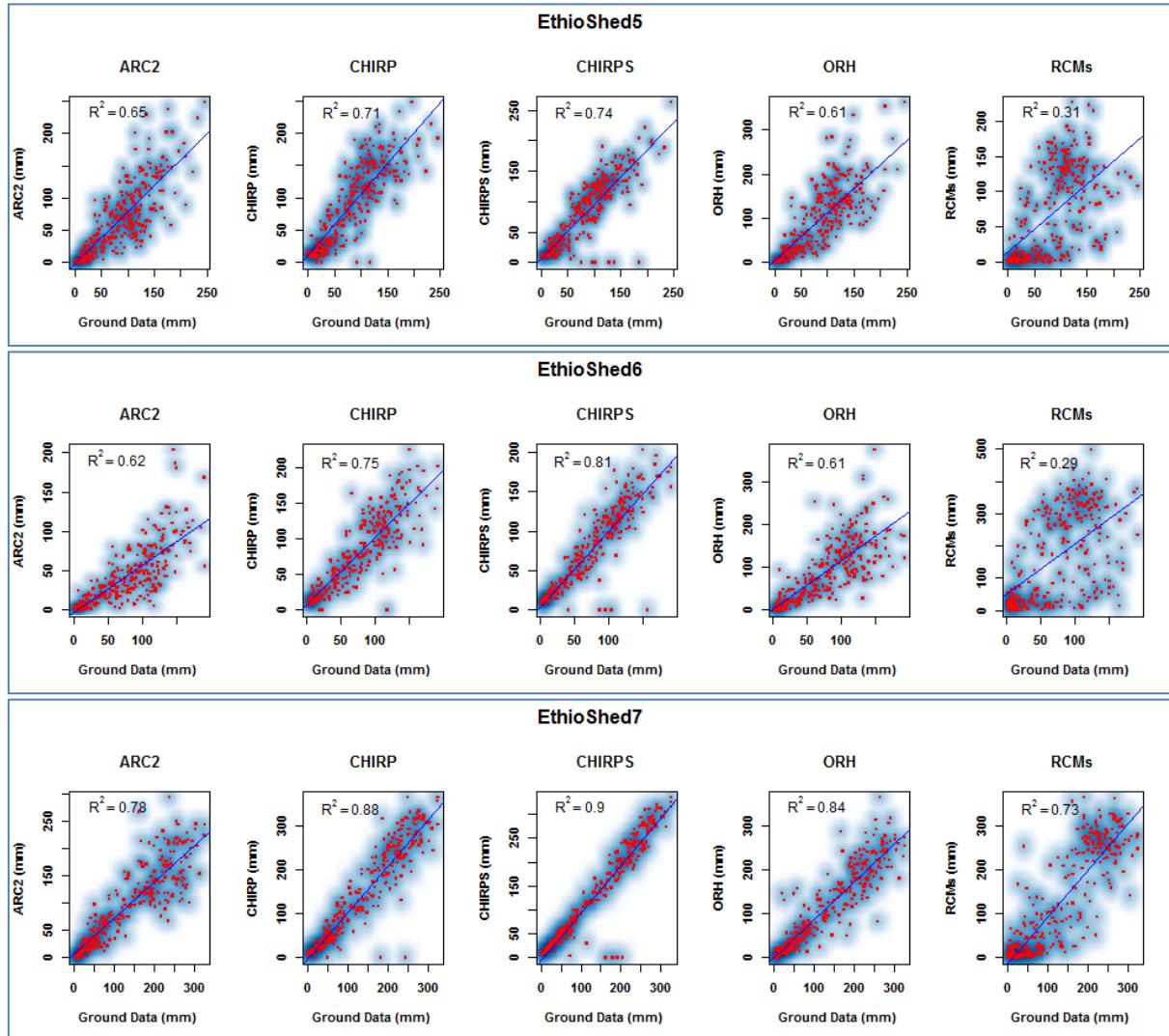


Supplementary material

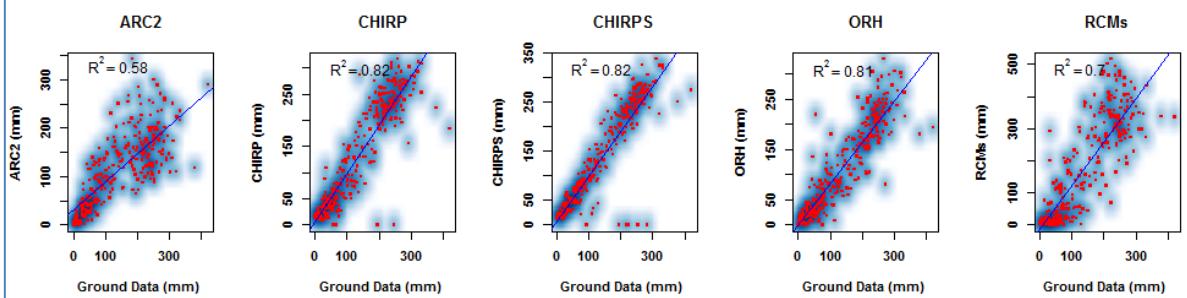
ST 1: Evaluation results of individual RCMs against field meteorological stations covering the period of 1983–2005 for 21 validation areas of East Africa.

