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Supplemental Material

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Evaluation of the RainFARM Statistical Downscaling Technique Applied to IMERG over Global Oceans Using Passive Aquatic Listener In Situ Rain Measurements
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SUPPLEMENTARY MATERIAL

Time Series of change in evaluation statistics in the ECUS and NWUS2 domains for downscaled IMERG versus coarsened IMERG.

The figures below show time series of the difference between evaluation metrics from the downscaled ensembles and those calculated for IMERG coarsened to the same resolution in both the ECUS and NWUS2 domains. As in previous figures, green, blue and red indicate spatial downscaling to 10 km daily, and temporal downscaling to 50 km 3- and 1-hourly, respectively. Darker shades represent ECUS, while lighter shades represent NWUS2. Positive values indicate that the downscaled ensemble had higher values of each metric, indicating improved comparisons of RainFARM results to PAL than coarsened IMERG to PAL for correlation, POD and CSI (Figs S1,S2 and S4), and less favorable comparisons for FAR and RMSE (Figs S3 and S5). The results of these figures are summarized in the main text figures 7-9 for the median value of the distributions.

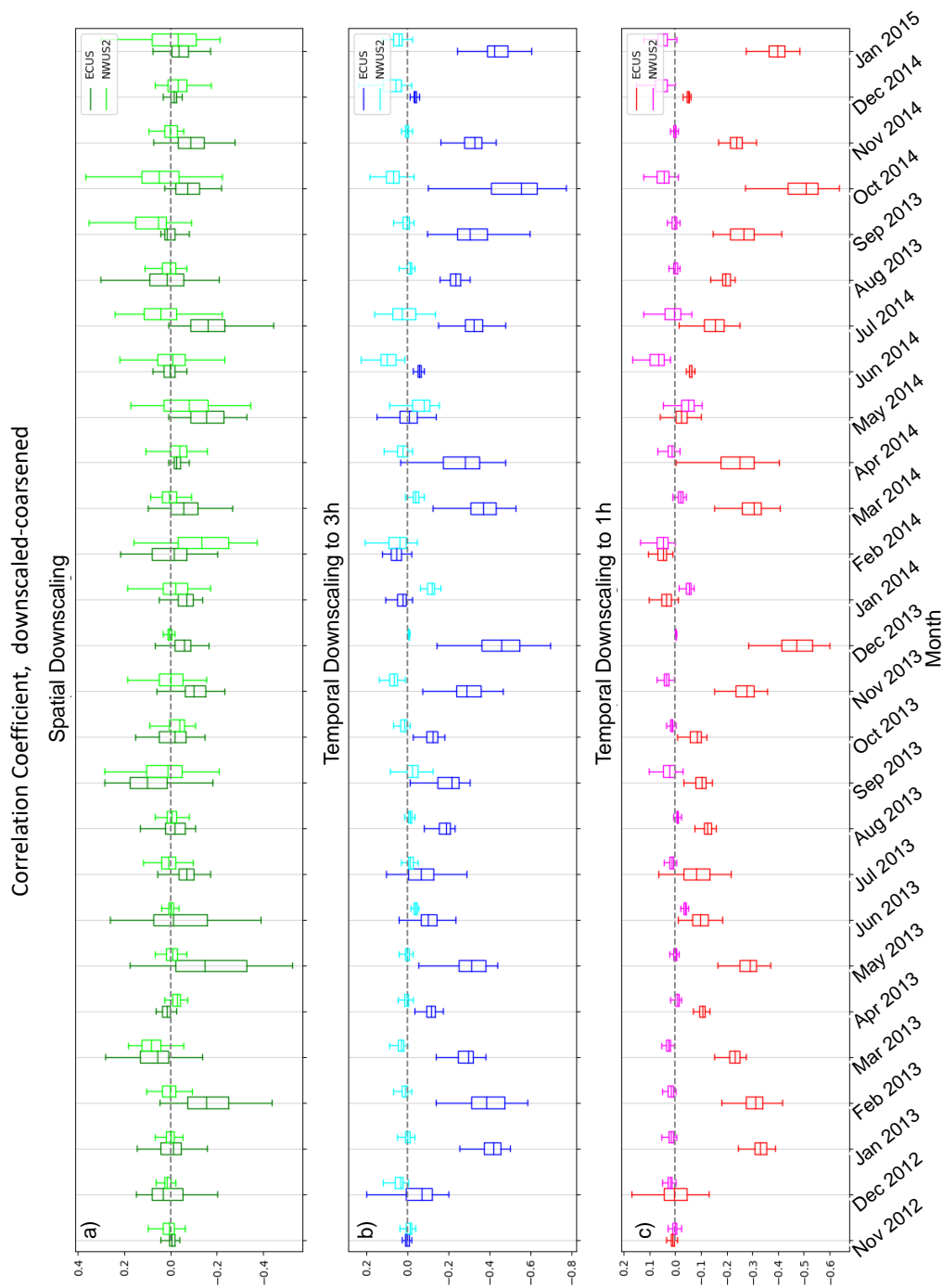


Fig. S1. Time series of the difference between correlation coefficients calculated for downscaled realizations and IMERG coarsened to the same resolution for the ECUS (darker colors) and NWUS2 (lighter colors) domains. Positive values indicate that the downscaled realizations had higher values than coarsened IMERG. Results are shown for a) spatial downscaling, b) temporal downscaling to 3 h, and c) temporal downscaling to 1 h.

