

# Supplementary Material for ‘Bioclimatic traits in statistical properties of daily photosynthetically active radiation’

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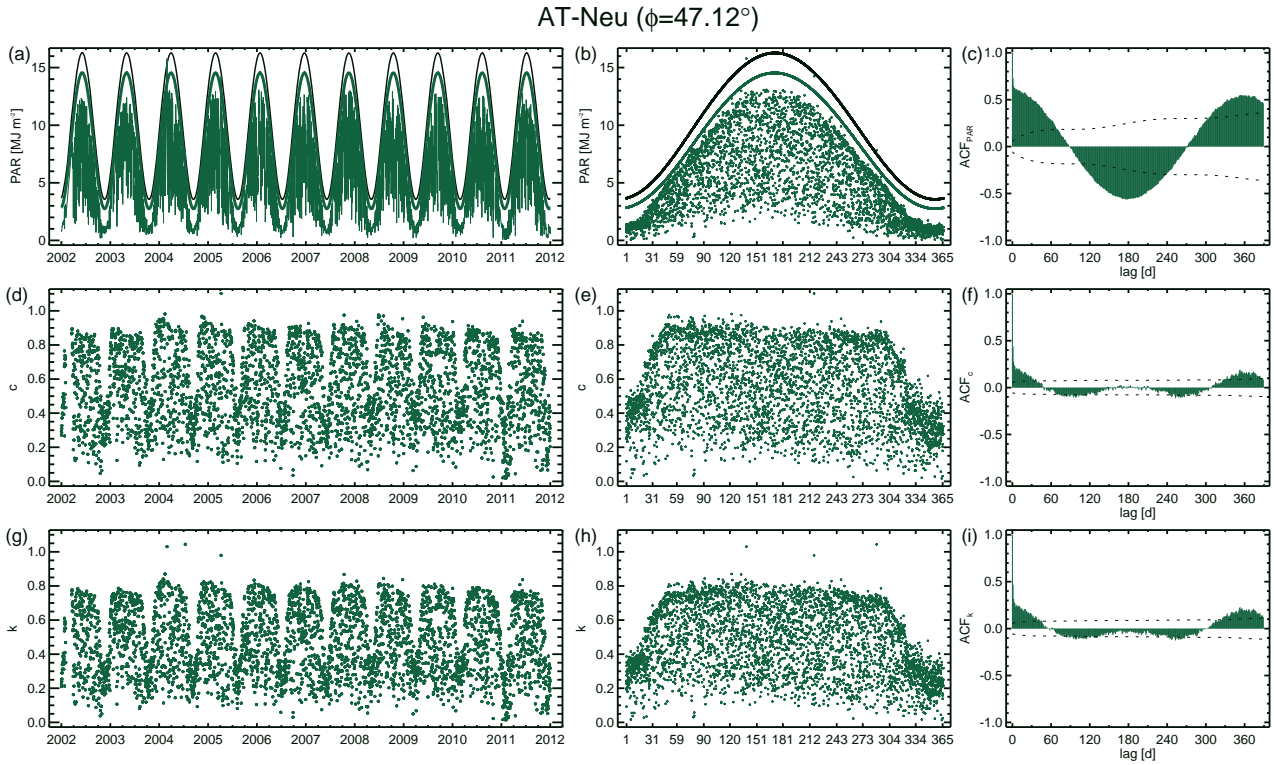
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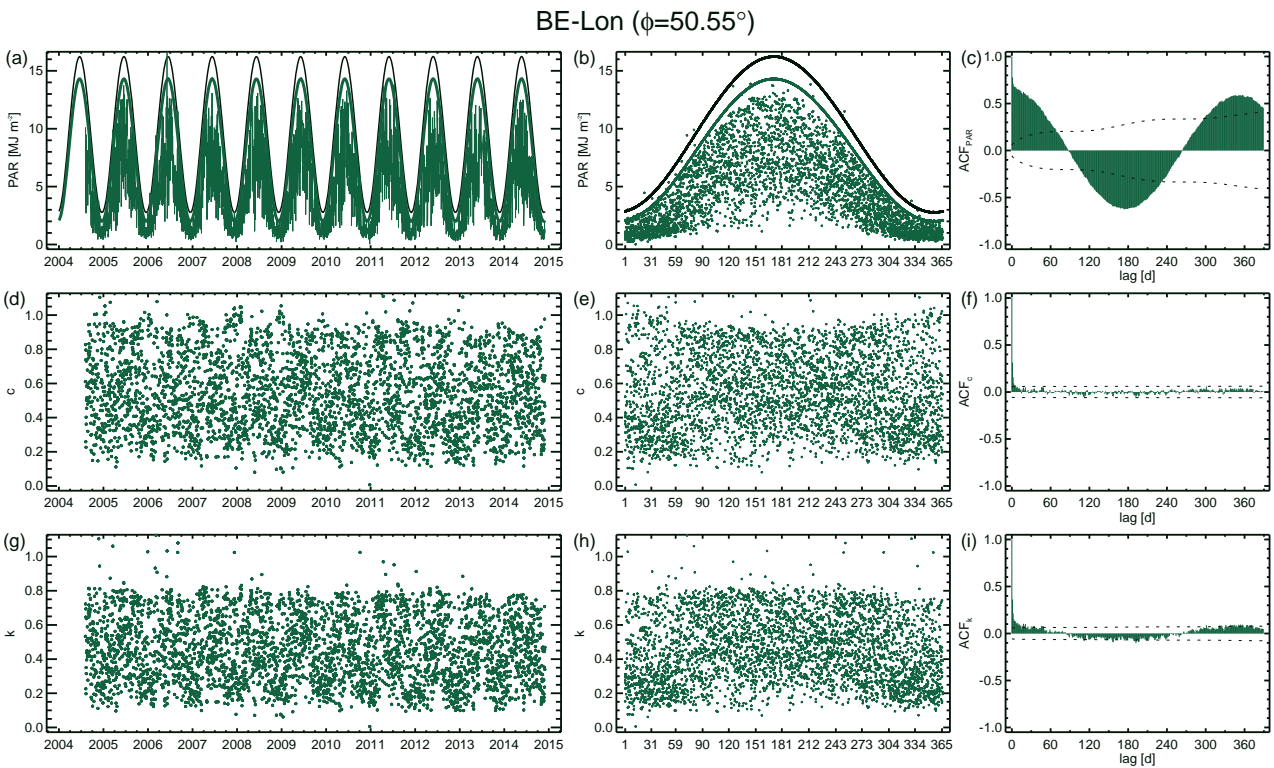
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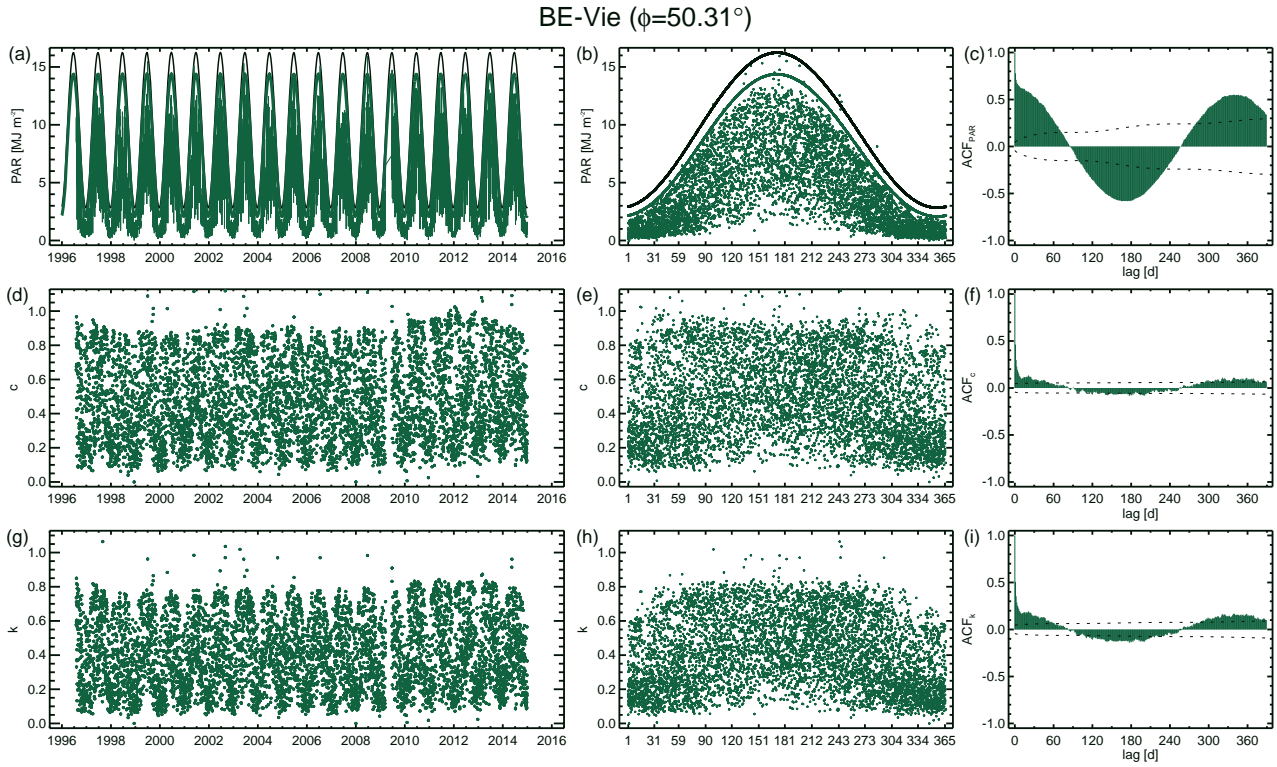
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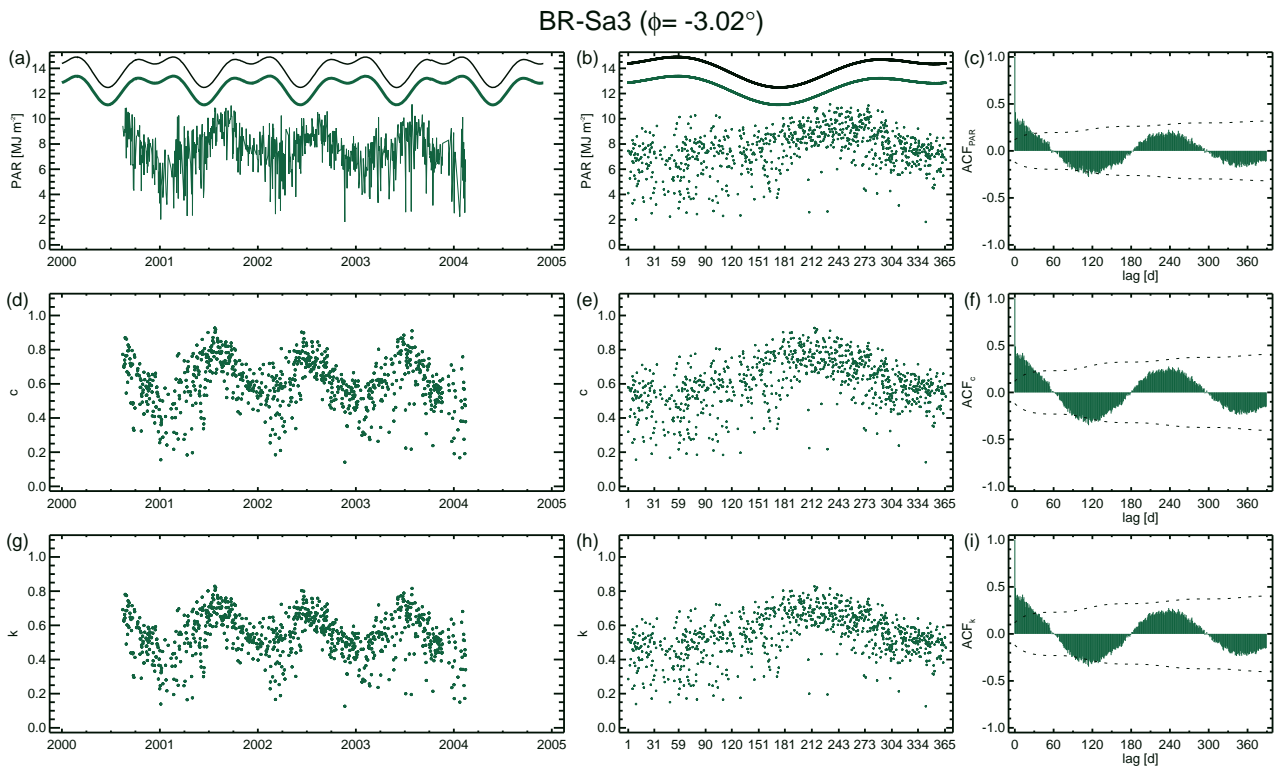
**Figure S1.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at AT-Neu.



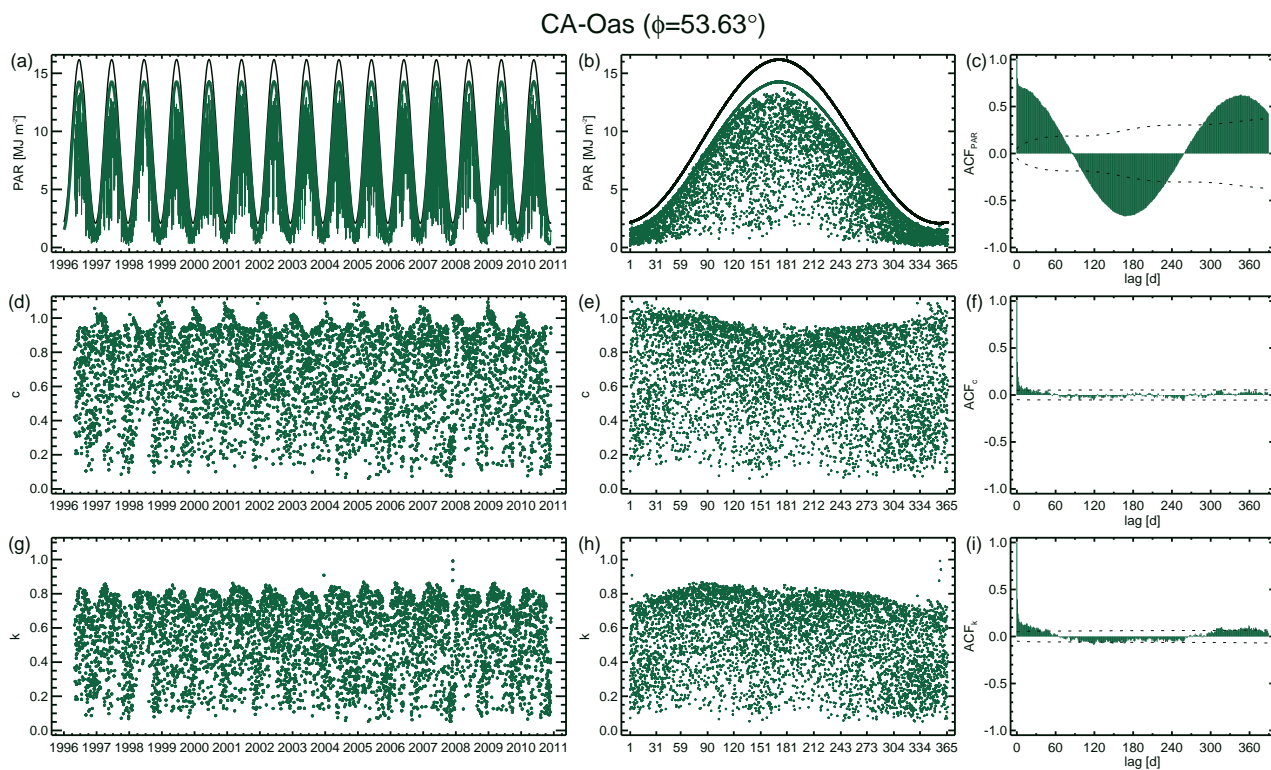
**Figure S2.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at BE-Lon.



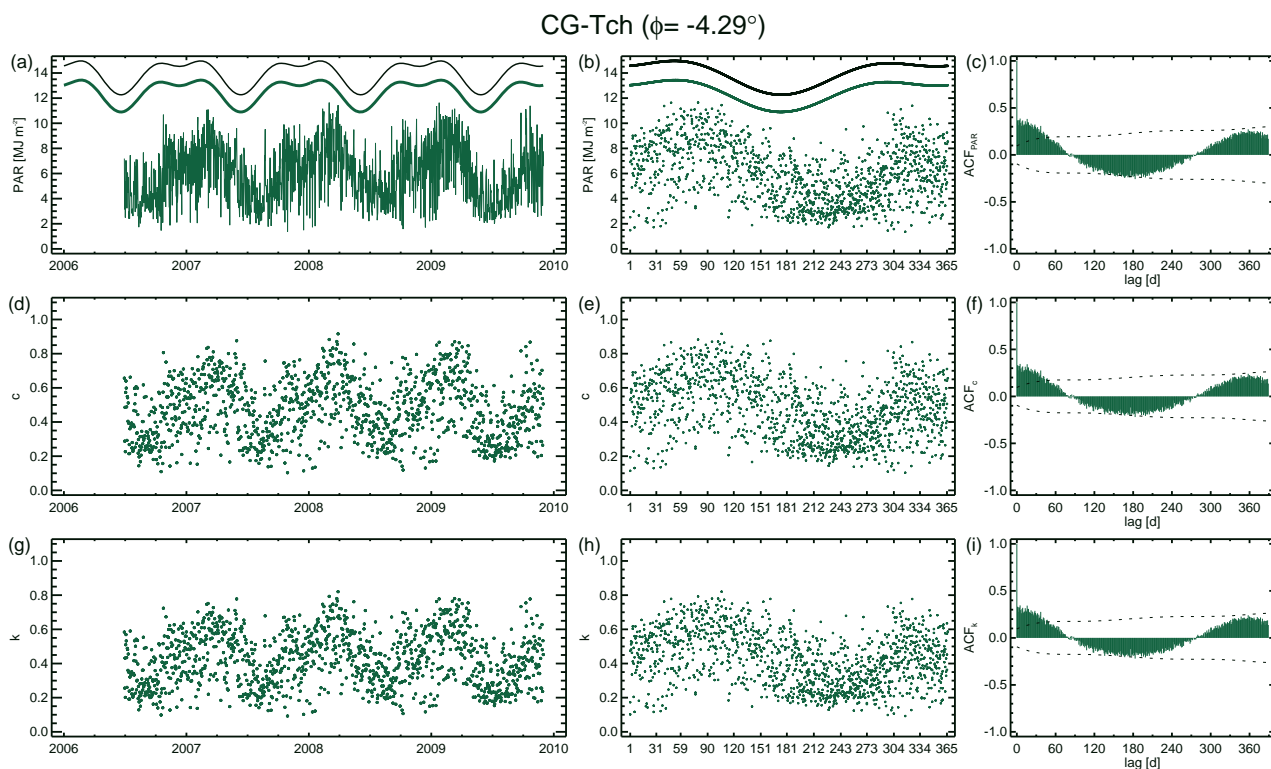
**Figure S3.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at BE-Vie.



