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国家地理  
英语阅读与写作训练丛书

# Extreme Weather

极端的天气

[美] Josie Green 著

适合  
📍 高中生及同等英语水平读者使用



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# 致读者

想在快乐阅读中轻松地提高英语写作能力吗？你会发现，这套《国家地理英语阅读与写作训练丛书》（National Geographic Theme Sets, 下称《丛书》）就是一个很好的选择。

《丛书》共14册，涵盖14个主题，每个主题下的4个相关小话题围绕着关键概念，按阅读和写作的易难程度，循序渐进地依次编排。《丛书》的“关键概念+递进阅读+任务型写作”的创新编排体例，帮助学生从培养语感和思维方式开始，在阅读过程中自然习得英语写作的规律和特点，从根本上提高学生的综合语言应用能力。此外，《丛书》紧贴高中英语教学的实际需要，在针对性和实用性方面有着无可比拟的优势：

**第一，对生词进行注释。**注释生词既为读者创造了猜词空间，也为读者快速查阅提供了方便，不至于被生词破坏了阅读的兴致。考虑到音标对单词记忆，以及培养学生朗读与口语能力的重要作用，我们对所有注释词汇都加注了国际音标。

**第二，根据高中英语学习和高考写作的要求，对注释词汇进行三级分类。**记忆词汇属于基础词汇，也是高分作文常用词汇，学习者要做到会写、会读、会听、会用；**阅读进阶词汇**是高中生提高英语水平需要掌握的英语常用词汇，建议学习者经常使用，熟悉这类词汇有助于作文的表达；**阅读参考词汇**包括话题所涉及的专业词汇和非常用词汇，学习者了解即可，可以根据自己的实际情况各取所需。在编排中，记忆词汇在文中用加粗的字体表示。为了方便学生集中记诵，“阅读”板块的记忆词汇被放在每一个小话题的开篇页，“任务型写作”板块的记忆词汇则集中编排在书末。阅读进阶词汇和阅读参考词汇在文中分别用绿色和紫色字体表示，注释词条呈现在当前页上，以利于学生查阅。

**第三，以丰富多样的主题和体裁系统地介绍了各类英语应用文的写作。**写作从阅读开始，即首先了解优秀文章是什么样的。在阅读的基础上，《丛书》介绍了不同范文的体例特点和适用范围，其中包括记叙文、说明文等十几种常用作文体裁。同时，《丛书》以严谨的思路和清晰的操作步骤，把学生带进一个既有阶梯渐进的具体指引，又有充分创意空间的写作训练营。

**第四，具有综合教学功能。**由于在指导应用文写作方面的独特设计和精心编排，这套丛书不仅适合学生自学，更适用于课堂的写作教学。《丛书》的写作训练案例是英语教师写作教学中难能可贵的参考资料，可直接作为英语写作课程的辅助教材使用。

Try it! 你会发现，英语阅读原来可以这么轻松快乐，英语写作也不总是“头疼”、“痛苦”的代名词。

朱京力

中国人民大学附属中学  
2005年6月

# TEACHING NOTES

## Theme Objectives

### Extreme Weather

#### Key Concepts

1. Conditions in the atmosphere, such as air pressure, create weather.
2. Clouds give meteorologist clues about what is happening in the atmosphere.
3. Tools and technology help meteorologists gather data about weather.

#### Sections in the Theme

Droughts  
Floods  
Tornadoes  
Hurricanes

## Literacy Objectives

#### Vocabulary

air pressure	humidity
atmosphere	hurricane
data	meteorologist
drought	tornado
evaporation	updraft
flood	vapor
forecast	tropic
front	

#### Genre Study

Explanations

#### Visual Literacy

Weather Maps

#### Research & Write

Create Your Own Explanation

#### Comprehension Focus

Visualizing

## Background Information

#### About the Theme

*Extreme Weather* explains the causes of four different types of weather: droughts, floods, tornadoes, and hurricanes. While each section focuses on a different type of extreme weather and its causes and effects on living things, the same key concepts are developed across sections to help students focus on the big ideas. The theme explores the causes of extreme weather and develops an understanding of how meteorologists use cloud movement, tools, and

technology to predict weather. Students use the specific content and vocabulary within each section to discuss and examine these big ideas, or key concepts.

For more detailed teaching notes and assessment options, see the online Teacher's Guide at [www.nationalgeographic.com/education/readingexpeds](http://www.nationalgeographic.com/education/readingexpeds)



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[美] Josie Green 著  
朱京力 注



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# Extreme Weather

The weather **affects** people's lives in many different ways. Weather helps people decide what clothes to wear, or what to do in their spare time. However, the weather can also be a matter of life and death. **Extreme** weather can be very **severe**. **Droughts**, **floods**, **tornadoes**, and **hurricanes** are all examples of extreme weather.



