Climate Change: How it might affect you

Some of the impacts that scientists predict are likely to occur are

Nationwide

- Increased incidence of severe weather events
- Water contamination
- Proliferation of invasive species
- Loss of wetlands
- Beach erosion
- Destruction of natural habitats
- Increase in frequency and intensity of winter storms
- Sea level rise
- Increased flooding
- Higher temperatures
- Warmer winters
- Increased heat mortalities
- Increased incidence of air pollution and high ground-level ozone days

The 2002 United States Climate Action Report projected that total U.S. greenhouse gas emissions will increase by 43 percent between 2000 and 2020.

Northeastern United States

- Ski industry will be threatened by decreased snowpack
- Less dramatic fall foliage colors
- Maple syrup production will decline and eventually sugar maples will not grow in the United States
- Estuaries, bays, and wetlands will be jeopardized by sea level rise
- Mountainous areas will have high ground-level ozone days
- Tick and mosquito populations will increase
- New England, New York, and Western Pennsylvania forests will change to temperate deciduous forests similar to Southeastern Pennsylvania, Maryland and Northern Virginia today
- Coastal property will be more vulnerable to hurricane damage

New York State's summer will be similar to--
Option 1 – present day Maryland and southern Pennsylvania by 2100 (Hadley Model)
Option 2 – present day central Illinois or Missouri by 2100 (Canadian Model)

- The Chesapeake Bay will experience a change in water temperature and salinity
- Presence of cholera bacteria in the Chesapeake Bay will increase
- Rail and subway tunnels in the New York metropolitan area could be inundated with water after severe storms
- Some recreational beaches will disappear as sea levels rise
- Dairy industry will face increased production costs as temperature increases
- Lobsters will migrate further North as the ocean warms
- The trout population will decrease as waters warm

What are Invasive Species?
These are species introduced into an environment they did not evolve in. They often have no natural enemies to limit their reproduction and spread. They usually have high reproductive rates, fast growth rates and spread quickly.

Why are Invasive Species bad?
They can threaten agricultural crops, edge out native species, and destroy ecosystems.

Southeastern United States

- Summer climate of Georgia in the 2030s will be similar to the present day Florida panhandle
- Increase in 'El Nino' events as CO2 in the atmos-

phere increases
- Coastal counties from the Carolinas to Texas will experience an increase in flooding
- Dryland corn yield will decrease up to 10 percent in Louisiana and large parts of Mississippi, Arkansas, and Kentucky
- Sorghum yield will decrease in parts of Arkansas and upper Mississippi
- Dryland peanut yields in the lower Delta and along the Gulf Coast will decrease up to 30 percent
- 25 to 50 percent increase in forest fires replacing much of the southeastern pine forest with pine savannas and grasslands
- Pests such as the southern pine beetle will flourish in higher winter temperatures
- Fish kills and algal blooms will increase in degraded coastal waters
- Coastal wetlands and barrier islands will be inundated or displaced
- Southeastern coastal areas will experience shoreline retreat and coastal land loss
- Coastal and island facilities may not be insurable

Western United States

- Some alpine ecosystems will disappear from the region
- Biodiversity will decline
- The ski season will shorten
- Increased risk of spring flooding
- Increased demands on the current water supply
- Degraded water quality as runoff from farms and streets increases
- Salinity levels will increase in the Colorado River
- Increase in fire frequency
- 23 to 30 percent of butterflies living in the boreal areas in the Great Basin will become extinct
- Some cold-water fish species will become extinct
- Salmon and Chinook native to the Sacramento River will be threatened
- Hundreds of square miles of low-lying coastal areas will be inundated by seawater
- Coastal aquifers will be threatened by sea level rise

Midwestern United States

- The Great Lakes' water level may decrease several feet or more
- Increased incidence of water born diseases such as St. Louis encephalitis
- Forests will be more susceptible to pests, diseases, and forest fires
- Cold-water fish such as brown and rainbow trout will be replaced by warm water species such as bass and catfish

Illinois' summer climate will be similar to—
Option 1- present day West Virginia in 2030 and like eastern North Carolina by 2100 (Hadley model)
Option 2- present day Missouri and Arkansas by 2030 and eastern Texas and Oklahoma by 2100 (Canadian Model)

