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Monday, January 17, 2005. Issue 3085.

Titan Probe Sends First Surface Images

By Melissa Eddy
The Associated Press

DARMSTADT, Germany -- Titan's surface appears to be a pale-orange landscape with a thin crust that gives Saturn's largest moon a squishy consistency, scientists said after refining images from the planet's surface.

After working through the night on data relayed by the probe, scientists at the European Space Agency were clearly excited Saturday about the success of the mission, which already confirms some long-held theories about Titan and provided a few surprises.

"I was blown away by what I saw yesterday," lead scientist David Southwood said at the agency's headquarters in Darmstadt. "It was an extraordinary experience to look at some of the stuff."

Pictures snapped by the probe and a low, rushing sound picked up on Titan by an onboard microphone drew gasps and applause from an audience at mission control Saturday.

With readings from nine instruments carried by the 320-kilogram probe, scientists were building an image of what the far-flung moon could be like on the surface.

Images taken from a height of 18 to 20 kilometers to right on the surface suggest the presence of liquid, possibly flowing through channels or washing over larger areas, said Marty Tomasko, an expert at the University of Arizona.

"It is almost impossible to resist speculating that the flat, dark material is some kind of drainage channel, that we are seeing some kind of a shoreline," he said. "We don't know if it still has liquid in it."

A thick layer of cloud or fog that obscures the planet from outside view was found to be hanging at about 20 kilometers from the surface, but was absent closer to the ground.

Another project scientist, Shushiel Atreya, said the clouds are most likely made of methane, and theorized that the dark spots on the surface could also be methane.

"Presumably, there is a reservoir of methane on the surface," Atreya said.

The surface itself appears to be "material which might have a thin crust followed by a region of relative uniform consistency," said John Zarnecki, in charge of instruments analyzing Titan's surface.

"The closest analogues are wet sand or clay," he said.

A boom mike extended from the "Huygens" probe after its landing revealed a loud, rushing sound. Mission scientists did not immediately say what it might mean.

Titan is the first moon other than the Earth's to be explored. Scientists think its atmosphere is similar to that of early Earth and that studying it could provide clues to how life began on our planet.

Yet there also was a setback after Huygens' seven-year trip through space: One of the probe's two data streams failed to download, meaning it will be some time before data on wind speed in Titan's atmosphere can be pieced together.

But the sounds suggested blowing, and other instruments detected surface winds of about 25 kilometers per hour.

The missing data stream robbed scientists of nearly half the hoped-for images, but with about

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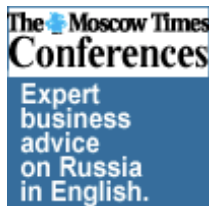
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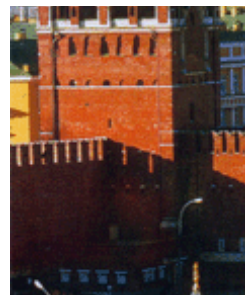
350 to study there still was ample data to analyze.

The ESA was investigating the failure of the second data channel, Southwood said.

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