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Conditions on Pluto: Incredibly hazy with flowing ice

Marcia Dunn
 ASSOCIATED PRESS

CAPE CANAVERAL, Fla. — Pluto is hazier than scientists expected and appears to be covered with flowing ice.

The team responsible for the New Horizons flyby of Pluto last week released new pictures Friday of the previously unexplored world on the edge of the solar system.

"If you're seeing a cardiologist, you may want to leave the room," principal scientist Alan Stern teased at the opening of the news conference at NASA headquarters. "There are some pretty mind-blowing discoveries."

NASA's New Horizons spacecraft, now 75 million miles beyond Pluto, has detected layers of haze stretching 100 miles into the atmosphere, much higher than anticipated. All this haze is believed to account for the dwarf planet's reddish color.

If you were standing on Pluto and looking up, you probably wouldn't notice the haze, said

George Mason University's Michael Summers. In fact, New Horizons had to wait until after its closest approach on July 14, so the sun would silhouette Pluto and the atmosphere could be measured by means of the scattered sunlight.

As for the ice flows, they appear to be relatively recent: no more than a few tens of millions of years, according to William McKinnon of Washington University in St. Louis. That compares with the 4.5 billion-year age of Pluto and the rest of the solar system.

To see evidence of such recent activity, he said, is "simply a dream come true."

Temperatures on Pluto are minus 380 degrees Fahrenheit, and so water ice would not move anywhere in such extreme cold. But McKinnon said the nitrogen and other ices believed to be on Pluto would be geologically soft and therefore able to flow like glaciers on Earth.

Some of that plutonian ice seems to have erupted into impact craters, creating ponds

of frozen nitrogen. One of those semi-filled craters is about the size of metropolitan Washington D.C., McKinnon said.

These latest findings support the theory that an underground ocean might exist deep beneath Pluto's icy crust, McKinnon said. These ice flows — which might still be active — are found on Pluto's vast icy plain, now called Sputnik Planum after Earth's first man-made satellite. The plain is about the size of Texas and occupies the left side of Pluto's bright heart-shaped feature, named Tombaugh Regio after the late astronomer who discovered Pluto in 1930. Clyde Tombaugh

It's evident now that the two "lobes" of the heart are quite different; Stern speculated that nitrogen snow could possibly be blowing from the brighter left, or western, side to the right.

One of Pluto's newly discovered mountain ranges now bears the name of Sir Edmund Hillary, who along with Sherpa guide Tenzing Norgay conquered Mount Everest in 1953. The New Horizons team already had



A combination of images captured by the New Horizons spacecraft with enhanced colors to show differences in the composition and texture of Pluto's surface. The images were taken when the spacecraft was 280,000 miles away.

named another series of mountains after Norgay.

The spacecraft traveled 3 billion miles over 9½ years to get the first close-up look of Pluto. The New Horizons team stressed that most of the collected data

are still aboard the spacecraft and will take more than a year to obtain. Over the next several weeks, much of the incoming transmissions will consist of engineering or other technical data — and only a few images.

Problems at anthrax facility detailed

Mike Stobbe
 ASSOCIATED PRESS

NEW YORK — Pentagon officials released a report Thursday detailing recurring problems at an Army bioterror facility that accidentally sent live anthrax to other labs for more than a decade.

At a press briefing in Washington, military officials said half the lots of anthrax produced at the Army's Dugway Proving Ground in Utah contained live anthrax after workers there failed to kill the bacteria before shipping it to other labs. "By any measure, this was a massive institutional failure" involving a potentially dangerous biotoxin, said Deputy Defense Secretary Robert Work. He presented the results of an investigation that was launched after the problem first surfaced in May. Officials said several problems contributed to the Dugway failures.

The Pentagon has ordered the Secretary of the Army to do an additional investigation that will specifically try to determine which individuals are to blame, Work said. Dugway officials should have recognized and corrected the problem, he said. "We are shocked by these failures," he added. "It was absolutely unacceptable."

Dugway's new commander, Col. Sean Kirshner, declined comment, saying he needed time to review the report, said base spokeswoman Sheryl Grubb.

No illnesses have been reported, although 31 Americans — including eight who work for the military — have recently taken medication as a precaution.

Anthrax is most dangerous when it spreads through the air and gets into lungs. But the anthrax was shipped in liquid form in vials, officials said. Dugway works with biological and chemical agents, and is the military facility that produces the largest amount of anthrax shipped to other labs for research.

Medical technicians are supposed to kill the anthrax bacteria with gamma rays, and then test samples from the lots to make sure the radiation succeeded in killing them. Investigators believe they were trying to kill too much at a time, and then doing inadequate testing afterward.

The problem came to light in May when a private commercial lab in Maryland tested a shipment from Dugway and found live bacteria.

