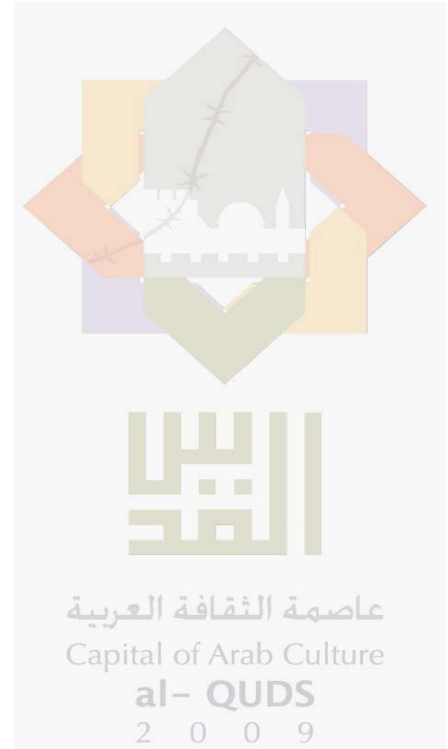
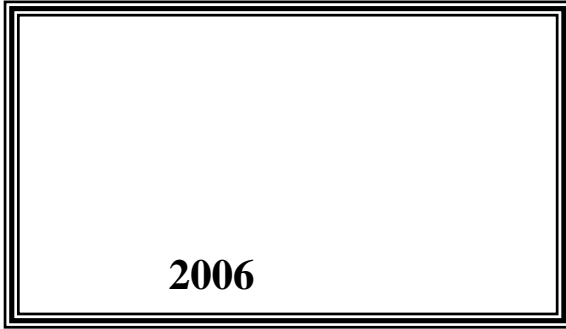




