

Today's Objective:

What Causes Global Winds?

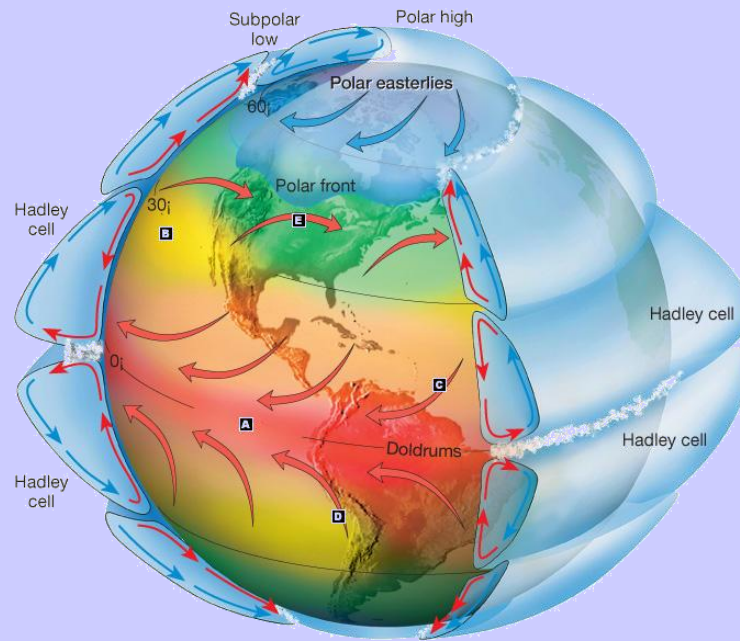


Do Now:

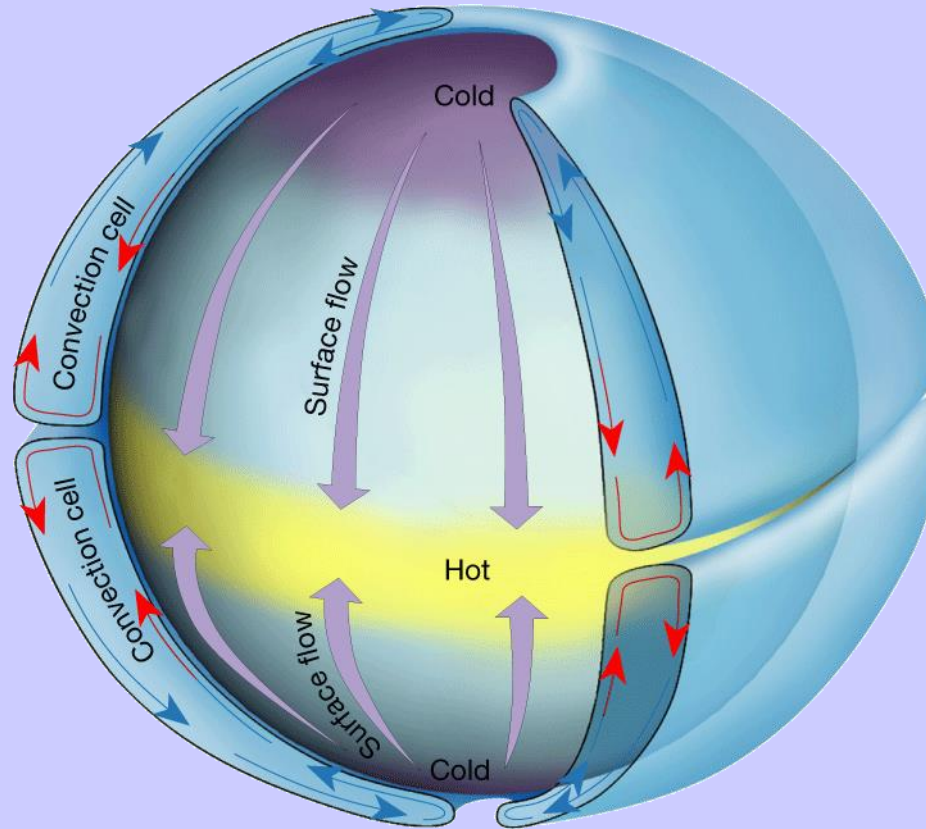
What does it mean if something is “global”?

