

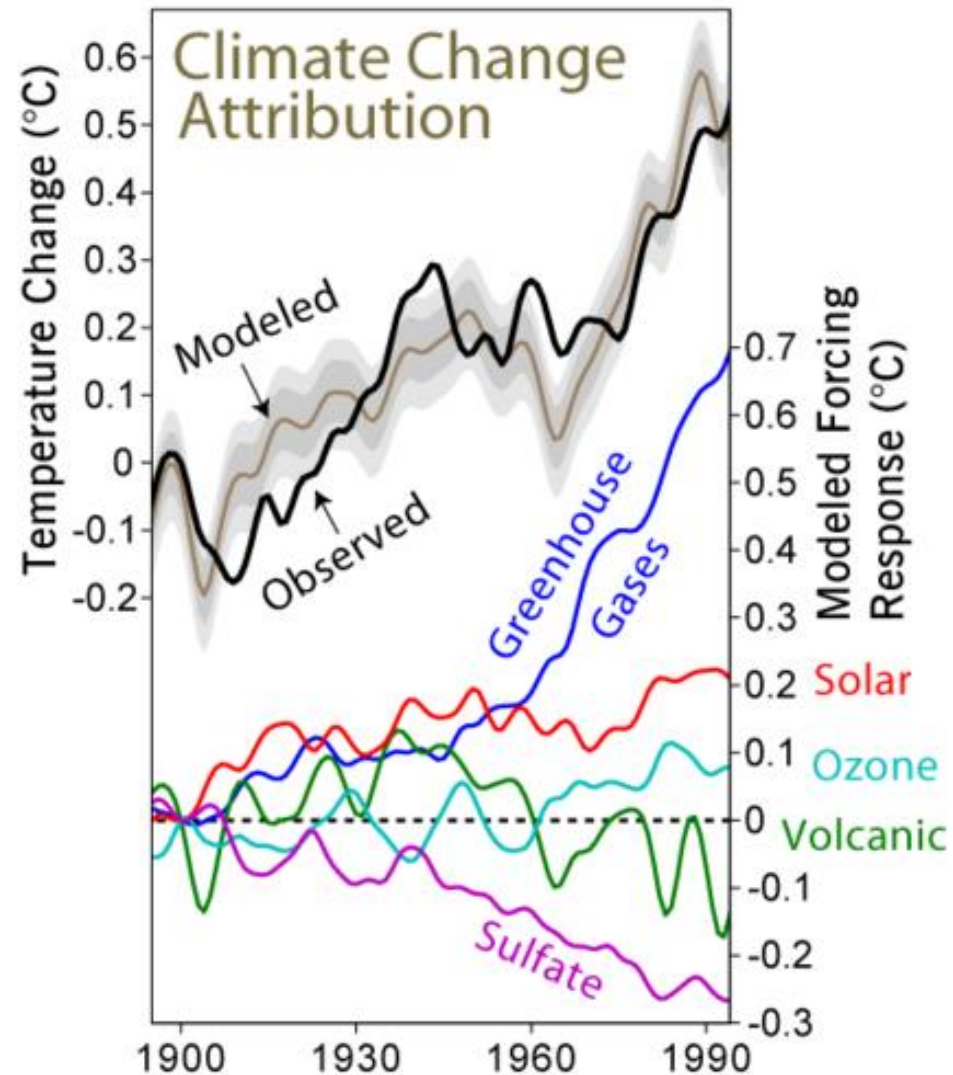
Handout 1 (pink) Climate

Climate Change



For page 13

- Weather
 - What is happening today.
 - Temperature, Humidity, Dew Point, and Air Pressure
- Climate
 - The patterns of weather that occur over periods of time.
 - Temperature and Rain Fall



1. What two questions do scientists work to answer?

- Is the climate really changing?
- If it is changing what is the cause?



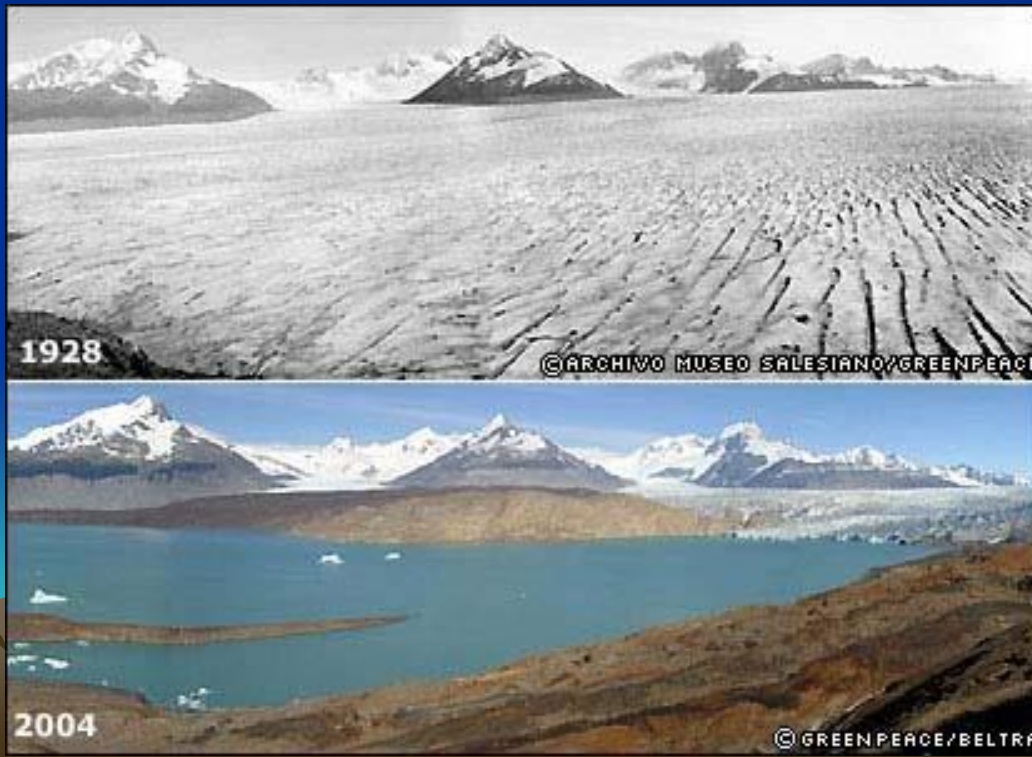
2. Define *climatologist*.

- Scientists who gather data to study and compare past and present climates and to predict future climate change.



3. What practice helps climatologists make predictions about future climates?

- Look at past climates to find patterns in the changes that occur.



