

# WEBSTER'S ZONES

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The inclination of the earth's equatorial plane to the plane of the earth's orbit around the sun, termed the obliquity of the ecliptic by astronomers, is approximately equal to  $23^{\circ}27'$  of arc. If this inclination were  $0^{\circ}$  the sun would remain directly overhead the Equator throughout the year and there would be no seasons. In reality, the directly overhead point of the sun moves north and south with the seasons. The maximum angular distance from the Equator for the directly overhead point defines the Tropic of Cancer and Tropic of Capricorn. The Arctic and Antarctic Circles are located corresponding angular distances from the North and South Poles, respectively. Any point within these Circles must experience at least one 24-hour day and one 24-hour night during the course of a year. In short, the Tropics must be equidistant from the Equator, the Circles must be equidistant from the Poles, and the Equator-to-Tropic distance must equal the Pole-to-Circle distance.

Strangely enough, Webster's Collegiate Dictionary has never gotten this right! My earliest Collegiate was copyrighted in 1936. Back then, the Tropics were  $23^{\circ}27'$  from the Equator, but the Circles were  $23^{\circ}30'$  from the Poles -- a discrepancy of 18,230 feet for each pair. This deplorable condition existed until 1956, five editions later. The Arctic Circle was then corrected to agree with the Tropics at  $23^{\circ}27'$ , but the Antarctic Circle remained at  $23^{\circ}30'$ , a horrendous lopsidedness. It wasn't until 1963, four editions later, that the Antarctic Circle was finally changed to agree with the Arctic Circle at  $23^{\circ}27'$ . But -- you guessed it -- at the same time the Tropics were both moved to  $23^{\circ}30'$ . Now, seven years and three editions later, this intolerable inconsistency still persists.