Investigators from the Centers for Disease Control and Prevention and the Department of Defense found that 17 of 33 batches produced at Dugway since 2003 had live anthrax. Anthrax from those batches was initially sent to 86 labs in the U.S. and seven countries. But some labs sent anthrax on to other facilities. So far, the CDC has traced samples to 183 labs, a CDC spokesman said Thursday. Anthrax is a dangerous infectious disease caused by a bacterium found naturally in soil. It is rare, but people can get sick with anthrax if they come in contact with infected animals or contaminated animal products.



Annie Cappelli checks some Bladderwrack seaweed as it dries in a green house at her Arroyo Grande Mesa home.

Seaweed

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"Plus, I really believe in the benefits of seaweed," she added. "It's something that I want to share with as many people as possible." Seaweed is high in nutrients, containing vitamins A and C, as well as being a source of calcium, and packs a variety of health benefits, including weight loss, hormone regulation and digestive health.

Research also suggests sea vegetables can help prevent inflammation, fight cancer and reduce the risk of heart disease. Cappelli ingests ground seaweed that can be mixed in a smoothie or with juice, sprinkled on food or taken in a gel capsule every morning and wears by the health benefits she sees and feels in herself, she said.

"You can eat just about all seaweed, but it's not all palatable," she explained. "It's very good for us. You just need it in small doses."

Her Seaweed Soul product line includes everything from tea, Nori paper and pet treats to soap and soil amendments, and Cappelli's constantly experimenting with new uses for the marine algae.

Having always loved the ocean, Cappelli envisioned that one day the sea may factor into her artistic career path. She just never saw herself harvesting help for a living, but now she wouldn't have it any other way.

"There's no going back for me," Cappelli said with a large grin. "I love it and want to educate people to its benefits. The possibilities with seaweed are endless. And all of it is good for you."

Cappelli recently received state certification to sell her line of seaweed products online and in retail stores. For more information, visit her website at www.seaweedandsoul.com.

April Charlton covers South San Luis Obispo County for Lee Central Coast Newspapers. Follow her on Twitter @WordsDaun.

Hotel

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use permit to build a three-story Home 2 Suites by Hilton extended-stay hotel on Hill Street.

The structure would be built on a narrow but deep vacant lot just west of a larger parcel once occupied by the Nipomo Recreation Center that faced South Frontage Road.

As proposed, the hotel would consist mostly of queen studio rooms with a few one-bedroom suites, and as an extended-stay hotel, rooms would include kitchen facilities.

Common areas would include gathering, breakfast and workout rooms, a lobby, a lounge, a pool and an outdoor dining area.

A total of 93 parking spaces would be provided on site,



An artist's rendering from Fletmeyer & Lee Associates Inc. of Colorado shows how the Home 2 Suites by Hilton extended-stay hotel might appear looking north toward Hill Street in Nipomo.

including three for motorcycles and three for handicapped access, with 40 of the spaces located in a partially enclosed garage below the room levels. Construction would disturb the entire 1.2-acre site, and four eucalyptus trees would

be removed to make way for the project.

Martin applied for a conditional use permit for the project in 2005, but that has now expired, according to the County Department of Planning and Building.

Fees

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"We don't feel like we need to reimburse that," Claycamp said.

The rate adjustment affects the 170 households in the community. When asked who was at fault for the rate discrepancy, Mosby and Vega said they could not say because neither had seen any documentation.

Mosby said he had recommended that Claycamp and her group collect all the appropriate documents and then take their case from there. "They need to calmly sit

down and find out what's truly going on," Mosby said. "A lot of them don't have the funds available and it's going to be a significant impact on their finances. One gentleman mentioned that it was a 300-percent increase, so we need to see what's causing it or creating it."

Vega said he asked the residents to review their lease agreements, since there may be a ceiling on how much money the property management firm can pass on to residents.

The city could not confirm any information related to the situation, citing confidentiality rules. Claycamp said she has circulated a petition in her

community seeking forgiveness in the amount that residents allegedly owe the city. It currently has 170 signatures, she said.

If the matter isn't resolved before Aug. 1, Claycamp said she will recommend that residents pay the amount allegedly owed and then seek reimbursement, along with the removal of any additional payments.

The total amount of money allegedly undercharged is \$52,792.47 over the nine-month period, based on 179 units.

Kenny Lindberg covers the city of Lompoc for Lee Central Coast Newspapers. Follow him on Twitter.

Lines

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vehicle that caught fire about 1:15 p.m. Sunday, said Capt. Dave Zaniboni with the Santa Barbara County Fire Department.

County Fire sent a full brush response, as did Los Padres National Forest, and the flames were quickly knocked down, Zaniboni said.

The burn was held to an area of about 5 feet by 10 feet in grass and light brush. Zaniboni said firefighters were assisted by the San Marcos Pass and Painted Cave volunteers.