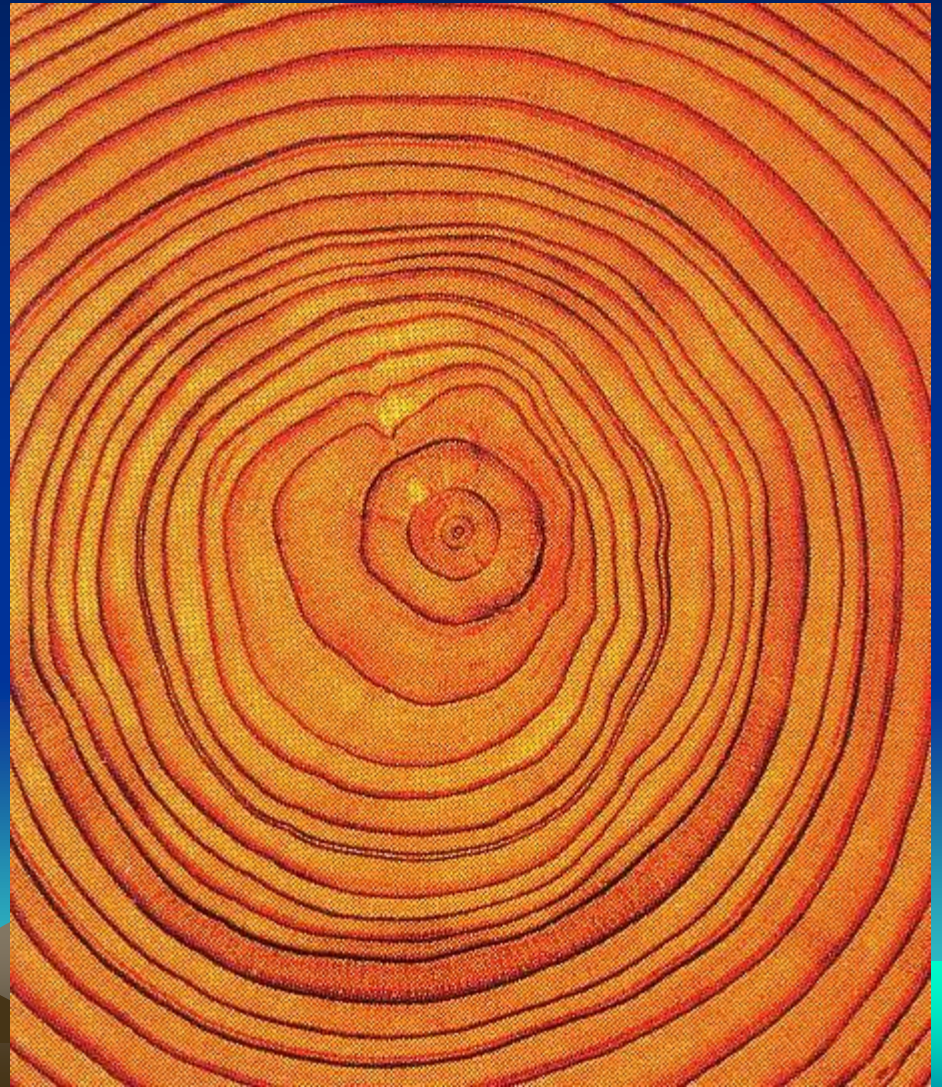
4. When scientists find high ^{18}O levels in _____, they know that the water was cool in the past.

- sea-floor sediment



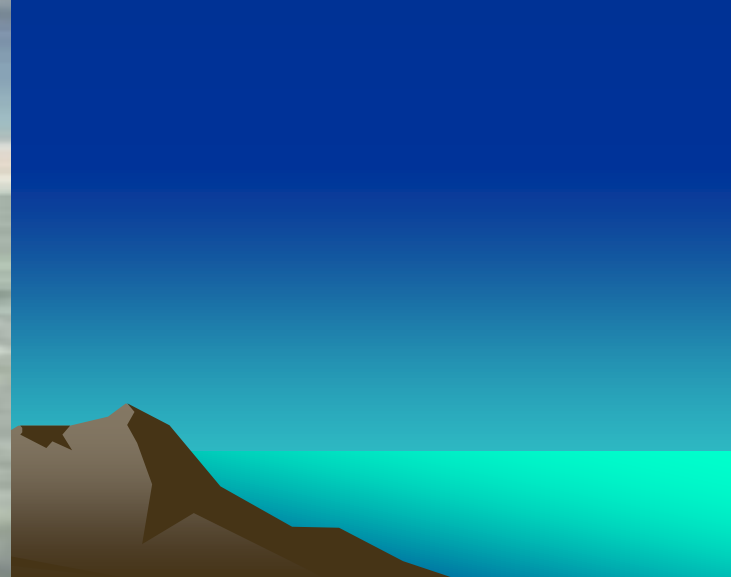
5. Thin _____ indicate cool weather and low precipitation in the past.

- tree rings



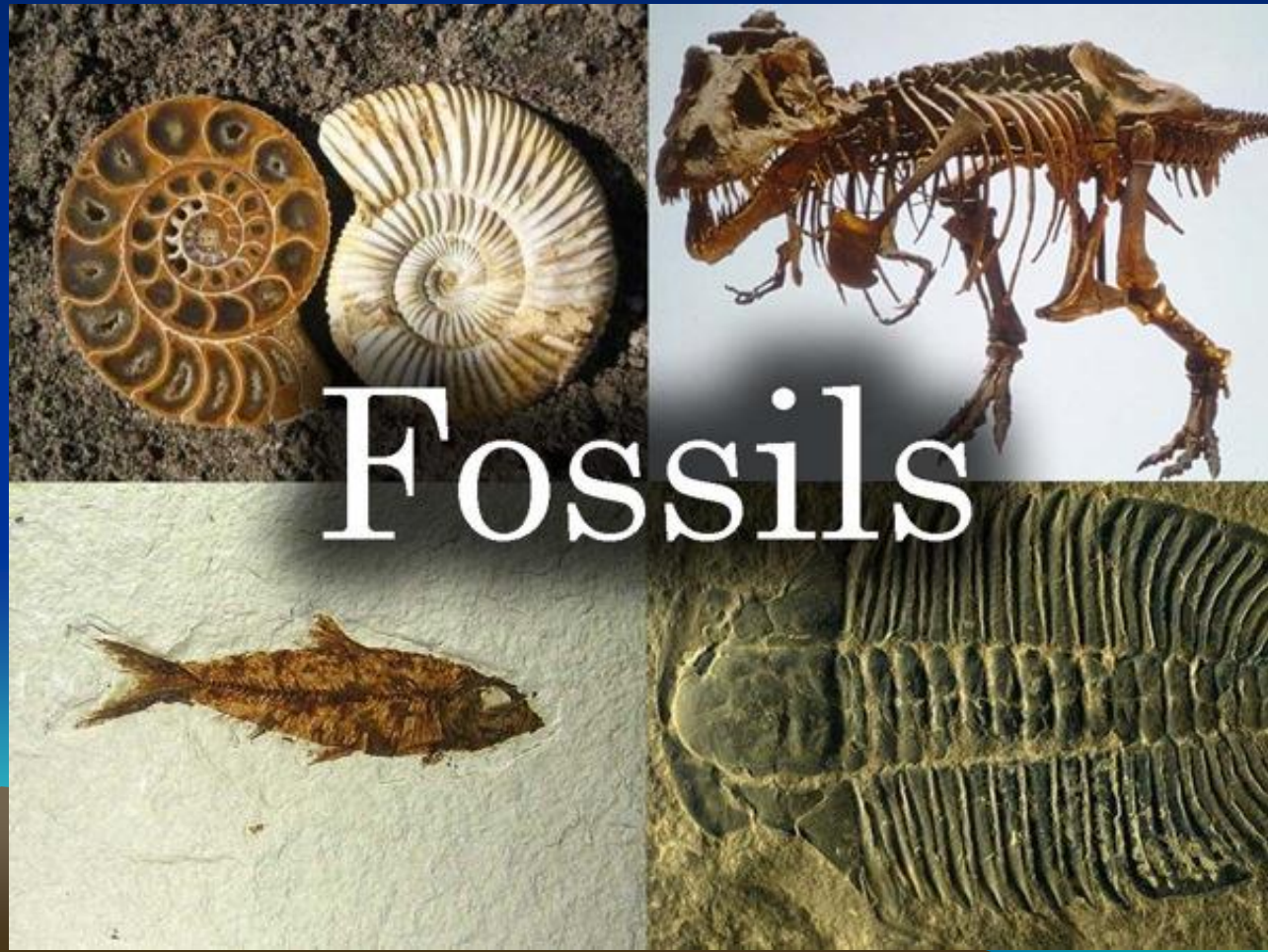
6. High levels of CO₂ found in _____ indicate warmer climate in the past, whereas ice ages follow decreases in CO₂.

