

## Satellite launched to map Earth's water

19th December 2022



A U.S.-French satellite has been launched with a mission to map all the world's oceans, lakes, reservoirs, rivers and other waterways. The satellite has been dubbed SWOT -

Surface Water and Ocean Topography. It went into space just before dawn on Friday. Scientists hope data from the satellite will help them to monitor how climate change is adversely changing water levels. The U.S. broadcaster PBS said: "The satellite is needed more than ever, as climate change worsens droughts, flooding and coastal erosion." A NASA spokesperson spoke of the mission's importance. She said: "It's a pivotal moment....We're going to see Earth's water like we've never seen it before."

The SWOT satellite is about the size of an SUV (sports utility vehicle). It took 20 years to develop, at a cost of \$1.2 billion. High-precision radar equipment will measure the height of water on more than 90 per cent of Earth's surface. It will survey millions of lakes, as well as 2.1 million kilometres of rivers. Scientists will identify potential areas of water loss that could threaten local populations and coastlines. NASA said SWOT is a marked technological upgrade from its predecessors. A spokesperson said: "SWOT will give us a ten-fold improvement in the [accuracy] and spatial resolution of our measurements of water height." It will help scientists to better understand, "the critical role the oceans play in climate change".

Sources: [pbs.org](https://pbs.org) / [aljazeera.com](https://aljazeera.com) / [spacenews.com](https://spacenews.com)

### Writing

Everyone needs to conserve water immediately. Discuss.

### Chat

Talk about these words from the article.

satellite / mission / reservoir / dawn / climate change / water levels / drought / Earth / SUV / radar / surface / scientists / water loss / upgrade / measurements / oceans

### True / False

- 1) A Sino-American satellite will map the world's water. T / F
- 2) The satellite is called SWOT - Satellite for Water and Ocean Topography. T / F
- 3) The satellite was launched early Friday evening. T / F
- 4) The broadcaster PBS said the satellite was very much needed. T / F
- 5) The satellite is the size of a sports utility vehicle. T / F
- 6) The satellite will survey 2.1 million kilometres of Earth's rivers. T / F
- 7) The satellite has the same level of technology as earlier satellites. T / F
- 8) The satellite will help scientists understand climate change more. T / F

### Synonym Match

(The words in **bold** are from the news article.)

- |                     |               |
|---------------------|---------------|
| 1. <b>mission</b>   | a. daybreak   |
| 2. <b>dubbed</b>    | b. part       |
| 3. <b>dawn</b>      | c. vital      |
| 4. <b>adversely</b> | d. inspect    |
| 5. <b>pivotal</b>   | e. nicknamed  |
| 6. <b>develop</b>   | f. exactness  |
| 7. <b>precision</b> | g. journey    |
| 8. <b>survey</b>    | h. recognize  |
| 9. <b>identify</b>  | i. negatively |
| 10. <b>role</b>     | j. create     |

### Discussion – Student A

- a) What do you know about water?
- b) What do you know about satellites?
- c) What do you think of the SWOT satellite?
- d) What is happening to your country's water?
- e) What might spark water wars in the future?
- f) How is climate change affecting water?
- g) How would your country handle a drought?
- h) What water problems has your country had?

## Phrase Match

- |  |                           |
|--|---------------------------|
| 1. The satellite has been dubbed             | a. vehicle                |
| 2. climate change is adversely               | b. never seen it before   |
| 3. climate change worsens droughts, flooding | c. coastlines             |
| 4. It's a pivotal                            | d. areas of water loss    |
| 5. see Earth's water like we've              | e. and coastal erosion    |
| 6. sports utility                            | f. SWOT                   |
| 7. High-precision                            | g. play in climate change |
| 8. Scientists will identify potential        | h. moment                 |
| 9. threaten local populations and            | i. radar equipment        |
| 10. the critical role the oceans             | j. changing water levels  |

## Discussion – Student B

- What do you think about what you read?
- What do you think of water?
- What threats are there to levels and quality of water?
- Is the SWOT satellite good value for money?
- What would you do if water became scarce?
- What role do oceans play in climate change?
- What is climate change doing to the oceans?
- What questions would you like to ask the topographers?

## Spelling

- a nsisiom to map all the world's oceans
- lakes, resroiesvr, rivers and other waterways
- climate change is dllrsaevy changing water levels
- climate change worsens rguothsd
- flooding and coastal ooesirn
- It's a ivlotpa moment
- sports iuttily vehicle
- High-enpcosiir radar equipment
- identify etptaoinl areas of water loss
- upgrade from its cdpeoesersrs
- a ten-fold improvement in the ypracaccu
- tislapa resolution

### Answers – Synonym Match

1. g	2. e	3. a	4. i	5. c
6. j	7. f	8. d	9. d	10. b

## Role Play

### Role A – Hose Pipes

You think hose pipes are the biggest waste of this valuable resource. Tell the others three reasons why. Tell them what is wrong with their uses. Also, tell the others which is the least wasteful of these (and why): swimming pools, golf courses or bottled water.

### Role B – Swimming Pools

You think swimming pools are the biggest waste of this valuable resource. Tell the others three reasons why. Tell them what is wrong with their uses. Also, tell the others which is the least wasteful of these (and why): hose pipes, golf courses or bottled water.

### Role C – Golf Courses

You think golf courses are the biggest waste of this valuable resource. Tell the others three reasons why. Tell them what is wrong with their uses. Also, tell the others which is the least wasteful of these (and why): swimming pools, hose pipes or bottled water.

### Role D – Bottled Water

You think bottled water is the biggest waste of this valuable resource. Tell the others three reasons why. Tell them what is wrong with their uses. Also, tell the others which is the least wasteful of these (and why): swimming pools, golf courses or hose pipes.

## Speaking – Water uses

Rank these with your partner. Put the worst uses of water at the top. Change partners often and share your rankings.

- |                 |                  |
|-----------------|------------------|
| • Golf courses  | • Hose pipes     |
| • Bottled water | • Swimming pools |
| • Water pistols | • Car washes     |
| • Fountains     | • Water parks    |

### Answers – True False

1 F	2 F	3 F	4 T	5 F	6 T	7 F	8 T
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Answers to Phrase Match and Spelling are in the text.