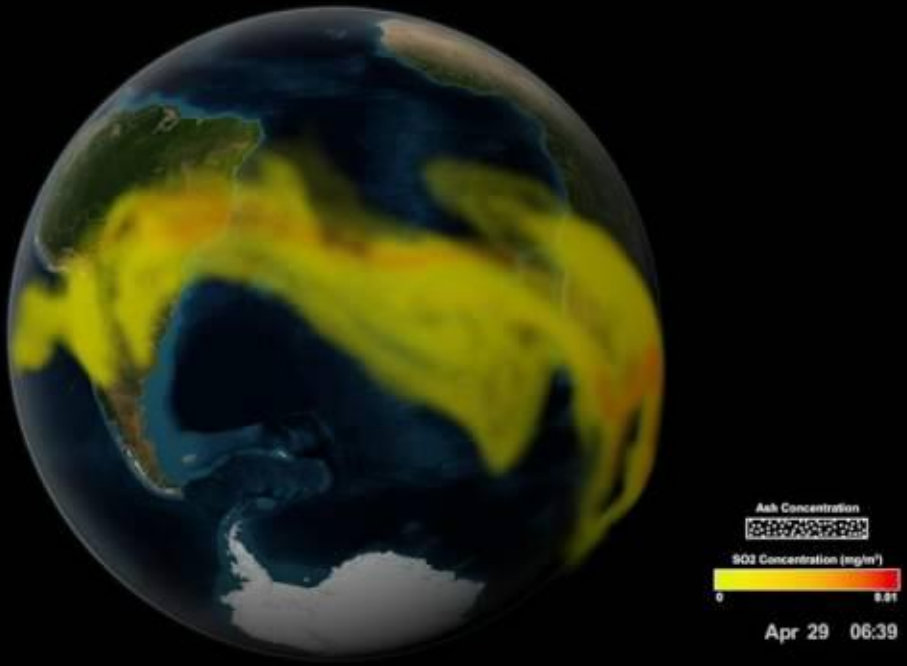
Ash Concentration
SO2 Concentration (mg/m³)
0
0.01
Apr 29 06:39

1
00:00:01,100 --> 00:00:05,080
[music]

2
00:00:05,100 --> 00:00:08,580
The Calbuco volcano erupted in April 2015

3
00:00:08,600 --> 00:00:11,710
spewing a plume of ash and sulfur dioxide

4
00:00:11,730 --> 00:00:14,280
over ten miles into the air.

5
00:00:14,300 --> 00:00:18,030
Volcanic ash like this can cause airplane engines to fail,

6
00:00:18,050 --> 00:00:21,440
and it can persist in the atmosphere for a long time.

7
00:00:21,460 --> 00:00:24,540
It can be difficult to distinguish the volcanic plume

8
00:00:24,560 --> 00:00:26,110
from ordinary clouds,

9
00:00:26,130 --> 00:00:28,730
but NASA scientists are developing a new way

10
00:00:28,750 --> 00:00:32,680
to map the full three dimensional structure of a volcanic cloud,

11
00:00:32,700 --> 00:00:37,230
providing improved information for air traffic management.

12
00:00:38,400 --> 00:00:40,480
The concentration of sulfur dioxide,

13
00:00:40,500 --> 00:00:45,130

is mapped by the Suomi NPP satellite as it passes overhead,

14
00:00:45,150 --> 00:00:48,430
and then looks back and also measures the vertical profile

15
00:00:48,450 --> 00:00:52,430
of the cloud in three separate slices.

16
00:00:52,450 --> 00:00:54,795
The location and height of the particles,

17
00:00:54,815 --> 00:00:57,160
as well as the amount of sulfur dioxide,

18
00:00:57,180 --> 00:01:00,130
is being integrated into models of weather patterns

19
00:01:00,150 --> 00:01:02,980
to forecast the spread of the volcanic cloud.

20
00:01:05,000 --> 00:01:08,490
The high resolution of the data from the vertical profiles

21
00:01:08,510 --> 00:01:13,580
allows a more accurate forecast in the days, weeks, and months after an eruption,

22
00:01:13,600 --> 00:01:17,770
which could reduce airline cancellations and re-routing costs.

23
00:01:17,790 --> 00:01:21,840
The final product will be available in near-real time