Validation area	HadGEM2			GFDL			MPI		
	CC	Rbias	RMSE	CC	Rbias	RMSE	CC	Rbias	RMSE
EthioShed1	0.44	-41.2	6.50	0.37	-36.1	6.97	0.43	-34.3	6.47
EthioShed2	0.4	37.0	5.40	0.29	63.1	7.08	0.37	37.1	5.4
EthioShed3	0.53	6.4	5.65	0.41	-37.7	5.64	0.50	16.7	6.1
EthioShed4	0.30	40.6	7.36	0.13	29.4	8.24	0.25	45.3	7.66
EthioShed5	0.11	-25.4	4.98	0.1	7.00	6.34	0.12	-9.60	5.10
EthioShed6	0.19	67.7	6.20	0.13	61.85	11.85	0.18	83.5	6.41
EthioShed7	0.34	-16.5	6.23	0.25	11.7	8.22	0.31	-7.1	6.43
EthioShed8	0.30	-6.0	7.73	0.26	53.6	11.42	0.29	18.0	8.28
EthioShed9	0.10	-58.5	4.37	0.10	-19.4	5.97	0.05	-41.6	4.98
EthioShed10	0.44	34.7	5.84	0.22	45.2	7.8	0.38	37.3	6.02
EthioShed11	0.07	-71.8	5.02	0.04	-38.7	5.64	0.14	-45.4	5.07
EthioShed12	0.04	-50.2	4.11	0.03	22.5	4.94	0.06	-16.9	4.35
EthioShed13	0.23	10.2	6.43	0.12	-2.0	6.86	0.19	28.7	6.89
EthioShed14	0.12	53.3	4.94	0.02	-51.5	5.41	0.10	-42.2	5.14
EthioShed15	0.18	20.1	5.28	0.08	56.4	6.53	0.15	36.8	5.44
EthioShed16	0.14	-9.0	5.51	0.10	40.1	7.45	0.12	1.9	5.75
EthioShed17	0.16	-25.7	4.46	0.1	-3.7	5.64	0.17	-13.9	4.56
KenShed1	0.01	-20.9	4.9	0.04	55.7	6.11	0.13	28.1	5.17
KenShed2	0.13	-6.1	7.27	0.13	61.6	12.91	0.2	45.2	8.03
TanzShed1	0.07	-10	6.5	0.1	94.1	8.45	0.124	24.9	6.79
TanzShed2	0.19	-22	0.23	0.16	39	0.23	0.13	27	0.23

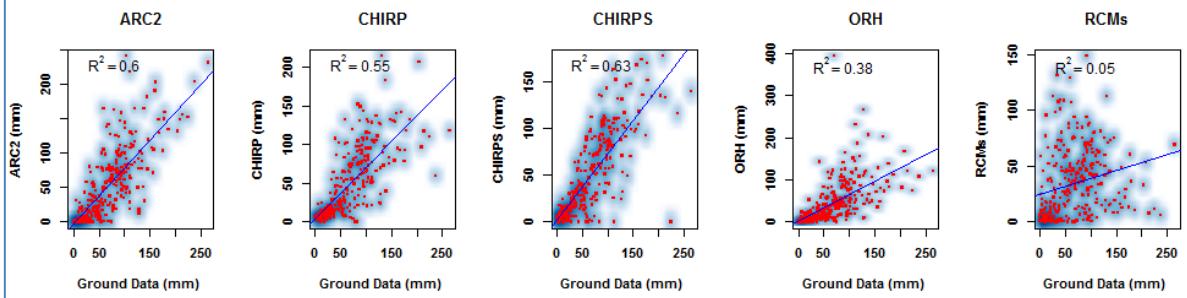
SF. 1: Scatter plots of monthly rainfall for ARC2, CHIRP, CHIRPS, ORH, and RCMs for 13 validation areas of Ethiopia covering the period of 1983–2005 and aggregated from daily data. Shaded area displays the data density around the regression line.