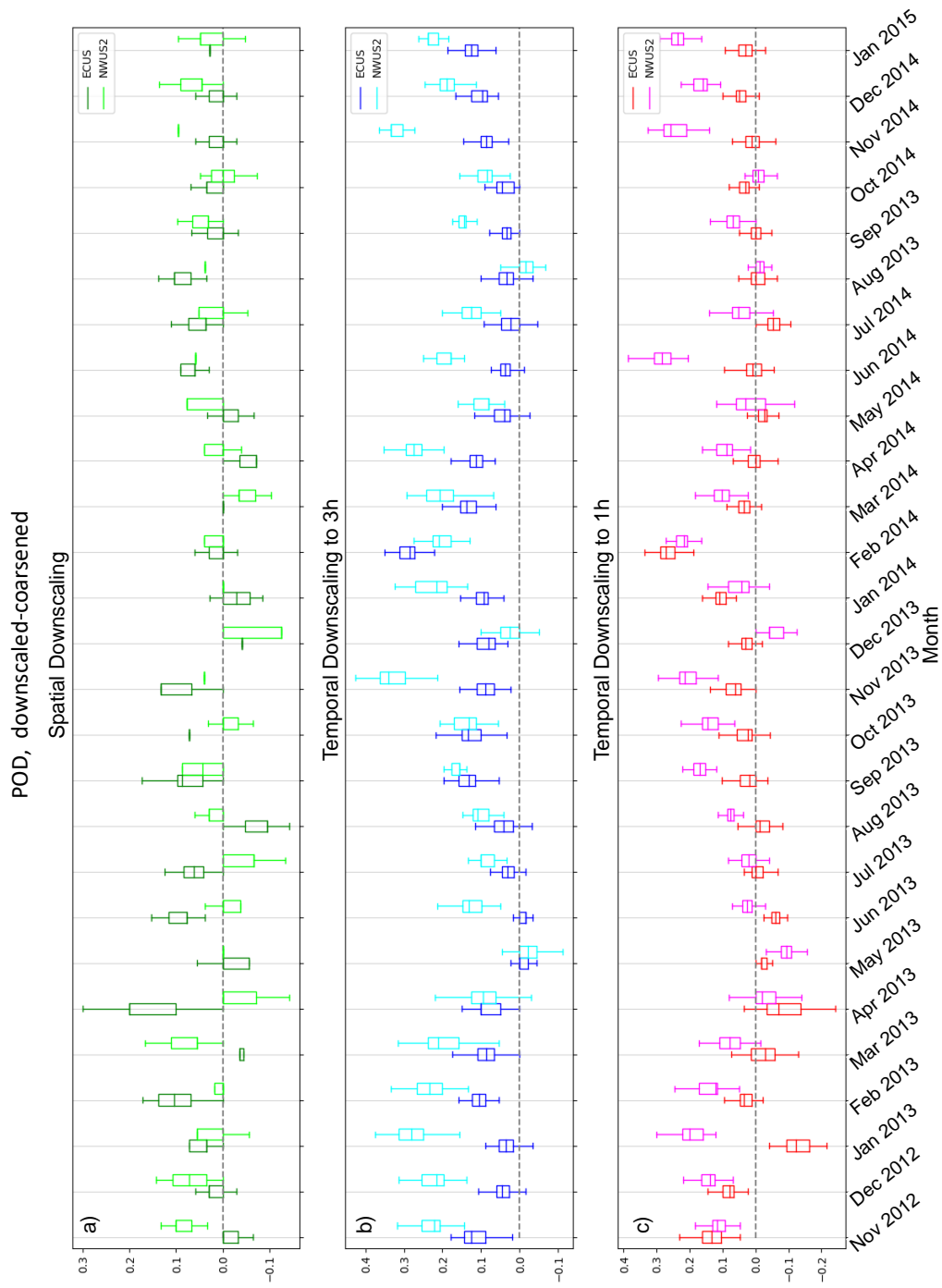


Fig. S2. As in Fig. S1, for POD.