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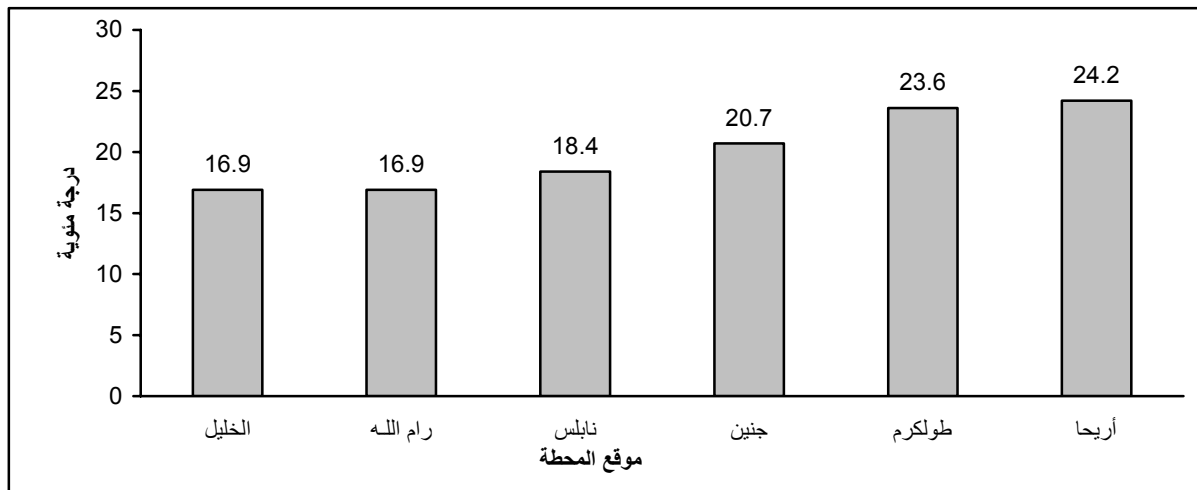
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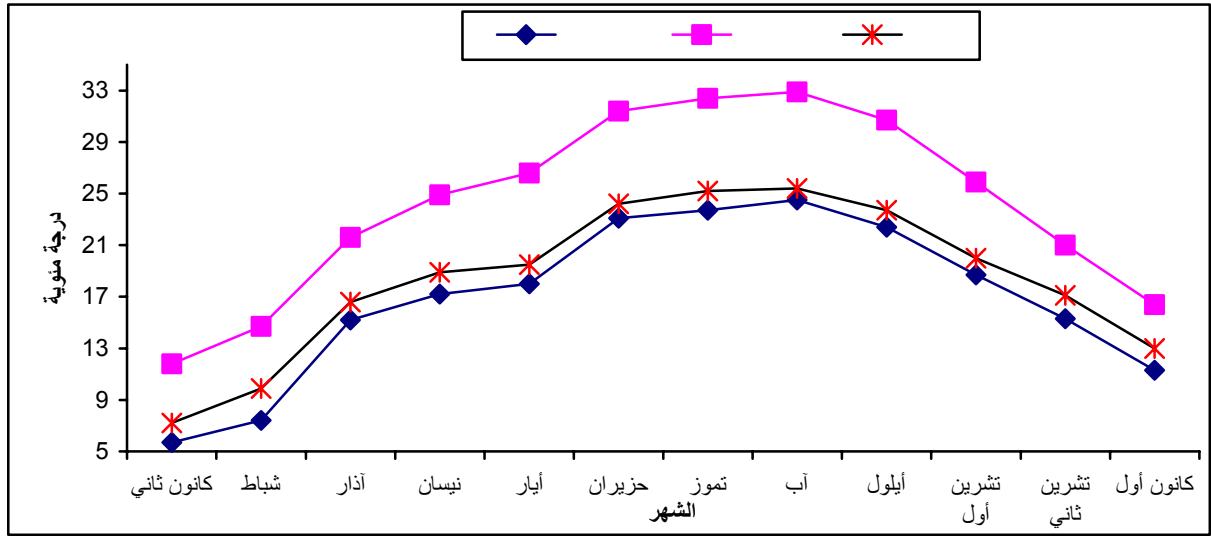
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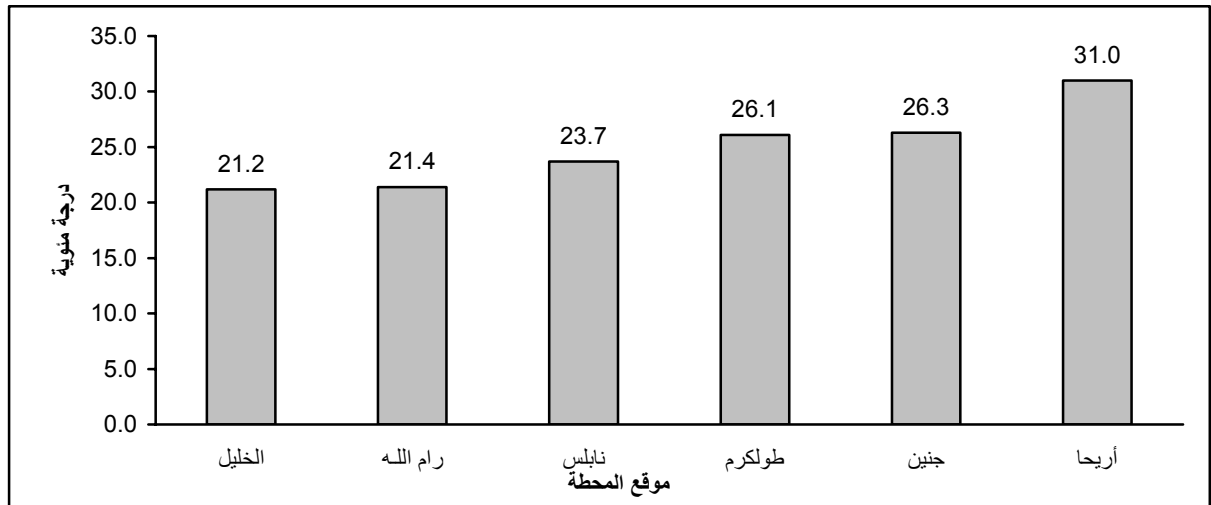
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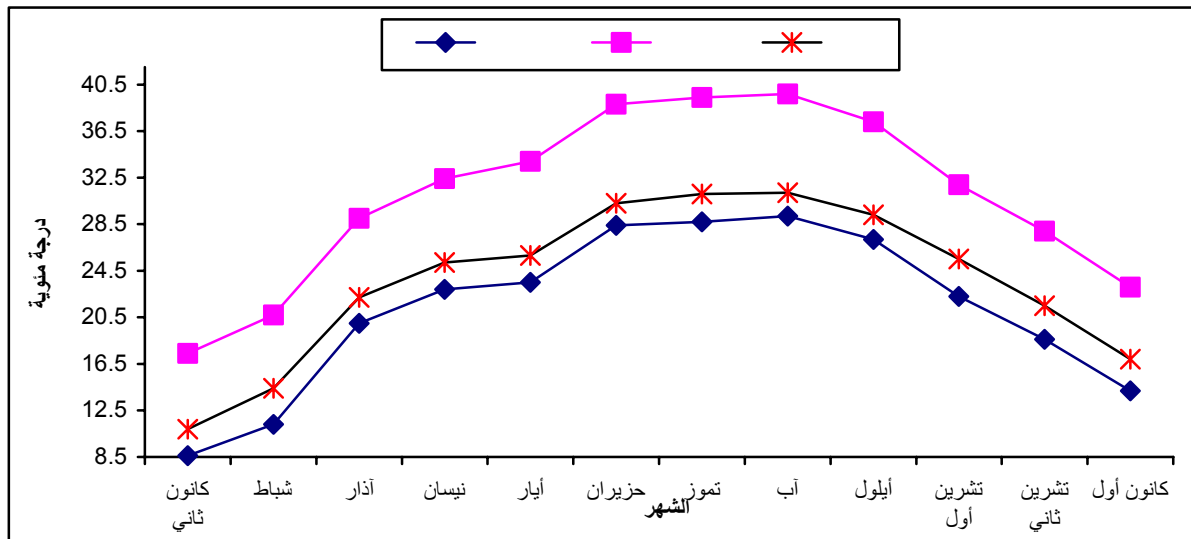
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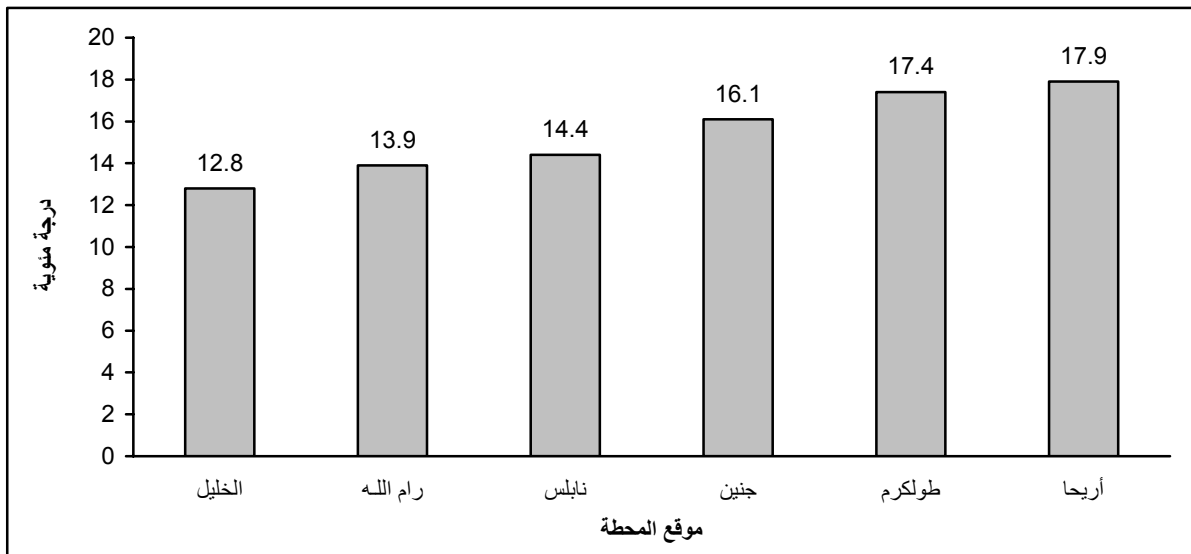
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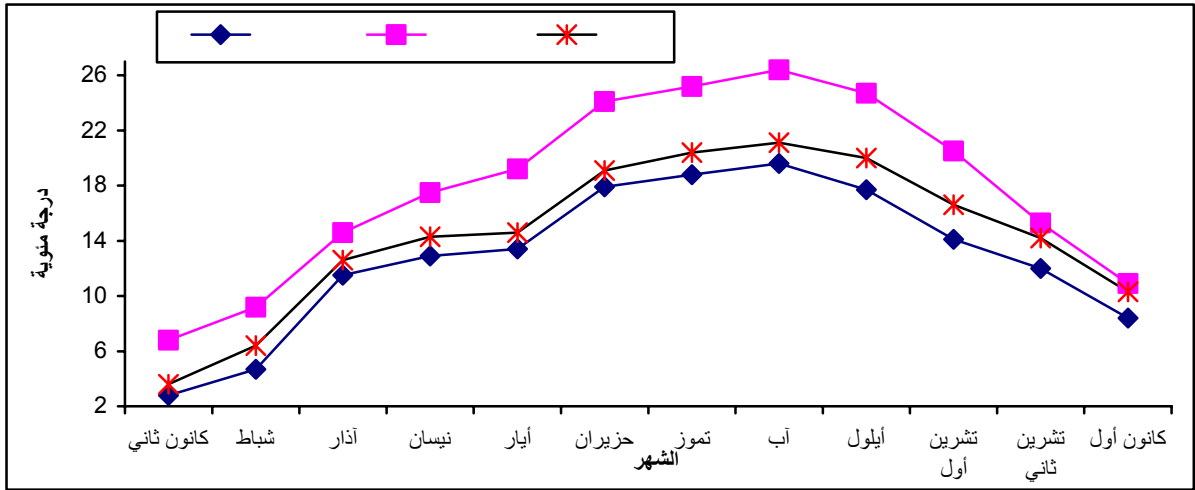
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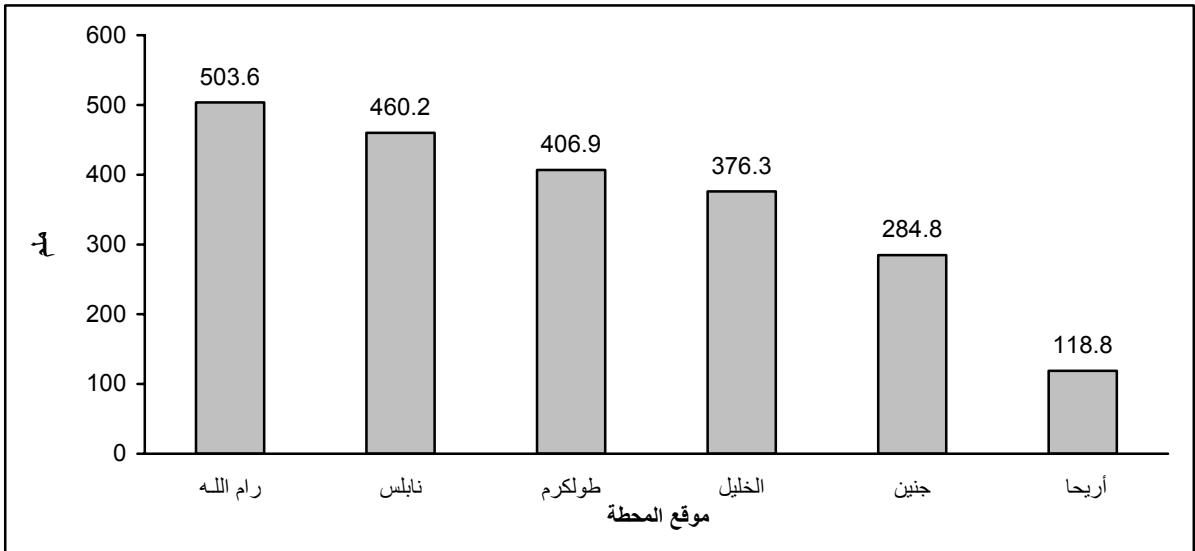
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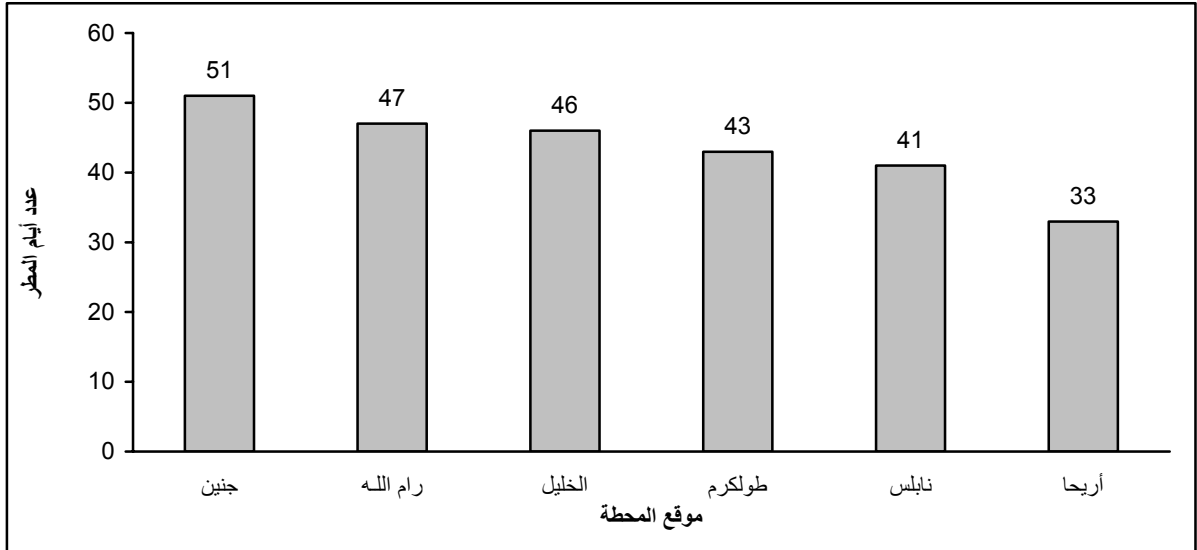
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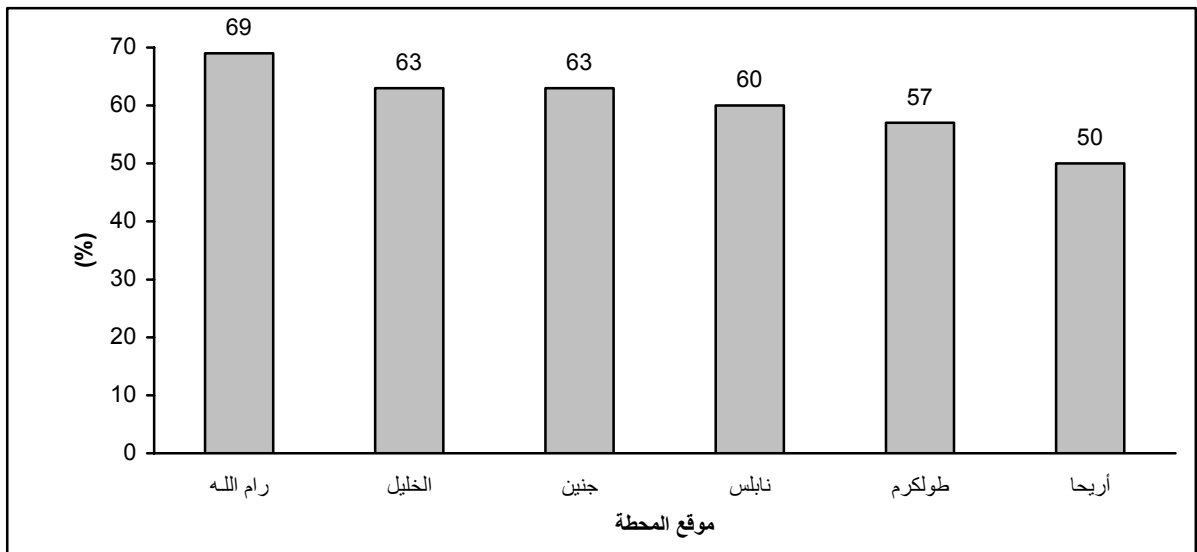


