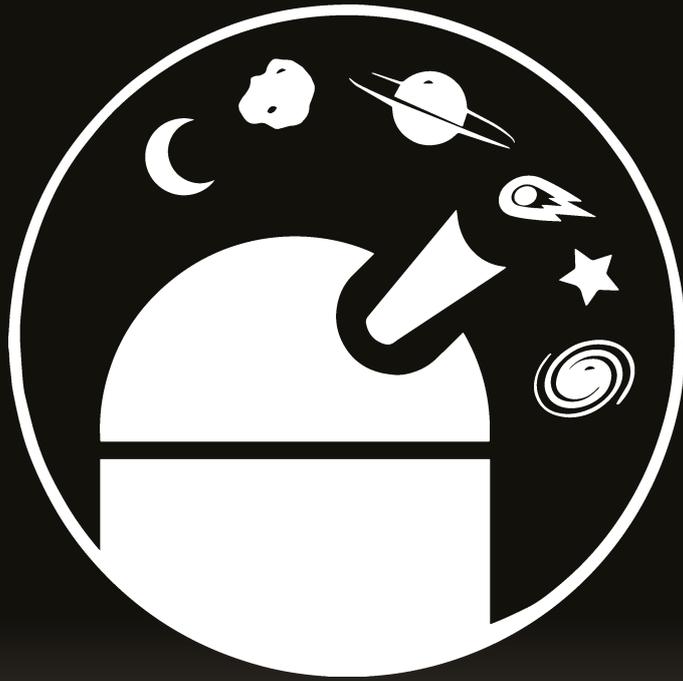


# All About Space



## MARTIAN METEOR MOUNTAIN

BY BEN BIGGS



# Martian meteor mountain

The Curiosity rover snaps a panoramic view of Mount Sharp and the environment that may have once supported life on Mars