- ice cores



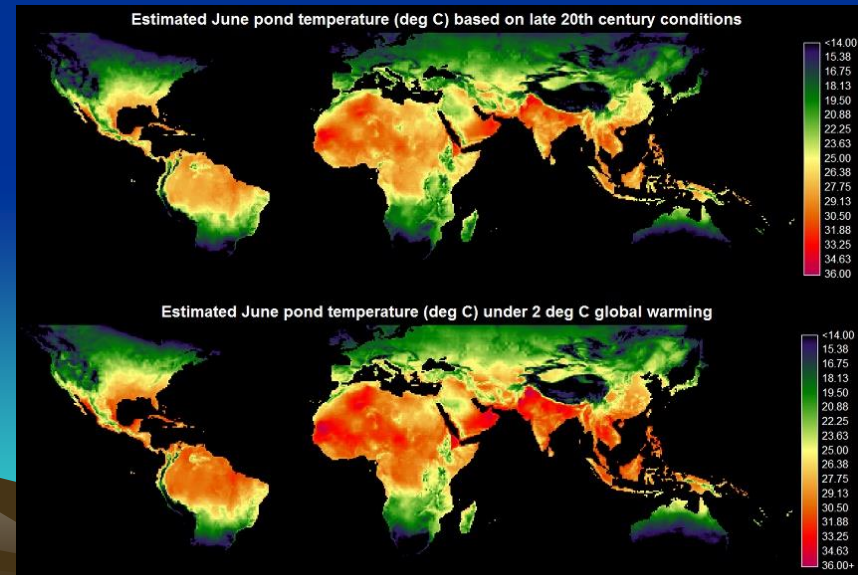
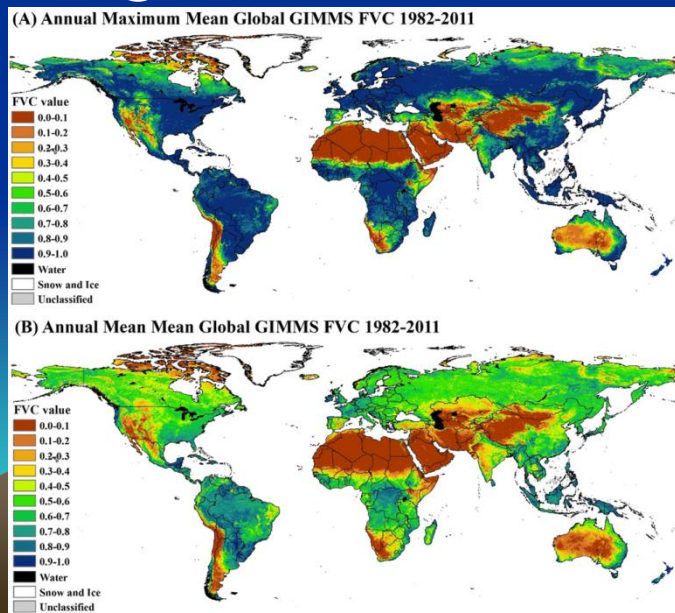
7. By studying _____, scientists can learn how animals adapted to changing climates.

- fossils



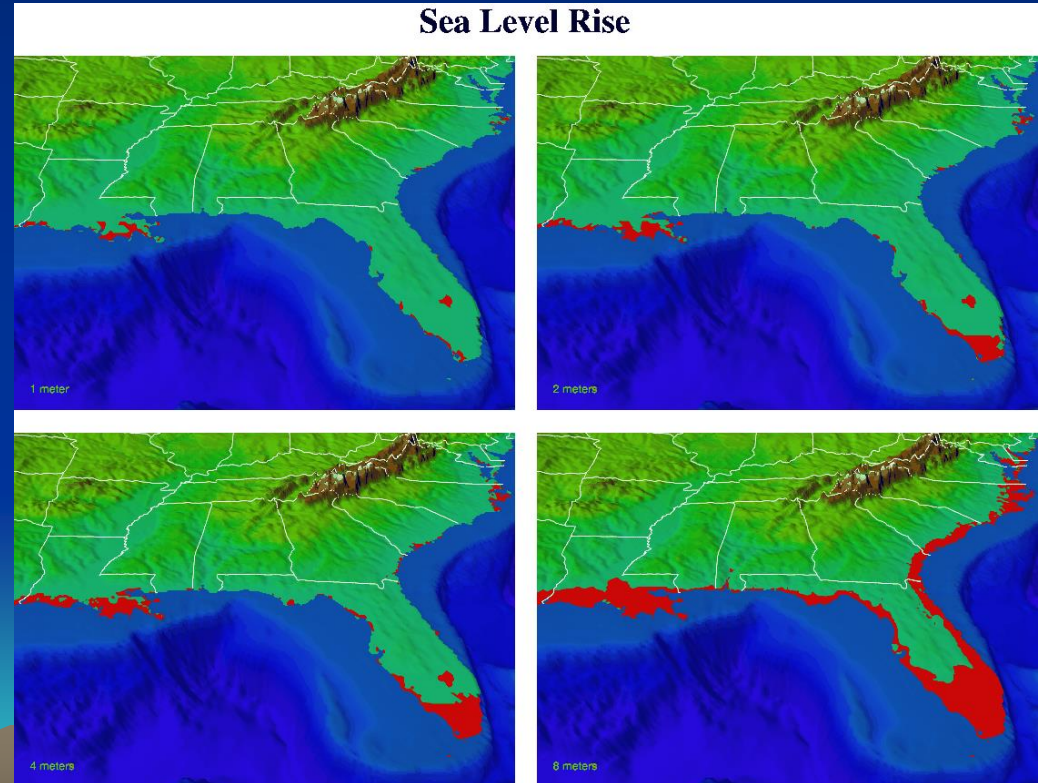
8. Computer-generated climate models that simulate changes in one variable when other variables remain unchanged are called

- general circulation models (GCMs)



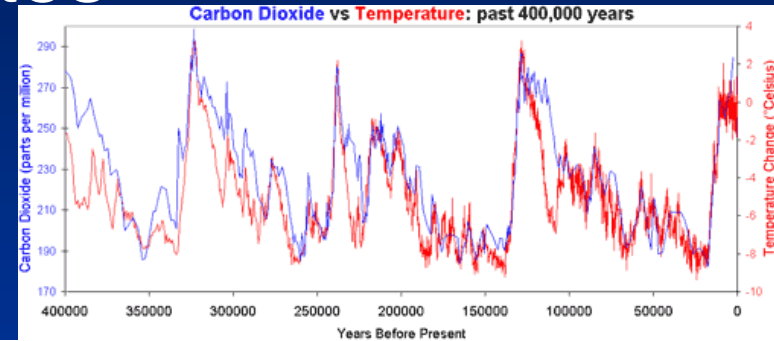
9. What are three climate conditions that computer models can be used to predict?

