

EARTH IN DANGER

危险中的地球

Climate Change

气候变化



中国环境科学出版社

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Climate Change 气候变化

by Helen Orme

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Words that appear **in bold** are explained in the glossary.
请见词汇表中对文中**黑体字**的解释。

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WHAT IS CLIMATE CHANGE?

Our weather is always changing! It can change from hour to hour, from day to day, and from season to season.

The average weather in a place over many years is called the **climate**. This can also change.

For example, about 1.8 million years ago, most of North America was covered in ice. This **ice age** lasted until 11,500 years ago. Then the climate slowly became warmer and the ice melted.

These slow changes have happened many times in Earth's history. Today, however, there is a problem. The climate is changing quickly, and scientists think it is because of the way people live today.

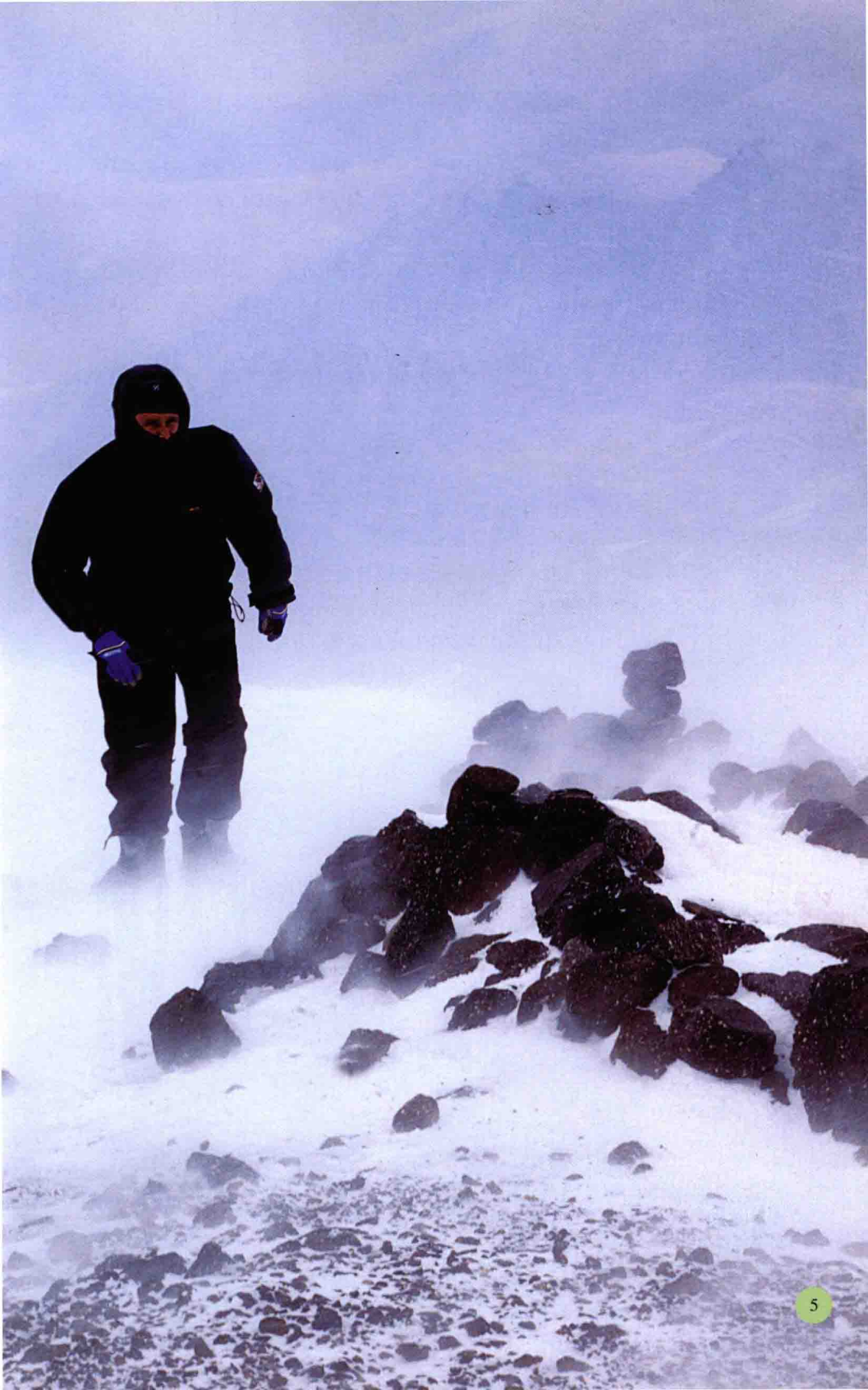
什么是气候变化?

