

COPERNICUS EARTH OBSERVATION

DATA VISUALISATION WORKSHOP SERIES



PROGRAMME OF THE
EUROPEAN UNION



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Introduction to EO Data Visualisation

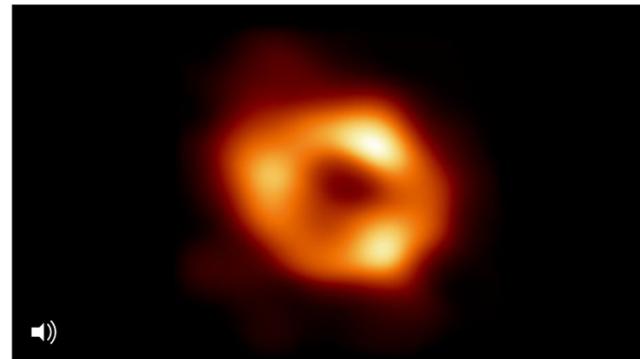
Jonathan Amos

BBC News - jonathan.amos@bbc.co.uk -  @BBCAmos

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Black hole: First picture of Milky Way monster

© 12 May 2022



Ziri Youns: "We affectionately term it a doughnut in the collaboration"



By Jonathan Amos >
BBC Science Correspondent
@BBCAmos

This is the gargantuan black hole that lives at the centre of our galaxy, pictured for the very first time.

Known as Sagittarius A*, the object is a staggering four million times the mass of our Sun.

What you see is a central dark region where the hole resides, circled by the light coming from super-heated gas accelerated by immense gravitational forces.



#EOData4Storytelling

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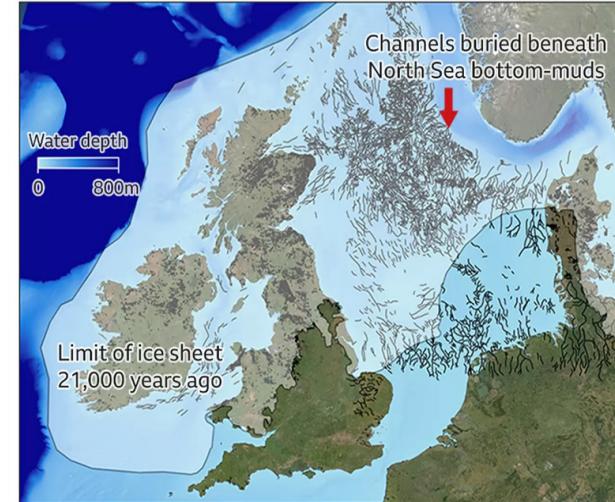
Greenland's future may be written under North Sea

© 5 October 2022



Climate change

Tunnel valleys of ice age Northern Europe



By Jonathan Amos >
BBC Science Correspondent
@BBCAmos

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Endurance: Shackleton's lost ship is found in Antarctic

© 9 March 2022



WATCH: First pictures reveal lost Antarctic ship Endurance



By Jonathan Amos >
BBC Science Correspondent
@BBCAmos

Scientists have found and filmed one of the greatest ever undiscovered shipwrecks 107 years after it sank.

The Endurance, the lost vessel of Antarctic explorer Sir Ernest Shackleton, was found at the weekend at the bottom of the Weddell Sea.

The ship was crushed by sea-ice and sank in 1915, forcing Shackleton and his men to make an astonishing escape on foot and in small boats.

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Meteosat-12: Europe's new weather satellite takes first photos

⌚ 4 May



| WATCH: Meteosat-12 takes a picture of the weather systems below it every 10 minutes



By Jonathan Amos >

BBC Science Correspondent

@BBCAmos >

The first images from Europe's new weather satellite, Meteosat-12, have just been released.



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Copernicus Sentinels: UK industry loses out in European satellite bids

© 1 July 2020



Brexit



AIRBUS DS/MAX ALEXANDER

Made in Britain: Sentinel-5P makes global maps of air pollution

By Jonathan Amos

BBC Science Correspondent

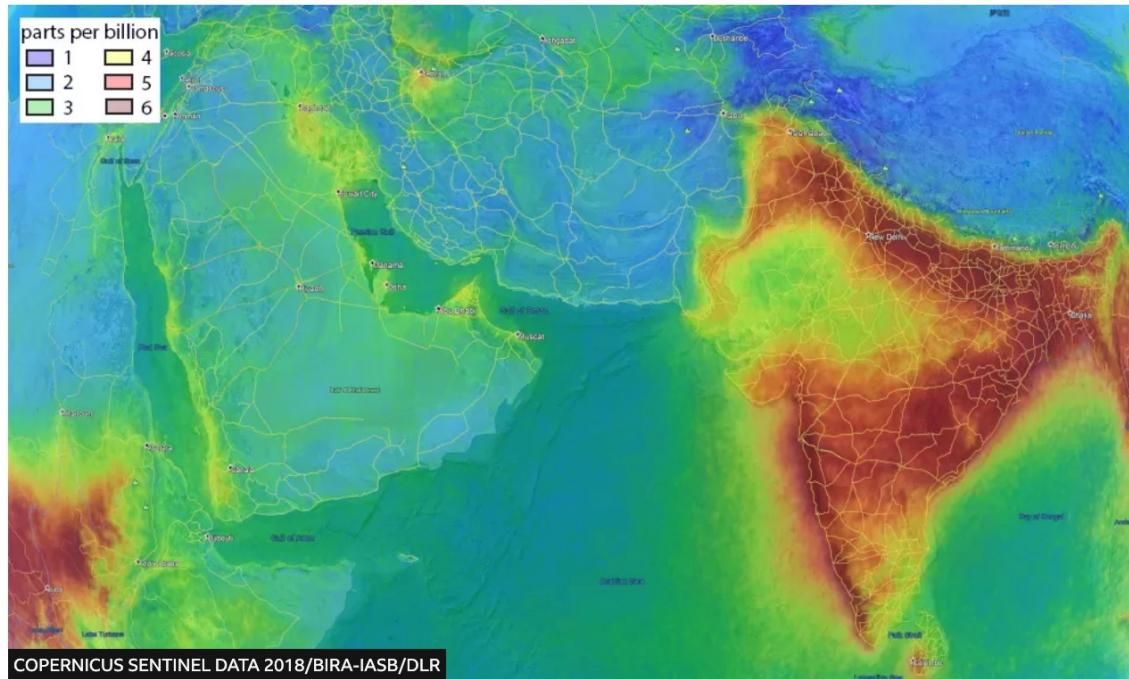
UK industry is the big loser as Europe seeks to expand its Copernicus Earth observation programme.



