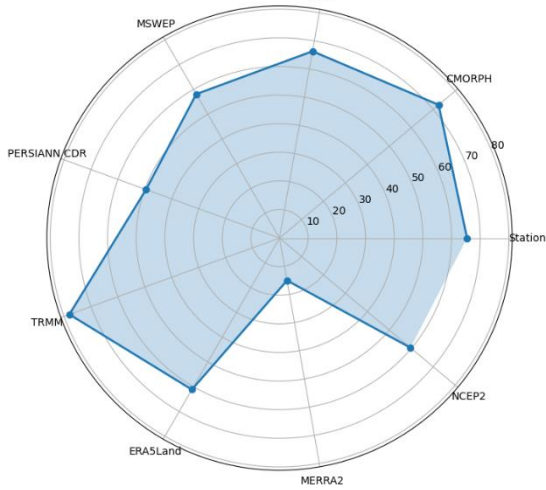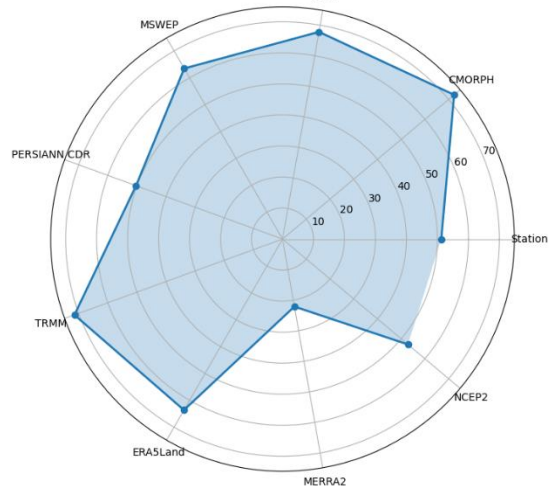**Supplementary Figure**

Figure S1 Occurrence frequency of precipitation (0-1 mm) for (a) Coimbatore, (b) Madurai, (c) Tiruchirapalli and (d) Tuticorin
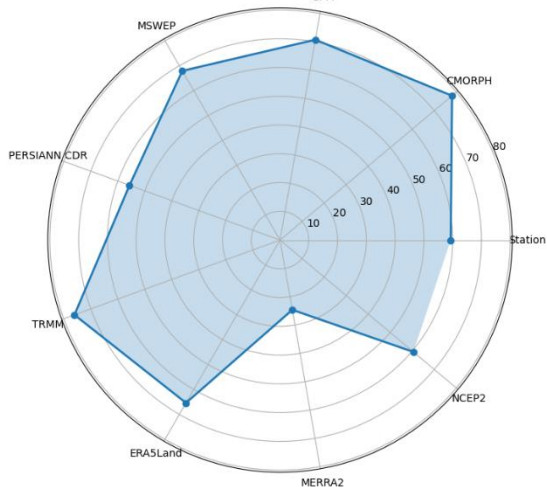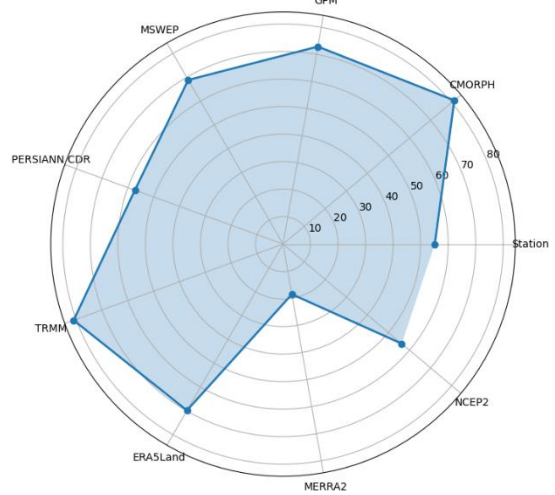
