

RAPSODI: Radiosonde Atmospheric Profiles from Ship and island platforms during ORCESTRA, collected to Decipher the ITCZ

List of Authors

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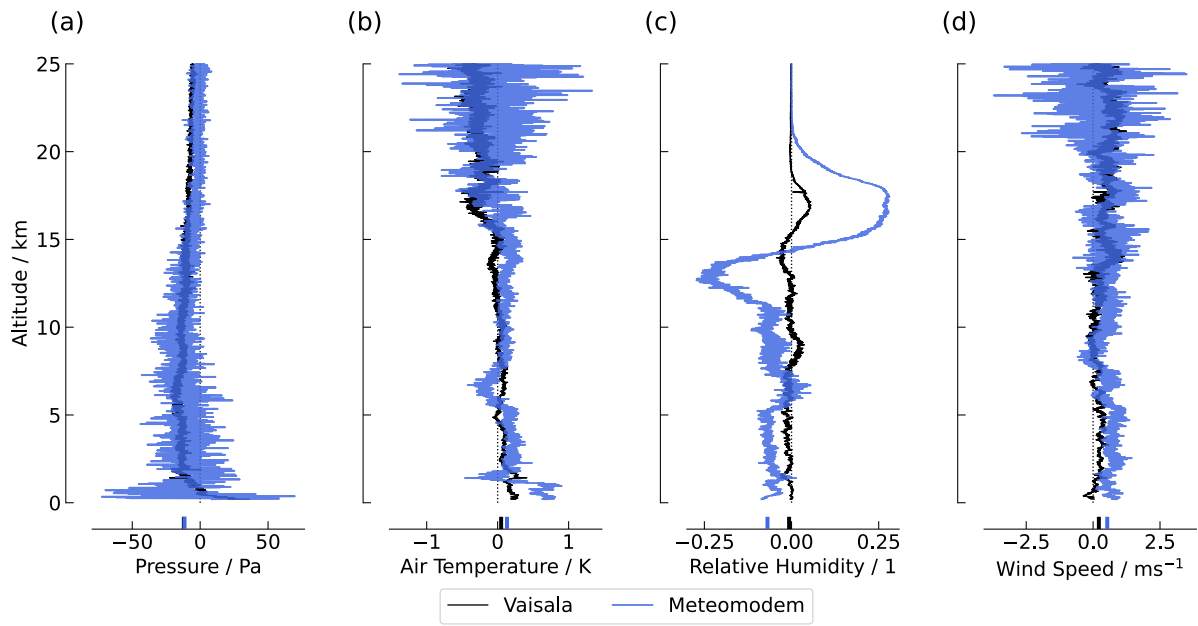


Figure S1: Mean ascent-descent differences by radiosonde type. Profiles show the average ascent minus descent values from the same radiosonde for (a) pressure, (b) air temperature, (c) relative humidity, and (d) wind speed. Vaisala is plotted versus geopotential height derived from GPS altitude to avoid the MW41 descent-phase height bias; Meteomodem is plotted versus the dataset's GPS altitude. All variables are pooled across soundings and binned to 10 m before differencing. Bold ticks on the x-axis mark the mean ascent-descent difference between 0.2 km and 15 km for each type.