- temperature
- precipitation
- wind patterns
- sea level changes

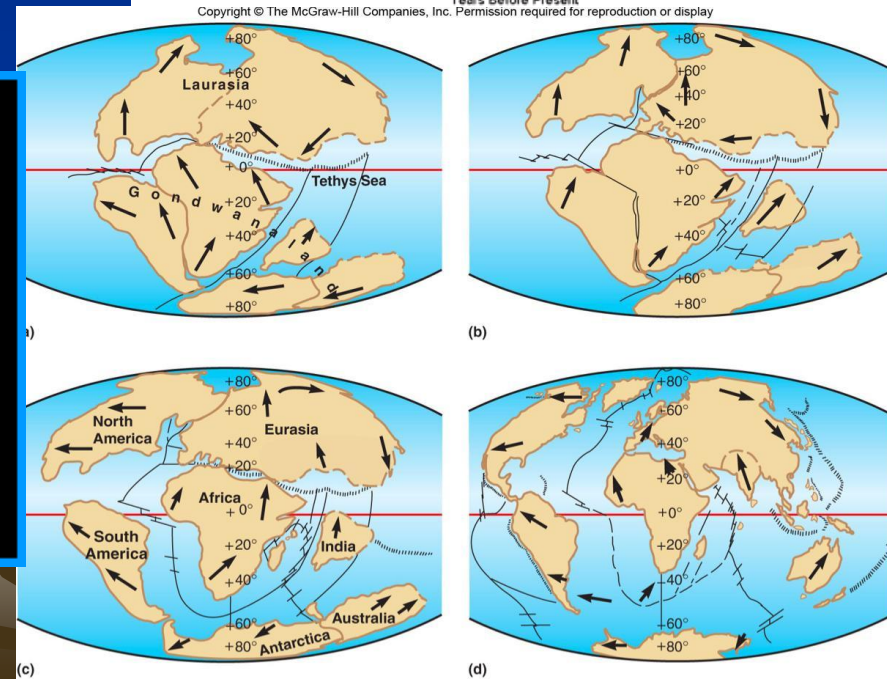
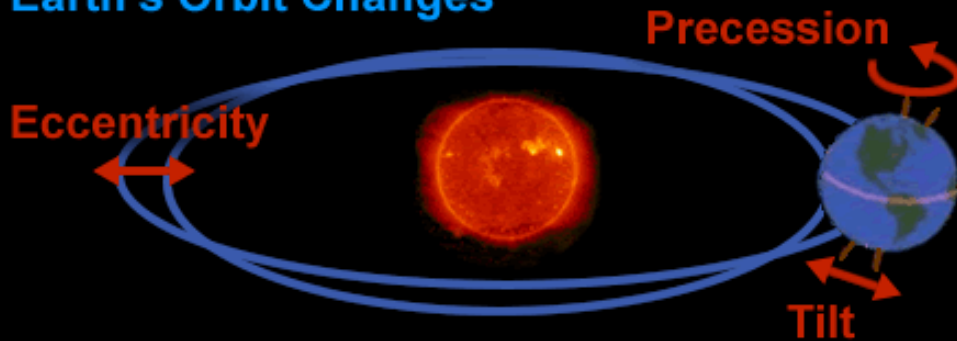


10. What are three factors that might cause climate changes?

- movement of tectonic plates
- changes in Earth's orbit
- Human activity
- atmospheric changes

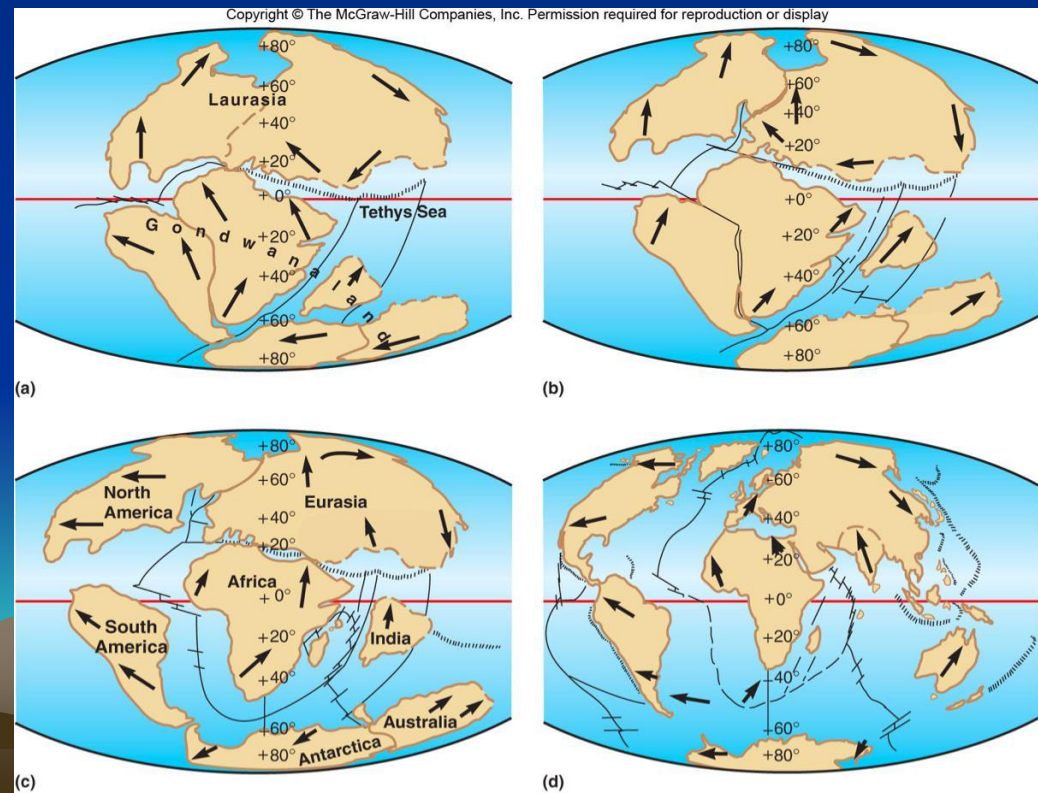


The Three Ways Earth's Orbit Changes



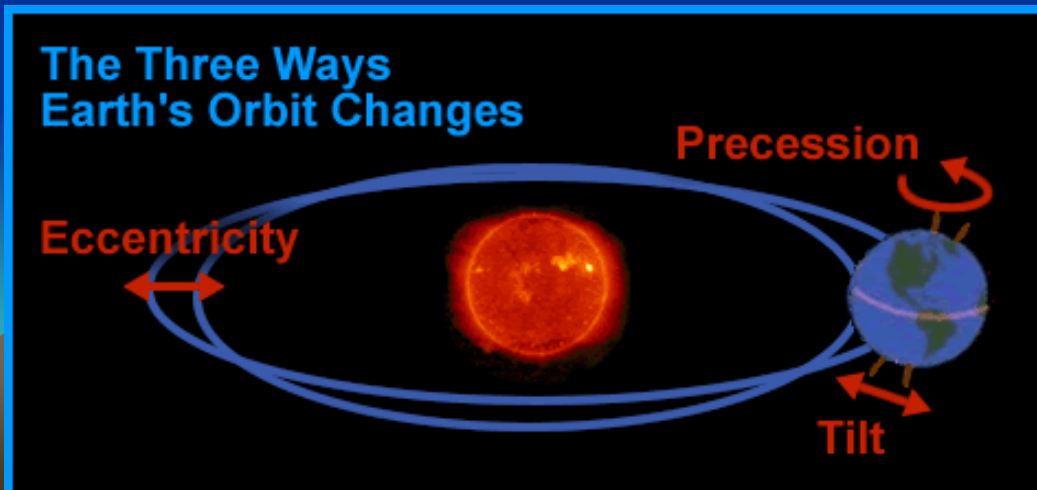
11. The movement of continents over millions of years caused by _____ may affect climate changes.

- tectonic plate motion



12.

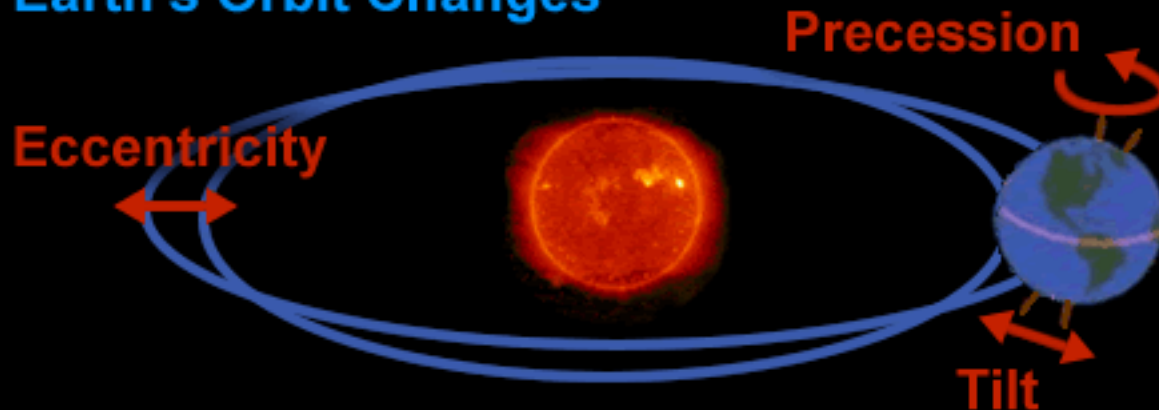
- According to the Milankovitch theory, what three factors lead to climate changes?
- A. Changes in the shape of Earth's orbit
- B. Changes in Earth's tilt on axis
- C. The wobble of Earth's axis



13. The shape of Earth's orbit changes from _____ to circular, affecting Earth's distance from the sun and therefore Earth's temperature and climate.

