

TOPIC : Energy Exchanges in the Atmosphere

LAB : WEATHER PATTERNS

INTRODUCTION: A basic principle in the earth sciences is that energy is constantly bringing about changes. In order to understand the changing earth, we must understand the energy systems at play within the environment which cause these changes.

The study of energy interactions within the atmosphere leads to the identification of systems that can be mapped as field quantities. A series of composite maps showing these atmospheric variables provides a picture of past and present conditions. Such a composite map is called a "synoptic" map. Weather forecasting is based on a series of synoptic maps.

OBJECTIVE: You will construct field maps and learn to identify patterns that can be used to predict weather.

PROCEDURE A:

1. On Map A use a pencil to lightly draw isotherms at a 10-degree interval.
2. Check carefully to be sure that the isotherms are correct, then darken them.

DISCUSSION QUESTIONS: *(Answer in Complete Sentences)*

1. What is the general appearance of the isotherms on this map?

2. How does the temperature change from north to south on this map?

3. Near which cities is the temperature gradient the greatest?

4. Calculate the temperature gradient between Galveston and Kansas City. **SHOW ALL WORK AND LABEL PROPERLY.**

