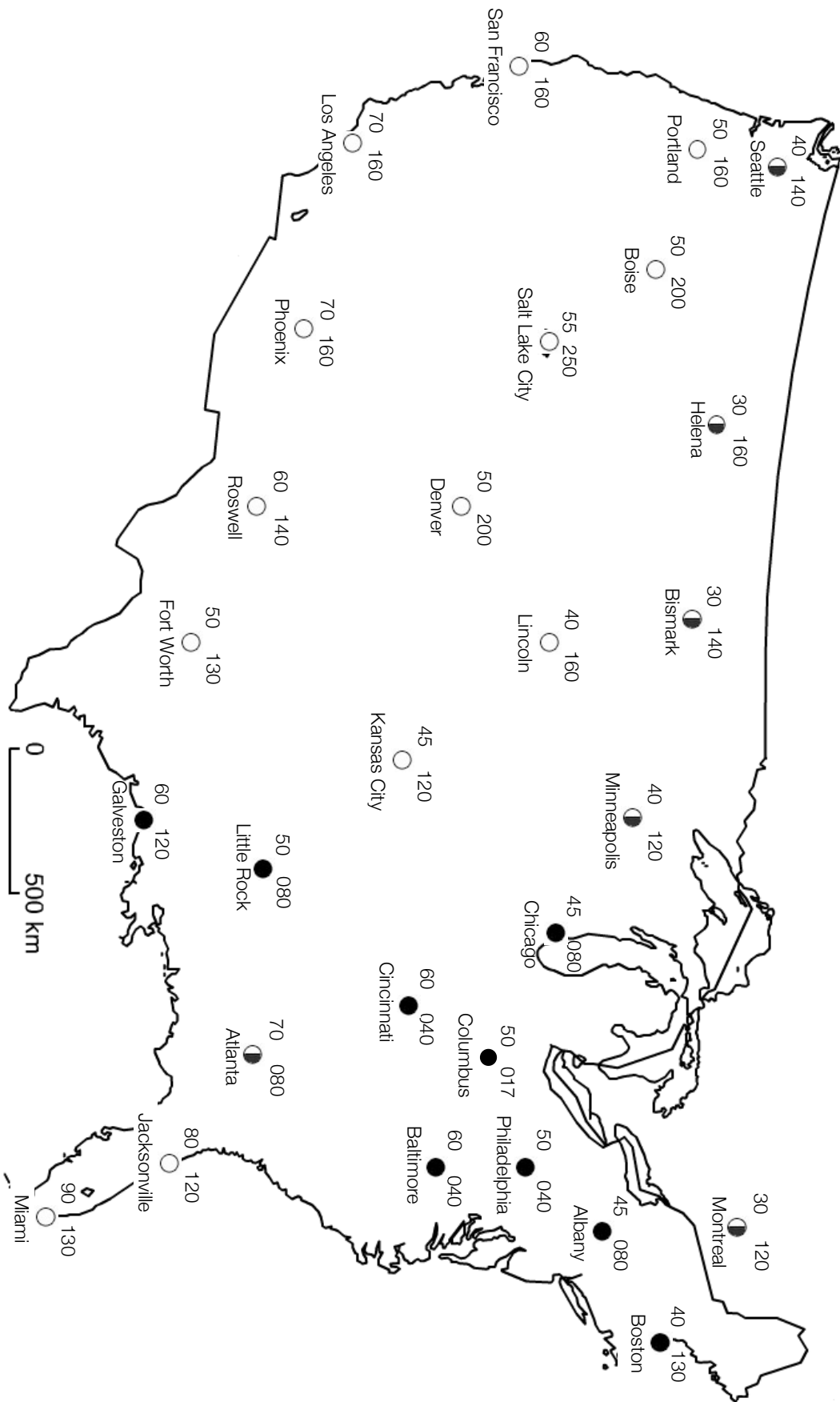
Direct Relationship -

Inverse Relationship -

Map A: Temperature



Map B: Air Pressure



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PROCEDURE C:

Using the data chart, plot the air pressure and wind speed on the graph.