天气总是在变化! 天气是时时变、天天变、每个季节都在变。

气候是某一地区多年的天气的综合状况。气候同样也会变化。

例如, 大约在180万年前, 北美几乎都在冰川覆盖下。**冰川期**可追溯到11 500年之前。随着气候渐渐变暖, 冰川开始融化。

在地球的历史上, 这种气候慢慢改变的情况发生过多。现在, 存在一个问题, 气候变化得太快。科学家认为这和人类现今的生活方式有关。



WHAT HAS CHANGED?

Climate changes that once took thousands of years may now take only a few hundred years. Some changes may be even faster. Changes that began about 100 years ago have speeded up in the last 50 years.

How is the climate changing? Temperatures are rising. Storms are becoming more frequent and more powerful. The warmer climate means that the **polar icecaps** and **glaciers** are melting.

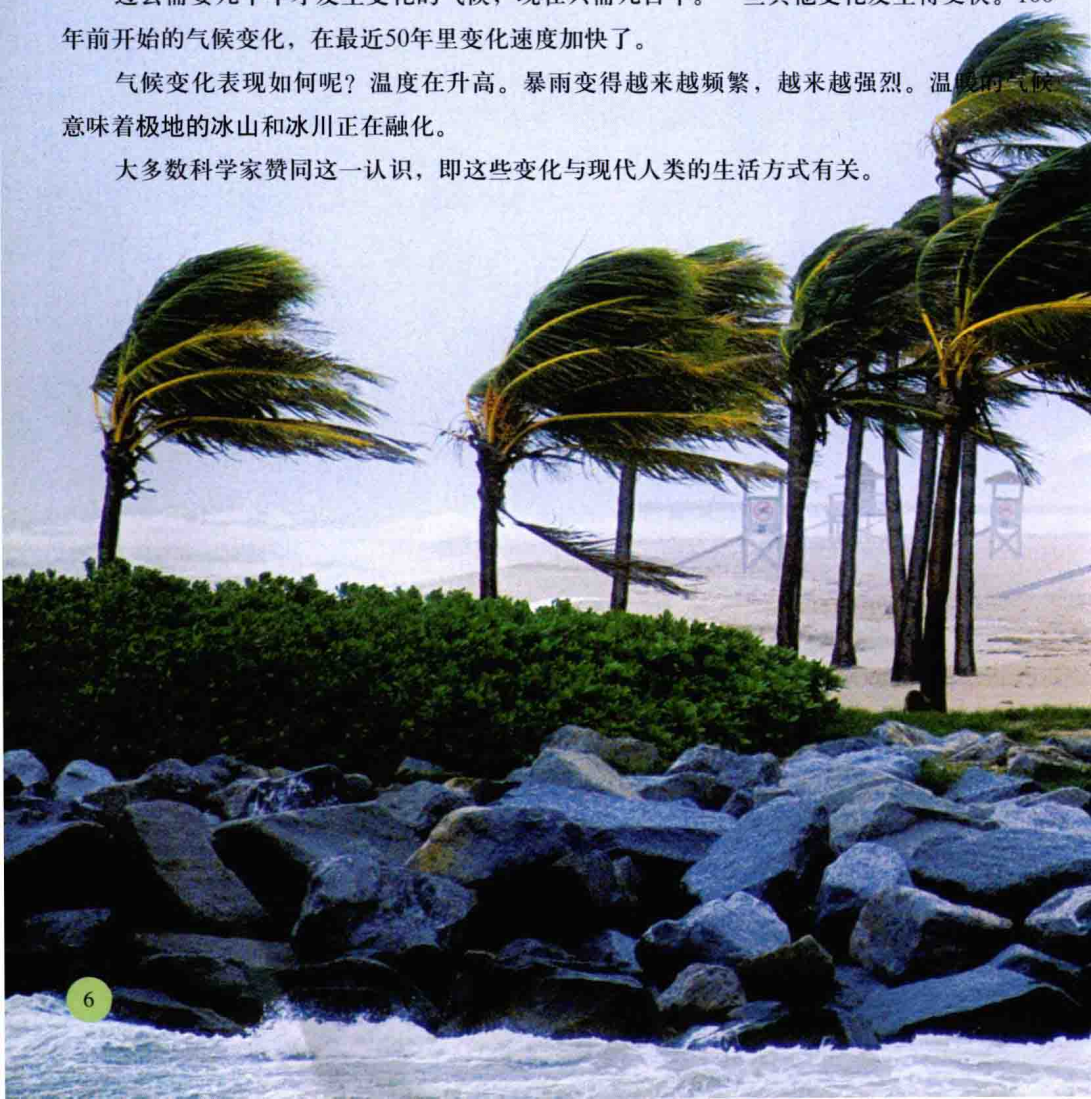
Most scientists agree that these changes are caused by the way we live now.

