

July 2023 Sky Events

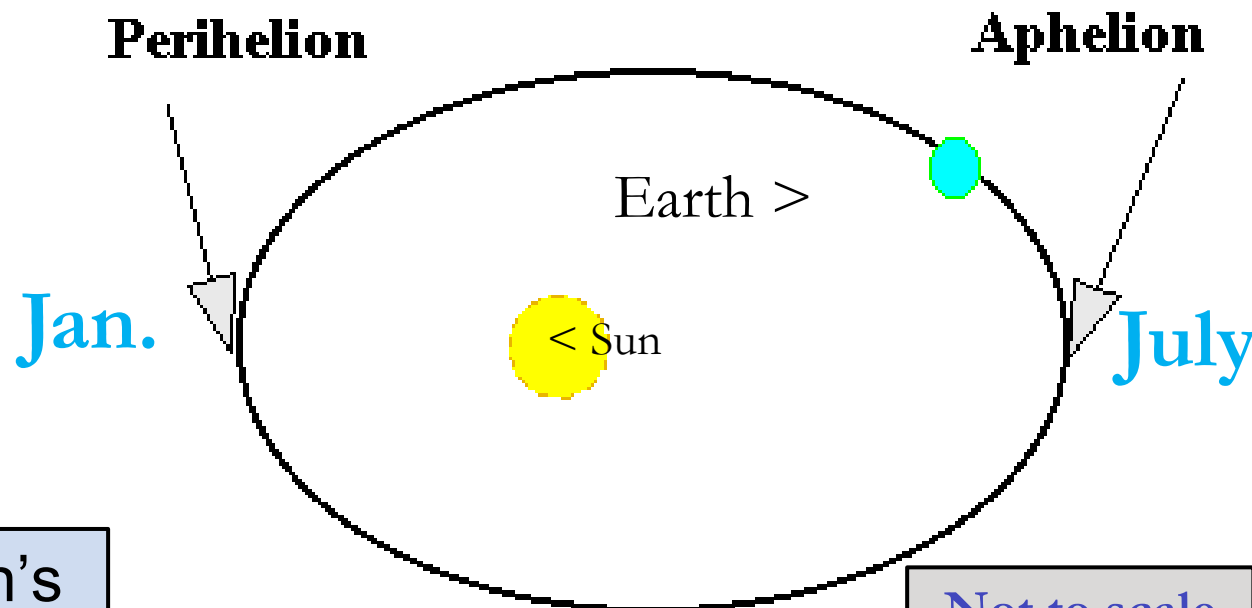
July 6th - Earth Reaches Aphelion

Earth reaches “aphelion” – the farthest position from the Sun in its annual elliptical orbit. Six months later in January, Earth reaches its closest approach to the Sun – “perihelion”.

Distances in miles:

Aphelion \approx 94.5 million
Perihelion \approx 91.5 million
Average \approx 93 million or
1 astronomical unit (AU)
~ the Earth-Sun distance

