

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ
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BIOSPHERE 2

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“Biosphere 2” is a structure designed to simulate a closed ecological system built by “Space Biosphere Ventures”. Biosphere 2 is located on the slopes of the Santa Catalina Mountains in Oracle, Arizona. This area is a part of the Sonoran Desert, a dry and rugged terrain reminiscent of Mars.

In the 1970s, an American financier Edward Bass met John Allen, an ecologist, engineer and inventor of Biosphere 2. Allen planned to place 10 square kilometers of land under transparent domes, populate them with plants, animals and people in order to test how flexible life was, whether it was possible to enclose it in an airtight box and if it could exist in it in a balanced way. In addition, «Biosphere-2» could show whether a person would be able to take with him his usual habitat for the colonization of other planets.

The experiment was carried out in two stages: the first lasted from September 26, 1991 to September 26, 1993 and the second from March 6, 1994 to September 6, 1994. During the first stage, the oxygen level began to fall by 0.5% per month, which led to a situation where people were forced to live under the condition of oxygen starvation. As the oxygen level dropped to a dangerous level, the decision was made to artificially pump oxygen from the outside. The second stage was also prematurely interrupted due to organizational and financial problems. When the scientists carefully examined the deplorable state of the destroyed domes, they came to the conclusion that the cement floors played a fatal role. Oxygen reacted with the cement and deposited in the form of oxides on the walls. Bacteria in the soil turned out to be another active consumer of oxygen.

«Biosphere 2» is now a domed botanical garden, experiments are being carried out there, but not on such a large scale. One of the main tasks of “Biosphere 2” was to find out if humans and other living things could exist in a closed environment. So, it revealed that man is one of the weakest links in such isolation. On one of the inner walls of the “planet” there are still several lines written by one of the women: “Only here we realized how dependent we are on the surrounding nature.”

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