

A stylized world map with a light blue background and dark blue landmasses. The map is centered and serves as the background for the text.

**A LOOK BACK:
2022'S
TEMPERATURE
RECORD**

1
00:00:01,670 --> 00:00:05,349

[Music]

2
00:00:10,430 --> 00:00:08,509
2022 was an extraordinary year

3
00:00:12,890 --> 00:00:10,440
we traveled to the Moon again for the

4
00:00:14,930 --> 00:00:12,900
first time in half a century

5
00:00:17,390 --> 00:00:14,940
we made history with the James Webb

6
00:00:20,029 --> 00:00:17,400
Space Telescope sink deeper into the

7
00:00:22,130 --> 00:00:20,039
universe than ever before

8
00:00:23,990 --> 00:00:22,140
and those same folks exploring outward

9
00:00:26,990 --> 00:00:24,000
are also the same people looking inward

10
00:00:33,410 --> 00:00:30,050
so what did we see this past year

11
00:01:02,029 --> 00:00:35,110
foreign

12
00:01:05,630 --> 00:01:03,889
scientists around the world determined

13
00:01:07,609 --> 00:01:05,640

the greenhouse gas emissions that drive

14

00:01:08,690 --> 00:01:07,619

climate change once again set new

15

00:01:10,969 --> 00:01:08,700

records

16

00:01:12,910 --> 00:01:10,979

in July we sent a new instrument called

17

00:01:15,710 --> 00:01:12,920

emit to the International Space Station

18

00:01:18,109 --> 00:01:15,720

emit can identify super emitters of

19

00:01:20,090 --> 00:01:18,119

methane a powerful greenhouse gas coming

20

00:01:21,429 --> 00:01:20,100

from pipelines landfills and other

21

00:01:24,230 --> 00:01:21,439

sources

22

00:01:26,210 --> 00:01:24,240

and it's already recorded super plumes

23

00:01:29,700 --> 00:01:26,220

all over the world including in

24

00:01:33,050 --> 00:01:29,710

Turkmenistan Iran and New Mexico

25

00:01:35,090 --> 00:01:33,060

[Music]

26
00:01:37,130 --> 00:01:35,100
methane carbon dioxide and other

27
00:01:39,410 --> 00:01:37,140
greenhouse gases trap heat in the

28
00:01:41,230 --> 00:01:39,420
climate system and cause rise in global

29
00:01:44,390 --> 00:01:41,240
surface temperatures

30
00:01:46,850 --> 00:01:44,400
2022 effectively tied for Earth's fifth

31
00:01:48,830 --> 00:01:46,860
warmest year since 1880. in the last

32
00:01:51,469 --> 00:01:48,840
nine consecutive years have been the

33
00:01:53,210 --> 00:01:51,479
warmest nine on record and all that heat

34
00:01:54,950 --> 00:01:53,220
expressed itself differently across the

35
00:01:56,749 --> 00:01:54,960
globe this year

36
00:01:59,690 --> 00:01:56,759
most of the extra heat in the climate

37
00:02:02,510 --> 00:01:59,700
system builds up in the ocean

38
00:02:06,170 --> 00:02:02,520

and 2022 set new records for ocean heat

39
00:02:08,570 --> 00:02:06,180
and independent NOAA and NASA analyzes

40
00:02:10,850 --> 00:02:08,580
this increased ocean heat can fuel

41
00:02:14,890 --> 00:02:10,860
intense tropical storms like we saw in

42
00:02:19,670 --> 00:02:17,510
Ian rapidly intensified from a tropical

43
00:02:21,229 --> 00:02:19,680
storm into a category 4 in under 24

44
00:02:23,330 --> 00:02:21,239
hours

45
00:02:26,290 --> 00:02:23,340
and became one of the costliest storms

46
00:02:28,670 --> 00:02:26,300
to ever hit the U.S

47
00:02:30,949 --> 00:02:28,680
as the climate system warms the

48
00:02:35,430 --> 00:02:30,959
atmosphere holds more moisture resulting

49
00:02:40,309 --> 00:02:37,729
[Music]

50
00:02:42,050 --> 00:02:40,319
from June through September Pakistan saw

51
00:02:44,150 --> 00:02:42,060
some of the worst flooding in a decade

52
00:02:46,369 --> 00:02:44,160
due to prolonged and intense Monsoon

53
00:02:47,120 --> 00:02:46,379
rains leaving behind a devastated

54
00:02:52,449 --> 00:02:47,130
community

55
00:02:54,830 --> 00:02:52,459
[Music]

56
00:02:56,570 --> 00:02:54,840
increasing heat not only leads to more

57
00:02:59,570 --> 00:02:56,580
water in the atmosphere and heavier

58
00:03:01,369 --> 00:02:59,580
downpours but it also exacerbates soil

59
00:03:02,869 --> 00:03:01,379
moisture loss and drought

60
00:03:05,210 --> 00:03:02,879
which is what we saw in the American

61
00:03:07,850 --> 00:03:05,220
West as it experienced ongoing droughts

62
00:03:09,770 --> 00:03:07,860
in 2022 leading to vital water

63
00:03:12,410 --> 00:03:09,780

reservoirs like Lake Mead and Lake

64

00:03:16,630 --> 00:03:12,420

Powell dropping to just 27 percent of

65

00:03:21,290 --> 00:03:19,490

drier and warmer conditions means

66

00:03:22,490 --> 00:03:21,300

there's more fuel and opportunities for

67

00:03:25,190 --> 00:03:22,500

fires

68

00:03:27,589 --> 00:03:25,200

in January during a long-standing heat

69

00:03:31,720 --> 00:03:27,599

wave and drought the corrientes province

70

00:03:34,970 --> 00:03:31,730

in Argentina saw over a thousand fires

71

00:03:37,250 --> 00:03:34,980

[Music]

72

00:03:39,110 --> 00:03:37,260

it devastated important wetlands in

73

00:03:40,210 --> 00:03:39,120

Iberia National Park and vital

74

00:03:42,110 --> 00:03:40,220

surrounding farmland

75

00:03:44,750 --> 00:03:42,120

[Music]

76

00:03:46,970 --> 00:03:44,760

but there is hope looking ahead in

77

00:03:49,009 --> 00:03:46,980

addition to monitoring Earth NASA is

78

00:03:52,729 --> 00:03:49,019

powering Solutions with free and open

79

00:03:54,710 --> 00:03:52,739

data like open ET a tool for farmers and

80

00:03:57,110 --> 00:03:54,720

other resource managers to plan and

81

00:03:58,690 --> 00:03:57,120

Implement irrigation and water use in a

82

00:04:01,070 --> 00:03:58,700

warming World

83

00:04:03,110 --> 00:04:01,080

NASA know-how is also helping

84

00:04:05,210 --> 00:04:03,120

firefighters and Forest managers prevent

85

00:04:07,070 --> 00:04:05,220

future fire hazards by better

86

00:04:10,330 --> 00:04:07,080

controlling airspace during prescribed

87

00:04:13,429 --> 00:04:10,340

Burns and emergency response

88

00:04:15,710 --> 00:04:13,439

as we've seen a warming climate impacts

89

00:04:17,449 --> 00:04:15,720

all of us and it's going to take all of

90

00:04:21,110 --> 00:04:17,459

us to combat it

91

00:04:22,610 --> 00:04:21,120

as we look back at 2022 in years past we

92

00:04:24,950 --> 00:04:22,620

see that each year we better understand

93

00:04:29,230 --> 00:04:24,960

the challenges we face and how important