

SUPPLEMENTARY MATERIAL

Transmission of COVID-19 in cities with weather conditions of high air humidity: Lessons learned from Turkish Black Sea region to face next pandemic crisis

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Table SM-1 The demographic information of the provinces studied (TUIK 2021).

Provinces	Population	Area (km ²)
Sinop	216,460	5,718
Samsun	1,356,079	9,655
Ordu	761,400	5,861
Giresun	448,721	7,025
Trabzon	811,901	4,648
Rize	344,494	3,835

Table SM-2 Monthly COVID-19 cases per 100,000 people between February and August, 2021 for all provinces examined in the current study.

	Provinces								
	Sinop	Samsun	Ordu	Giresun	Trabzon	Rize	İstanbul	Ankara	İzmir
	Monthly Cases/100K population								
FEBRUARY	637.32	984.76	1004.85	948.70	901.22	823.83	329.89	165.55	206.95
MARCH	1239.35	1895.05	1167.62	1358.60	984.29	944.12	1100.51	488.47	456.34
APRIL	1601.15	2189.67	2043.02	2453.87	1461.63	1946.89	3271.80	1960.54	1277.01
MAY	371.24	458.53	646.06	544.29	512.36	677.99	786.02	681.68	393.94
JUNE	93.38	149.87	208.81	160.60	223.81	343.34	212.90	349.05	115.71
JULY	285.94	249.75	463.68	520.60	516.97	568.87	430.51	398.32	139.47
AUGUST	654.63	754.03	926.61	1026.53	1513.57	2532.41	725.03	867.74	221.84

Table SM-3 Weekly cases of COVID-19 per 100,000 people from 08th February, 2021 to 03rd September 2021 for all provinces examined in the current study.

	Provinces								
	Sinop	Samsun	Ordu	Giresun	Trabzon	Rize	İstanbul	Ankara	İzmir
Population									
	COVID-19 Weekly Cases/100K population								
08 - 14 Feb	79.52	171.29	194.42	184.34	228.02	202.44	60.19	35.49	44.39
15 - 21 Feb	83.62	202.94	228.40	217.51	207.54	200.08	68.23	35.39	42.67
20 - 26 Feb	160.03	262.17	301.76	264.71	239.52	213.10	89.90	39.84	53.42
27 Feb -05 Mar	314.15	348.36	280.27	282.14	226.14	208.21	111.57	54.83	66.47
06 - 12 Mar	345.56	458.53	248.62	296.84	222.32	188.18	178.25	68.53	78.57
13 - 19 Mar	309.06	508.97	258.87	356.35	246.95	202.41	251.12	107.99	111.41
27 Mar-02 Apr	360.34	678.72	459.94	503.88	353.49	404.81	591.45	272.79	218.88
03 - 09 Apr	398.69	645.17	501.71	591.01	359.28	453.31	804.97	419.06	304.07
10 - 16 Apr	440.73	601.14	565.14	624.22	409.90	516.03	920.07	534.14	351.97
17-23 Apr	445.35	481.90	528.24	706.23	353.74	508.19	845.75	567.88	335.09
24 - 30 Apr	213.43	267.54	316.52	388.44	237.71	353.70	532.02	361.52	223.34
01 - 07 May	167.24	189.00	260.97	236.90	198.55	270.94	359.99	247.68	161.92
08 - 14 May	97.02	95.57	149.72	134.83	125.14	167.27	184.78	152.63	93.86
15 - 21 May	51.28	97.19	117.28	84.69	93.73	119.64	123.88	123.02	72.75
22 - 28 May	39.27	55.60	88.78	64.41	72.92	83.63	89.97	115.71	47.74
29 May - 04 Jun	38.34	49.40	68.39	54.74	51.38	85.18	63.93	99.50	41.23
05 - 11 Jun	32.80	46.60	59.76	52.15	65.65	80.15	55.20	94.87	32.04
12 - 18 Jun	14.78	30.97	55.69	39.00	60.35	96.99	51.27	93.11	25.99
19 - 25 Jun	20.33	34.36	42.95	31.87	54.44	95.54	54.30	83.64	27.40
26 Jun - 02 Jul	12.47	34.00	39.66	22.06	49.02	76.95	54.60	71.99	23.51
03 - 09 Jul	29.57	23.97	50.17	23.40	49.88	59.82	56.75	59.10	22.16
10 - 16 Jul	27.44	30.66	50.32	78.54	56.33	76.76	75.12	57.95	24.46
17 - 23 Jul	58.21	47.22	87.87	142.72	108.11	94.77	88.19	69.13	33.43
24 - 30 Jul	144.14	112.90	220.25	230.88	241.78	243.64	168.82	165.20	43.30
31 Jul – 06 Aug	161.09	176.99	306.18	271.28	328.03	503.27	182.21	184.58	65.85
07 - 13 Aug	119.19	171.16	240.08	279.24	330.58	575.56	181.96	199.55	49.81
14 - 20 Aug	132.59	160.54	170.08	204.80	310.63	538.10	147.73	176.38	46.24
21 – 27 Aug	149.68	169.16	158.92	197.90	366.67	614.18	148.33	194.96	43.30
28 Aug – 03 Sep	201.42	177.57	166.40	196.11	392.91	653.10	158.95	242.61	45.58

Table SM-4 Average climate parameters in the investigated period for all provinces in Turkey examined in the current study.