- elliptical

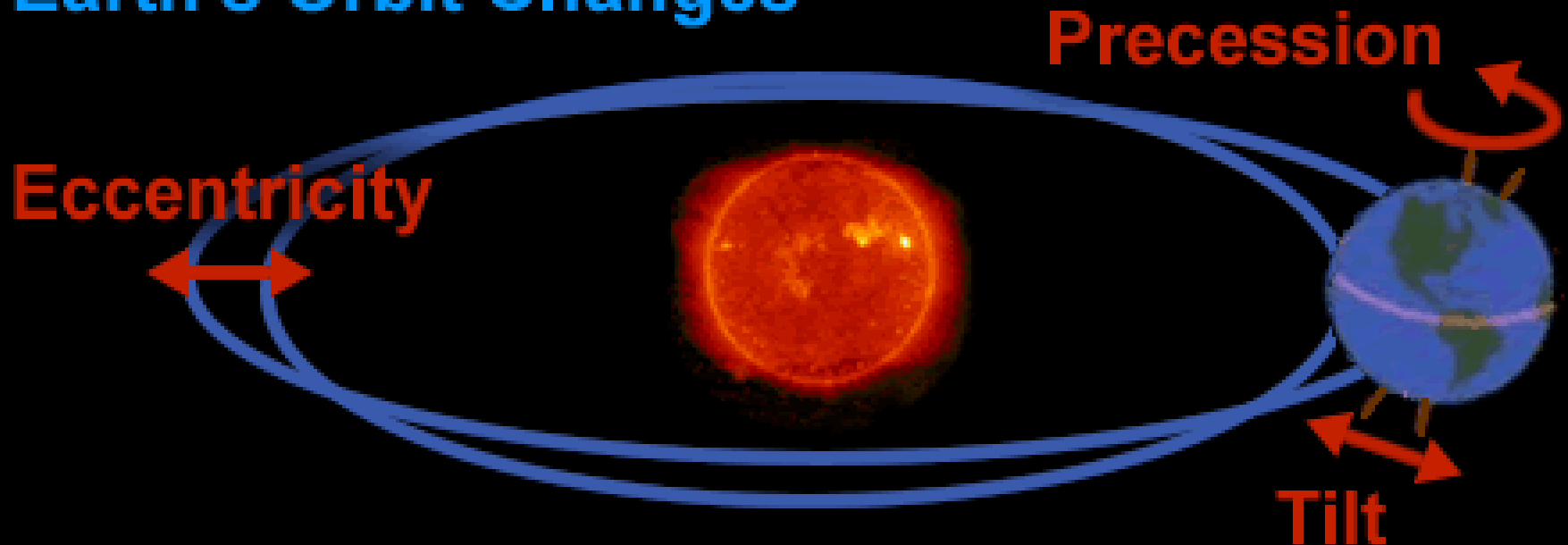
The Three Ways Earth's Orbit Changes



14. Decreasing _____ decreases temperature differences between seasons.

- tilt

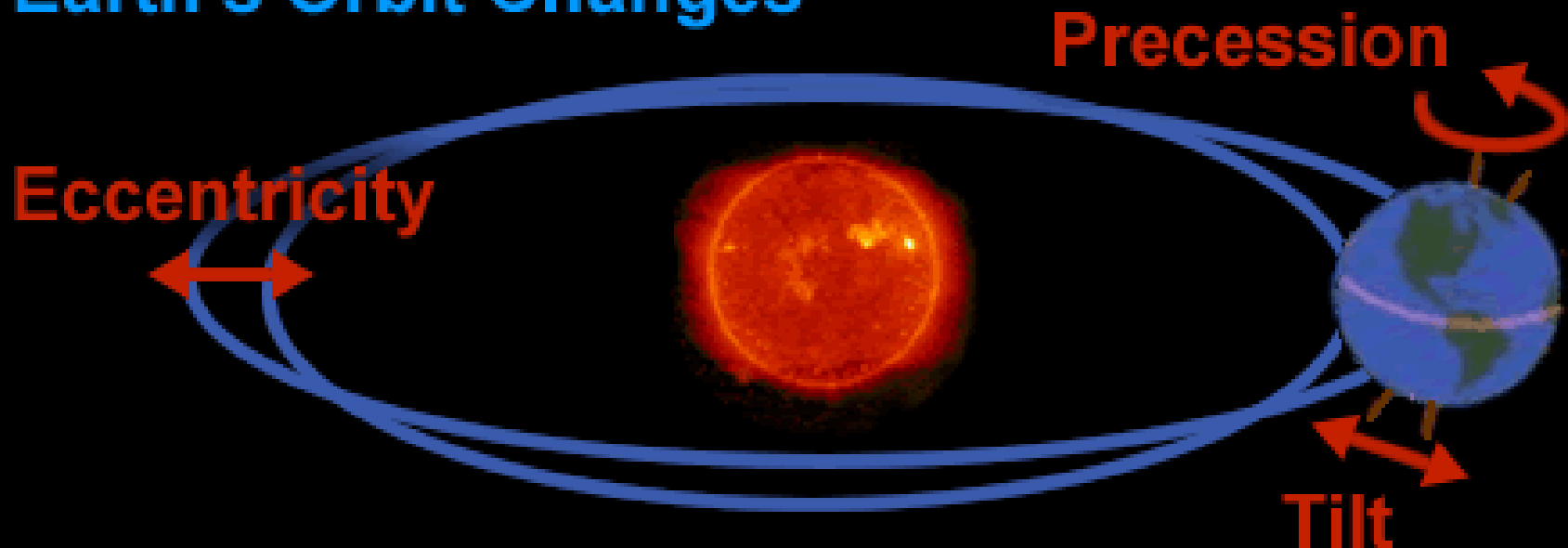
The Three Ways Earth's Orbit Changes



15. The wobble of Earth on its axis changes the direction of Earth's tilt and can reverse the _____.

