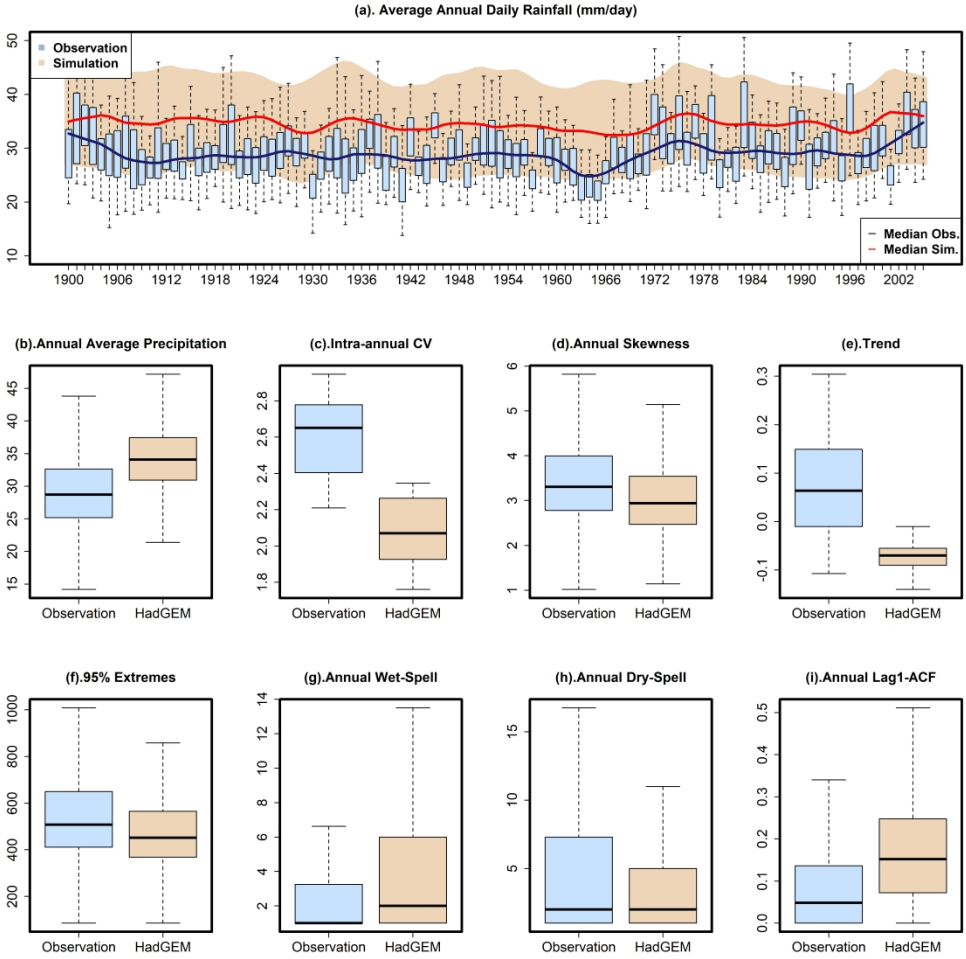

Figure Supplementary Material 1. HadGEM2-ES Vs. Observation: (a,b).Boxplots represent the average annual precipitation in historical data over 1900-2005, across all the stations. The shaded area is the boundary obtained from HadGEM2-ES model over the same period; while the long term secular trend is preserved in the model, the internal variability is not captured. Several parameters show relatively high bias in the (c).coefficient of variation (CV) obtained from grids corresponding to selected stations, (d).annual skewness, (e).trends, (f).95% extremes, annual (e).wetspell and (g).dryspell length with 1 mm threshold, (h). annual lag1-autocorrelation.