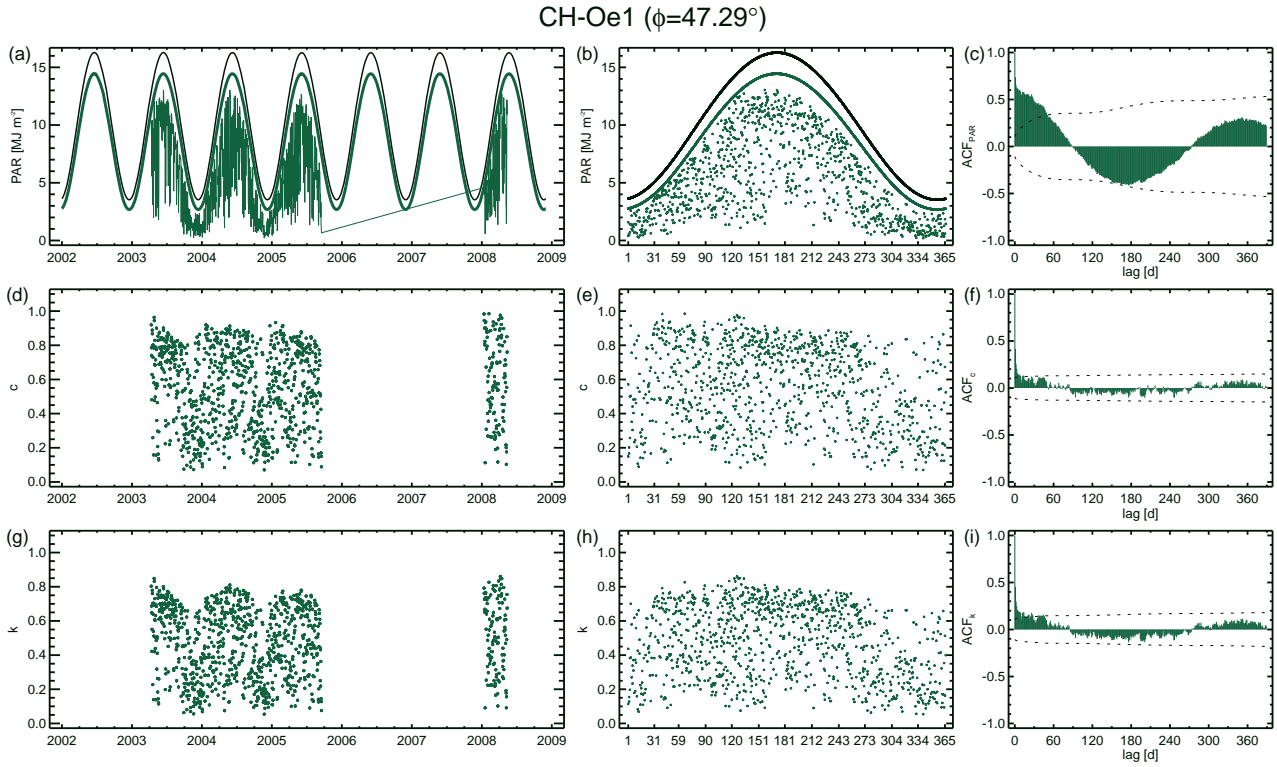
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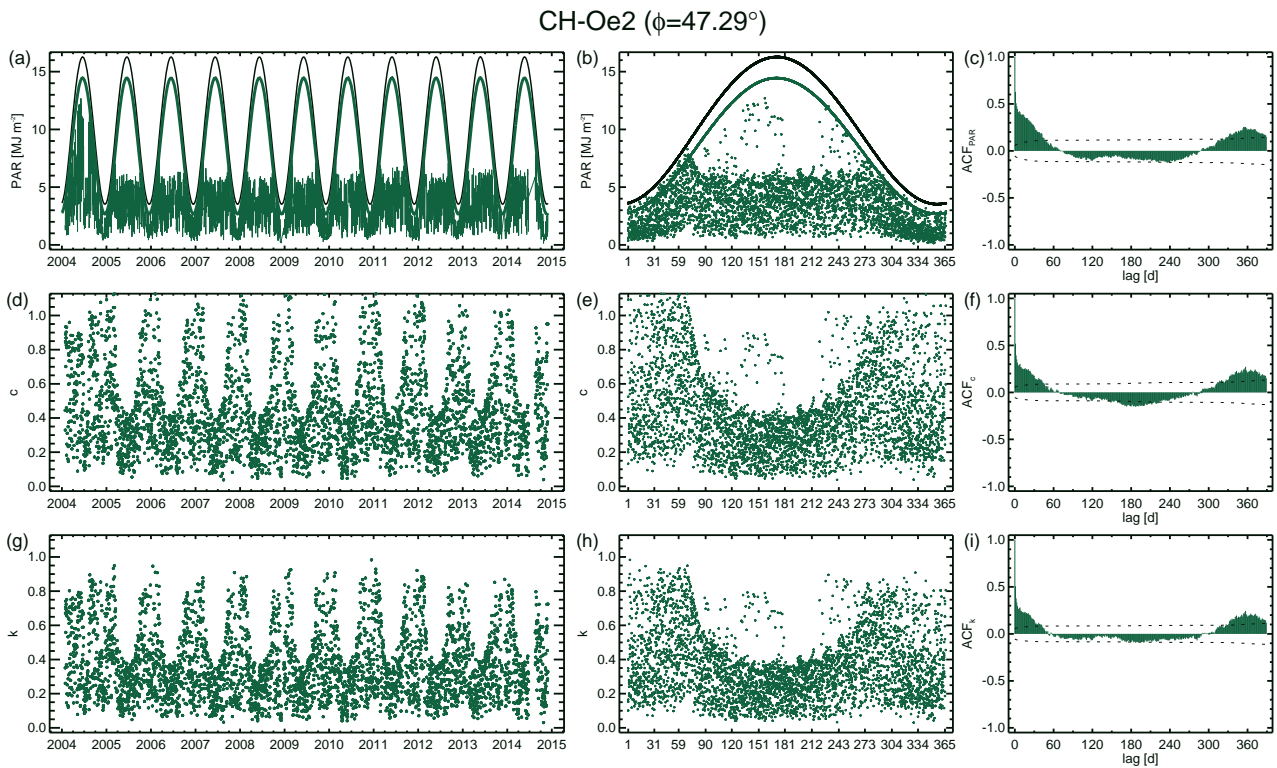
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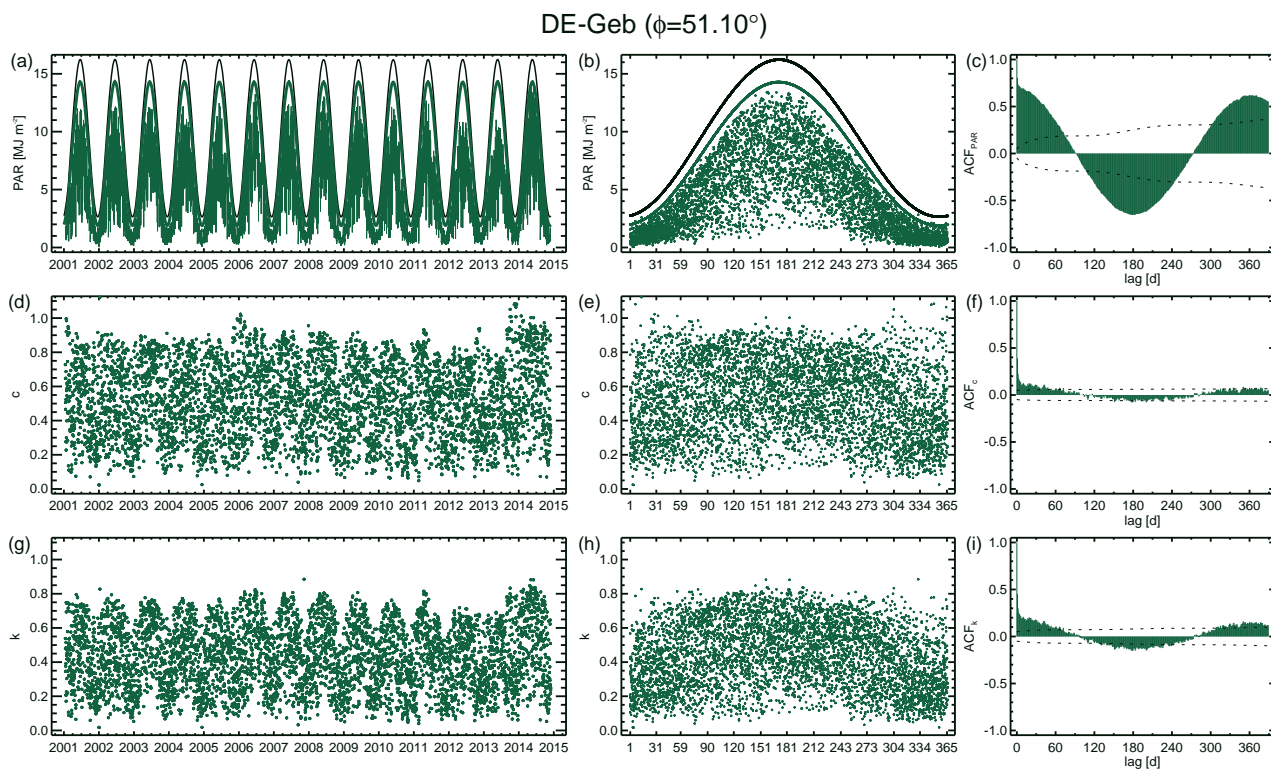
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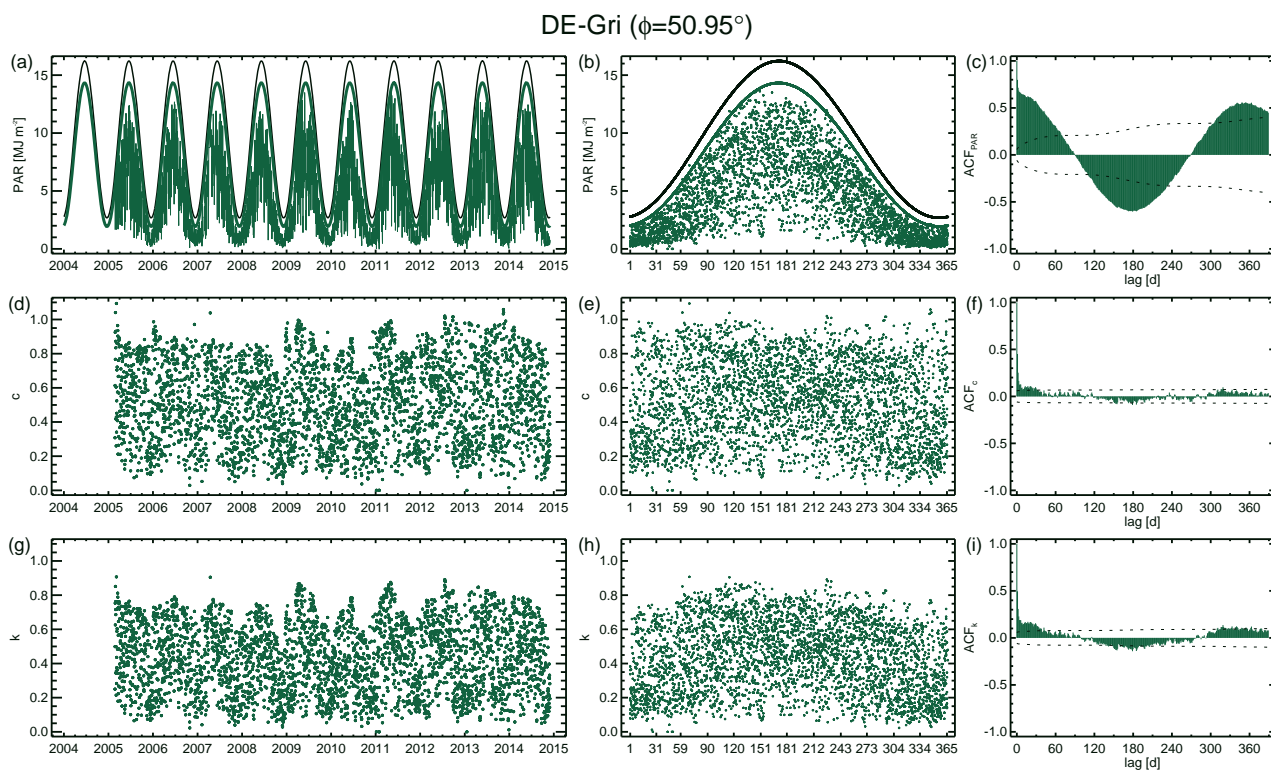
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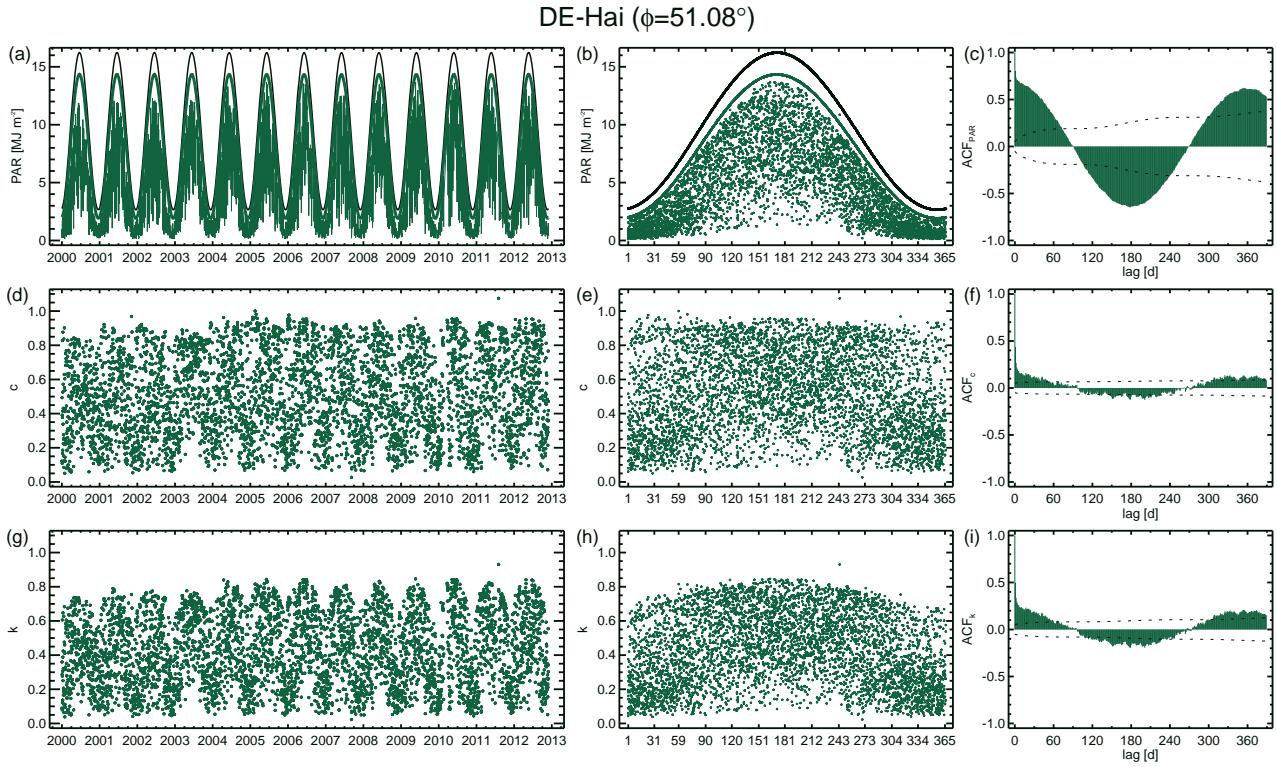
**Figure S8.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at CH-Oe2.



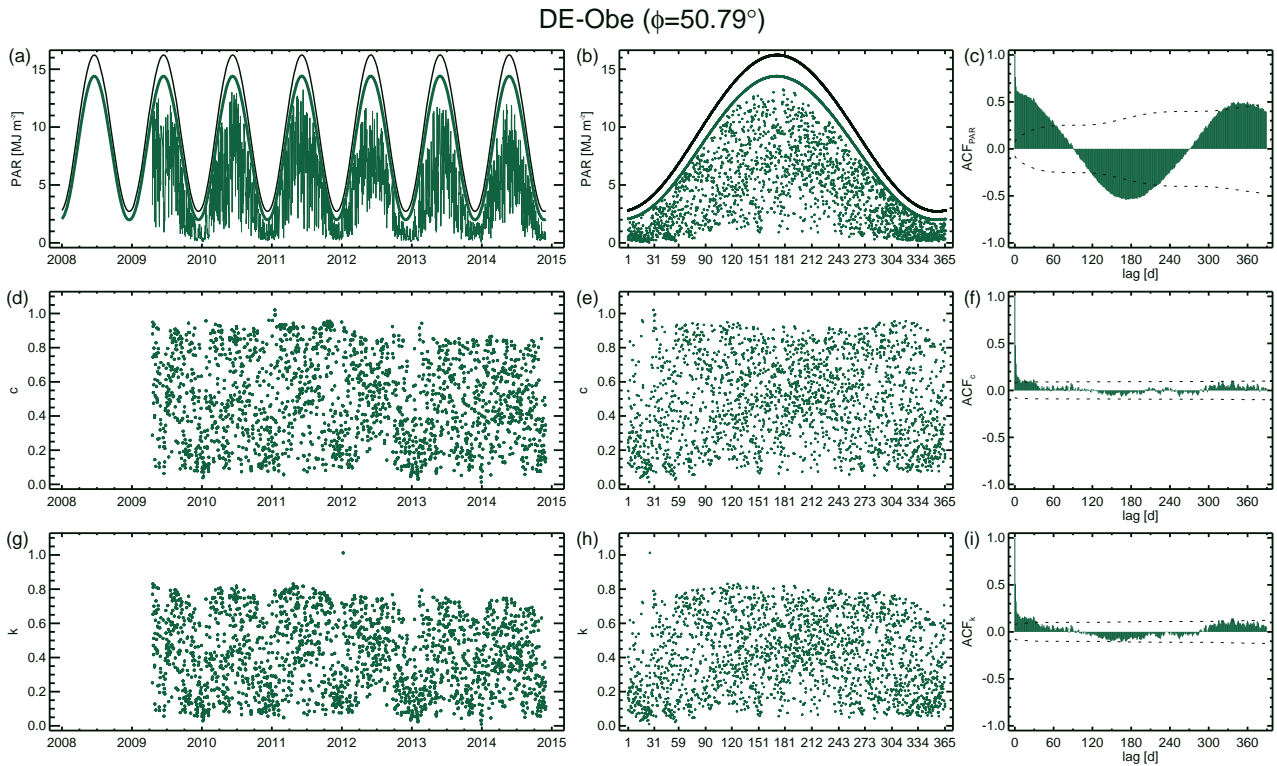
**Figure S9.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at DE-Geb.



**Figure S10.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at DE-Gri.

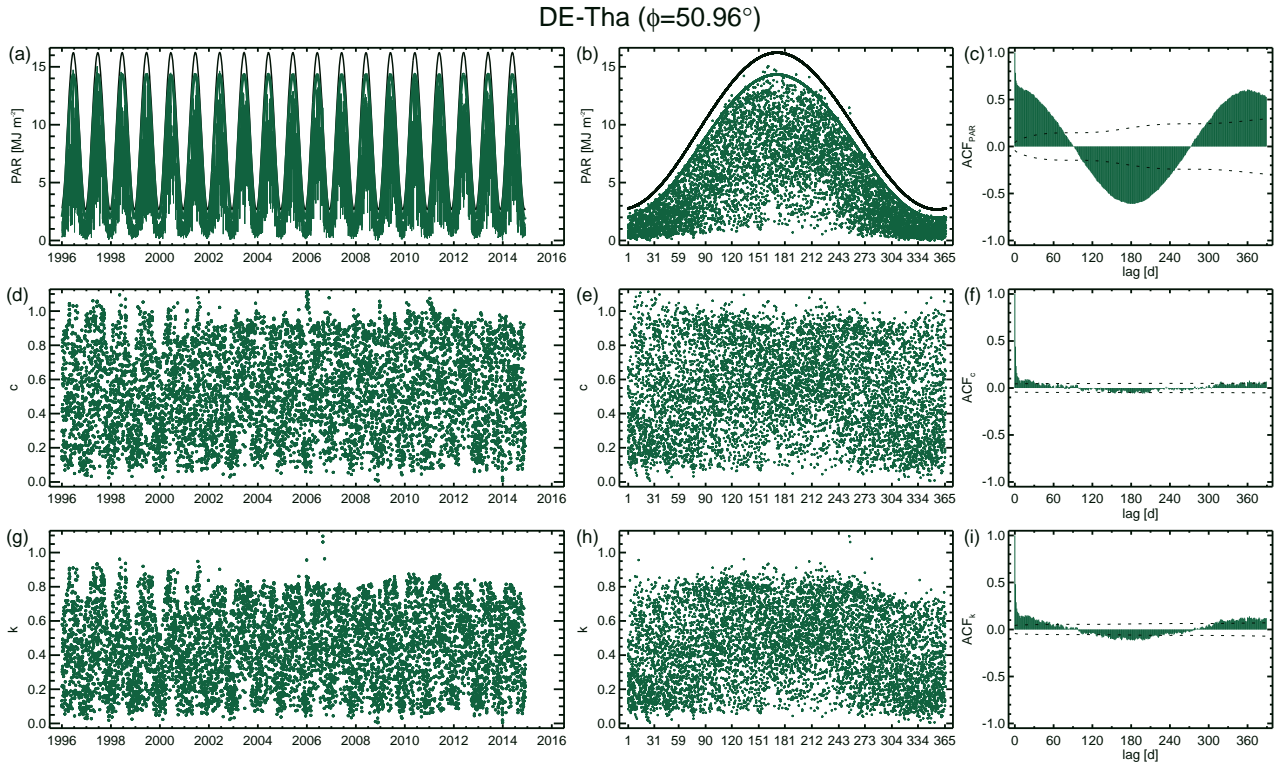


**Figure S11.** Time series, annual cycle, and autocorrelation function of (a-c)  $PAR$ , (d-f)  $c$ , and (g-i)  $k$  at DE-Hai.

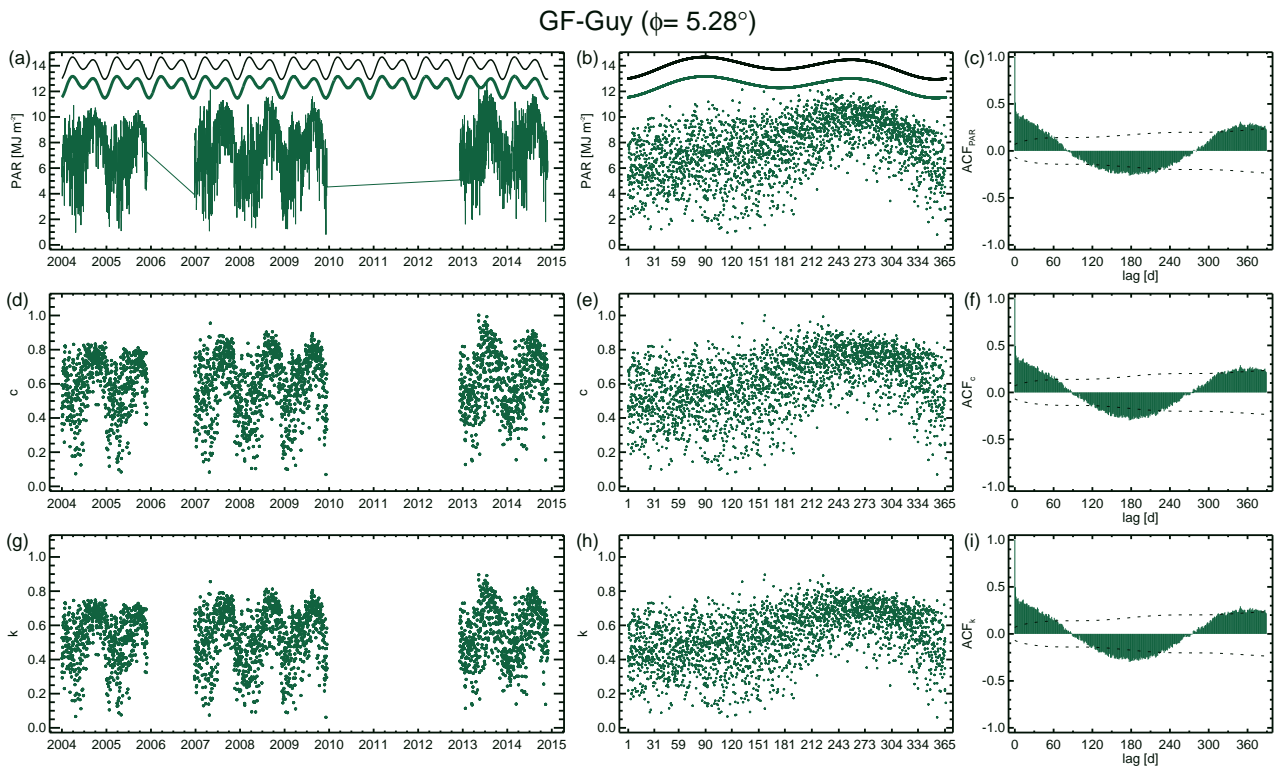


**Figure S12.** Time series, annual cycle, and autocorrelation function of (a-c)  $PAR$ , (d-f)  $c$ , and (g-i)  $k$  at DE-Obe.

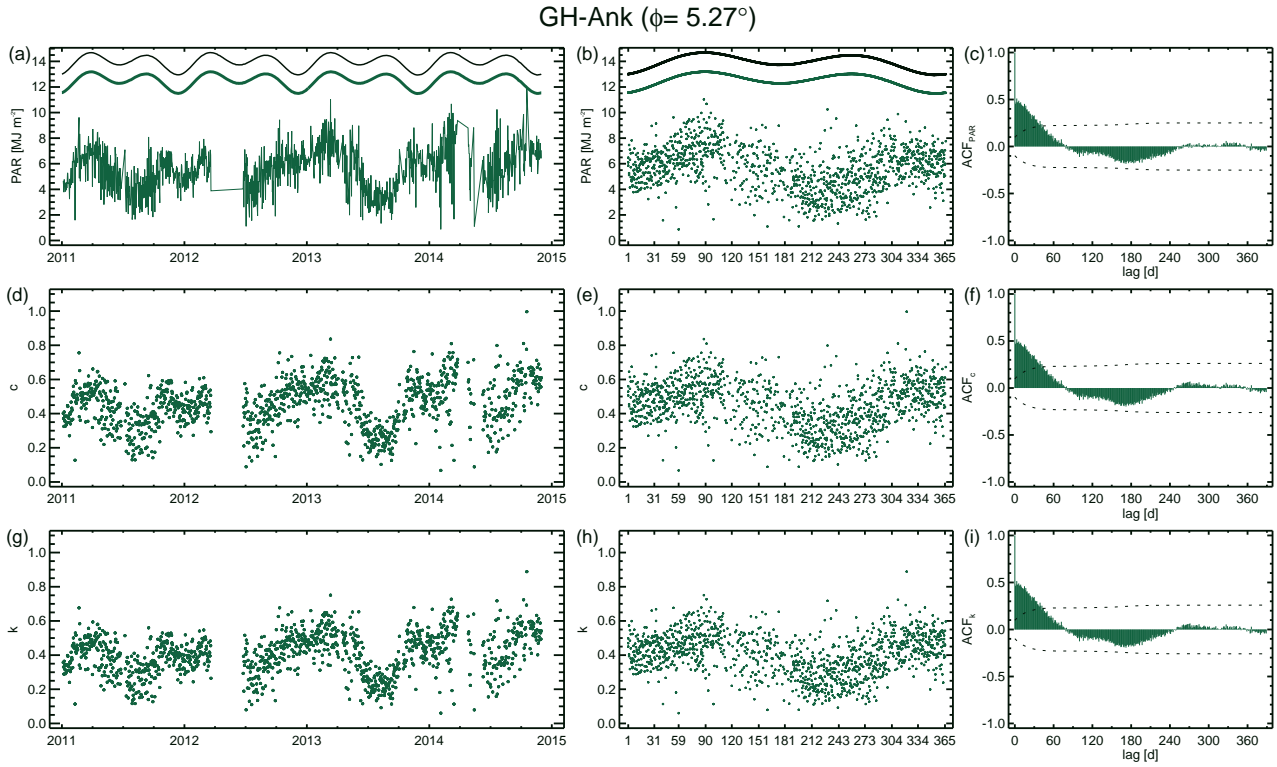




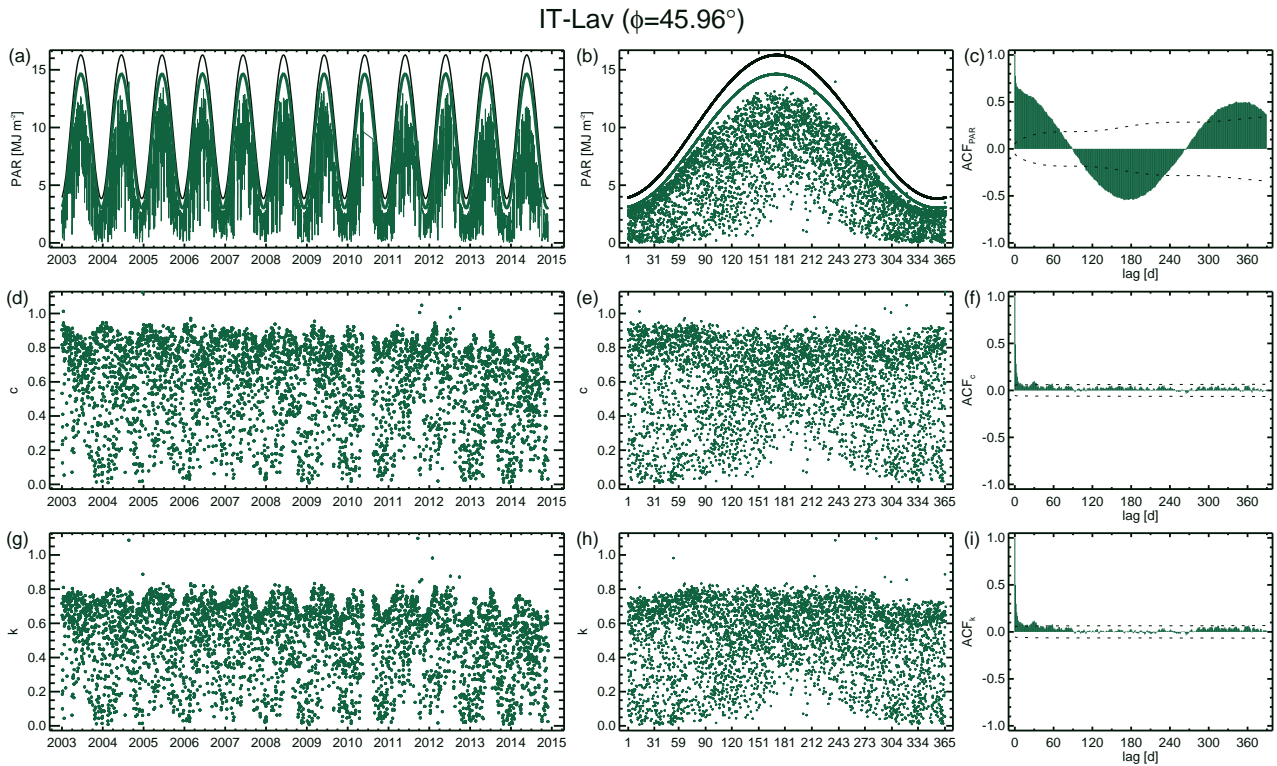
**Figure S13.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at DE-Tha.



