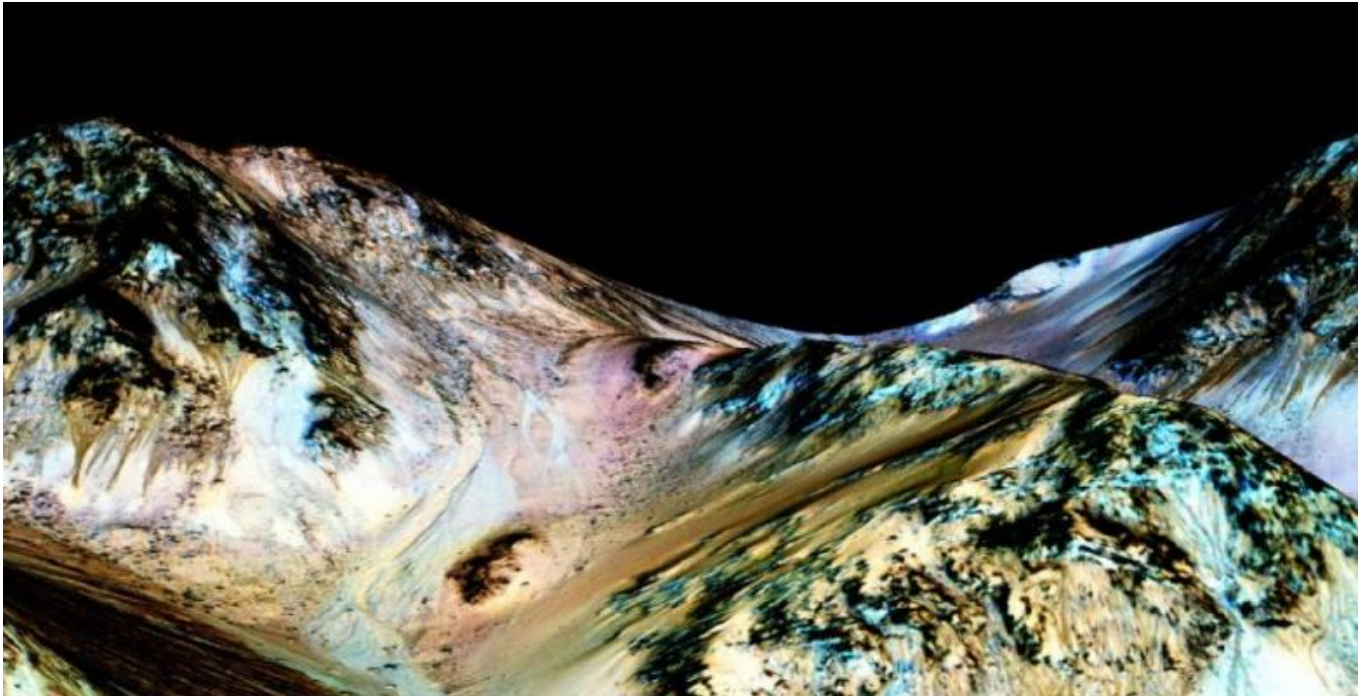

Salty water seen flowing on Mars, not far from Curiosity rover

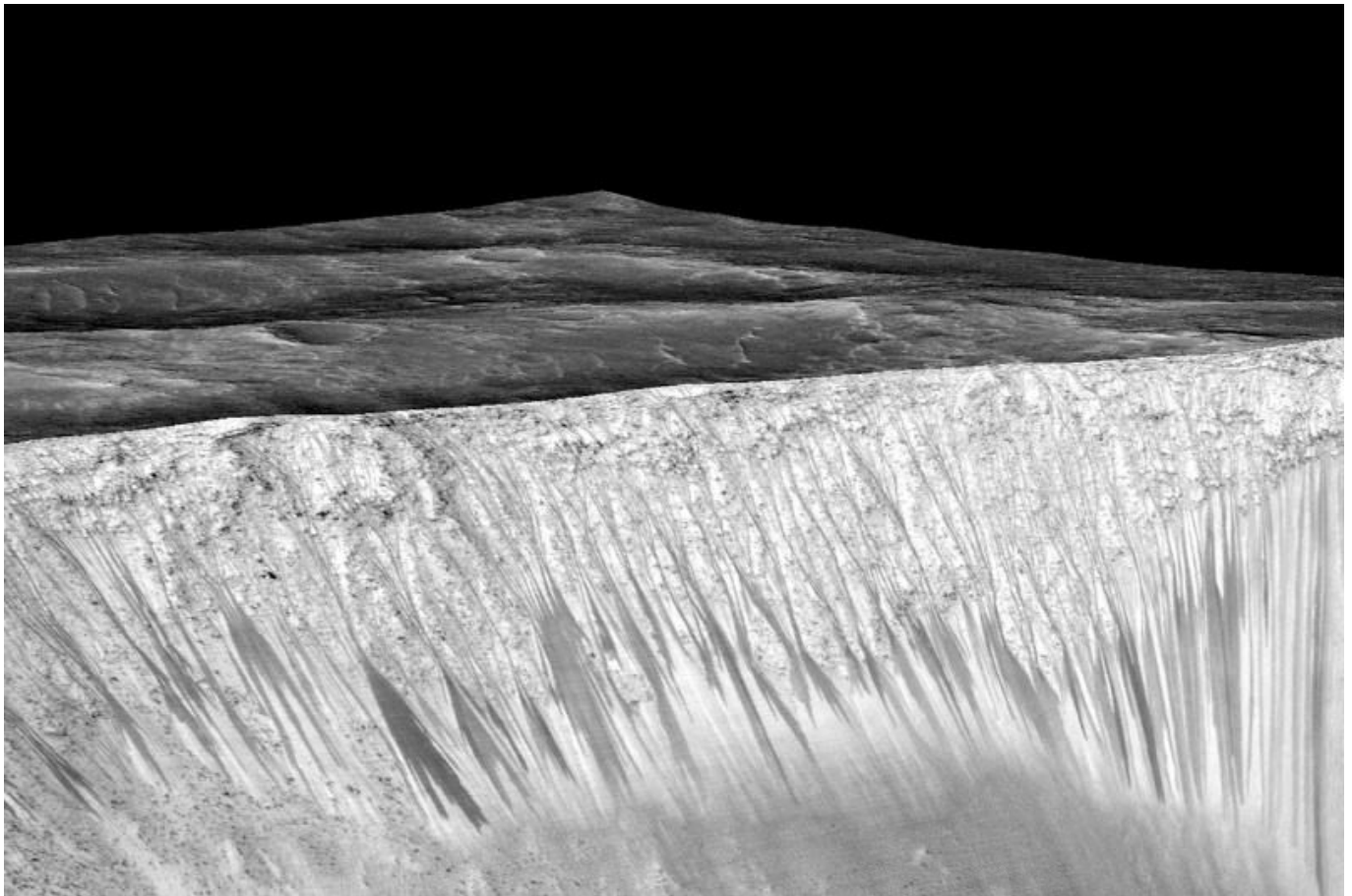
28/09/2015



Whether or not these salty flows could sustain life depends on how salty they are, says [Lujendra Ojha](#) of the Georgia Institute of Technology in Atlanta, who has reported the findings, along with his colleagues. “If the water is completely saturated with perchlorates [hydrated salts], then life as we know it on Earth wouldn’t be able to survive in that sort of concentrated water,” he says. “But if the water only has a tiny percentage of perchlorates in it, then I think we should be fine.

Recurring slope lineae – dark streaks that appear, get longer, and fade in each Martian year – have [long been thought](#) to represent [signs of flowing water](#). Now that idea has been backed up by data from the [Orbiter’s onboard spectrometer, named CRISM](#), which analyses reflected sunlight to detect patterns that indicate what minerals are present on the surface.

Salts can absorb water from the atmosphere and lower the freezing point of water, making it possible for liquid water to exist even in the cold Martian climate. Spectral data from four locations with recurrent slope lineae reveal the presence of hydrated salts, which are most likely to be magnesium perchlorate, magnesium chlorate and sodium perchlorate.



