
VOA Science for Tomorrow

VOA/西本典生

CONTENTS

- UNIT 1 Studying Earthquake Faults from Space / 1
- UNIT 2 Scientists Make Copy of Animal / 6
- UNIT 3 Nicotine and the Brain / 11
- UNIT 4 Personality Gene Update / 16
- UNIT 5 Mice and Mothering Gene / 21
- UNIT 6 Older Mother / 26
- UNIT 7 Water on the Moon? / 31
- UNIT 8 Earliest Life / 36
- UNIT 9 Dinosaurs and Birds / 41
- UNIT 10 Darwin and Panic Disorder / 46
- UNIT 11 Growing Vaccines in Food / 51
- UNIT 12 Rainforest Cafe / 56
- UNIT 13 Cooking Safe Hamburgers / 61
- UNIT 14 Space Wheat / 66
- UNIT 15 Cleaning Water with Crop Materials / 71
- NOTES / 76

Studying Earthquake Faults from Space



The San Andreas Fault and the San Francisco Bay Area

INTRODUCTION

地震の予知が可能になることは、私たち人類の大きな願いである。現在アメリカでは、非常にユニークな方法を用いて、地震予知の研究が続いている。もしかしたら、その最新のテクノロジーが私たちの願いを叶えてくれるかもしれない。

KEY WORDS

volcanically active 「火山活動の活発な」 the Ring of Fire 「環太平洋火山帯」
San Andreas Fault 「サンアンドレアス断層」 北米西岸に沿った大断層
tectonic plates 「地殻プレート」 GPS = Global Positioning System surface
「表面」

1. LISTENING FOR INFORMATION

CD TRACK

1

▶ CDを聴き、次の情報をつかんでみましょう。

1. What do scientists use to study the movements of tectonic plates in Southern California?
2. How little ground movements can the devices observe?
3. When fully installed, how many devices will be operating in the Los Angeles area?

2. LISTENING FOR DETAIL

CD TRACK 1

- ▶ CDを聴いて、本文中の()に入る語を書き取りなさい。
それぞれ1語が入ります。

People who live in southern California are getting help from space in dealing with earthquakes. Scientists in that western American state are doing an experiment using (1) to watch for very small (2) (3) (4)
5 (5) of the Earth. Earthquakes are common in California, as they are throughout the Asia-Pacific area known as the "Ring of Fire." It is an area of active volcanos.

Earthquakes happen along faults - like the big San Andreas Fault near Los Angeles. Faults are breaks in rock formations
10 just under the surface of the Earth. These huge formations are called tectonic plates. As many as twenty of them cover the Earth. These plates float about slowly, sometimes crashing into each other, and sometimes moving away from each other. Pressure builds along the faults as the plates move in different
15 directions. (6) (7) (8) (9) (10).

The last big earthquake that shook the Los Angeles area happened early one morning in January nineteen-ninety-four. Sixty people were killed. And almost nine thousand others
20 were injured. The earthquake did thousands of millions of dollars in damage.

Scientists have spent years trying to develop (11) (12) (13). One new project involves using satellites to study the movements of faults in southern

California. These satellites are part of the United States government's Global Positioning System. Twenty-four GPS satellites orbit the Earth. They serve as guides. Their signals tell soldiers, sailors and anyone else with a special radio receiver where they are on Earth.

5

Now, GPS satellites will help scientists in southern California continuously measure movements in the surface of the Earth. A project scientist says the satellites will be able to observe ground movements of (14) (15) (16) (17) (18) (19) (20). These observations will show where pressure is building, and where an earthquake might happen.

10

Two-hundred-fifty GPS receivers will be operating in the Los Angeles area within three years. Earthquake scientists already are using the more than forty that are in place to gather measurements. They say the continuing GPS information will (21) (22) (23) prepare for earthquakes in southern California.

15

This *Science Report* was written by Avi Arditti. And this is Bill White.

20

3. LISTENING FOR COMPREHENSION



▶ テープを聴いて、答えとなる語を1つ選び書き取りなさい。

1. The volcanically active Asia-Pacific area is known as the "Ring of (a. b. c.)."
2. Tectonics plates float about (a. b. c.).
3. Scientists are now developing (a. b. c.) warning systems.
4. Many GPS receivers will be operating within (a. b. c.) years.

4. VOCABULARY

▶ 下の語群から正しい語句を選び、() 内に記号を書き入れなさい。

- | | |
|---------------------------|--------------------------------|
| a. rock formations | b. the " Ring of Fire " |
| c. in damage | d. in the surface of |

1. Earthquakes did thousands of millions of dollars ().
2. They call huge () tectonic plates.
3. Earthquakes are common throughout the Asia-Pacific area called ().
4. GPS satellites will help measure movements () the Earth.

5. COMPOSITION

▶ 次の日本語を英語に直しなさい。

1. 20ほどもの地殻プレートが地球全体を覆っている。

(tectonic plates)

▷ As many as を主語にして。

2. 地震は何年もの間、蓄積されてきた圧力が放出される時に起こる。

(the pressure that has been building, be released)

▷ Earthquakes happen に続けて。

3. 学生たちもこの地震観測システムの実験に参加することができる。

(earthquake observation system)

▷ Students also を主語にして。