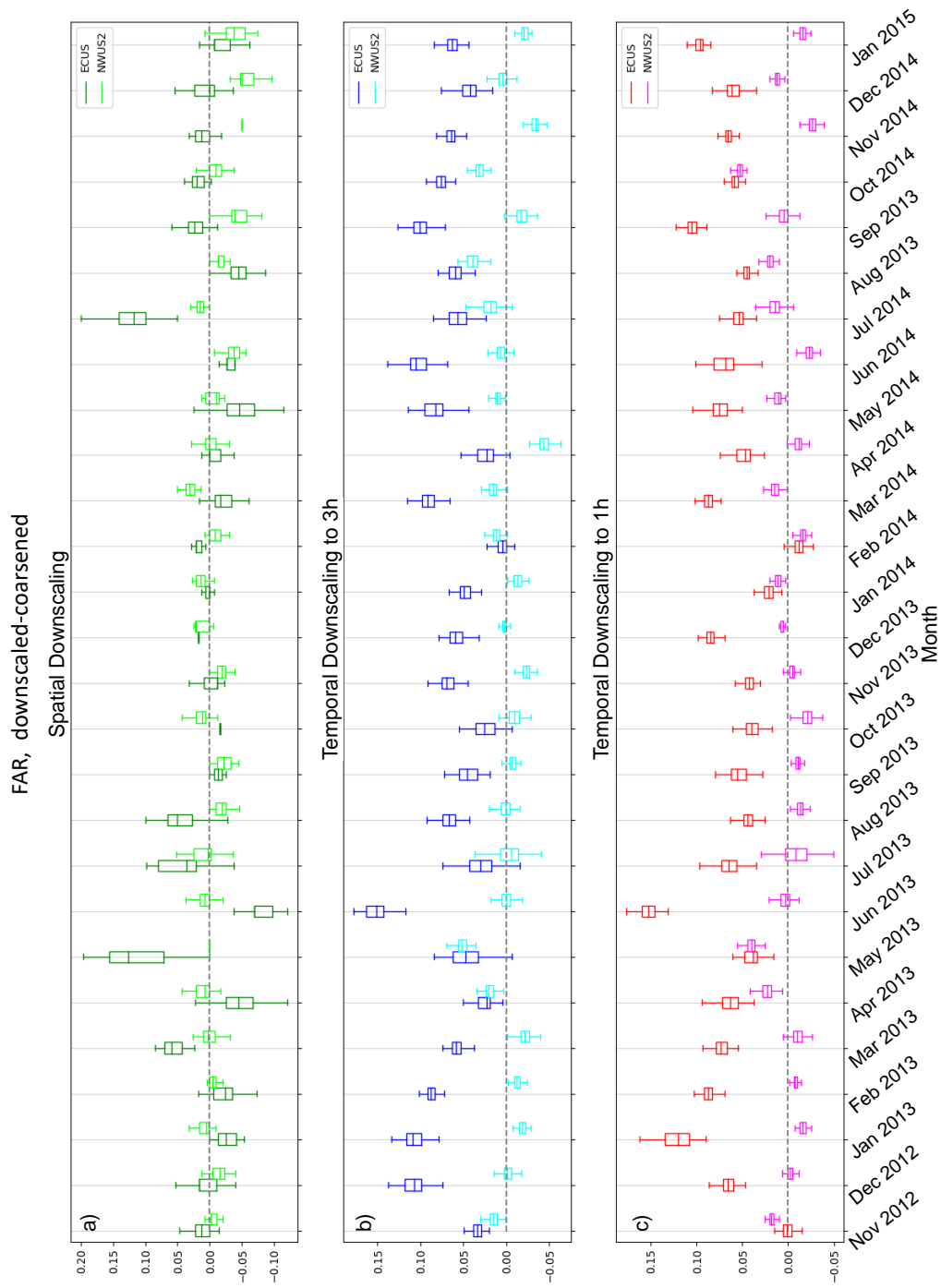


Fig. S3. As in Figure 7, for FAR.