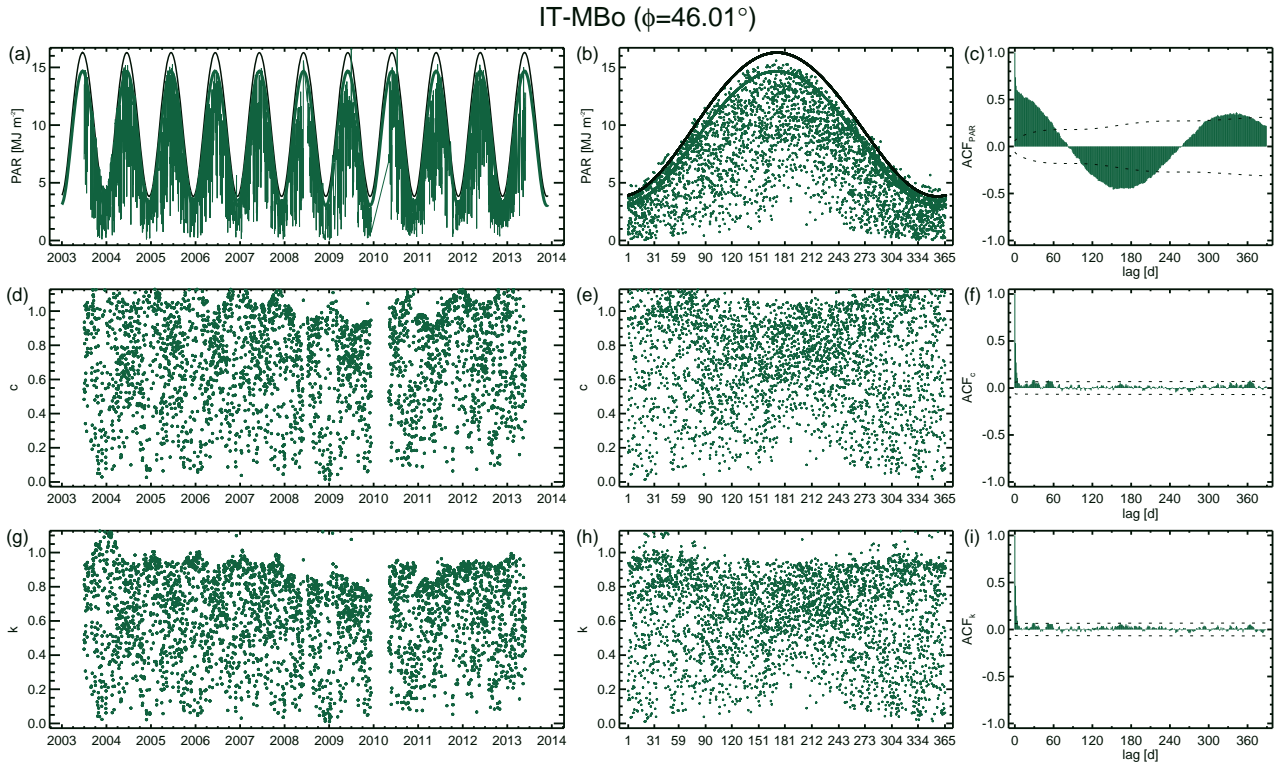
**Figure S14.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at GF-Guy.



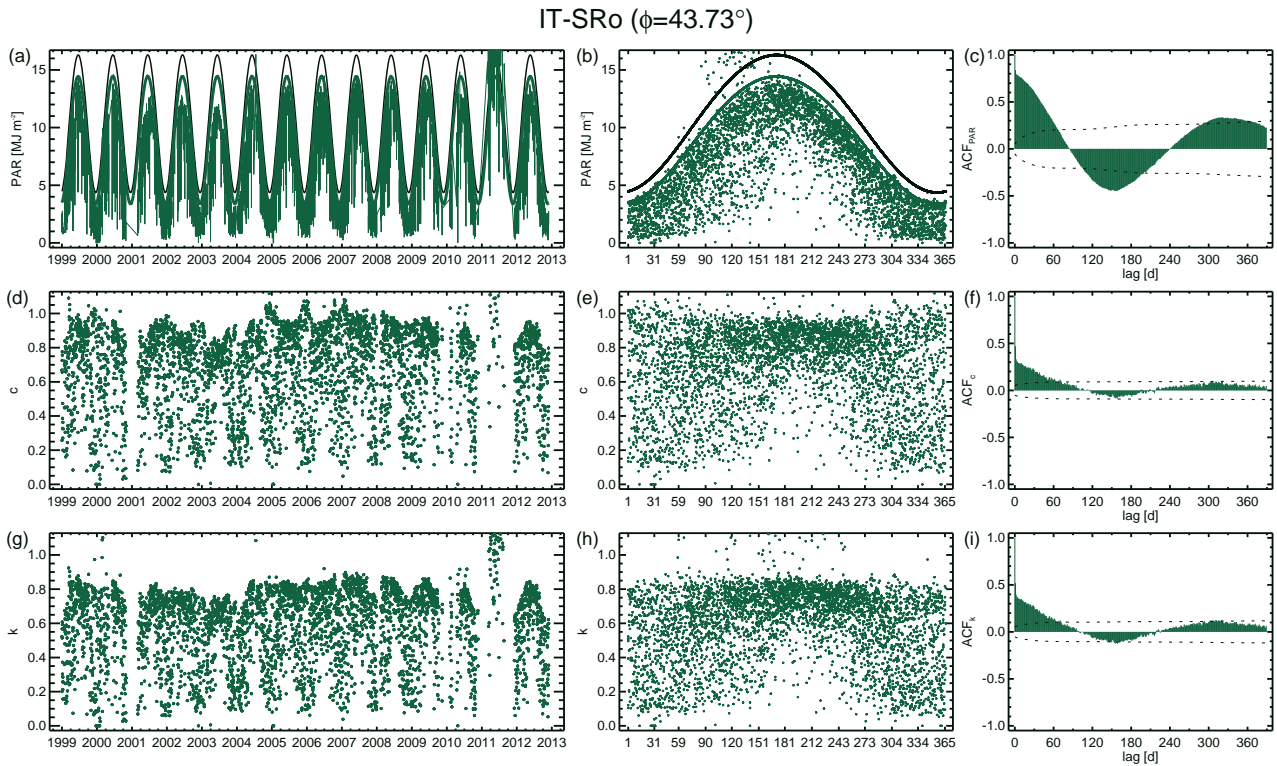
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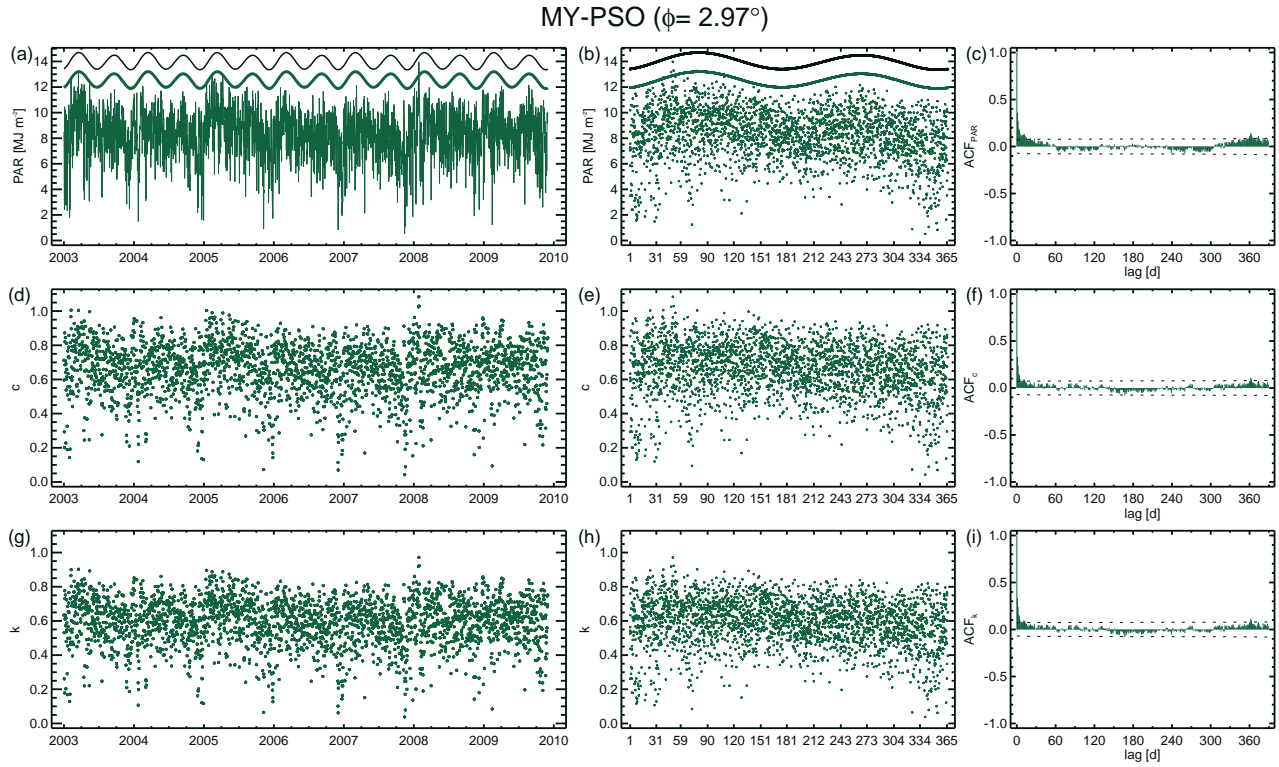
**Figure S16.** Time series, annual cycle, and autocorrelation function of (a-c)  $PAR$ , (d-f)  $c$ , and (g-i)  $k$  at IT-Lav.



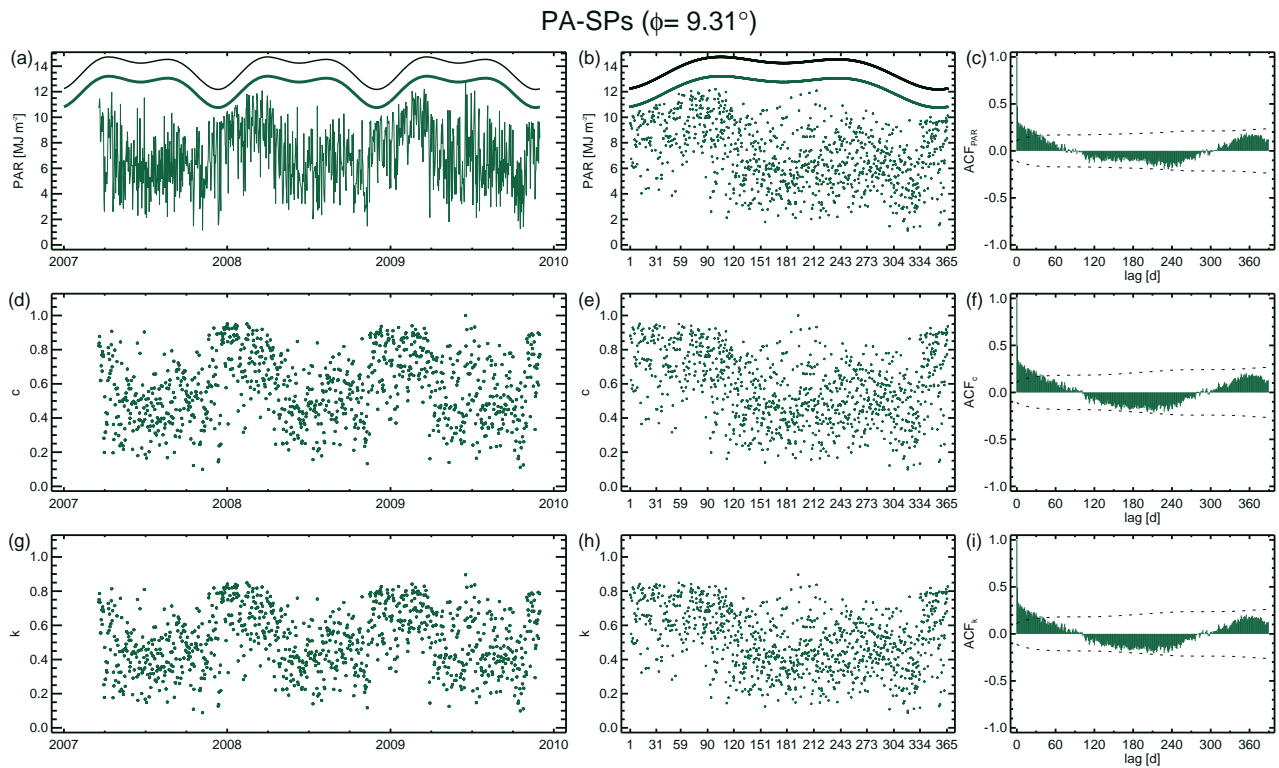
**Figure S17.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at IT-MBo.



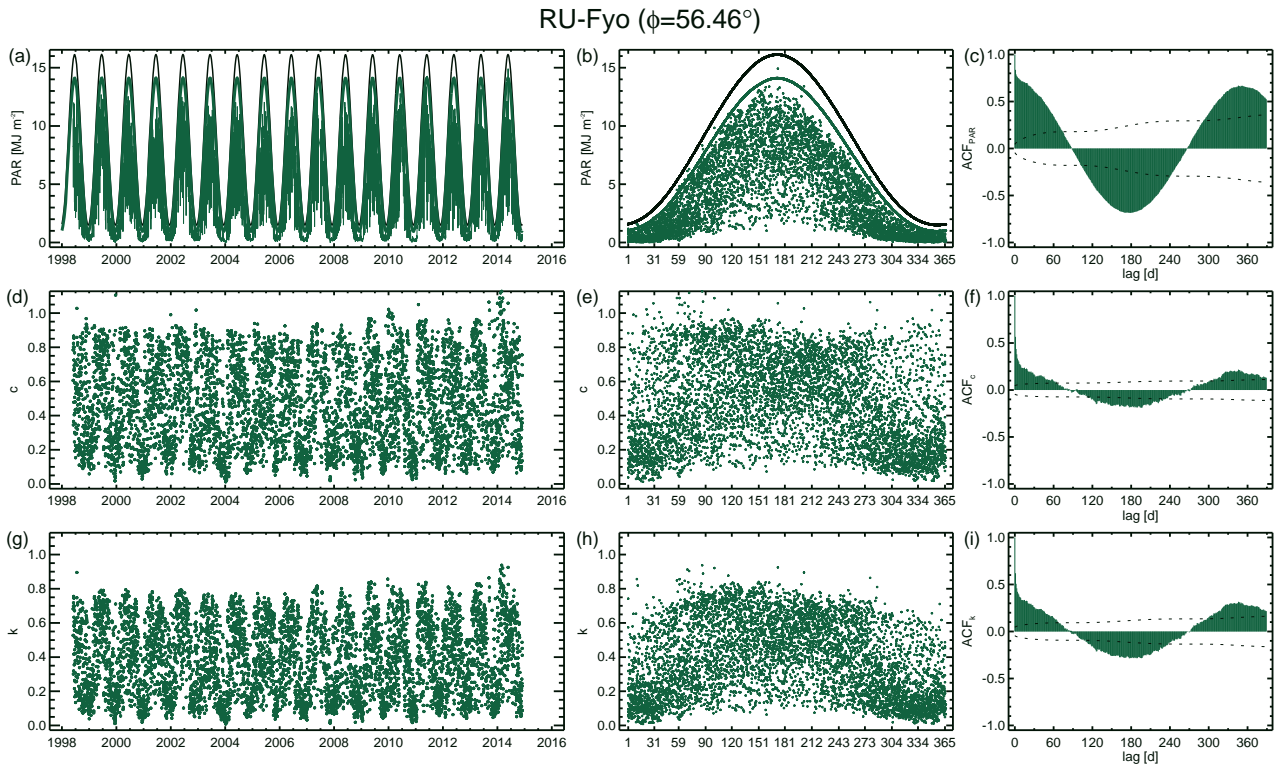
**Figure S18.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at IT-SRo.



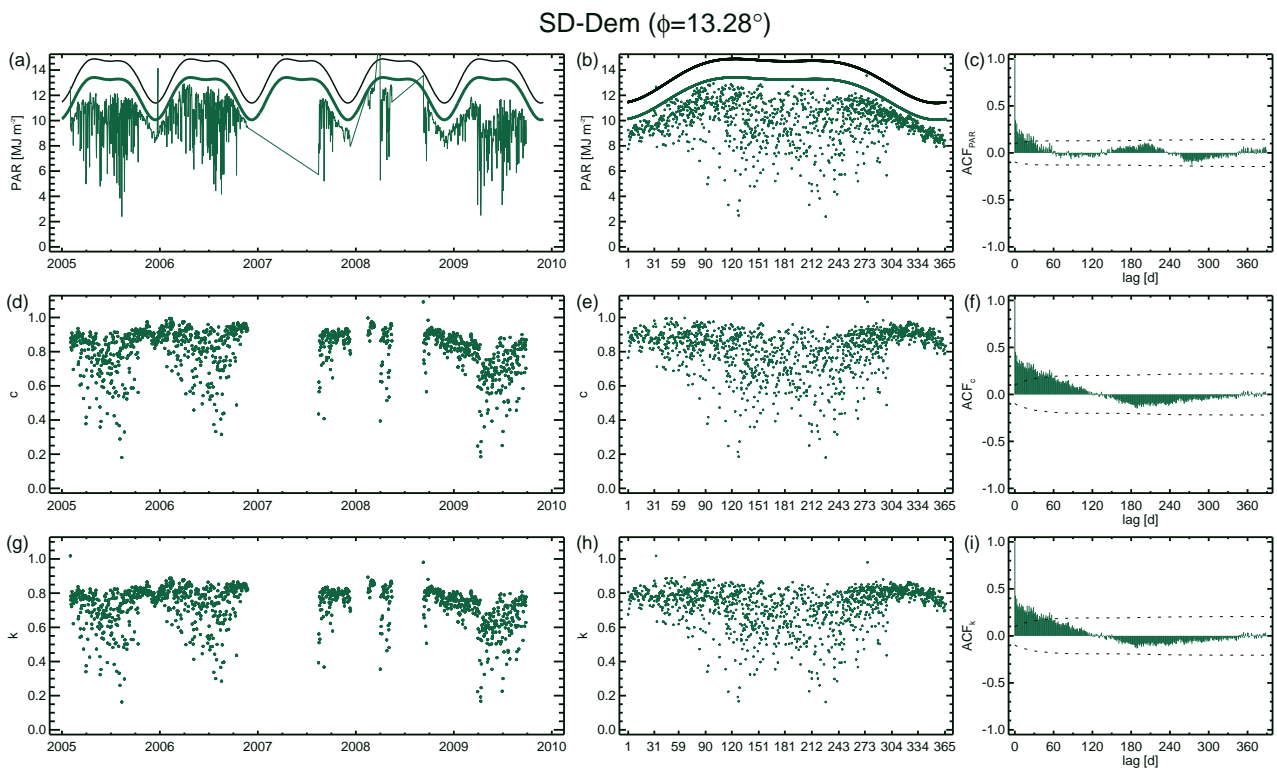
**Figure S19.** Time series, annual cycle, and autocorrelation function of (a-c)  $PAR$ , (d-f)  $c$ , and (g-i)  $k$  at MY-PSO.



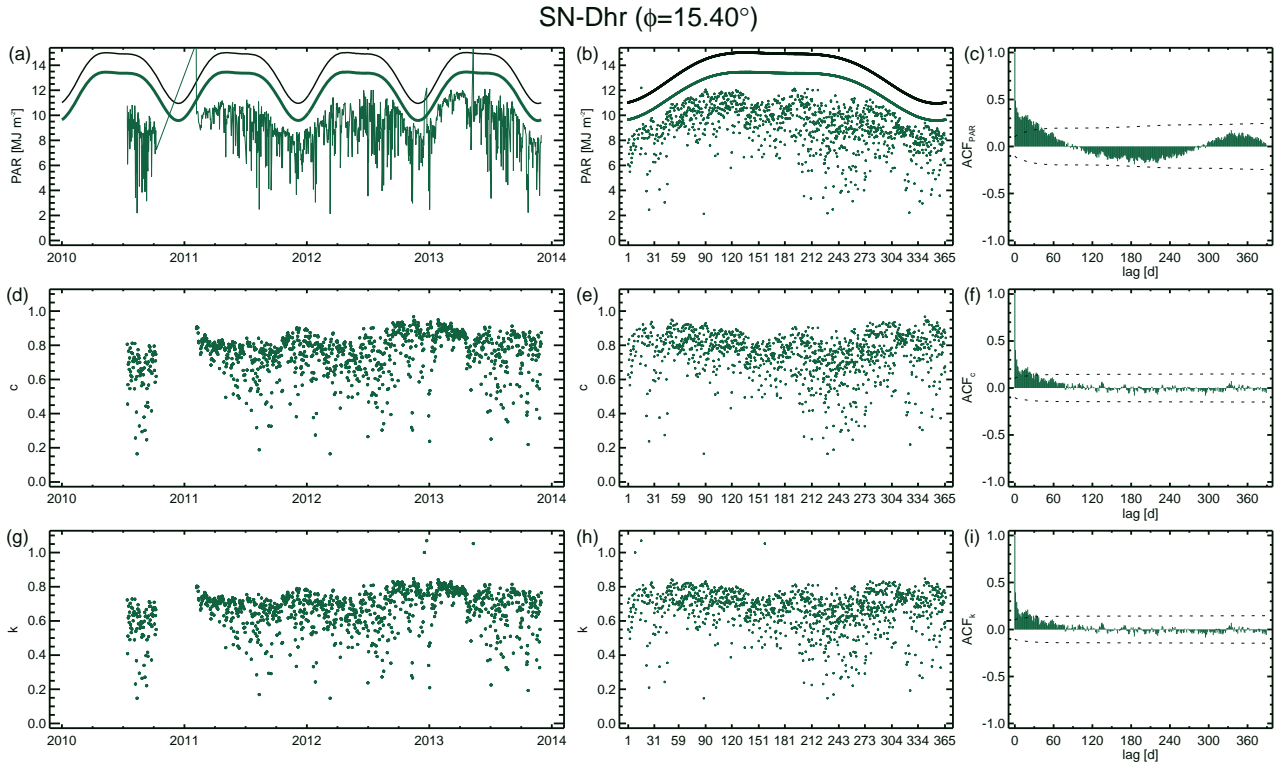
**Figure S20.** Time series, annual cycle, and autocorrelation function of (a-c)  $PAR$ , (d-f)  $c$ , and (g-i)  $k$  at PA-SPs.



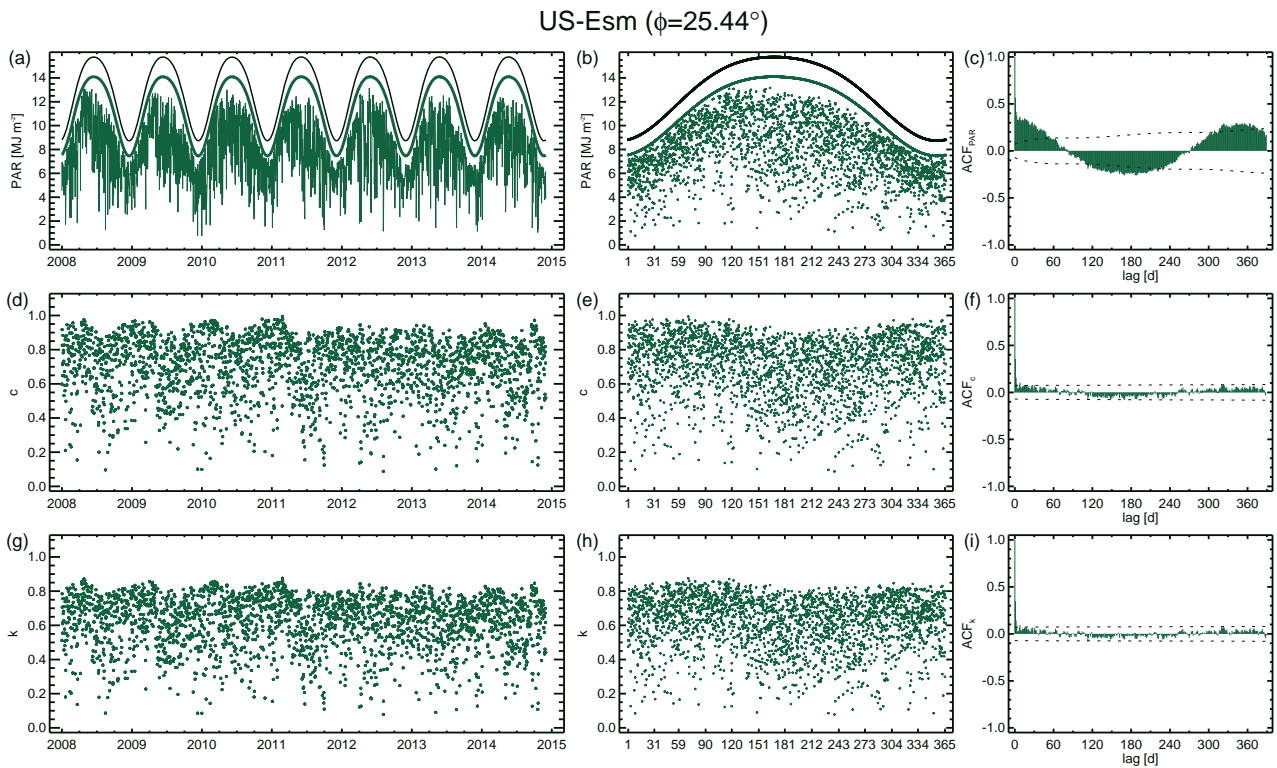
**Figure S21.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at RU-Fyo.



