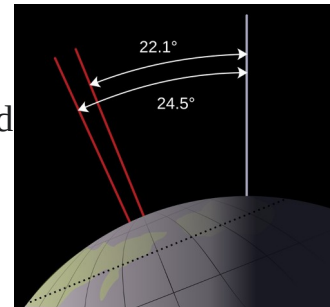


Four Seasons of Climate

by Potluri Rao In Seattle ©2018 (CC BY 4.0)

Earth completes one rotation around the Sun in a year, which causes four seasons of heat cycles. Depending on the distance between Earth and the Sun temperature changes from hot summers to cold winters. The extremes of distance from the Sun are called solstices. Temperatures do not switch overnight on the days of solstice. Typically, depending on the location, one of the four seasons is a wasteland (desert), like summer in India; one season is fertile lands, and the other two are transitional.

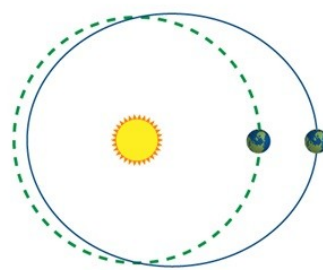
There is another path of Earth around the Sun that takes 41,000 years to complete, called obliquity (axial tilt), that causes monsoon seasons. The extreme values of axial tilt are 22.1° and 24.5°. The current value of tilt is 23.5°. It takes 41,000 years for the tilt to complete one cycle to reach the same location.



The Indian monsoon winds move from the Arabian Sea to the Bay of Bengal for one half of the tilt cycle. The winds reverse direction and move from the Bay of Bengal to the Arabian Sea for the other half of the tilt cycle. Along the monsoon path, Balochistan, the Thar Desert, Trikuta, and the Eastern Ghats had their Indian summers of monsoon of 10,000 years at different times. The Asia Clade (DNA C and F) of Homo Sapiens hopped from one place to the next to skip the Indian Summers (desert) at each place. Currently Balochistan, the Thar Desert, and the Vindhya are in their Indian Summer of monsoon.

There is another path of Earth around Sun that takes 100,000 years to complete, called Eccentricity (Elliptic path), which causes 25,000 years of Indian Summer of glaciers. Currently, we are in an Indian Summer with no glaciers.

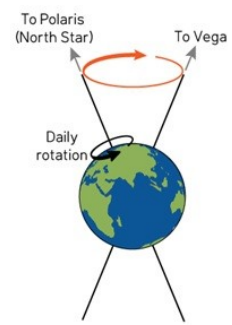
Milankovitch Cycles



Eccentricity
100,000 yrs



Obliquity (Tilt)
41,000 yrs



Orbital Precession
26,000 yrs