

Fig. S 1: Scatter plots for the Indo-Pacific region of island size, on the x axis (km^2) vs. island enhancements (%) in climatological annual and daily mean total rain rate (left), conditional rain rate (middle), and rain frequency (right). Each point represents one island, colored by the 75th percentile of island elevation at 0.025 degree resolution (see text for details). Compare to Fig. 3 of SBY11.

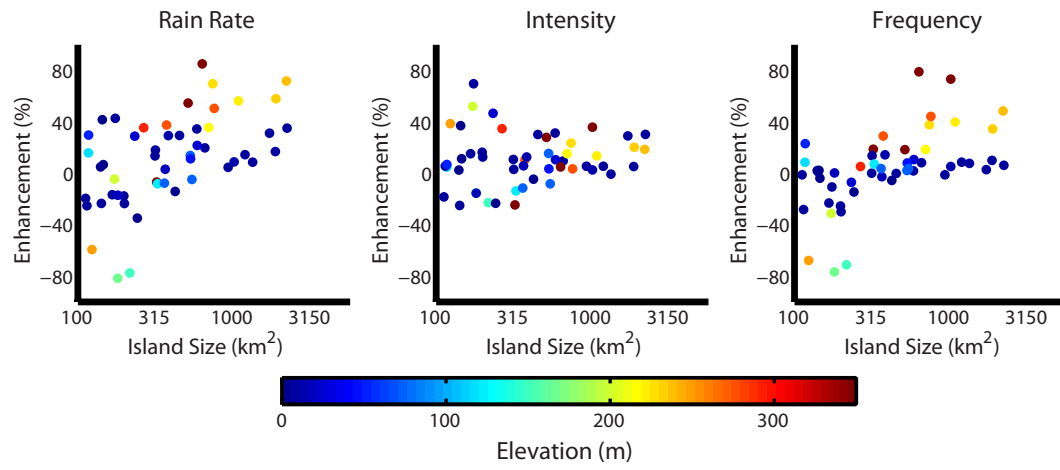


Fig. S 2: As in fig. 1, but for the Caribbean region. Compare to Fig. 4 of SBY11.