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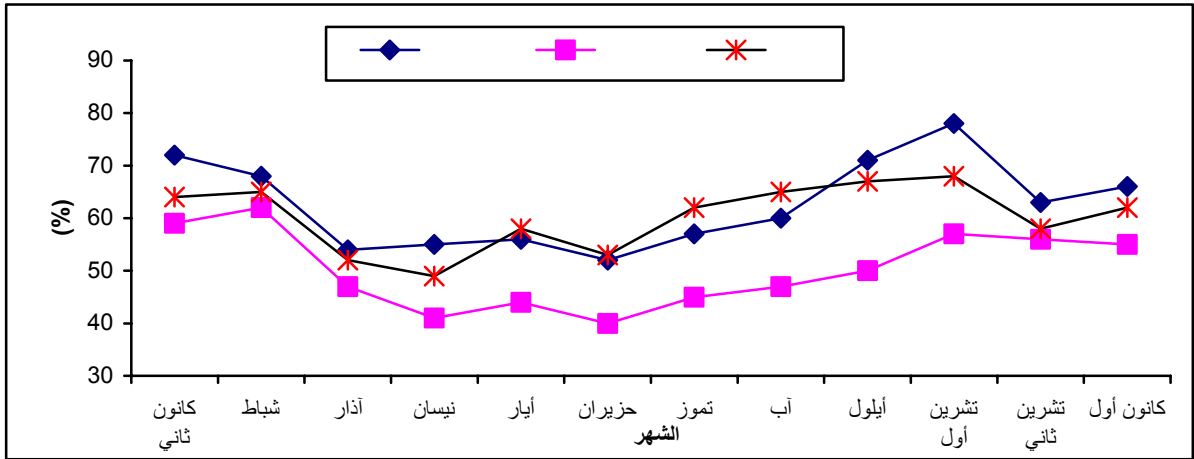


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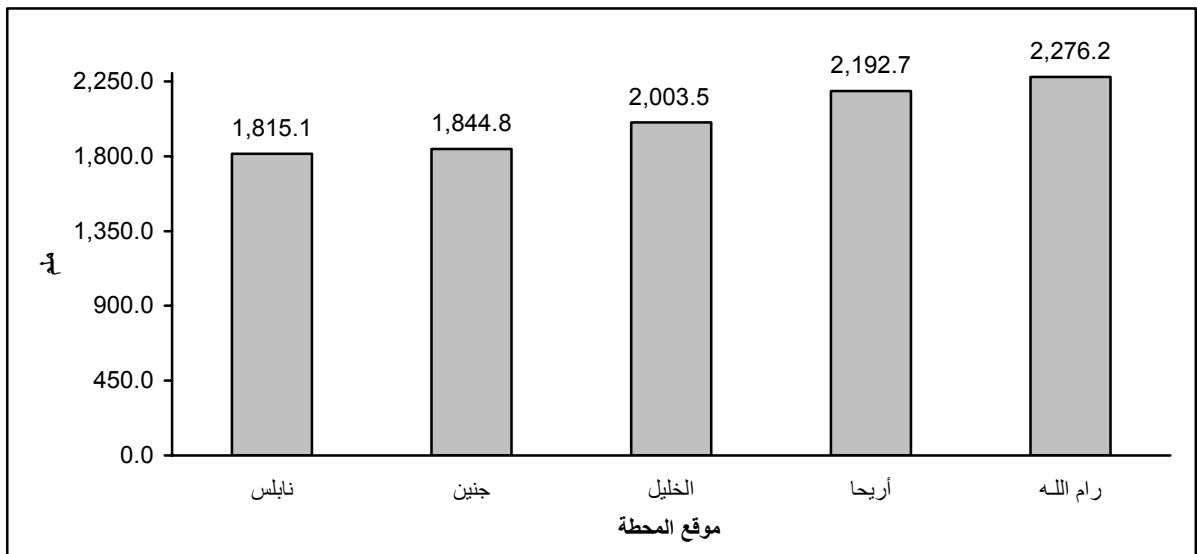
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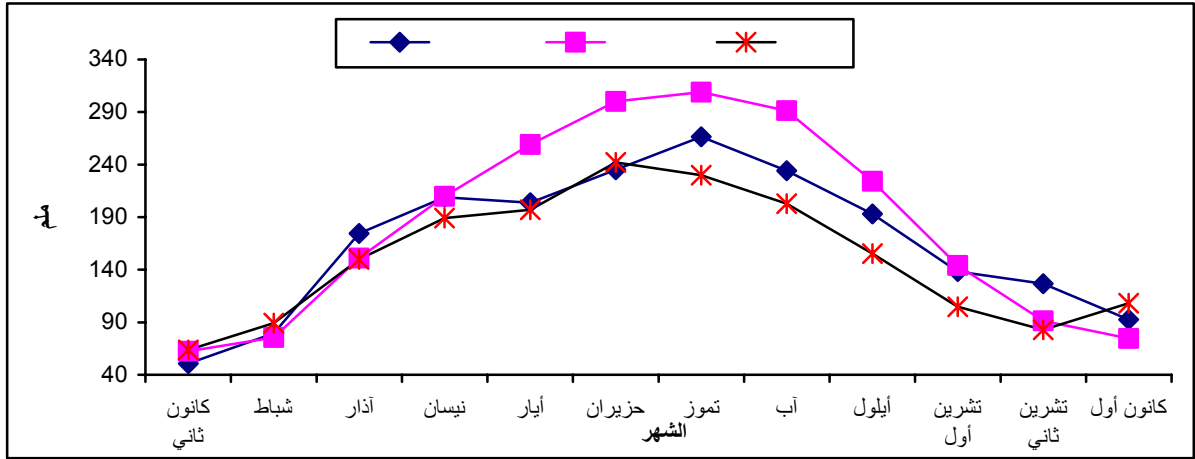
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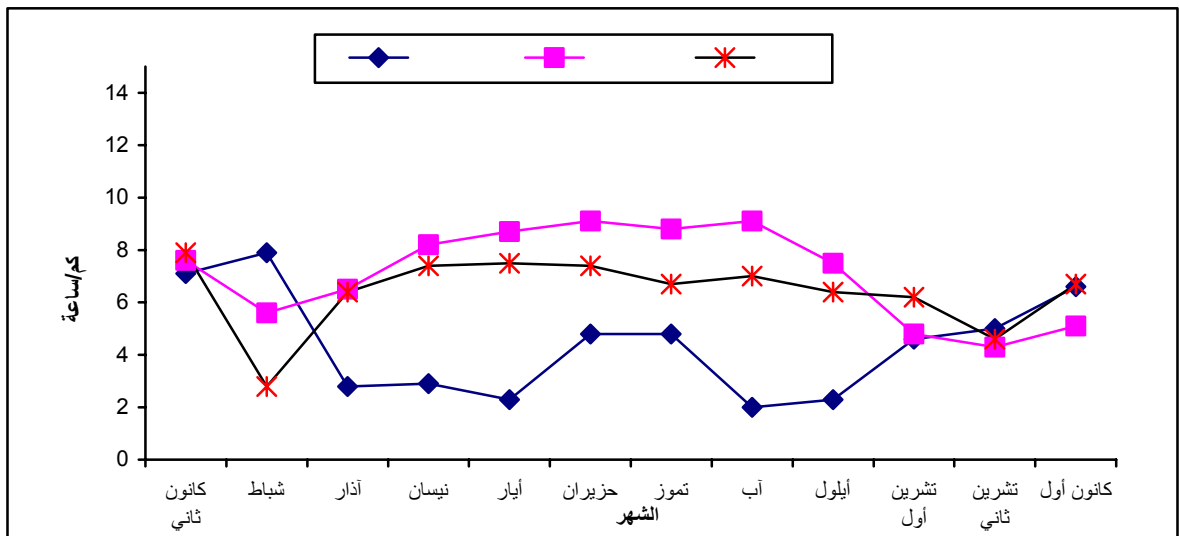
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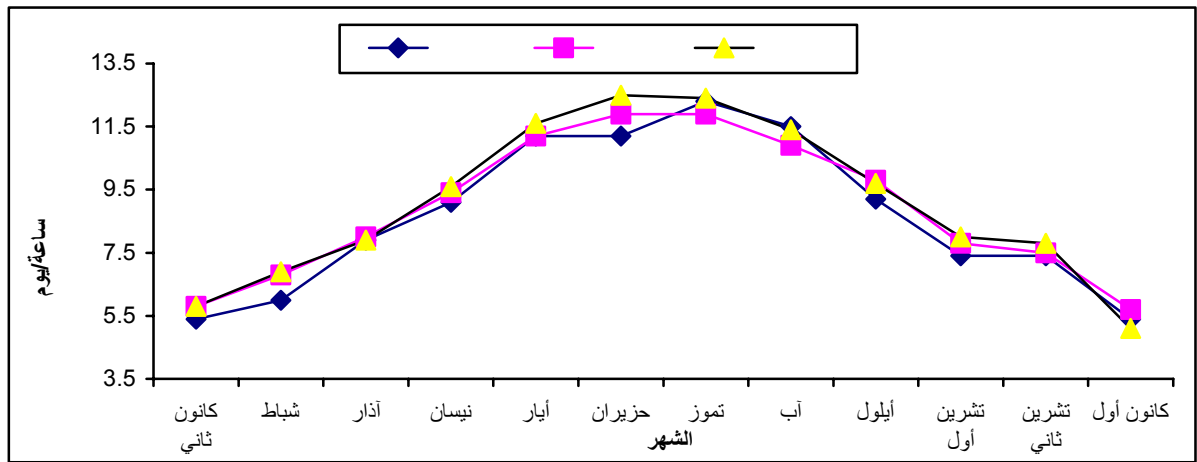
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Tables

