



1
00:00:03,020 --> 00:00:03,910

[music]

2
00:00:03,930 --> 00:00:06,910

Jake: Desert RATS stands for Desert Research and Technology Studies

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00:00:06,930 --> 00:00:08,360

This is a group of engineers and scientists

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00:00:08,380 --> 00:00:13,980

Jim: We are looking to test out new concepts, procedures,

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00:00:14,000 --> 00:00:16,070

equipment, like rover concepts,

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00:00:16,090 --> 00:00:17,490

to see how they work in the field environment

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00:00:17,510 --> 00:00:21,120

Jake: The team tests these technologies, to make sure that on future human space flight missions,

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00:00:21,140 --> 00:00:24,060

we will be able to do science as best as we can.

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00:00:24,080 --> 00:00:29,980

Jim: A geologist from Goddard is going to be in each one of those rovers; myself and Jake Bleacher.

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00:00:30,000 --> 00:00:33,980

Jake: That's something NASA has never done: two human rovers at the same time.

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00:00:34,000 --> 00:00:37,810

So, we are really trying to develop how do you use these assets at the same time,

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00:00:37,830 --> 00:00:41,810

and interesting things that you might not think about are your communications.

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00:00:41,830 --> 00:00:48,300

So, you might have 4 astronauts talking at the same time to a mission control or science back room.

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00:00:48,320 --> 00:00:50,740

Jim: It's just like running a real mission.

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00:00:50,760 --> 00:00:55,750

Try and think about the Apollo missions to the moon. You had the astronauts on the moon and the mission control

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00:00:55,770 --> 00:01:00,920

and there was a science back room you didn't hear about, and the astronauts were getting information from the

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00:01:00,940 --> 00:01:06,760

Jake: Arizona has a very good climate for these types of analog studies.

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00:01:06,780 --> 00:01:14,850

you have pretty much open plains and you have a lot of geological features that are analogous to places on

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00:01:14,870 --> 00:01:19,600

In the morning, we go through a briefing, to make sure we know what we are doing for that day.

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00:01:19,620 --> 00:01:22,520

And the day is composed of executing that plan. So, driving the rover from stop to stop.

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00:01:22,540 --> 00:01:29,770

While we are driving, we conduct geologic observations.

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00:01:29,790 --> 00:01:34,330

We send that information back to science back rooms, and when we get to stops,

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00:01:34,350 --> 00:01:38,380

we actually get out of the rover and got on Extra Vehicular Activity or EVA.

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00:01:38,400 --> 00:01:44,440

Jim: Those stations are on the order of about 40 minutes, and 40 minutes goes by very quick.

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00:01:44,460 --> 00:01:49,440

When you get to a brand new area, the first thing you have to do is describe the geology as concisely and deta

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00:01:49,460 --> 00:01:54,450

as possible for the people in the back room, figure out where you're going to

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00:01:54,470 --> 00:01:59,630

take your samples you want to collect. So, you are figuring all this stuff out, at the same time, you've got to keep

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00:01:59,650 --> 00:02:04,690

systems. I mean, you've got this timeline that's running, and your getting briefed on how much time you have left

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00:02:04,710 --> 00:02:11,400

You know, you've got to move over here if you don't get this done, or if some equipment fails and you have to

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00:02:11,420 --> 00:02:16,450

scrap the whole EVA and get back in the rover and drive to the next station.

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00:02:17,470 --> 00:02:18,450

Jake: You get a lot of insight as to what a mission might actually be like.

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00:02:18,470 --> 00:02:23,580

For a scientist like me, I come in there and I provide my input as a field geologist,

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00:02:23,600 --> 00:02:28,610

How does a field geologist use all that equipment - but it is fun to talk with your astronaut crew member,

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00:02:28,630 --> 00:02:35,610

because you spend a lot of time with them in the rover during your week-long mission. You get to chat about work

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00:02:35,630 --> 00:02:39,140

to be an astronaut. Hear their stories about the missions they've been on.

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00:02:39,160 --> 00:02:44,750

Jim: We have a lot of hard-working scientists and engineers behind the scenes to make these things

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00:02:44,770 --> 00:02:48,040

to be able to pull this off. It is an honor and a privilege being a crew member.

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00:02:48,060 --> 00:02:53,080

Jake: That's really what working for NASA is: testing new technology, providing input

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00:02:53,100 --> 00:02:58,080

back to the engineers, to make sure that we build the best equipment, so that when we do send people