Air Pressure and Wind

NAME: key key key key key

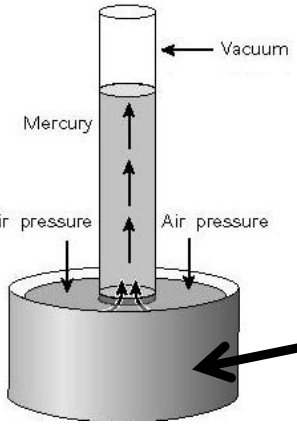
Weather Instruments

What am I and what do I measure???

anemometer
wind speed

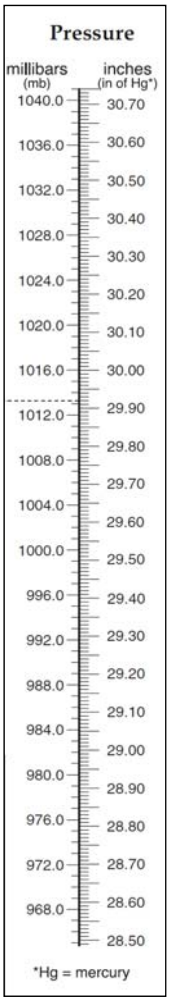
wind vane
wind
direction

aneroid barometer
air pressure



mercury
barometer
air pressure

Pressure Conversion



Covert the following:

1.) 1010mb = 29.82 in of Hg

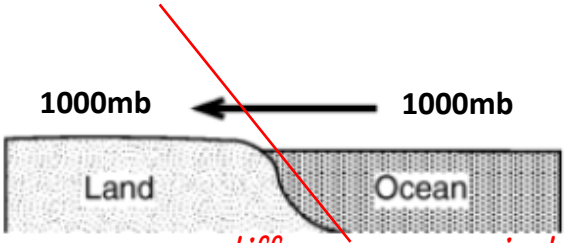
2.) 29.23in = 990.0 mb

3.) 1028.5mb = 30.37 in of Hg

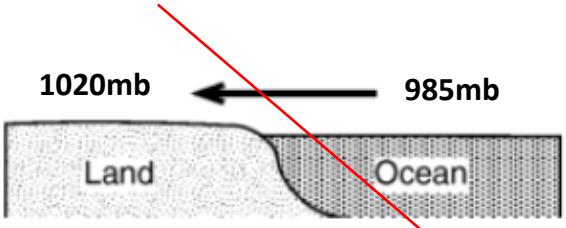
4.) 29.60in = 1002.5 mb

Wind and Pressure Differences

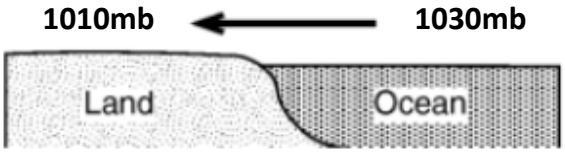
Which diagram correctly shows the air pressure differences that would cause the wind to blow the fastest from the ocean to the land?



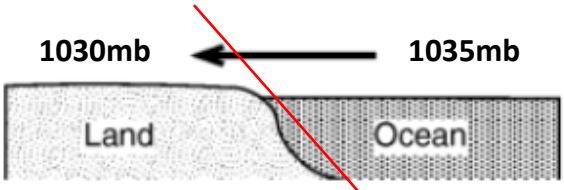
no pressure difference=no wind



air blows from H to L, not L to H.

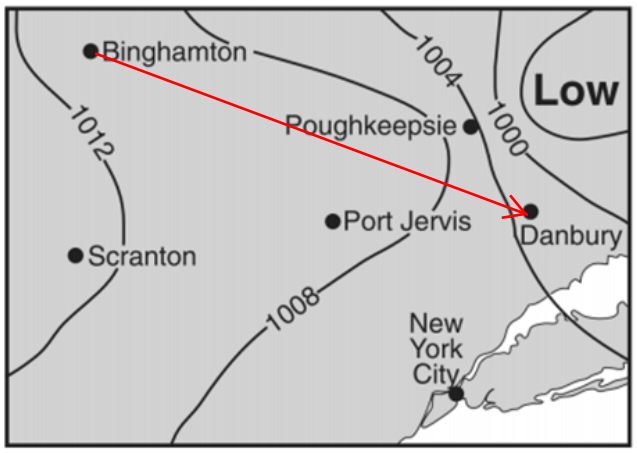


This one, cuz it has the greatest difference in air pressure.



Air pressure difference is only 5mb... winds not very fast here.