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Why does India's air look different from space?

⌚ 22 June 2018



| Formaldehyde as measured by SSP-Tropomi: The map contains four months of observations up to April this year

By Jonathan Amos

BBC Science Correspondent

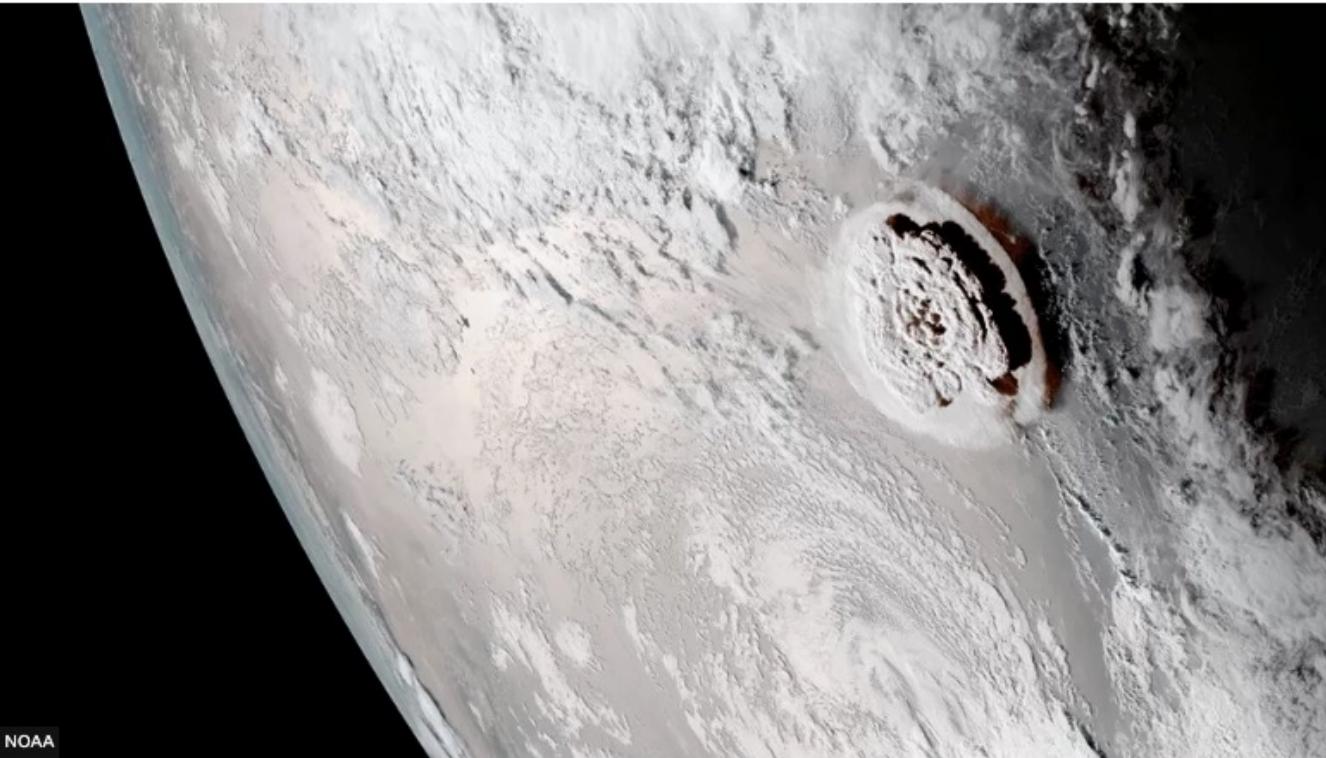
There is something very distinct about the air over India and the surrounding countries in South Asia.



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Tonga eruption and tsunami



NOAA

By The Visual Journalism Team

BBC News

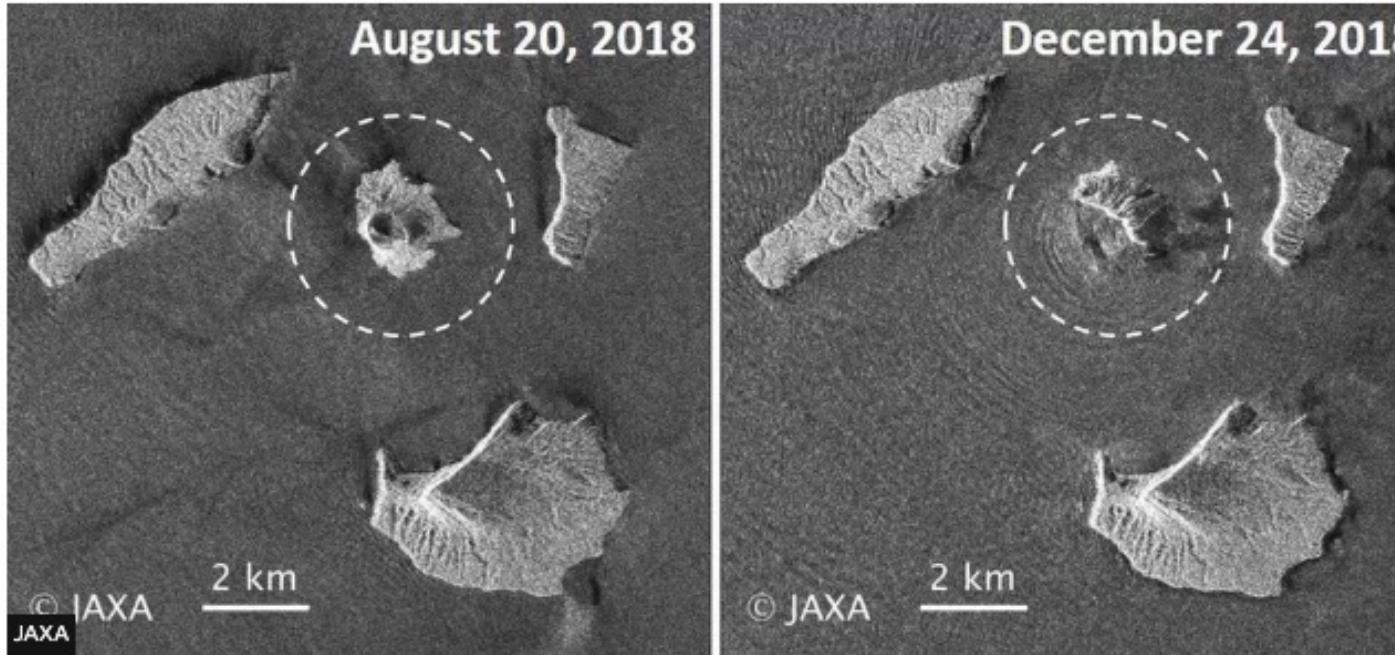
A massive volcanic eruption in Tonga, on Saturday, triggered a tsunami that spread across the Pacific in a matter of hours.