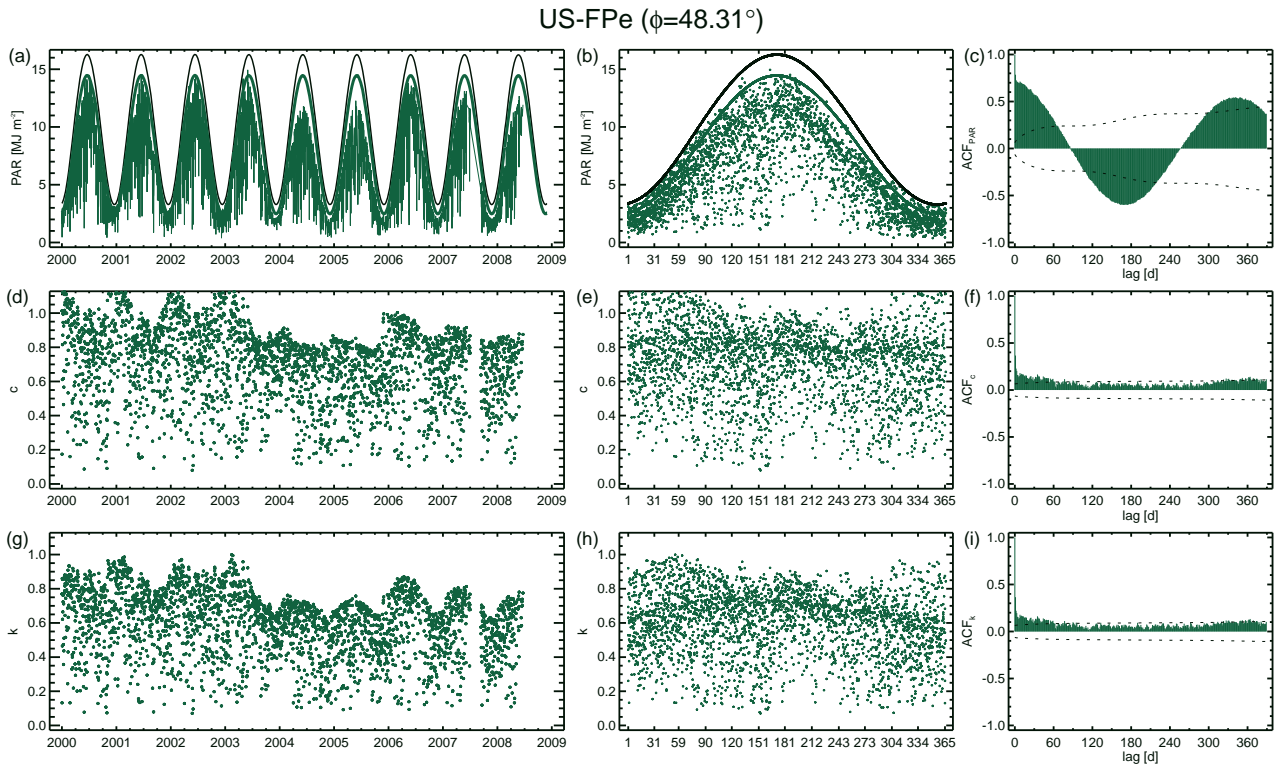
**Figure S22.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at SD-Dem.



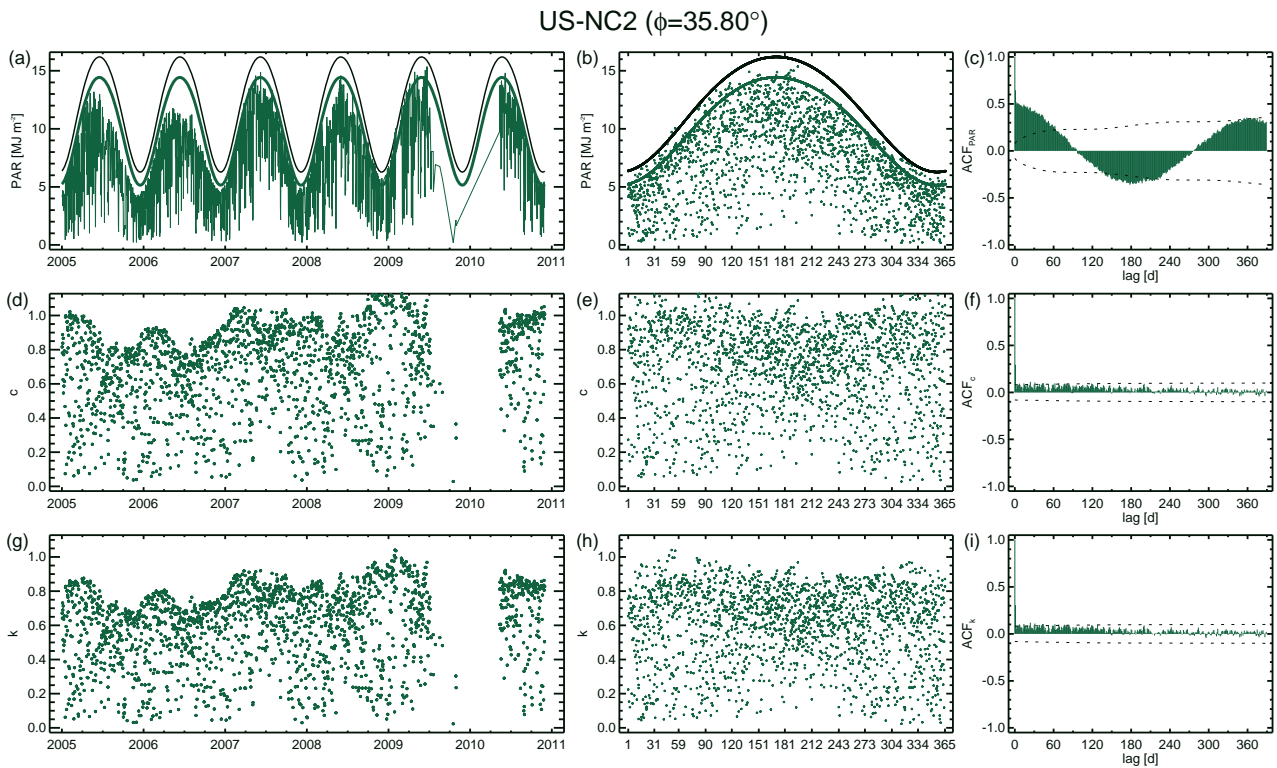
**Figure S23.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at SN-Dhr.



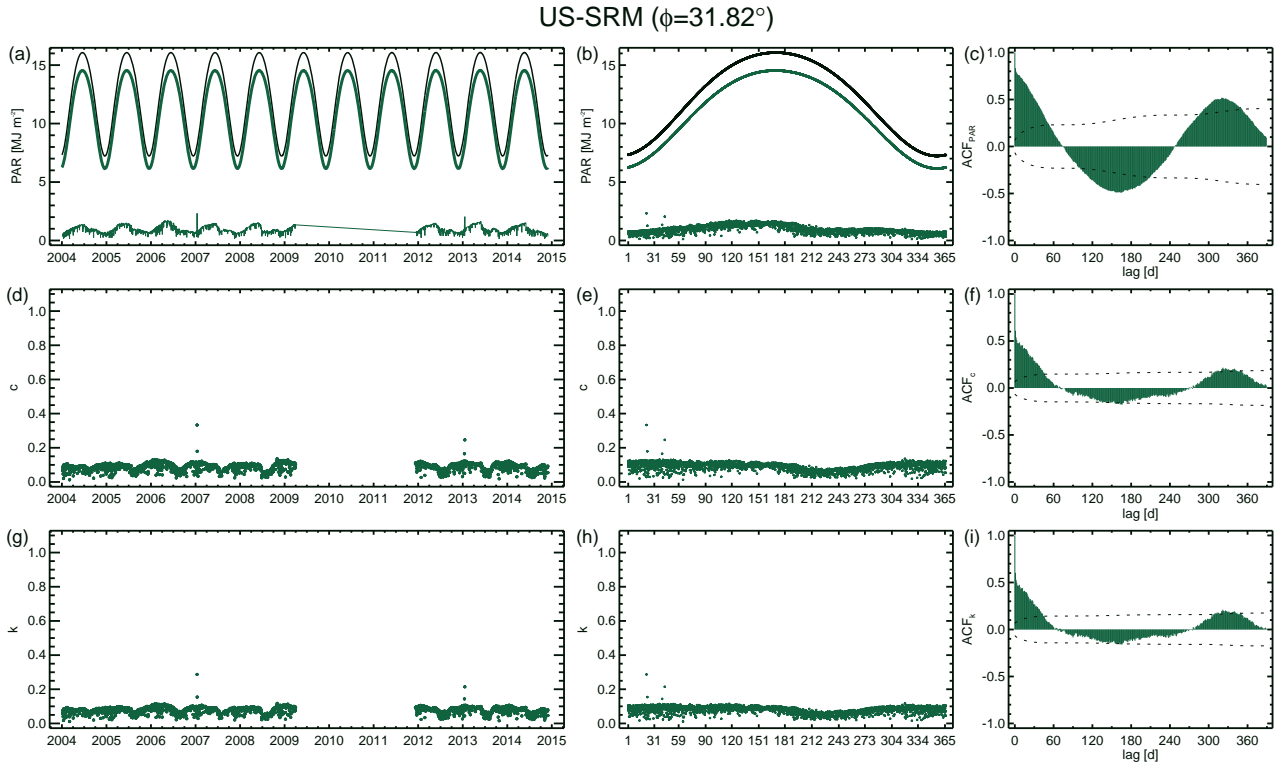
**Figure S24.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at US-Esm.



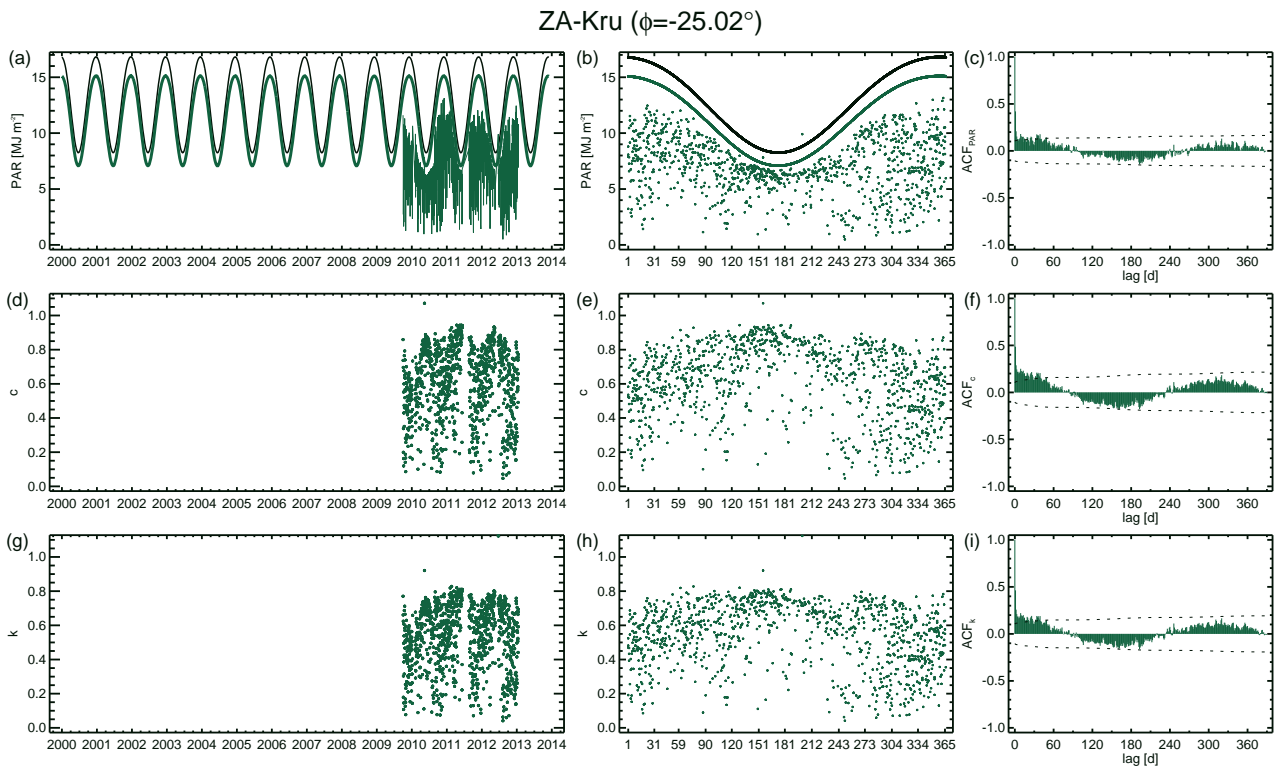
**Figure S25.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at US-FPe.



**Figure S26.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at US-NC2.



**Figure S27.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at US-SRM.



**Figure S28.** Time series, annual cycle, and autocorrelation function of (a-c) *PAR*, (d-f) *c*, and (g-i) *k* at ZA-Kru.



AT-Neu ( $\phi=47.12^\circ$ )

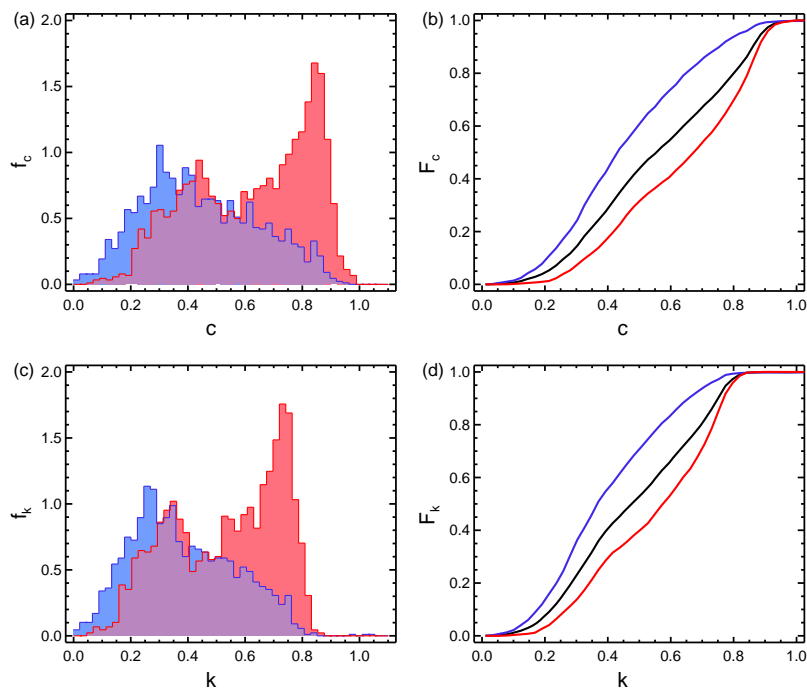


Figure S29. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at AT-Neu.

BE-Lon ( $\phi=50.55^\circ$ )

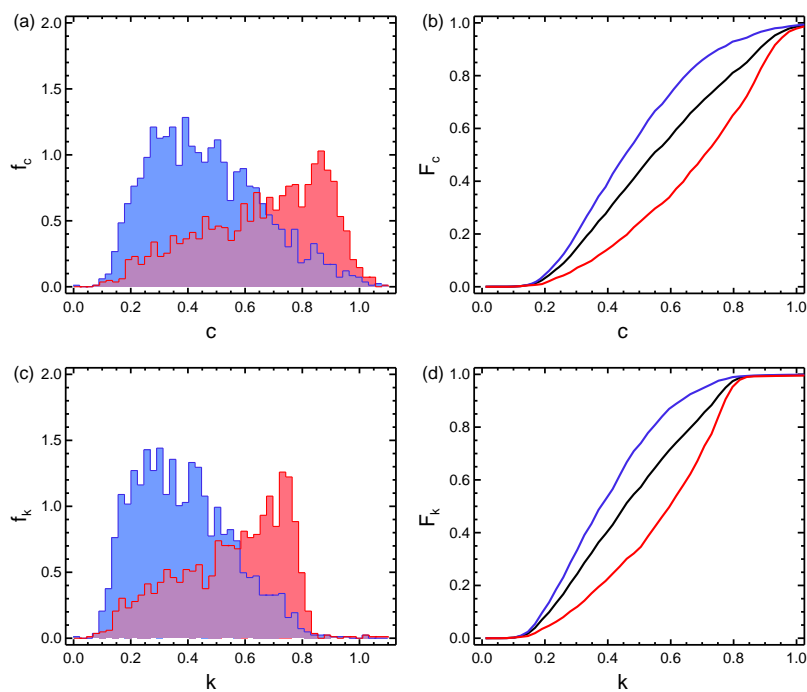
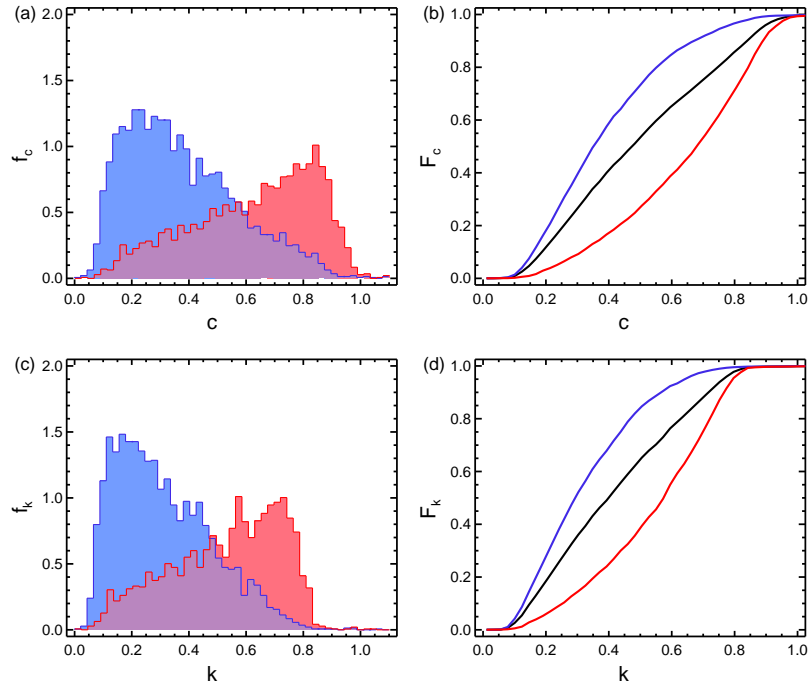
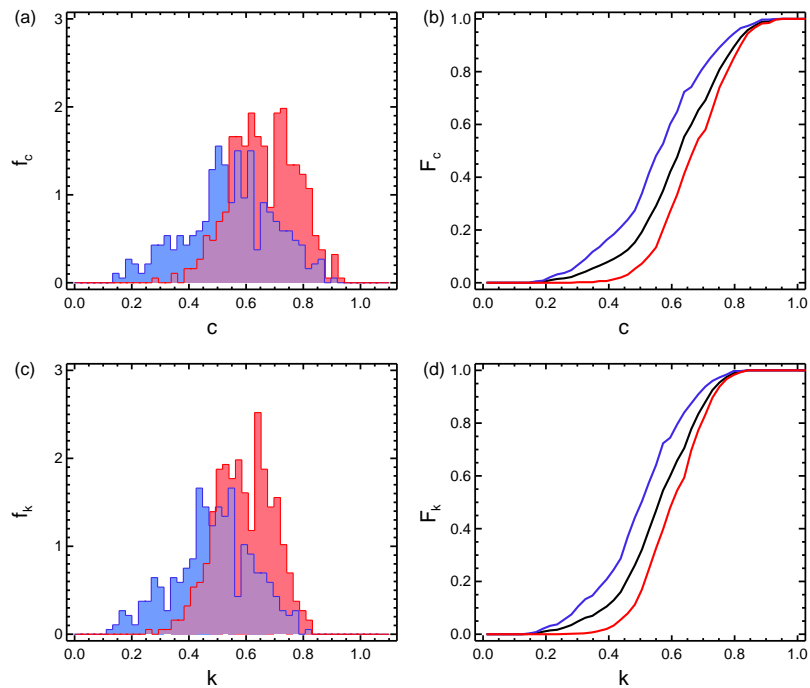


Figure S30. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at BE-Lon.

BE-Vie ( $\phi=50.31^\circ$ )

**Figure S31.** PDFs and CDF during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at BE-Vie.

BR-Sa3 ( $\phi= -3.02^\circ$ )

**Figure S32.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at BR-Sa3.

CA-Oas ( $\phi=53.63^\circ$ )

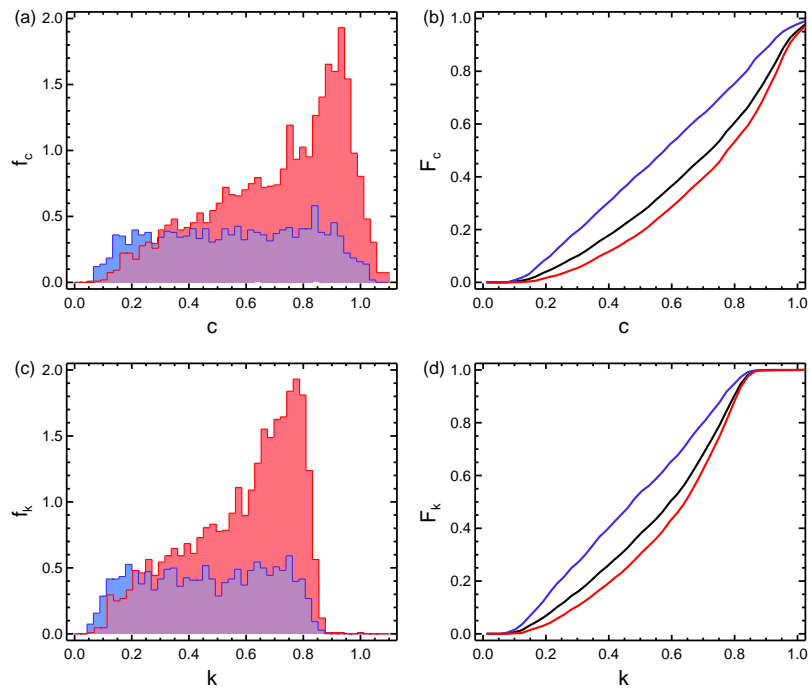


Figure S33. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at CA-Oas.

CG-Tch ( $\phi= -4.29^\circ$ )

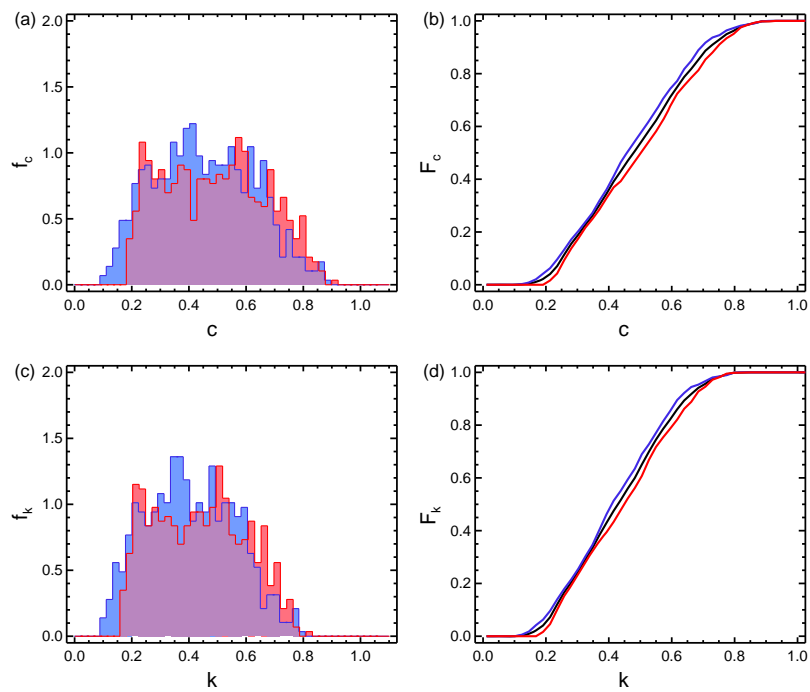


Figure S34. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at CG-Tch.

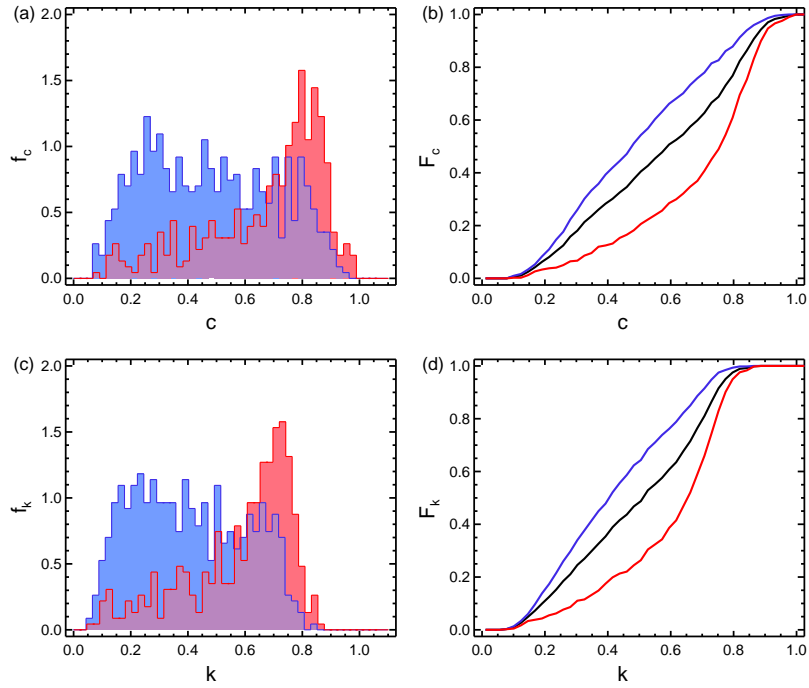
CH-Oe1 ( $\phi=47.29^\circ$ )

Figure S35. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at CH-Oe1.

