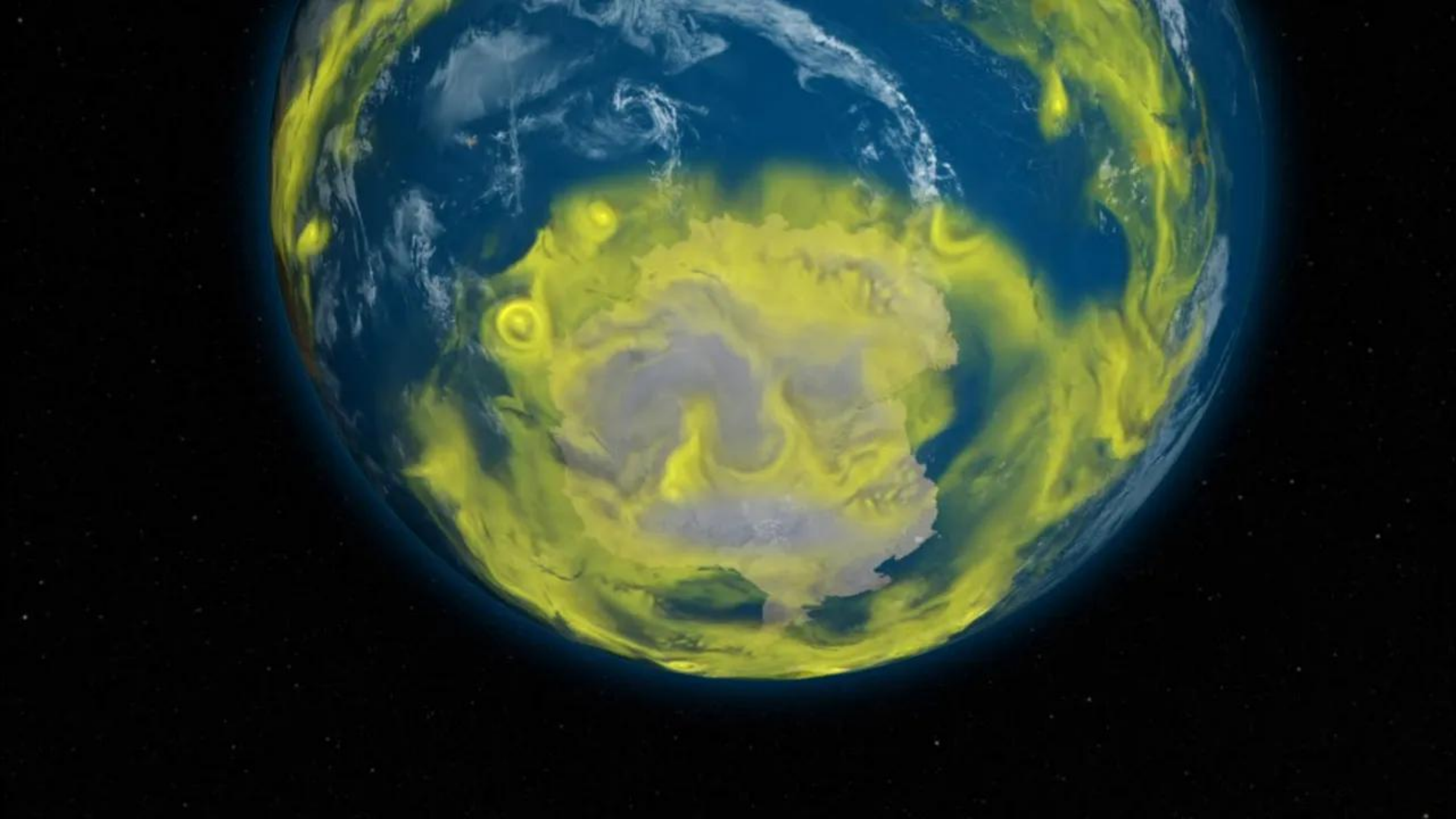

1
00:00:05,990 --> 00:00:03,189
the mantra protocol is a landmark

2
00:00:09,910 --> 00:00:06,000
international tree designed by all 198

3
00:00:12,549 --> 00:00:09,920
countries around the world in 1987.

