



1  
00:00:00,500 --> 00:00:06,206  
[sound effects and music]

2  
00:00:06,206 --> 00:00:09,409  
It's only a matter of time  
before humans step foot on a new

3  
00:00:09,409 --> 00:00:14,014  
planetary body in our solar  
system. And with that in mind

4  
00:00:14,014 --> 00:00:17,050  
NASA's Goddard Space Flight  
Center is learning how to  
develop

5  
00:00:17,050 --> 00:00:20,354  
instruments that would be used  
by humans to conduct exploration

6  
00:00:20,354 --> 00:00:23,657  
and research. One research  
program actively involved in

7  
00:00:23,657 --> 00:00:27,261  
this pursuit sits in isolation  
in a habitat on the slopes of

8  
00:00:27,261 --> 00:00:31,899  
the Mauna Loa volcano in  
Hawai'i. It's called HI-SEAS –

9  
00:00:31,899 --> 00:00:35,402  
and the Mars-like conditions and  
geology of the landscape allow

10  
00:00:35,402 --> 00:00:38,939  
the crews there to perform field  
tests and experiments that give

11

00:00:38,939 --> 00:00:43,143

a mission simulation an extra  
dose of realism. Today,

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00:00:43,143 --> 00:00:46,880

scientists from NASA Goddard are  
nearby, deploying an instrument

13

00:00:46,880 --> 00:00:50,317

known as the mini-LHR, which  
measures methane and carbon

14

00:00:50,317 --> 00:00:54,221

dioxide in the atmosphere. The  
goal is to allow the HI-SEAS

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00:00:54,221 --> 00:00:56,823

crew to simulate how an  
astronaut would interact with

16

00:00:56,823 --> 00:01:00,627

the instrument on another  
planet. The task is also

17

00:01:00,627 --> 00:01:03,497

designed to explore how NASA  
might approach an in-mission

18

00:01:03,497 --> 00:01:06,667

training with a new instrument  
that a crew has never seen

19

00:01:06,667 --> 00:01:10,971

before. This HI-SEAS adventure  
therefore has numerous

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00:01:10,971 --> 00:01:14,574

components for NASA to monitor.  
And it all begins with the crew

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00:01:14,574 --> 00:01:18,679

making the long trek over the old lava flows to the site of

22

00:01:18,679 --> 00:01:22,149

the mini-LHR. Once there, the team will get the instrument

23

00:01:22,149 --> 00:01:25,886

working so that it can start its actual data collection. On

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00:01:25,886 --> 00:01:29,189

another planet, this atmospheric data would be important for

25

00:01:29,189 --> 00:01:33,527

understanding elements related to climate and habitability. The

26

00:01:33,527 --> 00:01:38,231

interaction between the HI-SEAS team and the mini-LHR is in

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00:01:38,231 --> 00:01:41,268

itself a test – designed to monitor changes in the

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00:01:41,268 --> 00:01:44,604

environment that are occurring naturally, or as a response to

29

00:01:44,604 --> 00:01:47,808

the human presence. By participating in this type of

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00:01:47,808 --> 00:01:51,545

fieldwork study, NASA Goddard's instrument field team is making

31

00:01:51,545 --> 00:01:55,082

great strides toward the larger  
mission of getting humans on the

32

00:01:55,082 --> 00:01:58,018

surface of another planet. And  
as the HI-SEAS crew can attest,