

 theday.co.uk/this-could-be-the-year-that-we-find-aliens-3



Living room: Nearly every star is thought to host planets and many could be habitable.

Can we believe it this time? The next 12 months will see a host of exciting space missions — and the development of a telescope specifically designed to detect other life forms.

The journalists listened to Ellen Stofan with growing excitement. **Nasa's** chief scientist had just made an amazing prediction: "I think we're going to have strong **indications** of life beyond Earth within a decade."

That was in 2015 — so if Stofan was right, the discovery of alien life could come very soon.

Yesterday saw the launch of the Peregrine 1 Moon lander. Although it soon ran into problems, it is only the first of a dozen missions scheduled for 2024 which could answer the biggest question of all. Are we alone in the universe?

Peregrine 1 will look at a strange area called the Gruithuisen Domes. They seem to be the result of volcanic activity. On Earth that could only take place with the aid of water.

Water is essential to life like ours. That makes it central to the search for aliens.

Scientists believe there is water to be found on two of Jupiter's moons. Nasa plans to launch a spacecraft to investigate one in October.

There could also once have been oceans on Mars, though not all scientists agree on this.

But finding water is not the same as finding alien life. With this in mind, Nasa has just started work on a new space **telescope**. It will be called the Habitable Worlds Observatory (HWO).

So far scientists have found over 5,500 worlds orbiting other stars. The HWO's mission will be to look for life on 25 worlds similar to our own.

They will be within 100 **light years** of Earth and roughly the same size. They will be neither too hot nor too cold for water to exist.

The HWO will study their atmospheres for signs of life — for example, oxygen and **methane**. It will do this using **ultraviolet** and **infrared** light.

According to leading **astronomer** Marc Postman: "This is the first telescope ever built that will be able to really address, in a scientific way, how common life is beyond the solar system."

Can we believe it this time?

Some people say

"To my mathematical brain, the numbers alone make thinking about aliens perfectly rational."

Stephen Hawking (1928 – 2014), British theoretical physicist and cosmologist

"Humans assume that alien life forms should conform to standards that match our own, including logic and morality."

Steve Perry (1949 –), American singer-songwriter

What do you think?

Restless quest

Yes: There are all kinds of exciting developments in space exploration, including private enterprises like the Peregrine 1 mission. The HWO shows that Nasa is really committed to the search for aliens.

No: After decades of searching, we have still found no evidence of alien life. The HWO will probably not be ready for launch until 2040. The Europa probe is not scheduled to reach Jupiter until 2030.

Or... Even if these missions establish that there is no other life on habitable worlds, they should not be considered a waste of time. They would prove that humans have a unique place in the universe.

Six steps to discovery

1. Investigate

What are the facts? - This article contains information about the conditions needed for creatures like us to exist on other worlds. Whether they might be a matter of speculation. Consider the difference.

2. Construct

What is your point of view? - You are asked to give a party on 31 December to celebrate the discovery of alien life. Think about what you would say.

3. Express

What do others believe? - What would you say to an alien if you met one? Talk about it with your classmates.

Glossary

Nasa - The National Aeronautics and Space Administration, responsible for the US space programme.

Indications - Signs.

Telescope - A device which makes things look nearer than they are.

Light years - A unit of measurement equal to the distance that light travels in one year, which is 9.4607 times 10¹² km. That's nearly 6 million million miles!

Methane - A particularly strong greenhouse gas produced by fossil fuels and cattle.

Ultraviolet - A form of electromagnetic radiation that cannot be seen by the human eye.

Infrared - A type of electromagnetic radiation (a wave with electricity). The wave is longer than light which humans can see and shorter than microwaves.

Astronomer - A scientist that studies the universe and space.