

AMS Peer Training Module

Jet Streams

Activity: The Polar Front Jet Stream

1. See figure 1.
2. Gondola path would approximately follow the heavy arrow representing the jet stream high-speed wind core. This path would exit the contiguous U.S. in Maine.
3. Representative speeds at wind arrows along the path from Washington to Maine are about: 110 kts, 100 kts, 90 kts, 90 kts, 70 kts, 95 kts, 80 kts, 90 kts. Therefore, the average speed along the ground would be about 90 knots (105 mph).
4. Consider the case of a boat drifting along a swift flowing stream. If you drop a piece of wood alongside the boat, the boat and wood would flow together. There is no relative difference in their speeds.
5. slower, the same
6. See figure 2.
7. Figure 2 (left), Figure 1 (right)
8. low
9. New England
10. If a commercial airliner could fly at 500 kts relative to the air, a flight from San Francisco to Washington, DC would travel at about 580 knots relative to the ground (average wind speeds about 80 kts). Going east to west would be at a speed of only about 420 knots, taking longer for that same distance.

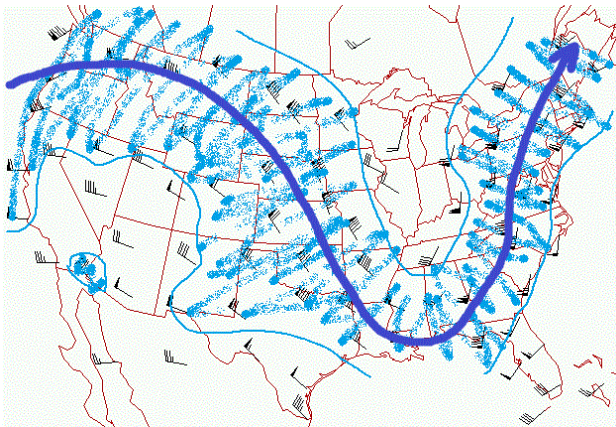


Figure 1.

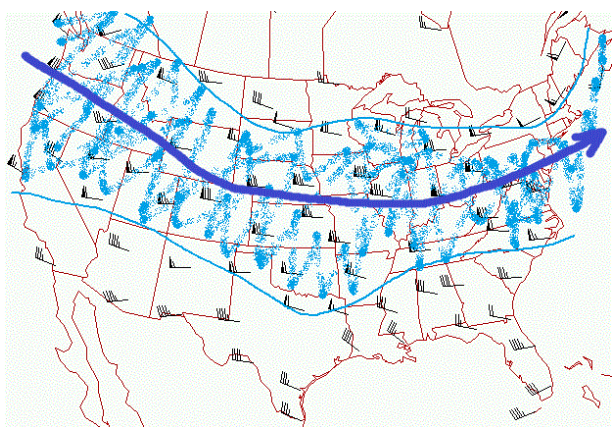


Figure 2.

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Activity: Pressure, Air Pressure and Jet Streams

1. equal
2. twice
3. twice the
4. equal
5. greater
6. equal
7. three-fourths
8. one-third
9. increases
10. shorter, more dense
11. more
12. 12,200 m
13. inclined
14. downward
15. higher than
16. 500 mb
17. lower than
18. 5300 m
19. higher

Real World Applications

1. warmer
2. red
3. lower
4. would
5. is
6. Figure 1