
SOFIA
USRA

1
00:00:05,590 --> 00:00:02,710
there's also dsi you'll see there's a

2
00:00:07,749 --> 00:00:05,600
couple dsi people back there so

3
00:00:10,070 --> 00:00:07,759
they they operate the telescope and it's

4
00:00:11,830 --> 00:00:10,080
designed for 20-year lifetimes and we've

5
00:00:14,070 --> 00:00:11,840
just started

6
00:00:16,070 --> 00:00:14,080
we have more flights and longer flights

7
00:00:17,910 --> 00:00:16,080
the operation is in palmdale california

8
00:00:18,790 --> 00:00:17,920
just north of la

9
00:00:21,109 --> 00:00:18,800
and

10
00:00:23,189 --> 00:00:21,119
the science center is in nasa ames it's

11
00:00:25,349 --> 00:00:23,199
just south of san francisco so we've got

12
00:00:27,589 --> 00:00:25,359
two nasa centers working together on

13
00:00:29,830 --> 00:00:27,599

this very important uh project we

14
00:00:32,150 --> 00:00:29,840
basically float the whole telescope it's

15
00:00:34,069 --> 00:00:32,160
10 metric tons and

16
00:00:35,670 --> 00:00:34,079
it just floats there there are motors

17
00:00:37,590 --> 00:00:35,680
then that move it around there are

18
00:00:38,549 --> 00:00:37,600
gyroscopes that keep it accurately

19
00:00:41,030 --> 00:00:38,559
pointed

20
00:00:42,630 --> 00:00:41,040
the sp didn't fly that long because it

21
00:00:44,549 --> 00:00:42,640
wasn't

22
00:00:46,470 --> 00:00:44,559
all that profitable i think

23
00:00:49,430 --> 00:00:46,480
and so it actually doesn't have that

24
00:00:51,029 --> 00:00:49,440
many hours on it relative to a

25
00:00:53,750 --> 00:00:51,039
and they refurbished it so it's in

26
00:00:56,709 --> 00:00:53,760
really good shape so i think it could go

27
00:00:58,549 --> 00:00:56,719
on longer than 20 years easily also this

28
00:00:59,910 --> 00:00:58,559
time of year the water vapor is actually

29
00:01:02,229 --> 00:00:59,920
very low

30
00:01:04,789 --> 00:01:02,239
uh so the flying conditions are quite

31
00:01:08,070 --> 00:01:04,799
good definitely one of the big pluses

32
00:01:10,469 --> 00:01:08,080
for sofia is the ability to move one

33
00:01:13,030 --> 00:01:10,479
instant put one instrument on take the

34
00:01:15,510 --> 00:01:13,040
science then take it off and now we are

35
00:01:18,070 --> 00:01:15,520
evacuating our fire sets because our

36
00:01:20,950 --> 00:01:18,080
detectors are superconductive detectors

37
00:01:23,510 --> 00:01:20,960
they have to be cooled down minus 270

38
00:01:25,350 --> 00:01:23,520

degrees c and later this afternoon we

39
00:01:26,789 --> 00:01:25,360
will fill the cryostats with blinky's

40
00:01:28,789 --> 00:01:26,799
nitrogen

41
00:01:31,190 --> 00:01:28,799
we get this low temperature to get our

42
00:01:32,710 --> 00:01:31,200
defective operation christchurch is

43
00:01:36,149 --> 00:01:32,720
certainly a big

44
00:01:37,670 --> 00:01:36,159
part of the answer both because you have

45
00:01:39,590 --> 00:01:37,680
really good weather here this time of

46
00:01:42,710 --> 00:01:39,600
year and you have some really nice

47
00:01:44,789 --> 00:01:42,720
objects in the sky to study the whole

48
00:01:47,190 --> 00:01:44,799
milky way in the south

49
00:01:48,069 --> 00:01:47,200
where stars are forming like nowhere

50
00:01:50,389 --> 00:01:48,079
else

51
00:01:52,950 --> 00:01:50,399
there's also the magellanic clouds that

52
00:01:55,030 --> 00:01:52,960
are forming stars different because they

53
00:01:58,310 --> 00:01:55,040
have a whole different

54
00:02:00,069 --> 00:01:58,320
metallicity that's how many atoms

55
00:02:02,630 --> 00:02:00,079
of heavy

56
00:02:04,550 --> 00:02:02,640
oxygen and nitrogen are in between the

57
00:02:06,469 --> 00:02:04,560
stars and

58
00:02:09,109 --> 00:02:06,479
people are extremely interested in this

59
00:02:11,029 --> 00:02:09,119
question for questions about how did the