Waves hit Australia, New Zealand and Japan as well as the west coasts of North and South America, and an atmospheric shockwave was detected



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In terms of volume, 150-170 million cubic metres of material has gone, leaving only 40-70 million cubic metres still in place.



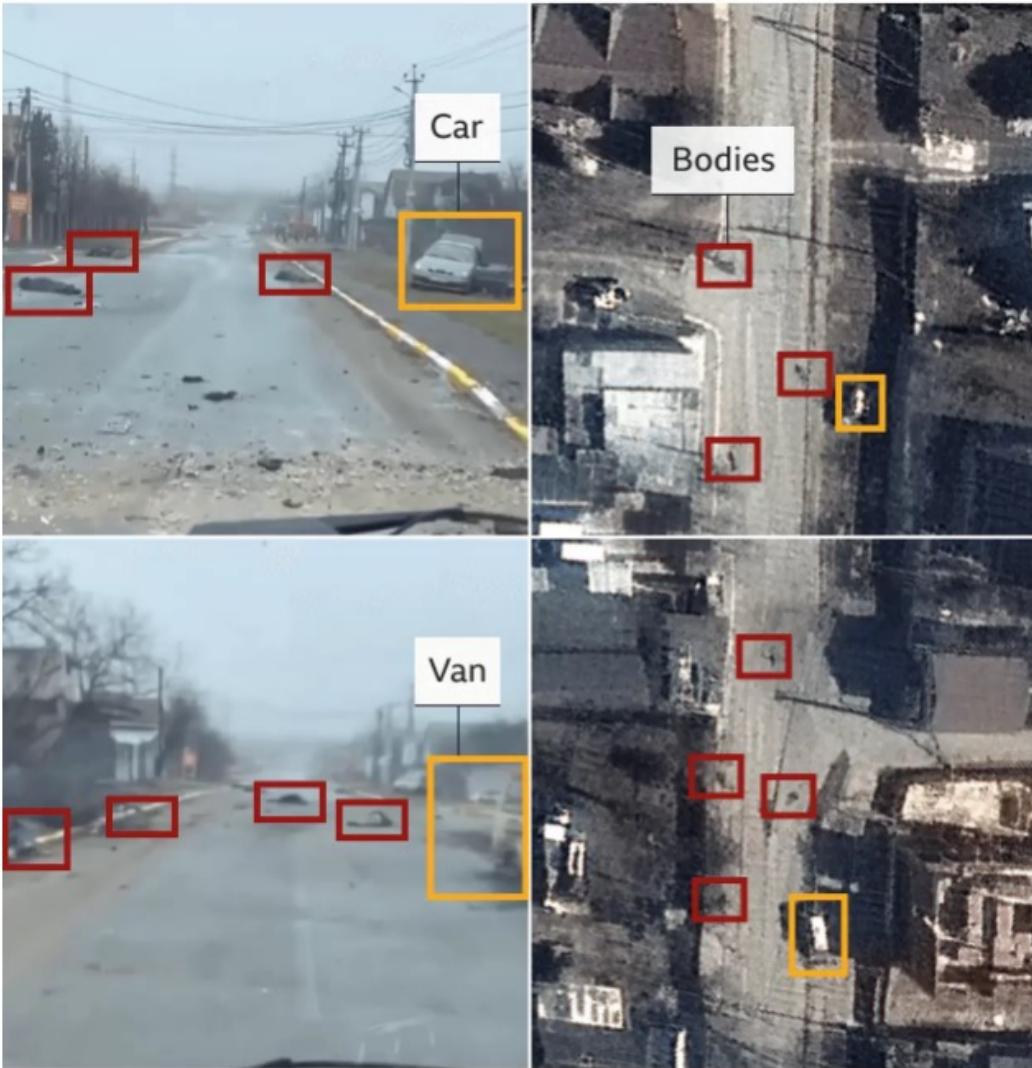
| The Japanese Alos-2 radar satellite is also being used to monitor Anak Krakatau

Quite how much mass was lost on 22 December itself and how much in the following days is unknown. Scientists may have a better idea once they have had a chance to visit the volcano and conduct more extensive surveys.