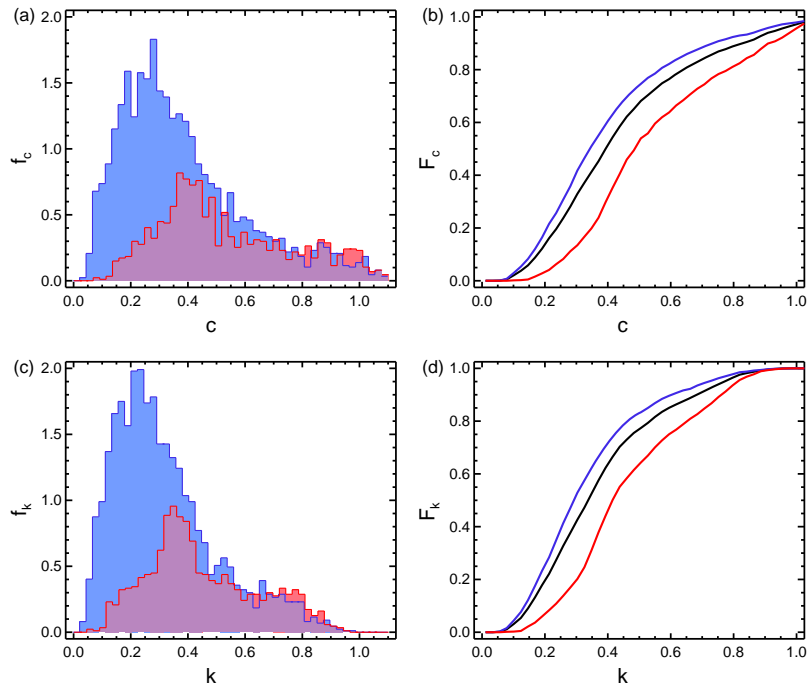
CH-Oe2 ( $\phi=47.29^\circ$ )

Figure S36. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at CH-Oe2.

DE-Geb ( $\phi=51.10^\circ$ )

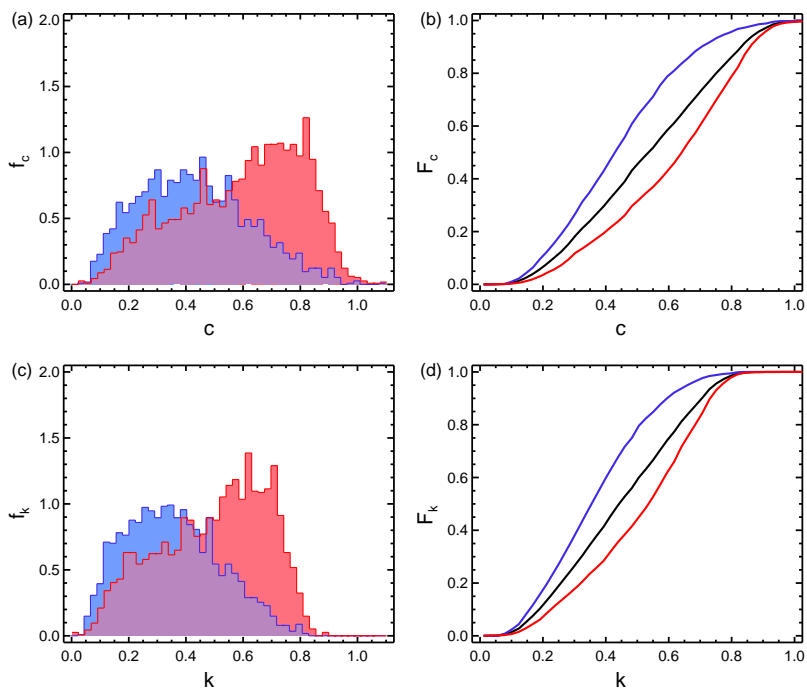


Figure S37. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at DE-Geb.

DE-Gri ( $\phi=50.95^\circ$ )

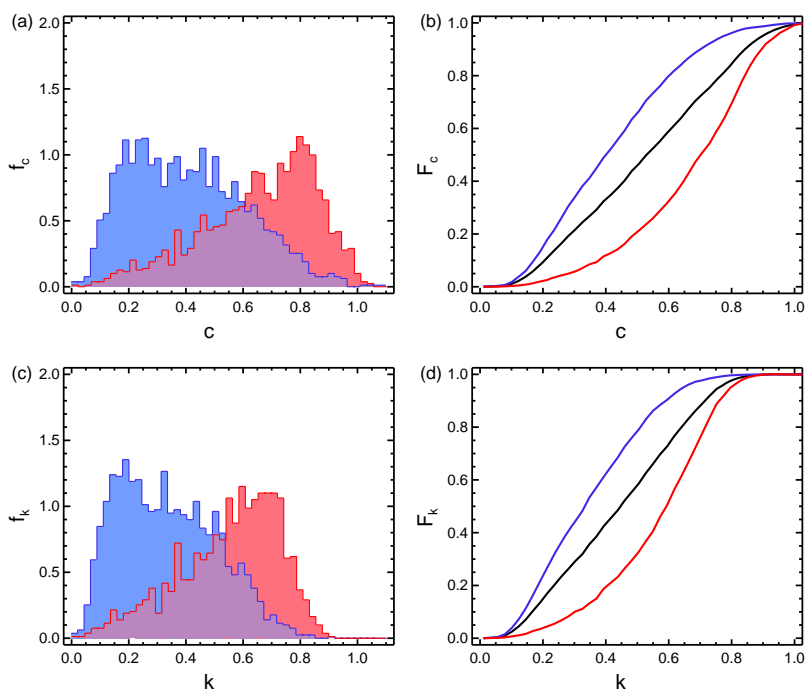
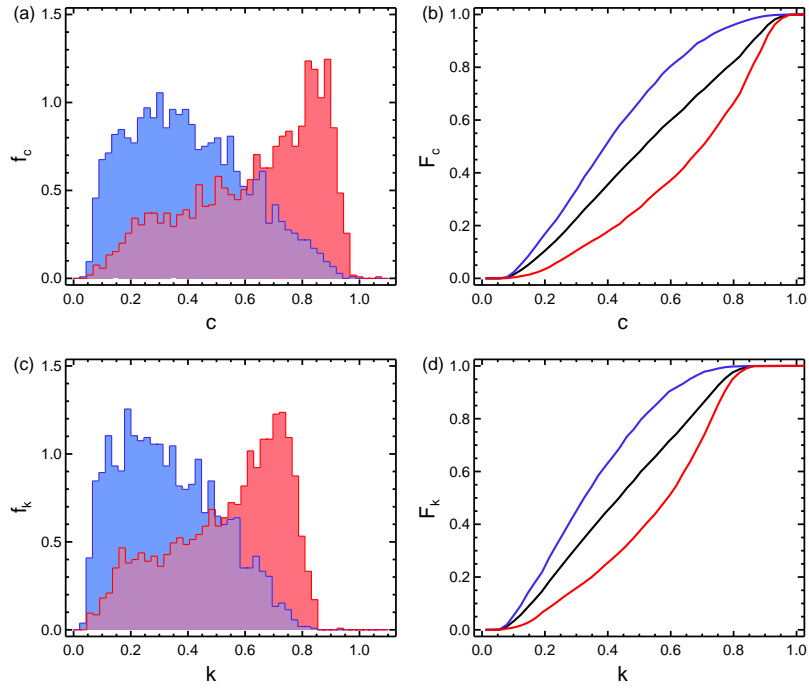
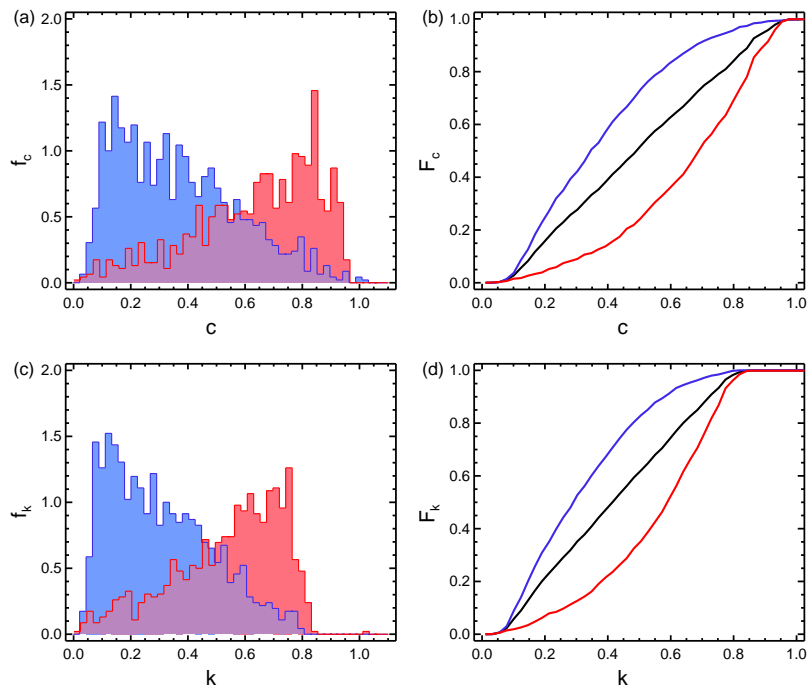


Figure S38. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at DE-Gri.

DE-Hai ( $\phi=51.08^\circ$ )

**Figure S39.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at DE-Hai.

DE-Obe ( $\phi=50.79^\circ$ )

**Figure S40.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at DE-Obe.

DE-Tha ( $\phi=50.96^\circ$ )

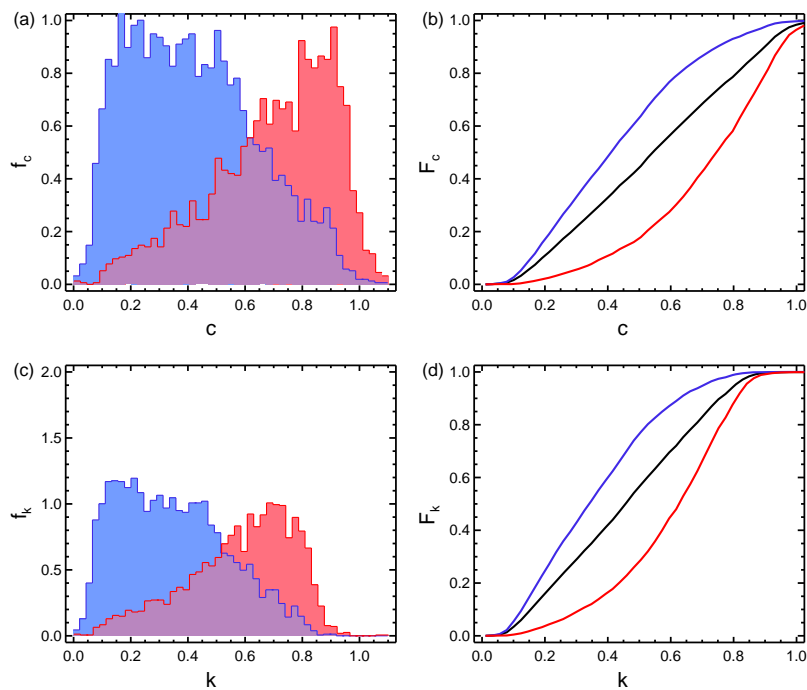


Figure S41. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at DE-Tha.

GF-Guy ( $\phi= 5.28^\circ$ )

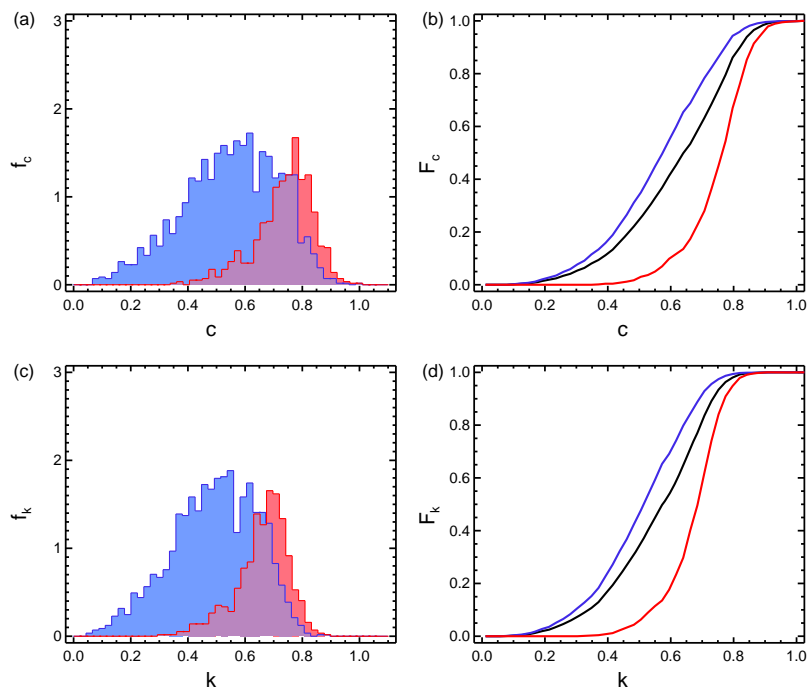
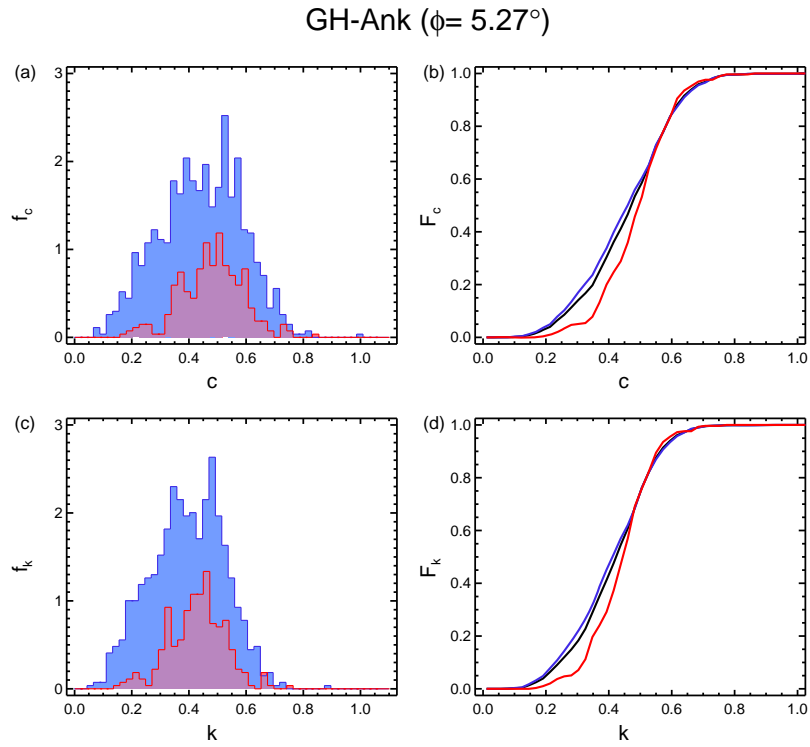
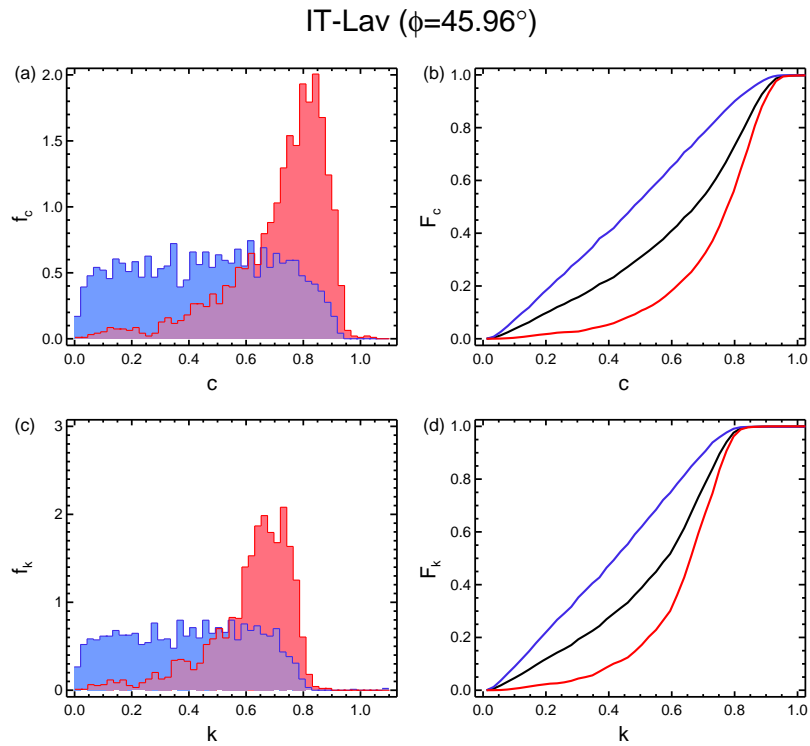


Figure S42. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at GF-Guy.



**Figure S43.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at GH-Ank.



**Figure S44.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at IT-Lav.



IT-MBo ( $\phi=46.01^\circ$ )

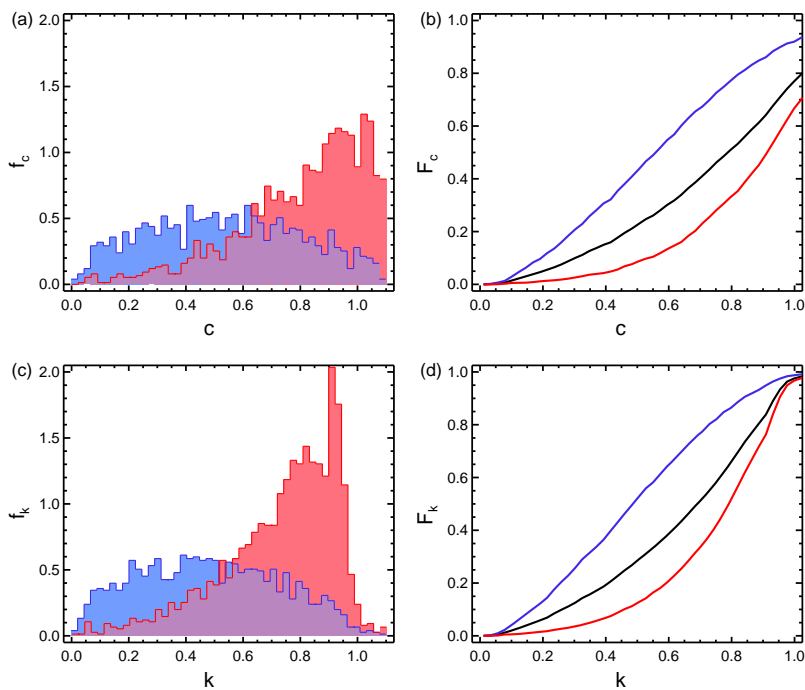


Figure S45. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at IT-MBo.

IT-SRo ( $\phi=43.73^\circ$ )

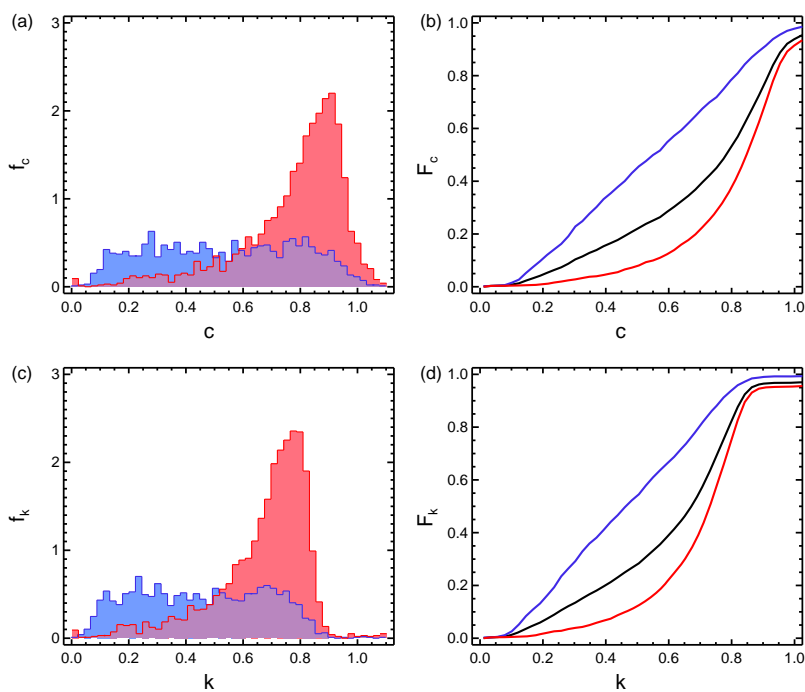
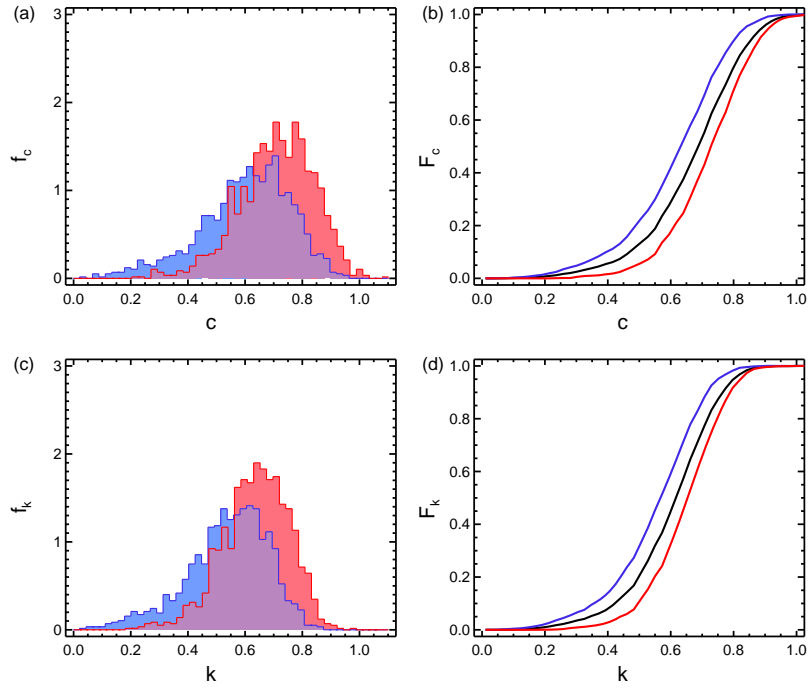
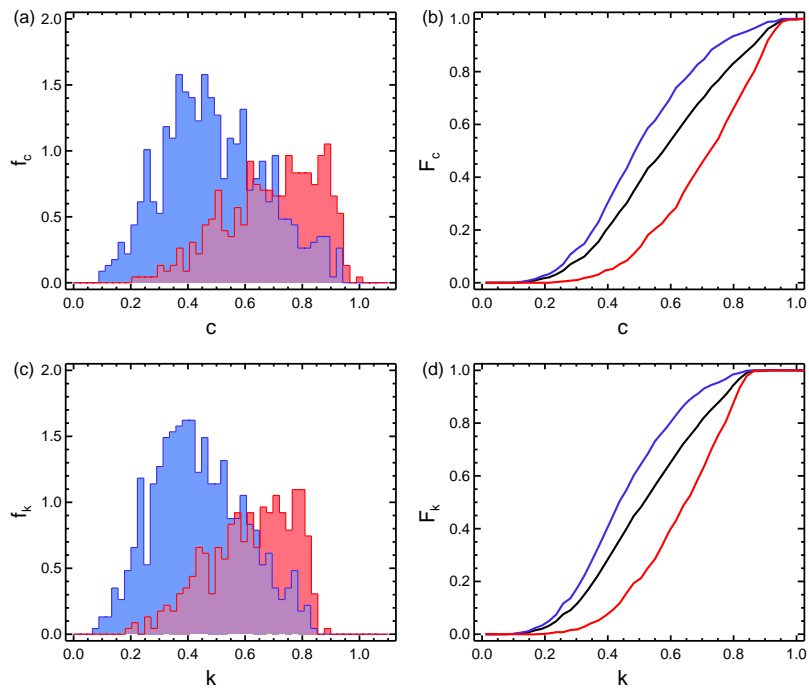


Figure S46. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at IT-SRo.

MY-PSO ( $\phi = 2.97^\circ$ )

**Figure S47.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at MY-PSO.

PA-SPs ( $\phi = 9.31^\circ$ )

**Figure S48.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at PA-SPs.

RU-Fyo ( $\phi=56.46^\circ$ )

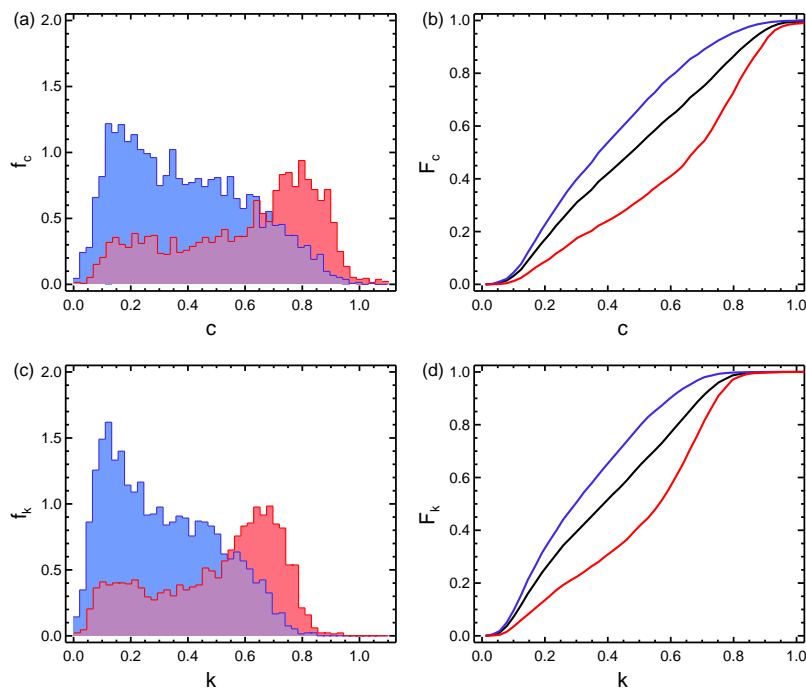


Figure S49. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at RU-Fyo.

