Temporal and vertical distributions of the occurrence of the cirrus clouds over the coastal station in the Indian monsoon region

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Supplementary Material

Table ST1. Statistics of total hours of operation, total cirrus observation and percentage of occurrence, along with a seasonal average of CPT altitude (CPH), COH and TTL thickness (TTlt) during 2016 to 2018.

	Total Obs. (h)	Cirrus Obs. (h)	PO (%)	CPH (km)	COH (km)	TTLt (km)
2016						
DJF	463	225	48.6	17.6	11.8	5.8
MAM	935	513	54.9	17.8	11.8	6
JJA	745	537	72.1	17	12.6	4.4
SON	930	442	47.5	17	12.2	4.8
Annual	3073	1717	55.9	-	-	-
2017						
DJF	991	169	17.1	17.5	11.6	5.9
MAM	1308	496	37.9	17.4	11.5	5.9
JJA	1079	576	53.4	17	12.4	4.6
SON	938	430	45.8	17.1	12.2	4.9
Annual	4316	1671	38.7	-	-	-
2018						
DJF	1271	324	25.5	17.5	11.4	6.1
MAM	1247	530	42.5	17.4	11.9	5.5
JJA	1006	461	45.8	16.9	12.3	4.6
SON	865	299	34.6	16.9	11.8	5.1
Annual	4389	1614	36.8	-	-	-
Overall (**2016-2018**)						
DJF	2725	718	26.3	17.5	11.6	5.9
MAM	3490	1539	44.1	17.5	11.7	5.8
JJA	2830	1574	55.6	17	12.4	4.5
SON	2733	1171	42.8	17	12	4.9
Annual	11778	5002	42.5	-	-	-
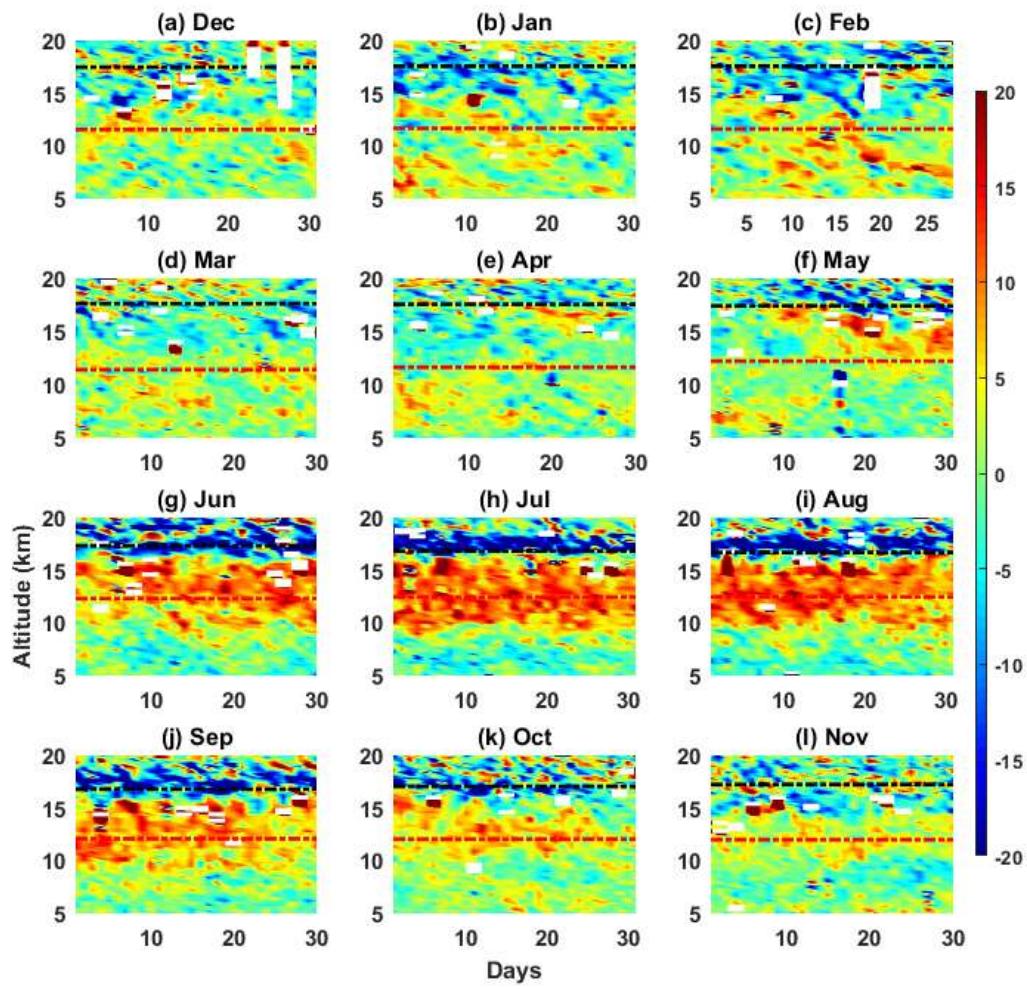
Figure S1: Time height section of the monthly variation of the zonal wind shear during 2016 to 2018 over Chennai. Monthly mean CPT altitude (black) and COH (blue) are shown as dashed lines.
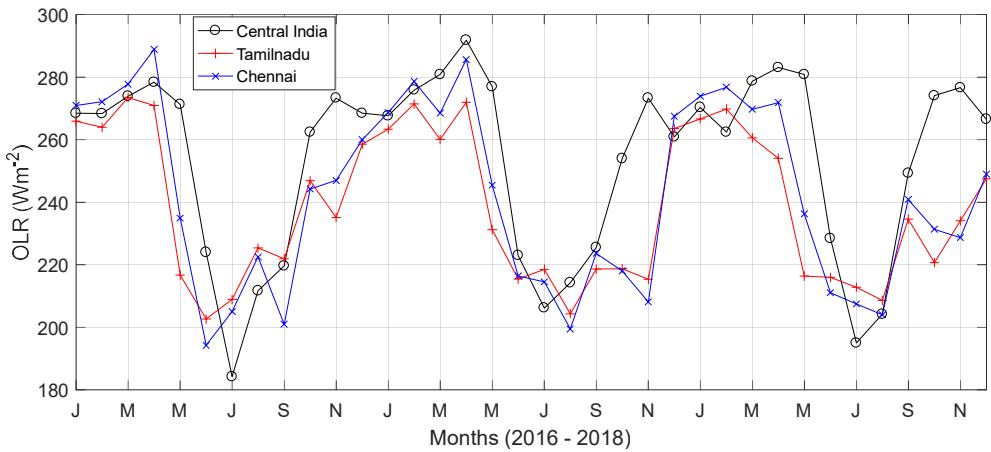
Figure S2: Monthly averaged OLR value observed across central India (Black), Tamilnadu (Red), and Chennai (blue) during 2016 to 2018.
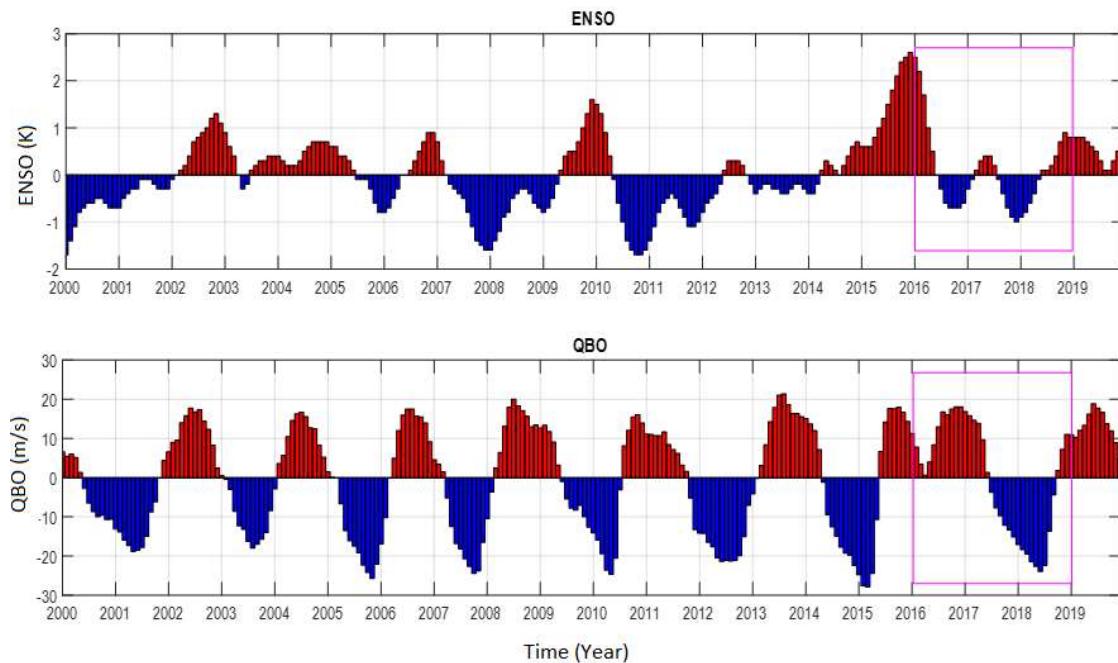
Figure S3: Time series of the El Nino Southern Oscillation (ENSO) Index and Quai-Biennial Oscillation (QBO) to 2000-2019.