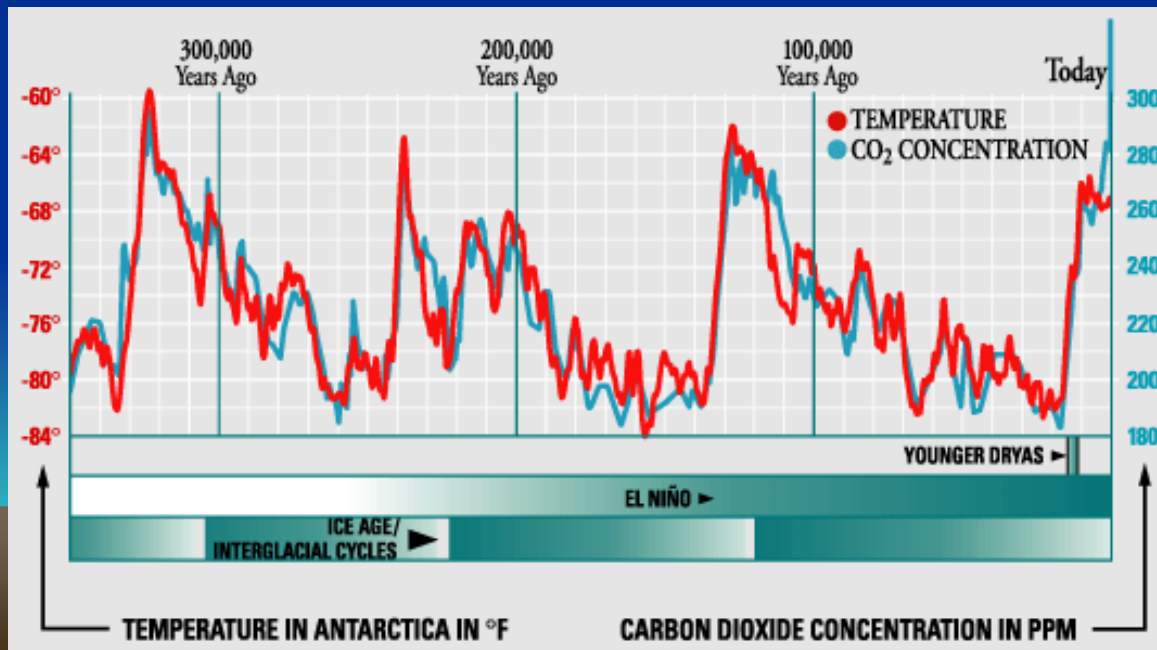
- seasons.

The Three Ways Earth's Orbit Changes



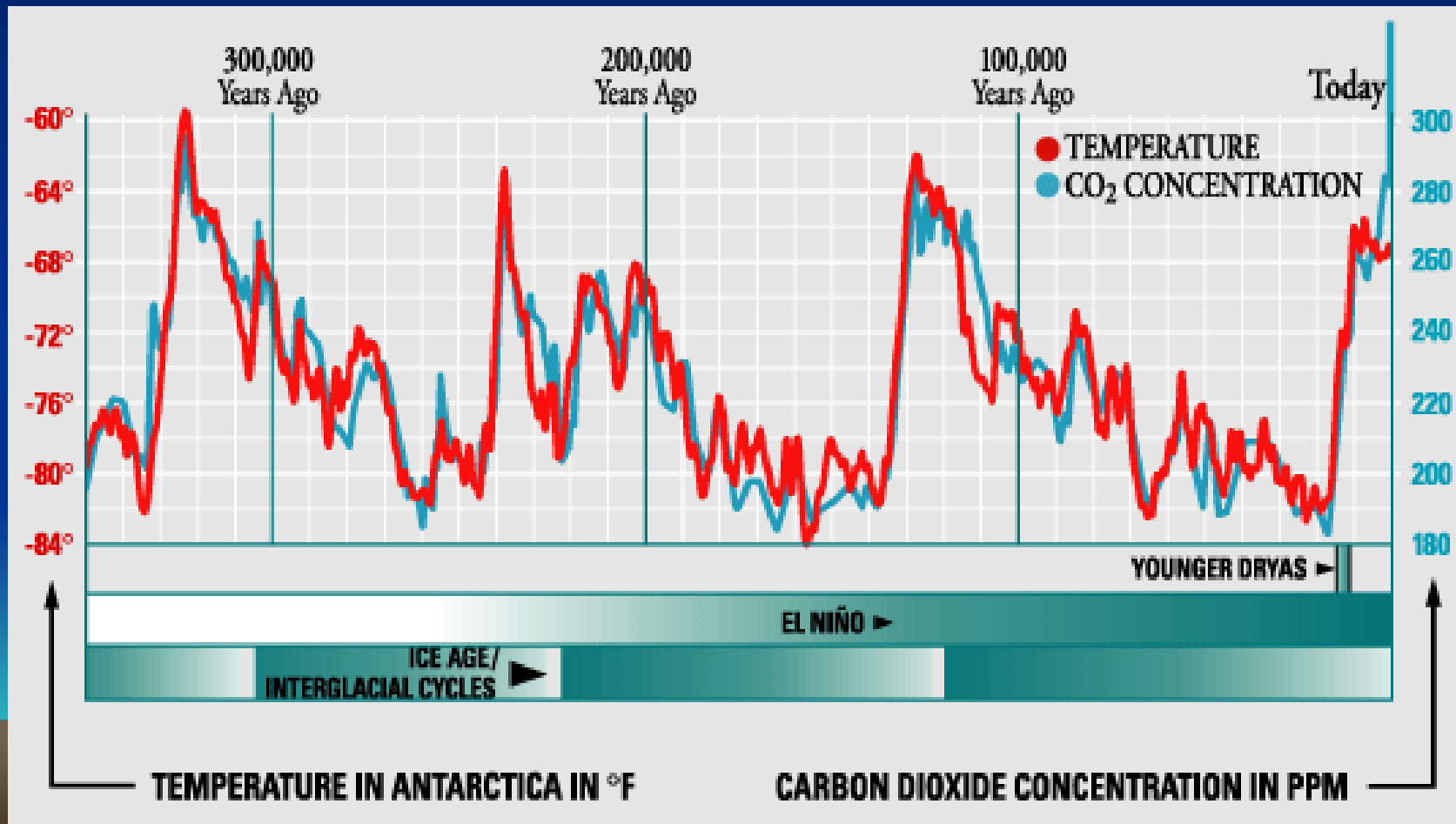
16. What human activities are responsible for releasing carbon dioxide, CO₂, into the atmosphere?.

- Pollution from transportation and industry and burning of fossil fuels



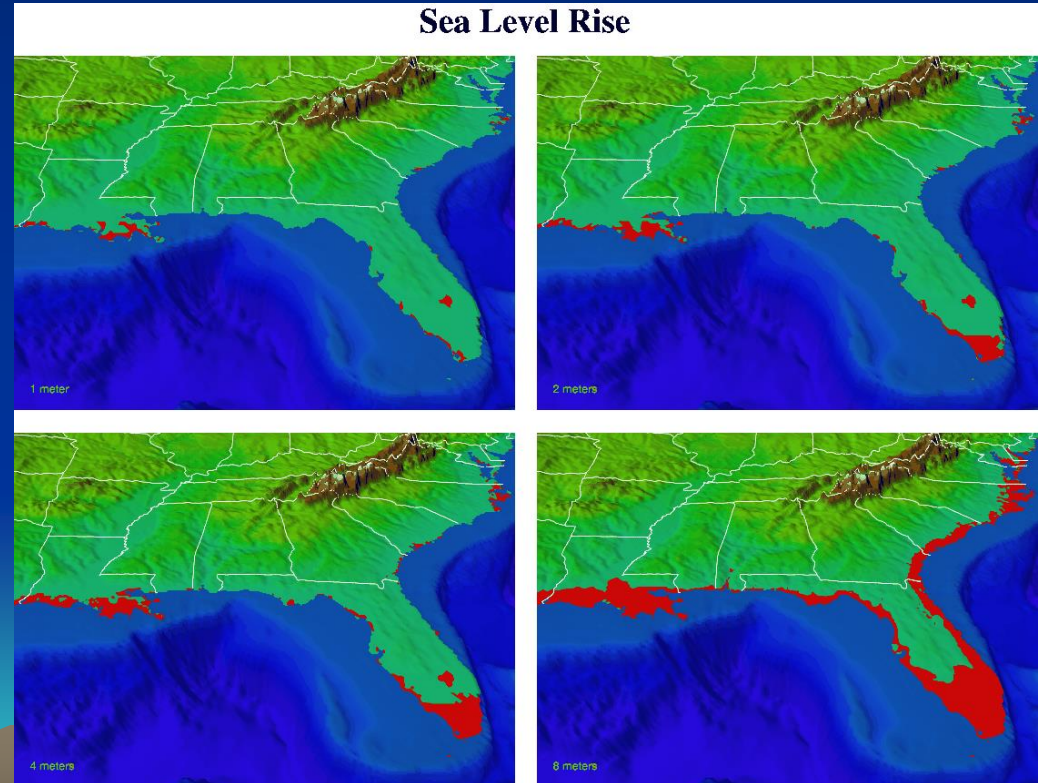
17. What can increases in CO₂ levels lead to?

