

SCIENCE BULLETIN: CLIMATE CHANGE AFFECTS ECOSYSTEMS	
Questions	Ecosystems
1. What abiotic factor(s) have people changed?	<i>People are emitting greenhouse gases (abiotic), which in turn are increasing temperatures at different levels around the world.</i>
2. Why do people change the abiotic factor? Why does it help us?	<i>Burning fossil fuels, which emits greenhouse gases like carbon dioxide, makes our lives much easier than they would be without them. Our food is grown and shipped from all around the world with fossil fuels. We drive, use air conditioners, heaters, refrigerators, computers, and cell phones. The products that we use to make life easy and fun are all produced in factories.</i>
3. What are the consequences to the living (biotic) and non-living (abiotic) parts of the ecosystem of that abiotic change? Use the terms abiotic and biotic factors in your answer.	<i>The greenhouse gases (abiotic) are increasing temperatures (abiotic). This increase is leading to: 1) More glacial lakes (abiotic): Melting Himalayan glaciers are swelling glacial lakes leaving people vulnerable to outburst floods. 2) Organisms (biotic) moving their range northward 3) At risk Arctic predators (biotic) 4) Doubling the likelihood of severe heat waves (abiotic)</i>
4. How do you know these are the consequences? Describe the evidence or data that support the claim that changing this abiotic factor impacts the surroundings.	<i>Increased glacial lakes: Lakes are bigger on satellite images than in the past and glaciers are now smaller. Acorn barnacle moving northward: Records of ranges have shifted northward from 1872- 2006 Arctic predators at risk: Sea ice is melting earlier than in the past; Temperature records show an increase in heat waves</i>
5. Suggest how you might solve this problem.	<i>Improving vehicle and appliance energy efficiency; Increasing wind and solar power use; Limiting greenhouse gas emissions. People are also testing technology to capture the carbon dioxide emitted from fossil fuels. Increasing forestlands and making changes to the way we farm could increase the amount of carbon stored.</i>