Figure S2 Occurrence frequency of precipitation (1-> 50 mm) for (a) Coimbatore, (b) Madurai, (c) Tiruchirapalli and (d) Tuticorin
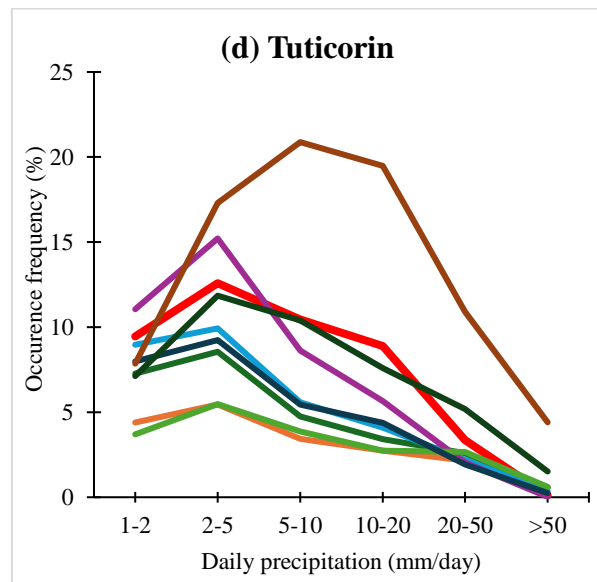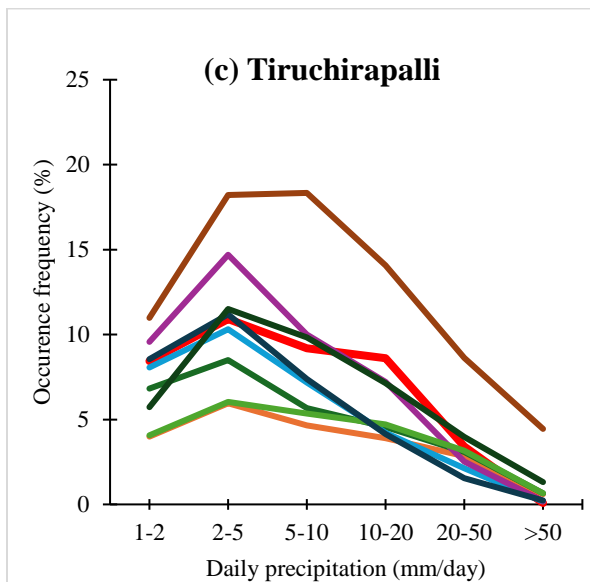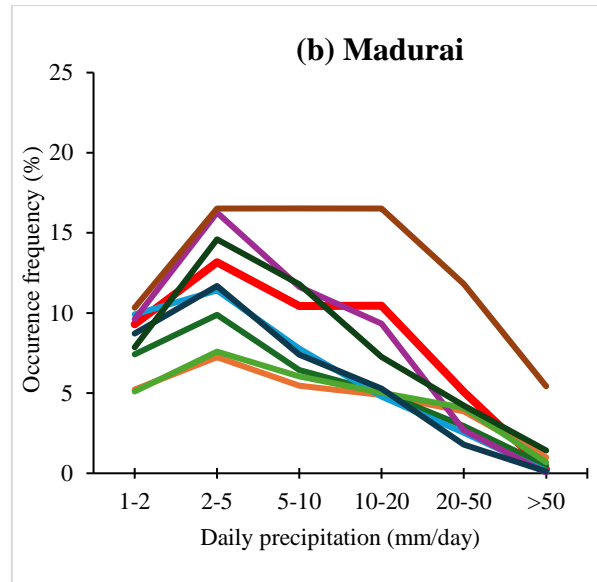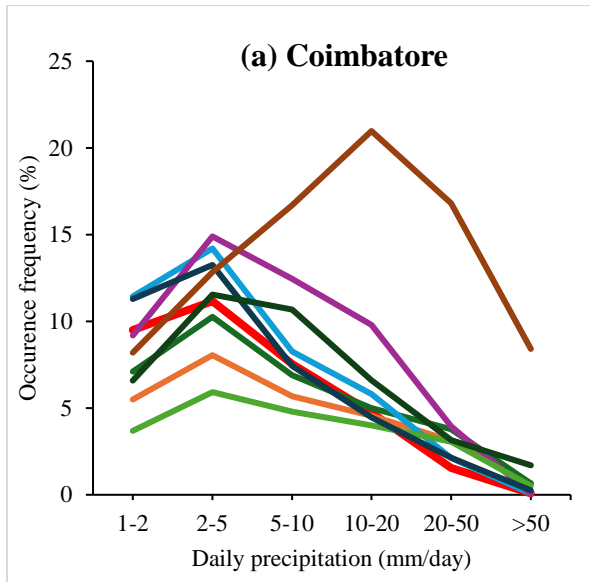