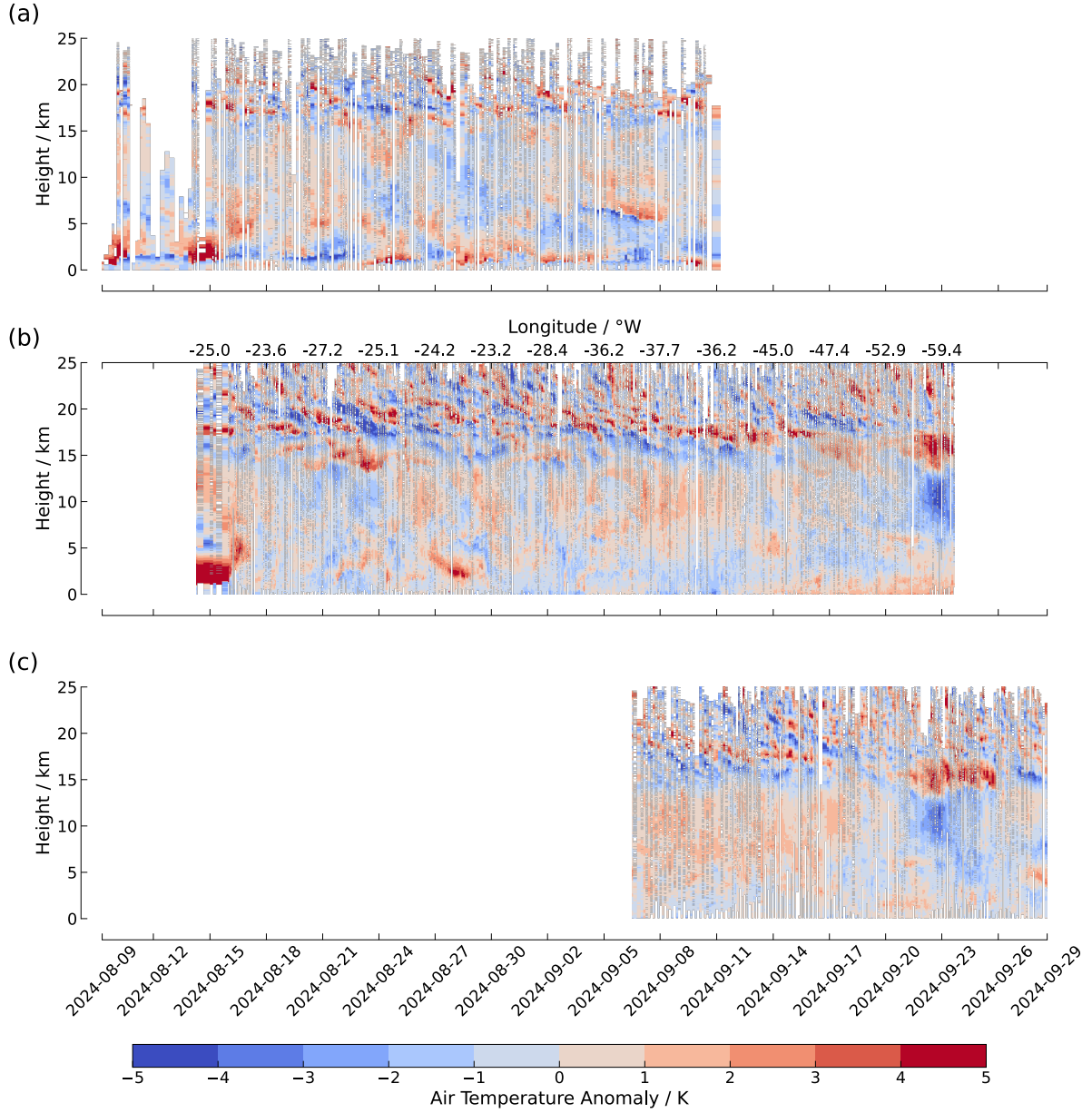


Figure S2: Vertical profiles of air temperature anomalies over time. Panels show time–height cross sections of temperature anomalies from radiosonde soundings launched at (a) INMG on Sal Island, (b) R/V Meteor, and (c) BCO. Anomalies were computed separately for each platform by subtracting the mean temperature profile at each altitude level over time. The full set of soundings from each platform is included. Positive anomalies are shown in red, and negative anomalies in blue. Panel (b) features a secondary x-axis at the top indicating the longitude of the ship as it progressed across the tropical Atlantic.

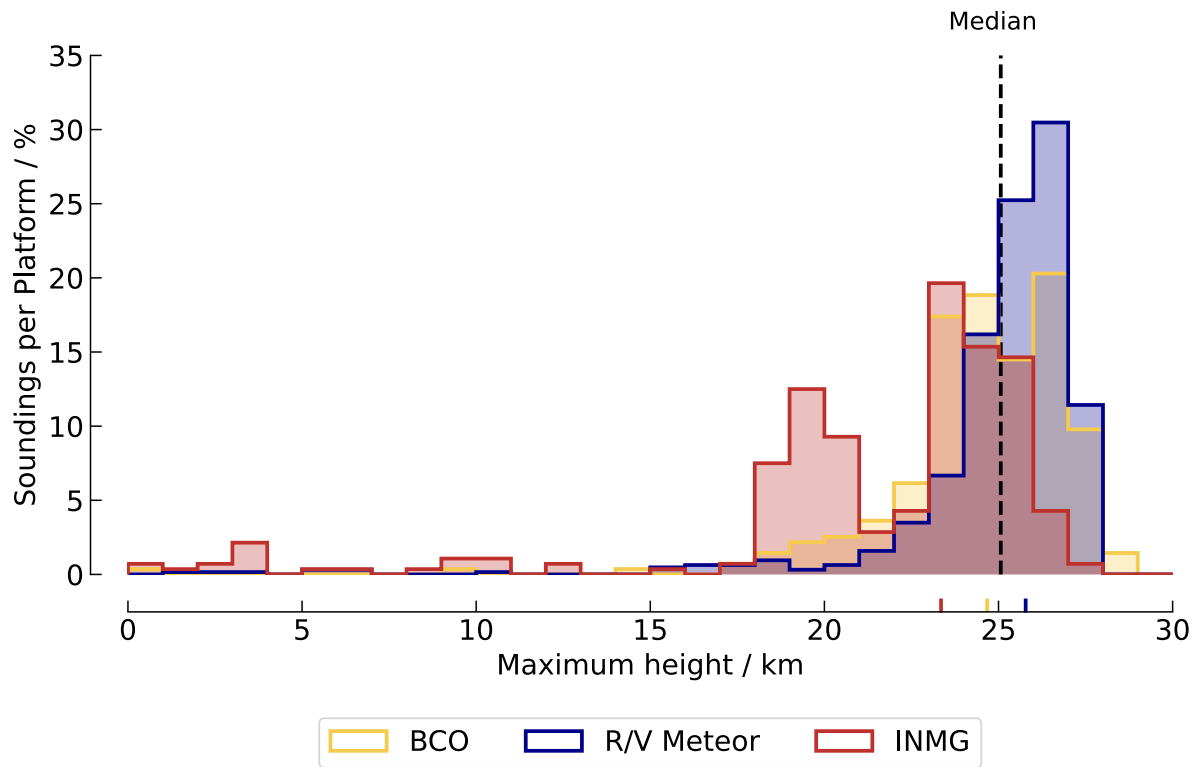


Figure S3: Maximum altitude distribution per platform. Histograms show the maximum altitude reached by radiosondes launched from BCO, R/V Meteor, and INMG. Colored x-axis ticks indicate the median highest altitude reached at each platform. The vertical dashed line indicates the campaign-wide median altitude of 25.1 km.