



1
00:00:00,000 --> 00:00:05,850

Narrator: Scientists working on NASA's Kepler Mission announced they have discovered

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00:00:05,870 --> 00:00:11,640

more eleven hundred planetary candidates in the space telescope's field-of-view.

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00:00:11,660 --> 00:00:17,530

The findings are based on the results of observations of more than 156-thousand stars

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00:00:17,550 --> 00:00:21,890

conducted between May and September of 2009.

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00:00:21,910 --> 00:00:24,905

Bill Borucki: Now, these are candidates, but most of them, I'm convinced, will be confirmed

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00:00:24,925 --> 00:00:27,920

in the coming months and years.

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00:00:27,940 --> 00:00:32,010

That's more than all the people have found so far in history.

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00:00:32,030 --> 00:00:38,160

Narrator: Among the eleven hundred planet candidates, the Kepler science team has found 54 that are orbiting

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00:00:38,180 --> 00:00:44,500

in their stars' habitable zone, a region where liquid water could exist on the surface of a planet.

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00:00:44,520 --> 00:00:50,100

Five of those candidates are near-Earth size and the other 49 range in size

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00:00:50,120 --> 00:00:55,080

from twice the size of the Earth to larger than Jupiter.

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00:00:55,100 --> 00:01:00,630

Ground-based observatories and NASA's Spitzer Space Telescope will be used this spring and summer

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00:01:00,650 --> 00:01:05,700

to help determine if these candidates can be validated as planets.

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00:01:05,720 --> 00:01:11,270

Not only is the Kepler team finding individual planetary candidates, they are also discovering

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00:01:11,290 --> 00:01:15,240

some of their first multi-planet systems as well.

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00:01:15,260 --> 00:01:21,780

They have detected 86 potential planetary systems that may have two or more planets.

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00:01:21,800 --> 00:01:29,870

One system, named Kepler-11, has been confirmed to have at least six planets orbiting a sun-like star.

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00:01:29,890 --> 00:01:37,510

Jack Lissauer: The Kepler-11 planetary system is amazing. It's amazingly compact, it's amazingly flat,

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00:01:37,530 --> 00:01:43,460

there's an amazingly large number of big planets orbiting close to their star.

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00:01:43,480 --> 00:01:46,730

We didn't know such systems could even exist.

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00:01:46,750 --> 00:01:54,410

There's certainly far fewer than one percent of stars that have systems like Kepler-11.

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00:01:54,430 --> 00:02:01,320

But whether it's one in a thousand, one in ten thousand or one in a million, that we don't know,

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00:02:01,340 --> 00:02:03,330

because we only know one of them.

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00:02:03,350 --> 00:02:09,320

Narrator: Scientists are excited that the number of planetary candidates discovered in four months worth of data

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00:02:09,340 --> 00:02:15,770

shows promise that a relatively large number of planets may exist in our galaxy.

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00:02:15,790 --> 00:02:21,940

Jack Lissauer: We're learning so much more about the orbits of planets, the masses of planets,

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00:02:21,960 --> 00:02:25,460

the sizes of planets and we're just beginning.