- Global warming



18. Climate change can affect what three life-forms?

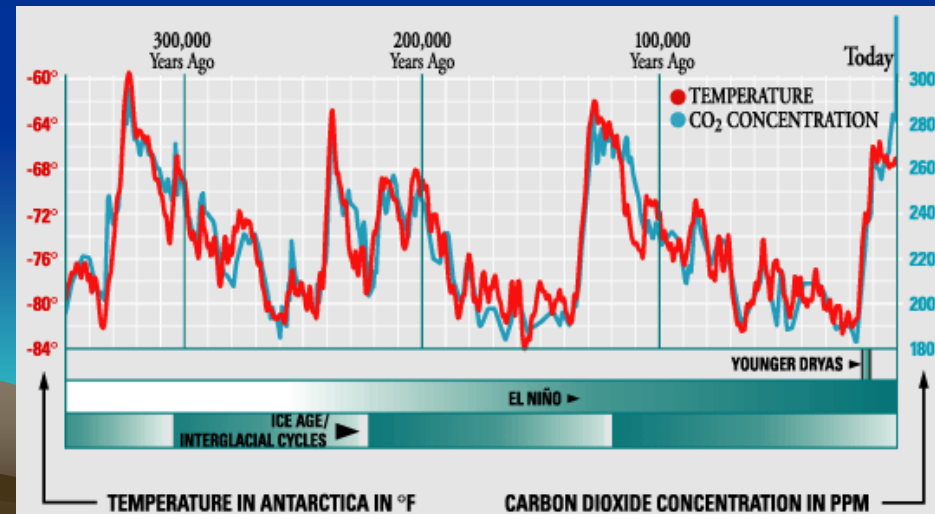
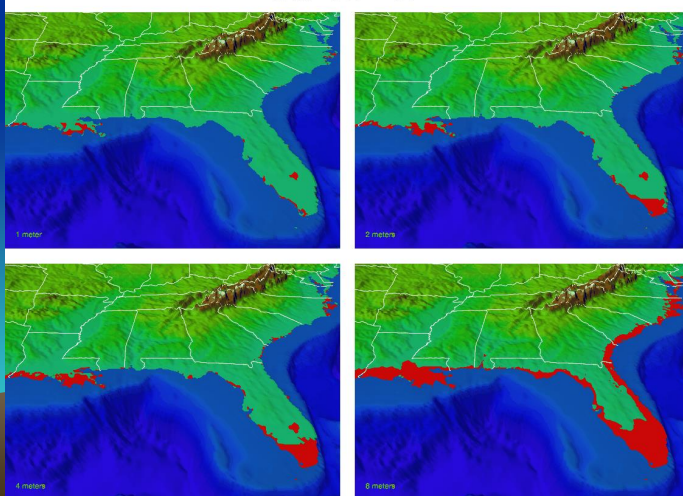
- Humans
- plants
- animals



19. What are three potential climate changes that could make survival of life on Earth more difficult for both humans and other species?

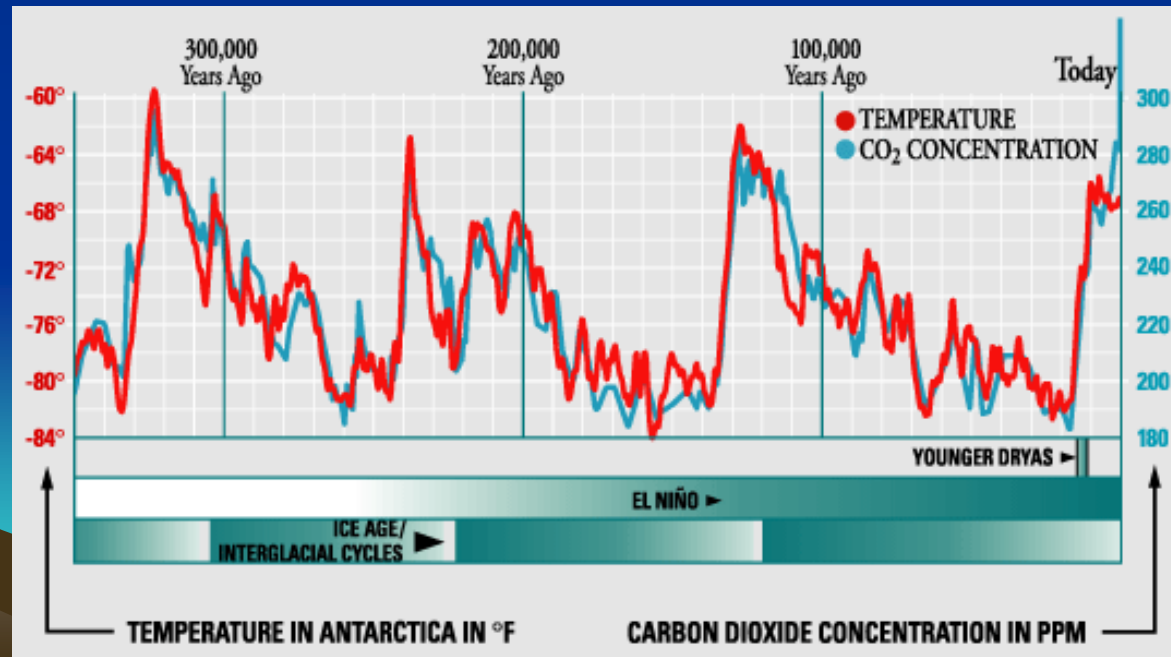
- global warming
- sea-level changes
- changes in precipitation

Sea Level Rise



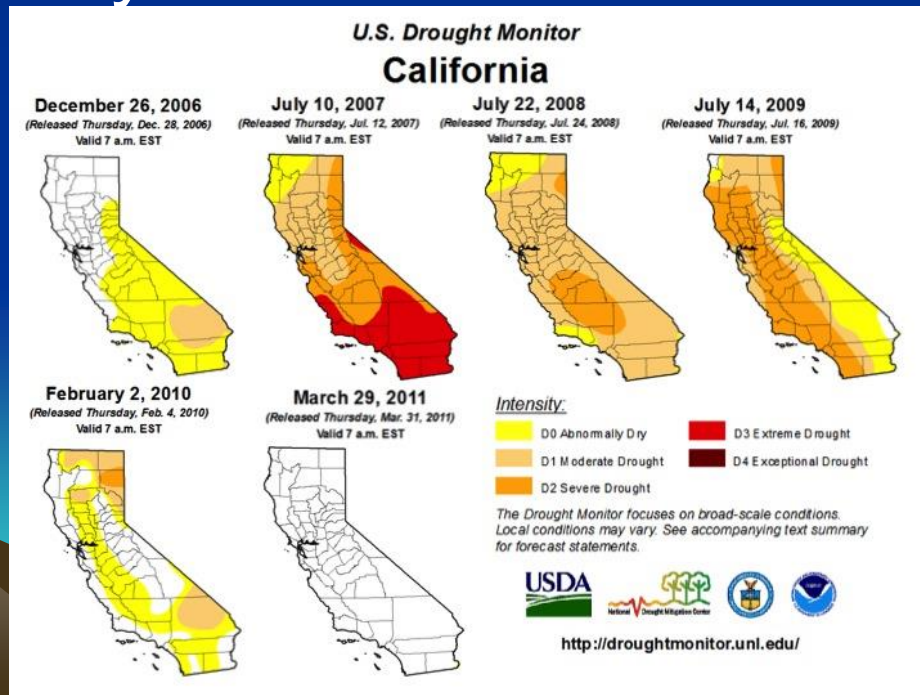
20. Define *global warming*.

