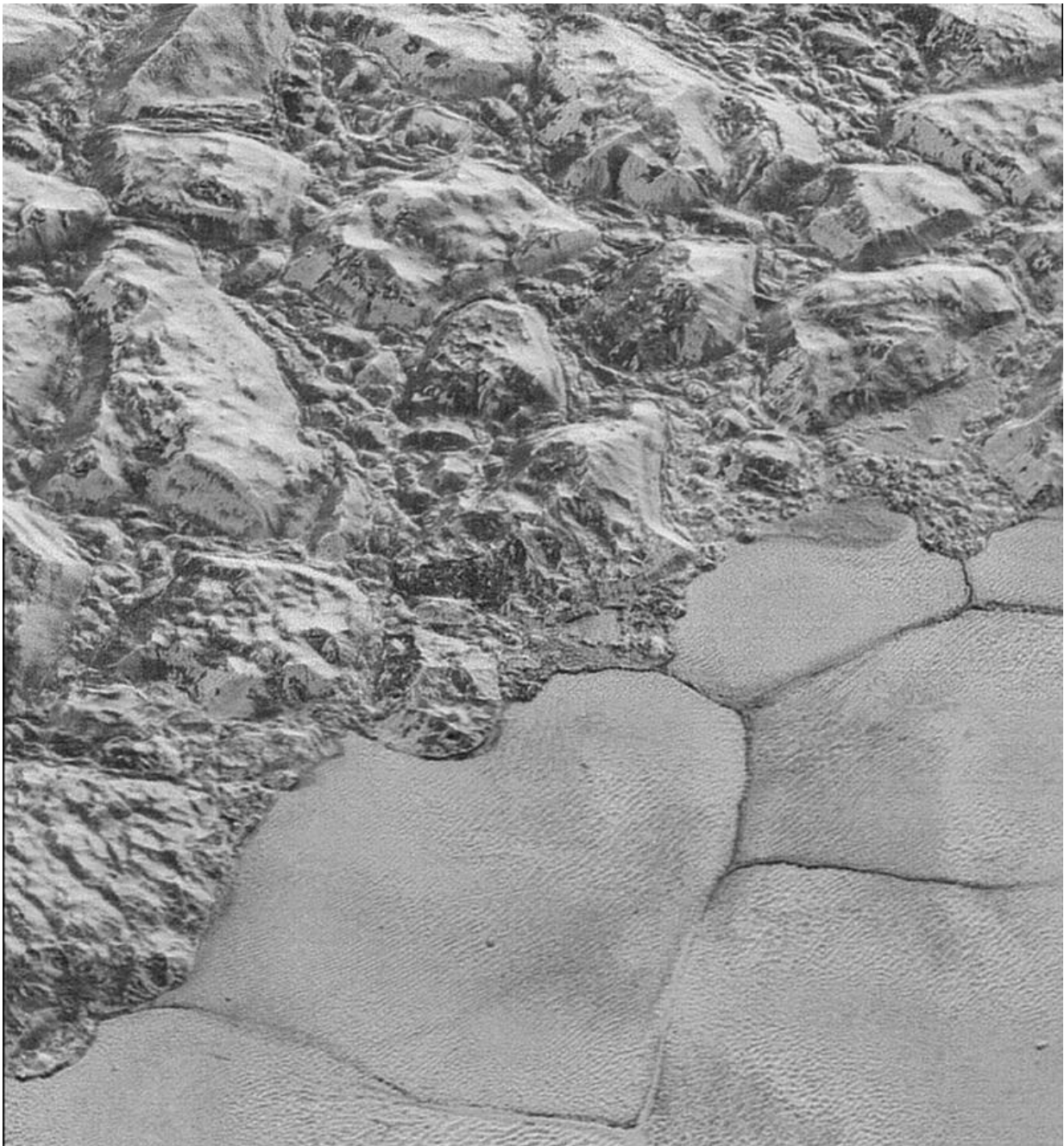


# New Horizons returns first of the best images of Pluto

December 4 2015, by Tricia Talbert

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The Mountainous Shoreline of Sputnik Planum: In this highest-resolution image from NASA's New Horizons spacecraft, great blocks of Pluto's water-ice crust appear jammed together in the informally named al-Idrisi mountains. "The mountains bordering Sputnik Planum are absolutely stunning at this resolution," said New Horizons science team member John Spencer of the Southwest Research Institute. "The new details revealed here, particularly the crumpled ridges in the rubbly material surrounding several of the mountains, reinforce our earlier impression that the mountains are huge ice blocks that have been jostled and tumbled and somehow transported to their present locations." Credit: NASA/JHUAPL/SwRI

