

Physical features > Climate

Elevation is more important in determining the thermal characteristics of the Mexican climate than is latitude. The decrease in temperature that occurs with increasing elevation has made it possible to identify distinct vertical temperature zones: *tierra caliente*, or “hot land,” *tierra templada*, or “temperate land,” and *tierra fria*, or “cold land.” Unlike climatic areas farther from the Equator, there is little seasonal variation in temperature at any elevation in the tropics.

The *tierra templada*, which includes elevations from 3,000 to 6,000 feet (900 to 1,800 metres), has mean temperatures ranging from the mid-60s to the mid-70s F (about 18 to 24 °C). Much of highland Mexico is in this thermal zone. It is the most pleasant of the zones for human habitation. During winter, frost may occur. In the cooler *tierra fria* the mean annual temperatures are between the mid-50s and mid-60s F (about 13 and 18 °C). Above 10,000 to 11,000 feet (3,000 to 3,300 metres) the mean annual temperature is less than 50 °F (10 °C), and above 14,000 to 15,000 feet (4,300 to 4,600 metres) it is less than 32 °F (0 °C).

Mountain masses, besides creating islands of cooler climate within the tropics, play a major role in the incidence of clouds and precipitation. The mountains form barriers over which air may be raised, cooled, and caused to condense. Within the mountains and in their lee there is a lower incidence of clouds and precipitation. Lee or descending air becomes warmer, and its capacity to retain moisture rises. Illustrating the effect of the mountains upon precipitation and cloudiness is the contrast between the roughly 80 inches (2,000 mm) of rain and 150 cloudy days per year for the eastern slopes of the Sierra Madre Oriental and the roughly 40 inches (1,000 mm) of rain and 90 cloudy days per year that characterize much of the Pacific slope west of the Sierra Madre del Sur. The drier areas are in the rain shadow of the mountains.

MLA style:

"Sierra Madre ." *Encyclopædia Britannica*. 2009. Encyclopædia Britannica Online School Edition. 27 Aug. 2009 <<http://www.school.eb.com/eb/article-39942>>.

APA style:

Sierra Madre . (2009). In *Encyclopædia Britannica*. Retrieved August 27, 2009, from Encyclopædia Britannica Online School Edition: <http://www.school.eb.com/eb/article-39942>