1
00:00:04,100 --> 00:00:02,270
a team of planet hunters led by

2
00:00:06,619 --> 00:00:04,110
astronomers at the University of

3
00:00:09,350 --> 00:00:06,629
California in Santa Cruz and the

4
00:00:11,030 --> 00:00:09,360
Carnegie Institution of Washington has

5
00:00:15,230 --> 00:00:11,040
announced the discovery of a planet

6
00:00:17,210 --> 00:00:15,240
orbiting a nearby star Gliese 581 at a

7
00:00:20,090 --> 00:00:17,220
distance that places it squarely in the

8
00:00:22,010 --> 00:00:20,100
middle of the star's habitable zone this

9
00:00:25,429 --> 00:00:22,020
would be the most earthlike exoplanet

10
00:00:28,040 --> 00:00:25,439
and the first truly habitable one yet

11
00:00:29,990 --> 00:00:28,050
discovered the research was supported by

12
00:00:32,780 --> 00:00:30,000
grants from NASA and the National

13
00:00:35,990 --> 00:00:32,790

Science Foundation images show planetary

14
00:00:38,690 --> 00:00:36,000
orbits of the Gliese 581 system compared

15
00:00:41,840 --> 00:00:38,700
to those of our own solar system the

16
00:00:44,630 --> 00:00:41,850
Gliese 581 star has about 30 percent the

17
00:00:47,119 --> 00:00:44,640
mass of our Sun and the outermost planet

18
00:00:50,420 --> 00:00:47,129
is closer to its star than we are to the

19
00:00:53,330 --> 00:00:50,430
Sun the fourth planet G is a planet that

20
00:00:56,240 --> 00:00:53,340
could sustain life the Goldilocks zone

21
00:00:58,970 --> 00:00:56,250
is the range of orbits around any star

22
00:01:01,790 --> 00:00:58,980
where it's neither too hot nor too cold

23
00:01:03,560 --> 00:01:01,800
but just right for liquid water to exist

24
00:01:06,410 --> 00:01:03,570
on the surface and that's a key

25
00:01:10,130 --> 00:01:06,420
ingredient for the existence of life pls

26
00:01:13,460 --> 00:01:10,140
a 581 G has an orbit of just about 37

27
00:01:15,260 --> 00:01:13,470
days around the around the star when you

28
00:01:17,630 --> 00:01:15,270
listen to that you think wow that must

29
00:01:19,399 --> 00:01:17,640
be way too close to the star to further

30
00:01:21,469 --> 00:01:19,409
to be life because that's pretty darn

31
00:01:23,539 --> 00:01:21,479
that's that's a short orbit so this is

32
00:01:25,520 --> 00:01:23,549
shorter than the orbit of mercury around

33
00:01:27,950 --> 00:01:25,530
our own Sun must be terribly hot

34
00:01:31,010 --> 00:01:27,960
actually that's not the case because

35
00:01:33,950 --> 00:01:31,020
Gliese 581 like I said a red dwarf star

36
00:01:36,980 --> 00:01:33,960
much cooler than our Sun emits much less

37
00:01:39,350 --> 00:01:36,990
radiation so in fact those planets need

38
00:01:41,929 --> 00:01:39,360

to snuggle up a lot closer to that star

39
00:01:44,929 --> 00:01:41,939
in order to get the warmth so in fact

40
00:01:47,030 --> 00:01:44,939
the habitable zone around Gliese 581 is

41
00:01:49,069 --> 00:01:47,040
much closer to the star than in our own

42
00:01:50,990 --> 00:01:49,079
solar system we don't know if it's a

43
00:01:52,429 --> 00:01:51,000
rocky planet in fact that Center we

44
00:01:53,749 --> 00:01:52,439
haven't determined the density because

45
00:01:57,499 --> 00:01:53,759
you need yet another measurement

46
00:02:00,530 --> 00:01:57,509
however if everything's fit or remains

47
00:02:03,440 --> 00:02:00,540
I suspect that the affected temperature

48
00:02:06,350 --> 00:02:03,450
of this determined because of the

49
00:02:09,380 --> 00:02:06,360
dynamics right because of the orbit and

50
00:02:11,660 --> 00:02:09,390
how our heart is the central star the

51
00:02:13,790 --> 00:02:11,670
temperature for this or the fact the

52
00:02:17,180 --> 00:02:13,800
temperature of this on the surface is up

53
00:02:20,210 --> 00:02:17,190
if it were Rocky allow for water to

54
00:02:23,780 --> 00:02:20,220
remain such and so we we have hope that