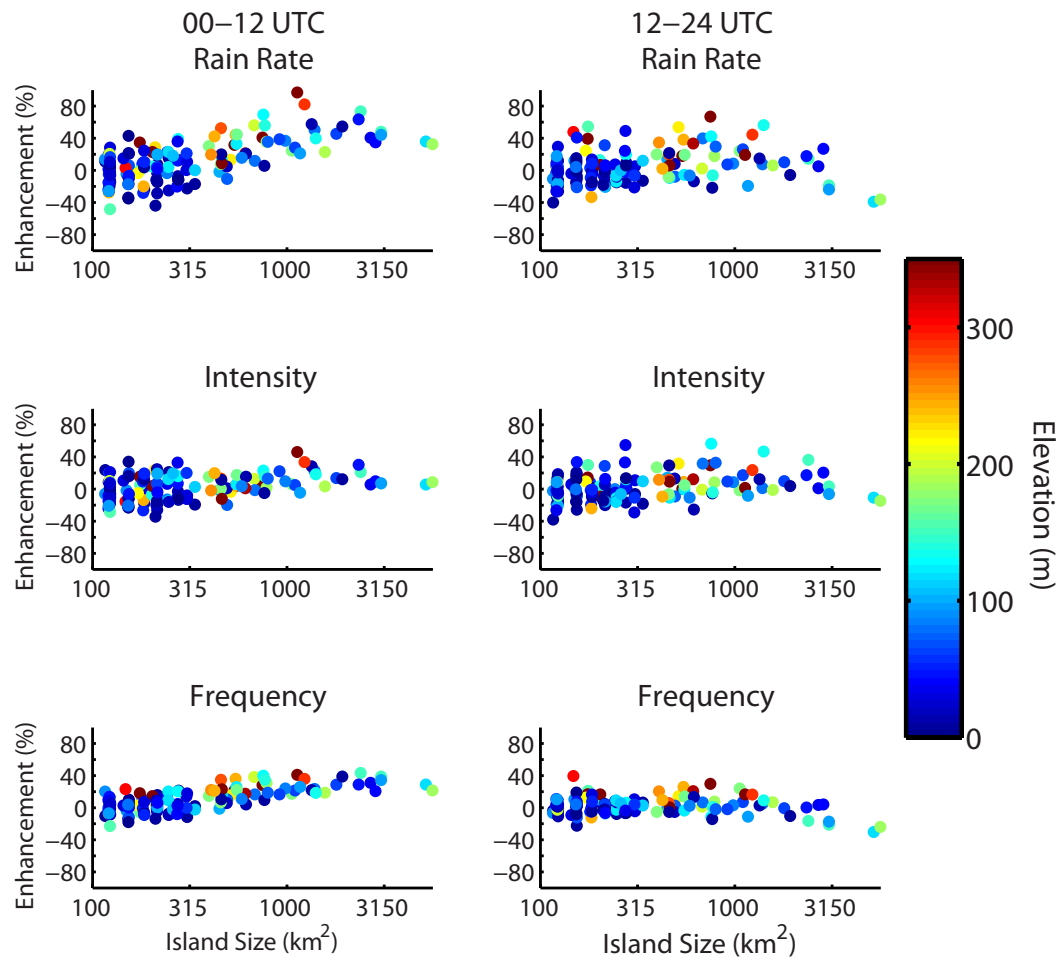


Fig. S 3: Scatter plots for the Indo-Pacific region of island size, on the x axis (km^2) vs. island enhancements (%) in total rain rate (top), conditional rain rate (middle), and rain frequency (bottom), for the hours 0-12 UTC (left) and 12-24 UTC (right). In this region, 0-12 UTC (left) corresponds approximately to daylight hours, while 12-24 UTC (right) corresponds approximately to night. Each point represents one island, colored by the 75th percentile of island elevation at 0.025 degree resolution (see text for details). Compare to Fig. 5 of SBY11.