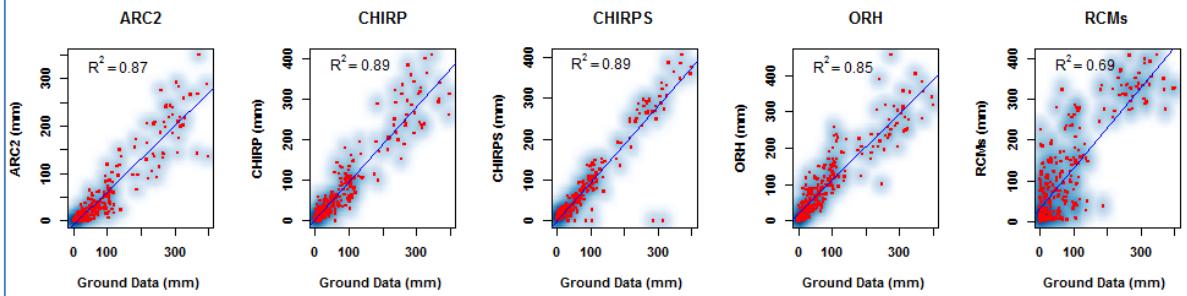
EthioShed8



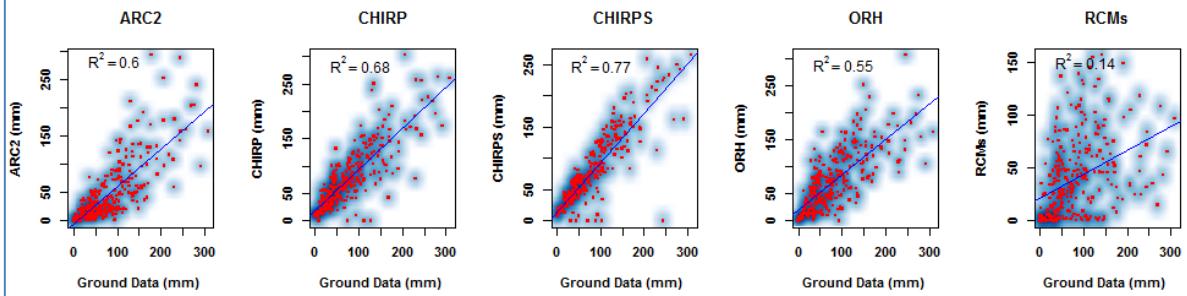
EthioShed9



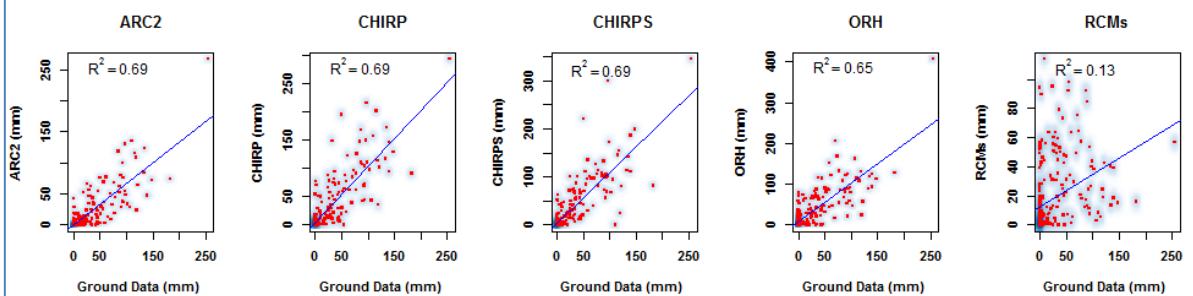
EthioShed10



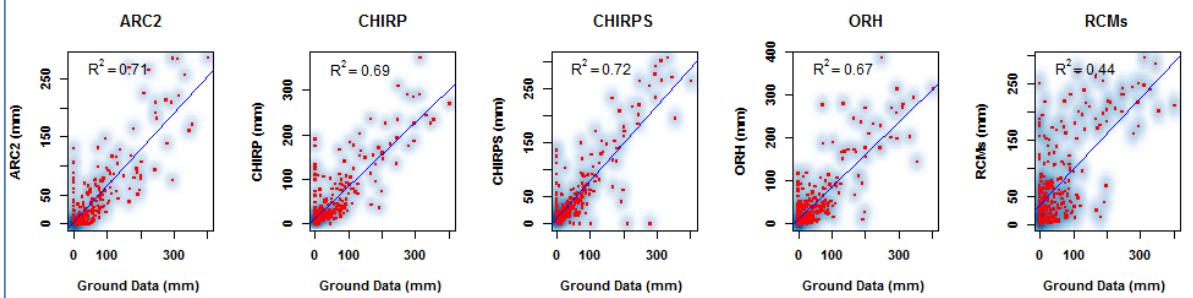
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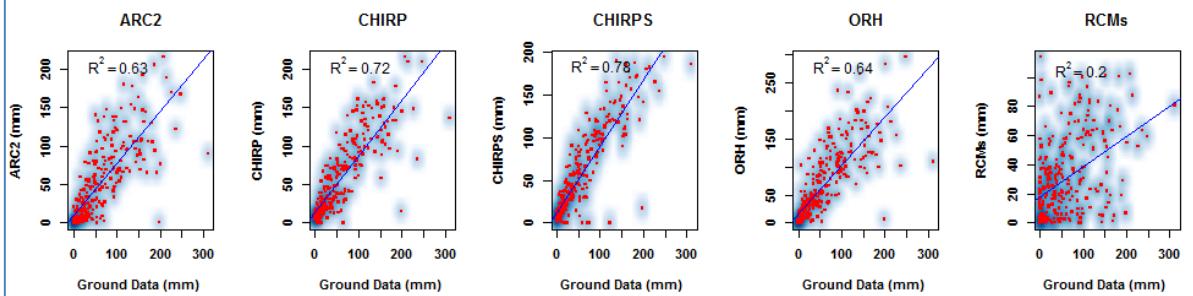
EthioShed12



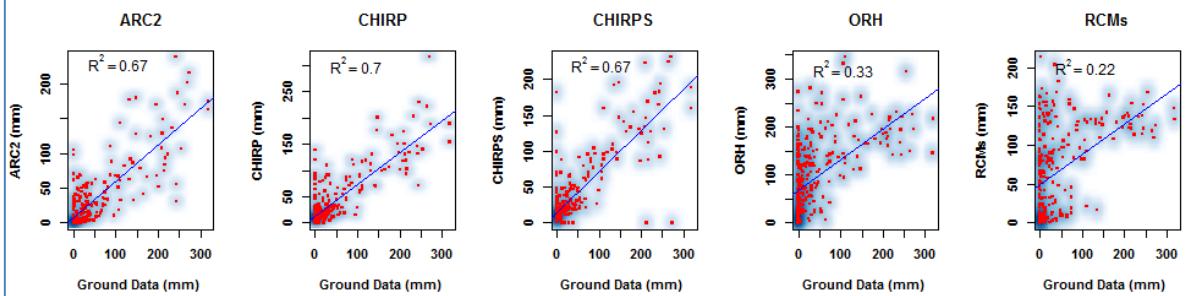
EthioShed13



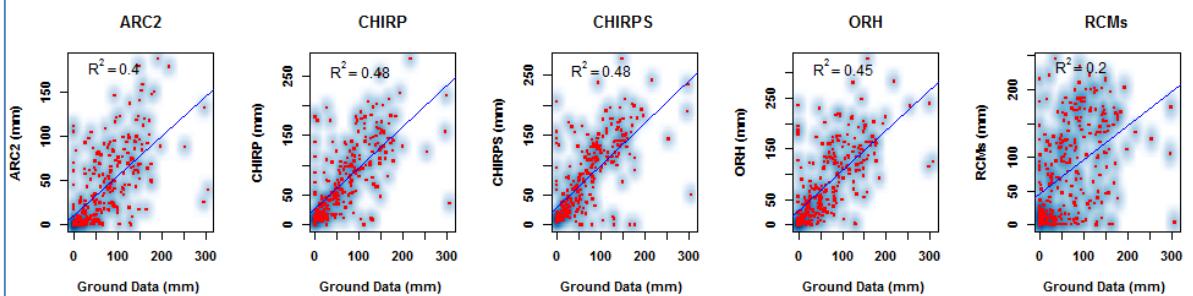
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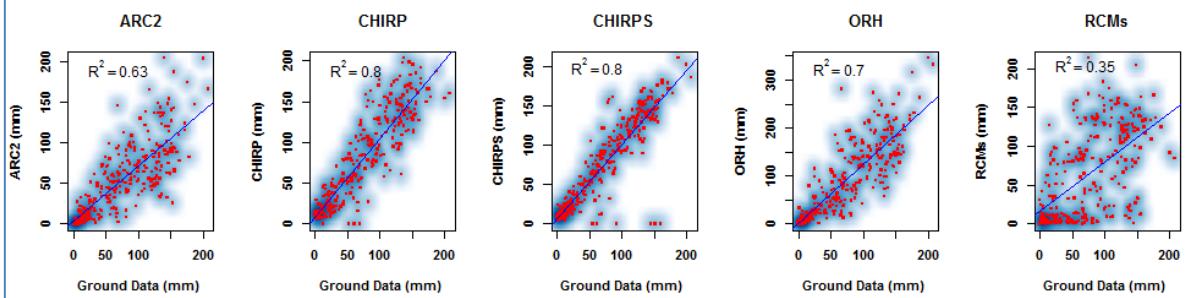
EthioShed15