Air Pressure and Wind Direction



Surface winds are most likely blowing from

A. Danbury toward New York City

B. Poughkeepsie toward Scranton

C. Binghamton toward Danbury

D. Port Jervis toward Binghamton

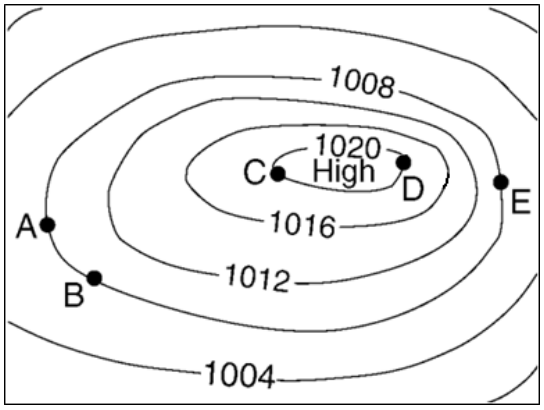
winds blow from high to low pressure

1. **Draw an arrow connecting the 2 cities you chose to the left showing the wind direction.**

2. **Name the wind based upon the arrow direction.**

northwest wind

Wind Speed



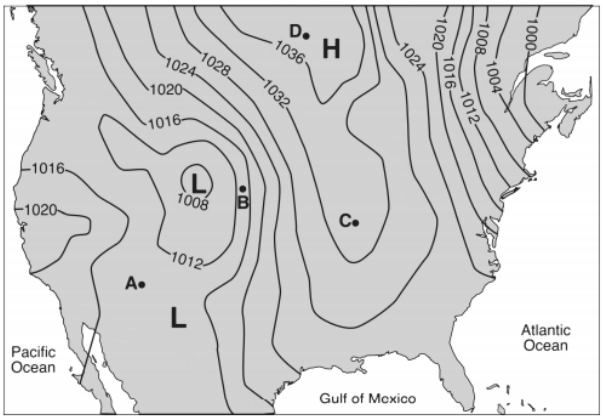
Between which two locations is the wind speed greatest?

A. *A* and *B* B. *B* and *C*

C. *C* and *D* D. *D* and *E*

most isobar lines in between

(greatest pressure change)



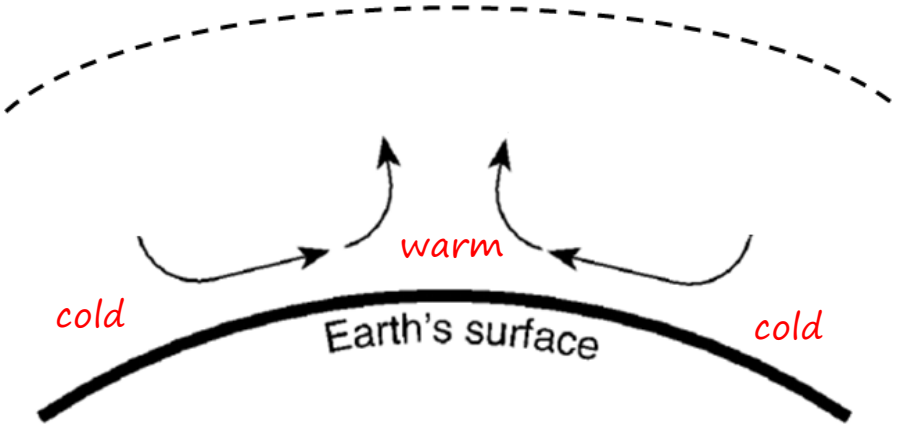
Which location was probably experiencing the highest wind speed?

A. A B. B C. C D. D

Energy Transfer in the Atmosphere

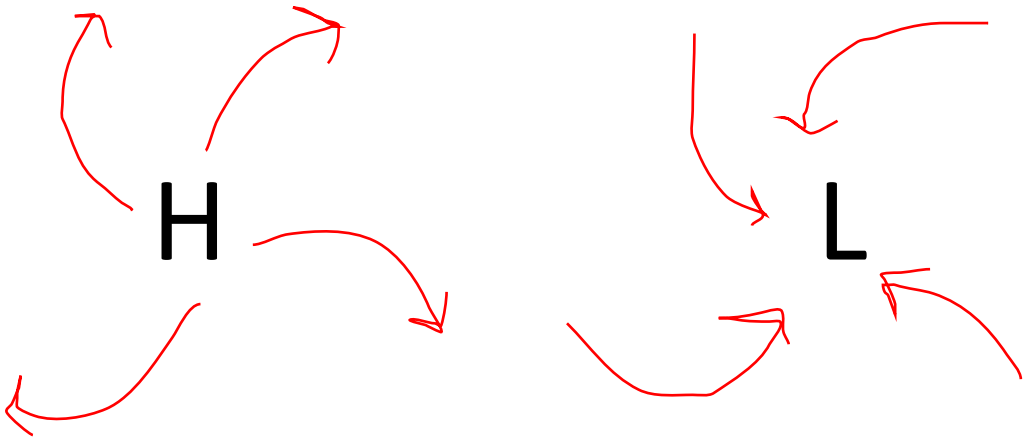
1. *Different temperatures in Earth's atmosphere cause the air to move, which we know as wind. What type of energy transfer is this?* Convection

2. *Based on the direction of the arrows below, label areas at the Earth's surface where it is relatively cold and where it is relatively warm.*



High and Low Pressure Systems

Draw 4 arrows around the high and 4 around the low to show the movement of air (wind) around each pressure center.



Jet Stream

1. *Place an "X" on NYS.*
2. *Draw an arrow across North America to represent the direction of the Polar Jet Stream.*
3. *According to where you drew the jet stream, label where the air is relatively warm and where it is relatively cool.*