Reading Part 8 Multiple matching

1 Read the text opposite about five places under threat (A–E), and match them with areas 1–5 on the map below.

In which section, A–E, are the following mentioned?

the potential disappearance of huge numbers of plants and animals	1 ....
a system which relies on the direct effect of temperature on water	2 ....
a geographical feature that may face almost total destruction	3 ....
a substance which provides vital nourishment for sea creatures	4 ....
an area where extreme temperatures protect the Earth	5 .... 6 ....
a harmful effect equivalent to decades of man-made pollution	7 ....
the damaging effect that rainfall could have on temperatures	8 ....
a possible increase in the number of destructive insects	9 ....
an area where evidence of its past can be seen at certain altitudes	10 ....

CHANGING PLACES

Five parts of the world where global warming could have dramatic consequences for the environment.

A The Amazon Forest

The Amazon forest is one of the most biodiverse regions on Earth. Models suggest that global warming will cause a decrease in Amazonian rainfall, leading to the gradual death of the forest and collapse of the myriad ecosystems it supports. The extinction of species is only one consequence of a warmer planet. Carbon dioxide is a greenhouse gas and scientists have long warned about the levels produced when we burn fossil fuels. As the trees of the Amazon die off, fall and rot, they too will release carbon dioxide. The quantities of gas emitted could, at worst, be of the same order of magnitude as from the 20th century's total fossil fuel output.

B The Sahara Desert

The vast Sahara desert is expected to shrink as more plentiful rain brings vegetation to its southernmost reaches. The fertile land will be a boon for some, but the Sahara plays a broader role in the health of the planet. The dry dust whipped up by strong winds contains crucial nutrients that seed the Atlantic and may even help fertilise the Amazon. As the desert shrinks, the flux of these nutrients into the ocean is expected to drop, restricting food for tiny creatures called plankton. As the number of plankton falls, so does food for aquatic creatures further up the food chain. Plankton also lock up the greenhouse gas CO_2 from the atmosphere and so help counter global warming. With fewer plankton, the oceans will take less of the gas from the Earth's atmosphere. If rains return to the Sahara, disease and crop damage from pests could soar too.



C Greenland

The Greenland ice sheet holds about 6% of the planet's supply of fresh water and it is imperative that this water remains frozen. If global warming sees temperatures rise by more than about 3°C, Greenland ice is likely to begin to melt, steadily releasing all that water into the North Atlantic Ocean. A more drastic temperature increase could see the Greenland ice sheet all but disappear, causing a dramatic rise in sea level. And this is not the only danger. The Arctic tundra is a storehouse for decaying vegetation that has been buried for thousands of years. If the permafrost melts, carbon and methane stored in this vegetation will be released. These greenhouse gases will cause a further increase of temperatures.

D The North Atlantic

The North Atlantic current works like a conveyer belt. Surface water in the North Atlantic Ocean is first cooled by westerly winds from North America, making the water more dense and salty so it sinks to the ocean floor before moving towards the equator. Driven by winds and replacing the cold water moving south, warm water from the Gulf of Mexico moves upward into the Atlantic. The effect of the current on climate is dramatic. It brings to Europe the equivalent of 100,000 large power stations' worth of free heating. Computer models predict that as global warming increases, so will rainfall in the North Atlantic. Gradually, the heavier rains will dilute the sea water and make it less likely to sink, which could bring the whole conveyer belt to a gradual halt. This would hit Iceland, Scotland and Norway most, where temperatures could drop 10°C or more.



© Copying, modification, publication.

E The Tibetan Plateau

The Tibetan plateau spans one quarter of China's entire landmass and reaches 6,000 metres above sea level. Many millions of years ago the entire region lay beneath the sea – fossils of marine animals can be found in mountain ridges now standing more than 4,000 metres above sea level. The area is of global ecological importance, and is one of our planet's last great wildernesses. Permanently buried under snow and ice, the region acts as a giant mirror, reflecting the sun's rays back into space. The effect is to keep a lid on global warming, at least locally. In a warmer world the white of the Tibetan plateau will slowly turn to brown and grey as the snow retreats to reveal the ground beneath. As well as contributing to a rise in global temperatures, these changes could effect global jet streams, disrupting weather patterns right across the world.