Global Winds

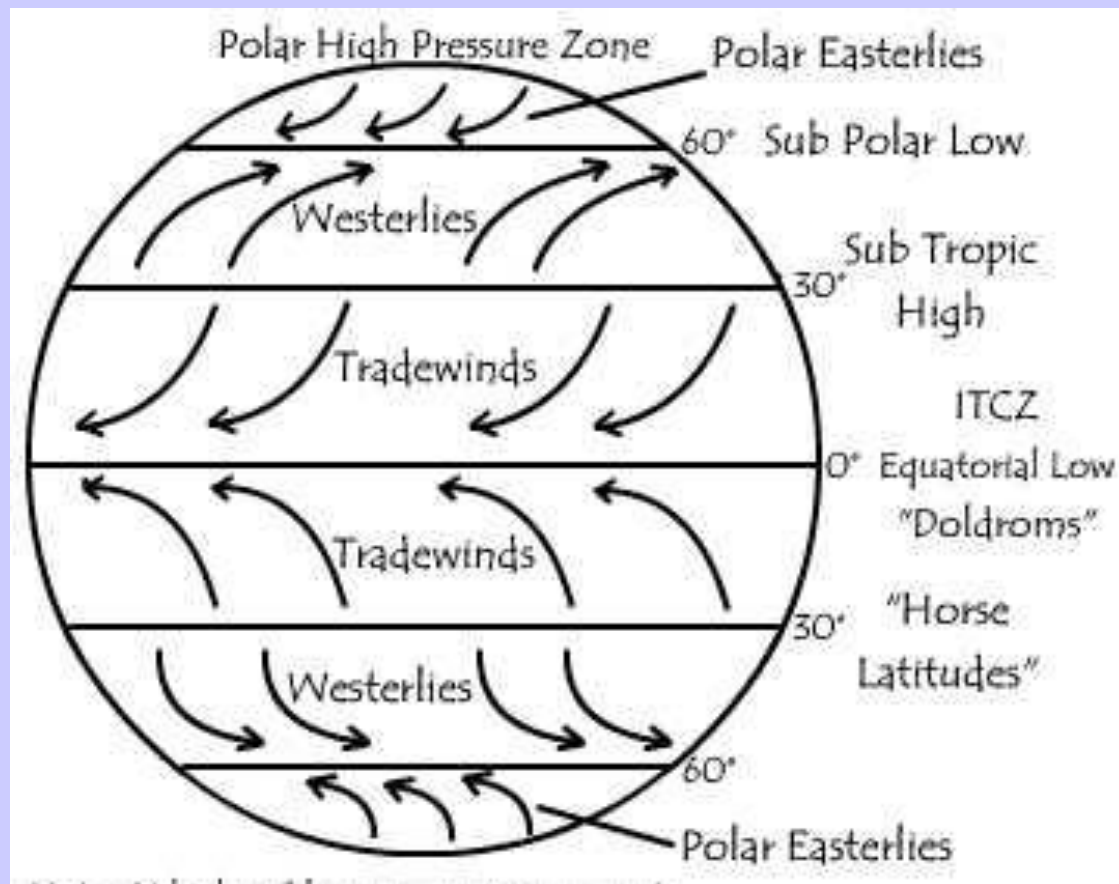
- Are caused by unequal heating of the Earth's surface
- These winds blow from a specific direction



- At the equator the warm air rises and moves toward the poles.
- At the poles the cooler air sinks and moves toward the equator.



Wind is named based on the direction it comes from *(not going to)*



***DO NOT COPY ***

Earth's has four major wind belts

Doldrums – at the equator (calm)

Trade Winds – 30 degrees north and south (few clouds and little rain fall)

Prevailing Westerlies – 40 – 60 degrees north and south (Because of the Coriolis effect winds seem to move from west to east.)

Polar Easterlies - 60 to 90 degrees north and south (Because of the Coriolis effect winds seem to move from east to west.)

