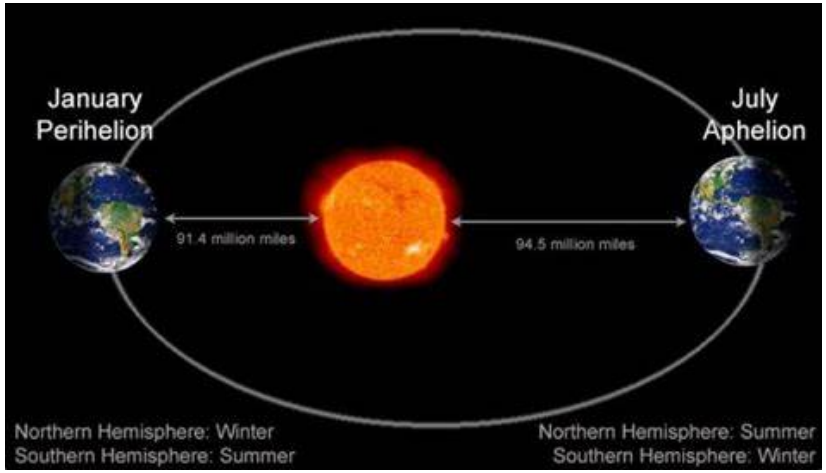
3 January 2024



(Picture credits: ABC Columbia)

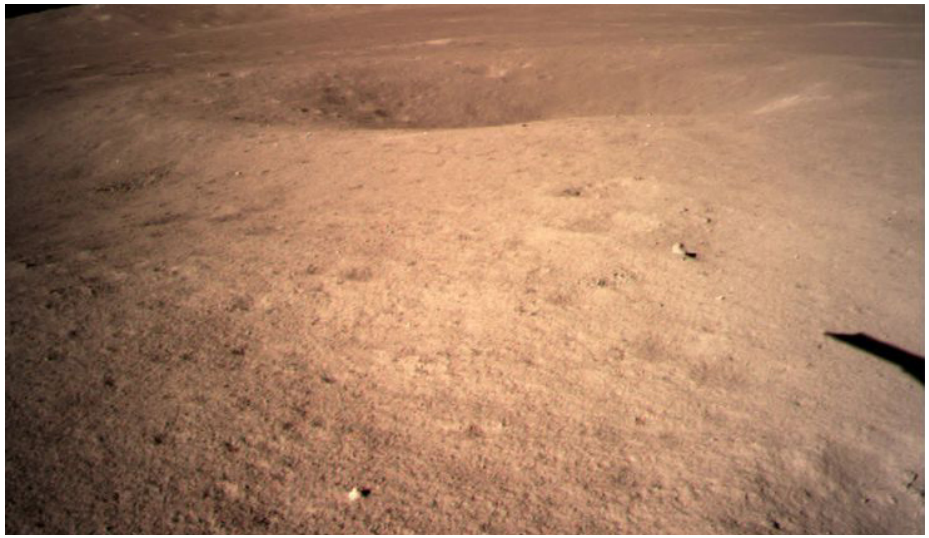
Perihelion

Space agency/country: Worldwide
Mission: N/A

Today, the Earth will reach this year's ***perihelion***, the point in its orbit that is nearest to the Sun. At 00:38 UT, the Earth will be at 0.9883 astronomical units or 147,100,632 km from the Sun. At this distance, however, we will not notice any changes in the weather or the seasons. The opposite of the annual perihelion is the ***aphelion***, when the orbit of the Earth will be farthest from the Sun. In 2024, aphelion will be reached on 5 July. The dates of perihelion and aphelion occur about two weeks after the winter and summer solstices, respectively. However, because of long-term variations in the Earth's orbit, in the thirteenth century, the winter solstice and perihelion occurred on the same day, as did the summer solstice and aphelion.

For more information:
https://www.space.com/what-is-perihelion
https://www.livescience.com/perihelion-solar-storm-2023

3 January 2024



(Picture credits: Xinhua News Agency)

Lunar Landing Anniversary

Space agency/country: CNSA
Mission: *Chang'e 4* and *Yutu 2* Rover

On 3 January 2019, China's *Chang'e 4* mission and its *Yutu 2* Rover performed the first-ever soft landing on the far side of the Moon. The aim of the mission is to explore the Von Kármán crater, which may help us better understand the ancient solar system and the Earth's early history—based on the impact the body that created the crater allegedly had on the Moon's mantle. Moreover, this mission could also help us study the history of basaltic volcanism, which contributed to the Moon's thermal evolution. The *Chang'e 4* (嫦娥四号) probe was composed of a lander and a rover, *Yutu 2* (玉兔二). Before the start of the mission, scientists carried out many tests and simulations at the Beijing Aerospace Control Center in Beijing to ensure a perfect landing.

For more information:
https://www.space.com/42887-china-moon-far-side-landing-photos-chang-e-4.html
https://www.planetary.org/space-missions/change-4