1
00:00:00,000 --> 00:00:02,510
Narrator: NASA's Kepler mission has discovered

2
00:00:02,530 --> 00:00:05,050
three super Earth-size planets orbiting in the

3
00:00:05,070 --> 00:00:07,600
"habitable zone" of their stars.

4
00:00:07,620 --> 00:00:10,010
The "habitable zone" is the distance from a star

5
00:00:10,030 --> 00:00:11,880
where the surface temperature of an orbiting

6
00:00:11,900 --> 00:00:14,890
planet could be suitable for liquid water.

7
00:00:14,910 --> 00:00:17,190
Each of the three new planets is less than twice

8
00:00:17,210 --> 00:00:19,170
the size of Earth.

9
00:00:19,190 --> 00:00:22,820
About 1,200 light-years from Earth, two of the newly

10
00:00:22,840 --> 00:00:25,050
discovered planets are in a five-planet system

11
00:00:25,070 --> 00:00:27,510
called Kepler-62.

12
00:00:27,530 --> 00:00:30,490
The host star is smaller and cooler than our sun

13
00:00:30,510 --> 00:00:32,950

and has three planets that orbit very close,

14
00:00:32,970 --> 00:00:36,140
making them hot, inhospitable worlds.

15
00:00:36,160 --> 00:00:40,070
Farther away are two planets in the habitable zone.

16
00:00:40,090 --> 00:00:42,260
Orbiting on the inner edge of the habitable zone

17
00:00:42,280 --> 00:00:44,750
is Kepler-62e.

18
00:00:44,770 --> 00:00:47,090
It is about 60 percent larger than the size of

19
00:00:47,110 --> 00:00:51,190
Earth and orbits every 122 days.

20
00:00:51,210 --> 00:00:53,310
The smallest of the habitable zone planets is

21
00:00:53,330 --> 00:00:55,920
called Kepler-62f.

22
00:00:55,940 --> 00:00:58,690
It is forty percent larger in size than Earth and

23
00:00:58,710 --> 00:01:01,380
is likely a rocky world.

24
00:01:01,400 --> 00:01:05,880
Kepler-62f orbits every 267 days.

25
00:01:05,900 --> 00:01:08,440
These two planets are the smallest yet discovered

26
00:01:08,460 --> 00:01:12,090
in the habitable zone of another star.

27
00:01:12,110 --> 00:01:15,450
Much farther away, about 2700 light years from

28
00:01:15,470 --> 00:01:18,320
Earth, is a two-planet system around a star

29
00:01:18,340 --> 00:01:20,660
called Kepler-69.

30
00:01:20,680 --> 00:01:23,390
The star is the same type and very similar to our

31
00:01:23,410 --> 00:01:27,510
own sun, although it is slightly smaller and cooler.

32
00:01:27,530 --> 00:01:31,330
The inner planet, Kepler-69b, is 2.2 times

33
00:01:31,350 --> 00:01:34,830
the size of Earth and orbits every 13 days.

34
00:01:34,850 --> 00:01:37,530
It is much hotter and closer to its star than the

35
00:01:37,550 --> 00:01:40,210
planet Mercury is to the sun.

36
00:01:40,230 --> 00:01:43,870
The outer planet, Kepler-69c, is about 70 percent

37
00:01:43,890 --> 00:01:48,100
larger than Earth and orbits every 242 days.

38
00:01:48,120 --> 00:01:50,380

It is the smallest planet found in the habitable

39
00:01:50,400 --> 00:01:53,610
zone of a sun-like star.

40
00:01:53,630 --> 00:01:56,400
Managed by NASA Ames Research Center, the Kepler

41
00:01:56,420 --> 00:01:59,130
Mission is using a space-based telescope to search

42
00:01:59,150 --> 00:02:01,380
one part of the galaxy for potentially

43
00:02:01,400 --> 00:02:03,310
habitable planets.

44
00:02:03,330 --> 00:02:05,430
While scientists do not know if life could exist

45
00:02:05,450 --> 00:02:08,180
on the newfound habitable zone planets, their

46
00:02:08,200 --> 00:02:11,200
discovery signals another step closer to finding a

47
00:02:11,220 --> 00:02:14,150
true sun-Earth twin.