	SAMSUN							
	Temperature, °C	Wind Speed (kmph)	Gust (kmph)	Precipitation (mm)	Relative Humidity (%)	Cloud (%)	Atmospheric Pressure (mb)	Sun Hour (hr)
Feb-21	6	12.8	22.7	122.7	69	47	1022.1	245
Mar-21	7	8.9	13.5	156.3	78	65	1018.2	200
Apr-21	12	8.8	13.4	90	80	61	1016.6	202
May-21	17	7.2	11.2	98.9	75	35	1014.4	298
Jun-21	20	7.1	10.7	64.8	78	34	1014.0	300
Jul-21	25	11	16.3	44.0	71	27	1010.7	344
Aug-21	25	9.5	14.4	61.7	70	26	1012.1	324
	SİNOP							
	Temperature, °C	Wind Speed (kmph)	Gust (kmph)	Precipitation (mm)	Relative Humidity (%)	Cloud (%)	Atmospheric Pressure (mb)	Sun Hour (hr)
Feb-21	8	18.8	29	84.1	70	52	1021.2	215
Mar-21	7	18.7	27.9	82	75	62	1017.9	197
Apr-21	10	20.1	32.6	102.3	86	58	1016.6	233
May-21	15	18.7	32.3	62.7	80	29	1014.2	325
Jun-21	20	15	23.1	39	79	31	1013.6	316
Jul-21	25	21	31.5	27.5	75	20	1010.4	354
Aug-21	25	19.4	28.8	211.6	74	23	1011.6	317
	ORDU							
	Temperature, °C	Wind Speed (kmph)	Gust (kmph)	Precipitation (mm)	Relative Humidity (%)	Cloud (%)	Atmospheric Pressure (mb)	Sun Hour (hr)
Feb-21	7	10	16.6	139.9	70	49	1022.5	224
Mar-21	7	8.1	12.6	222.4	78	63	1018.3	204
Apr-21	12	7.8	12.6	81.2	81	62	1016.7	200
May-21	17	7.6	12.2	130.1	77	36	1014.4	292
Jun-21	21	7.2	11.0	62.9	78	38	1013.8	278
Jul-21	25	10.4	16.3	111.3	75	38	1010.4	300
Aug-21	25	8.2	13.4	74.7	75	35	1011.9	328
	GİRESUN							

	Temperature, °C	Wind Speed (kmph)	Gust (kmph)	Precipitation (mm)	Relative Humidity (%)	Cloud (%)	Atmospheric Pressure (mb)	Sun Hour (hr)
Feb-21	7	10.1	16.8	146.4	70	49	1022.6	226
Mar-21	7	9.0	13.9	246.4	76	61	1018.3	221
Apr-21	11	8.1	12.7	94.8	81	58	1016.7	220
May-21	16	7.5	11.6	104.5	76	38	1014.4	292
Jun-21	19	6.8	10.4	85.2	78	42	1013.9	278
Jul-21	24	9.9	15.3	123.6	75	40	1010.5	300
Aug-21	24	7.5	11.3	95.4	75	38	1012.2	328
	TRABZON							
	Temperature, °C	Wind Speed (kmph)	Gust (kmph)	Precipitation (mm)	Relative Humidity (%)	Cloud (%)	Atmospheric Pressure (mb)	Sun Hour (hr)
Feb-21	8	10.6	17.0	107.6	68	52	1022.8	221
Mar-21	8	10.8	15.3	212.2	74	60	1018.5	211
Apr-21	12	8.8	13.7	82.0	81	60	1016.8	205
May-21	17	8.4	12.9	66.1	76	38	1014.3	290
Jun-21	20	7.2	10.4	46.0	78	41	1013.8	285
Jul-21	24	8.6	13.0	88.2	73	40	1010.0	292
Aug-21	24	6.9	10.3	72.2	76	47	1011.8	273
	RİZE							
	Temperature, °C	Wind Speed (kmph)	Gust (kmph)	Precipitation (mm)	Relative Humidity (%)	Cloud (%)	Atmospheric Pressure (mb)	Sun Hour (hr)
Feb-21	8	7.3	12.4	179.8	70	56	1023.2	200
Mar-21	7	8.2	12.4	303.9	76	64	1013.8	190
Apr-21	13	7.4	11.4	85.8	79	58	1016.9	226
May-21	17	7.0	10.6	130.7	73	36	1014.3	288
Jun-21	20	6.6	9.3	85.8	78	42	1013.7	309
Jul-21	24	7.3	10.8	110.9	75	42	1010.2	308
Aug-21	24	6.2	9.00	92.6	79	53	1011.9	232