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Bodies in video match image taken before Russian withdrawal



Source: Images from Maxar, 19 March 2022. Video from 1 April 2022

BBC

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Buildings destroyed around the stadium

■ Complete or partial collapse of building

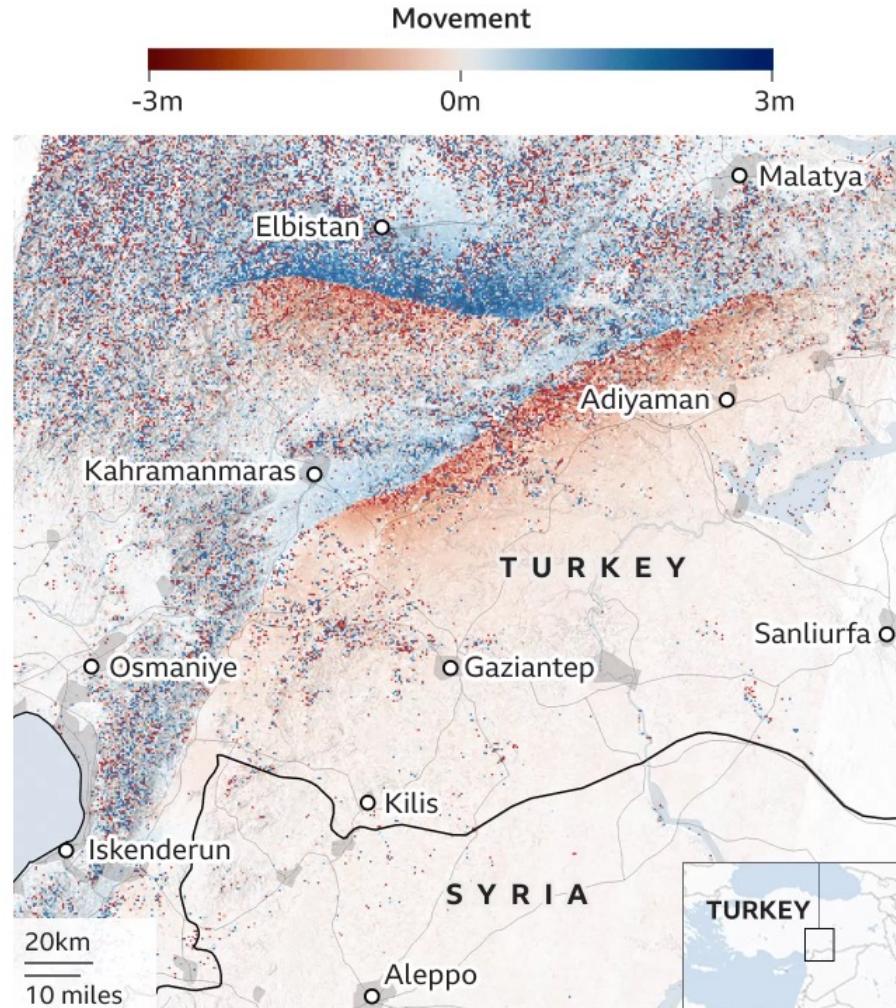


Source: BBC analysis

BBC

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EU satellite precisely maps earthquake faults



Ground movement measured closer to or further away from passing satellite

Source: Copernicus data, Esa, Comet 2023

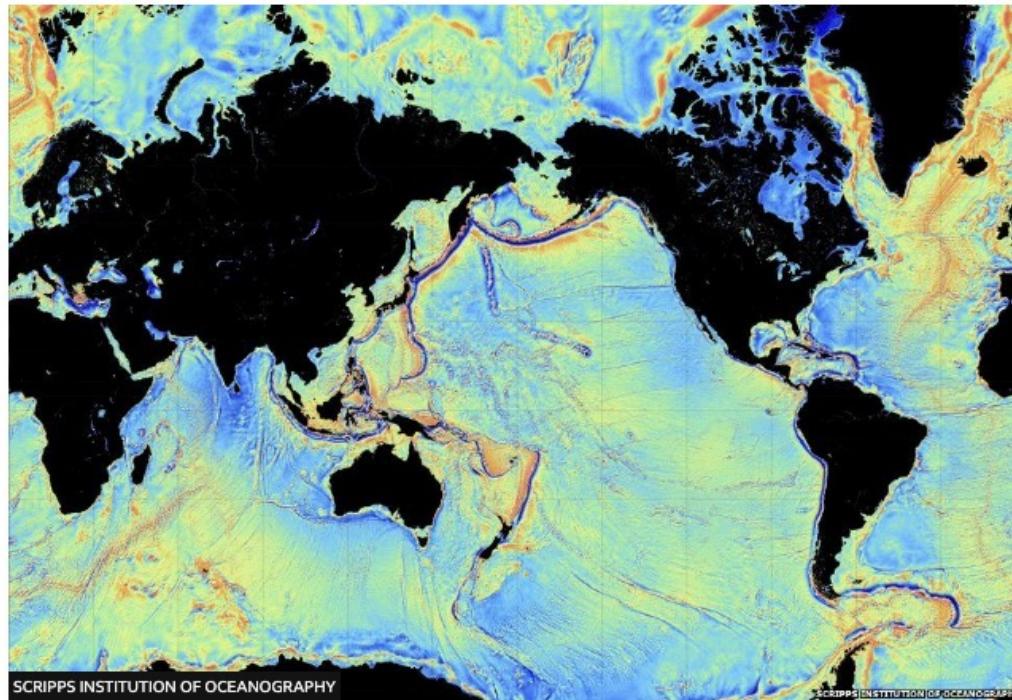
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By Jonathan Amos
BBC Science Correspondent

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Satellites detect 'thousands' of new ocean-bottom mountains