气候发生了什么变化？

过去需要几千年才发生变化的气候，现在只需几百年。一些其他变化发生得更快。100年前开始的气候变化，在最近50年里变化速度加快了。

气候变化表现如何呢？温度在升高。暴雨变得越来越频繁，越来越强烈。温暖的气候意味着极地的冰山和冰川正在融化。

大多数科学家赞同这一认识，即这些变化与现代人类的生活方式有关。





The patterns of rainfall are changing. Some places are getting much less rain. Other places are getting much more rain.

降水发生了变化。有的地方降雨越来越少，而有的地方却越来越多。



BURNING FOSSIL FUELS

What is causing these changes to happen more quickly?

In the last fifty years, the number of cars, trucks, planes, and motorcycles that people use has gone up. People have also built many more factories and power stations.

Most of these are powered by burning **fossil fuels**. When fossil fuels are burnt, the carbon they contain is released as **carbon dioxide** gas. Scientists believe that releasing more carbon dioxide gas is bad for the climate. It is making our planet warm up.

化石燃料的燃烧

是什么促使气候变化越来越快呢？

在最近50年间，汽车、卡车、飞机、摩托车的数量在增加。人们建立了更多的工厂和发电站。

这些都是通过燃烧化石燃料来产生能量的。当化石燃料燃烧时，其中的碳就会转化成二氧化碳。

科学家相信二氧化碳的过多排放对气候有害，会使地球变暖。



Today in the UK there are 27.8 million cars on the road. That's enough to fill a 52-lane motorway from London to Edinburgh.



FOSSIL FUELS

Coal, oil and gas are all fossil fuels. They are made from the remains of plants and animals that died millions of years ago.

化石燃料

天然气、石油和煤等是由几百万年前生物的遗体转化而来的燃料。

GREENHOUSE GASES AT WORK

The Sun warms the Earth. Then the Earth warms the layer of gases that surround the Earth. These gases are called the **atmosphere**.

Some gases in the atmosphere, such as carbon dioxide, trap the Sun's heat – just like the glass in a gardener's greenhouse. They are known as **greenhouse gases**.

Without these gases, the world would be too cold for living things.

However, if we put more gases, such as carbon dioxide, into the atmosphere, too much heat will be trapped.

