

# **The seasonal mesopause region thermal structure over Arecibo (18.35° N) and Maui (20.7° N) and the low- to mid-latitude transition**

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We have compared the seasonal mesopause-region thermal structures from two tropical sites, Arecibo, Puerto Rico (18.35°N, 66.75°W) and Maui, Hawaii (20.7°N, 156.3°W). Climatologies were formed by producing monthly nocturnal mean mesopause temperature profiles, using the method of building composite mean nights. For much of the year, we observe that the Arecibo mesopause region is colder than that of Maui. In summer, while Arecibo observes little change in the mean structure, that for Maui is colder and strongly modulated. The Maui mean summer mesopause altitude in May and July is below 90 km, though the upper minimum near 98 km is only a few degrees warmer. From these observations alone, it appears that the transition in the mesopause from low latitudes, which maintain a winter state year-round, and mid latitudes may occur between the latitudes of Arecibo and Maui.