## Key Concepts .....

1. **Conditions** in the **atmosphere**, such as **air pressure**, **create** weather.
2. Clouds give **meteorologists** **clues** about what is happening in the atmosphere.
3. Tools and technology help meteorologists gather **data** about weather.

### 阅读进阶词汇

air pressure 气压  
data /'deɪtə/ n. 数据  
drought /draʊt/  
n. 旱灾; 干旱季节  
flood /flʌd/  
n. 洪水, 水灾  
hurricane /'hʌrɪkən/  
n. 飓风  
tornado /tɔ:'neɪdəʊ/  
n. 龙卷风

### 阅读参考词汇

meteorologist  
/ˌmi:tiə'ɒlədʒɪst/  
n. 气象学家

## 记忆词汇

affect /ə'fekt/ v. 影响  
atmosphere /'ætəməsfɪə/  
n. 大气  
block /blɒk/ v. 挡住  
clue /klu:/ n. 线索; 提示  
common /'kɒmən/ adj. 常见的

condition /kən'dɪʃən/ n. 状况  
create /kri:'eɪt/ v. 引起, 造成  
destroy /dɪ'strɔɪ/ v. 破坏, 毁灭  
direct /dɪ'rekt/ adj. 直接的  
extreme /ɪk'stri:m/  
adj. 极端的, 极度的  
press /pres/ v. 压

severe /sɪ'vɪə/  
adj. 剧烈的, 严峻的  
sink /sɪŋk/ v. 下沉  
surround /sə'raʊnd/ v. 环绕  
temperature /'tempərətʃə/  
n. 温度





In this section you will learn  
about the causes and effects  
of droughts like this one.





# Weather and Drought

You may not like the weather when it rains. But imagine if it didn't rain. There would be no water. Think about how difficult your life would be without water. Droughts **occur** when it doesn't rain for a long time in a place that normally gets some rain. Droughts can badly affect people and the land.

## A Dry Time

When there is a drought, the land becomes very dry. Rivers, lakes, and soil can dry up. Crops can die. Animals can die from lack of water or food. Trees become so dry that forest fires can start easily. Forest fires can kill animals and **destroy** people's homes.

阅读进阶词汇

**occur** /ə'kʊ:/  
v. 发生, 出现



Forest fires can start easily during a drought.



Long droughts can cause **famine**. Famine occurs when people do not have enough to eat or drink. Many people can die when there is a famine.

Droughts can occur all over the world. Look at the map. You will see the places where droughts often happen.

阅读进阶词汇

**famine** /'fæmɪn/  
n. 饥荒

阅读参考词汇

**Kenya** /'kenjə/  
n. 肯尼亚

Grain is given to people during a famine in Kenya.



### Places Where Droughts Can Occur 世界上可能发生干旱的地区







**Key Concept 1** Conditions in the atmosphere, such as air pressure, create weather.

## Where Rain Comes From

To understand what causes droughts, you first have to understand where rain comes from. Rain comes from water in oceans, rivers, and lakes. The sun warms the water. This changes some of the water into water **vapor**. Vapor is very small drops of water in the air. This vapor rises into the atmosphere. The atmosphere is the **layer** of air that **surrounds** Earth.