⌚ 2 October 2014

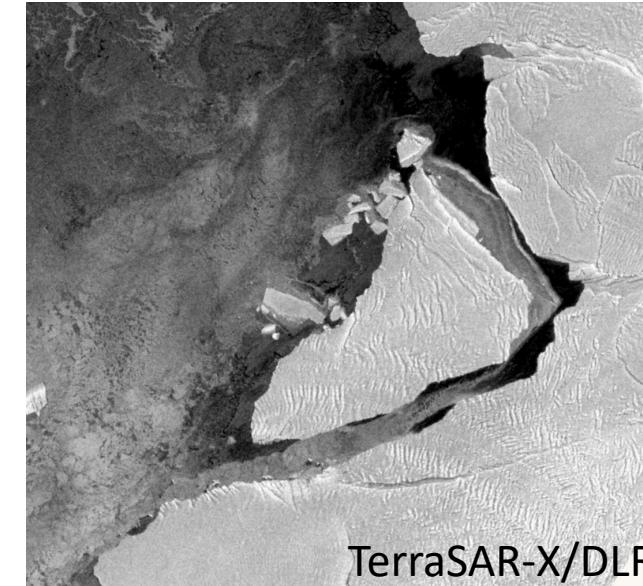
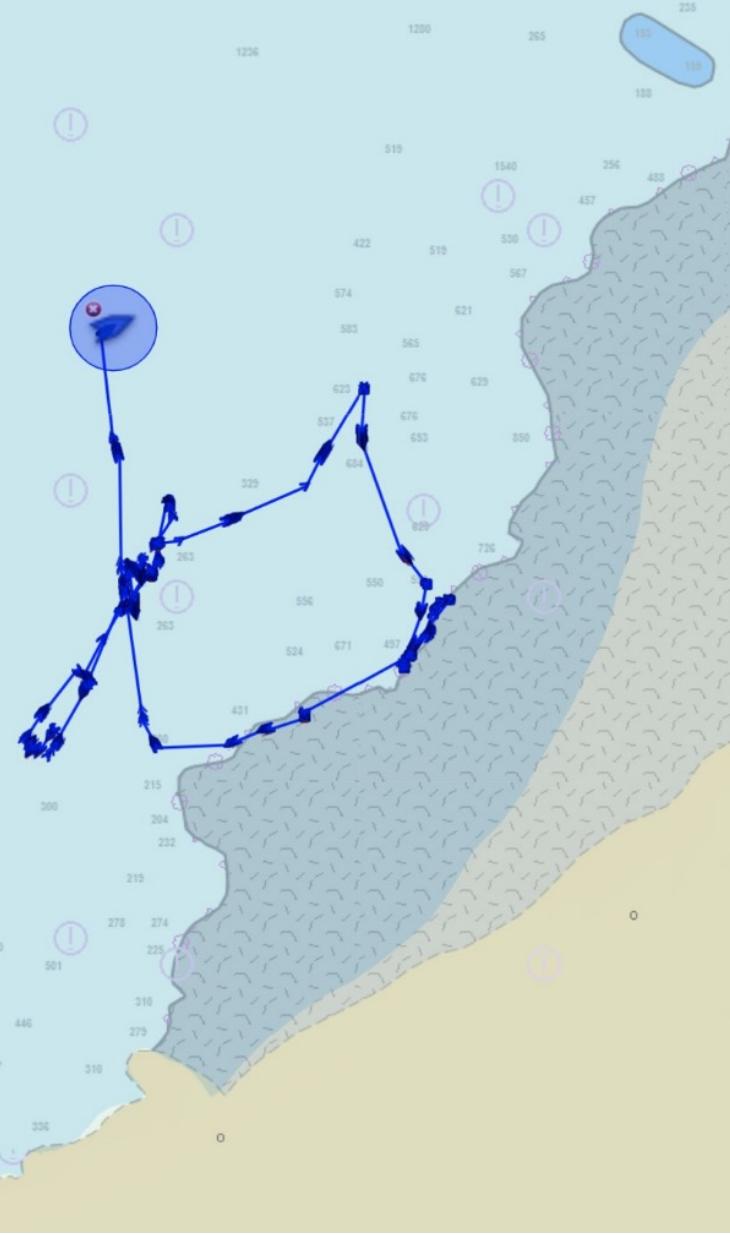


By Jonathan Amos
Science correspondent, BBC News

It is not every day you can announce the discovery of thousands of new mountains on Earth, but that is what a US-European research team has done.



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And when the weather calmed last weekend, the ship slipped in behind the berg to take a look at an area of seafloor that is now free of ice cover for the first time in five decades.



OFOBS TEAM/AWI

A beautiful anemone. The red dots are laser beams spaced 50cm apart to help size objects

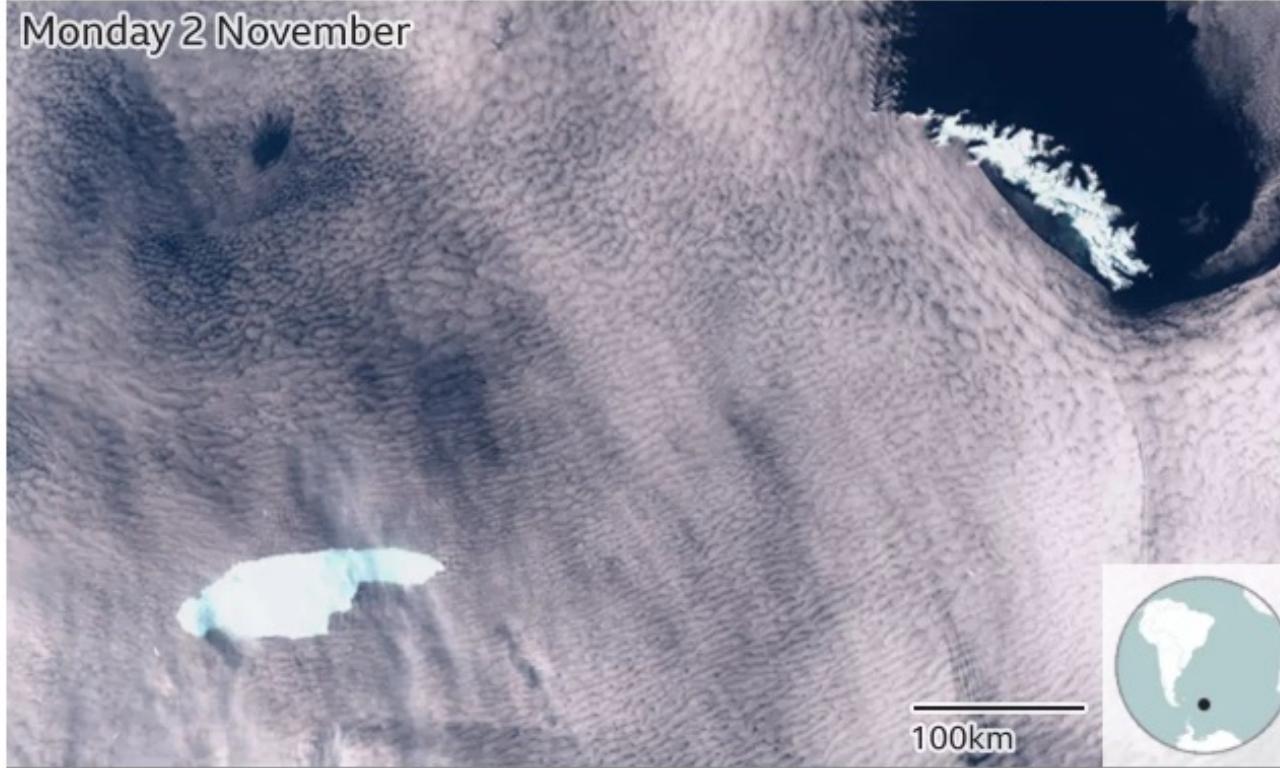
Polarstern employs an Ocean Floor Observation and Bathymetry System (OFOBS). This is a sophisticated instrument package that is towed behind the ship at depth.