SD-Dem ( $\phi=13.28^\circ$ )

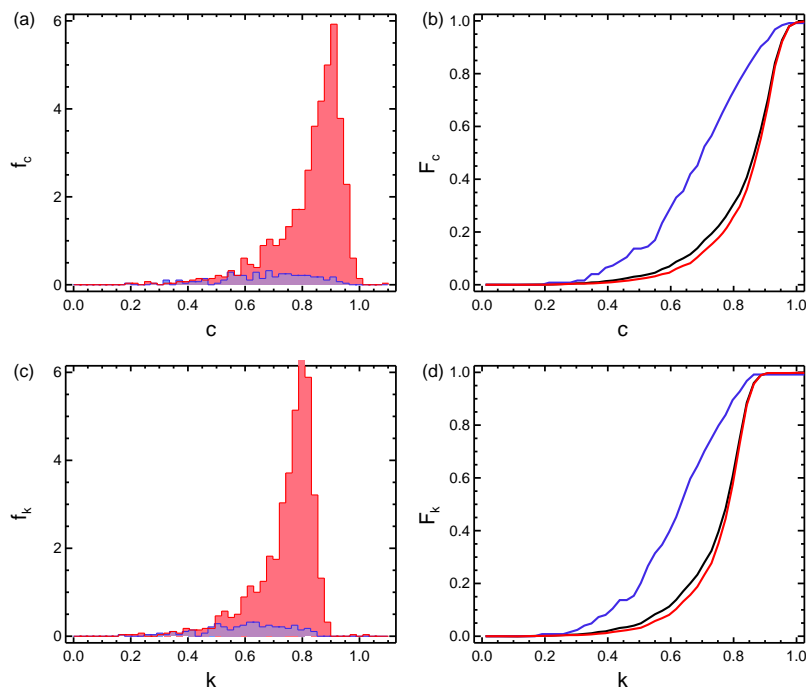
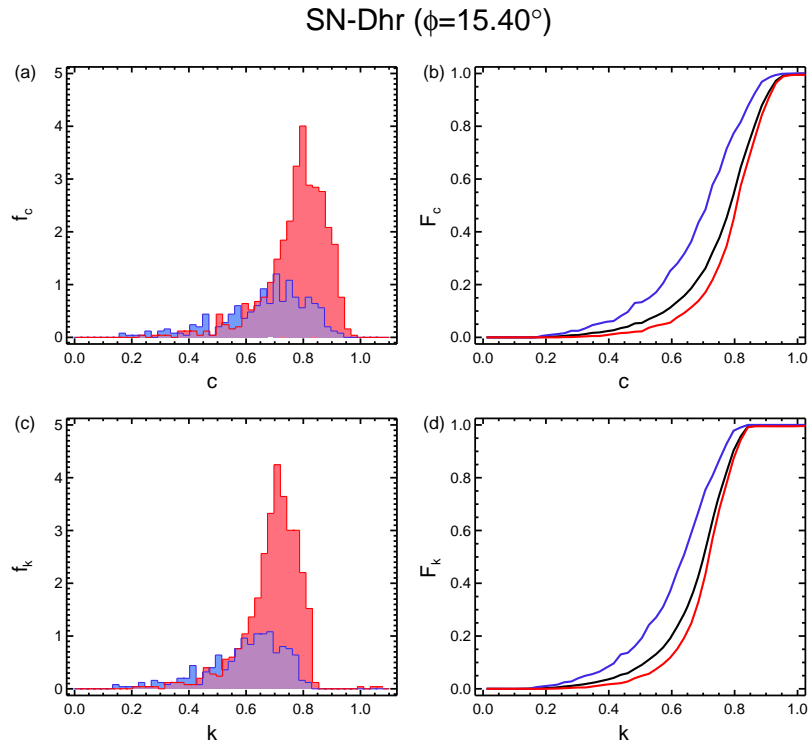
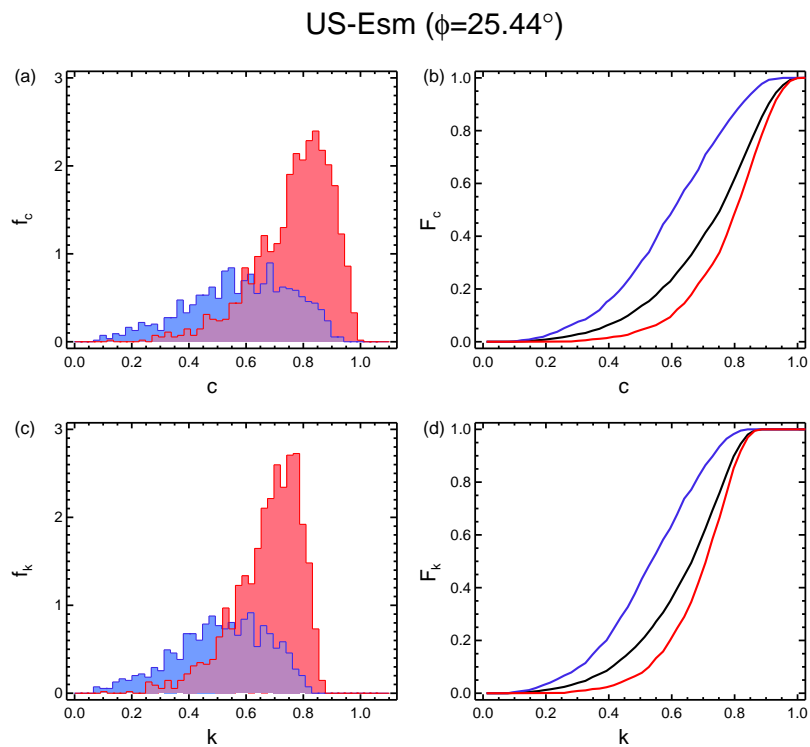


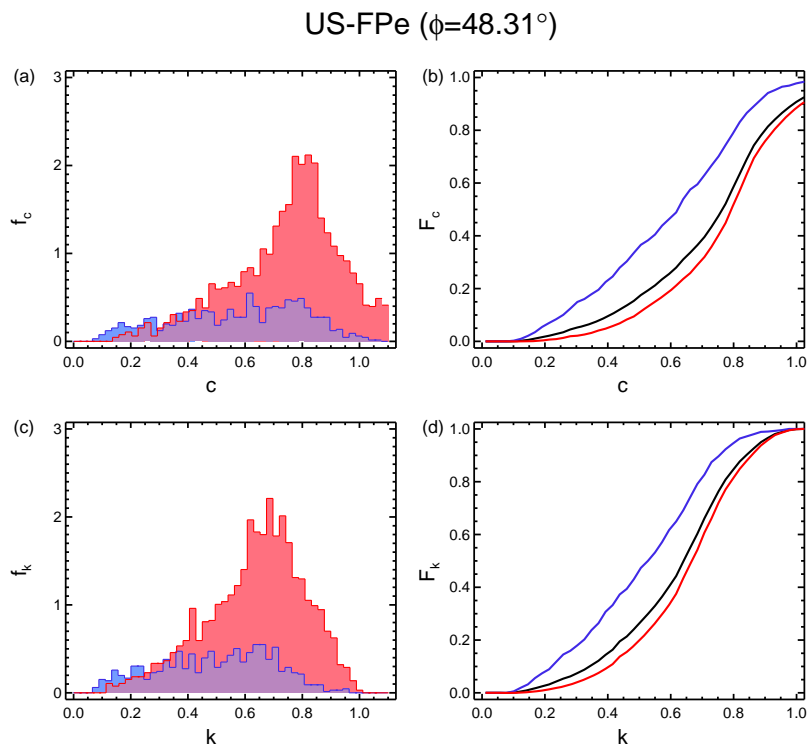
Figure S50. PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at SD-Dem.



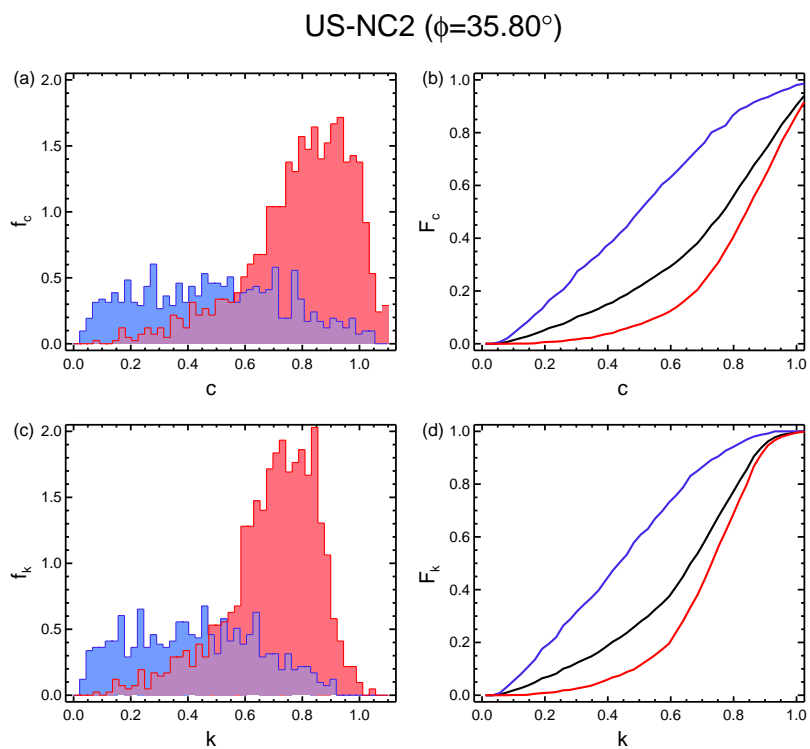
**Figure S51.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at SN-Dhr.



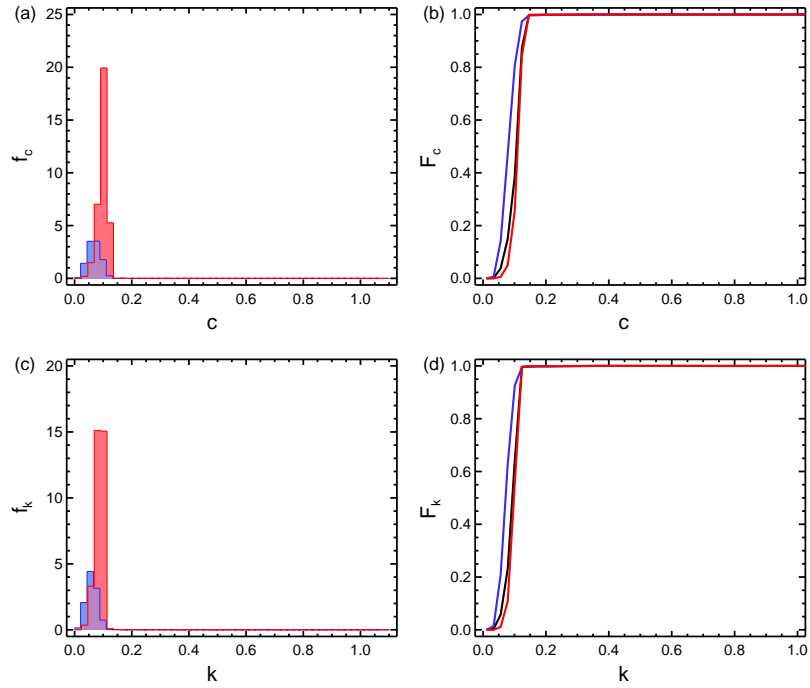
**Figure S52.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at US-Esm.



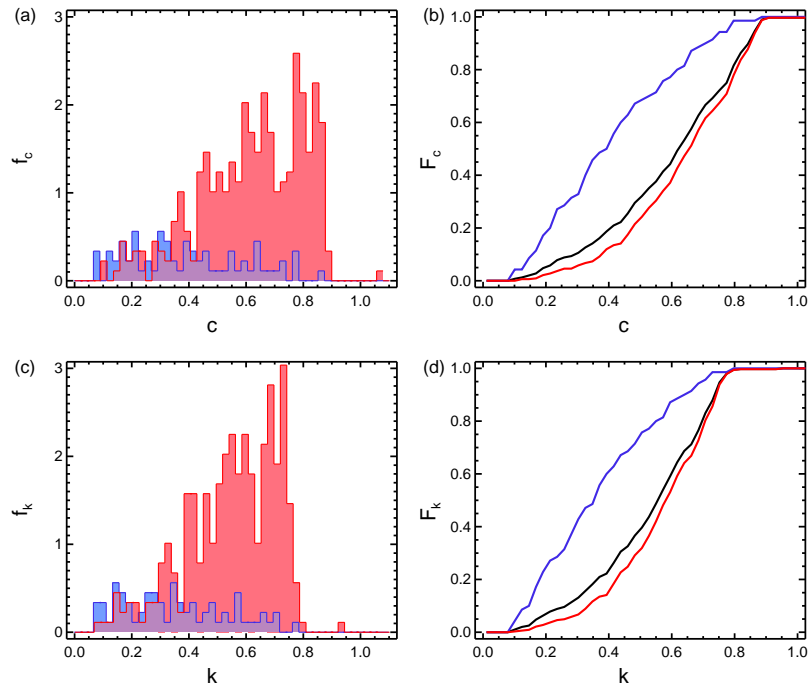
**Figure S53.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at US-FPe.



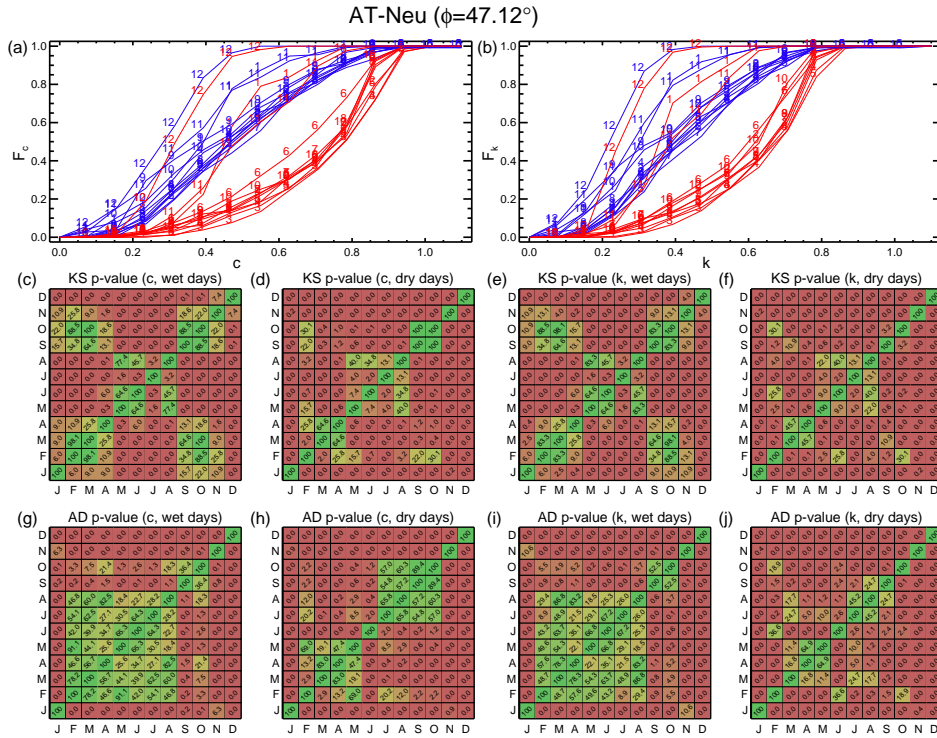
**Figure S54.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at US-NC2.

US-SRM ( $\phi=31.82^\circ$ )

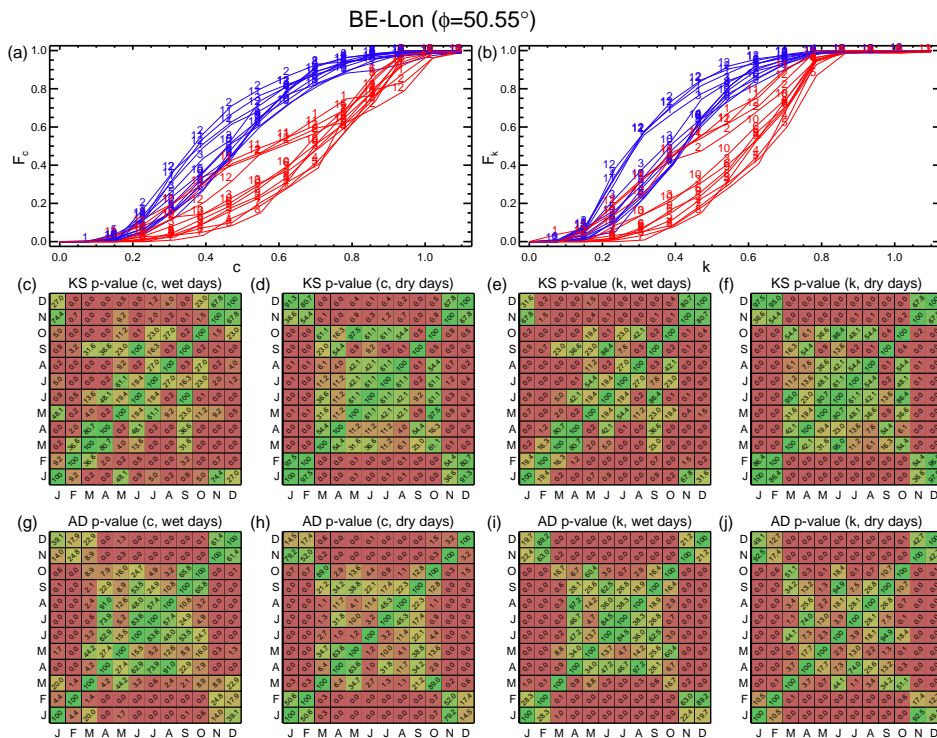
**Figure S55.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at US-SRM.

ZA-Kru ( $\phi=31.82^\circ$ )

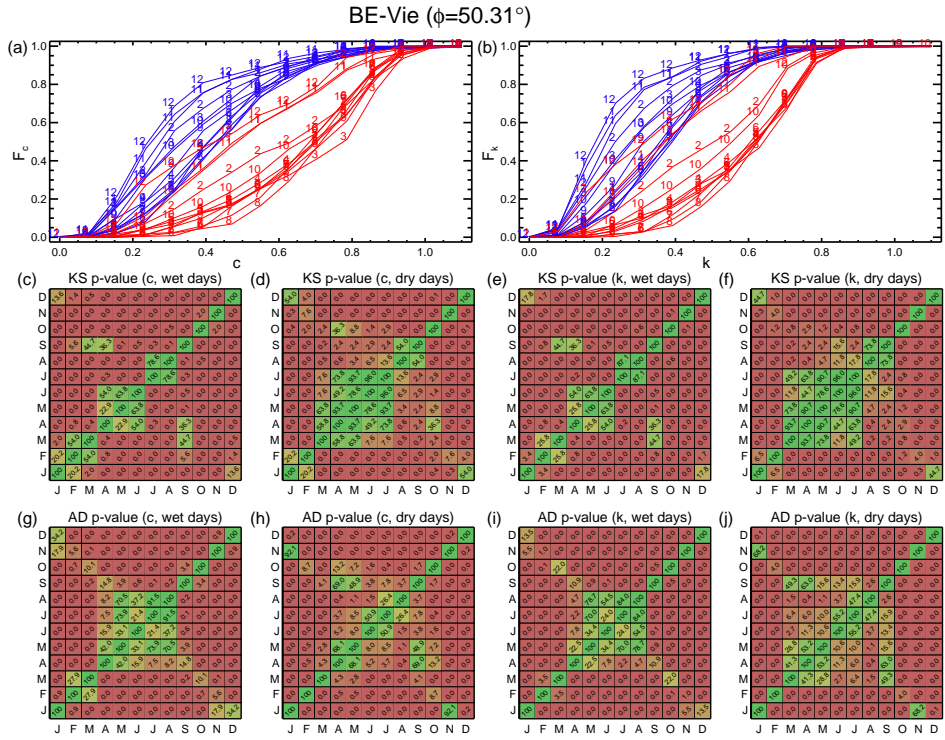
**Figure S56.** PDFs and CDFs during wet days (blue) and dry (red) of (a-b)  $c$  and (c-d)  $k$  at ZA-Kru.



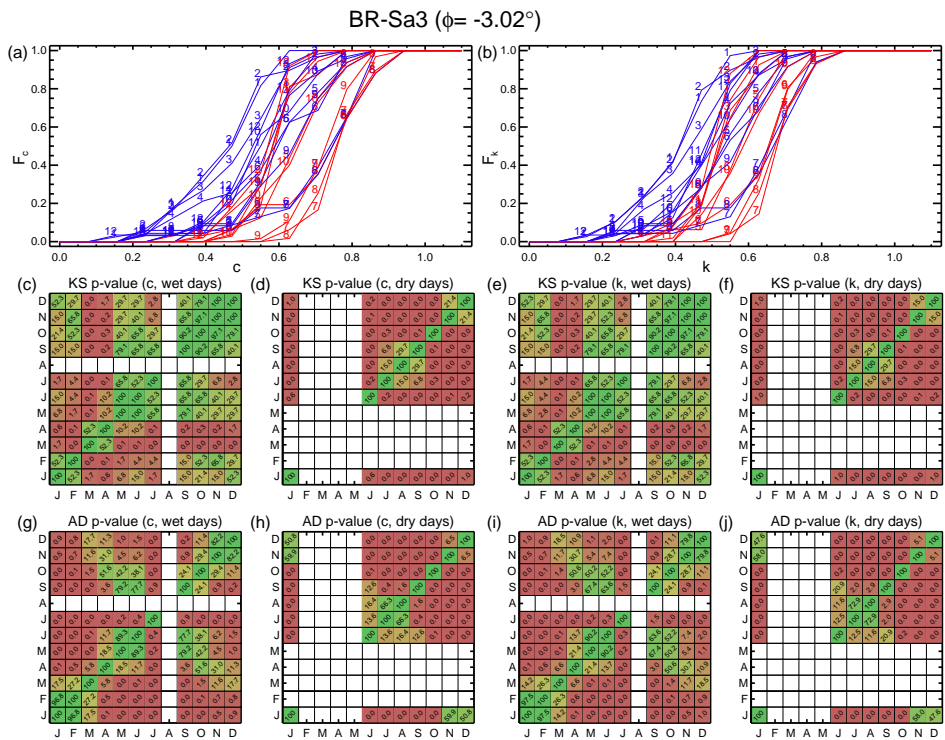
**Figure S57.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at AT-Neu.