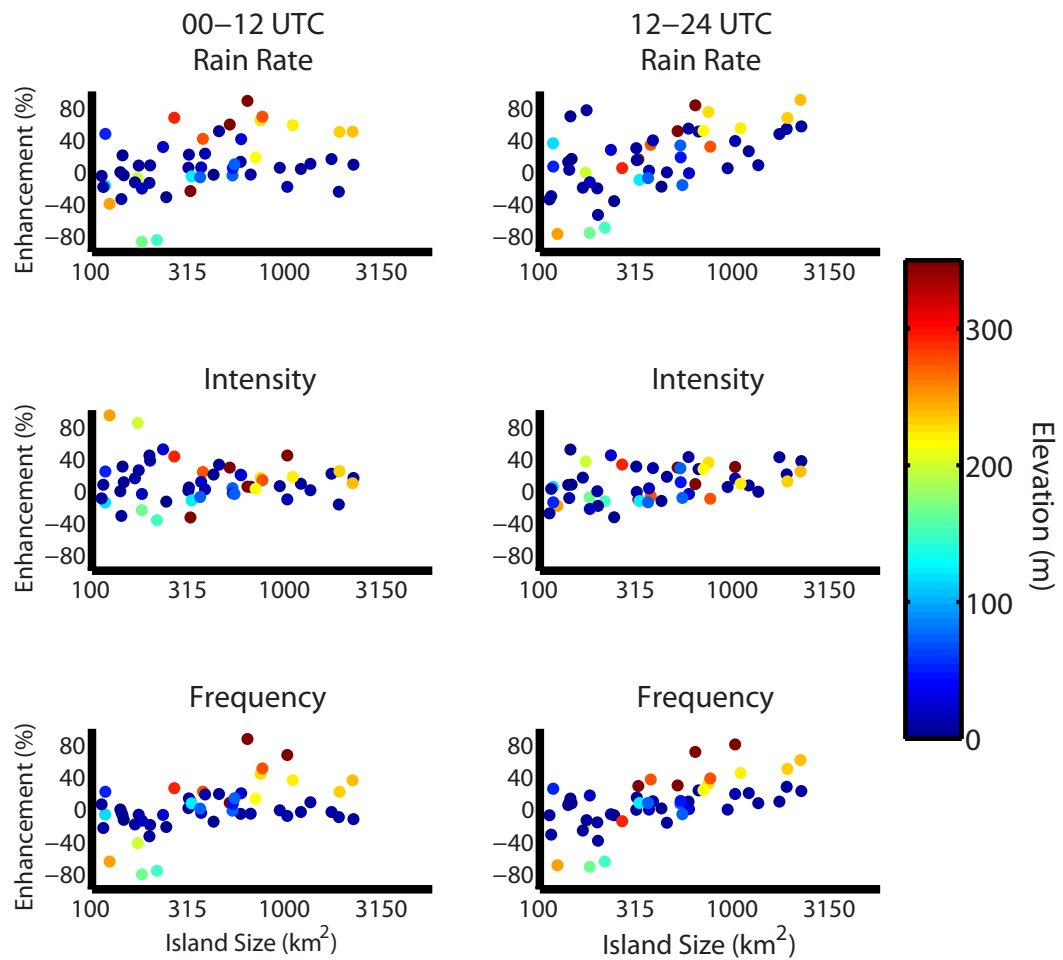


Fig. S 4: As in fig. 3, but for the Caribbean region. In this region, 0-12 UTC (left) corresponds approximately to night, while 12-24 UTC (right) corresponds approximately to day. Each point represents one island, colored by the 75th percentile of island elevation at 0.025 degree resolution (see text for details). Compare to Fig. 6 of SBY11.

