



July 2018 Sky Events

All Eyes On MARS

The *Red Planet's* Closest Approach for 32 Years

Avid skywatchers have had an appointment with July 2018 for years. Not since 2003 have the planet Mars and the Earth been positioned so closely together – an occurrence not repeated until 2035 – making this summer's Mars a “must-see-TV” (*telescopic-views*) event!

Images courtesy of Sky & Telescope



Big changes in Mars' apparent size as it approaches, and then recedes, from the Earth, providing detailed views of surface features such as its southern white polar cap (shown at top in these images).

The planet makes its closest approach on the night/morning of **July 30-31**, when it lies just **35.8 million miles** away. Mars won't be difficult to find; the rusty planet peaks at **magnitude -2.8**, rivaling Jupiter at its brightest, and even outshines our sky's brightest star Sirius (magnitude -1.4) from June through September.



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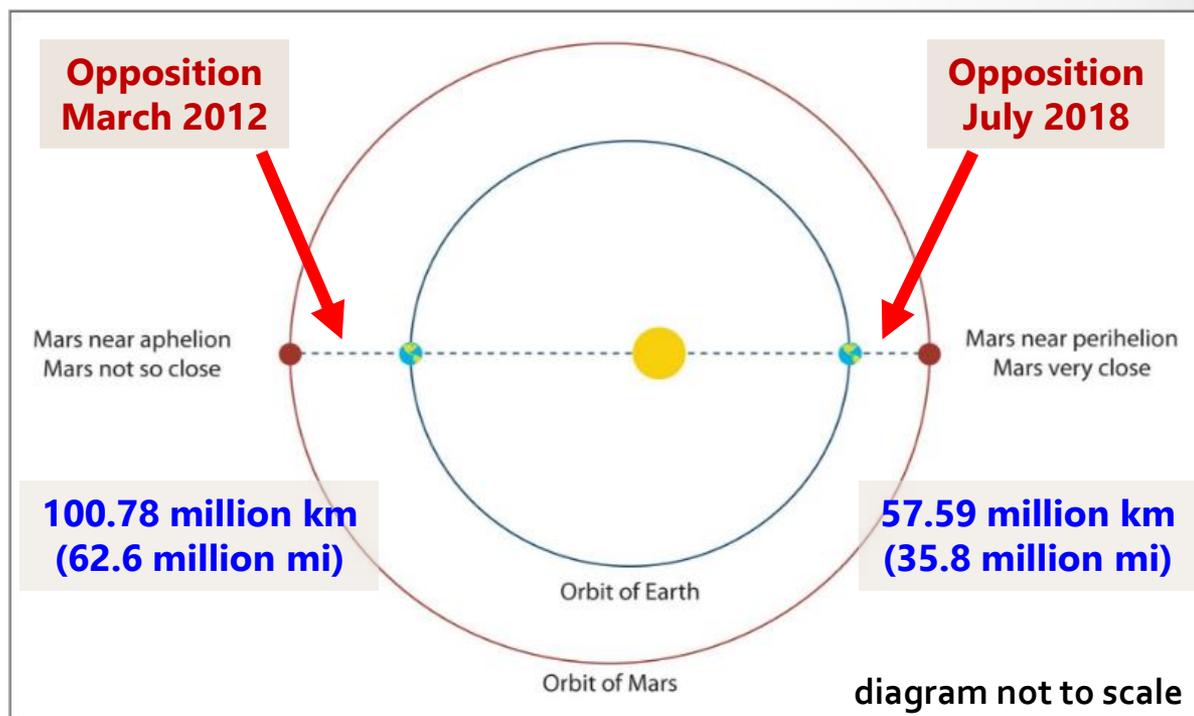
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Why does this distance from Earth vary so greatly? The reason is the Red Planet's highly *elliptical orbit* and how the two planets align at their closest points (called *opposition*), about once every 26 months.

When *opposition* occurs at or near Mars' *perihelion* (the nearest point to the Sun in its orbit), observers are blessed with a fine close apparition.

In contrast, oppositions which coincide with Mars at *aphelion* (its farthest point from the Sun) provide shrunken telescopic views of the ruddy world, with few decipherable planetary details. In 2018, Mars is at *opposition* with the Earth on July 27th; it reaches *perihelion* on September 16th.

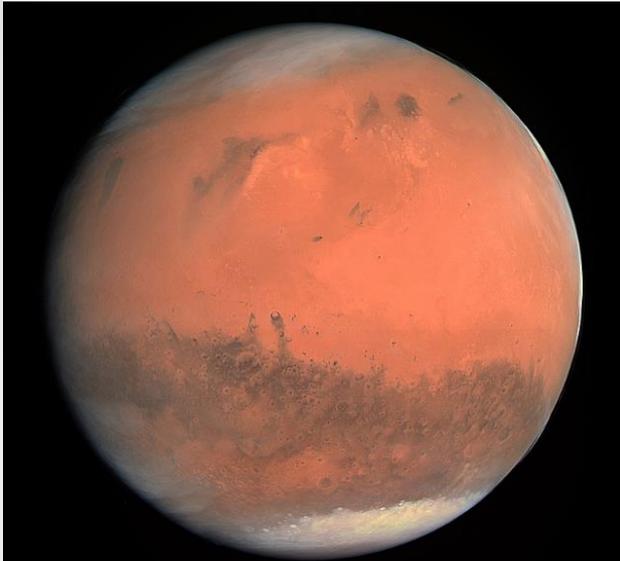




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True color image of Mars, taken by the Rosetta spacecraft in 2007

Locate Mars in the constellation Capricornus, rising in the E-SE around **11:00 p.m.** as July begins; Mars makes its entrance just after **9:00 p.m.** by month's end.

Along with the excitement of a close peek at Mars, however, there is bad news – the planet's southern trajectory through the ecliptic remains low in our skies, and sharp telescopic views will likely be compromised by Earth's thicker atmosphere near the horizon. Just when you're yearning for perfect atmospheric *seeing* to discern fine details, unsteady, turbulent air could spoil your enthusiasm!

To improve your chances of capturing an unforgettable view, try when Mars is at its highest and near the meridian – meaning well after midnight – and observe over multiple nights for two (or more) weeks before and after the July 31st closest approach.

Mars was the Roman god of war. This summer a battle will wage to capture a glorious view of the Red Planet before it recedes to more humble flanks in our skies – elude the engaging action at your own peril...