NASA's New Horizons spacecraft has sent back the first in a series of the sharpest views of Pluto it obtained during its July flyby – and the best close-ups of Pluto that humans may see for decades.

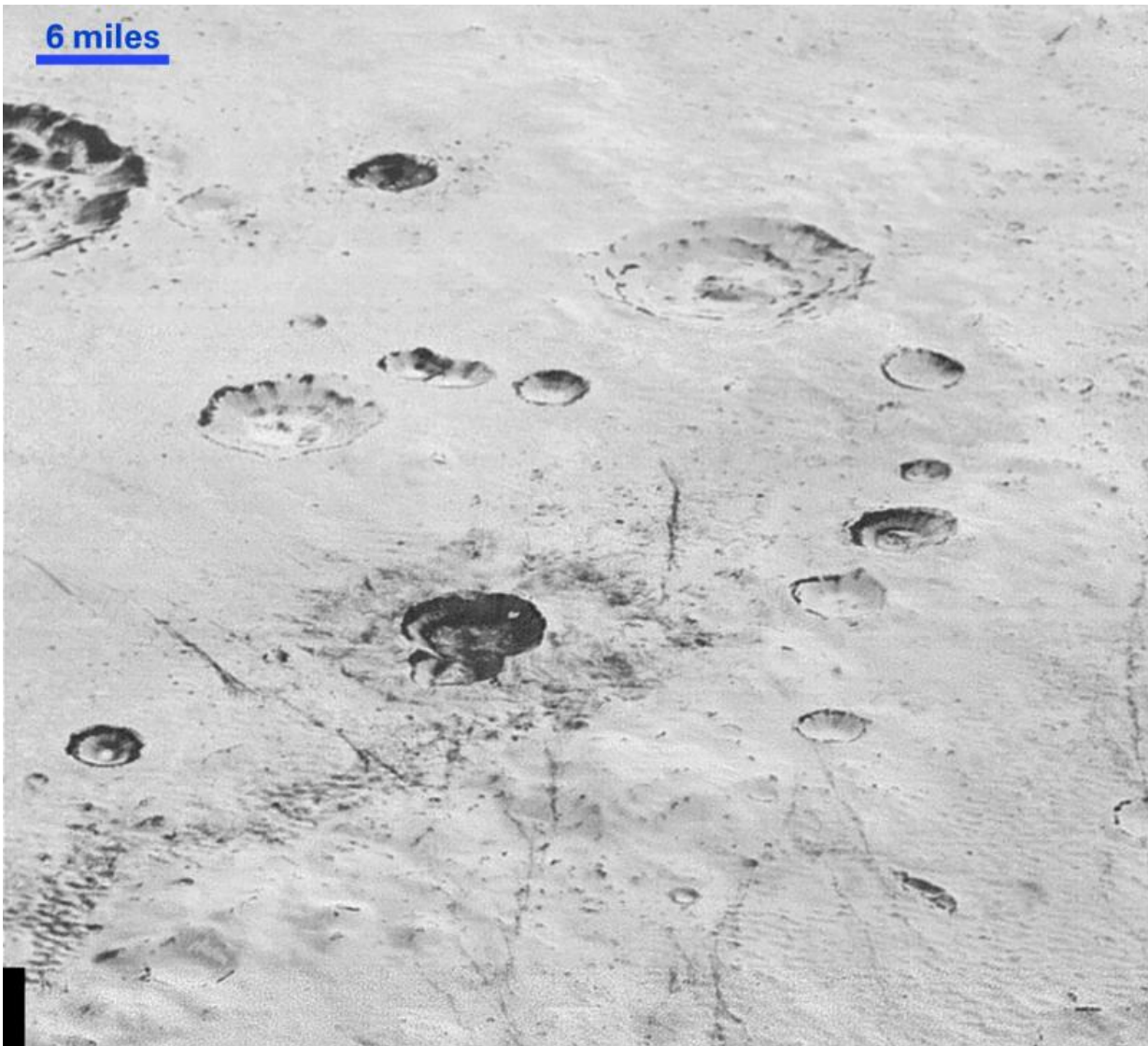
Each week the piano-sized New Horizons spacecraft transmits data stored on its digital recorders from its flight through the Pluto system on July 14. These latest pictures are part of a sequence taken near New Horizons' closest approach to Pluto, with resolutions of about 250-280 feet (77-85 meters) per pixel – revealing features less than half the size of a city block on Pluto's diverse surface. In these new images, New Horizons captured a wide variety of cratered, mountainous and glacial terrains.

