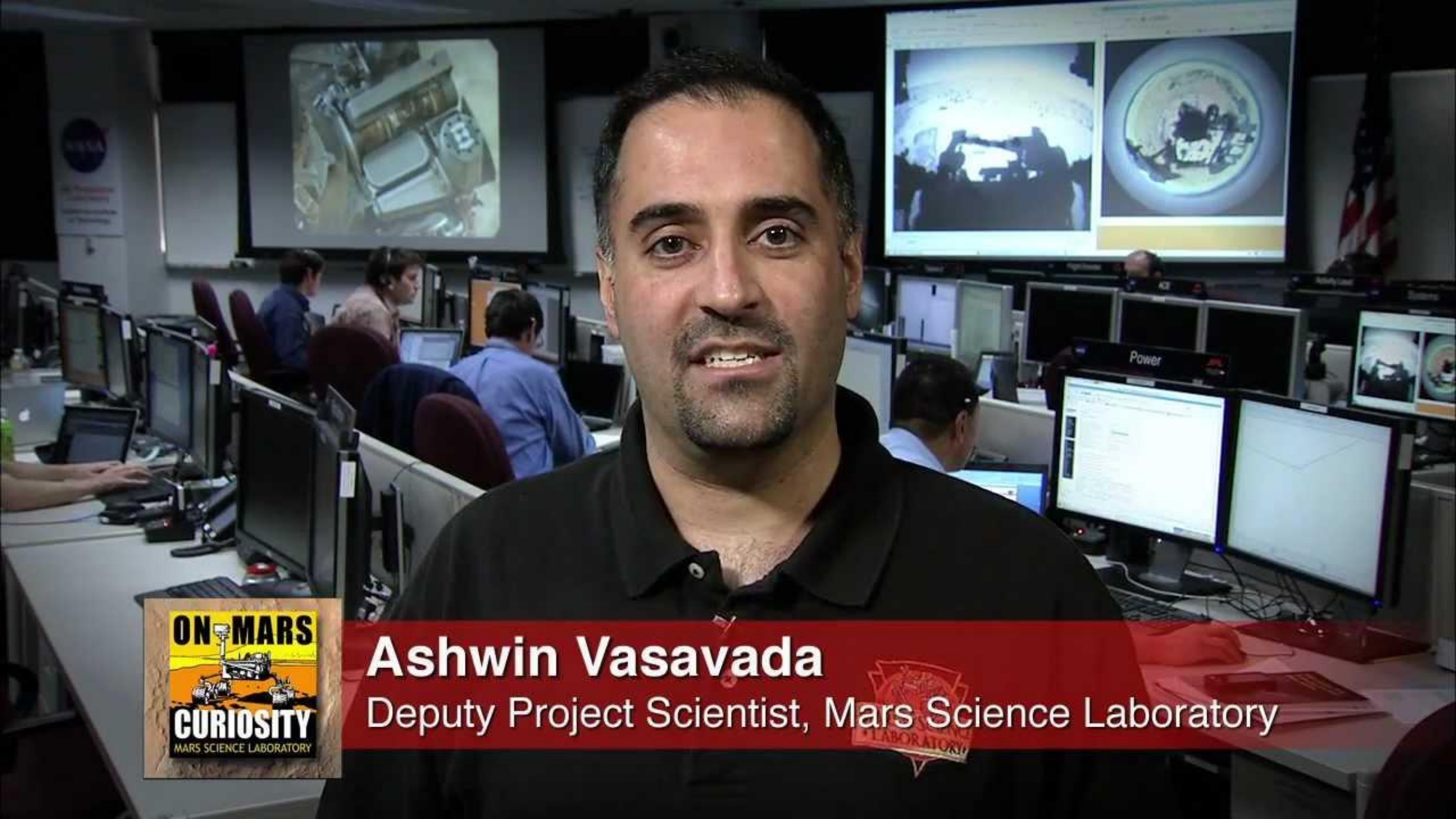
ON MARS
CURIOSITY
MARS SCIENCE LABORATORY
Ashwin Vasavada
Deputy Project Scientist, Mars Science Laboratory

1
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(Music)

2
00:00:04,000 --> 00:00:08,000
Hi, I'm Ashwin Vasavada. I'm the deputy project scientist for the Curiosity rover

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00:00:08,000 --> 00:00:12,000
and this is your Curiosity rover update.

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A lot of what this mission is about is figuring out the possibility

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that ancient Mars was a habitable environment. But we're also studying the present environment.

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Two instruments that help with that are the RAD instrument and the REMS instrument.

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The RAD instrument is a radiation assessment detector.

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It measures the high-energy radiation coming up from the cosmic rays and the sun.

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That radiation is changed as it goes through Mars' atmosphere to where we detect it on the surface.

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These measurements are helping to understand what the environment is like on the surface

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so that future astronauts will know how they can protect themselves from this harmful radiation.

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Another instrument that Curiosity has that measures the modern environment,

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is called the rover environmental monitoring station. It's basically our weather station.

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We measure a lot of things including pressure, and humidity, temperature and wind.

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It's been seeing little dips in pressure around noon that seemed like the signature of dust devils.

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Only thing is, our pictures haven't turned up any dust devils.

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Spirit and Opportunity saw lots of dust devils moving across the horizon.

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Our best guess at what's going on is that Curiosity is seeing dust devils go right over it.

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So what we think is happening is that the same sorts of vortexes,

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driven by convection are occurring on Mars at Curiosity's site but just not picking up dust.

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Another thing that REMS has been measuring is winds.

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Turns out we're in a pretty interesting place inside of Gale Crater.

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We're right at the base of a 5-kilometer high mountain to the south of us

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and then there's a pretty tall crater rim to the north of us

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and we're sitting in kind of a flat depression between the two.

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The winds blow up and down the mountain as the temperature changes during the day

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and up and down the crater slopes and then along the depression where we're at.

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So right now we're trying to figure out from the REMS data

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exactly which parts of that wind field we're measuring.

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With Thanksgiving coming up we've been preparing a few days worth of commands to

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send up to the rover to keep it busy while people here take some much needed time off.