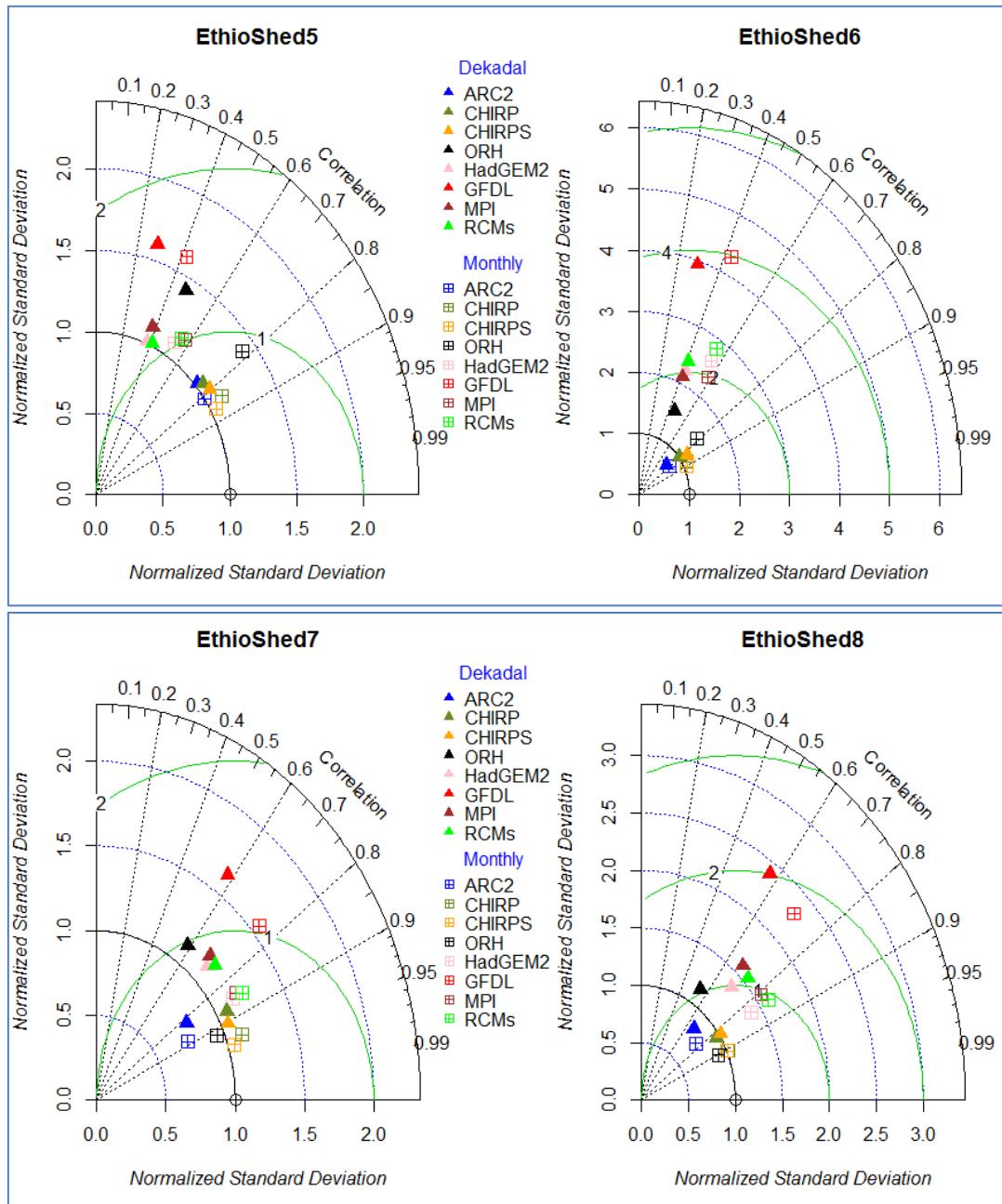
EthioShed16

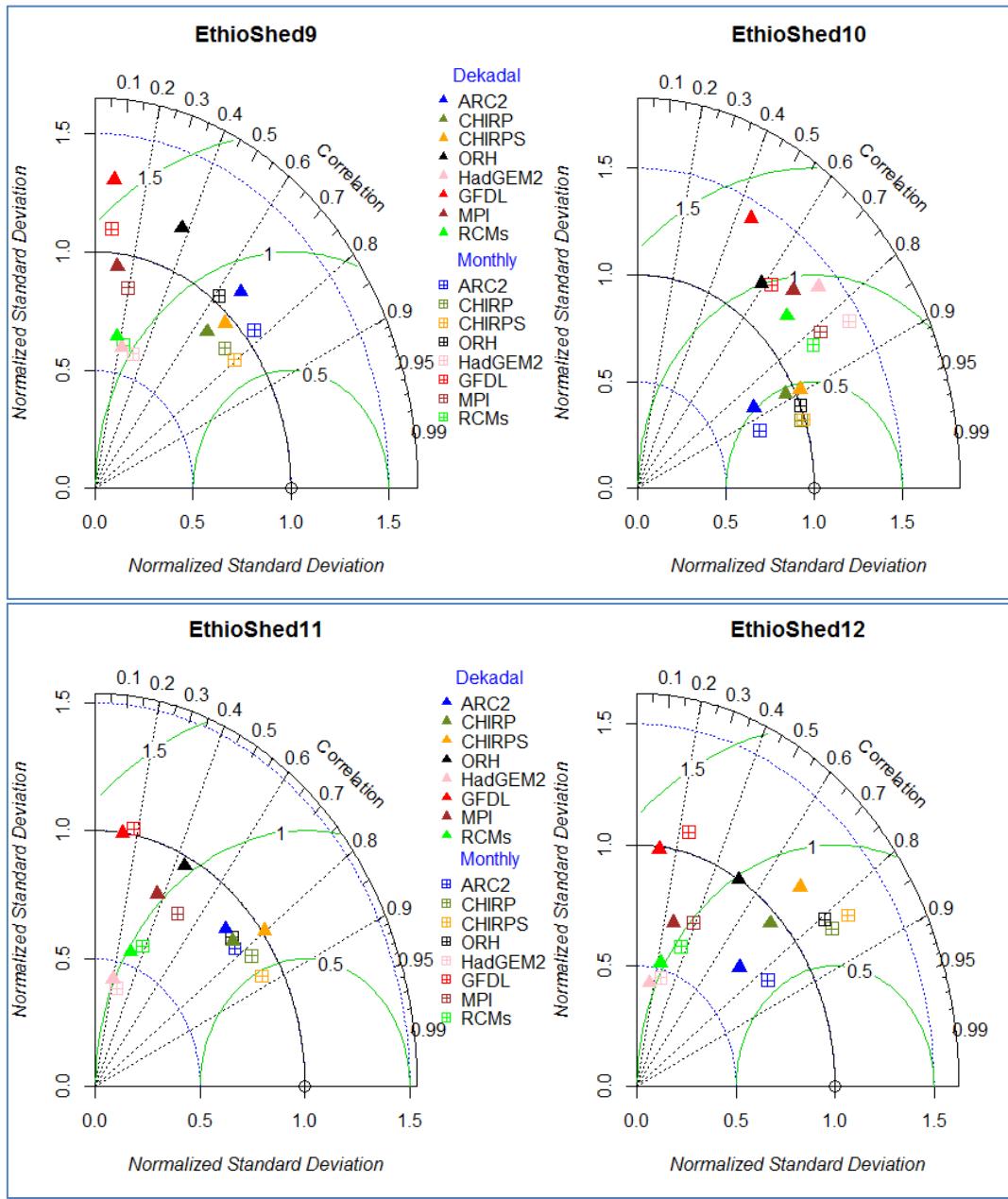


