

Evaluating Temperature Measurements of the iMET-XQ, in the Field, Under Varying Atmospheric Conditions

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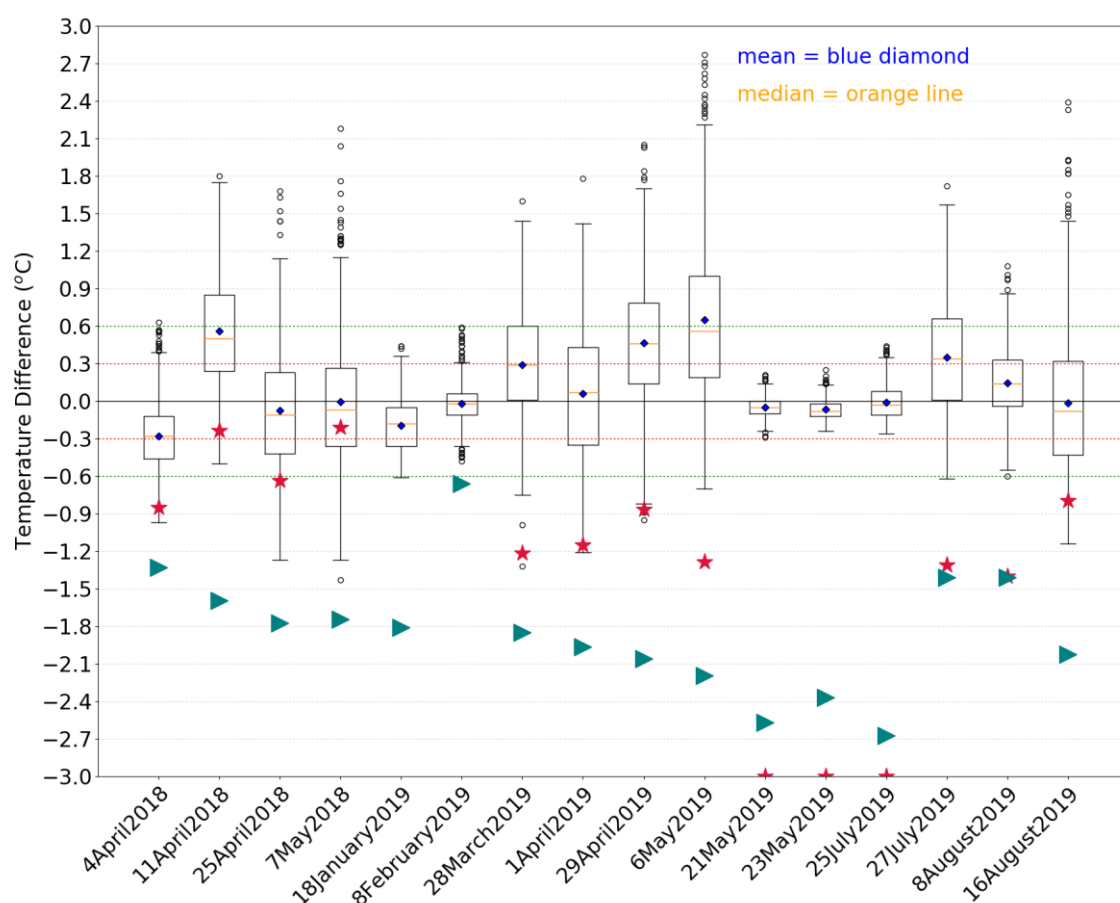


Figure 1. Side-by-side boxplots of temperature differences (°C) between each iMET-XQ sensor and the 1.5 m tower thermistor (TiMET – T1.5m), by date for the 16 tower experiments (including the 3 dusk days). Red stars represent relative solar radiation values, green triangles represent relative 2 m wind speed values averaged over the duration of each experiment. Actual values are given in Table 1. The means of the temperature differences are represented by blue diamonds, the medians are shown by orange lines. A temperature difference of ± 0.3 °C is marked by a red dotted line. A temperature difference of ± 0.6 °C is marked by a green dotted line.

