



OCEAN
WORLD ENCELADUS

1
00:00:00,334 --> 00:00:04,037
Here's what you need to know
about Enceladus.

2
00:00:04,071 --> 00:00:05,772
One of Saturn's many moons,

3
00:00:05,806 --> 00:00:08,976
Enceladus is a small, icy body

4
00:00:09,009 --> 00:00:12,279
with the whitest, most reflective surface
in the solar system.

5
00:00:12,312 --> 00:00:14,448
Dive deeper

6
00:00:14,481 --> 00:00:15,782
and you'll discover this icy world

7
00:00:15,816 --> 00:00:18,986
is actually an ocean world.

8
00:00:19,019 --> 00:00:22,623
Deep below Enceladus' frozen surface

9
00:00:22,656 --> 00:00:26,126
resides a massive liquid saltwater ocean.

10
00:00:26,159 --> 00:00:29,897
But the water doesn't stay beneath
its icy crust forever.

11
00:00:31,431 --> 00:00:33,133
Massive geysers spew water vapor

12
00:00:33,166 --> 00:00:36,570
and ice particles hundreds of miles

into space.

13

00:00:36,603 --> 00:00:39,506

Some of these particles fall back
to the moon,

14

00:00:39,540 --> 00:00:43,477

giving Enceladus its bright white surface

15

00:00:43,510 --> 00:00:48,215

while others escape to form
one of Saturn's iconic planetary rings.

16

00:00:48,248 --> 00:00:51,652

During its visit to the Saturn system,

17

00:00:51,685 --> 00:00:55,556

NASA's Cassini spacecraft flew through

18

00:00:55,589 --> 00:00:58,792

and sampled these icy jets
of subsurface ocean.

19

00:00:58,825 --> 00:01:02,296

These continuously spewing geysers
are chock-full of a surprising mix of:

20

00:01:02,329 --> 00:01:04,031

volatile gases,
water vapor,

21

00:01:04,064 --> 00:01:05,532

carbon dioxide,
organic compounds

22

00:01:05,566 --> 00:01:08,202

(the chemical ingredients needed
for life).

23

00:01:08,235 --> 00:01:10,204

Cassini also detected materials that point to the existence

24

00:01:10,237 --> 00:01:12,639

of deep-sea hydrothermal activity,

25

00:01:12,673 --> 00:01:16,076

previously known to exist only on Earth.

26

00:01:16,109 --> 00:01:19,479

The fascinating discoveries made at Enceladus

27

00:01:19,513 --> 00:01:25,519

all point to the possibility of an ocean world where life could exist.

28

00:01:25,552 --> 00:01:30,691

And that's what you need to know about Enceladus.