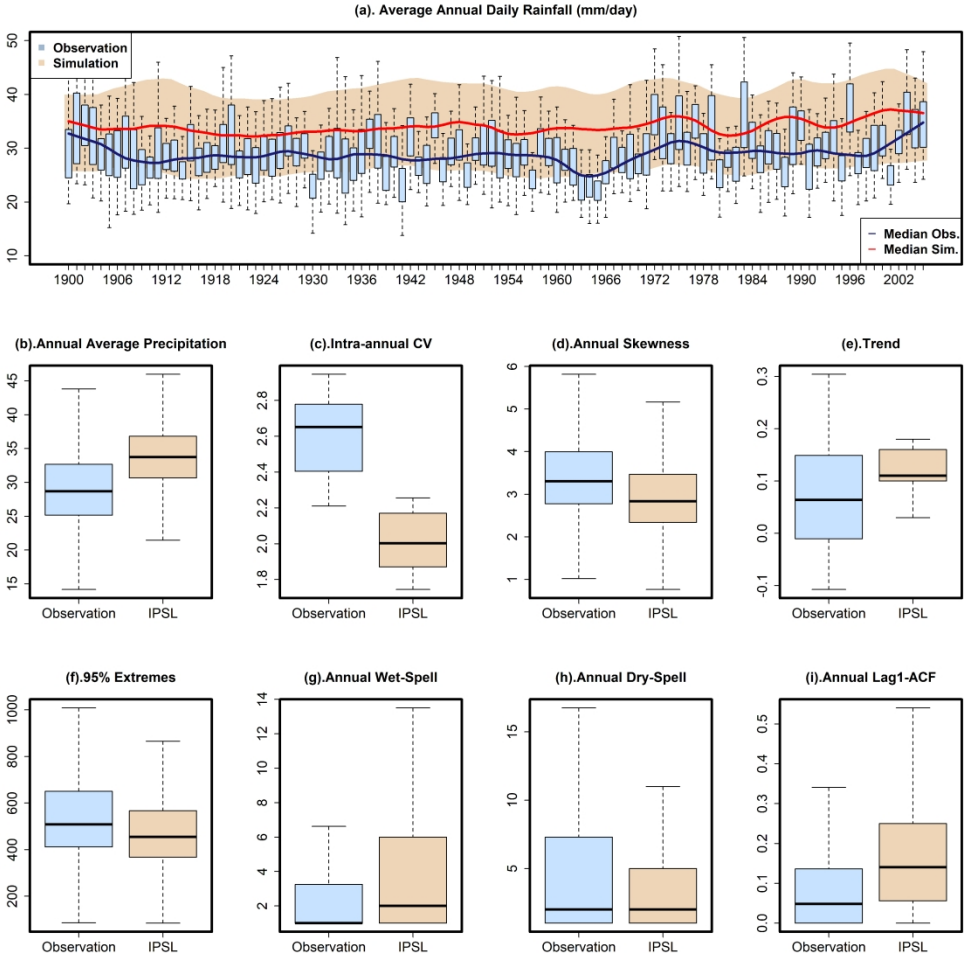

Figure Supplementary Material 2. IPSL-CM5A-LR Vs. Observation: (a,b).Boxplots represent the average annual precipitation in historical data over 1900-2005, across all the stations. The shaded area is the boundary obtained from IPSL-CM5A-LR model over the same period; while the long term secular trend is preserved in the model, the internal variability is not captured. Several parameters show relatively high bias in the (c).coefficient of variation (CV) obtained from grids corresponding to selected stations, (d).annual skewness, (e).trends, (f).95% extremes, annual (e).wetspell and (g).dryspell length with 1 mm threshold, (h). annual lag1-autocorrelation.

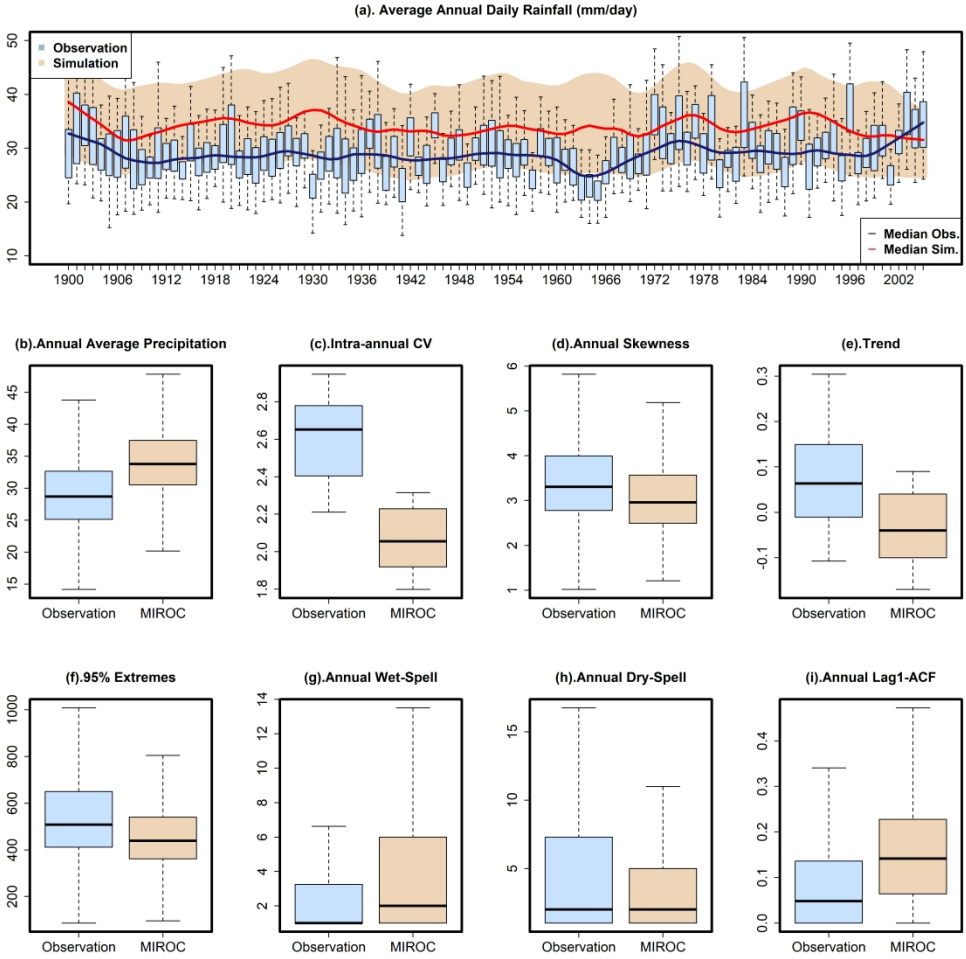

Figure Supplementary Material 3. MIROC5 Vs. Observation: (a,b).Boxplots represent the average annual precipitation in historical data over 1900-2005, across all the stations. The shaded area is the boundary obtained from MIROC5 model over the same period; while the long term secular trend is preserved in the model, the internal variability is not captured. Several parameters show relatively high bias in the (c).coefficient of variation (CV) obtained from grids corresponding to selected stations, (d).annual skewness, (e).trends, (f).95% extremes, annual (e).wetspell and (g).dryspell length with 1 mm threshold, (h). Annual lag1-autocorrelation.