



1
00:00:00,050 --> 00:00:02,580

[music]

2
00:00:02,600 --> 00:00:08,100

Scientists have suspected for decades that ancient Mars was a much warmer, wetter environment,

3
00:00:08,120 --> 00:00:14,480

but estimates of just how much water Mars has lost over its four-and-a-half-billion-year history vary widely.

4
00:00:14,500 --> 00:00:19,280

Now, researchers at NASA's Goddard Space Flight Center have made the best estimate to date

5
00:00:19,300 --> 00:00:25,160

by measuring the atmospheric ratio of normal to heavy water molecules near the Martian polar caps.

6
00:00:25,180 --> 00:00:30,380

The new measurements suggest that at least twenty percent of the Martian surface was once covered by water

7
00:00:30,400 --> 00:00:34,580

contained in an ocean with a maximum depth of about one mile.

8
00:00:34,600 --> 00:00:43,080

Over time, nearly ninety percent of this ocean was lost to space, with the remainder locked up today in Mars' north

9
00:00:43,100 --> 00:00:48,280

This new picture of early Mars is considerably wetter than many previous isotopic estimates,

10
00:00:48,300 --> 00:00:52,430

and suggests that water persisted on the Martian surface for billions of years,

11
00:00:52,450 --> 00:00:56,460

raising the odds for the ancient habitability of the Red Planet.