



Comparison of Ozone Profiles From Four Sites in the Equatorial Eastern Pacific and the Caribbean (Galapagos, Costa Rica, Barbados, Surinam)

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Two stations have recently been added to the 10-year old SHADOZ network. The new sites in Costa Rica and Barbados along with the established sites in the Galapagos and Paramaribo, Surinam provide a view of ozone in the equatorial eastern Pacific and southern Caribbean region. Regular ozone profile measurements have not been available from this region since the early ozonesonde observations in the 1960s. Because there were questions about the representativeness of early ozonesonde measurements, particularly in the troposphere, these new measurements provide an updated perspective. The seasonal pattern of tropospheric ozone at the four sites in this study shows some similarities with a maximum in much of the troposphere in the months of June–October. The two Caribbean locations (Barbados and Surinam) have larger ozone amounts, especially during the seasonal maximum, than the tropical eastern Pacific sites (Costa Rica and the Galapagos). Larger ozone amounts in the mid to upper troposphere in June – August are prominent at the Caribbean stations with particularly large ozone mixing ratios persisting into the autumn months in Surinam. The high values at Surinam in the autumn are similar to those seen in the S.H. associated with biomass burning during this season. A layer with enhanced ozone mixing ratios in the mid troposphere (~6 km) is a persistent feature in the spring and summer at Barbados and may reflect transport from higher latitudes. Larger mixing ratios in the upper troposphere during the summer in the Caribbean relative to the eastern Pacific may reflect the transport of ozone produced from lightning generated NO_x over

Africa.