**Figure S58.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at BE-Lon.

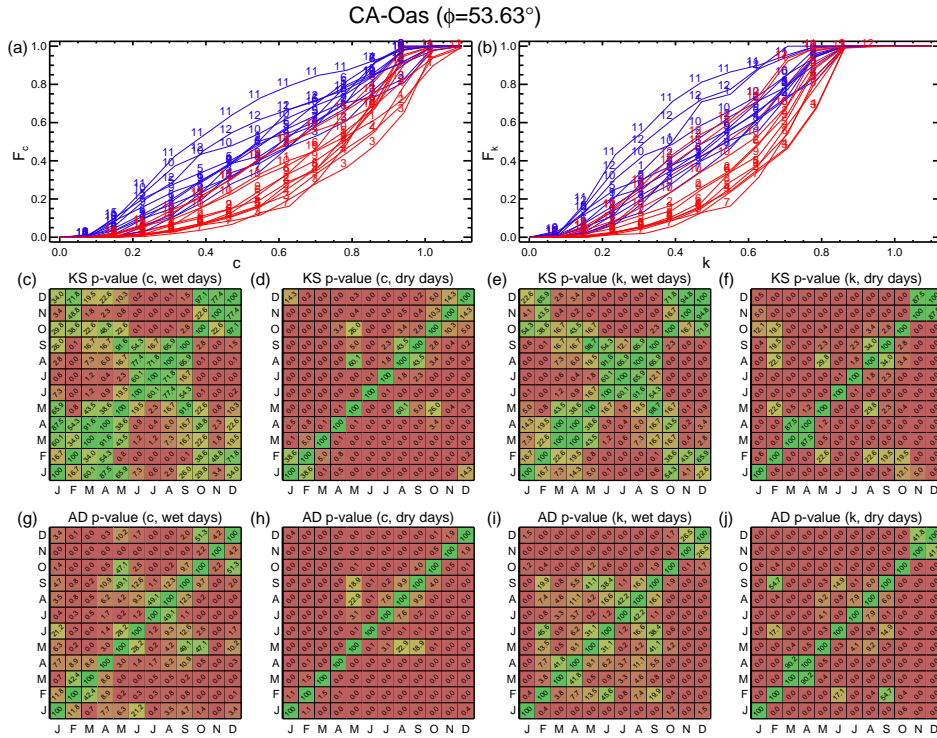


**Figure S59.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at BE-Vie.

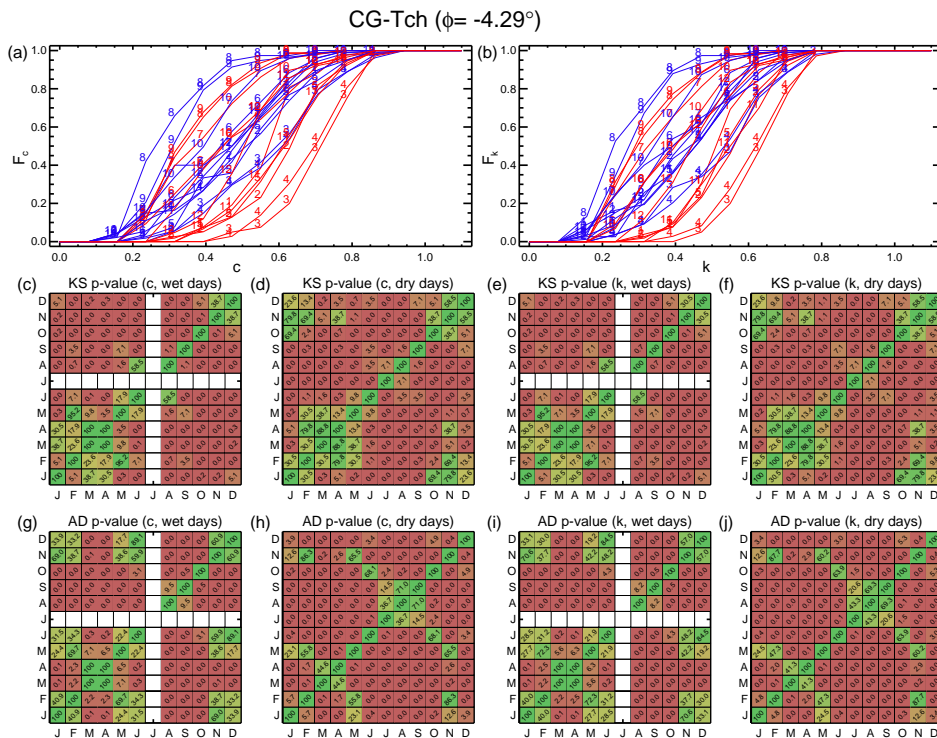


**Figure S60.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at BR-Sa3.

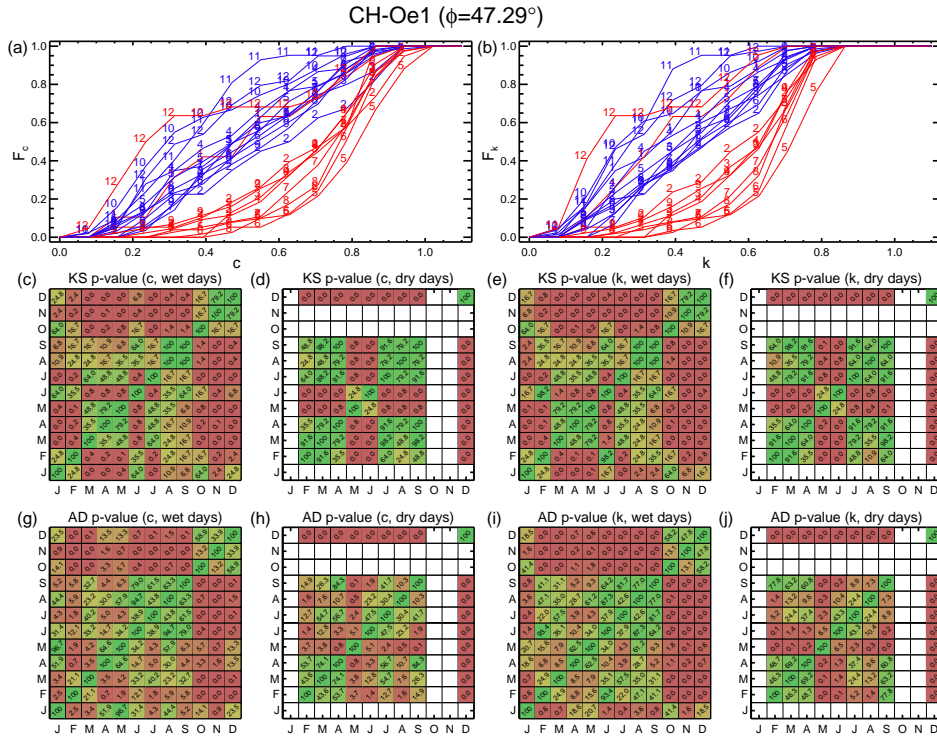




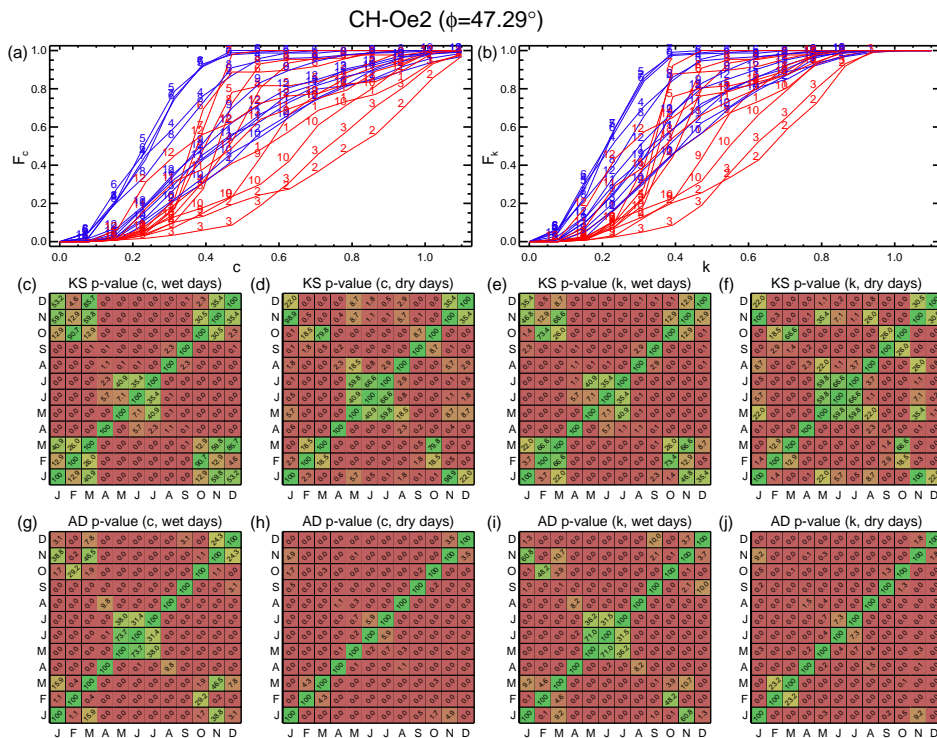
**Figure S61.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at CA-Oas.



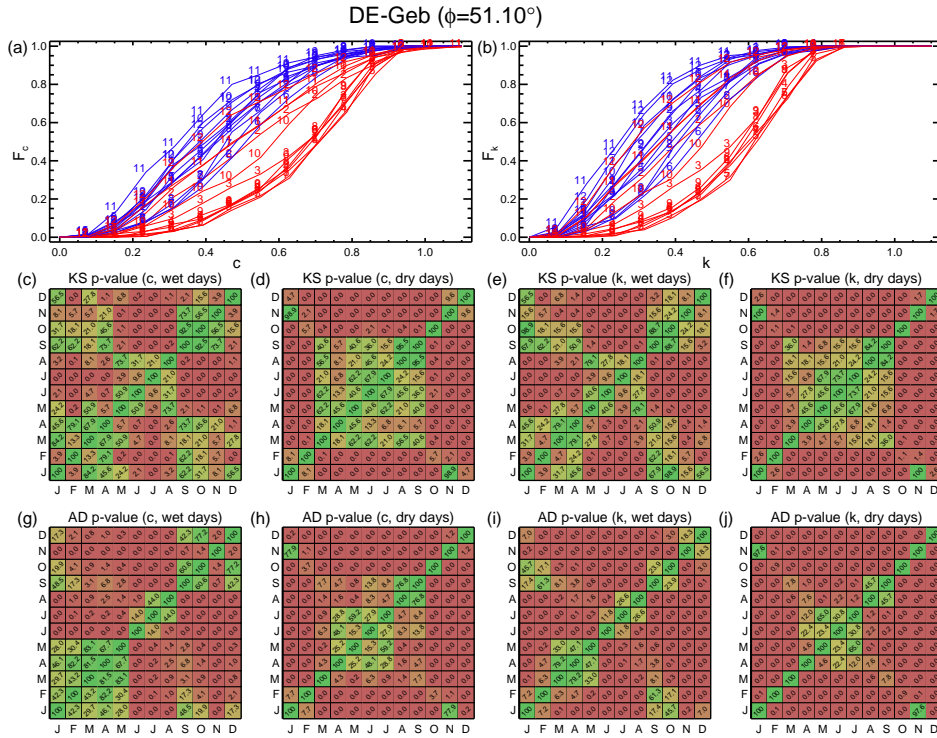
**Figure S62.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at CG-Tch.



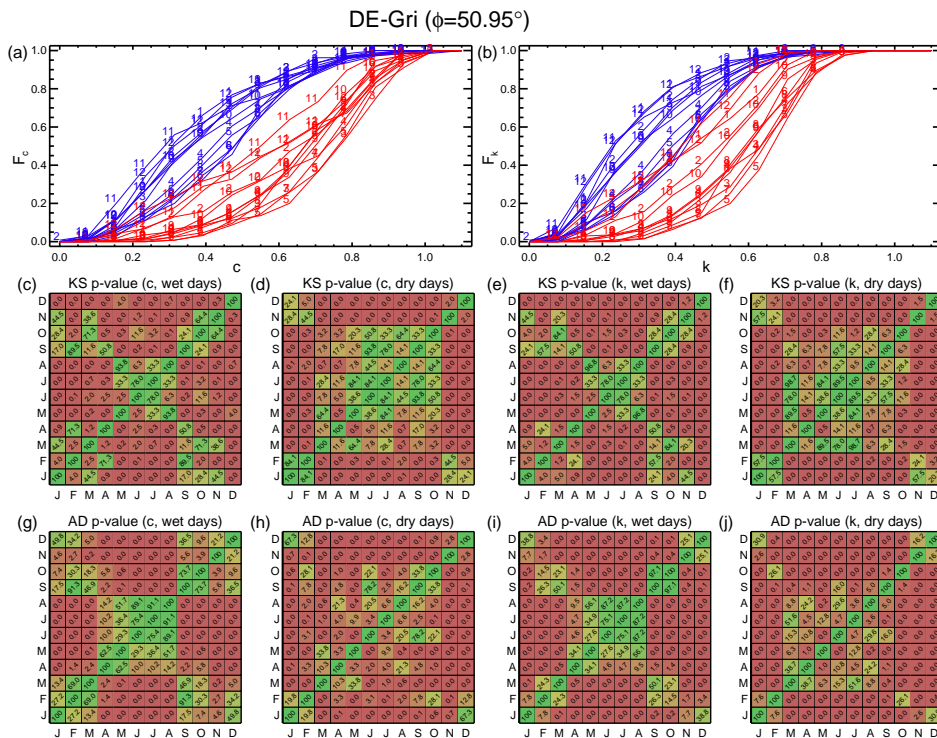
**Figure S63.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at CH-Oe1.



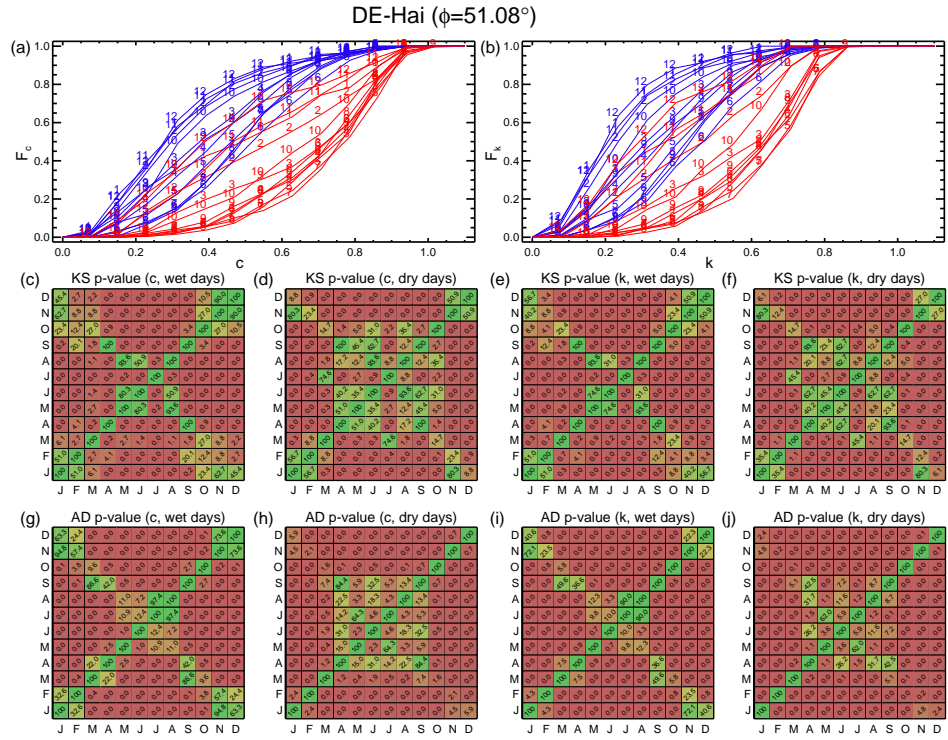
**Figure S64.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at CH-Oe2.



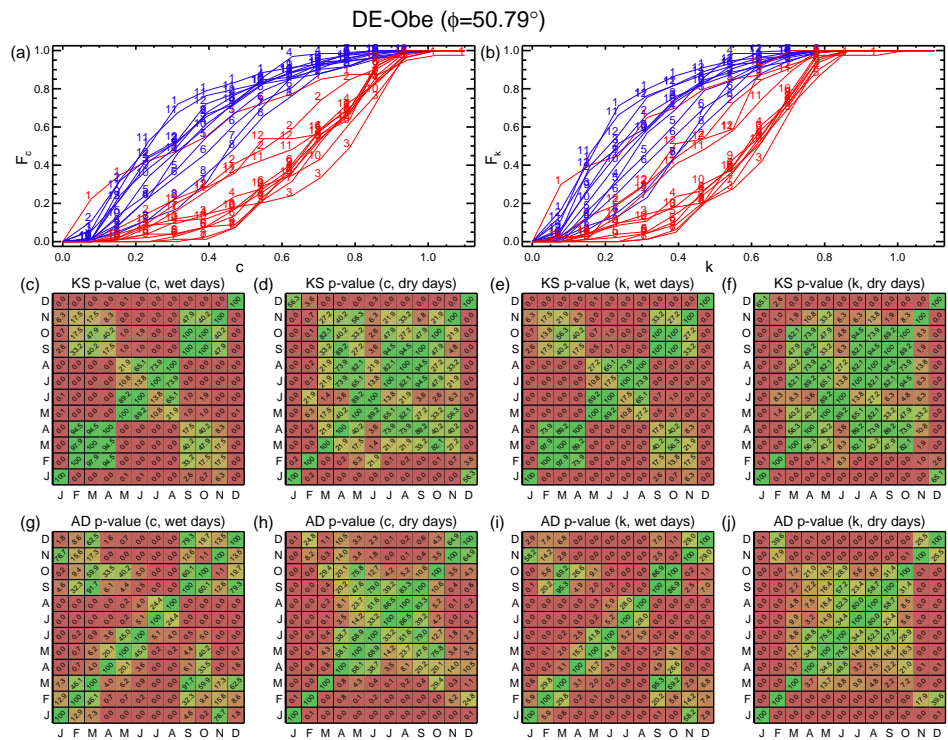
**Figure S65.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at DE-Geb.



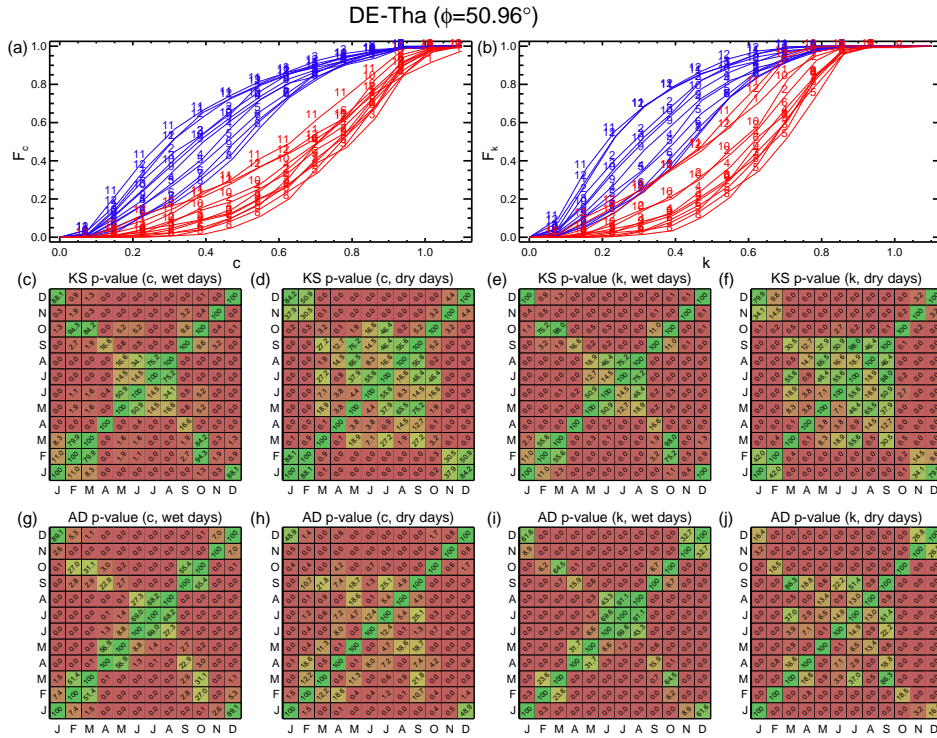
**Figure S66.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at DE-Gri.



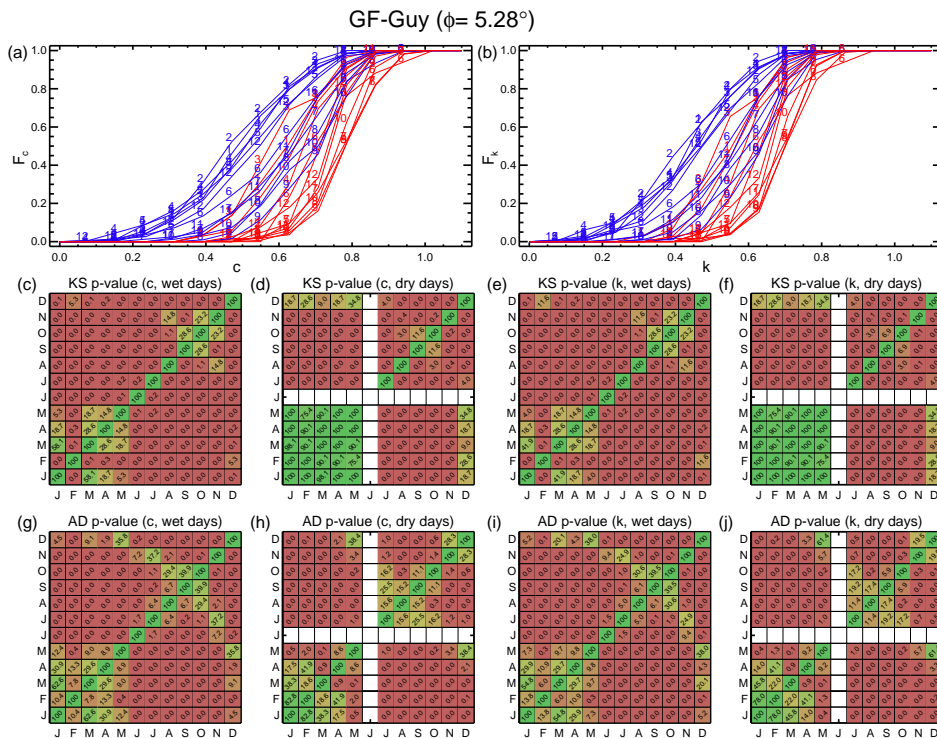
**Figure S67.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at DE-Hai.



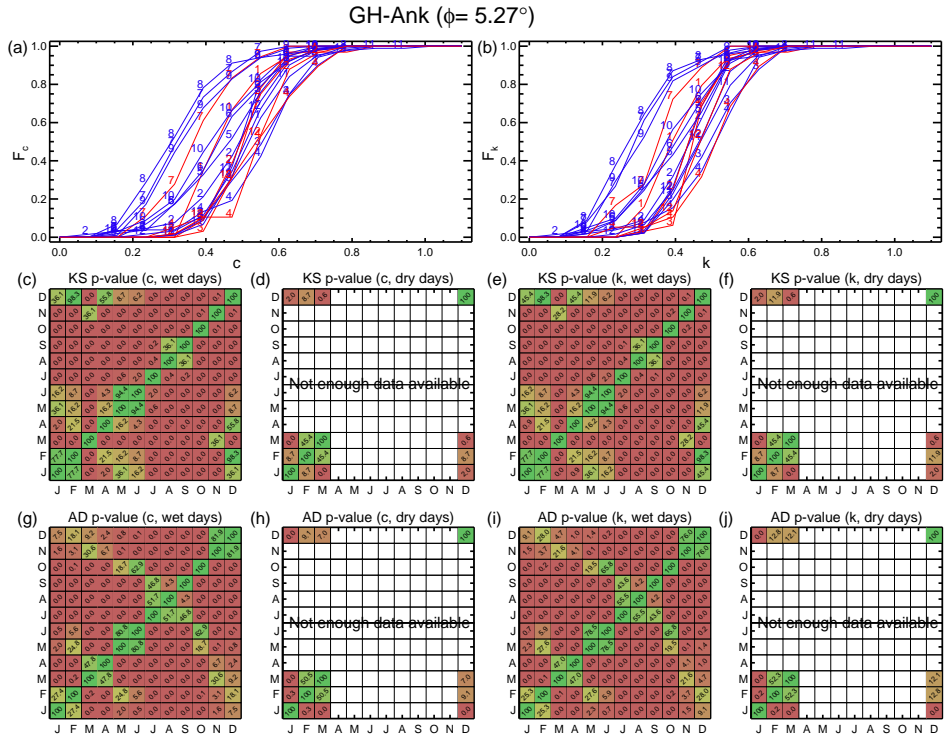
**Figure S68.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at DE-Obe.



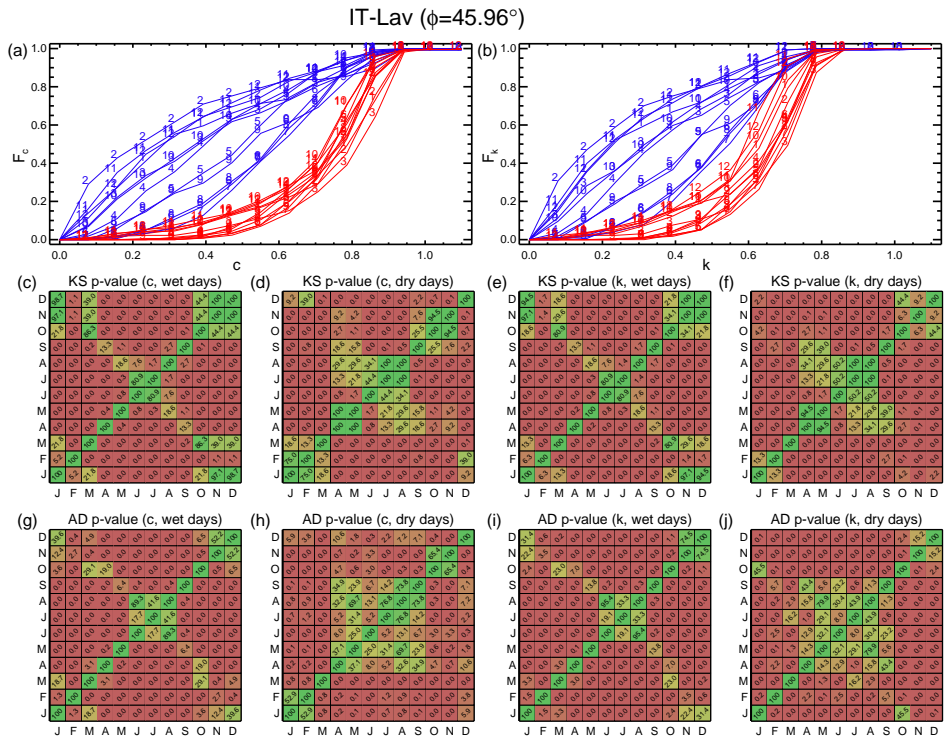
**Figure S69.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at DE-Tha.



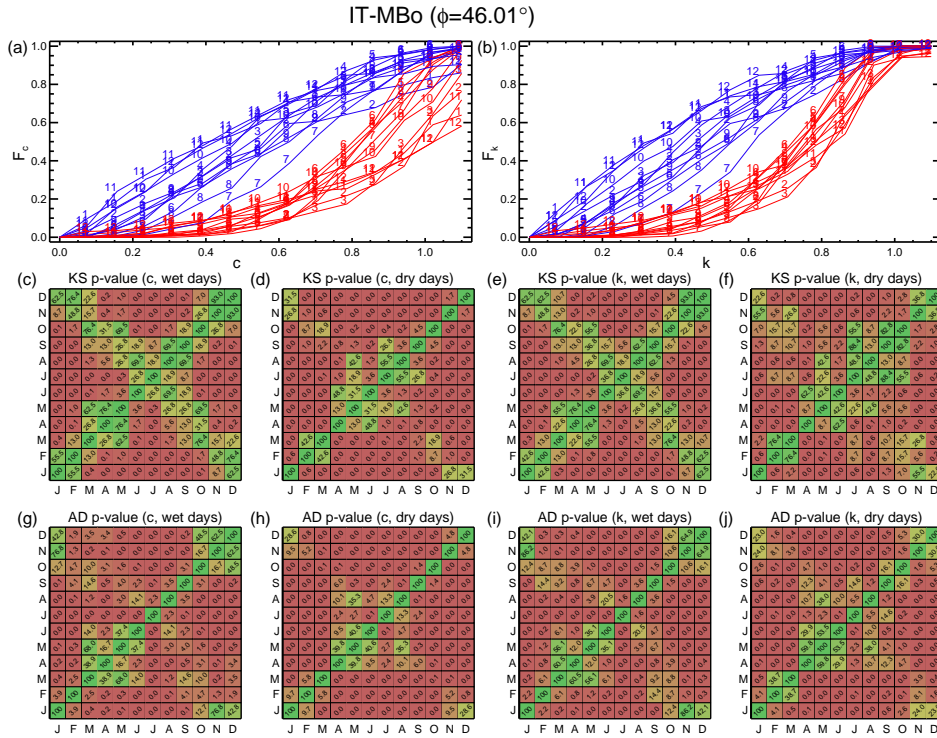
**Figure S70.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at GF-Guy.



