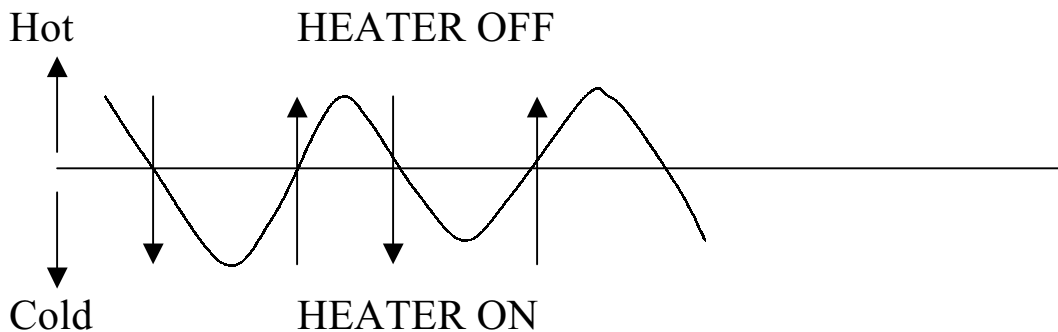


What drives storm systems?
How do sea surface temperatures control weather on the Earth?

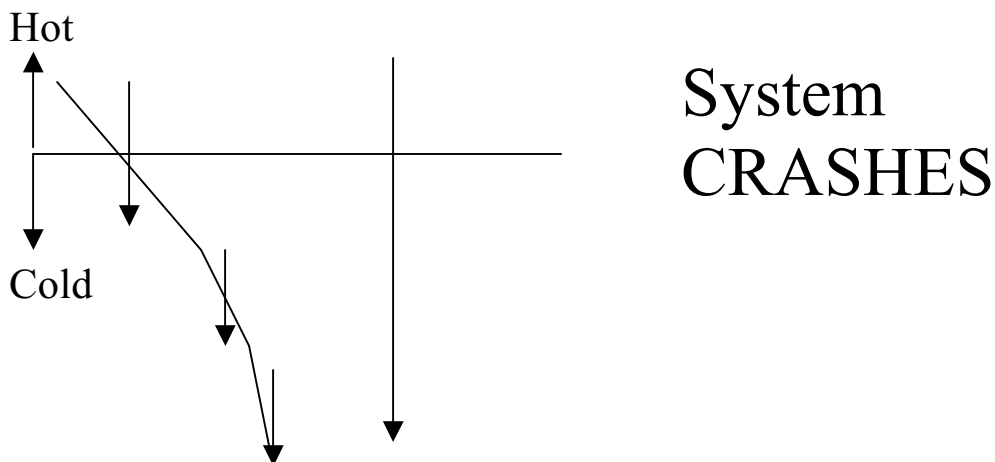
Hurricanes, Typhoons or Cyclones
- born offshore and die on continent

