

Sea Level Change on a Global Scale

Glaciers
Ice Ages
Plate Tectonics
Air/Water Temperature

Changes in Global Sea Level: Glaciers

- If glaciers . . .
 - Melt = rising sea levels
 - Refreeze = decreasing sea levels
- Currently, the melting of glaciers is causing a slow rise in the average global sea level (1-2 mm/year).



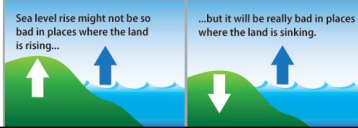
Changes in Global Sea Level: Ice Ages

- DURING an ice age, sea levels decrease.
- AT THE END OF an ice age, sea levels increase.
- Currently, Earth is not in or at the end of an ice age.



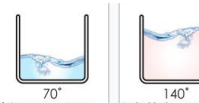
Changing the Ocean: Plate Tectonics

- Plate tectonics change sea level by changing the configuration and amount of land.
 - Increased land area = increase in sea level
 - Decreased land area = decrease in sea level
- Currently, the land area is decreasing and would lower sea levels 0.3mm/year IF there were NO other factors!



Current Change in Global Sea Level

- It is RISING! Why?
 - Increase in the average global temperature
 - Causes melting of glaciers, sea ice, and the polar ice caps
 - Thermal Expansion
 - As the ocean temperature increases, the water expands on a molecular level, taking up more space, making the oceans deeper.



Effects of Rising Sea Level

- Flooding of coastal areas
- Destruction of estuary habitat (no other similar habitat for those organisms)
- Increased salt water intrusion in coastal areas

