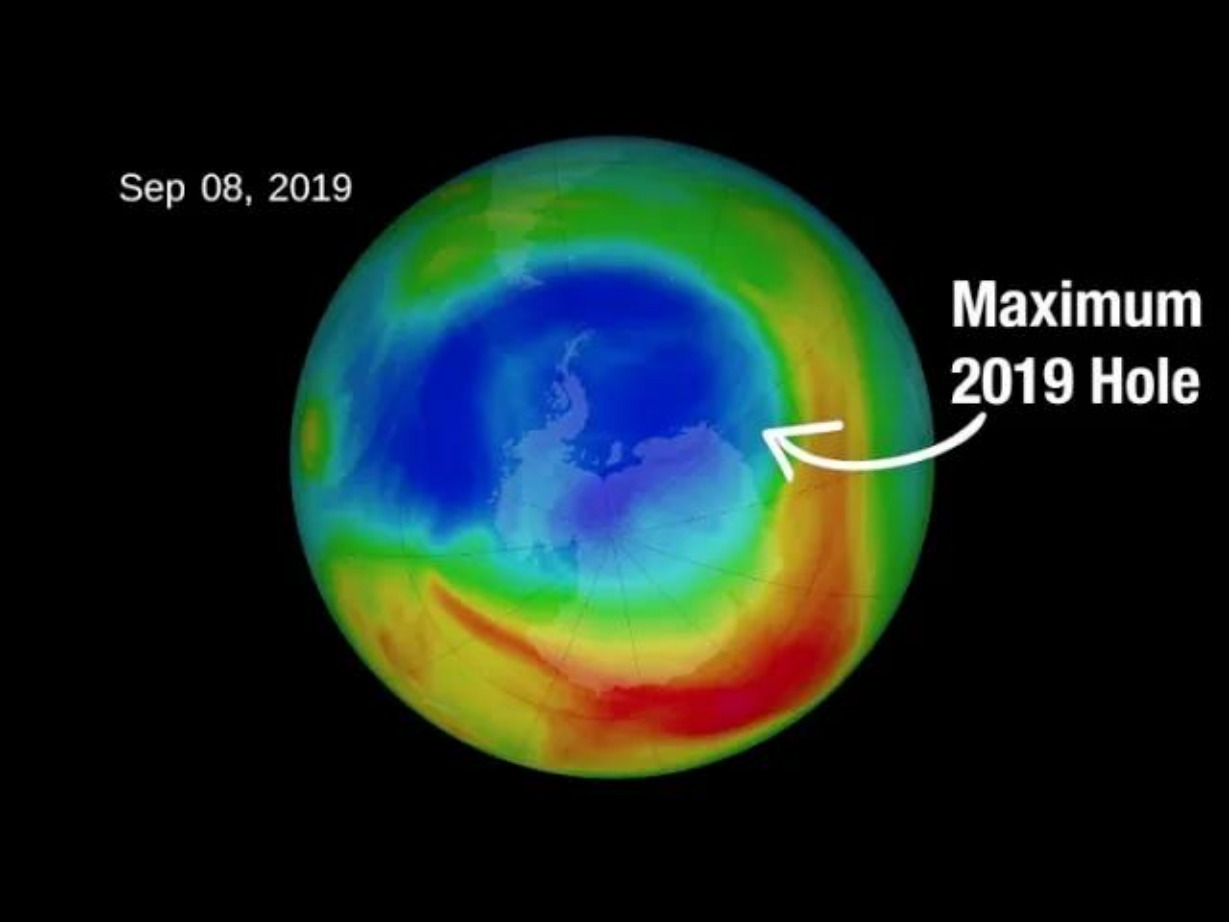
Sep 08, 2019
Maximum
2019 Hole

1
00:00:00,000 --> 00:00:04,000
This year, the ozone hole over Antarctica

2
00:00:04,000 --> 00:00:08,000
was far smaller than expected. In fact,

3
00:00:08,000 --> 00:00:12,000
it was the smallest since the ozone hole was discovered,

4
00:00:12,000 --> 00:00:16,000
the result of unusual weather patterns in the stratosphere over the South Pole.

5
00:00:16,000 --> 00:00:20,000
The ozone hole is caused by interactions between chlorine from chemicals called chlorofluorocarbons, or CFCs

6
00:00:20,000 --> 00:00:24,000
and ozone. Although CFCs were banned

7
00:00:24,000 --> 00:00:28,000
by the Montreal Protocol in 1987, they last a long time in the atmosphere.

8
00:00:28,000 --> 00:00:32,000
Ozone depletion is enhanced when temperatures are colder.

9
00:00:32,000 --> 00:00:36,000
So the ozone hole fluctuates with the season, appearing during the colder,

10
00:00:36,000 --> 00:00:40,000
austral winter months and disappearing by summer.

11
00:00:40,000 --> 00:00:44,000
It reaches an annual maximum size in early southern spring, usually in October.

12
00:00:44,000 --> 00:00:48,000
This year, the polar vortex, a spiraling wind pattern over the South Pole,

13
00:00:48,000 --> 00:00:52,000

was unusually wonky. This warmed the stratosphere –

14
00:00:52,000 --> 00:00:56,000
the part of the atmosphere with the ozone layer – which significantly slowed down ozone depletion.

15
00:00:56,000 --> 00:01:00,000
Although the small ozone hole this year was caused by weather patterns,

16
00:01:00,000 --> 00:01:04,000
the ozone layer has shown overall signs of improvement as a result of the Montreal Protocol.

17
00:01:04,000 --> 00:01:08,000
NASA and NOAA have worked together to study

18
00:01:08,000 --> 00:01:12,000
study the ozone hole since its discovery.