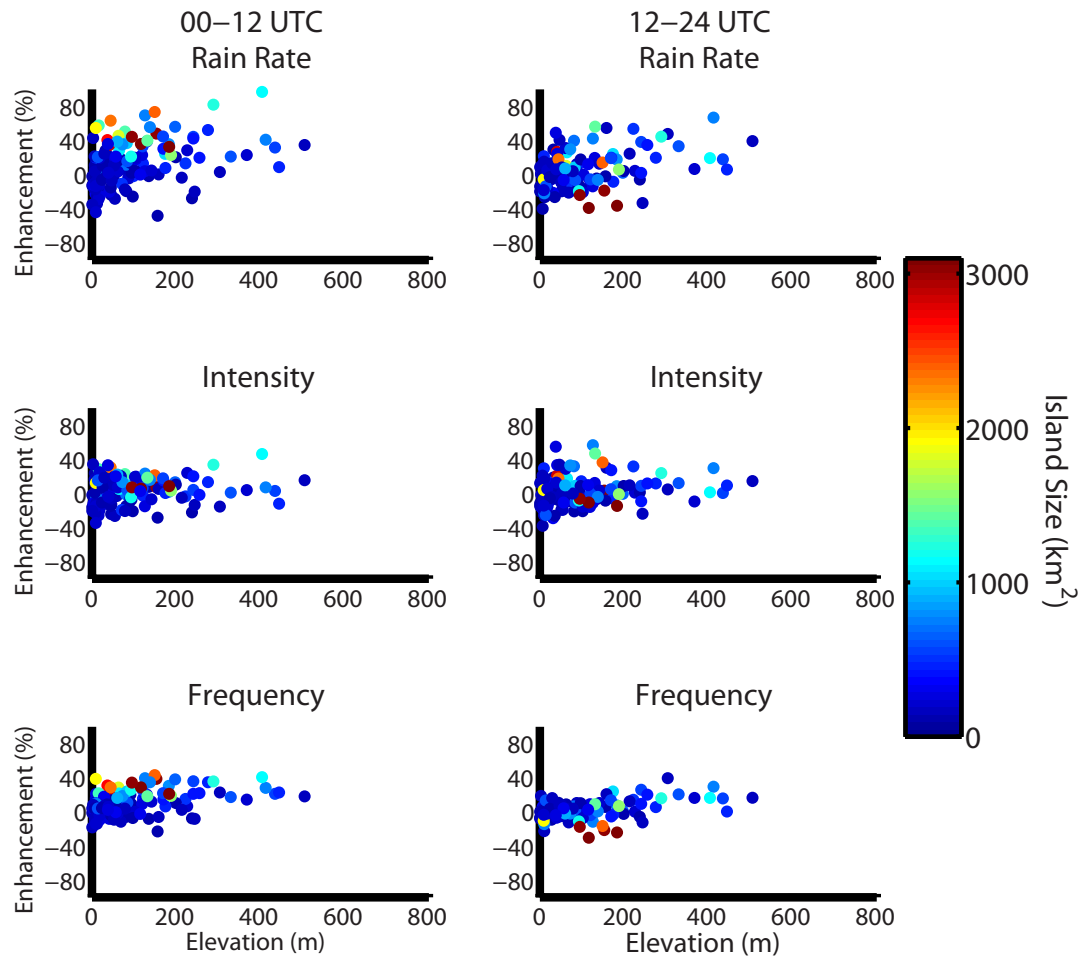


Fig. S 5: Scatter plots for the Indo-Pacific region of island elevation (measured by the 75th percentile), on the x axis (m) vs. island enhancements (%) in total rain rate (top), conditional rain rate (middle), and rain frequency (bottom), for the hours 0-12 UTC (left) and 12-24 UTC (right). In this region, 0-12 UTC (left) corresponds approximately to daylight hours, while 12-24 UTC (right) corresponds approximately to night. The color of each point represents island area in km^2 . Compare to Fig. 7 of SBY11.