Figure S3 Taylor diagram depicting the agreement between station data and precipitation products at a yearly district scale
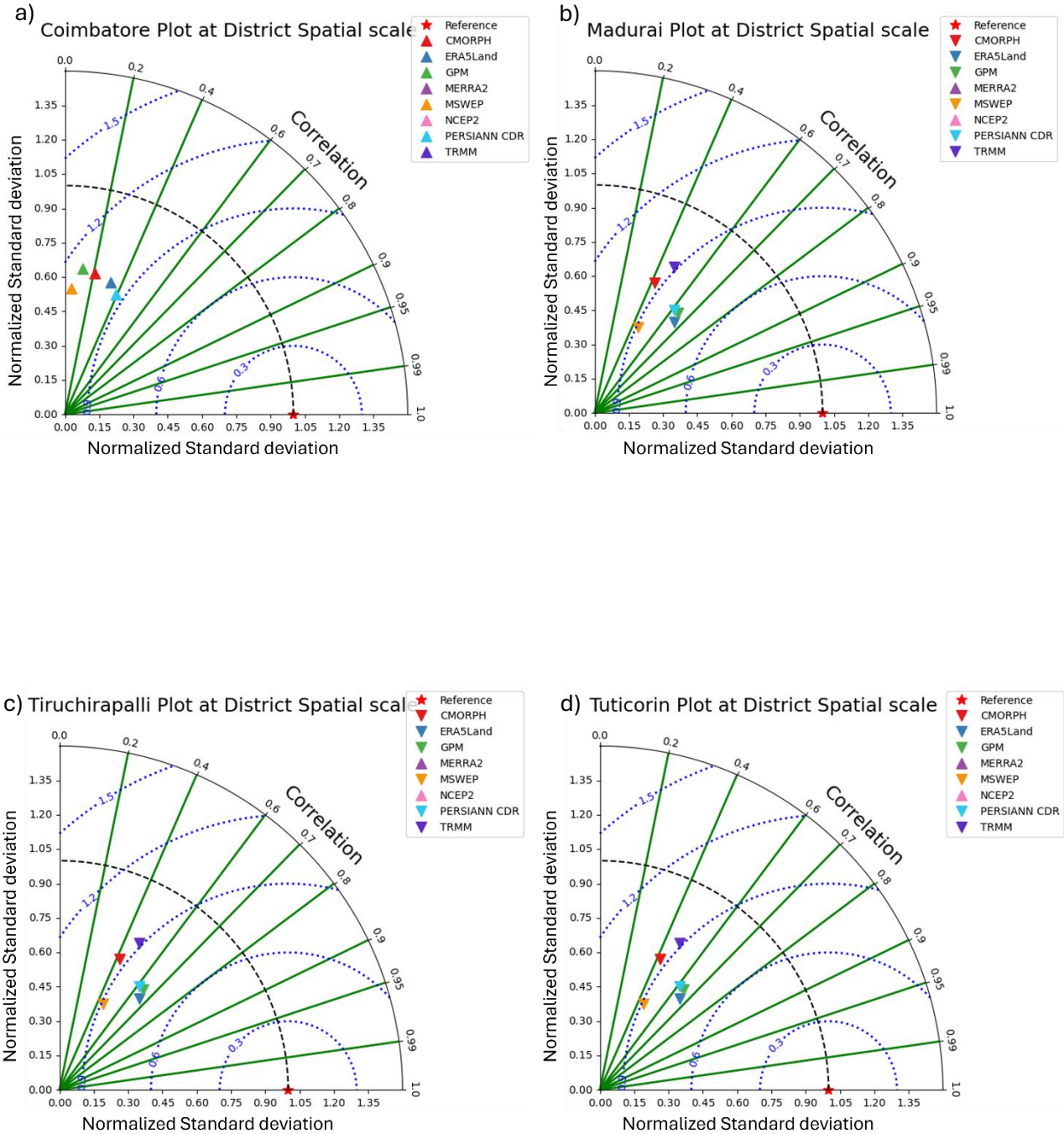
Figure S4 Combined Taylor diagram depicting the agreement between station data and precipitation products at a) yearly grid scale b) monsoon months c) non-monsoon months