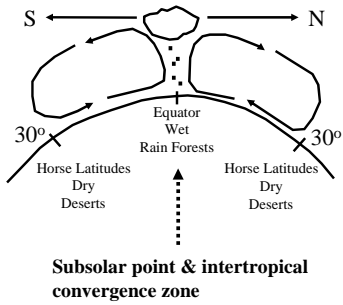


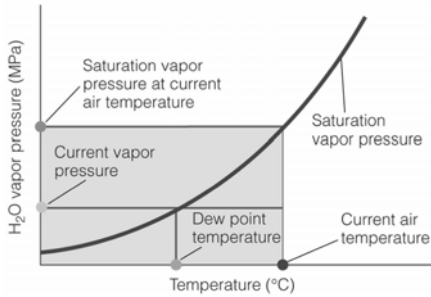
Atmospheric Circulation Affects Climate

- Influences the location of rain forests & deserts.
- Can influence seasonal rainfall patterns in the tropics.
- Can interact with surface topography to create rain shadows.

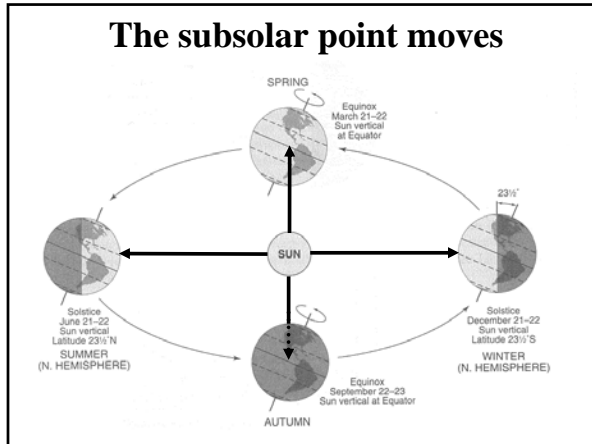
Tropical Hadley Cells

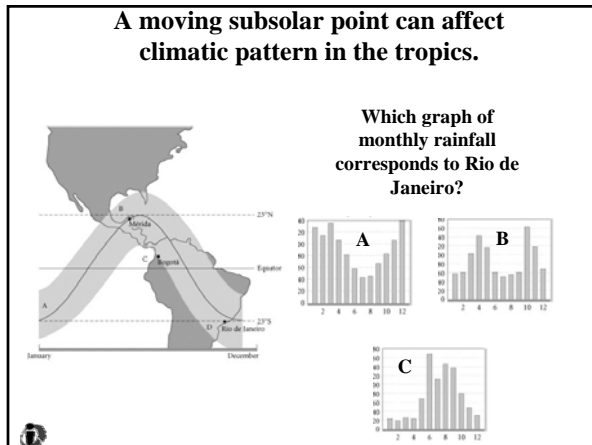


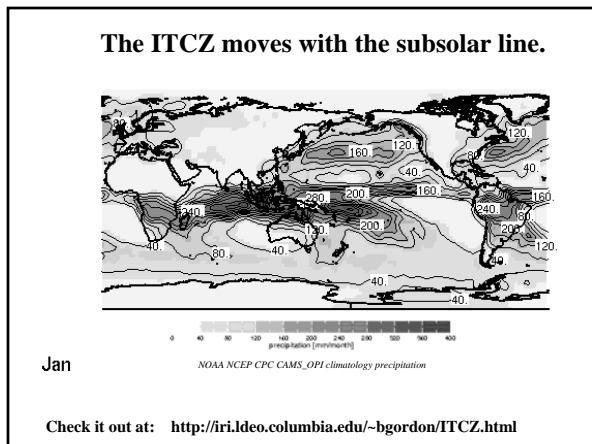
$$\text{Relative humidity} = \frac{\text{current VP}}{\text{saturation VP}} \times 100$$



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**Pacific slope of Panama during dry season
January through April**

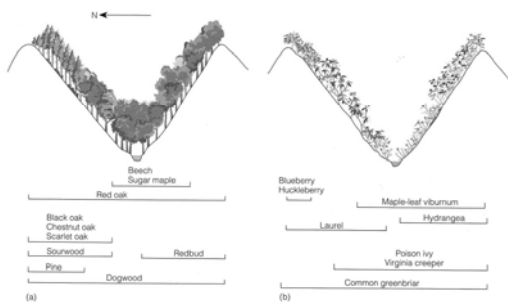


Thought Question

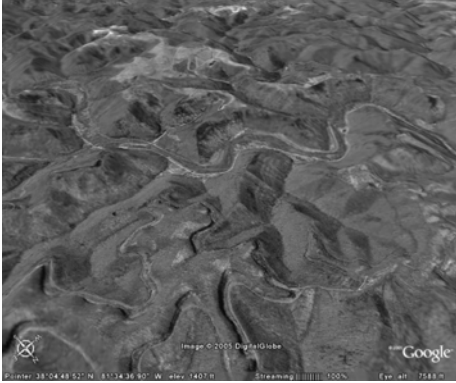
If the angle between the orbital plane of the Earth around the Sun and the plane formed by the Earth's equator were to decrease (currently it's 23.5°), what effect would this have on the seasons in the N. Hemisphere?

If the angle were 0°, when would an equinox occur?

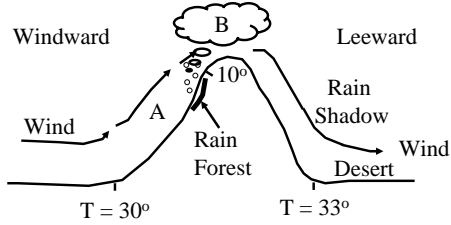
**Sun Angle Effects Microclimate of
North- & South-facing Slopes in the
Mid-Latitudes**



Outside of the Tropics, slopes that face the sun capture more energy than those that face away from it.

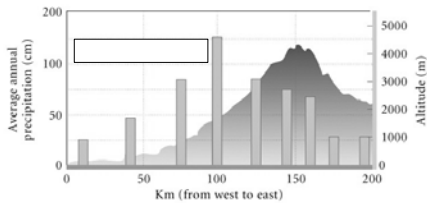


Orographic Effect



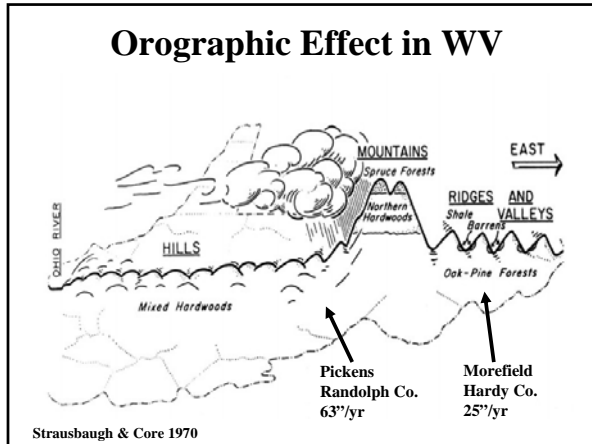
- A. Air rises & cools (adiabatic cooling @ 6°C/km)
- B. As air cools it reaches its saturation vapor density - then it rains.

Where might these mountains be found?



- A) 40° N latitude
- B) 10° N latitude
- C) 45° S latitude
- D) Both A & C





Ocean Circulation Can Affect:

- Regional climate.
- The price of fish.