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Iceberg A68a approaches South Georgia

Monday 2 November



BBC

Source: Copernicus Data / Sentinel Hub

| Pointing the way: Viewed from space, A68a has the look of a hand with an outstretched index finger

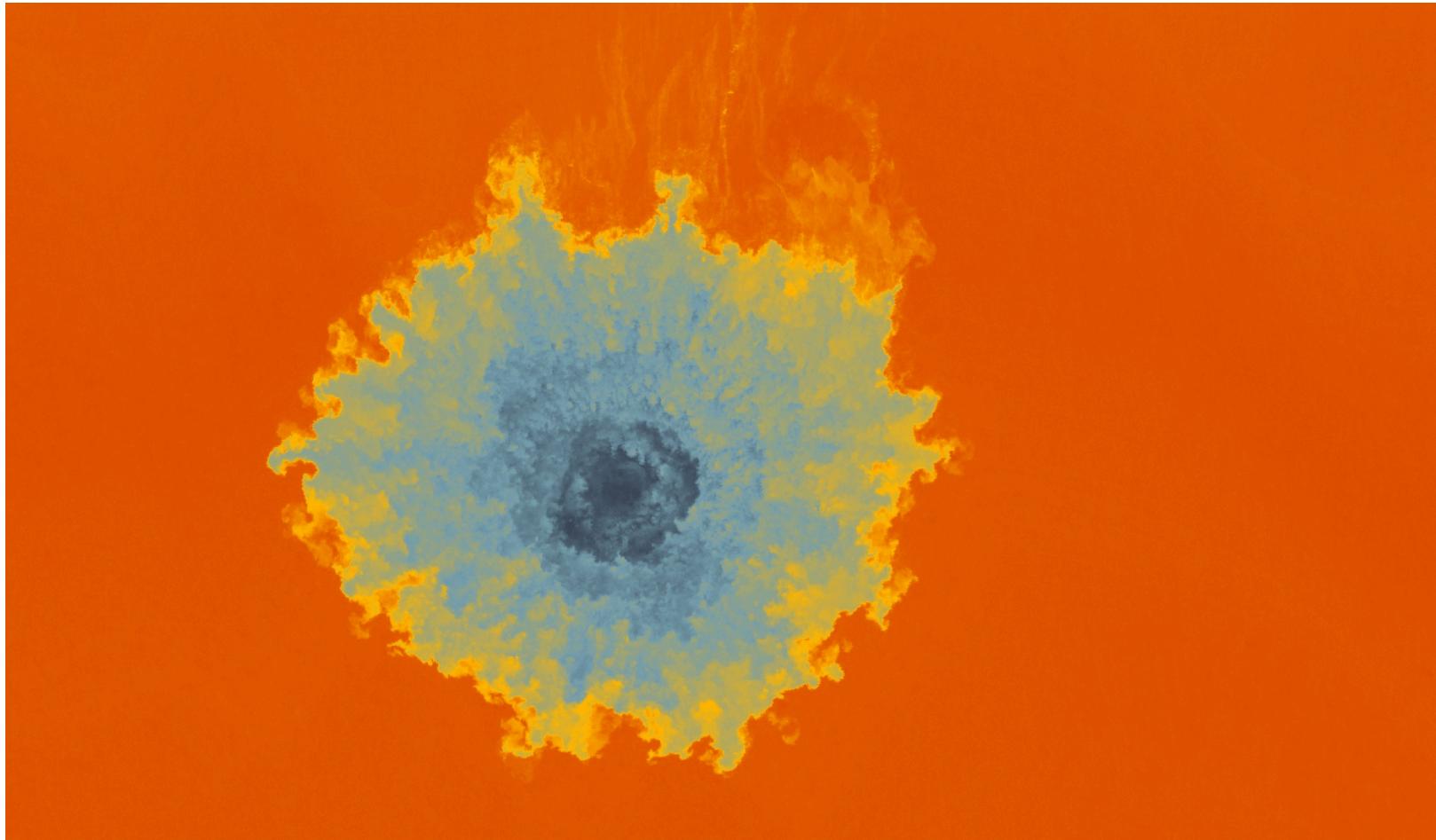
By Jonathan Amos

BBC Science Correspondent

The world's biggest iceberg, known as A68a, is bearing down on the British Overseas Territory of South Georgia.