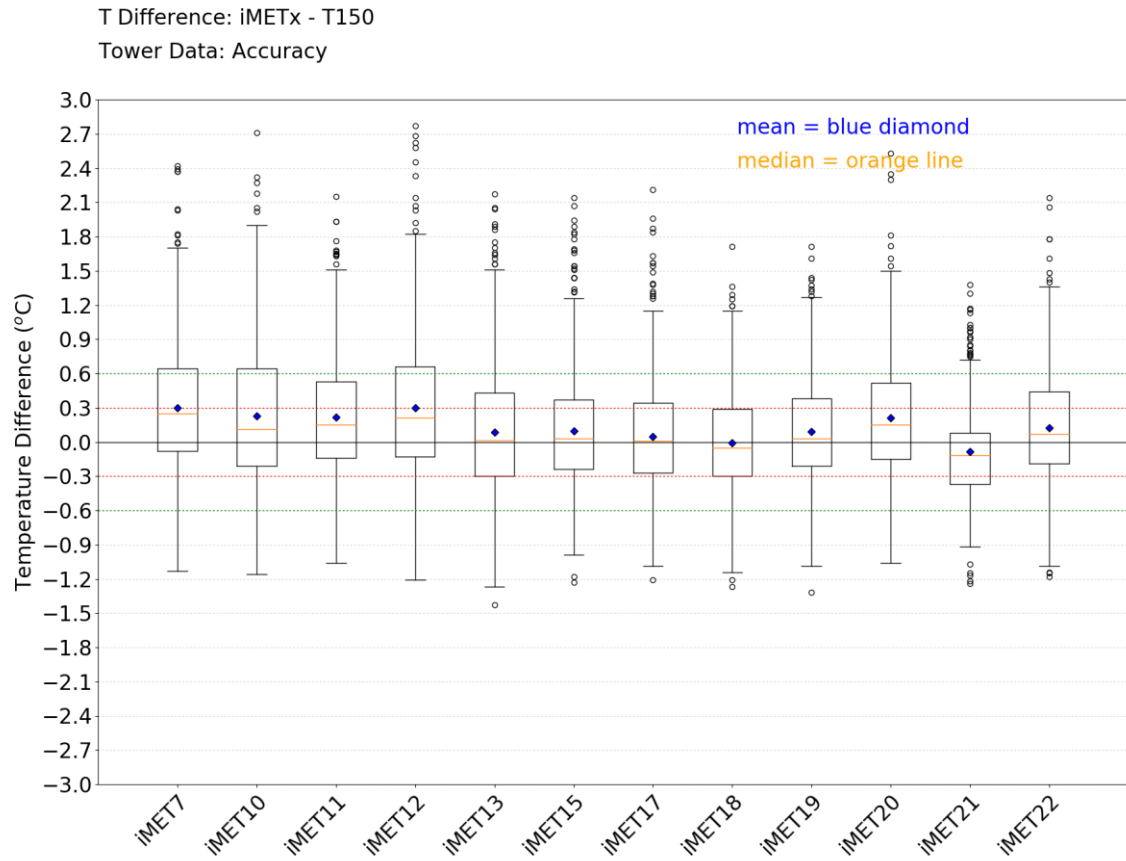


Figure 2. Side-by side boxplots of temperature differences (°C) for each iMET-XQ and the 1.5m tower thermistor ($T_{\text{iMET}} - T_{1.5\text{m}}$) for the daytime Tower experiments (dusk experiments excluded). The means are represented by blue diamonds, the medians are shown by orange lines. A temperature difference of ± 0.3 °C is marked by a red dotted line. A temperature difference of ± 0.6 °C is marked by a green dotted line.

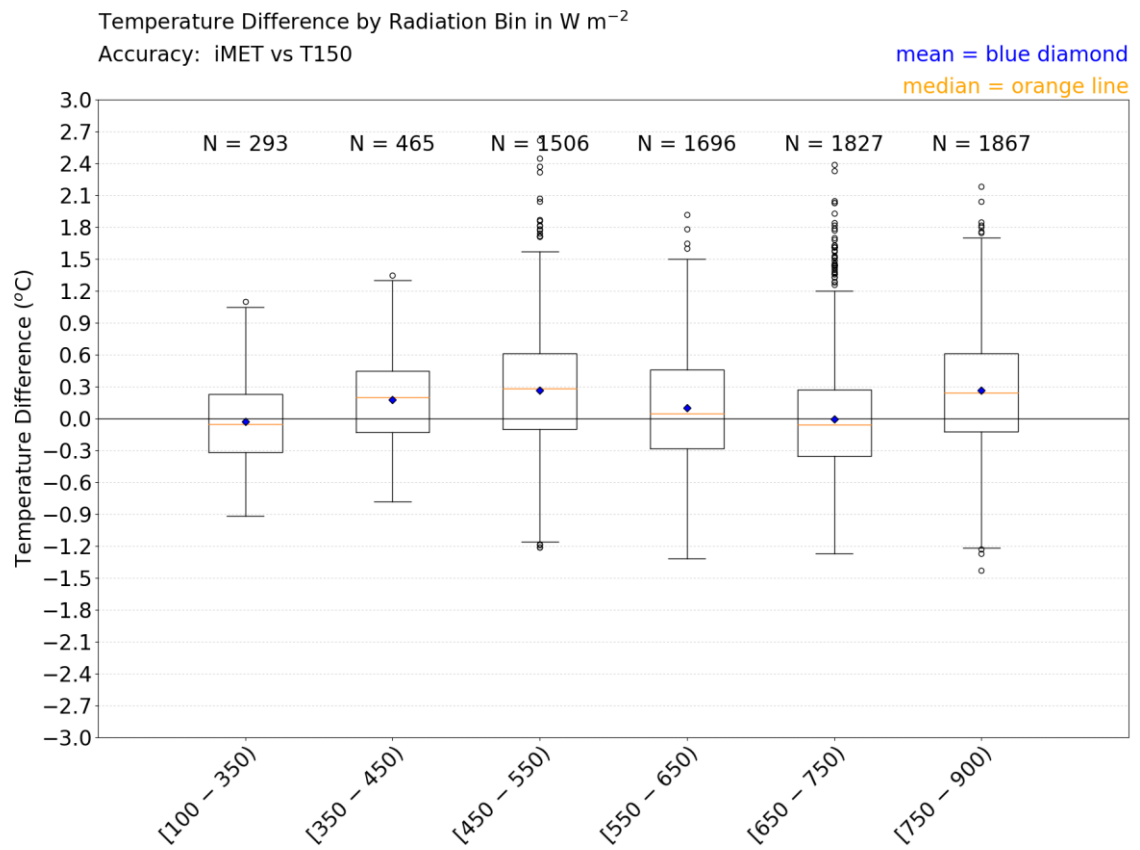


Figure 3. Side-by-side boxplots of temperature difference ($T_{\text{iMET}} - T_{\text{Tower}}$ in $^{\circ}\text{C}$) distributions for all 12 iMET-XQ sensors and all 652 timesteps, by solar radiation (W m^{-2}) bin. Sample size (N) for each bin is given above each boxplot.