- Spruce and fir forests will be replaced by oak and hickory forests
- Snow season will shorten up to 50 percent
- Increased flood risk in the Chicago area, Indiana, the lower part of the Missouri basin, and the St. Louis area
- Dairy industry will face increased production costs as temperature increases
- Herbicide use will increase
- Aspen and hardwoods in the north Midwest will be threatened by changes in soil and temperature
- Increase in water-born infections such as cryptosporidiosis and "Swimmers itch"
- Opportunities for ice fishing and snowmobiling will decrease as lake-ice cover is reduced

Great Plains

- Heat stress on livestock will increase
- Water demand for grass and alfalfa crops in Northeastern Colorado will increase 50 percent
- Increased incidence of floods and soil erosion
- Increase in the number of intense rainfall events especially in the Southern Great Plains
- Colorado and Oklahoma will experience a doubling of the occurrence of heat stress periods (3-day span where temperature exceeds 90°F)
- Increase in the incidence of droughts
- Increased risk of water (both ground- and surface water) contamination from livestock wastes, fertilizers, herbicides, pesticides, livestock wastes,

salts, and sediments
- Declining rural populations will make coping with climate change very challenging
- Crop and livestock management will be challenged by increases in temperature, and reduced soil moisture
- Air quality will worsen in Texas, Denver and much of the Colorado Rocky Mountain Front Range will experience worse air quality

Alaska
- Coastal areas will be submerged, destroying ecosystems and damaging infrastructures
- Spruce bark beetles and defoliating black-headed budworm will infest southern coastal forests
- Tundra and mixed forests will be replaced by boreal forests
- Yellow Cedar in the coastal forests will decline
- Caribou will be threatened by reduced forage availability
- The Trans-Alaska pipeline's support structure will be damaged
- Cormorants, kittiwakes, murres, larus gulls, guillemots, puffins, murrelets and other seabird populations will decline
- Steller sea lions, polar bears, harbor seals, walrus, and bearded seal populations will decline
- Reindeer will be threatened by habitat loss
- Thawing of the permafrost will increase risk of landslides
- Increase in tundra fires

Pacific Northwest
- Columbia's sewage and wastewater treatment system will be overwhelmed
- Electricity generated from hydropower will decrease
- Salmon stock will be threatened
- Increased flooding in winter
- Risk of summer water shortages
- Puget Sound will experience severe landslides and erosion
- Property and infrastructure destruction
- Shellfish contamination will have human health impacts
- Seattle will experience a severe water shortage
- Northwest forests will dieback
- Sap-sucking bark beetles, and defoliating spruce budworms and other southern insects will expand northward
- Idaho's potato crop yield will decline

Islands Of The Pacific And Caribbean
- The endangered Hawaiian Honeycreeper bird family will be further threatened
- Eastward migration of the Skipjack tuna, resulting in loss of profits in Micronesia
- Loss of small fish, important to islanders' diet
- Considerable agricultural losses in taro and banana trees

Coral Reefs:
-Coral reefs will be increasingly stressed and bleaching will increase
-Reef structure will weaken and growth rate will decline
-Reef die-off will lead to rapid erosion of island coasts and their eventual disappearance

- Increase in flooding and landslides
- Increase in hurricanes and typhoons
- Tourism will be impacted by damaged ecosystems
- Increased risk of disease transmission
- Caribbean forests will be threatened by invasive species
- Mangrove forests' growth rate will decline

The United States Climate Action report proposes to stem climate change by developing technological breakthroughs in the process of capturing carbon dioxide from fossil fuel combustion and storing it underground and deploying new nuclear plants.

Increasing our dependence on nuclear power plants would only compound our current problems with waste disposal and increase our risk of nuclear catastrophe. Furthermore, storing carbon dioxide underground might not prove as contentious as storing nuclear waste but we would be better served to reduce the amount of CO2 released.

Unfortunately, the Bush administration opposes many of the measures, which might reduce emissions; such as better fuel economy standards and reduced power plant emissions.

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References

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