Greener trees may be sign a volcano will erupt

2nd June 2025

Predicting volcanic eruptions is never easy. For centuries, volcanologists and seismologists have studied the activity beneath Earth that might indicate an eruption. Forecasting when a volcano might erupt has been somewhat unreliable. However, scientists from NASA and the Smithsonian Institution say they are a step closer to providing more accurate forecasts of when a volcano might blow. NASA used images from space to detect changes in the colour of leaves. The research was based on a 2019 study from McGill University. This study showed that an increase in carbon dioxide levels emitted by two active volcanoes in Costa Rica had an impact on the colour of leaves in the surrounding areas.

Current methods of predicting an imminent volcanic explosion include checking seismic activity, changes in ground height, and carbon dioxide and sulphur dioxide emissions. NASA said the new method of monitoring changes in the colour of foliage from space could help in foretelling eruptions. The science behind this is fairly straightforward. As magma moves upwards from Earth's crust, it releases carbon dioxide. Trees absorb this and their leaves become greener and more vibrant. The LiveScience website said: "These signs can help to protect communities against the worst effects of volcanic blasts, including lava flows, ejected rocks, ashfalls, mudslides, and toxic gas clouds."

Sources: livescience.com / *sciencealert.com* / *scitechdaily.com*

Writing

We need to know more about volcanoes. Discuss.

Chat

Talk about these words from the article.

volcanic eruptions / volcanologists / activity / scientists / space / carbon dioxide / explosions / seismic activity / carbon dioxide / foliage / leaves / lava / rocks / gas

True / False

1) The article says predicting volcanic eruptions is relatively easy. T / F
2) Volcanologists and seismologists study the activity beneath Earth. T / F
3) NASA said the colour of trees might help to predict volcanic eruptions. T / F
4) Two volcanic eruptions in Costa Rica changed the colour of trees. T / F
5) Volcanologists check levels of carbon and sulphur dioxide. T / F
6) The article says the science behind NASA's new method is confusing. T / F
7) A website said the new method could help to protect communities. T / F
8) The website mentioned earthquakes as a bad effect of volcanoes. T / F

Synonym Match

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

1.	**predicting**	a.	impending
2.	**indicate**	b.	precise
3.	**unreliable**	c.	adjacent
4.	**accurate**	d.	poisonous
5.	**surrounding**	e.	be evidence of
6.	**imminent**	f.	soak up
7.	**foliage**	g.	forecasting
8.	**absorb**	h.	vivid
9.	**vibrant**	i.	questionable
10.	**toxic**	j.	leaves

Discussion – Student A

a) What do you think about what you read?
b) How good are scientists at predicting natural disasters?
c) What do you think of greener leaves being a sign of eruptions?
d) What do you think of lava flows?
e) What do you know about magma?
f) What three adjectives best describe volcanoes?
g) Are there any good things about volcanoes?
h) What questions would you like to ask a volcanologist?

Phrase Match

1.	Predicting volcanic eruptions	a.	activity
2.	activity beneath Earth that might	b.	more accurate forecasts
3.	a step closer to providing	c.	the surrounding areas
4.	carbon dioxide levels emitted	d.	crust
5.	the colour of leaves in	e.	volcanic explosion
6.	methods of predicting an imminent	f.	is never easy
7.	checking seismic	g.	flows
8.	changes in the colour of	h.	indicate an eruption
9.	magma moves upwards through Earth's	i.	foliage
10.	lava	j.	by two active volcanoes

Discussion – Student B

a) What do you know about volcanoes?
b) Would you like to work as a volcanologist?
c) How did volcanoes form?
d) Would you live near a volcano?
e) What should residents do if a volcanic eruption is imminent?
f) How have recent volcanic eruptions changed our lives?
g) What volcanoes might erupt in the next century?
h) What do you think of volcanoes?

Spelling

1. volcanologists and isetosssomigl
2. indicate an trpeonui
3. been somewhat rleaeluibn
4. providing more ceratuac forecasts
5. an increase in carbon dioxide levels mttdiee
6. in the dnusrruinog areas
7. predicting an tmnmeini volcanic
8. changes in the colour of loeigaf
9. agmam moves upwards
10. Trees rbsabo this and their leaves become greener
11. greener and more bvairnt
12. avla flows

Answers – Synonym Match

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

Comprehension Questions

Listen to / read the news article. Answer these questions. (Answers are on p. 27 of the 27-page PDF.)

1.	Who studies underground activity besides volcanologists?
2.	What does the article say about forecasting volcanic eruptions?
3.	Where were NASA's images from?
4.	When was a study conducted by McGill University?
5.	Where did scientists study the CO2 levels of two active volcanoes?
6.	What kind of activity do scientists check when checking for eruptions?
7.	What gas do scientists check for besides carbon dioxide?
8.	What does the article say magma passes through?
9.	Who did a website say the new method might protect?
10.	What flows are mentioned at the end of the article?

Speaking – Natural disasters

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

- Volcanoes
- Tsunami
- Hurricanes
- Blizzards
- Earthquakes
- Heatwaves
- Record cold
- Avalanches

Answers – True False

1	F	2	T	3	T	4	F	5	T	6	F	7	T	8	F

Answers to Phrase Match and Spelling are in the text.

