

The environment



Ships can now pass through vast areas of the Arctic Ocean which until very recently would have been blocked by ice year-round.



The warm Gulf Stream makes the mild climate and lush vegetation in places like Torquay on the 'English Riviera' possible. But for how much longer?

1 Melting glaciers, polar ice-caps & Europe's 'heating system'

a) Read about an environmental problem facing Europe.

The **melting of the polar ice-caps** is already here. Glaciers are disappearing as fast as you can say Jack Robinson. The American Great Lakes are ice-free in winter now, even Lake Erie, the shallowest of the five lakes. Sea-levels have been rising at 3.4 mm per year for the last 15 years, much faster than the average 1.7 mm recorded over the 50 years before that. Atolls and islands such as the Maldives are losing more and more coastal land to the sea. These and many other islands and atolls could disappear completely by 2100. Large coastal areas worldwide – and large flat areas such as the central US or low-lying countries such as Bangladesh – could be flooded forever. Annual floods in coastal areas throughout the world will become a terrible problem.

The worst threat to Europe could be this: If the polar ice-caps melt sufficiently, the salt concentration in the far North Atlantic will drop. This will make the water in the Greenland Sea

lighter so that the very cold water from the ice will not sink as far as it does now. This sinking water in turn 'pulls' the warm Gulf Stream up to the north, past western Europe. The Gulf Stream 'heats' Europe. If there is no more Gulf Stream 'heat', that is if the Gulf Stream stops somewhere much further south, the beautiful old continent of Europe will become very, very cold. Europe – in short, it would then become uninhabitable. Time to pack your suitcase and emigrate to Mali.

What is causing the polar melting? It is caused by **global warming**, which in turn comes from the **greenhouse effect** caused mostly by increasing levels of carbon dioxide in the atmosphere.

Is it too late to stop all this? French President Sarkozy said in 2009 that we are the last generation that will have a chance to turn the environmental destruction around.

b) Now answer these questions.

1. Name three things that are happening now as a result of the polar ice-caps melting.
2. What causes the polar ice-caps to melt?
3. What is the worst threat to Europe, according to the text?

2 Discussion

Find out more about global warming and its consequences. Discuss what could be done about it.

3 Research

Research an environmental problem that interests you. Try to use one or more of the important environmental terms you see listed on the following page.

agricultural pollution	farming wastes (→ waste : see <i>below</i>) such as pesticides or fertilizers, especially nitrate; erosion from ploughing
allergen	a substance that can cause allergic reaction
anthropogenic	caused by human beings
biodegradable	sth that can decompose under natural conditions
biodiversity (natural)	variety among organisms in the ecological area they occur in
biomass	all the living material in a certain area; often used for plants
carbon dioxide	a colourless gas produced mainly by industry; the main cause for global warming
cloning	in biotechnology, the genetically identical cells from one cell which are made by copying
conservation	preserving and renewing human and natural resources
contamination	any substance that makes another medium unfit for use
DDT	a dangerous insecticide, banned in the US in 1972
ecology	the relationship of living things to one another and to their environment; the study of these relationships
ecosystem	a biological community and the non-living things around it
global warming	the present warming of the planet Earth
lead	a heavy metal that is very dangerous to the health of humans and animals
lethal	deadly
mortality	death rate
pollutant	any substance that is dangerous to the health of humans, animals or ecosystems
recycling	making used materials into new products: this way, waste (→ see <i>below</i>) is reduced
toxic	poisonous; very dangerous for human beings, animals or living things
waste	unwanted materials left from an industrial process

3. If the polar ice-caps melt enough, this will affect the salt concentration in the North Atlantic, which in turn will cause the Gulf Stream, which 'heats' Europe, to change its path. It would move past western Europe, causing Europe to lose its heating system. It would become a very, very cold place and no longer fit to live in.

b) 1. - Glaciers are disappearing.
- Sea levels are rising.
- Atolls and islands are losing more and more coastal land to the sea.
2. The greenhouse effect causes global warming, and global warming causes the ice-caps to melt.



Lösungen