
GOODYEAR

1
00:00:21,140 --> 00:00:18,980
five years of sporting events but today

2
00:00:23,450 --> 00:00:21,150
one of the Goodyear airships is also

3
00:00:25,820 --> 00:00:23,460
hidden science the perspective they need

4
00:00:31,029 --> 00:00:25,830
to study an important final related

5
00:00:33,580 --> 00:00:31,039
problem aboard the blank column

6
00:00:36,459 --> 00:00:33,590
long beach california after Denise

7
00:00:40,700 --> 00:00:36,469
NASA's Jet Propulsion Laboratory works

8
00:00:45,020 --> 00:00:42,799
the device measures ocean surface

9
00:00:47,420 --> 00:00:45,030
temperatures present a weather

10
00:00:49,850 --> 00:00:47,430
satellites equipped with similar sensors

11
00:00:52,369 --> 00:00:49,860
are used to measure heat radiated by the

12
00:00:54,410 --> 00:00:52,379
sea but satellites don't detect these

13
00:00:56,319 --> 00:00:54,420

temperature signals until they have

14
00:00:59,180 --> 00:00:56,329
traveled through the Earth's atmosphere

15
00:01:01,060 --> 00:00:59,190
dr. pagan believes that water vapor in

16
00:01:03,619 --> 00:01:01,070
the air close to the ocean surface

17
00:01:05,420 --> 00:01:03,629
distorts these satellite readings a

18
00:01:07,670 --> 00:01:05,430
better understanding of this problem

19
00:01:12,919 --> 00:01:07,680
will improve the prediction of climate

20
00:01:15,230 --> 00:01:12,929
change and blow away the radiometer

21
00:01:17,570 --> 00:01:15,240
being used in the study shown here at

22
00:01:19,810 --> 00:01:17,580
the NASA lab being prepared for a blimp

23
00:01:23,330 --> 00:01:19,820
flight is essentially a three foot tall

24
00:01:25,639 --> 00:01:23,340
infrared telescope the device can detect

25
00:01:28,340 --> 00:01:25,649
a temperature change as small as two

26
00:01:30,889 --> 00:01:28,350
thousandth of a degree dr. Hagan

27
00:01:32,960 --> 00:01:30,899
explained if you took a block of ice and

28
00:01:35,149 --> 00:01:32,970
threw it into your standard backyard

29
00:01:37,940 --> 00:01:35,159
size swimming pool and distributed the

30
00:01:39,800 --> 00:01:37,950
ice uniformly it would cause a change in

31
00:01:42,740 --> 00:01:39,810
temperature to thousands of a degree and

32
00:01:45,310 --> 00:01:42,750
that's the precision of our instrument a

33
00:01:48,340 --> 00:01:45,320
blink is the ideal way to fly

34
00:01:49,580 --> 00:01:48,350
because it moves slowly and fly close to

35
00:01:52,459 --> 00:01:49,590
the surface

36
00:01:54,889 --> 00:01:52,469
vibration free during a measurement

37
00:01:58,870 --> 00:01:54,899
fight a gold-plated mirror suspended

38
00:02:04,840 --> 00:02:00,999

readings are taken at a range of

39
00:02:06,670 --> 00:02:04,850
altitude 200 to 3,000 feet while dr.

40
00:02:08,469 --> 00:02:06,680
Hagan works aboard the airship other

41
00:02:10,440 --> 00:02:08,479
members of her team the ocean

42
00:02:13,089 --> 00:02:10,450
temperature readings from approp below

43
00:02:15,910 --> 00:02:13,099
highly instrumented boy is the partner

44
00:02:16,390 --> 00:02:15,920
area where the blimp in the center these

45
00:02:18,520 --> 00:02:16,400
measures

46
00:02:23,050 --> 00:02:18,530
later compared with those gathered by

47
00:02:27,679 --> 00:02:25,250
transmitted back to earth by the weather

48
00:02:30,020 --> 00:02:27,689
satellites this is done at the Scripps

49
00:02:31,270 --> 00:02:30,030
Institution of Oceanography in la jolla

50
00:02:33,190 --> 00:02:31,280
california

51
00:02:35,070 --> 00:02:33,200
although she's just in the early stages

52
00:02:38,110 --> 00:02:35,080
of her investigation dr. Higgins

53
00:02:39,880 --> 00:02:38,120
expectations are high if we can improve

54
00:02:42,220 --> 00:02:39,890
our understanding of the mechanism that

55
00:02:44,470 --> 00:02:42,230
controls the behavior of water vapor and

56
00:02:46,300 --> 00:02:44,480
how it absorbs radiation at the surface

57
00:02:49,740 --> 00:02:46,310
then I think we will have made our