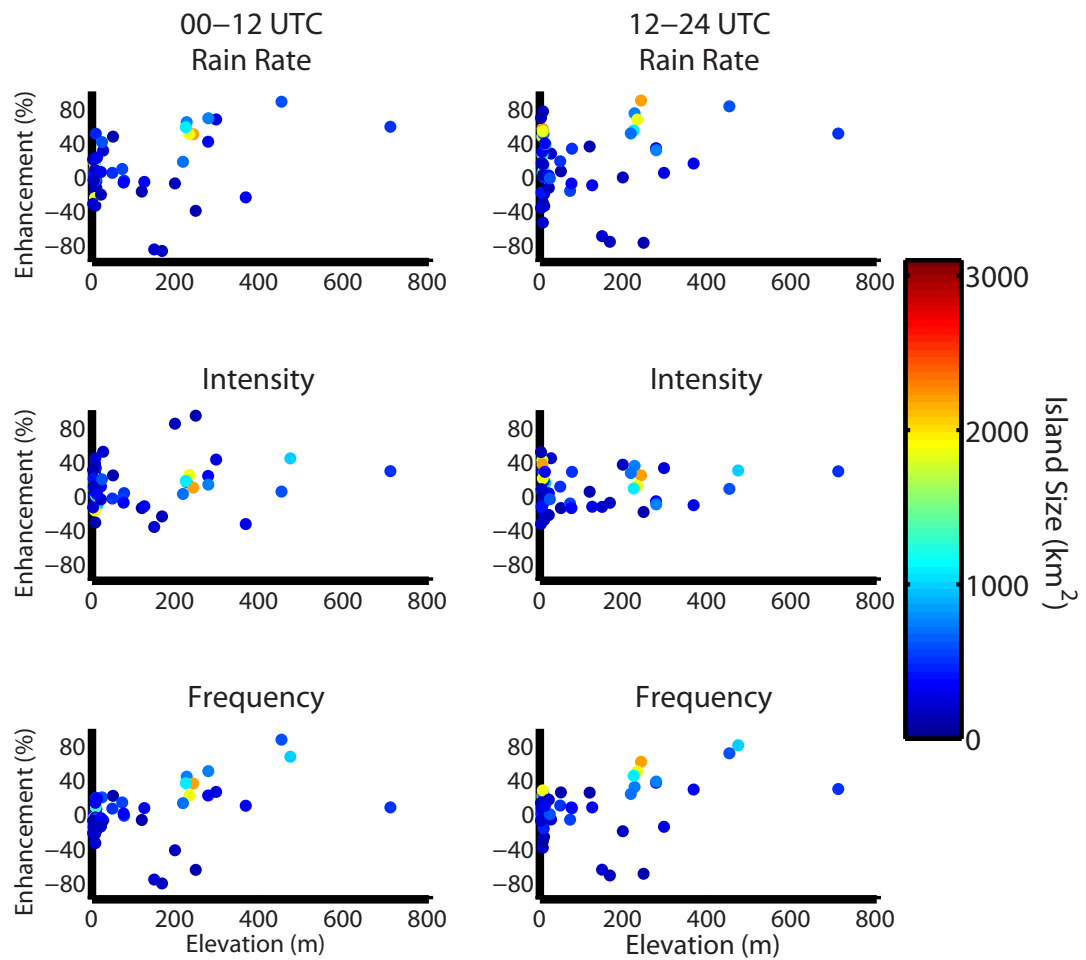


Fig. S 6: Scatter plots for the Caribbean region of island elevation (measured by the 75th percentile), on the x axis (m) vs. island enhancements (%) in total rain rate (top), conditional rain rate (middle), and rain frequency (bottom), for the hours 0-12 UTC (left) and 12-24 UTC (right). In this region, 0-12 UTC (left) corresponds approximately to night hours, while 12-24 UTC (right) corresponds approximately to day. The color of each point represents island area in km^2 . Compare to Fig. 8 of SBY11.

