From VOA Learning English this is As It Is.

Hello. I'm Caty Weaver.

Climate researchers have found links between recent periods of extreme weather and the melting of Arctic ice. Their study suggests that very fast warming in the Arctic could be affecting weather across the northern hemisphere. But, critics say there is no proof that this is happening.

"The jury's still out on whether Arctic Sea ice is influencing weather extremes."

But first, we go back to Mars…

Earlier this year, scientists announced they had found evidence that there was once water on Mars, and that that water might have permitted life on the red planet. Now, we have an update on the story: iron and sulfur minerals found at the bottom of the ancient, dried-up lake suggest an even more likely environment for life.

"In principle you would have microbes that could eat the rocks. And that is very common on Earth."

Life on Mars, and climate changes on Earth: today, on As It Is.

Ancient Martian Lake Could Have Supported Life

Meaningful minerals have been found in an ancient, former lake on Mars. Scientists say the finding is the best evidence yet that conditions were right for life on the red planet.

Christopher Cruise reports.

Earlier this year, scientists reported evidence of water on Mars that could have made life possible.

Now there is new evidence from the Mars information-gathering vehicle called Curiosity. It has found iron and sulfur minerals in different chemical states at the bottom of a former lake.

The different chemical states suggest that electrons could move around in that environment. Scott McLennan is a professor of geoscience at Stony Brook University. He says this is an important discovery.

"If you can move electrons around you have basically got food."

Professor McLennan is part of the Mars rover team that made the discovery.

"In principle, you would have microbes that could eat the rocks and eat the minerals. And that is very common on Earth. They are primitive life forms but they are very, very well-known and very well-characterized."

Such life forms are found in caves and deep-sea thermal vents on Earth. These are places that do not get the sunlight that is the root of all life on our planet's surface.

Hap McSween is a planetary scientist. He says a recent series of papers have claimed there could be life on Mars, but he says this is the first time he has been convinced of it.

Professor McSween is with the University of Tennessee. He was not involved in the new study. He says it is not the first time researchers have found water or important minerals on Mars.

"But never the whole package. And this place really does seem to have the whole package."

The materials were gathered near the landing place of Curiosity. The area appears to have been a lake about four billion years ago -- more recently than scientists once thought. Professor McSween notes that was around the time life was appearing on Earth.

"It could be that the two planets had emerging but very, very simplified life at the same time. But we are a long way from figuring out that this interesting lake deposit actually has any evidence of life."

The Mars rover is not able to look for fossil microbes that would answer the question about whether there was once life on Mars. Professor McLennan says material would have to be transported to Earth for study.

Now, Curiosity is headed to Mt. Sharp -- a rock formation five kilometers tall. Professor McLennan says Mt. Sharp was the rover's target from the beginning of the mission. The finding of the ancient, possibly life-filled former lake was just a lucky change of plans.

I'm Christopher Cruise.

You are listening to As It Is from VOA Learning English.

Now here is Caty Weaver with some climate science news.

Study Links Arctic Melting and Extreme Weather

Ice at the North Pole is disappearing at a worrying rate. Now scientists say they have found a link between the melting and periods of extreme weather.

Jennifer Francis is a climate scientist at Rutgers University in New Jersey. She says ice around the North Pole has decreased by 50 percent in the past thirty years. But there is more bad news…

"And then if you take into account the thickness as well, we've lost almost three-quarters of the volume of the sea ice. So, it's just an unbelievable amount of change that's going on the Arctic."

At the same time, the northern hemisphere has had record-breaking heat waves, extreme dry periods and severe floods.

Scientists are trying to discover if there is a link between the Arctic melting and the severe weather.

Professor Francis and her team looked at 30 years of weather information and measurements of Arctic ice and snow cover in northern lands.

"What we found was, when there was less ice or less snow in any given year during the summertime, that that was more likely to occur at the same time as the occurrences of heat waves."

They published their findings in the journal Nature Climate Change.

The researchers say the loss of ice and snow is affecting the high winds called the jet stream. These winds push weather around the northern hemisphere. The jet stream is driven by the difference in temperature between the Arctic and moderate climates. The bigger the difference, the faster the jet stream flows.

"If we warm the Arctic faster then it's decreasing the temperature difference and causing the jet stream to get weaker."

A weaker jet stream is wavier, which makes it slower in its movement. So heat waves, cold periods and rainstorms last longer.

But not everyone is persuaded by this information. James Screen is a climate scientist at Britain's University of Exeter. He says the new study only shows a few areas of the planet where there is a link between sea ice loss and heat waves.

"…which implies either that the relationship is quite weak, or actually, it could be interpreted that the relationship doesn't exist at all."

Professor Screen says researchers have only just begun to study the effect of Arctic ice on weather.

"It's a hot topic but there's a lot of work to be done. The jury's still out on whether the Arctic Sea ice is influencing weather extremes."

Experts say it is an important area of research because, they say, with current levels of greenhouse gases being released into the atmosphere, Arctic ice will continue to melt.

And that's our program for today. Thanks for joining us.

Remember to listen at the top of the hour for the latest world news on the Voice of America. I'm Caty Weaver.