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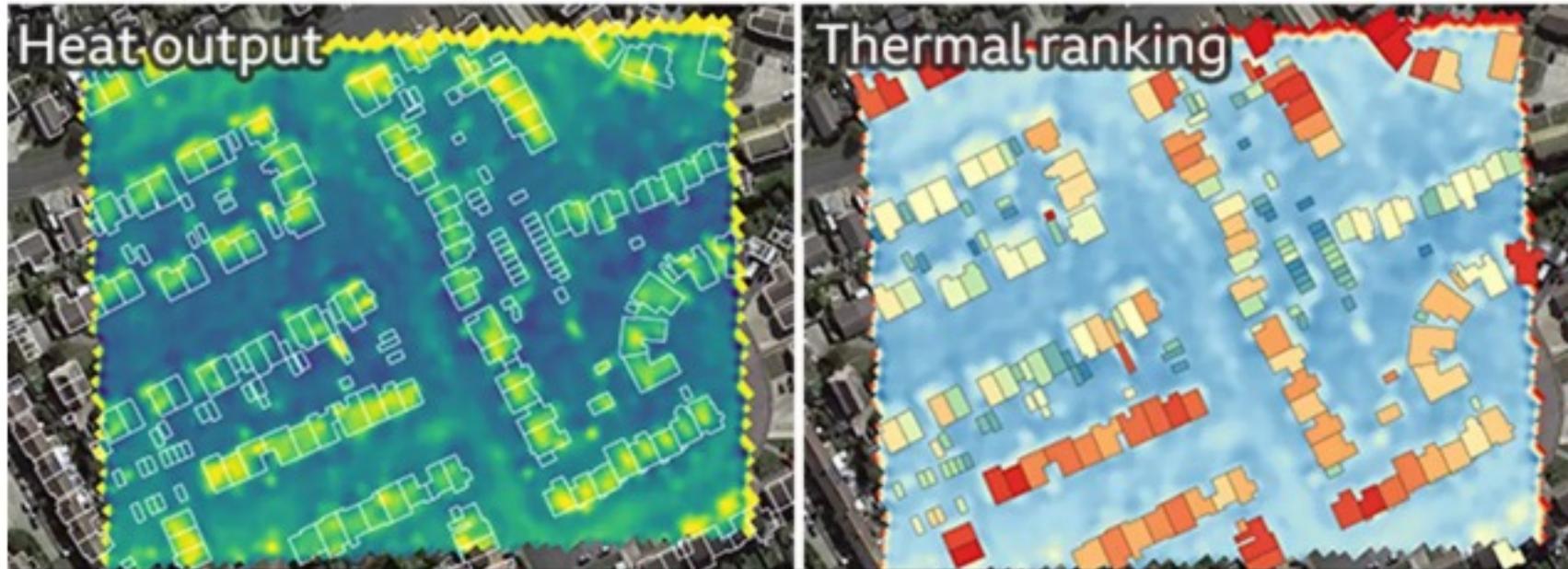


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Mapping temperature profiles in a town

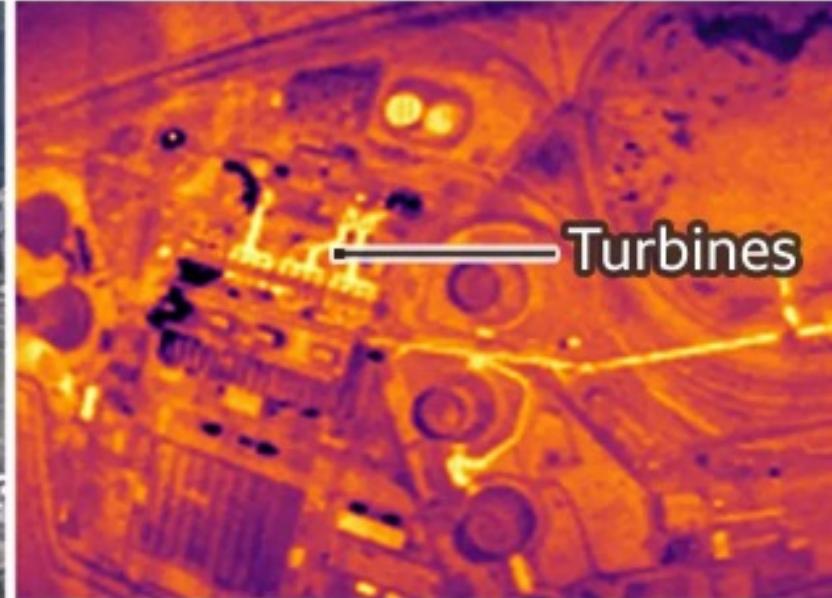


Source: Satellite Vu

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| You can tell machinery is running in this power station because it appears hot in the infrared

