

When did the first rain appear on Earth?

New research by a team of researchers from Australia and China shows that the first rain appeared on Earth about 4 billion years ago, 500 million years earlier than previous calculations.

To determine the exact time of the first rain on our planet, the research team relied on oxygen isotopes retained in ancient minerals, the oldest remaining from the Earth's crust. Soil, stored in the Jack Hills Range, Western Australia.



About 4 billion years ago, ancient Earth had a dry, dusty landscape without much water. And maybe the first rain contributed to creating the first seeds of life.

According to research, it is likely that inside the zircon crystals of the rock and soil, water droplets from the oldest rain on Earth have been saved. These primordial minerals have remained virtually unchanged for nearly 4.4 billion years, under environmental temperature and pressure. Therefore, they have helped researchers gain a clearer view of the history of the Earth's formation.

Scientists analyzed small zircon grains using secondary ion mass spectrometry to deduce which oxygen isotopes were present in the magmatic rock that formed the crystals.

Scientists' new discovery marks an important step forward in our understanding of Earth's early history, and helps open the doors to deeper exploration of the origins of life. .

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