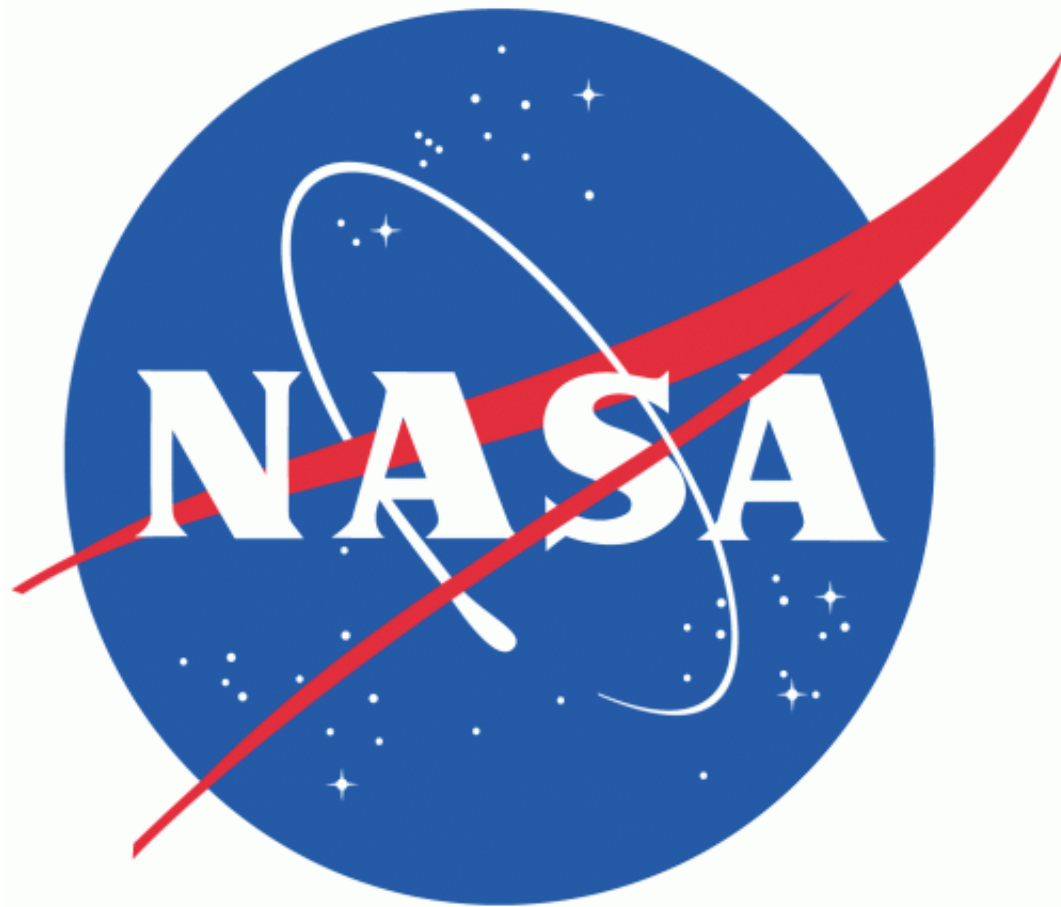


# NASA: We'll find alien life in 10 to 20 years

April 8 2015, by Deborah Netburn, Los Angeles Times

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Are we alone in the universe? Top NASA scientists say the answer is almost certainly "no."

"I believe we are going to have strong indications of life beyond Earth in

the next decade and definitive evidence in the next 10 to 20 years," Ellen Stofan, chief scientist for the National Aeronautics and Space Administration, said at a public panel Tuesday in Washington.

"We know where to look, we know how to look, and in most cases we have the technology," she said.

Jeffery Newmark, interim director of heliophysics at the agency put it this way: "It's definitely not an if, it's a when."

However, if visions of alien invasions are dancing in your head, you can let those go.

"We are not talking about little green men," Stofan said. "We are talking about little microbes."

Over the course of an hourlong presentation, NASA leaders described a flurry of recent discoveries that suggest we are closer than ever to figuring out where we might find life in the [solar system](#) and beyond.

For example, Jim Green, director of planetary science at NASA, cited a study that analyzed the atmosphere above Mars' polar ice caps and suggests that 50 percent of the planet's northern hemisphere once had oceans up to a mile deep, and that it had that water for a long period of time - up to 1.2 billion years.

"We think that long period of time is necessary for life to get more complex," Stofan said.

She added that getting human field geologists and astrobiologists on Mars would greatly improve the chances of finding fossils of past life on our nearest planetary neighbor.

Green also described another recent study that used measurements of aurora on Jupiter's moon Ganymede to prove it has a large liquid ocean beneath its icy crust.

The findings suggest that previous ideas about where to find "habitable zones" may have been too limited. (A body considered to be in a [habitable zone](#) is not too hot or too cold for liquid water to exist on its surface.)

"We now recognize that habitable zones are not just around stars, they can be around giant planets too," Green said. "We are finding out the solar system is really a soggy place."

He also talked about NASA's plans for a mission to Europa, another moon of Jupiter with an icy ocean.

"I don't know what we are going to find there," he said.

Newmark described how NASA is learning more about the role of Earth's magnetic field in protecting our planet's water and atmosphere from being blown away by the solar wind, thereby playing a role in the ability for life to develop.

"Mars does not have a significant magnetic field, so it lets the wind strip away the water and atmosphere," he said.

Paul Hertz, director of astrophysics at NASA, talked about how future telescopes already in the works will help scientists scan the atmospheres of large rocky planets around distant stars for chemical markers of life.

"We are not just studying water and habitability in our solar system, but also looking for it in planets around other stars," he said.

NASA associate administrator John Grunsfeld, said part of what excites

him most about the search for life beyond our planet is to see what that life looks like.

"Once we get beyond Mars, which formed from the same stuff as Earth, the likelihood that life is similar to what we find on this planet is very low," he said.

Grunsfeld said he believes that life beyond Earth will be found by the next generation of scientists and space explorers, but Green said he hopes it is sooner than that.

"The science community is making enormous progress," he said. "And I've told my team I'm planning to be the director of [planetary science](#) when we discover [life](#) in the solar system."

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