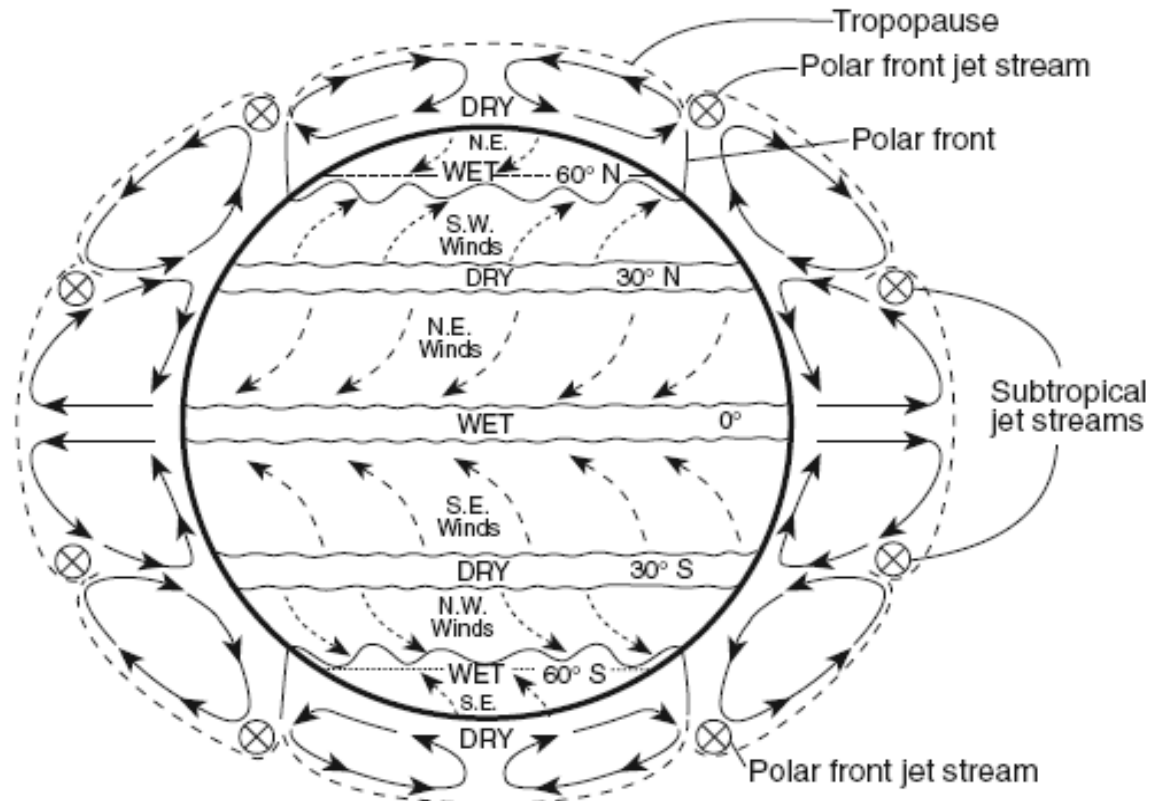
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- Arrows show the air movement between specific latitude
- These winds DO NOT travel in a straight path because of the Coriolis Effect.

Planetary Wind and Moisture Belts in the Troposphere

The drawing on the right shows the locations of the belts near the time of an equinox. The locations shift somewhat with the changing latitude of the Sun's vertical ray. In the Northern Hemisphere, the belts shift northward in the summer and southward in the winter.

(Not drawn to scale)

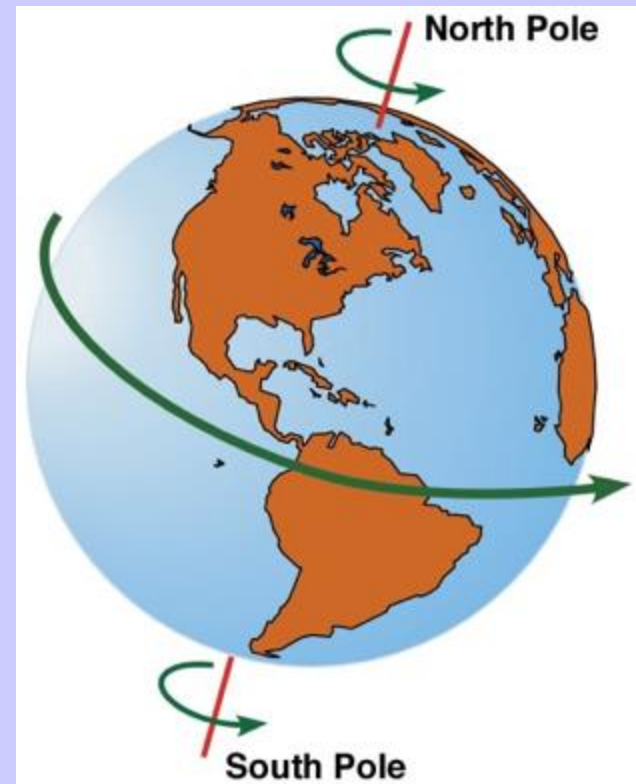


Coriolis Effect



The Coriolis Effect

- Caused by the rotation of the Earth on its axis (rotation)
- Responsible for curving the path of air and ocean currents across the Earth



The Coriolis Effect

- Winds in the *northern* hemisphere curve to the *right*
- Winds in the *southern* hemisphere curve to the *left*.