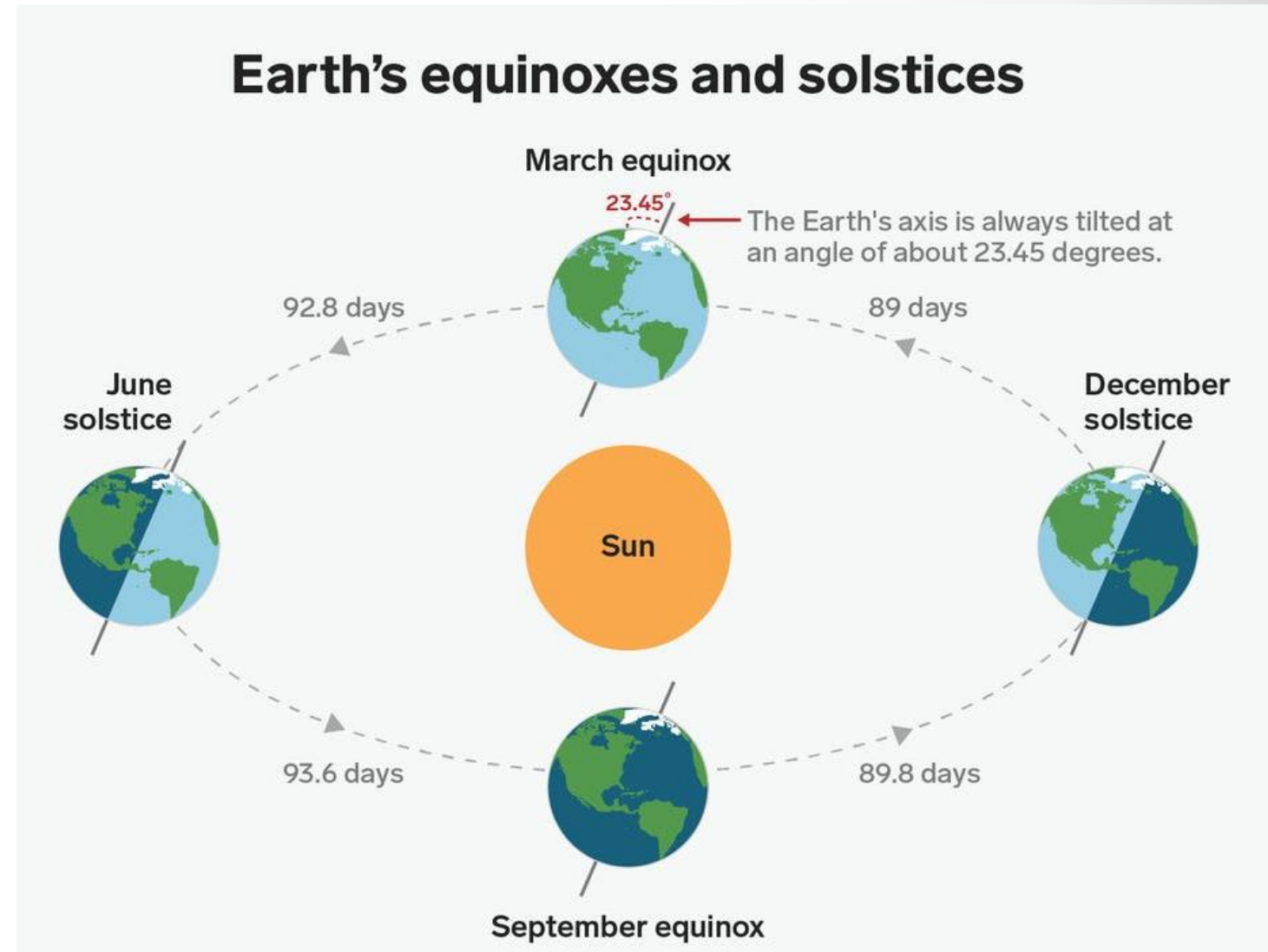
There is a 3.3% change in the Sun’s distance from aphelion to perihelion.



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Annual changes in our weather, between the summer and winter, are caused entirely by the tilt of the Earth's axis of rotation, rather than by any change in its distance from the Sun.

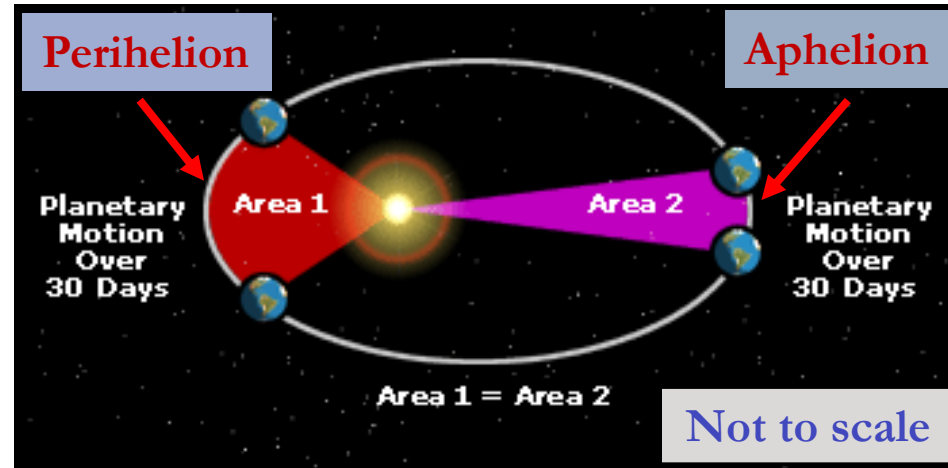


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At aphelion this year, you may notice that you are orbiting around the Sun on planet Earth slower than usual! Here's why:

Johannes Kepler's (year 1609) 2nd Law of Planetary Motion states that an imaginary line joining a planet and the Sun sweeps out an equal area of space in equal intervals of time.



As determined by Kepler's 2nd Law of Planetary Motion, the speed of a planet along its elliptical orbit is fastest when it is closest to the Sun (for Earth at perihelion in January) and slowest when it is farthest from the Sun (for Earth at aphelion in July).