(°) 2008-1997 1995-1975

:1

Table 1: Mean of Air Temperatures in the Palestinian Territory by Year and Station Location, 1975-1995, 1997-2008 (C°)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1995 -1975
Jenin	20.7	20.3	..	20.3	20.1	20.2	..	21.7	20.2	21.0	21.1	19.1	..
Tulkarm	23.6	18.9	..	23.1	22.8	..	..	21.8	22.3	21.9	21.3	18.9	19.8
Nablus	18.4	17.8	..	18.0	18.1	18.4	..	18.7	17.5	18.5	19.0	16.8	17.6
Ramallah	16.9	17.1	..	..	..	17.0	..	17.1	..	..	17.7	16.0	17.2
Jericho	24.2	22.4	..	23.4	23.5	23.6	..	24.0	23.2	23.8	23.9	21.3	22.7
Hebron	16.9	15.5	..	16.7	16.6	16.3	..	16.5	14.6	16.4	16.6	14.5	15.4
Gaza	..	19.8	..	21.0	20.8	20.8	..	21.1	20.5	21.0	21.1	18.9	20.6

(°) 2008-1997 1995-1975

:2

Table 2: Mean of Maximum Air Temperatures in the Palestinian Territory by Year and Station Location, 1975-1995, 1997-2008 (C°)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1995 -1975
Jenin	26.3	27.1	..	25.6	25.8	26.6	..	25.6	25.5	26.5	26.3	23.8	..
Tulkarm	26.1	22.3	..	26.3	26.3	..	..	26.9	25.6	26.7	26.6	24.1	25.7
Nablus	23.7	22.3	..	22.9	23.0	22.1	..	23.7	22.8	23.8	23.4	21.0	21.6
Ramallah	21.4	17.1	..	..	..	21.8	..	21.7	..	..	22.6	19.3	21.1
Jericho	31.0	29.6	..	30.3	30.3	30.5	..	30.8	30.1	30.9	30.8	27.5	29.6
Hebron	21.2	19.9	..	21.0	20.9	20.8	..	20.9	19.7	20.7	22.3	18.2	19.6
Gaza	..	23.6	..	23.6	23.6	23.5	..	24.0	23.4	24.1	24.7	22.1	27.2

(°) 2008-1997 1995-1975

:3

Table 3: Mean of Minimum Air Temperatures in the Palestinian Territory by Year and Station Location, 1975-1995, 1997-2008 (C°)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1995 -1975
Jenin	16.1	13.5	..	16.0	15.7	14.1	..	16.5	15.7	16.2	16.4	14.4	..
Tulkarm	17.4	15.6	..	16.0	15.8	..	..	16.7	16.0	16.2	16.1	14.4	13.9
Nablus	14.4	13.3	..	14.3	14.1	14.1	..	14.8	14.0	14.3	14.6	13.4	13.6
Ramallah	13.9	13.1	..	..	..	14.4	..	13.4	..	..	12.9	13.6	13.1
Jericho	17.9	15.3	..	16.2	16.5	16.9	..	16.8	16.4	16.9	17.0	15.9	15.7
Hebron	12.8	11.1	..	12.3	12.3	12.6	..	12.7	11.8	12.7	12.6	11.5	11.2
Gaza	..	16.1	..	17.7	17.5	17.4	..	17.9	17.0	17.5	17.5	16.8	14.0

() 2008-1997

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Table 4: Annual Rainfall Quantity in the Palestinian Territory by Year and Station Location, 1997-2008 (mm)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	
Jenin	248.8	232.5	..	431.1	424.8	649.3	..	311.8	477.6	237.4	388.0	653.6	
Meithalun	..	494.4	..	519.2	521.3	788.2	..	451.4	673.3	273.3	559.3	741.2	
Tulkarm	406.9	581.9	..	585.8	47.35	770.2	..	557.9	784.4	290.0	531.3	918.4	
Nablus	460.2	574.0	..	790.5	638.5	942.7	..	505.0	835.3	343.2	556.7	828.3	
Ramallah	503.6	543.9	..	..	..	654.2	..	364.8	..	..	302.2	596.7
Jericho	118.8	115.2	..	117.0	128.5	194.0	..	148.4	152.8	48.7	90.1	224.6	
Hebron	376.3	447.8	..	475.9	570.8	538.7	..	520.1	681.8	243.4	328.2	586.8	
Gaza	..	405.1	..	260.5	408.3	524.8	..	436.7	563.3	196.5	241.1	353.8	

2008-1997

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Table 5: Number of Rainfall Days in the Palestinian Territory by Year and Station Location, 1997-2008

Station Location	Year											
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997
Jenin	51	38	..	55	51	64	..	38	48	35	49	74
Tulkarm	43	49	..	51	50	..	..	44	61	39	62	77
Nablus	41	53	..	56	58	64	..	49	61	42	68	62
Ramallah	47	48	..	..	..	48	..	35	...	..	32	59
Jericho	33	32	..	36	35	41	..	24	32	23	32	50
Hebron	46	50	..	46	42	49	..	48	54	31	40	54
Gaza	..	36	..	38	46	51	..	..	52	34	34	50

(%) 2008-1997 1983-1969

:6

Table 6: Mean Relative Humidity in the Palestinian Territory by Year and Station Location, 1969-1983, 1997-2008 (%)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1983 -1969
Jenin	63	69	..	65	65	65	..	64	67	63	63	57	..
Tulkarm	57	69	..	60	62	..	..	66	67	64	63	64	63
Nablus	60	61	..	60	61	62	..	63	64	61	61	55	61
Ramallah	69	57	..	...	..	70	..	68	..	...	59	51	57
Jericho	50	52	..	53	53	55	..	52	53	51	55	51	52
Hebron	63	62	..	60	66	66.	..	58	61	57	59	51	62
Gaza	..	71	..	66	67	67	..	69	70	71	69	61	..