阅读进阶词汇

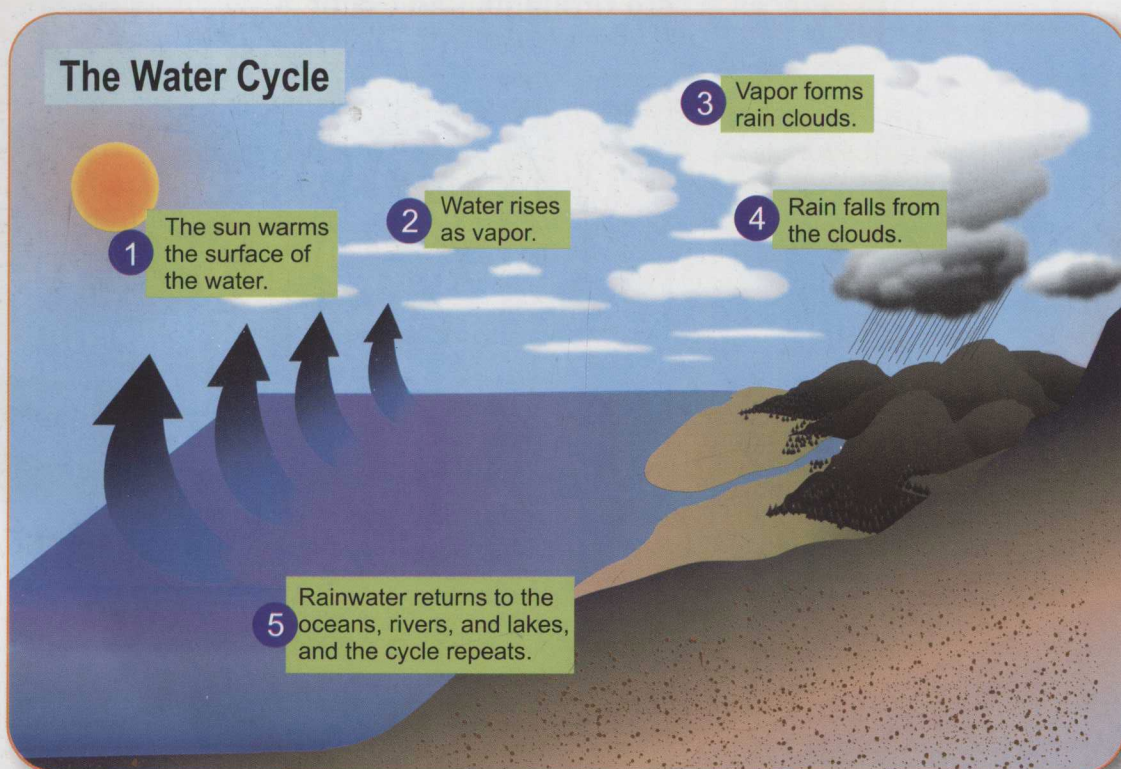
**layer** /'leɪə/ *n.* 层

阅读参考词汇

**vapor** /'veɪpə/ *n.* 水蒸气

As the vapor rises higher, it cools down. As it cools, the vapor turns into bigger drops of water. These drops form clouds. As the air gets colder, the drops get bigger and heavier. Then, they fall back to Earth as rain.

### The Water Cycle





## Air Pressure

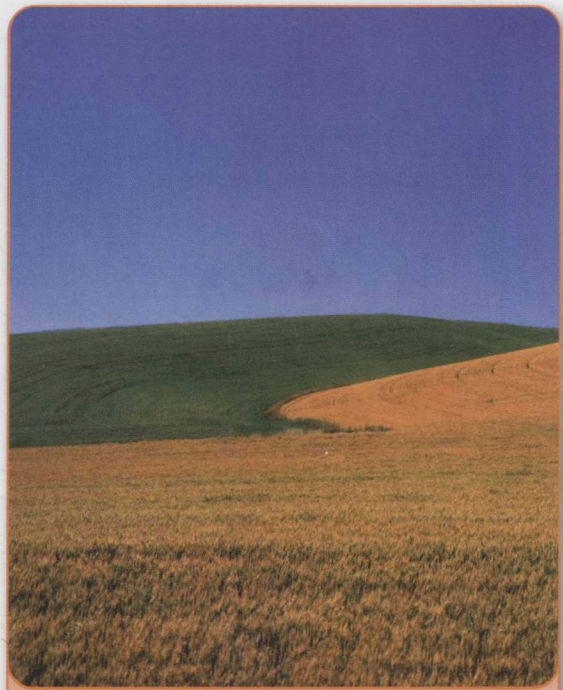
The air above Earth is always **pressing** down on Earth's surface. This is called air pressure. Air pressure is not always the same.

Warm air is lighter, so it tends to rise. Then, there is less air pressing down on Earth. This is called low air pressure. The rising air carries water vapor into the sky. The water vapor turns into clouds. Low air pressure often leads to rain.

When air above Earth cools, it becomes heavy and **sinks**. Sinking air forms high air pressure. The heavy air can stop water vapor from rising and forming rain clouds. So, high air pressure often leads to dry weather.



When the weather is wet, the air pressure is usually low.



When the weather is clear, the air pressure is usually high.



# Why Droughts Occur

Droughts can occur for many different reasons. The most **common** reason is high pressure that lasts for a long time.



This farmer's field is very dry due to a drought.

## High Air Pressure

When there is high air pressure in an area, it usually does not rain. High air pressure usually does not last long. After a while, warm air rises and rain clouds form. But sometimes, the air does not rise. The air pressure stays high for a long time, so rain clouds do not form.



## Droughts with Rain Clouds

Sometimes, rain clouds form in places where there are often droughts, but it still does not rain. This happens when it is hot and dry. The hot, dry air heats the drops of rain as they fall towards Earth. The heat turns the raindrops back into vapor before they reach the ground.



There may be clouds during a drought, but that does not always mean that it will rain.





**Key Concept 2** Clouds give meteorologists clues about what is happening in the atmosphere.

## Looking at Clouds

Meteorologists are people who study weather. One way meteorologists can **predict** the weather is by looking at clouds.

There are many types of clouds. Some clouds help meteorologists understand what weather conditions have caused a drought. Some types of clouds may show that a drought is going to end.