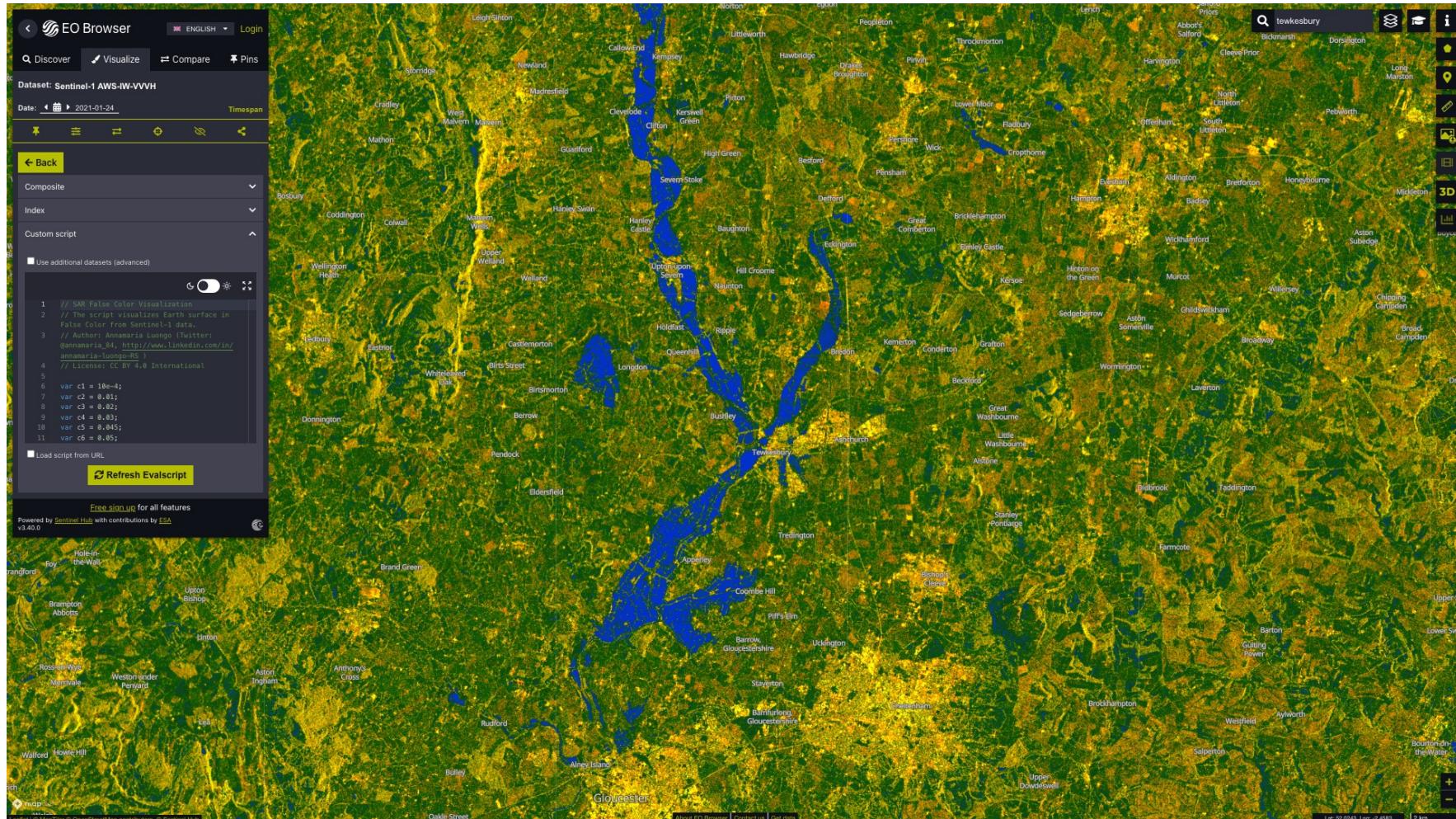


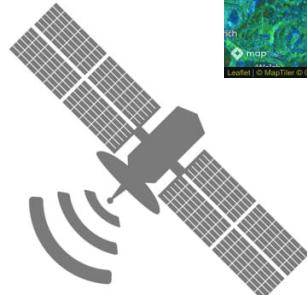
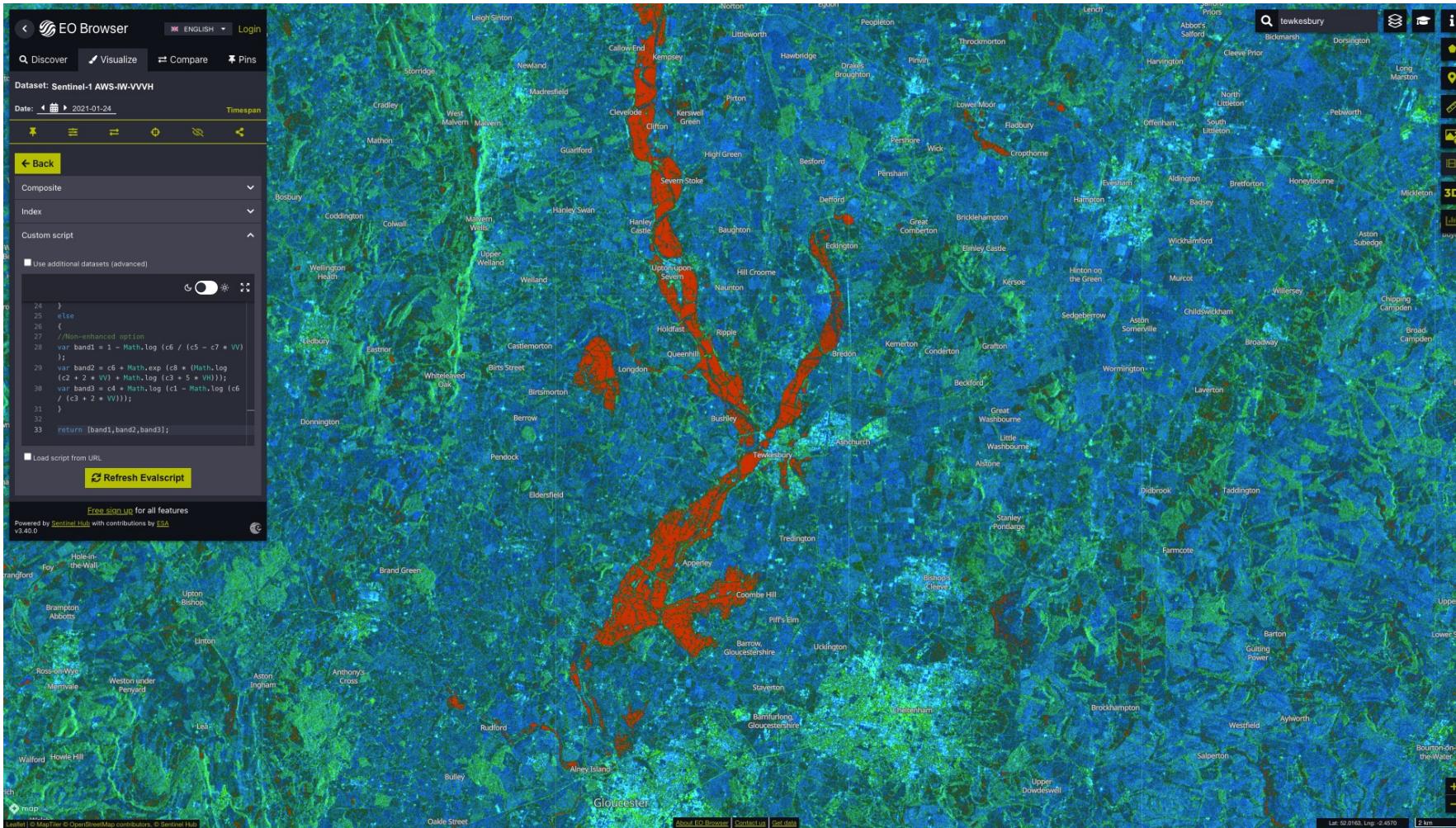
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- Make it understandable
- Do highlight features in an image
- USE A SCALE BAR!
- Will it work on a mobile screen?
- Don't be afraid of radar/non optical
- Find a friend/expert
- Work with agencies/companies



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