Pluto has 11,000 feet high, young ice mountains: NASA

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Washington: NASA's New Horizons spacecraft, which successfully made a historic flyby of Pluto, has discovered young ice mountains on the dwarf planet which are as high as 11,000 feet and about 100 million years old.

New close-up images of a region near Pluto's equator show a range of youthful mountains rising as high as 11,000 feet (3,500 meters) above the surface of the icy body, NASA said.

The mountains likely formed no more than 100 million years ago - mere youngsters relative to the 4.56-billion-year age of the solar system - and may still be in the process of building, said Geology, Geophysics and Imaging (GGI) team leader Jeff Moore of NASA's Ames Research Centre in California.

That suggests the close-up region, which covers less than one per cent of Pluto's surface, may still be geologically active today, researchers said.

Moore and his colleagues base the youthful age estimate on the lack of craters in this scene.

Like the rest of Pluto, this region would presumably have been pummelled by space debris for billions of years and would have once been heavily cratered - unless recent activity had given the region a face-lift, erasing those pockmarks.

"This is one of the youngest surfaces we've ever seen in the solar system," said Moore.

Unlike the icy moons of giant planets, Pluto cannot be heated by gravitational interactions with a much larger planetary body. Some other process must be generating the mountainous landscape.

"This may cause us to rethink what powers geological activity on many other icy worlds," said GGI deputy team leader John Spencer of the Southwest Research Institute in Boulder, Colorado.

The mountains are probably composed of Pluto's water-ice "bedrock."

Although methane and nitrogen ice covers much of the surface of Pluto, these materials are not strong enough to build the mountains. Instead, a stiffer material, most likely water-ice, created the peaks.

"At Pluto's temperatures, water-ice behaves more like rock," said deputy GGI lead Bill McKinnon of Washington University, St Louis.

The close-up image was taken about 1.5 hours before New Horizons closest approach to Pluto, when the craft was 77,000 kilometres from the surface of the dwarf planet.

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