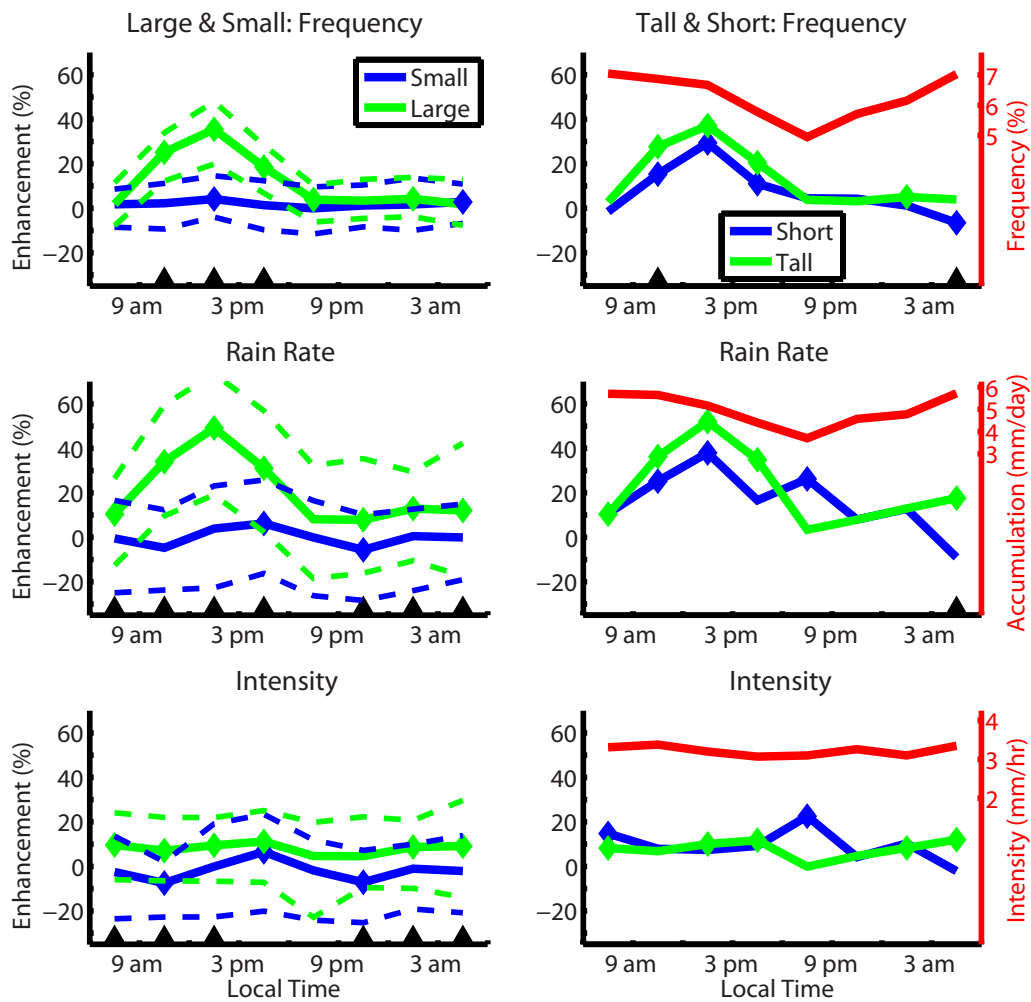


Fig. S 7: Diurnal variation of the mean enhancement is plotted as a function of local time in the Indo-Pacific region. On the left are the three hourly mean enhancements for islands greater than (green line) and less than (blue line) 315 km^2 . Dashed lines plot the 25th and 75th percentiles of the distribution of enhancements. On the right mean enhancements are plotted for islands with a 75th percentile elevation value greater than (green line) and less than (blue line) 50 m, with only islands with area greater than 315 km^2 used in the calculation. A solid diamond symbol is used to indicate when a particular value is significantly different than zero. A solid black triangle on the x axis is indicative of a significant positive difference between the large and small or tall and short islands respectively. In the right column a red line is used to plot the mean value of each variable averaged over all oceanic points surrounding the islands, used as a reference to the relative enhancements given. Compare to Fig. 9 of SBY11.

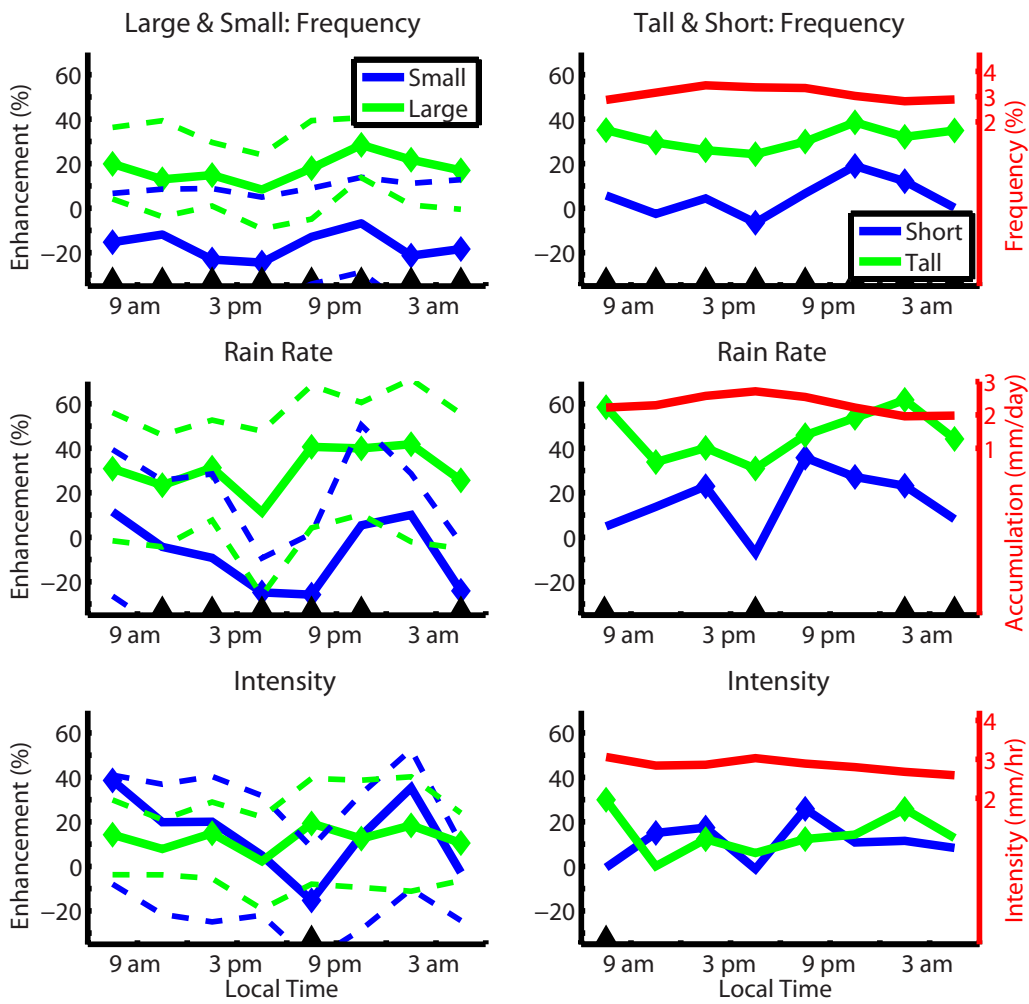


Fig. S 8: As in fig. 7, but for the Caribbean. Compare to Fig. 10 of SBY11.