() 2008-1997 1984-1973

:7

Table 7: Evaporation Quantity in the Palestinian Territory by Year and Station Location, 1973-1984, 1997-2008 (mm)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1984 -1973
Jenin	1,844.8	..	..	1,932.2	1,943.9	1,737.0	..	..	1,983.8	2,049.0	2,006.4	1,987.0	..
Tulkarm	..	..	..	..	..	..	..	..	1,766.9	1,468.0	1,245.4	..	1,633.0
Nablus	1,815.1	1,682.0	..	1,991.3	1,981.8	1,808.3	..	1,869.1	1,853.5	1,884.3	1,986.0	1,878.0	1,681.0
Ramallah	2,276.2	1,889.0	..	..	..	1,093.2	..	..	..	..	2,077.1	1,976.0	1,874.0
Jericho	2,192.7	2,101.0	..	2,085.3	2,110.7	2,227.0	..	2,112.3	2,047.8	2,113.0	2,074.0	1,974.0	2,342.0
Hebron	2,003.5	1,608.0	..	2,046.9	1,974.3	1,828.3	..	1,865.7	1,788.4	1,970.0	2,077.2	1,673.0	1,681.0
Gaza	..	1,582.0	..	1,542.8	1,697.9	1,582.9	..	1,908.9	1,635.5	1,645.0	1,671.9	1,603.0	..

(/) 2008-1997

:8

Table 8: Mean Wind Speed in the Palestinian Territory by Year and Station Location, 1997-2008 (km\hour)

Station Location	Year												
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	
Jenin	6.7	7.8	..	3.4	3.8	5.4	..	7.9	8.3	9.0	3.9	5.3	
Tulkarm	5.2	3.4	..	3.5	3.5	..	..	3.8	4.0	7.0	4.0	6.0
Nablus	6.4	9.9	..	8.7	8.8	8.0	..	11.2	10.0	11.2	5.5	10.7	
Ramallah	8.5	17.3	..	..	..	7.8	..	..	..	..	5.0	18.0
Jericho	7.1	12.3	..	7.0	7.0	8.1	..	7.4	7.5	6.7	3.3	8.8	
Hebron	4.4	10.1	..	12.1	10.4	8.6	..	12.5	12.8	6.4	5.1	12.0	
Gaza	..	..	..	8.4	10.4	10.3	..	12.0	10.5	8.2	10.2	12.9

(°) 2008

:9

Table 9: Mean of Air Temperature in the West Bank by Month and Station Location, 2008 (C°)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	5.7	11.8	6.0	7.2	13.0	9.4
February	7.4	14.7	8.6	9.9	15.1	12.2
March	15.2	21.6	15.7	16.6	21.7	18.3
April	17.2	24.9	18.9	18.9	24.6	21.2
May	18.0	26.6	17.9	19.5	24.8	22.1
June	23.1	31.4	20.7	24.2	28.7	26.5
July	23.7	32.4	23.3	25.2	29.8	27.8
August	24.5	32.9	23.9	25.4	30.0	28.3
September	22.4	30.7	22.0	23.7	29.1	26.6
October	18.7	25.9	18.2	20.0	25.2	22.9
November	15.3	21.0	15.8	17.1	23.7	18.8
December	11.3	16.4	11.7	13.0	18.0	14.3
Annual Mean	16.9	24.2	16.9	18.4	23.6	20.7

(°) 2008

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Table 10: Mean of Maximum Air Temperature in the West Bank by Month and Station Location, 2008 (C°)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	8.6	17.4	8.5	10.9	15.6	14.1
February	11.3	20.7	11.9	14.4	17.4	17.5
March	20.0	29.0	19.9	22.2	24.0	24.7
April	22.9	32.4	25.2	25.2	27.2	27.2
May	23.5	33.9	22.9	25.8	27.3	28.1
June	28.4	38.8	27.9	30.3	31.0	32.6
July	28.7	39.4	28.4	31.1	32.4	33.0
August	29.2	39.7	28.9	31.2	32.6	33.7
September	27.2	37.3	27.0	29.3	31.2	32.1
October	22.3	31.9	22.3	25.5	27.3	28.3
November	18.6	27.9	19.6	21.5	26.6	25.1
December	14.2	23.1	14.6	16.9	20.5	19.5
Annual Mean	21.2	31.0	21.4	23.7	26.1	26.3

(°) 2008

:11

Table 11: Mean of Minimum Air Temperature in the West Bank by Month and Station Location, 2008 (C°)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	2.8	6.8	4.0	3.6	7.7	5.9
February	4.7	9.2	6.2	6.4	9.7	8.1
March	11.5	14.6	12.6	12.6	14.1	13.2
April	12.9	17.5	14.3	14.3	16.8	15.5
May	13.4	19.2	14.1	14.6	17.7	16.5
June	17.9	24.1	18.7	19.1	21.9	20.9
July	18.8	25.2	19.6	20.4	23.2	23.4
August	19.6	26.4	20.1	21.1	24.6	24.2
September	17.7	24.7	18.6	20.0	23.2	22.7
October	14.1	20.5	15.4	16.6	19.8	18.7
November	12.0	15.3	13.3	14.2	16.9	14.0
December	8.4	10.9	9.8	10.3	12.7	10.1
Annual Mean	12.8	17.9	13.9	14.4	17.4	16.1

(°) 2008

:12

Table 12: Absolute Minimum Air Temperature in the West Bank by Month and Station Location, 2008 (C°)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	-2.2	0.2	-1.4	-1.0	3.0	0.4
February	-1.0	6.2	-0.4	1.5	6.0	3.2
March	5.0	10.2	6.8	7.5	10.0	6.4
April	6.0	11.0	8.6	8.6	13.0	10.4
May	6.6	14.2	8.5	9.0	15.0	13.4
June	14.0	20.6	14.8	13.5	19.8	14.4
July	16.0	21.0	16.4	18.6	19.0	21.0
August	16.0	23.6	17.8	18.0	23.0	21.6
September	15.0	20.2	15.6	16.4	21.0	19.6
October	10.0	15.6	11.0	12.0	15.8	14.0
November	7.8	10.6	7.8	8.0	12.6	8.6
December	4.5	8.0	5.0	6.0	10.0	6.0

(°) 2008

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Table 13: Absolute Maximum Air Temperature in the West Bank by Month and Station Location, 2008 (C°)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	15.6	21.4	14.4	16.4	18.8	17.2
February	18.0	26.2	18.2	20.0	22.6	22.8
March	31.0	37.2	28.6	34.0	36.8	37.4
April	34.0	43.6	37.0	37.0	40.0	40.0
May	28.6	39.2	28.5	31.5	33.0	33.8
June	37.6	42.0	33.8	36.0	38.8	39.4
July	32.0	41.6	31.8	33.5	35.0	36.6
August	31.5	43.8	33.2	33.5	34.0	37.0
September	31.6	40.6	32.3	33.0	34.0	35.8
October	30.5	39.2	31.0	35.5	35.2	39.2
November	22.5	31.0	23.4	25.5	29.6	29.0
December	21.0	27.4	22.4	23.0	25.2	23.8

() 2008

:14

Table 14: Rainfall Quantity in the West Bank by Month and Station Location, 2008 (mm)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	151.1	52.5	224.8	157.7	77.8	101.5
February	108.8	34.3	144.4	104.7	104.0	74.3
March	0.6	0.0	1.5	6.0	10.5	11.1
April	0.0	0.0	0.7	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	2.1	1.0
June	0.0	0.0	0.0	0.0	0.0	0.0
July	0.0	0.0	0.0	0.0	0.0	0.0
August	0.0	0.0	0.0	0.0	0.0	0.0
September	7.8	0.2	10.2	11.0	10.5	5.0
October	35.2	20.0	26.0	23.3	18.3	15.3
November	22.5	6.2	11.5	4.2	32.7	17.8
December	50.3	5.6	84.5	153.3	151.0	58.8
Total	376.3	118.8	503.6	460.2	406.9	284.8

2008

:15

Table 15: Number of Rainfall Days in the West Bank by Month and Station Location, 2008

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	14	11	13	12	8	15
February	10	8	8	9	10	8
March	1	0	1	5	3	3
April	0	0	1	0	0	0
May	0	0	0	0	1	1
June	0	0	0	0	0	0
July	0	0	0	0	0	0
August	0	0	0	0	0	0
September	2	1	3	3	2	3
October	8	6	8	5	5	5
November	3	2	4	2	4	5
December	8	5	9	5	10	11
Annual Mean	46	33	47	41	43	51

() 2008

:16

Table 16: Maximum Daily Rainfall in the West Bank by Month and Station Location, 2008 (mm)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	55.6	15.3	79.0	72.6	46.1	45.8
February	29.2	14.7	38.5	35.6	33.2	23.7
March	0.6	0.0	1.5	3.0	5.2	9.0
April	0.0	0.0	0.7	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	2.1	1.0
June	0.0	0.0	0.0	0.0	0.0	0.0
July	0.0	0.0	0.0	0.0	0.0	0.0
August	0.0	0.0	0.0	0.0	0.0	0.0
September	5.8	0.2	4.6	7.6	5.5	3.7
October	14.0	12.4	11.6	13.0	11.5	9.7
November	15.2	5.8	8.7	3.8	14.2	13.6
December	21.6	3.0	20.6	76.8	43.5	23.0

