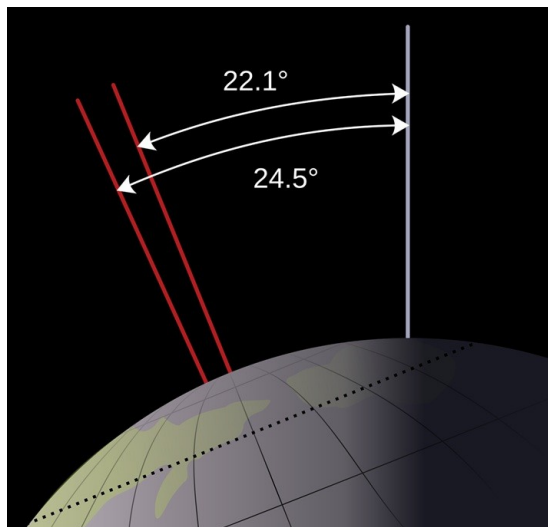


## **Earth's Axial Precession**

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

As Earth rotates, it wobbles slightly upon its rotational axis called the Axial Precession. The gravitational pull of Sun causes seawater around the Equator to bulge. The Precession makes the bulge to move from one side of the Equator to the other. Consequently, the seawater levels in the Arabian Sea can go up or down over a large period of time. Conceptually, it is similar to the high and low tides caused by gravitational pull of Moon on a daily basis. Gravitational pull of Sun has longer cycles of larger magnitude.

In addition to the Precession, the axis itself changes every 40,000 years resulting in a shift in direction of Indian monsoon winds.



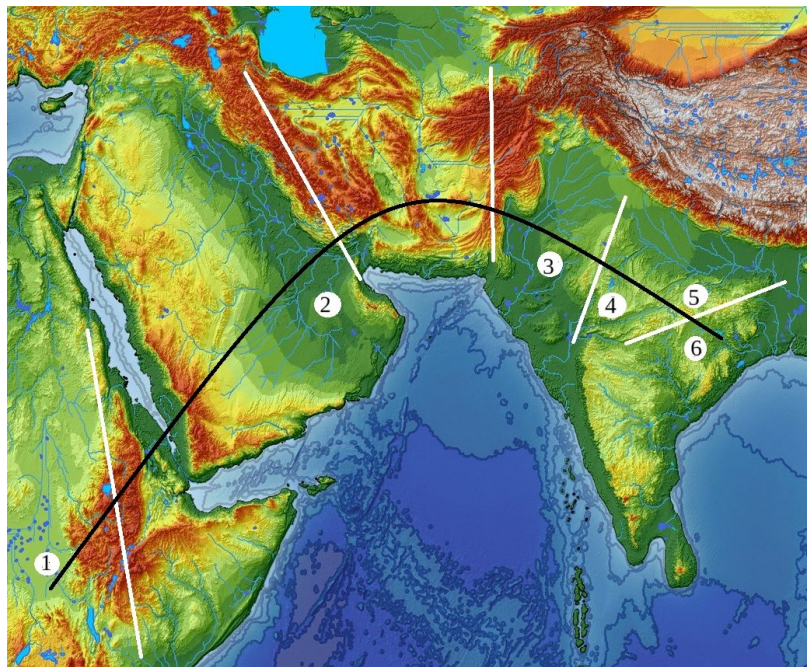
The angle of the Earth's axial tilt with respect to the orbital plane, called the Obliquity, varies between  $22.1^\circ$  and  $24.5^\circ$ , over a cycle of about 41,000 years. The current tilt is  $23.44^\circ$ , roughly halfway between its extreme values. The Tropic of Cancer is  $23.5^\circ$ . The tilt last reached its maximum 10,000 years ago.

The direction of big Indian monsoon winds changes direction depending on whether the seawater levels in the Arabian Sea are going up or down due to the long cycle of Sun gravitational pull caused by Obliquity and Precession. When the Arabian Sea levels are going up, the winds blow from the Arabian Sea to the Bay of Bengal. When the

seawater levels are going down, the winds blow from the Bay of Bengal to the Arabian Sea. It is a simple mechanics of pump action created by the geological formation of mountains. The winds change direction every 20,000 years. The 40,000 year cycle of gravitational pull of Sun dictated the migration of both Homo Erectus and Homo Sapiens from Africa to Asia.

The big monsoon winds caused by the gravitational pull of Sun are not to be confused with the little monsoon winds that change direction every six months as a result of seasonal temperature fluctuations. The big monsoon winds and little monsoon winds were controlled by different factors.

Hindu (DNA F) were highly advanced logic based cultures. They voluntarily left Ethiopia 100,000 years ago and followed the monsoon winds, the black line. They were rainwater people. They lived only along mountain ridges that run north to south, the white lines, that trap rainwater from the monsoon winds. They were forced to move from one location to the next, the white circles, every 20,000 years, as a result of the Precession. The map was computer generated to reflect the climate and landscape at the time of Hindu migration.



Hindu moved to location (6), from (5), only 4,000 years ago. The area to the east of the Satpura Ridge (6) was a vast wasteland when the winds blew west to east. It was in the rain shadow. It turned into fertile lands when the winds blew from east to west. The area to the west of the Satpura (5) turned from fertile lands to waste lands because of the rain shadow. The same happened 40,000 years ago when Hindu moved across the Aravalli Range from (3) to (4). The Thar desert alternated between fertile lands and wastelands every 20,000 years depending on the direction of winds.

The high and low tides of gravitational pull of Sun have a 20,000 year cycle.