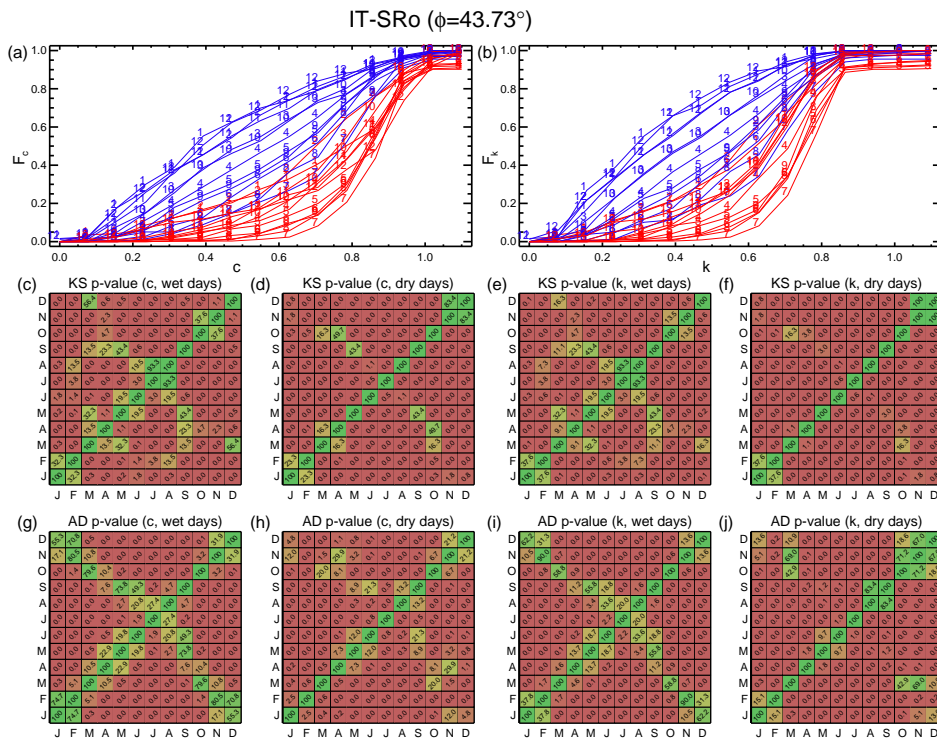
**Figure S71.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at GH-Ank.



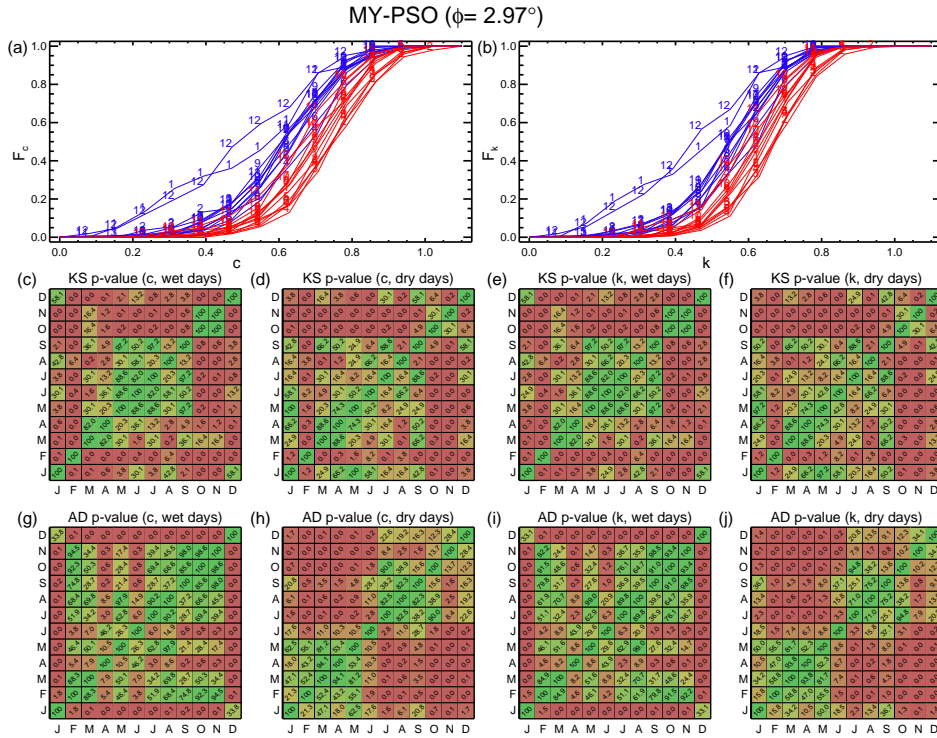
**Figure S72.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at IT-Lav.



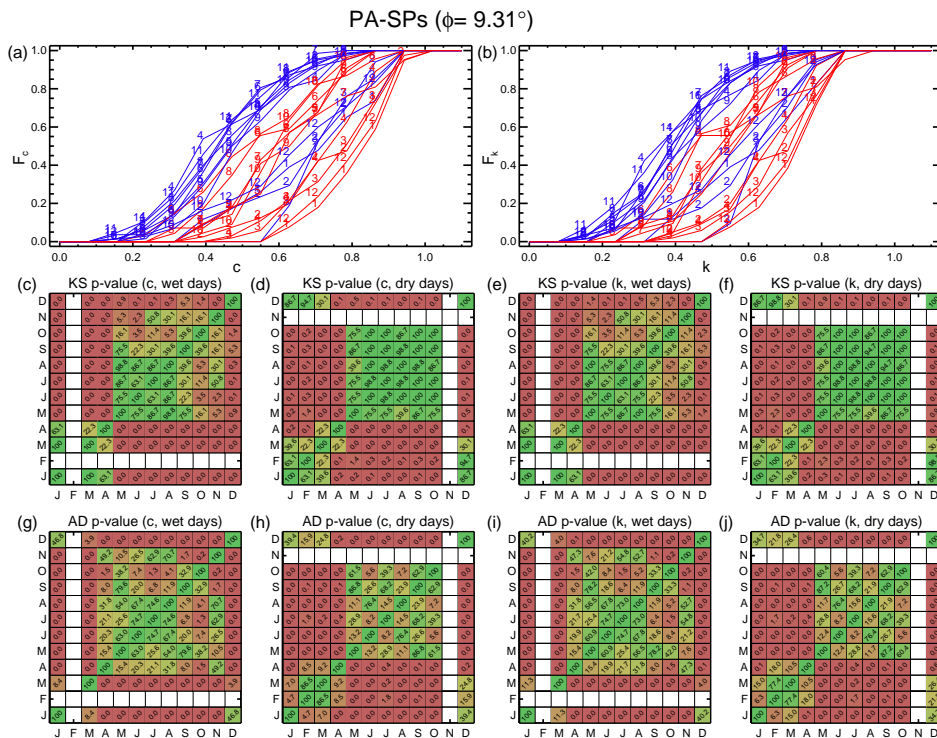
**Figure S73.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at IT-MBo.



**Figure S74.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at IT-SRo.

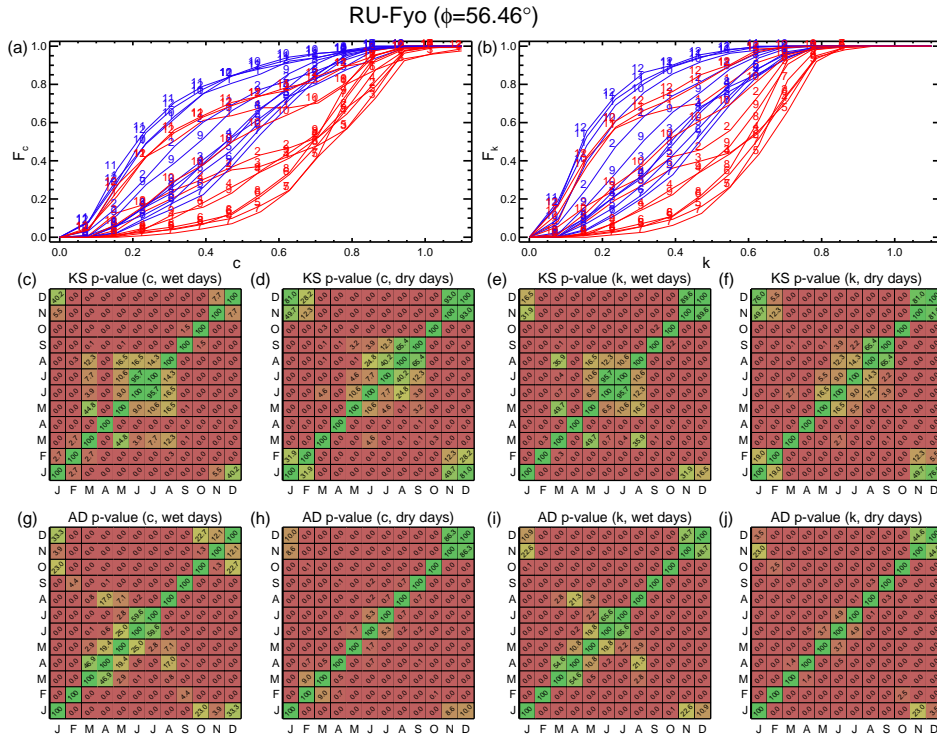


**Figure S75.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at MY-PSO.

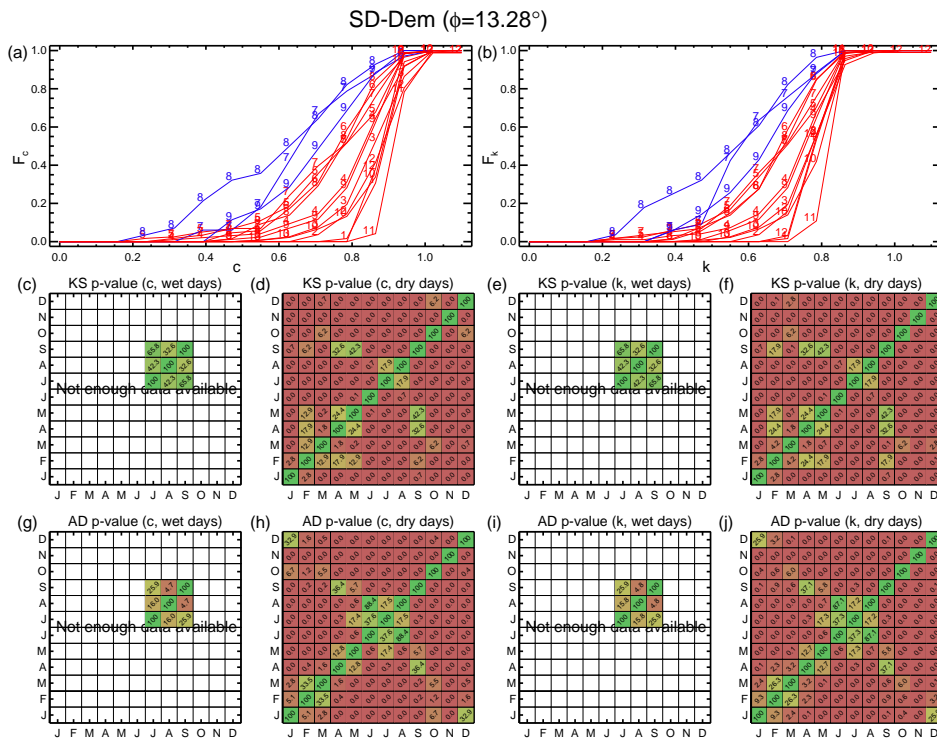


**Figure S76.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at PA-SPs.

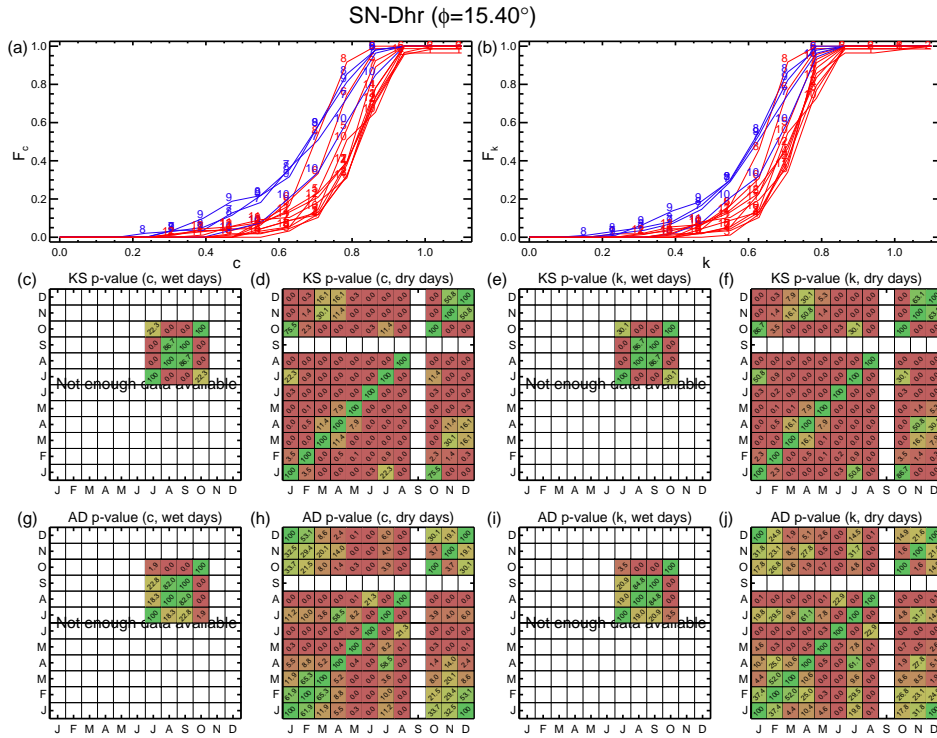




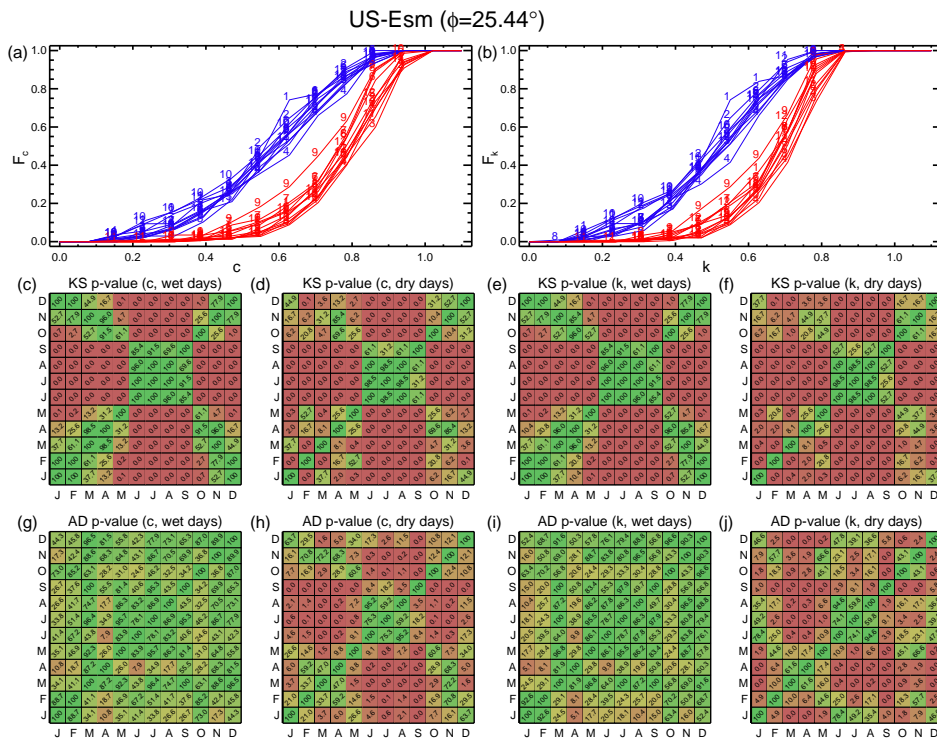
**Figure S77.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at RU-Fyo.



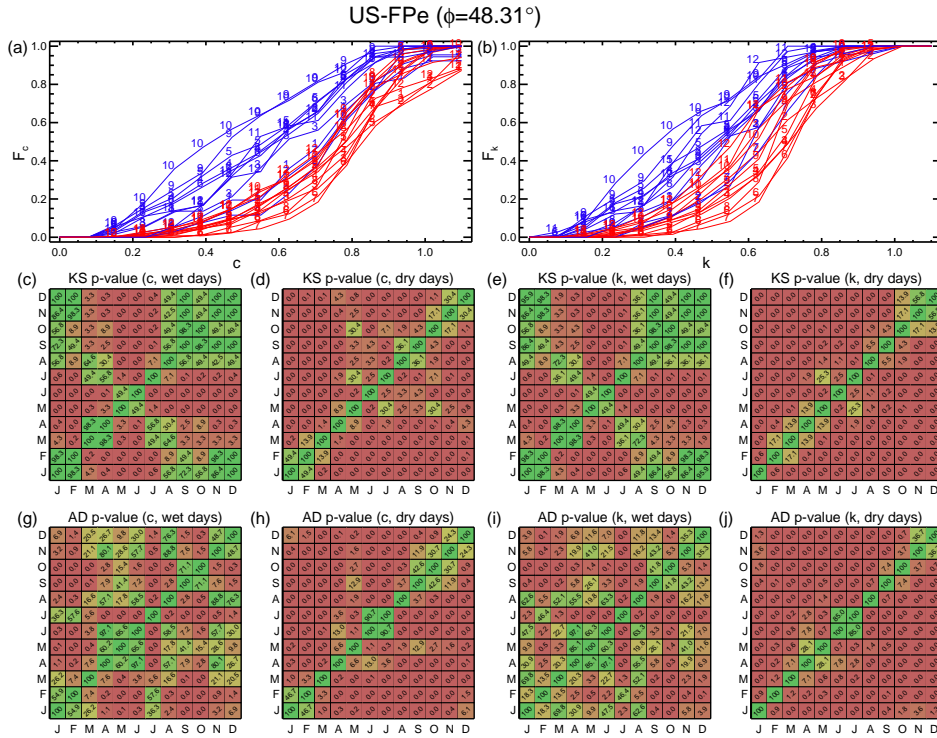
**Figure S78.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at SD-Dem.



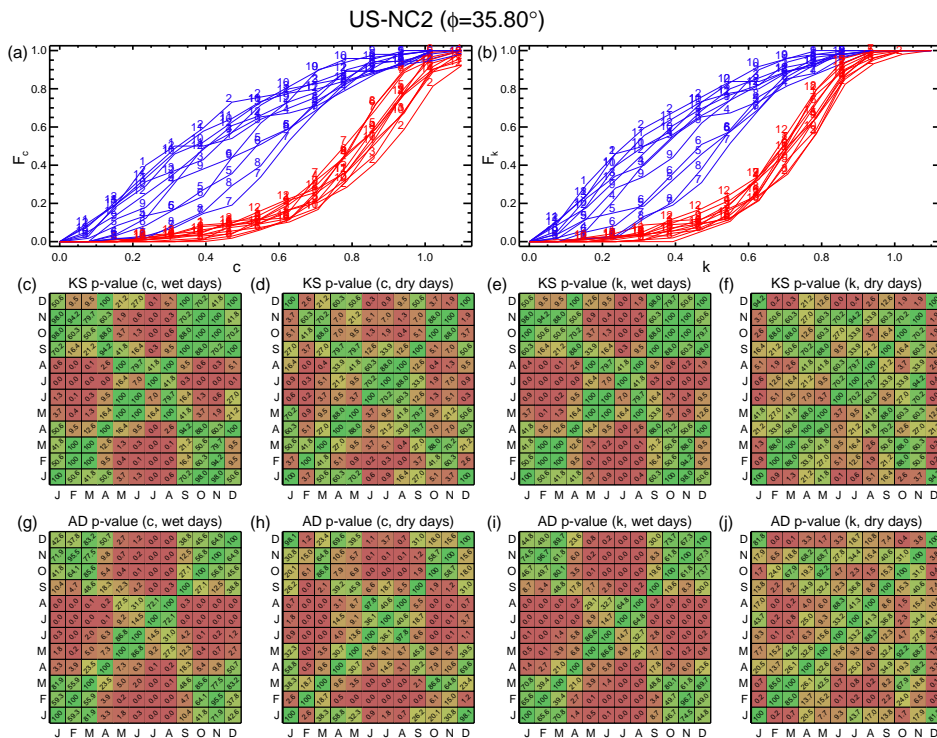
**Figure S79.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at SN-Dhr.



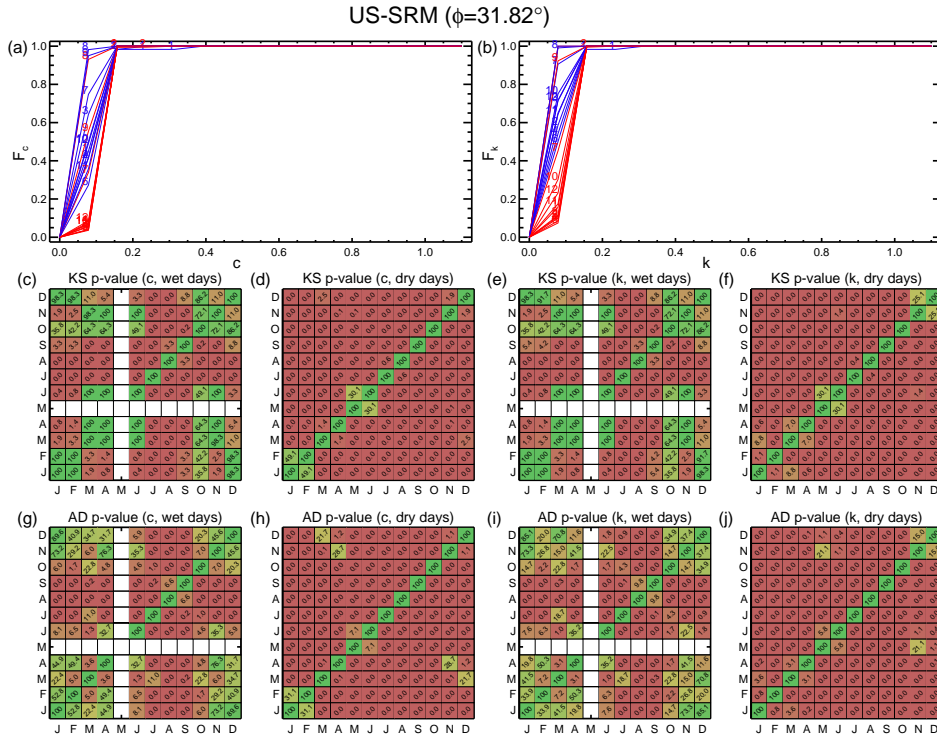
**Figure S80.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at US-Esm.



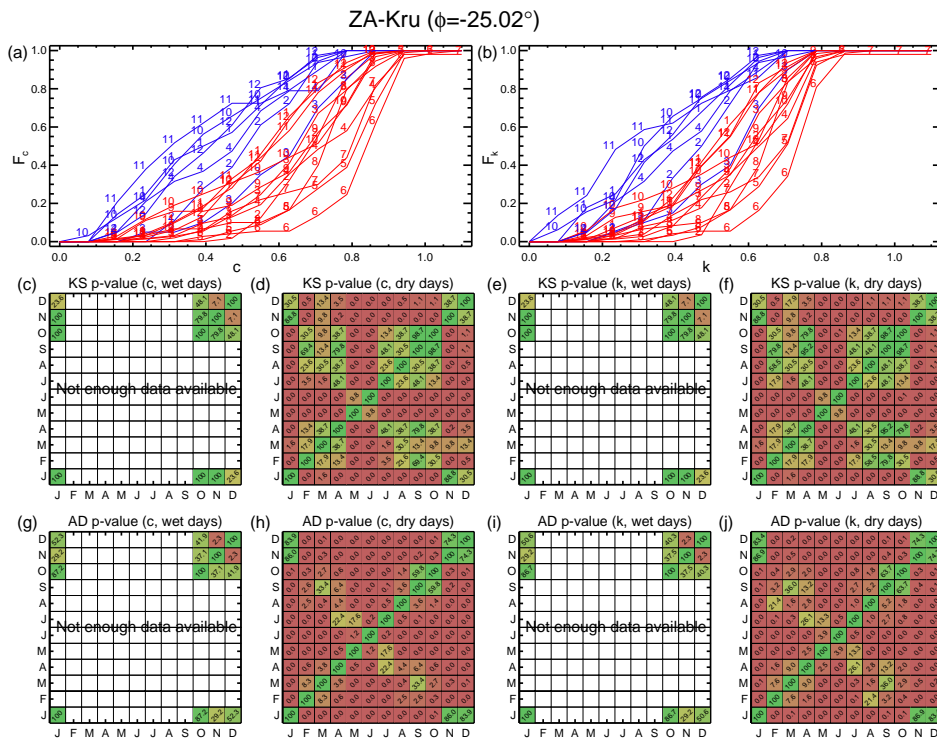
**Figure S81.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at US-FPe.



**Figure S82.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at US-NC2.



**Figure S83.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at US-SRM.



**Figure S84.** Monthly CDFs of (a)  $c$ , and (b)  $k$ . (c-j) p-value of the 2-sample KS and AD tests applied to all combinations of monthly CDF of  $c$  and  $k$  during wet (blue) and dry (red) days at ZA-Kru.