(%) 2008

:17

Table 17: Mean Relative Humidity in the West Bank by Month and Station Location, 2008 (%)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	72	59	76	64	55	65
February	68	62	76	65	64	67
March	54	47	59	52	51	58
April	55	41	57	49	49	52
May	56	44	64	58	55	59
June	52	40	60	53	56	57
July	57	45	71	62	56	62
August	60	47	72	65	63	66
September	71	50	77	67	58	64
October	78	57	84	68	63	68
November	63	56	68	58	49	64
December	66	55	69	62	62	68
Annual Mean	63	50	69	60	57	63

(%) 2008

:18

Table 18: Absolute Maximum Relative Humidity in the West Bank by Month and Station Location, 2008 (%)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	100	83	100	96	81	85
February	98	80	100	89	91	83
March	100	67	100	86	79	79
April	84	57	91	72	75	72
May	84	53	91	75	73	70
June	83	51	93	74	67	69
July	83	52	91	73	64	68
August	81	54	95	78	70	74
September	95	55	99	84	69	73
October	96	76	100	83	91	83
November	96	74	98	85	78	84
December	98	76	100	92	96	90

(%) 2008

:19

Table 19: Absolute Minimum Relative Humidity in the West Bank by Month and Station Location, 2008 (%)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	21	30	25	25	21	25
February	36	41	30	33	37	47
March	22	27	16	15	23	28
April	28	20	16	18	19	22
May	39	33	36	33	32	45
June	29	29	25	27	25	32
July	34	31	31	30	37	49
August	39	38	37	43	52	54
September	47	41	37	45	36	53
October	45	38	42	40	46	52
November	42	37	38	35	33	48
December	35	34	18	28	27	41

() 2008

:20

Table 20: Evaporation Quantity in the West Bank by Month and Station Location, 2008 (mm)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	50.5	62.6	56.0	63.8	..	64.3
February	79.6	75.5	86.5	89.2	..	68.5
March	174.6	151.0	171.5	149.8	..	143.6
April	208.8	209.8	237.8	189.0	..	170.8
May	203.8	259.0	272.4	197.0	..	197.9
June	235.0	300.0	317.2	242.3	..	208.3
July	266.5	308.9	283.9	230.0	..	283.0
August	234.0	291.3	277.6	202.8	..	218.4
September	193.0	224.1	203.5	155.4	..	163.9
October	138.4	144.2	136.7	104.7	..	141.1
November	126.8	91.5	127.2	82.8	..	104.0
December	92.5	74.8	105.9	108.3	..	81.0
Total	2,003.5	2,192.7	2,276.2	1,815.1	..	1,844.8

(/) 2008

:21

Table 21: Mean Wind Speed in the West Bank by Month and Station Location, 2008 (km\hour)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	7.1	7.6	9.1	7.9	6.9	6.8
February	7.9	5.6	8.9	2.8	5.7	7.1
March	2.8	6.5	8.5	6.4	5.4	6.4
April	2.9	8.2	9.2	7.4	6.0	7.9
May	2.3	8.7	15.4	7.5	6.1	8.0
June	4.8	9.1	8.2	7.4	5.3	6.8
July	4.8	8.8	7.5	6.7	5.0	7.0
August	2.0	9.1	7.4	7.0	5.3	7.6
September	2.3	7.5	7.6	6.4	4.5	6.0
October	4.6	4.8	6.5	6.2	3.9	5.6
November	5.0	4.3	5.0	4.6	4.1	5.2
December	6.6	5.1	8.4	6.7	4.6	6.1
Annual Mean	4.4	7.1	8.5	6.4	5.2	6.7

(/) 2008

:22

Table 22: Wind Gust Speed in the West Bank by Month and Station Location, 2008 (km\hour)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	14.0	31.0	31.0	24.0	19.0	30.4
February	12.0	11.0	24.3	24.0	13.0	18.0
March	5.8	14.5	19.5	23.0	13.0	18.2
April	4.1	18.2	15.8	14.0	10.0	13.4
May	3.6	14.0	24.0	14.0	9.0	13.6
June	7.5	15.2	14.8	12.0	7.0	11.4
July	6.7	14.7	12.8	11.0	7.0	11.4
August	3.7	14.7	11.0	10.0	7.0	13.5
September	4.1	15.5	16.0	10.0	9.0	16.4
October	6.0	12.0	13.8	10.0	7.0	10.0
November	9.0	12.0	11.4	9.0	8.0	12.0
December	16.0	19.5	29.3	14.0	9.0	16.4

Table 23: Mean Sunshine Duration for Some Stations in the West Bank by Month and Station Location, 2008 (hour/day)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	5.4	5.8	5.8	..	..	..
February	6.0	6.8	6.9	..	..	..
March	7.9	8.0	7.9	..	..	..
April	9.1	9.4	9.6	..	..	..
May	11.2	11.2	11.6	..	..	..
June	11.2	11.9	12.5	..	..	..
July	12.3	11.9	12.4	..	..	..
August	11.5	10.9	11.4	..	..	..
September	9.2	9.8	9.7	..	..	..
October	7.4	7.8	8.0	..	..	..
November	7.4	7.5	7.8	..	..	..
December	5.4	5.7	5.1	..	..	..
Annual Mean	8.7	8.9	9.1	..	..	..

Table 24: Mean Atmospheric Pressure for Some Stations in the West Bank by Month and Station Location, 2008 (mbar)

Month	Station Location					
	Hebron	Jericho	Ramallah	Nablus	Tulkarm	Jenin
January	900.7	1,043.4	917.0	953.2	..	1,002.7
February	903.2	1,045.8	919.7	955.7	..	1,003.9
March	899.4	1,037.3	916.6	949.8	..	998.0
April	899.9	1,036.9	917.6	950.6	..	997.9
May	899.0	1,035.2	916.7	949.4	..	996.4
June	897.8	1,031.1	916.0	947.3	..	993.6
July	895.7	1,028.6	914.3	945.4	..	990.8
August	895.8	1,028.1	914.6	945.0	..	990.5
September	899.3	1,033.2	917.7	948.8	..	994.8
October	902.7	1,038.9	920.4	952.8	..	999.4
November	903.0	1,041.3	920.5	954.1	..	1,001.1
December	902.8	1,043.4	919.5	954.5	..	1,002.4
Annual Mean	899.9	1,036.9	917.6	950.6	..	997.6

Maps











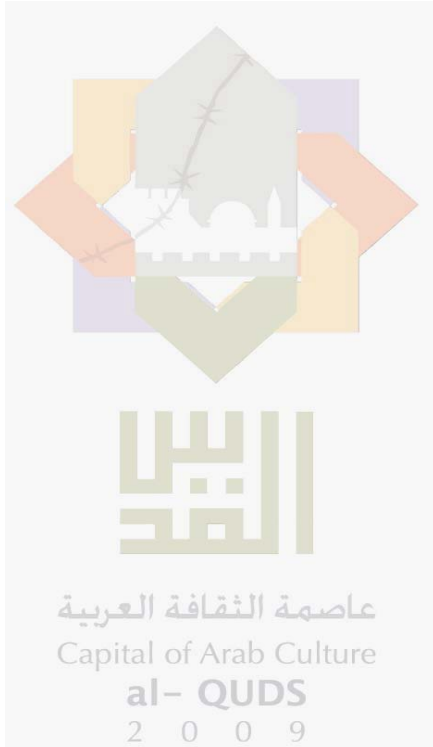
**Palestinian National Authority
Palestinian Central Bureau of Statistics**

**Meteorological Conditions in the Palestinian Territory
Annual Report 2008**

July, 2009

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Disclaimer for the users

The Data of this report was collected for the West Bank only, because we are unable to collect the data of Gaza Strip.

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Preface

PCBS is pleased to realse this specialized satatistical report on the meteorological conditions in the Palestinian Territory. This report has been prepared in accordance within the framework of our official efforts for creating and establishing the National Statistical System, and providing the necessary statsitics to Palestinian policy-planners and decision-makers in water, environemt and natural resources sector.

Meteorological statistics form one of the most important parts of the environmental statistics. In addition to its importance for studying and providing data on climatic changes, there is a strong relationship with the statistics of air quality and its pollution, energy statistics and water statistics. This implies making available precise and comprehensive data for the climatic conditions in the Palestinian Territory.

PCBS established a special program for environment statistics, that aims at building and updating a comprehensive and accurate statistical database about all environmental subjects. This program aims to provide statistical data as a tool to control the environmental status in the Palestinian Territory.

Recent years witnessed more attention to environment and climate statistics at the international and regional levels due to the changes taking place in environment and natural recourses. Therefore, measurement and monitoring environment and meteorological indicators became an important issue at the national, regional and international levels.

This report is one of a series of expected reports to be published by the PCBS on the environment according to the Submaster Plan for the Environment Statistics Department. This report presents the most important indicators of meteorology provided by the Meteorological Directorate at the Ministry of Transport.

This report concentrates on the variables of rainfall, temperature, relative humidity, solar radiation, wind, pressure and the amount of evaporation.

