

Adaptive Optics
Images of Kepler
Objects of Interest

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All Kepler Candidates



William Borucki

Kepler Principal Investigator, NASA Ames

1

00:00:00,000 --> 00:00:03,690

Narrator: At a press conference held at NASA Ames Research Center,

2

00:00:03,710 --> 00:00:07,670

the Kepler team announced the discovery of its first confirmed planet

3

00:00:07,690 --> 00:00:11,300

in the "habitable zone" or the region around a star where liquid water

4

00:00:11,320 --> 00:00:14,200

could exist on a planet's surface.

5

00:00:14,220 --> 00:00:19,640

Named Kepler-22b, the planet is about 2.4 times the radius of the Earth

6

00:00:19,660 --> 00:00:23,530

and orbits a sun-like star about 600 light years away

7

00:00:23,550 --> 00:00:26,660

between the constellations of Cygnus and Lyra.

8

00:00:26,680 --> 00:00:29,070

William Borucki: Well, certainly the thing that's most exciting to me is the fact,

9

00:00:29,090 --> 00:00:32,930

that finally after looking at all these candidates, spending all this effort,

10

00:00:32,950 --> 00:00:38,230

that we can confirm a planet, in the habitable zone, that's nearly Earth-size.

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00:00:38,250 --> 00:00:42,910

So, we're moving towards the goal of the mission: are Earths frequent or are they rare?

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00:00:42,930 --> 00:00:46,090

And this is a major step in that direction.

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00:00:46,110 --> 00:00:50,150

Narrator: Scientists don't know yet if Kepler-22b has a predominantly rocky,

14

00:00:50,170 --> 00:00:57,280

gaseous or liquid composition, but its discovery is a step closer to finding Earth-like planets.

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00:00:57,300 --> 00:01:02,040

The team has also discovered more than 1,000 new planet candidates,

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00:01:02,060 --> 00:01:04,790

nearly doubling its previously known count.

17

00:01:04,810 --> 00:01:08,530

Natalie Batalha: The Kepler team announced today 1,094 new planet candidates,

18

00:01:08,550 --> 00:01:13,160

bringing the total roster up to 2,326.

19

00:01:13,180 --> 00:01:19,640

Of those, 207 are Earth-size and we now have 48 that are in the habitable zone.

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00:01:19,660 --> 00:01:24,580

Ten of which are smaller than two Earth-radii.

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00:01:24,600 --> 00:01:27,300

So these are planets which potentially could be rocky.

22

00:01:27,320 --> 00:01:35,130

So, it's an exciting milestone because we're really honing in on truly Earth-sized habitable planets.

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00:01:35,150 --> 00:01:40,500

Narrator: The announcement helped to kick off the beginning of the first-ever Kepler Science Conference.

24

00:01:40,520 --> 00:01:43,740

Held at NASA Ames, the meeting provided an opportunity

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00:01:43,760 --> 00:01:48,050

for a large and diverse group of scientists to convene and review insights

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00:01:48,070 --> 00:01:50,940

they've discovered from the Kepler data.

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00:01:50,960 --> 00:01:57,660

Just days earlier, the Kepler mission celebrated 1,000 days of conducting science operations in space.

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00:01:57,680 --> 00:02:01,870

To honor the occasion, scientists and staff members held a reception,

29

00:02:01,890 --> 00:02:07,560

featuring a cake cutting and stories about the last 2-and-a-half years of data collection.

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00:02:07,580 --> 00:02:12,030

Famed astrophysicist and science communicator Neil deGrasse Tyson

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00:02:12,050 --> 00:02:15,960

also came to the event to help the team celebrate the milestone.

32

00:02:15,980 --> 00:02:21,650

Neil deGrasse Tyson: It's great to see the energy and enthusiasm of the workforce for Kepler

33

00:02:21,670 --> 00:02:26,990

matching the magnitude of the science that is coming out from the telescope itself.

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00:02:27,010 --> 00:02:31,960

The public hardly ever sees the workforce behind the mission, they just see the results

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00:02:31,980 --> 00:02:35,570

and they know there's a telescope out there, but they're hardworking people.

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00:02:35,590 --> 00:02:41,760

The engineers and scientists and managers and so it's great to see everybody here together, celebrating.

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00:02:41,780 --> 00:02:45,730

Narrator: Kepler is NASA's three-and-a-half year mission to search for Earth-size,

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00:02:45,750 --> 00:02:50,070

potentially habitable planets in our galaxy.