



1 Article : Unprecedented Drought Conditions To Become New Normal

Directions: Read the following article aloud.

Japanese research team releases a first-of-its-kind global forecast warning of severe droughts lasting five years or more before the end of the century.

On June 28, a team of researchers from the National Institute for Environmental Studies (NIES) and the University of Tokyo announced predictions that droughts, which have been increasingly pronounced alongside the progression of global warming, will increase in severity this century.

According to the research team, abnormal drought conditions will become the norm in many countries around the world.

This forecast is the first of its kind globally. Although Japan is not included in affected areas, it will be practically impossible to avoid the impacts. Among other things, Japan could [have difficulty securing](#) food, since the country's food supply is heavily dependent on imports.

Included in regions forecasted to experience record-breaking droughts that persist for over five years are parts of North and South America, the Mediterranean coast of Europe, the Middle East, Africa and Australia.

In addition to intensified drinking water [shortages](#) brought about by the dry conditions, negative impacts on farming and industrial activities, as well as the rampant spread of diseases, are of concern, according to the study team.

Source: [Unprecedented Drought Conditions To Become New Normal](#)
[JAPAN Forward](#)



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Droughts Spreading to Other Parts of the World

The findings were based on data of droughts that occurred in rivers around the world between 1865 to 2005. Using a system for predicting future temperature rises and atmospheric circulation, researchers conducted a simulation to estimate when and where unparalleled incidents of drought would occur. They calculated years in which the number of days of extremely low water volume, such as dried up riverbeds, would exceed past records for five or more consecutive years.

Such extreme droughts have already begun, for example in Chile on the western coast of South America.

According to the research team, the severe conditions will spread to other parts of the world by 2090 if the global mean temperature rise is relatively moderate, or around two degrees Celsius above pre-industrial levels by the end of the century. With more drastic warming of four degrees, this new normal could become pronounced around 2060, with more extensive areas affected compared to a two-degree temperature rise.

The researchers note that many of the regions prone to these extreme droughts are exporters of food to Japan. Therefore, if the droughts exert adverse impacts on agricultural production, Japan could [suffer](#) food supply shortages.

In addition, as global warming progresses, there is likely to be a marked polarization of dry and wet zones. Other regions, conversely, could [face](#) increased frequencies of torrential rains, floods, and other disasters.

Professor Kei Yoshimura of the University of Tokyo, a member of the research team, explains. “While efforts to rein in global warming are of course urgently needed,” he says, “it is important to look at ways of adapting to such abnormal environments, especially in areas facing previously unimaginable conditions where unprecedented droughts are becoming the norm.”

2 Key phrases and vocabulary

Directions: First repeat after your tutor and then read aloud by yourself.

- 1. have difficulty (in) ~ing** ~するのが困難である、~するのに苦労する
 - People with ADHD may **have difficulty concentrating**, following directions, and organizing tasks.
- 2. shortage (of)** ~の不足・欠乏、不足額
 - There is a **shortage of** medical supplies in the refugee camps.
- 3. suffer** ~を被る、~(嫌なこと)に耐える、(肉体的・精神的に)苦しむ、苦痛を感じる、苦労する、苦しい経験をする
 - We cannot forget that so many people are **suffering** in wars in the world.
- 4. face** 直面する、(現実などを)直視する・受け止める、対峙する、立ち向かう、~に面している
 - People often refuse to **face** reality instead of dealing with it.

3 Questions

Directions: Read the questions aloud and answer them.

- 1. How could the extreme drought affect Japan?**
- 2. What other natural disasters could happen as global warming continues to worsen?**
- 3. If we have to adapt to abnormal environments as Professor Kei Yoshimura suggests, how could we prepare for it?**
- 4. Some people say we may have to leave Earth and live in space or on other planets in the near future. Do you agree?**

4

**日本語関連記事：
今世紀中に異常干魃常態化 過去最大超が5年以上 環境研など世界初予測**

地球温暖化の進行で顕著になっている干魃(かんばつ)が今世紀中にさらに深刻さを増し、異常な干魃状態が世界各国で常態化するとの予測を、国立環境研究所や東京大などの研究チームが28日、発表した。こうした予測は世界初。日本は予測された地域に含まれていないが、輸入に頼っている食糧の確保が困難になることが懸念され、影響は避けられないという。

5年以上にわたって過去最大を超える干魃が続くと予測された地域は、主に南米や北米、地中海沿岸の欧州や中東、アフリカ、オーストラリアなど。乾燥で水不足が深刻化し、飲料水確保だけでなく、農業や工業への悪影響のほか、病気の蔓延(まんえん)なども懸念される。

1865～2005年に全世界の河川で生じた干魃のデータを基に、今後の気温上昇や大気循環の予測システムも利用し、1年のうち河川が干上がるなど水量が極端に減る日数が、過去最大を超える年が5年以上続く事態がいつどこで起きるかをシミュレーション(模擬実験)で試算した。

この極端な干魃は、南米西岸のチリなどでは既に始まっている。他の場所は、地球の平均気温が今世紀末までに、産業革命以前に比べ約2度上昇する比較的緩やかな温暖化の場合、2090年ごろまでに広がる。約4度上昇する急激な温暖化の場合、2060年ごろ顕著になり、約2度上昇の場合より地域が拡大する。

研究チームによると、異常な干魃が発生する地域には、日本に食糧を輸出している国が多い。そのため、干魃で農業生産に悪影響が出れば、日本への食糧供給が難しくなることが懸念される。また、温暖化が進行すると乾燥地帯と湿潤地帯が顕著に二極化しやすく、他の地域では逆に、豪雨や洪水などの災害が増加する可能性もあるという。

チームの芳村圭・東京大教授は、「地球温暖化の抑制を強める努力が必要なことは当然だが、過去最大を超える干魃が常態化するという、これまで考えられなかった状況になる地域では、異常な環境への適応策を迅速に検討しておくことが大切だ」と話している。

出典：今世紀中に異常干魃常態化 過去最大超が5年以上 環境研など世界初予測

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