PCBS hopes that the findings of this report will contribute to improving the environmental status and stop the random depletion of natural resources, as well as help the Palestinian policy-planner and decision-makers in development and planning processes.

July, 2009

**Ola Awad
Acting President**

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Executive Summary

Time series data indicated that the annual mean of air temperature over the period 1975-1996 ranged between 15.4 centigrade degrees in Hebron Station, and 22.7 in Jericho Station. While the annual mean for 2008 ranged between 16.9 centigrade degrees in Hebron and Ramallah Stations, and 24.2 centigrade degrees in Jericho Station.

Time series data indicated that the annual mean of rainfall ranged between 48.7 mm in Jericho Station in 1999, and 942.7 mm in Nablus Station in 2003. The quantities of rainfall ranged between 118.8 mm in Jericho Station and 503.6 mm in Nablus Station 2008.

Time series data indicated that the annual mean of relative humidity over the period 1969-1983 was 52% in Jericho Station, while it approached 63% in Tulkarm Station. While in 2008 the annual mean of relative humidity was ranged 50% in Jericho Station and 69% in Ramallah Station.

Time series indicated that Tulkarm Station had the lowest annual mean of evaporation over the period 1973-1984 as it approached 1,633 mm, while Jericho Station had the highest annual mean of evaporation as it approached 2,342 mm for the same period. But for 2008 the quantity of evaporation was between 1,815.1 mm in Nablus Station and 2,276.2 mm in Ramallah Station.

The data of 2008 indicated that the lowest annual mean of wind speed was 2.0 km/hour in Hebron Station in August, while the highest annual mean was 15.4 km/hour in Ramallah Station in May.

The data of 2008 indicated that the highest duration mean of sunshine was 12.5 hour/day in Ramallah Station in June, and the lowest duration mean of sunshine was 5.1 hour/day in Ramallah Station also in December.

Chapter One

Introduction

This report provides statistical data on the main meteorological indicators in the Palestinian Territory, based on the administrative records from the Palestinian Ministry of Transport. It provides basic statistical aspects of meteorology, including rainfall, temperature, relative humidity, wind, evaporation solar radiation and pressure. A special form was designed to collect the data from the meteorological Stations through the Ministry of Transport. The form covered the following items:

1. Rainfall: quantities and rainfall days.
2. Temperature: mean, maximum, minimum and absolute values.
3. Relative humidity: mean and absolute values.
4. Total amount of evaporation, wind speed, sunshine duration and pressure.

This report consists of five chapters: the first chapter presents the report objectives and the report structure, the second chapter describes the concepts and definitions, and the third chapter briefly describes the main findings, while the fourth chapter presents the methodology used in the form design, fieldwork and data processing, the last chapter includes an assessment of data quality and technical notes

Chapter Two

Concepts and Definitions

Atmospheric Pressure (Barometric Pressure):

It is defined as the weight of the air column laying on unit area at any point on the earth surface, measured in dyne/ cm² or Newton /m². Millibar (bar: pressure of 10⁶dyne/ cm²) is the common unit. It is measured by using barometer or barograph instruments. At sea level, the atmospheric pressure is 76 cm Hg or 1013.25 millibars.

Climate:

Conditions of the atmosphere at a particular location (microclimate) or region over a long period of time. It is the long –term summation of atmospheric elements- such as solar radiation, temperature, humidity, precipitation type (frequency and amount), atmospheric pressure, and wind (speed and direction), and their variation.

Climatological Statistics:

Statistics dealing with long – term weather conditions.

Evaporation:

Transformation of liquid water to invisible gas is known as water vapor by the effect of heat and the process is called evaporation.

Rate of evaporation:

The size of liquid water that is evaporated from a unit area per unit time. It is expressed as the depth of water in (mm) that would be potentially lost during the time period (24-hour) from the total area.

Rain:

Water falling from the atmosphere and deposited on land or water surfaces.

mm "Rain":

1 liter of water falling on 1 m² area.

Rain day:

The day in which the quantity of rain is 0.01 inch or more.

Relative Humidity:

The percentage of the quantity of water vapor in the atmosphere to the quantity of vapor needed for saturated state.

Solar Radiation:

The energy radiated from the sun to the earth surface. It is responsible for all climatic changes in the atmosphere. The intensity of radiation is measured by the actinometer and sunshine duration is measured by the sunshine recorder instrument (Kampel Stock).

Temperature:

Is the degree of hotness or coldness of body or an environment. The temperature is measured by the thermometer; the unit is either Celsius or Fahrenheit.

Weather:

Day-to-day or sometimes even instantaneous changes of atmospheric conditions over a given place or area. In contrast, climate encompasses the statistical ensemble of all weather conditions during along period of time over that place or area. Atmospheric conditions are measured by the meteorological parameters of air temperature, barometric pressure, wind velocity, humidity, clouds and precipitation.

Wind:

The vertical movement of air between two places with different atmospheric pressures.

Symbol used in the tables:

.. : Data not available

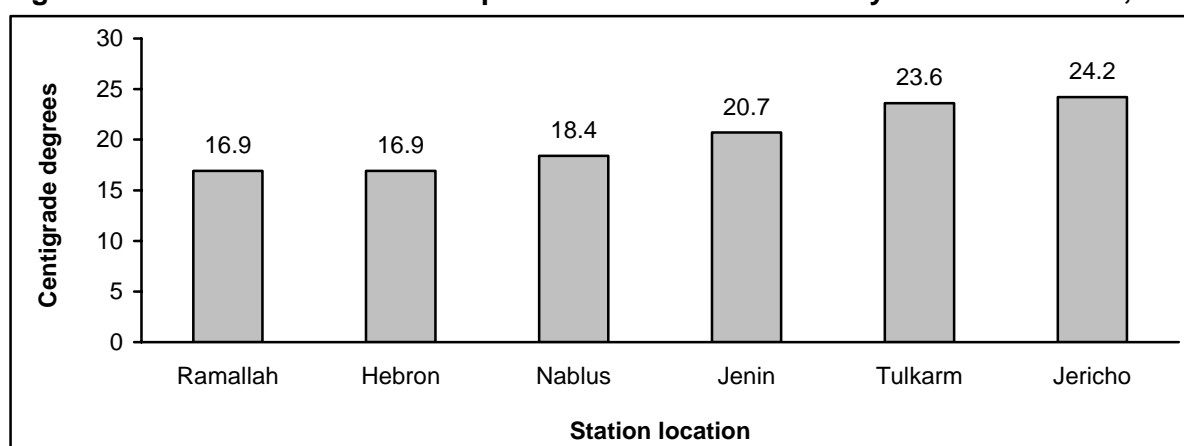
Main Findings

This section presents the main findings of meteorological condition report, including the main indicators of the meteorological reality in the Palestinian Territory .

3.1 Temperature

Time series data indicated that the annual mean of air temperature over the period 1975-1996 was between 15.4 centigrade degrees in Hebron Station, and 22.7 in Jericho Station. While the annual mean for 2008 ranges between 16.9 centigrade degrees in Hebron and Ramallah Stations and 24.2 centigrade degrees in Jericho Station.

Figure 1: Annual Mean of Air Temperature in the West Bank by Station Location, 2008

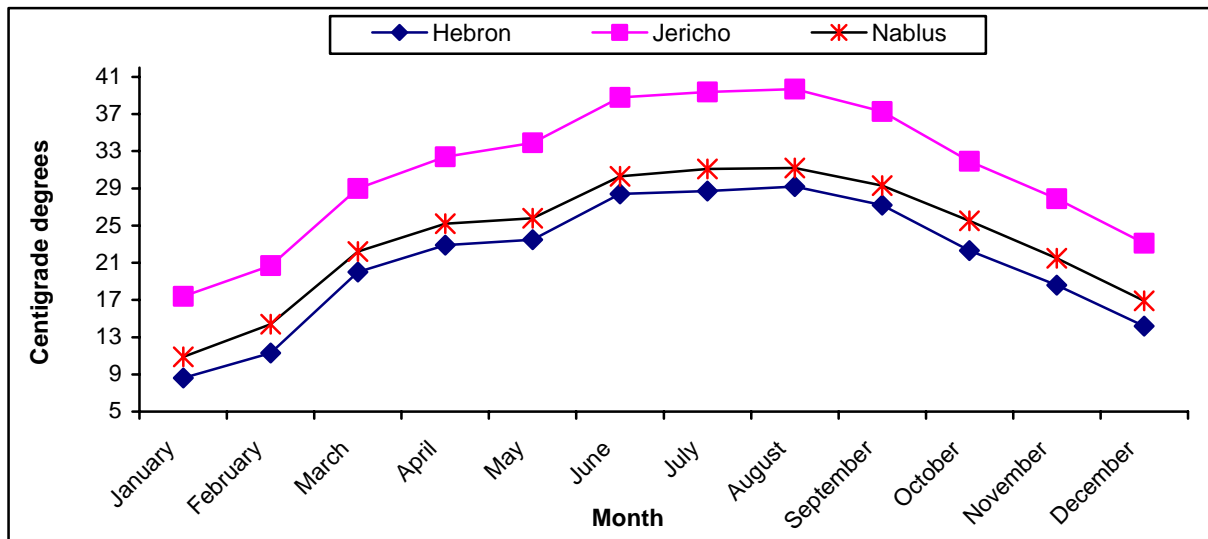


For the year 2008, the main findings indicated that January was the coldest month in the year, in which the lowest recorded monthly mean of air temperature was 5.7 centigrade degrees in Hebron Station, while August was the hottest month of the year, in which the highest recorded monthly mean of air temperature was 32.9 centigrade degrees in Jericho Station.