阅读进阶词汇

**predict** /prɪ'dɪkt/  
v. 预测

阅读参考词汇

**cirrus** /'sɪrəs/  
n. 卷云  
**wispy** /'wɪspi/  
adj. 一束的, 一丝的

### Looking at Clouds

**Cirrus** clouds are very high in the sky. Cirrus clouds are thin and **wispy**. It is very cold in the sky where cirrus clouds form so they are made of ice, not drops of water. Cirrus clouds do not bring rain that can end a drought.



Thin, wispy cirrus clouds do not bring rain.



## Cumulus Clouds

**Cumulus** clouds are **puffy** clouds.

Cumulus clouds can be a good sign during a drought. If cumulus clouds grow, they can bring rain. But big cumulus clouds are not always good news during a drought.

Sometimes, big cumulus clouds do not bring rain. Any rain falling from these clouds is heated by warm air and becomes vapor before it reaches the ground.



Small cumulus clouds can grow into big storm clouds.

## Nimbostratus Clouds

**Nimbostratus** clouds can show that a drought will end.

These clouds look like a thick blanket of cloud. They bring **steady** rain, often for days on end. This is the best type of rain to end a drought.

### 阅读进阶词汇

**puffy**

/'pʌfi/ *adj.* 鼓起的

**steady**

/'stedi/ *adj.* 稳定的

### 阅读参考词汇

**cumulus**

/'kju:mjʊləs/ *n.* 积云

**nimbostratus**

/.nimbəʊ'streɪtəs/

*n.* 乱层云



Nimbostratus are thick clouds that **block** out the sun.





**Key Concept 3** Tools and technology help meteorologists gather data about weather.

## Predicting Drought

Meteorologists have ways of predicting drought. They use tools to gather data, or information. Computers turn the data into weather maps. Meteorologists use the weather maps to see if a drought may occur.

Meteorologists can also predict if rain may come to end a drought. **Thermometers**, **hygrometers**, and weather **satellites** are some of the tools that meteorologists use.

阅读进阶词汇

**satellite** /'sætəlaɪt/ *n.* 卫星

阅读参考词汇

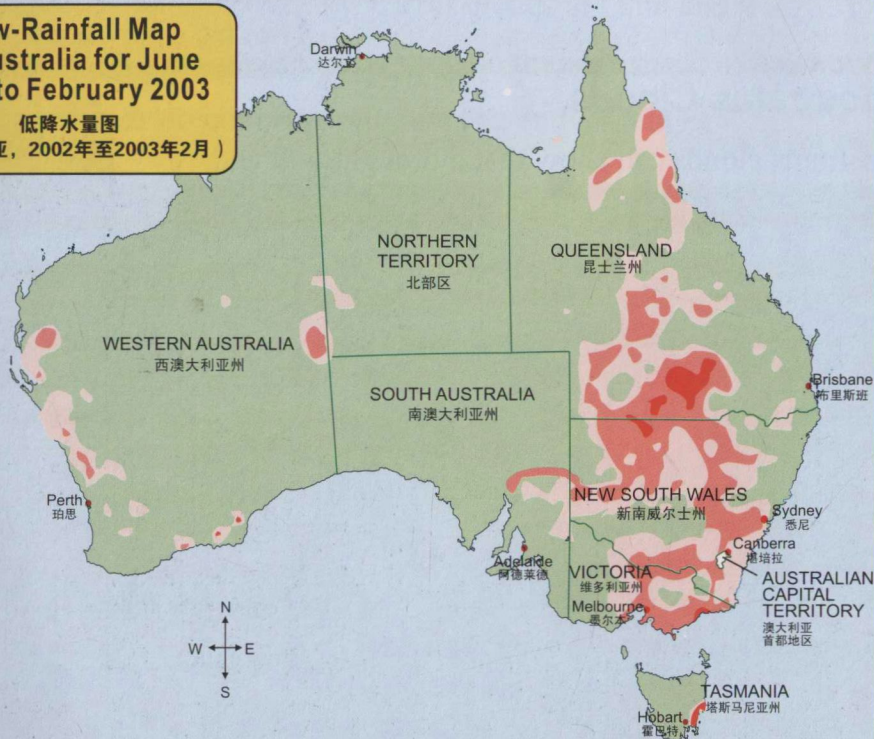
**hygrometer**  
/haɪ'grəmɪtə/ *n.* 湿度计

**thermometer**  
/θə'mɒmɪtə/ *n.* 温度计

**Low-Rainfall Map  
of Australia for June  
2002 to February 2003**

低降水量图

(澳大利亚, 2002年至2003年2月)



**Key 图例**

Below Average Rainfall Areas 低于平均降水量的地区



Low 低

Very low 很低

Extremely low 极低

Which state had the largest area of drought?