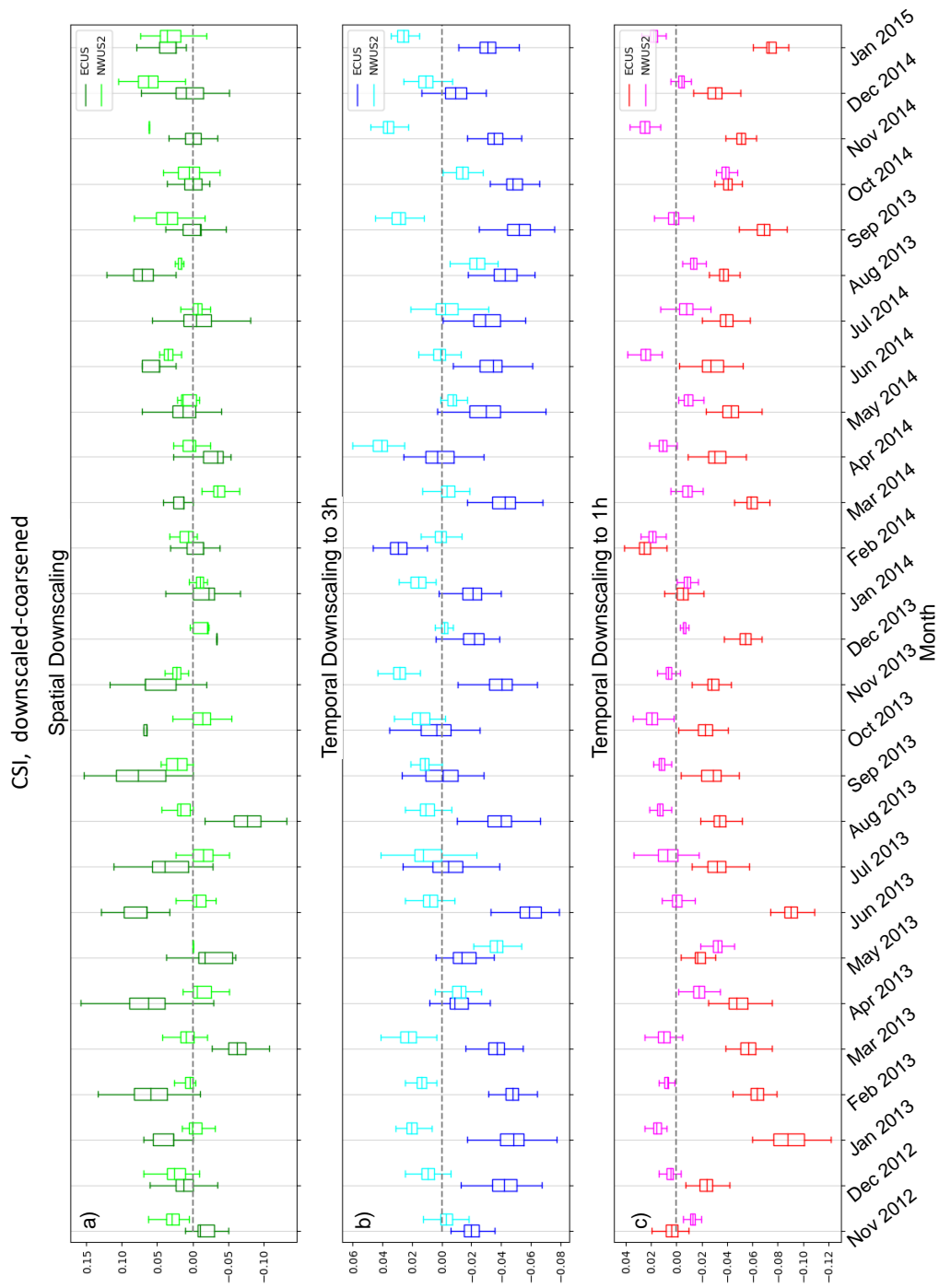


Fig. S4. As in Fig. S1, for CSI.