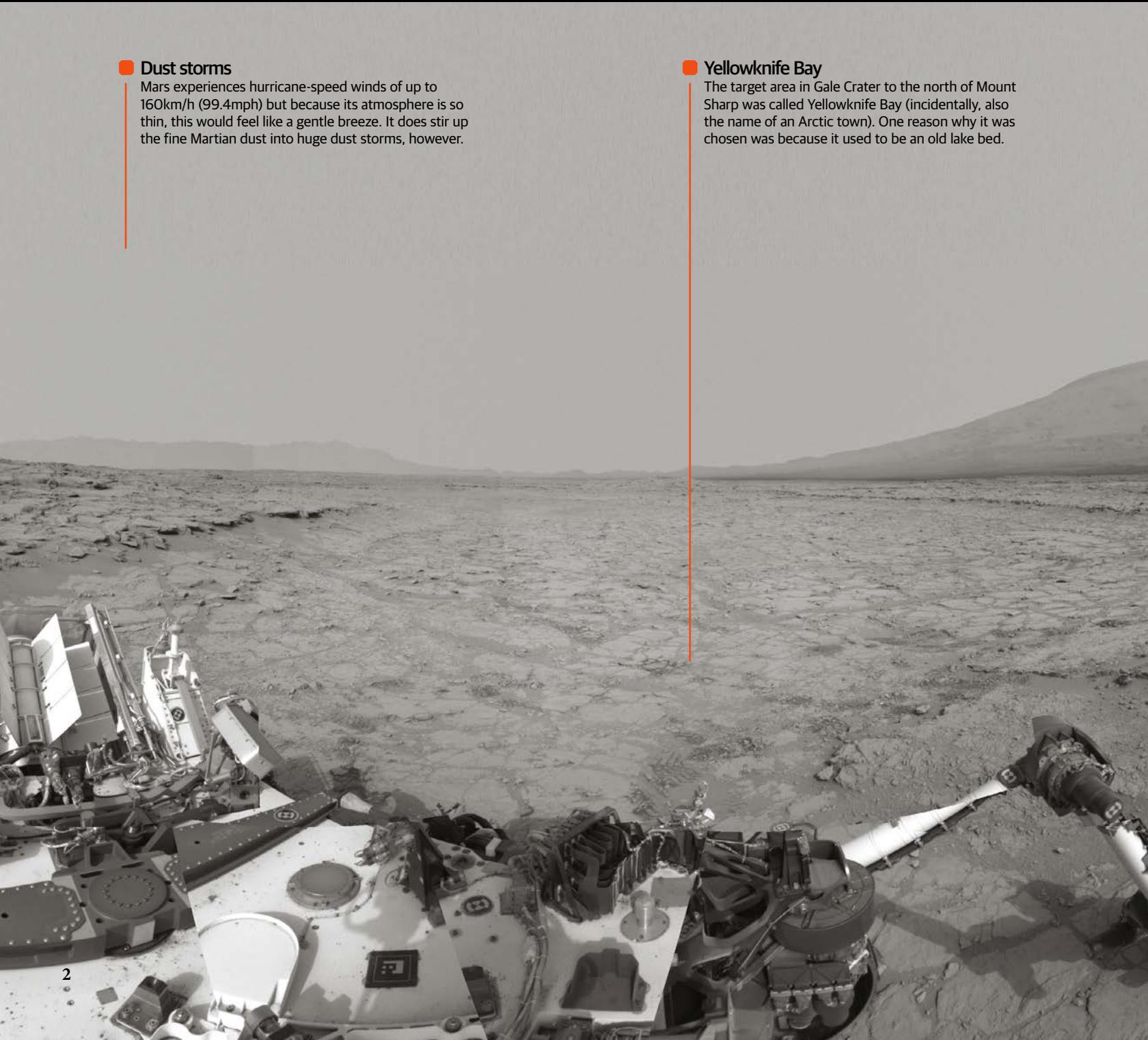
Written by Ben Biggs

## Dust storms

Mars experiences hurricane-speed winds of up to 160km/h (99.4mph) but because its atmosphere is so thin, this would feel like a gentle breeze. It does stir up the fine Martian dust into huge dust storms, however.

## Yellowknife Bay

The target area in Gale Crater to the north of Mount Sharp was called Yellowknife Bay (incidentally, also the name of an Arctic town). One reason why it was chosen was because it used to be an old lake bed.



Aeolis Mons (or Mount Sharp as it's more commonly known) is the peak at the centre of Mars' Gale Crater, the landing site for NASA's Curiosity rover. The mountain is 5.5 kilometres (3.4 miles) high, while Gale Crater is 154 kilometres (96 miles) in diameter. Both were formed around 3.8 billion years ago in one of the many meteor impacts that peppered the surface of the Red Planet early in its history. Central mounds are a characteristic feature of many meteor impact sites, created when the rocks at ground zero were highly compressed at the moment the meteor struck and then rebounded upwards shortly afterwards to form the peak.

Although Mount Sharp's height from the crater floor puts it three times as tall as the Grand Canyon is deep, it's still smaller than several of Earth's biggest mountains and it's dwarfed by Mars' tallest

peaks. This includes several that range from 14 to 18 kilometres (8.7 to 11.2 miles) high and the gigantic Olympus Mons, the tallest mountain in the Solar System, which is over 21 kilometres (14 miles) in height.

It was partly because of its relatively puny stature that Mount Sharp remained an unnamed mountain of Mars for 40 years after it was first discovered in the Seventies, until conspicuous mounds of sedimentary deposits were found around the peak and it was chosen as a landing site. Since touching down on Mars' surface, the Curiosity rover - which began exploring the Red Planet in August 2012 - has conducted experiments and soil analysis in this region of the crater, discovering evidence of water and an ancient Martian environment that was once suitable for life.



A self-portrait of the Curiosity Rover, taken by its Mars Hand Lens Imager (MAHLI) on the same patch of rock it snapped Mount Sharp from

## ■ Aeolis Mons

The mountain in the middle of Gale Crater was unofficially named in 2012 after geologist Robert Sharp, an expert on the geological surfaces of Mars.

## ■ Wernecke

Curiosity holds its Mars Hand Lens Imager and dust-removing brush above a target in the mudstone called 'Wernecke', which it later took its first drill sample from.

This panoramic view of Gale Crater looking towards Mount Sharp was taken by Curiosity in January 2013, during the 166th, 168th and 169th Martian sols