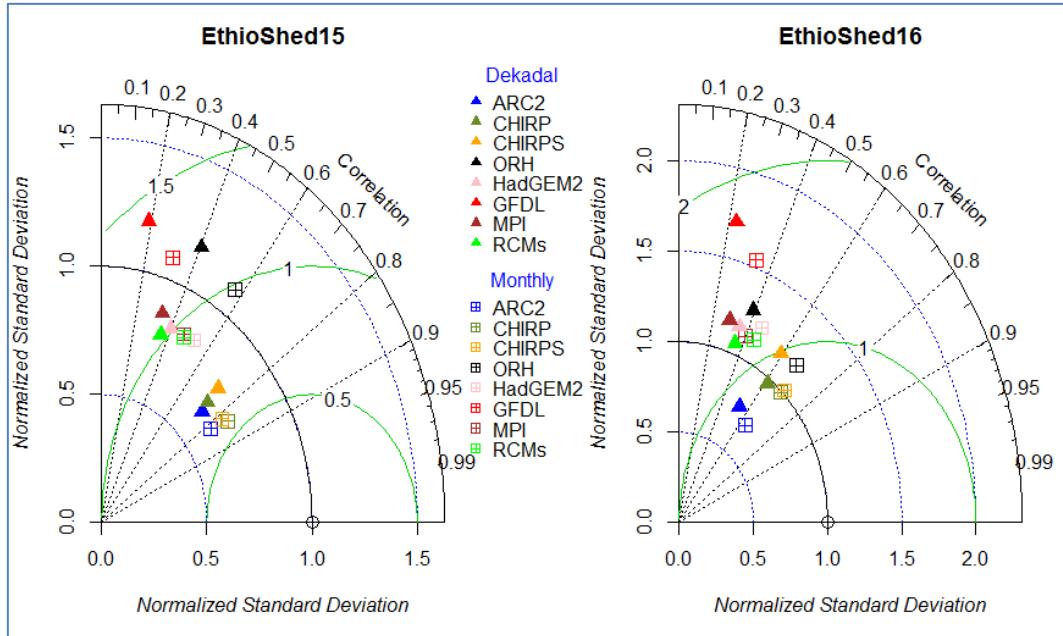
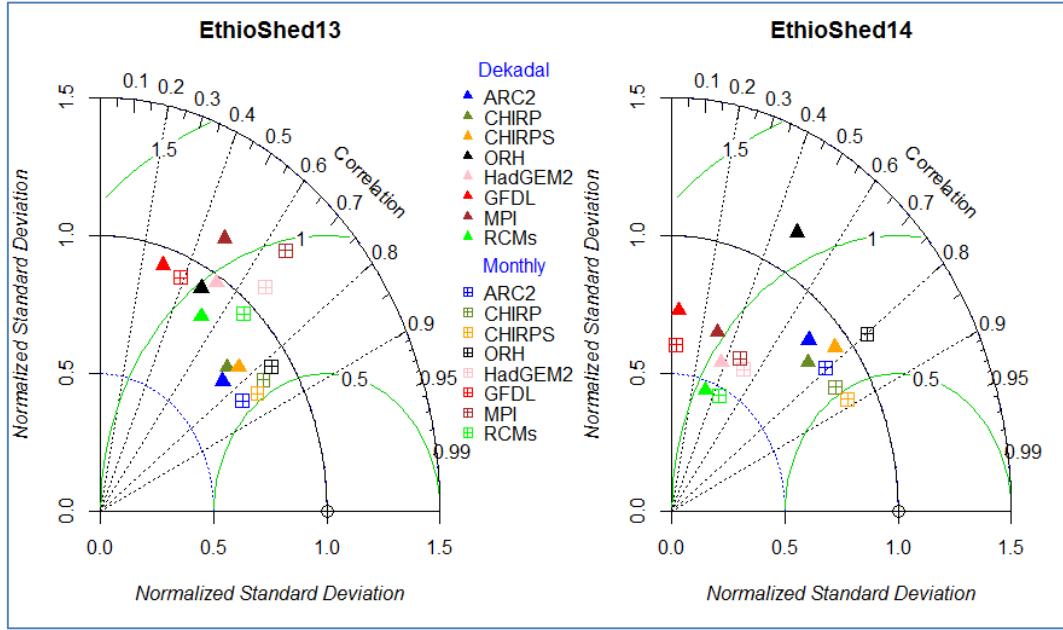
EthioShed17