FEEDBACK

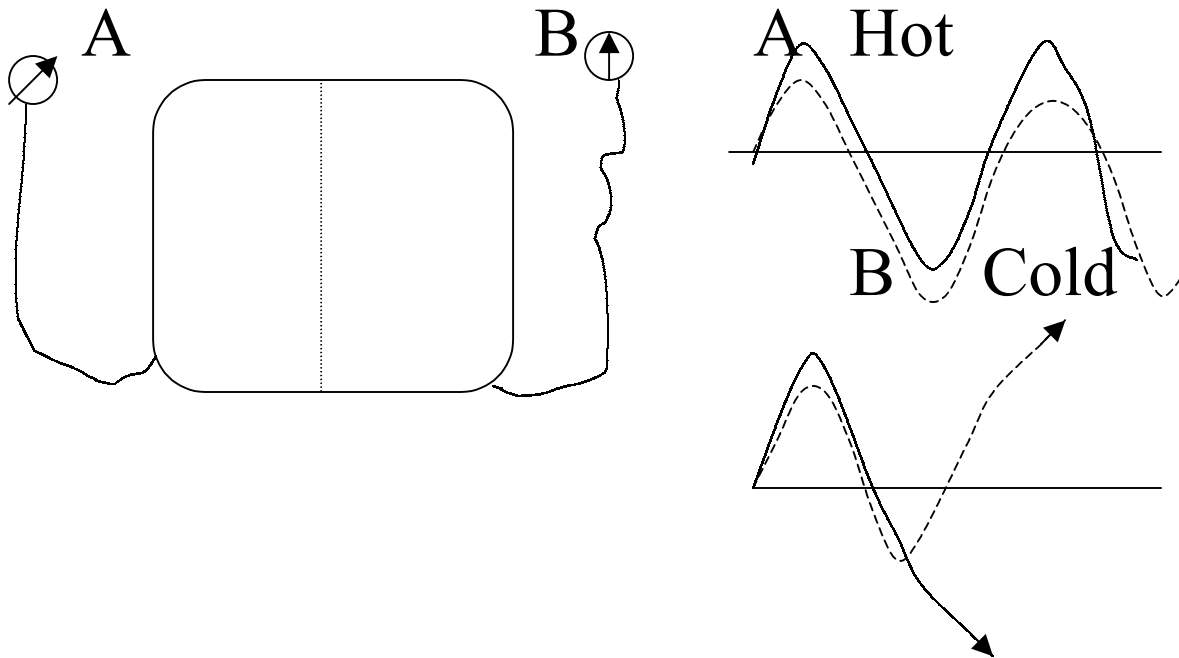
Negative feedback → Reverse trends
(How does a thermostat work?)



Positive feedback → reinforces trends



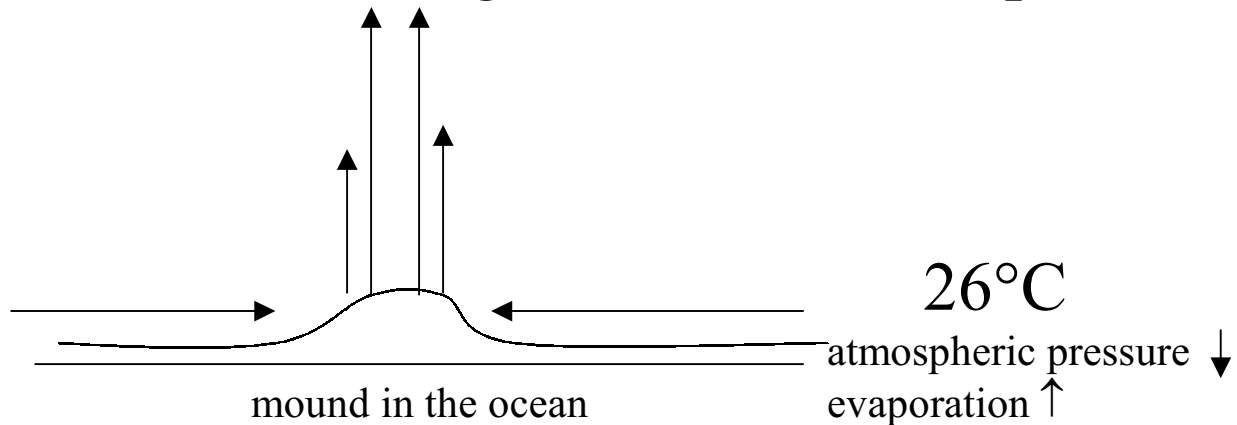
Example: Electric blanket



Scientists studying Positive and Negative feedback.

Tropical cyclones

Heat and water brought by rising air into the atmosphere



See Figure 8.22

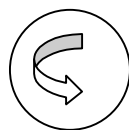
Low pressure cell
tropical depression

Evaporation cools air and surface water.
Wind moves the cell to new warm
position
→ Positive feedback

Warm ocean water is the fuel for the
storm.

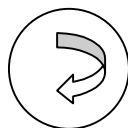
Winds from 130km/hour to 300km/hour
(energy of 1 mill. tons of TNT)

No hurricanes along Equator.
Because the Coriolis effect is zero.



Hurricane eye Counterclockwise

————— Equator



Clockwise rotation

See Figures 8.24 & 8.12

Once the eye moves away from the WARM OCEAN WATER it will die out.

1. continent
2. cold ocean water northward

When do hurricanes occur?

August – October → big pool of warm water on the surface

Extratropical cyclones

***Polar front** between Polar cell & Ferrel cell

