Cause and Effect Flows of Recycling and Using Less paper

Creating laws stating that all paper must have at least 50% recycled content

Recycle and use less paper

More trees are left intact and able to take in CO2

Less paper ends up in dumps

Less paper decomposes, releasing methane into the atmosphere.

Less heat trapping gases are added to the atmosphere

The temperature rises slower

Fewer glaciers and less sea ice melt

Temperature in ocean rises slower

Fewer organisms are forced to relocate

Less coral bleaching happens

Fewer organisms become endangered

Student H

One possible solution to climate change is to recycle and use less paper. To do this, people may have to create laws stating that all paper must contain at least 50% recycled content. This would leave more trees intact and able to take in CO2, as 1 ton of paper with 50% recycled content only takes 12 trees to make, whereas paper with no recycled content takes 24 trees to makes, according to the article. Also, using less paper leads to less paper decomposing in the dump. As these papers decompose, they release methane, as stated in the article. Both of these lead to less heat trapping gases in the atmosphere. Less heat trapping gases in the atmosphere causes the temperature to rise slower. The evidence that supports this is the graph on page 14 in the IN, which show how closely related the amount of CO2, a heat trapping gas, and temperature are related. With temperatures rising slower, fewer animals are forced to relocate, such as Pikas, who relocated further up mountains due to the escalation in temperature, as said in the Pika article. If fewer organisms are forced to relocate, then less would become endangered due to being unable to adapt to their new habitat. For example, the U.S. Fish and Wildlife Service officials attempted to relocate 49 Columbian White-tail deer, and 10 of them died. Another effect of temperatures rising more slowly is that less sea ice and glaciers melt. That would cause temperatures to rise slower because the ice reflects heat. When the ice melts, it is no longer there to reflect the heat, so the heat is absorbed, causing temperatures to rise, as said in the Changing Sea Ice station on page SI-3. Also, less sea ice and glaciers melting would cause less animals relocating because of their habitat melting. Along with that, the melting of less sea ice and glaciers leads to sea level rising slower. The evidence that proves this is the glacier model, which showed how the water level rose as the "glacier" melted. As a result of sea level rising slower, fewer organisms would be forced to relocate. For example, turtles have to find new places to lay their eggs, as the hatchlings in the eggs die when covered in water, according to the Turtle article. Going back to the cause being temperatures rising slower, the cause leads to ocean temperatures rising slower. That leads to both less animals being forced to relocate, as well as less coral bleaching happens. If the temperature is too warm for them, the algae in coral reefs, which support the coral, leave, causing the coral to die. Also fewer animals are forced to relocate to cooler areas if the temperature in the ocean rises slower. Overall, recycling and using less paper leads to less animals becoming endangered, therefore it would be a good solution to attempt.

Preserve Forests

Article 1 shows that trees take in carbon dioxide and store it so if forests are preserved then...

CO_2 levels in the atmosphere will decrease.

Key concept 3.3 explains that CO_2 is a heat trapping gas. If CO_2 levels in the atmosphere increase, then the temperature will also increase.

Temperatures won't increase as much.

Organisms won't be as affected as they were before.

Keyconcept 3.9 shows that organisms and their habitats are affected as temperatures increase. [Example: Sea ice reducing due to increasing of temperatures affect polar bears as they need to hunt and give birth. ← animals near the poles article]

Pictures G-3 & SI 1 shows that overtime, sea ice and glaciers have been decreasing due to the increase in CO_2 & temperature. If temperatures don't increase as much then...

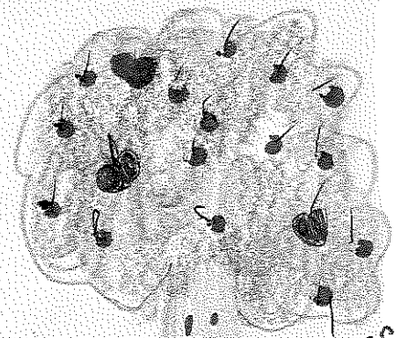
The ocean salinity will not decrease as much.

The model ocean simulation shows that as glaciers decrease / increase the salinity will change.

If the glaciers decrease, the ocean is less salty. If the glaciers increase the salinity increases.

Ocean currents won't slow down.

The model ocean simulator shows as the amount of glaciers change, the speed of the ocean will also change.



Glaciers and sea ice won't decrease as much.

The rising of sea levels will slow down.

Graph L-1 shows that overtime, sea level has been rising due to melting glaciers. If the glaciers don't decrease then...