"These close-up images, showing the diversity of terrain on Pluto, demonstrate the power of our robotic planetary explorers to return intriguing data to scientists back here on planet Earth," said John Grunsfeld, former astronaut and associate administrator for NASA's Science Mission Directorate. "New Horizons thrilled us during the July flyby with the first close images of Pluto, and as the spacecraft transmits

the treasure trove of images in its onboard memory back to us, we continue to be amazed by what we see."

These latest images form a strip 50 miles (80 kilometers) wide on a world 3 billion miles away. The pictures trend from Pluto's jagged horizon about 500 miles (800 kilometers) northwest of the informally named Sputnik Planum, across the al-Idrisi mountains, over the shoreline of Sputnik, and across its icy plains. (To view the strip in the highest resolution possible, [click here](#) and zoom in.)

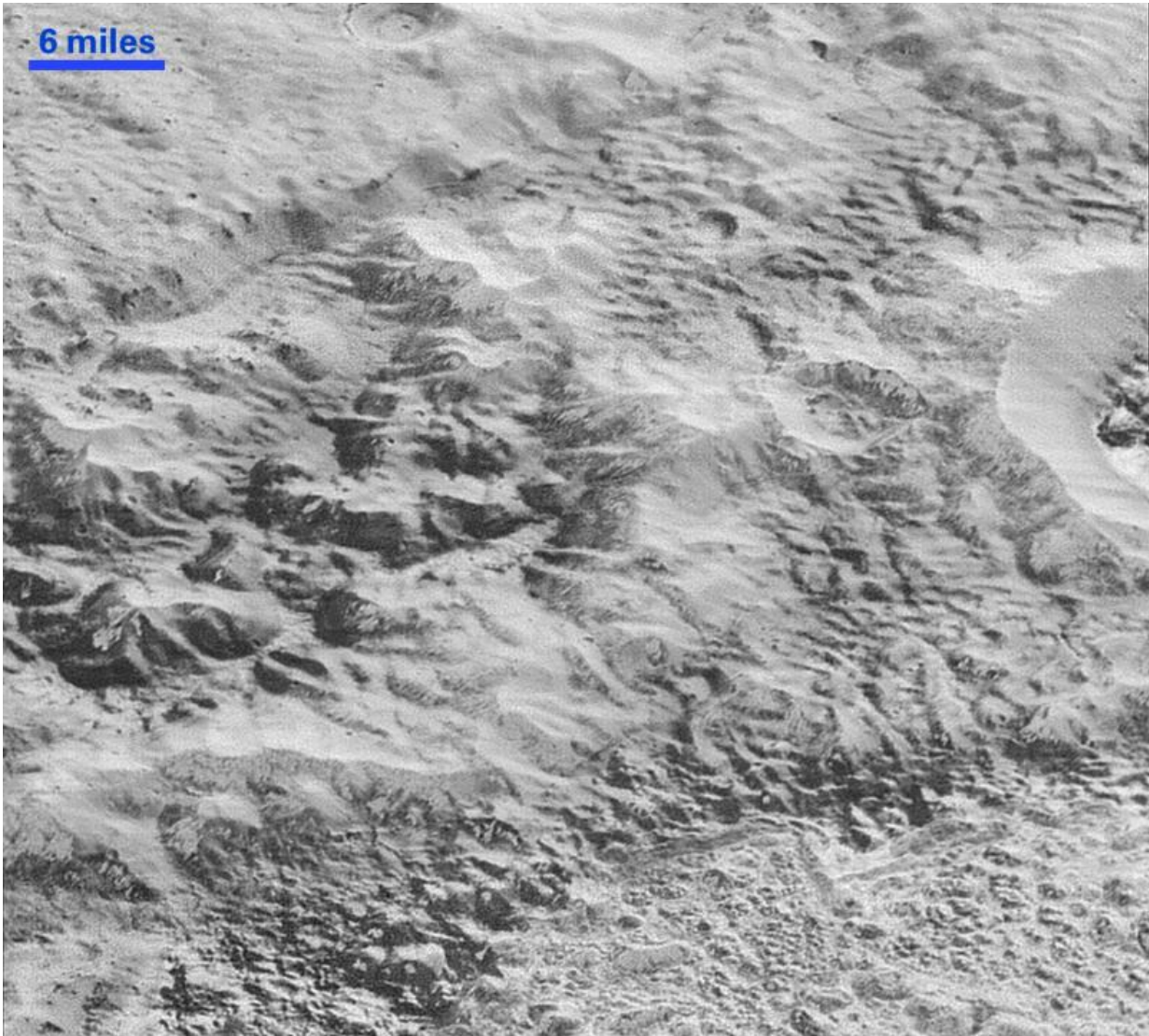
"These new images give us a breathtaking, super-high resolution window into Pluto's geology," said New Horizons Principal Investigator Alan Stern, of the Southwest Research Institute (SwRI) in Boulder, Colorado. "Nothing of this quality was available for Venus or Mars until decades after their first flybys; yet at Pluto we're there already – down among the craters, mountains and ice fields – less than five months after flyby! The science we can do with these images is simply unbelievable."