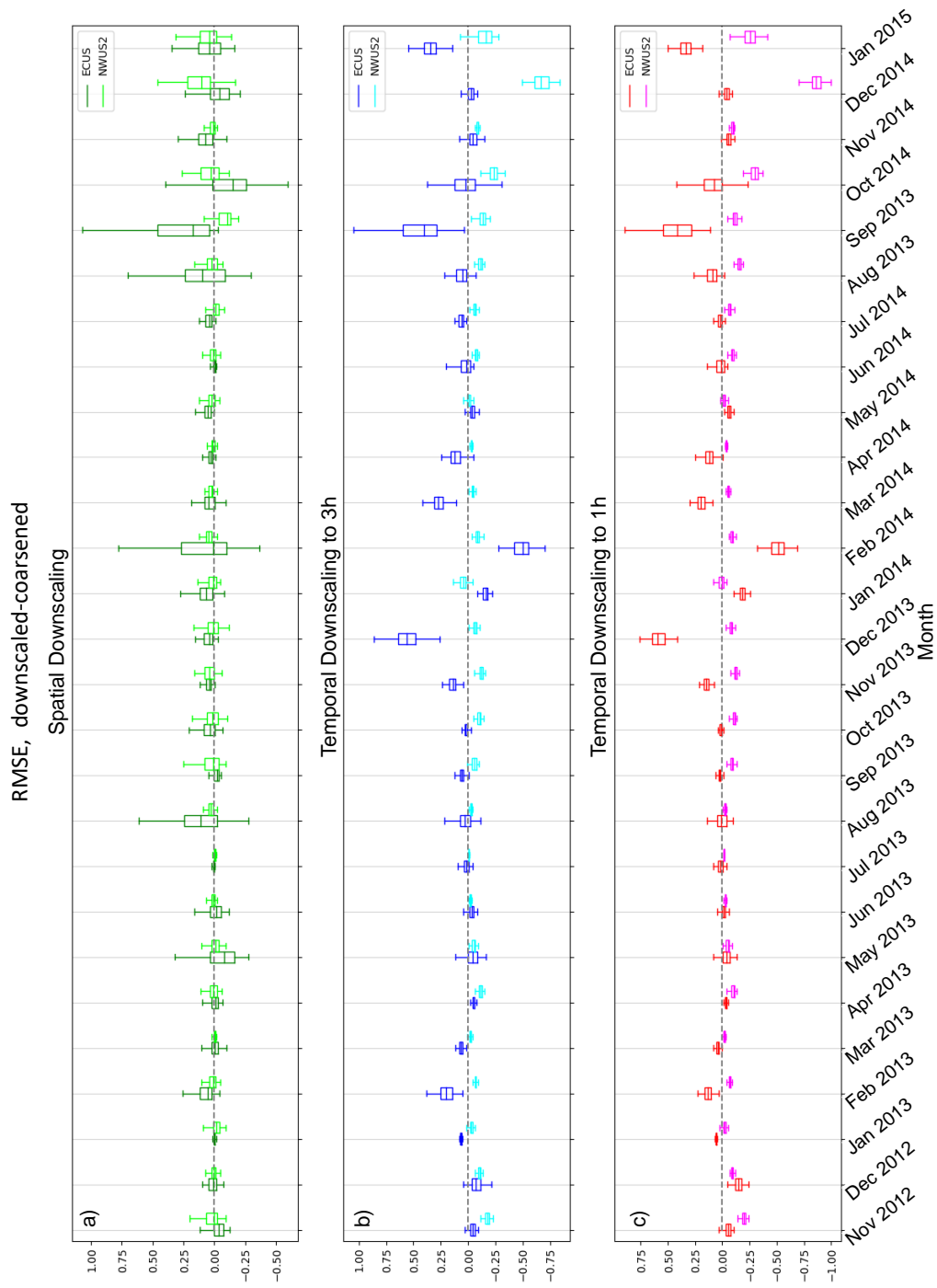


Fig. S5. As in Fig. S1, for RMSE.