Time series data indicated that the annual mean of maximum air temperature over the period 1975-1996 was between 19.6 centigrade degrees in Hebron Station, and 29.6 in Jericho Station. The annual mean of maximum air temperature reached 21.2 centigrade degrees in Hebron Station and 31.0 centigrade degrees in Jericho Station in 2008.

The data of 2008 indicated that the lowest value for the monthly mean of maximum air temperature was 8.5 centigrade degrees in Ramallah Station in January, while the highest value for the monthly mean of maximum air temperature was 39.7 centigrade degrees in Jericho Station in August.

Figure 2: Mean of Maximum Air Temperature in the West Bank by Month for Some Stations, 2008



Time series data indicated that the annual mean of minimum air temperature over the period 1975-1996 was between 11.2 centigrade degrees in Hebron Station and 15.7 in Jericho Station. The annual mean of minimum air temperature ranges between 12.8 centigrade degrees in Hebron Station and 17.9 in Jericho Station in 2008.

The data of 2008 indicated that the lowest monthly mean of minimum air temperature was 2.8 centigrade degrees in Hebron Station at January, while the highest monthly mean of minimum air temperature was 26.4 centigrade degrees in Jericho Station in August.

For absolute minimum air temperature in 2008, the lowest value was -2.2 centigrade degrees in Hebron Station in January, while the highest value of absolute maximum air temperature was 43.8 in Jericho Station in August.

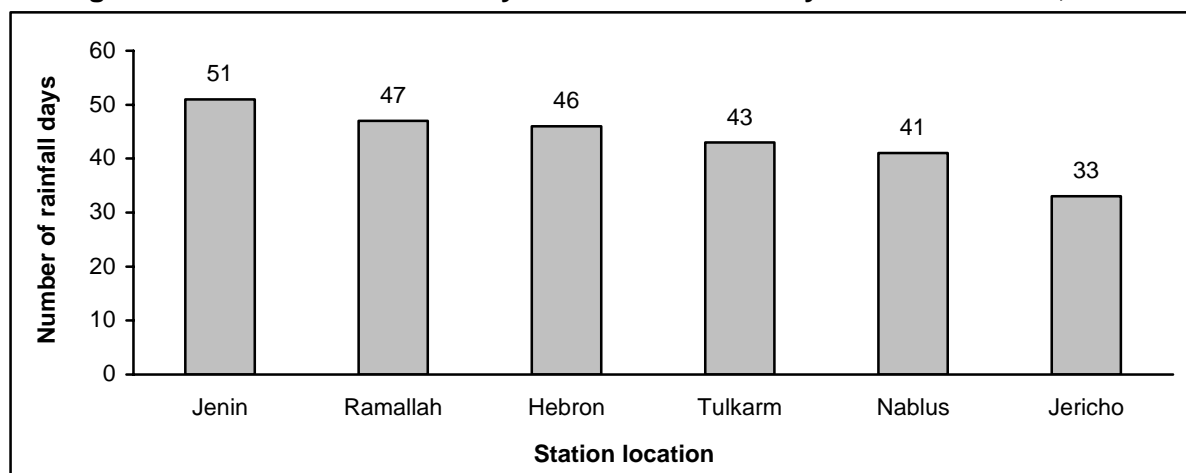
3.2 Rainfall

Time series data indicated that the annual mean of rainfall was between 48.7 mm in Jericho Station in 1999, and 942.7 mm in Nablus Station in 2003.

The data of 2008 indicated that January has the highest rainfall quantity, while the quantity of rainfall decreased in May. For the summer months, the summer of 2008 has no rainfall. The quantities of rainfall ranged between 503.6 mm in Ramallah Station and 118.8 mm in Jericho Station.

There was variation in the number of rainfall days between the Stations, the highest number of rainfall days was 51 days in Jenin Station for 2008. The highest daily rainfall quantity was 79.0 mm in Ramallah Station.

Figure 3: Number of Rainfall Days in the West Bank by Station Location, 2008



3.3 Relative Humidity

The data of 2008 indicated that the annual mean of relative humidity decreased in May to 40% in Jericho Station, and increased in October to 84% in Ramallah Station. For the extreme maximum relative humidity, the highest value was 100% registered for (January – March, October and December) in Ramallah Station and the value was 100% registered for (February and March) in Hebron Station, while the lowest value of the extreme minimum relative humidity was 15% in Nablus Station at March.

3.4 Evaporation

Time series data indicated that Tulkarm Station had the lowest annual mean of evaporation over the period 1973-1984 as it approached 1,633 mm, while Jericho Station had the highest annual mean of evaporation as it approached 2,342 mm for the same period. But for 2008 the quantity of evaporation was between 1,815.1 mm in Nablus Station and 2,276.2 mm in Ramallah Station.

The data of 2008 indicated that the annual mean of quantity of evaporation decreased in January to 50.5 mm in Hebron Station, and increase in July to 308.9 mm in Jericho Station.

3.5 Wind Speed

The data of 2008 indicated that the lowest annual mean of wind speed was 2.0 km/hour in Hebron Station in August, while the highest annual mean was 15.4 km/hour in Ramallah Station in May.

3.6 Sunshine Duration

The data of 2008 indicated that the highest duration mean of sunshine was 12.5 hour/day in Ramallah Station in June, and the lowest duration mean of sunshine was 5.1 hour/day in Ramallah Station in December.

3.7 Atmospheric Pressure

The data of 2008 indicated that the highest mean of pressure was 1,045.8 mbar in Jericho Station in February, while the lowest was 895.7 mbar in Hebron Station in July.

Methodology

4.1 Form

A form was designed to collect the climatic data. The form was designed to cover all the available climatic indicators and includes identification for the stations and the variables of rainfall, temperature, wind, evaporation, relative humidity, sunshine radiation, and pressure.

4.2 Field Operations

The data was collected by the Meteorological Office in the Ministry of Transport, the forms were filled from administrative records of the climatic stations. These stations are located in Jenin, Tulkarm, Nablus, Ramallah, Jericho, Hebron.

The methodology (in meteorological station) for measuring the different meteorological indicators was as following:

1. Measuring of temperature by using the Thermometer instrument.
2. Measuring of relative humidity by using the Hectometer instrument.
3. Measuring of wind speed by using the Anemometer instrument.
4. Measuring of sunshine duration by using the sunshine recorder (Kampel Stock) instrument.
5. Measuring of pressure by using the Parameter instrument.

The results of filling out the forms were as follows:

- The data of temperature and rainfall was not completely filled out for Gaza stations.
- The data of quantity of evaporation was not filled out for Gaza, and Tulkarm stations.
- The data of sunshine duration was not filled out for Jenin, Tulkarm, and Nablus stations, as there are no instruments in these stations, and we were unable to collect the Gaza station data.
- The data of pressure was not filled out for Tulkarm Station, as there are no instruments in that stations, and we were unable to collect the Gaza station data.

4.3 Data Processing

This phase included the following activities:

- Checking the filled out forms.
- Developing a data entry program and implementing data entry.
- Post-data entry editing.
- Data cleaning.
- Tabulation of data.

Data Quality

5.1 Accuracy of the Data

Two types of errors affected the quality of the report's data, sampling and non sampling errors. Sampling errors are measurable and very limited in this report, because the study covered all meteorological stations in the Palestinian Territory. The non-sampling errors could not be determined easily, due to the diversity of sources (e.g. the researchers who fill out the forms at the stations, the measuring instruments readers, and the accuracy of the measurement instruments in the stations,...etc). To minimize such errors data was edited before and after the data processing.

Comprehensiveness

The main aim of publishing the annual reports about climatic conditions is to create and update the time series data of the meteorological indicators in the West Bank. The report has no data about all meteorological indicators for the past years. The report mainly includes the meteorological data for 2008. The Meteorological Office in the Ministry of Transport is still in the establishing stage, so until now there is no normal coverage for the Palestinian Territory. The available data does not cover all governorates in the Palestinian Territory, because there are no meteorological stations in all the governorates in the Palestinian Territory.

5.2 Comparison of the Data

Some comparisons were applied to data with the previous annual reports of metrological reports of the years 1998, 2003-2005, and 2007 which indicate some reasonable matching between the results of these reports.

5.3 Special Technical Notes

1. There are data gaps for some indicators mostly due to the lack of instruments.
2. There is no data from Gaza station to all indicators.
3. There are data gaps for time series.
4. There is no time series data for some Stations.
5. Geographical distribution of Stations does not cover all the Palestinian Territory.

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