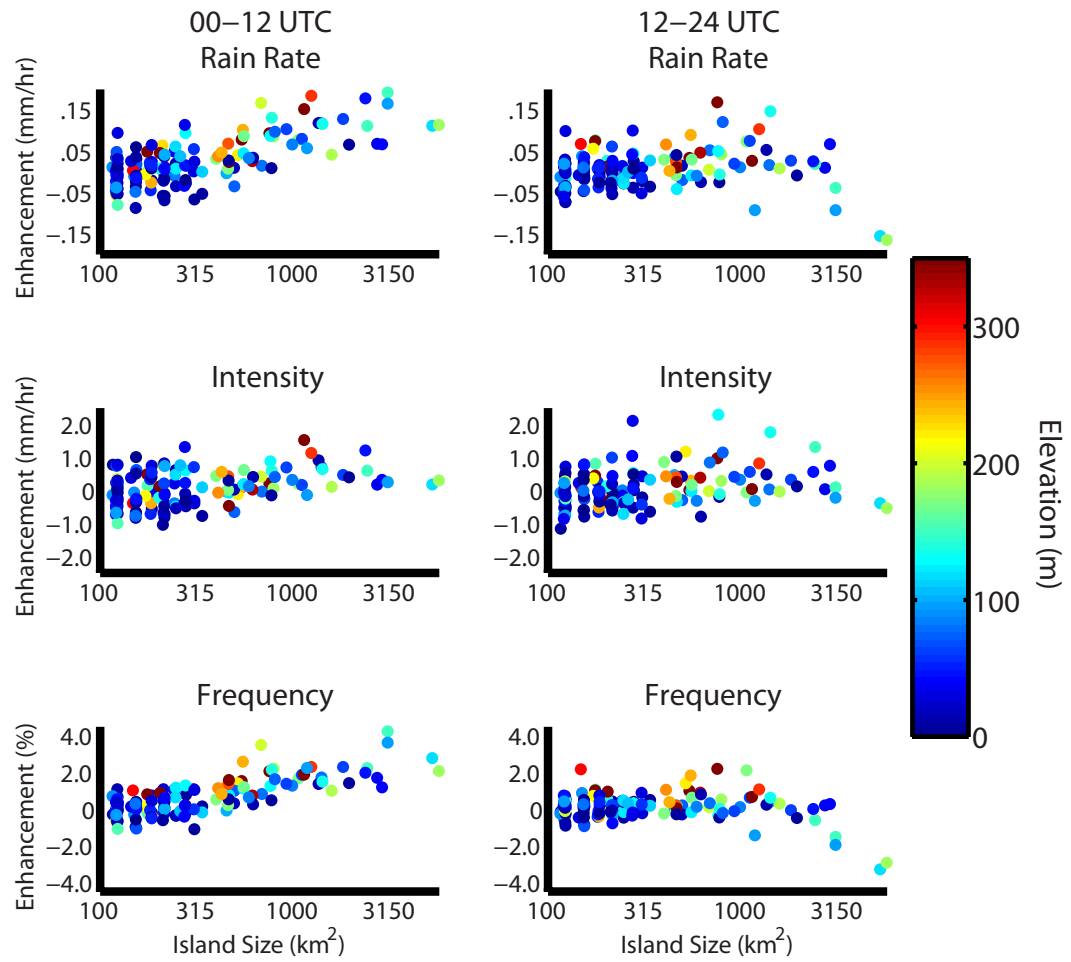


Fig. S 9: As in fig. 3, but without normalizing the values on the y axis by the mean rainfall of the island and surrounding ocean region. Thus the values on the y axis are in mm h^{-1} for rain rate and intensity, and % for frequency. The frequency values in this case are differences in absolute frequency of rain occurrence, not normalized by the land-ocean mean frequency. Compare to Fig. 11 of SBY11.