- A gradual increase in the average global temperature that is due to a higher concentration of gases such as carbon dioxide in the atmosphere.



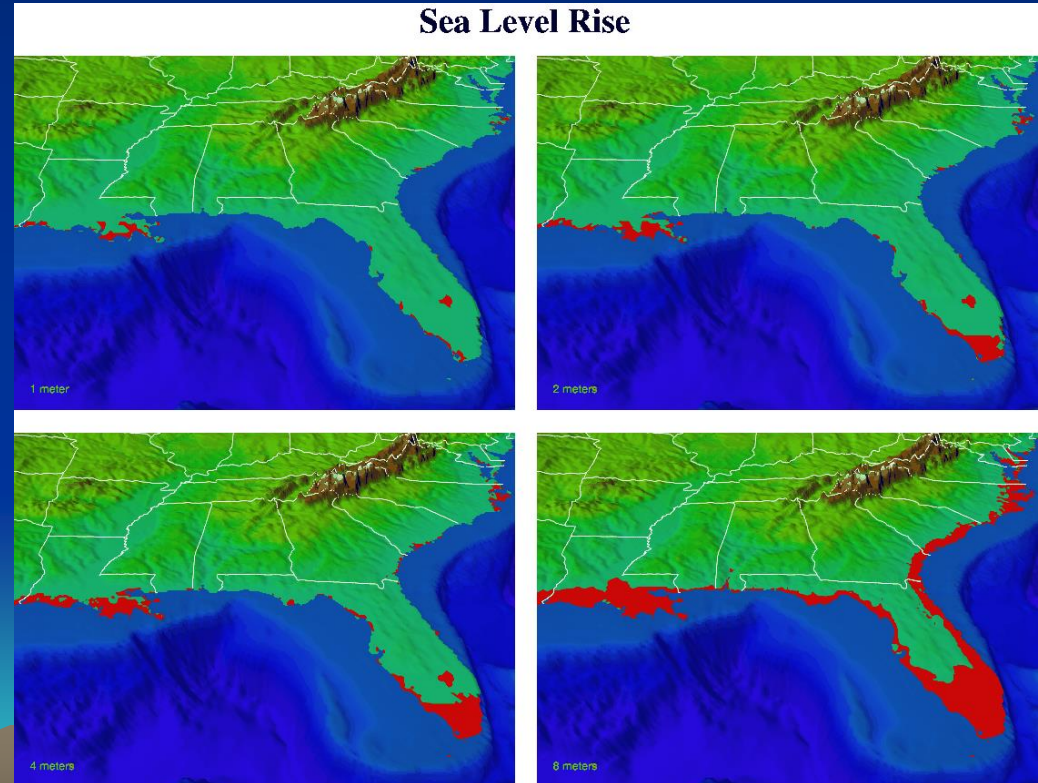
21. How could global warming affect plants and animals?

- Increases in evaporation could cause some areas to become drier and some plants and animals wouldn't be able to live in these dry conditions.



22. How could the melting of polar ice caps affect the shoreline and its inhabitants?

- flooding around coastlines where cities are located.



23. What actions have countries taken to reduce the potential effects of global warming?

- treaties and laws to reduce pollution
- industrial practices are being monitored



24. List three actions individuals can take to reduce CO₂ concentrations in the atmosphere that are caused by pollution.

- turn lights off
- turn down heaters and air conditioners
- recycle



25. Name two ways that people can change their transportation habits to reduce the release of CO₂ into the atmosphere.

- drive fuel efficient vehicles
- tune your car properly
- inflate tires properly



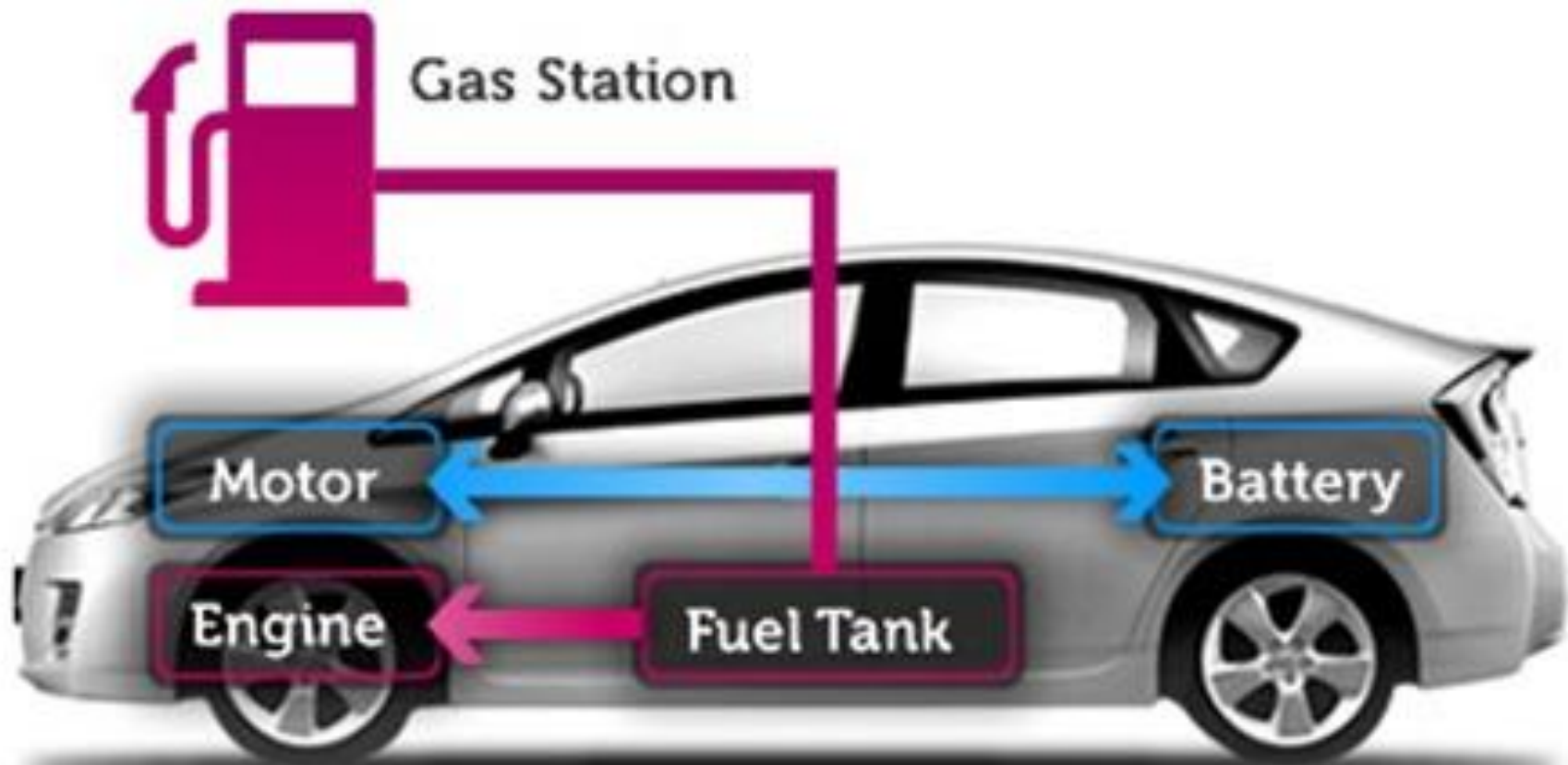
26. When driving, what are two things that can be done to make sure the car is burning fuel more efficiently?

- Drive at a consistent speed
- Don't over accelerate



27. How can hybrid cars reduce the amount of carbon dioxide in the atmosphere?

- They use both gasoline and electricity.



The End