4
00:00:15,630 --> 00:00:12,559
after we discovered that the emissions

5
00:00:17,670 --> 00:00:15,640
of the very long-lived gases such as

6
00:00:19,830 --> 00:00:17,680
chlorofluorocarbons can go into the

7
00:00:21,590 --> 00:00:19,840
atmosphere and destroy the autumn layer

8
00:00:23,590 --> 00:00:21,600
these countries around the world come

9
00:00:26,310 --> 00:00:23,600
together and find this

10
00:00:31,109 --> 00:00:26,320
protocol to reduce the emission of these

11
00:00:35,670 --> 00:00:33,510
my name is ching yang i am a research

12
00:00:37,830 --> 00:00:35,680
scientist working at nasa goddard space

13
00:00:39,910 --> 00:00:37,840

flight center

14
00:00:41,590 --> 00:00:39,920
due to the successful cooperation

15
00:00:43,510 --> 00:00:41,600
between the scientific community and the

16
00:00:45,830 --> 00:00:43,520
policy makers the atmospheric

17
00:00:47,510 --> 00:00:45,840
concentration has been declining since

18
00:00:49,830 --> 00:00:47,520
the 1990s

19
00:00:52,869 --> 00:00:49,840
and then the stratosphere ozone layer is

20
00:00:56,150 --> 00:00:52,879
on the road to recovery

21
00:00:58,389 --> 00:00:56,160
cs11 is one of the most important core

22
00:01:01,110 --> 00:00:58,399
for carbon gases the scientists around

23
00:01:03,590 --> 00:01:01,120
the world has always been continuously

24
00:01:06,789 --> 00:01:03,600
monitoring the atmospheric concentration

25
00:01:08,230 --> 00:01:06,799
of cfcs from the global observational

26
00:01:10,710 --> 00:01:08,240
stations

27
00:01:13,350 --> 00:01:10,720
a few years ago dr steve monska from

28
00:01:17,030 --> 00:01:13,360
noaa has noticed that the global

29
00:01:20,310 --> 00:01:17,040
concentration of cfc11 has actually been

30
00:01:22,870 --> 00:01:20,320
declining slower than expected that's

31
00:01:23,910 --> 00:01:22,880
inspired the community to think there

32
00:01:25,670 --> 00:01:23,920
might be

33
00:01:27,030 --> 00:01:25,680
additional emissions that we are not

34
00:01:28,230 --> 00:01:27,040
aware of

35
00:01:30,390 --> 00:01:28,240
scientists

36
00:01:33,030 --> 00:01:30,400
has also used the

37
00:01:36,710 --> 00:01:33,040
atmosphere observations of these gases

38
00:01:39,190 --> 00:01:36,720

from a korean station and find out that

39
00:01:41,990 --> 00:01:39,200
about half of the emission was coming

40
00:01:43,590 --> 00:01:42,000
from increasing emissions in eastern

41
00:01:46,389 --> 00:01:43,600
china

42
00:01:48,469 --> 00:01:46,399
so what i did was really taking my model

43
00:01:50,149 --> 00:01:48,479
get some background calculation and

44
00:01:50,950 --> 00:01:50,159
provide them to

45
00:01:53,270 --> 00:01:50,960
the

46
00:01:55,270 --> 00:01:53,280
university of bristol teams as well as

47
00:01:58,789 --> 00:01:55,280
the other modeling teams they use that

48
00:02:01,030 --> 00:01:58,799
as sort of the underlying atmospheric

49
00:02:02,950 --> 00:02:01,040
distribution of these gases

50
00:02:05,429 --> 00:02:02,960
as the problem was detected and these

51
00:02:07,670 --> 00:02:05,439
papers were published it seems that the

52
00:02:10,150 --> 00:02:07,680
chinese government has taken effective

53
00:02:12,470 --> 00:02:10,160
measures to stop the illegal production

54
00:02:15,589 --> 00:02:12,480
and usage of these gases

55
00:02:19,030 --> 00:02:15,599
it is absolutely detective work

56
00:02:21,190 --> 00:02:19,040
this is reason why we say although

57
00:02:23,430 --> 00:02:21,200
we are very happy with the progress of

58
00:02:26,150 --> 00:02:23,440
the multi-protocol it is of critical

59
00:02:28,790 --> 00:02:26,160
importance for nasa noaa along with

60
00:02:31,110 --> 00:02:28,800
other international agencies to continue

61
00:02:32,309 --> 00:02:31,120
to make atmosphere observations of these

62
00:02:34,150 --> 00:02:32,319
gases

63
00:02:36,550 --> 00:02:34,160

without these measurements it is not

64
00:02:40,050 --> 00:02:36,560
possible for us to detect the problem