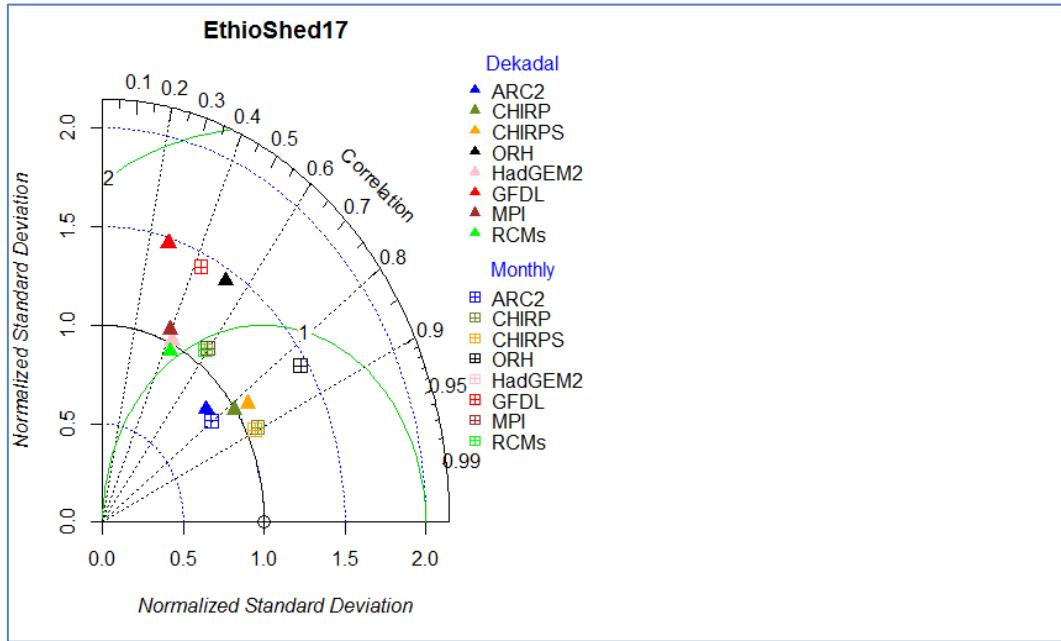


SF. 2: Taylor diagram displaying the agreement between ground observation and synthesized dekaladal and monthly rainfall for 13 validation areas of Ethiopia covering the period of 1983–2005.