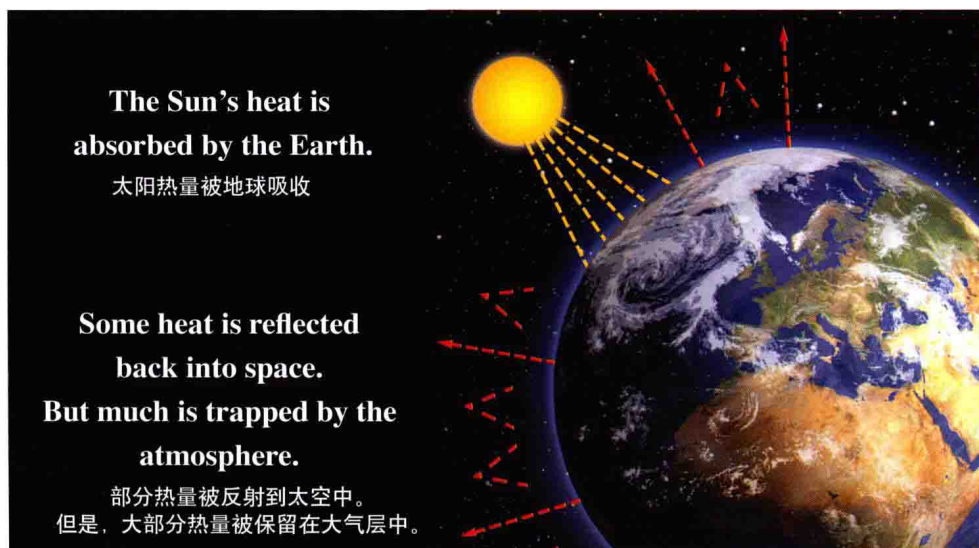
温室气体

太阳给地球提供热量。热量环绕在地球气体层。这些气体层被称为**大气层**。

一些大气层中的气体，例如二氧化碳，像花园温室的玻璃一样，会阻碍太阳的热量传到地球。这就是**温室气体**。

如果没有温室气体，地球就会太冷，生物就无法生存。

然而，如果排放过多的温室气体进入大气层，比如二氧化碳，过多的热量就会被保留在大气层中。



This shows how greenhouse gases trap heat inside Earth's atmosphere.
If too many of these gases are trapped, the temperature could become too warm.