DISCUSSION QUESTIONS:

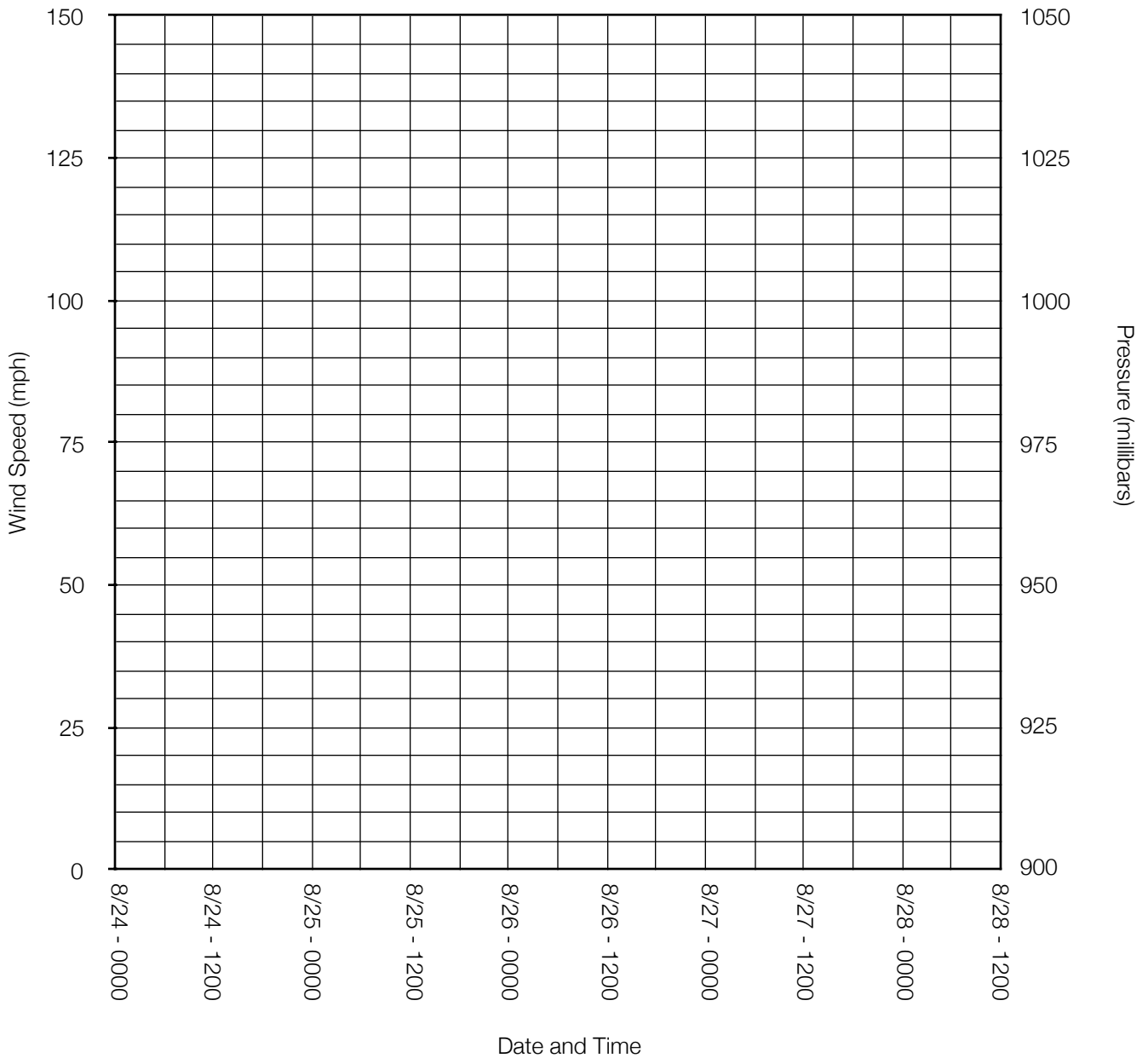
1. What is the general surface wind pattern around a high pressure system?
2. What is the general surface wind pattern around a low pressure system?
3. What type of relationship exists between time and windspeed?
4. What type of relationship exists between time and pressure?
5. What happened to the wind speed as the pressure decreased?

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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

Date / Time (2005)	Wind Speed (mph)	Pressure (millibars)
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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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. List some variables that meteorologist can use to help forecast weather?

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