



1

00:00:00,000 --> 00:00:04,680

Volcanoes. You might think of big, loud eruptions.

2

00:00:04,700 --> 00:00:08,380

Glowing lava and dark volcanic ash entering the sky.

3

00:00:08,400 --> 00:00:10,180

But when volcanoes aren't erupting

4

00:00:10,200 --> 00:00:12,760

they can leak reactive gases into the atmosphere

5

00:00:12,780 --> 00:00:16,360

that form tiny particles known as aerosols.

6

00:00:16,380 --> 00:00:19,660

Aerosols are these tiny particles which are suspended in the atmosphere

7

00:00:19,680 --> 00:00:21,820

and they're many times smaller than the human hair.

8

00:00:21,840 --> 00:00:25,110

They can scatter and absorb light and can affect clouds.

9

00:00:25,130 --> 00:00:27,620

Studies have shown that volcanic aerosols can change

10

00:00:27,640 --> 00:00:30,940

the properties of water droplets that make up clouds.

11

00:00:30,960 --> 00:00:32,300

To learn more about these changes

12

00:00:32,320 --> 00:00:35,210

scientists analyzed several years of observations

13

00:00:35,230 --> 00:00:39,010

from NASA and European Space Agency satellites.

14

00:00:39,030 --> 00:00:42,050

They specifically looked at how the properties of water droplets

15

00:00:42,070 --> 00:00:44,530

changed around active volcanoes

16

00:00:44,550 --> 00:00:48,710

To avoid interference from other aerosol sources, such as city pollution

17

00:00:48,730 --> 00:00:56,410

researchers compared three isolated islands with volcanic activity to three islands without.

18

00:00:56,430 --> 00:00:59,120

Around the islands with no volcanic activity,

19

00:00:59,140 --> 00:01:01,570

water droplets were mostly unaffected

20

00:01:01,590 --> 00:01:04,430

but around the islands with volcanic activity

21

00:01:04,450 --> 00:01:08,590

water droplets were smaller and the clouds appeared brighter.

22

00:01:08,610 --> 00:01:10,430

Clouds with smaller droplets tend to be brighter

23

00:01:10,450 --> 00:01:12,520

and reflect more heat energy back to space.

24

00:01:12,540 --> 00:01:15,180

If the amount of heat reflected into space changes

25

00:01:15,200 --> 00:01:17,480

this can affect things like rainfall and winds.