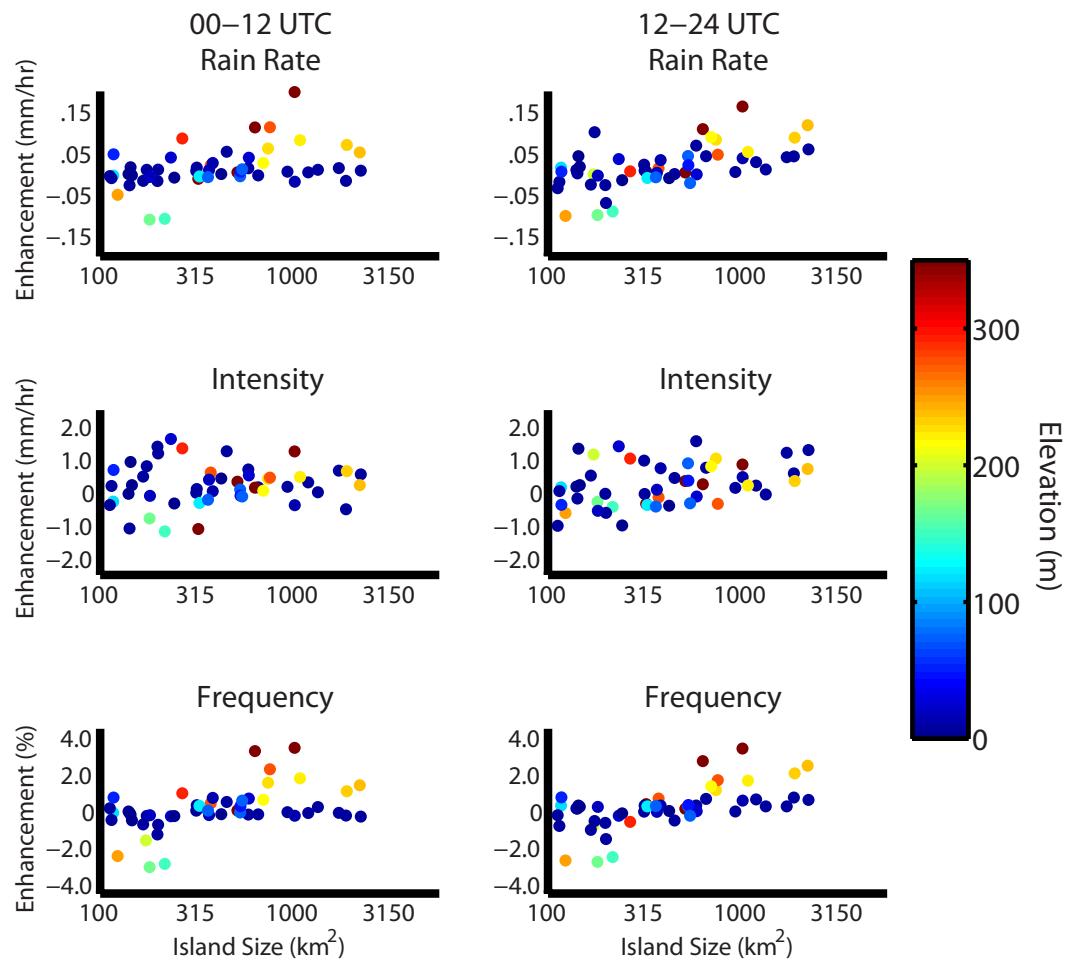


Fig. S 10: As in fig. 4, but without normalizing the values on the y axis by the mean rainfall of the island and surrounding ocean region. Thus the values on the y axis are in mm h^{-1} for rain rate and intensity, and % for frequency. The frequency values in this case are differences in absolute frequency of rain occurrence, not normalized by the land-ocean mean frequency. Compare to Fig. 12 of SBY11.