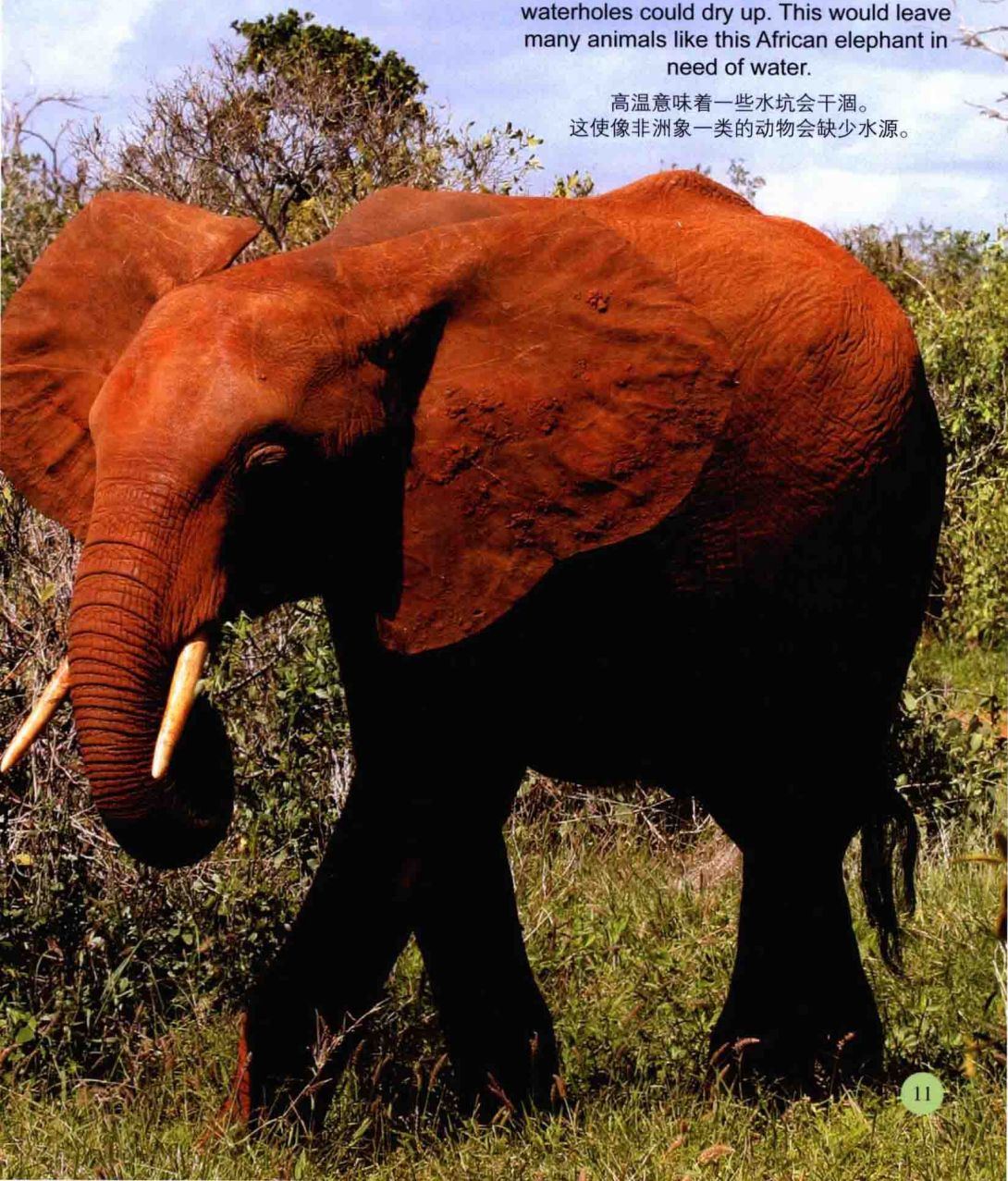
此图演示了温室气体如何把热量保留在地球的大气层里。
如果保留了太多的热量，地球就会太热。

Earth's temperature now is just right to support all the plant, animal and human life that exists. Heat trapped within the atmosphere could make the world warmer. This would affect all life, and could put many species of plants and animals in danger.

目前地球的温度对于地球上的植物、动物和人类正合适。被保留在大气层中的热量会使地球变暖。这将会影响所有的生物，并会使一些植物和动物面临灭绝。

Warmer temperatures would mean waterholes could dry up. This would leave many animals like this African elephant in need of water.

高温意味着一些水坑会干涸。
这使像非洲象一类的动物会缺少水源。





GLOBAL WARMING

We need some greenhouse gases in our atmosphere, but too much of them will cause **global warming**. However, this doesn't mean there will be sunnier weather.

In some places, global warming will be mild and just make summers hotter and winters less cold. But it could also cause extreme **heat waves**.

Global warming could affect wind patterns in the atmosphere and make storms more severe.

These changes will have a big effect on people's lives.

全球变暖

人类需要大气层中的温室气体，但是过多的温室气体会造成**全球变暖**。然而，这并不表示有更多的阳光天气。

在一些地方，全球变暖的表现比较温和：只是夏季更热、冬季不那么冷。在一些地方也会产生极端的热浪。

全球变暖会影响大气层中的风流动，会使风暴变得更加剧烈。这些变化会对人类的生活产生很大影响。



More rainfall could mean more flooding from hurricanes and other violent storms.

降雨越多就意味着飓风和其他剧烈的风暴带来的洪水越大。