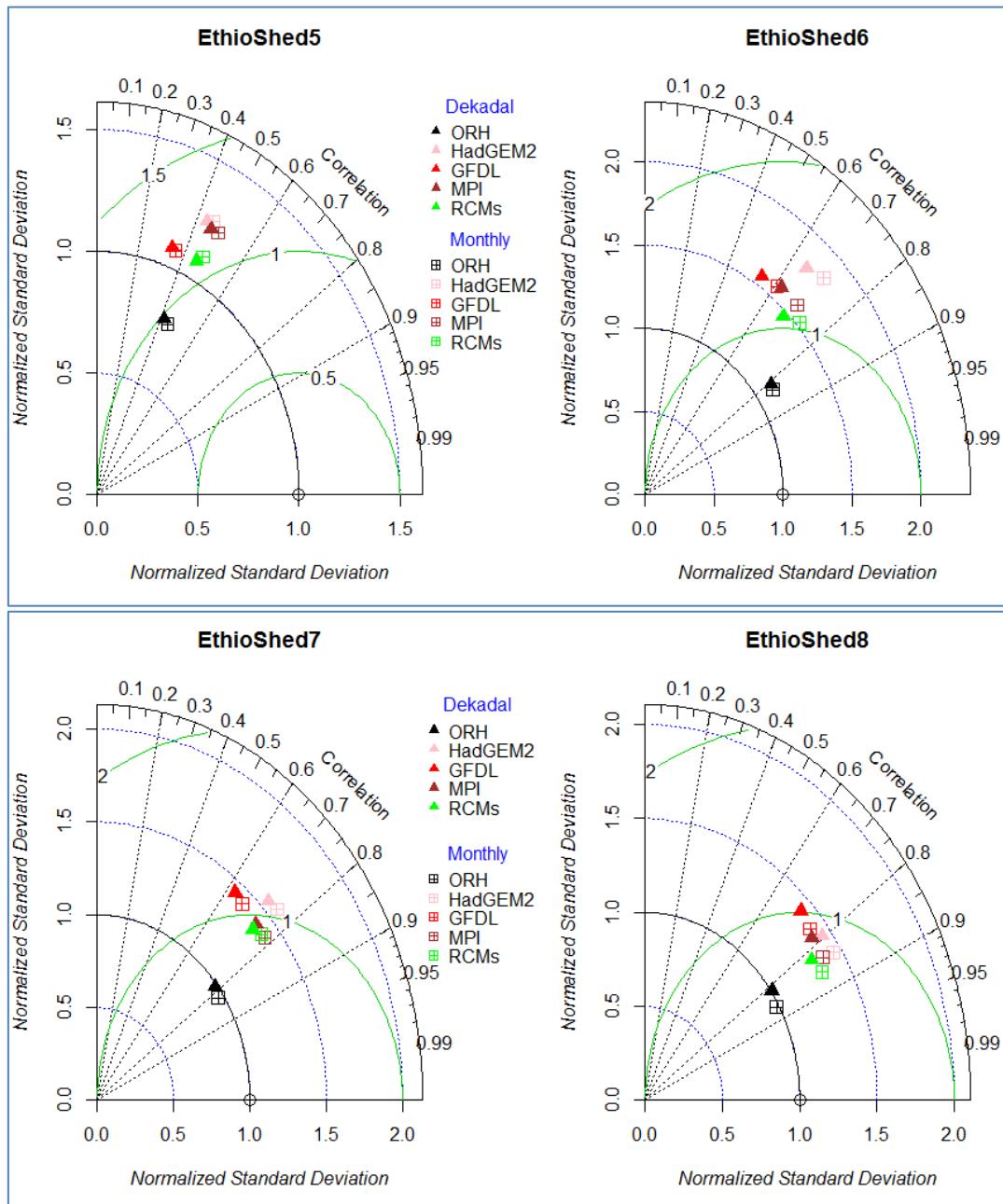


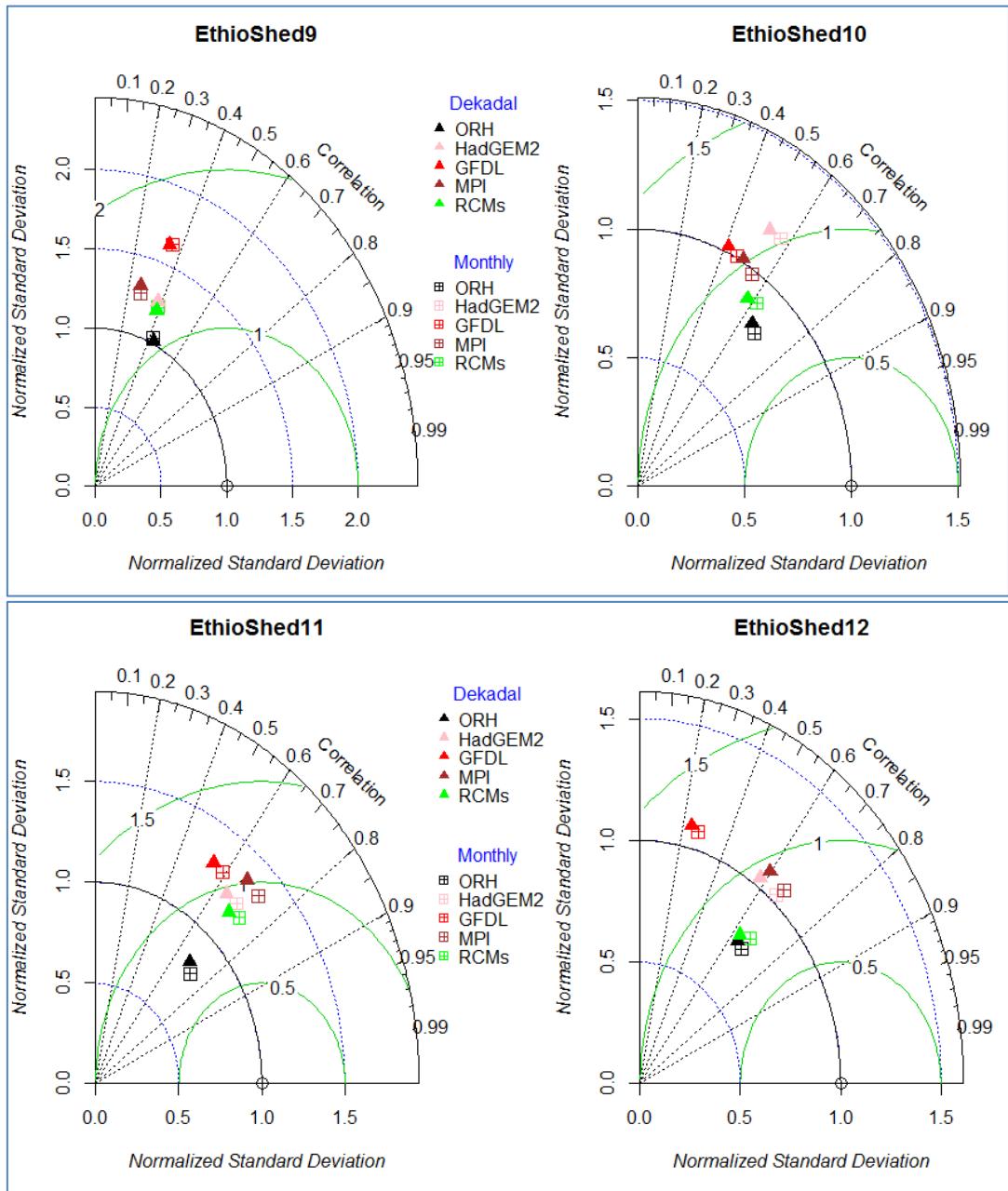


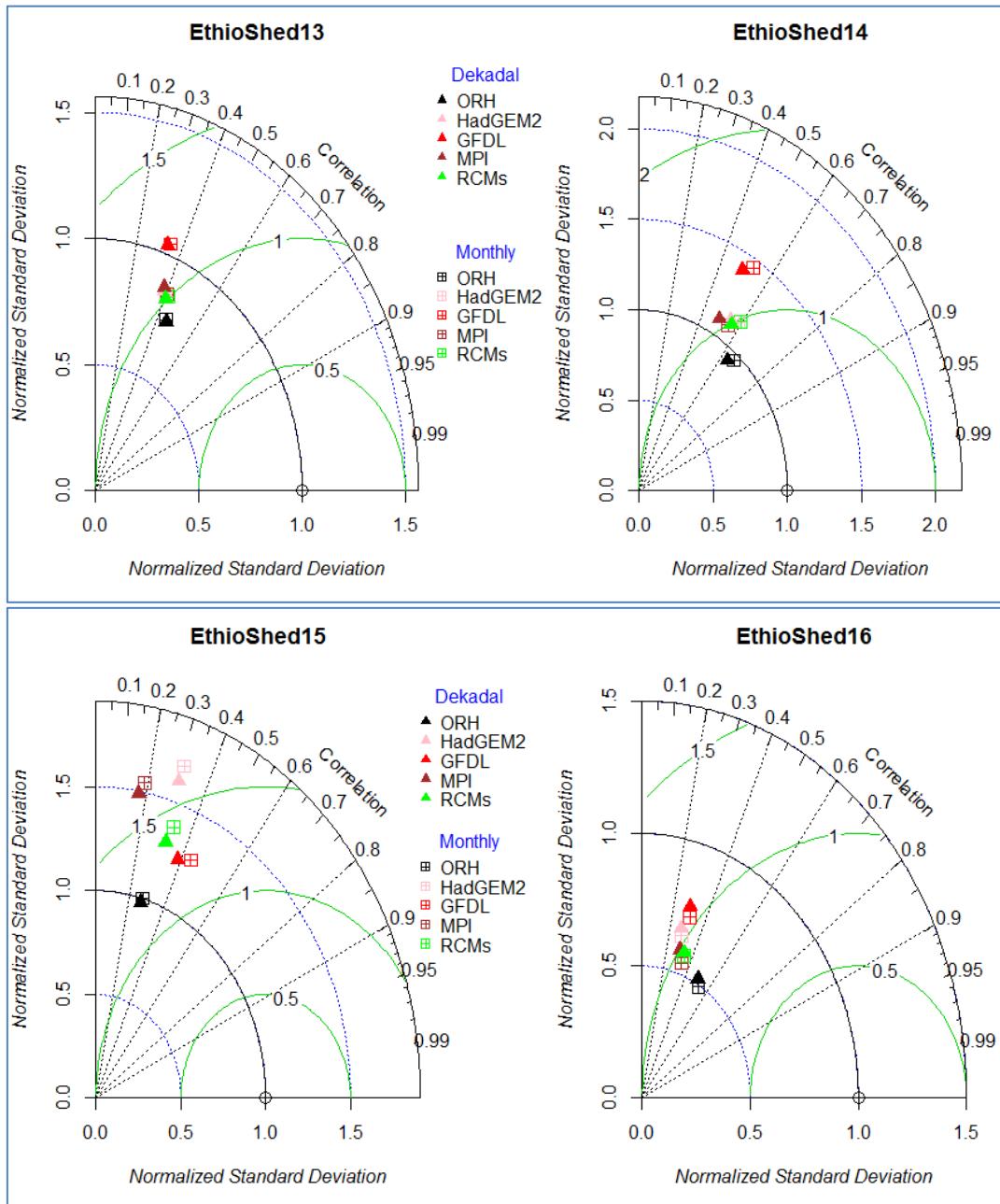


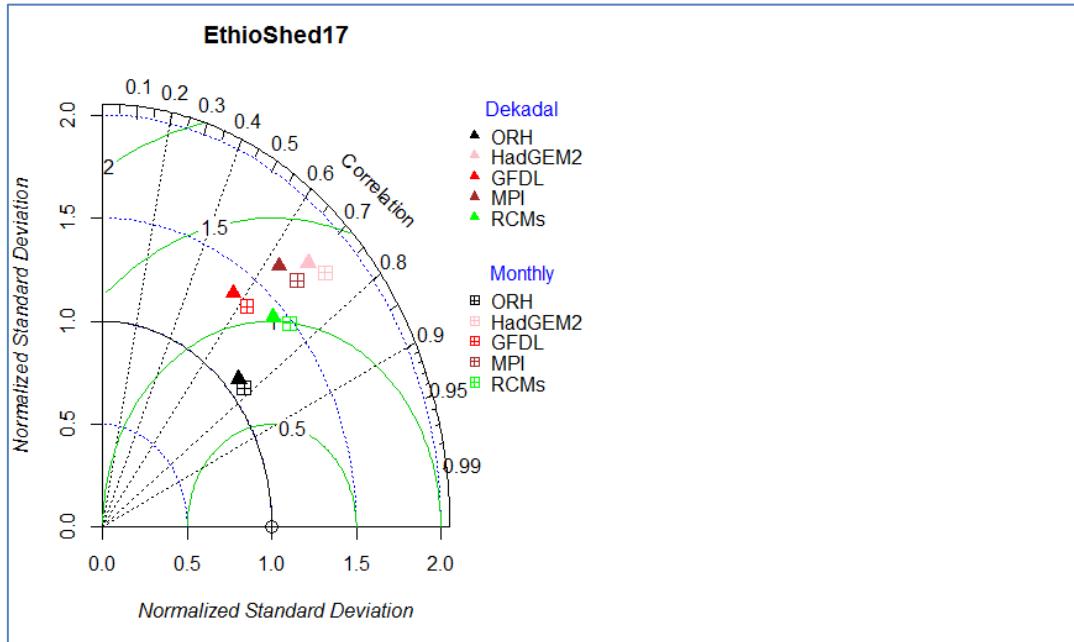


SF. 3: Taylor diagram displaying the agreement between ground observation and synthesized dekaladal and monthly T-max for 13 validation areas of Ethiopia covering the period of 1983– 2005.









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SF. 4: Taylor diagram displaying the agreement between ground observation and synthesized dekalal and monthly T-min for 13 validation areas of Ethiopia covering the period of 1983– 2005.