Layered Craters and Icy Plains: This highest-resolution image from NASA's New Horizons spacecraft reveals new details of Pluto's rugged, icy cratered plains, including layering in the interior walls of many craters. "Impact craters are nature's drill rigs, and the new, highest-resolution pictures of the bigger craters seem to show that Pluto's icy crust, at least in places, is distinctly layered," said William McKinnon, deputy lead of the New Horizons Geology, Geophysics and Imaging team, from Washington University in St. Louis. "Looking into Pluto's depths is looking back into geologic time, which will help us piece together Pluto's geological history." Credit: NASA/JHUAPL/SwRI

The images were captured with the telescopic Long Range Reconnaissance Imager (LORRI) aboard New Horizons, about 15 minutes before New Horizons' [closest approach](#) to Pluto – from a range of just 10,000 miles (17,000 kilometers). They were obtained with an unusual observing mode; instead of working in the usual "point and shoot," LORRI snapped pictures every three seconds while the Ralph/Multispectral Visual Imaging Camera (MVIC) aboard New Horizons was scanning the surface. This mode requires unusually short exposures to avoid blurring the images.

These new images are six times better than the resolution of the global Pluto map New Horizons obtained, and five times better than the best images of Pluto's cousin Triton, Neptune's large moon, obtained by Voyager 2 in 1989.



Pluto's 'Badlands': This highest-resolution image from NASA's New Horizons spacecraft shows how erosion and faulting have sculpted this portion of Pluto's icy crust into rugged badlands topography. Credit: NASA/JHUAPL/SwRI

Mission scientists expect more imagery from this set over the next several days, showing even more terrain at this highest resolution.

Provided by NASA

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