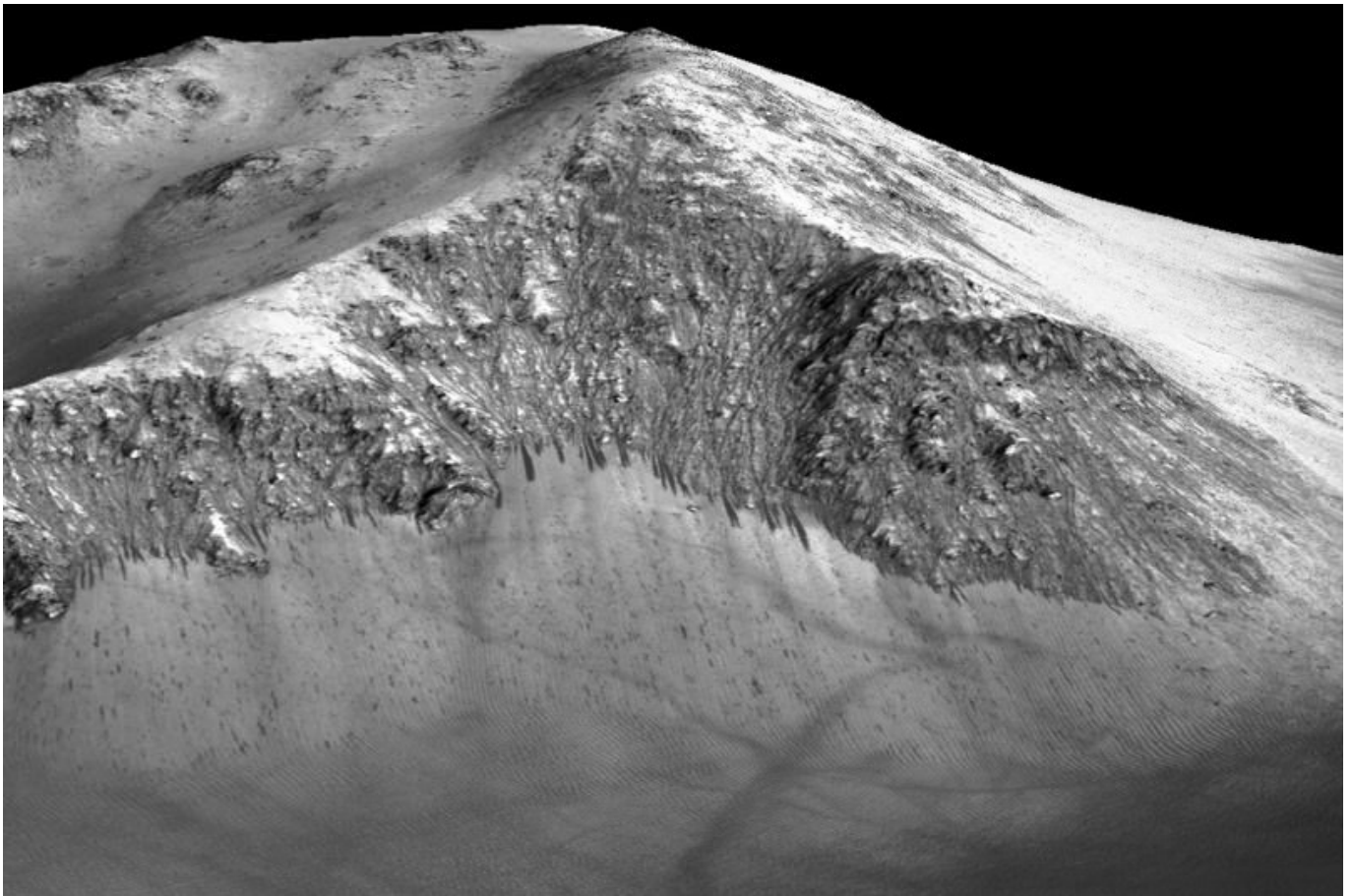
The streaks changes in size with the seasons (Image: JPL/NASA)

Although not examined in the current study, features resembling recurrent slope lineae were [observed this year in Gale crater](#), raising the possibility that the Curiosity rover could look for more clues up close.

Help is near

The most promising location is about 50 kilometres from the Curiosity landing site. Curiosity has already found evidence of [perchlorates at Gale crater](#), [as well as organic compounds](#).

Confirmation of flowing water on the surface would add substantial weight to calls for NASA to commit more strongly to searching for life on Mars. In the [Atacama desert](#), one of the most hostile environments on Earth, communities of microbes are able to survive on moisture in the ground created by salts absorbing water from the atmosphere. Some think, similar microbes could live on Mars.



More signs of water? (Image: JPL/NASA)

[A number of astrobiologists criticised NASA](#) when plans for its next rover, Mars 2020, left out [DNA sequencers](#) and other devices designed to [look for living organisms](#).

But many scientists would not be convinced by evidence from a rover. Definitive proof of life on Mars would require samples to be brought back to Earth. [Mars 2020 will store samples](#) to be brought home in a later mission.

“The only thing we can really assert is that the places we’re finding are probably more habitable than the rest of the planet, which is bone dry,” says Ojha.

Journal reference: *Nature Geoscience*, DOI: 10.1038/NGEO2546