



AGROMETEOROLOGICAL BULLETIN

June 2017
2nd 10-day period

- Temperature
- Relative Humidity
- Soil Temperature
- Sunshine Duration
- Precipitation
- Evaporation
- Growing Degrees
- Reference Evapotranspiration
- Accumulated Rainfall from the beginning of wet period
- Accumulated Reference Evapotranspiration
- Number of dry days



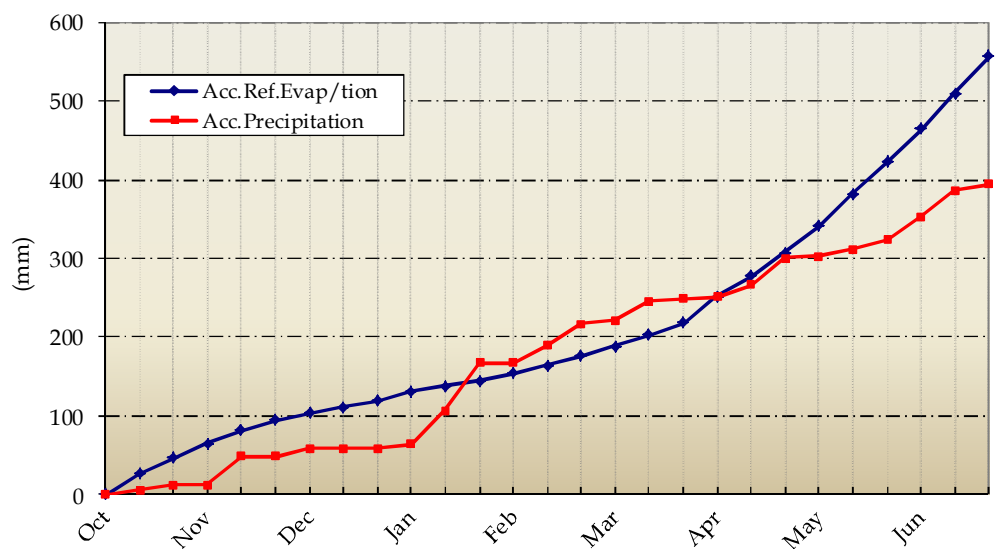
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2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.8	27.4	28.2	32.4	29.4	29.8	26.0	23.8	23.8	27.0	27.5	30.7	27.5
	Min	14.4	17.0	13.6	16.8	19.8	17.6	18.0	15.0	15.0	12.6	16.0	16.5	15.2
Relative Humidity	Max	89	82	89	88	87	82	100	90	91	93	89	85	-
	Min	48	36	36	43	36	33	52	43	52	46	42	44	-
Soil Temperature at 10 cm	06 UTC	22.6	22.8	22.4	24.6	25.6	24.8	25.4	21.6	-	-	23.7	24.8	22.6
	12 UTC	29.4	30.0	31.0	33.0	32.2	31.6	28.2	-	-	-	30.8	30.7	27.3
Sunshine Duration		11.8	13.9	12.8	12.2	6.6	13.3	3.0	5.7	5.7	8.9	9.4	11.0	10.3
Precipitation						0.5		3.9	0.9	1.6	0.3	7.2	0.0	11.6
Evaporation		6.6	9.8	6.3	6.9	7.5	8.0	3.6	7.2	3.7	3.2	62.8	89.2	79.3
Growing Degrees	5	15.6	17.2	15.9	19.6	19.6	18.7	17.0	14.4	14.4	14.8	167.2	185.7	163.4
	10	10.6	12.2	10.9	14.6	14.6	13.7	12.0	9.4	9.4	9.8	117.2	135.7	113.4

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	46.7	55.2	52.7
Precipitation - Reference Evapotranspiration	-39.5	-55.2	-41.1
Number of Rainy Days	5.0	0.0	1.6
Number of Dry Days	5.0	13.0	-

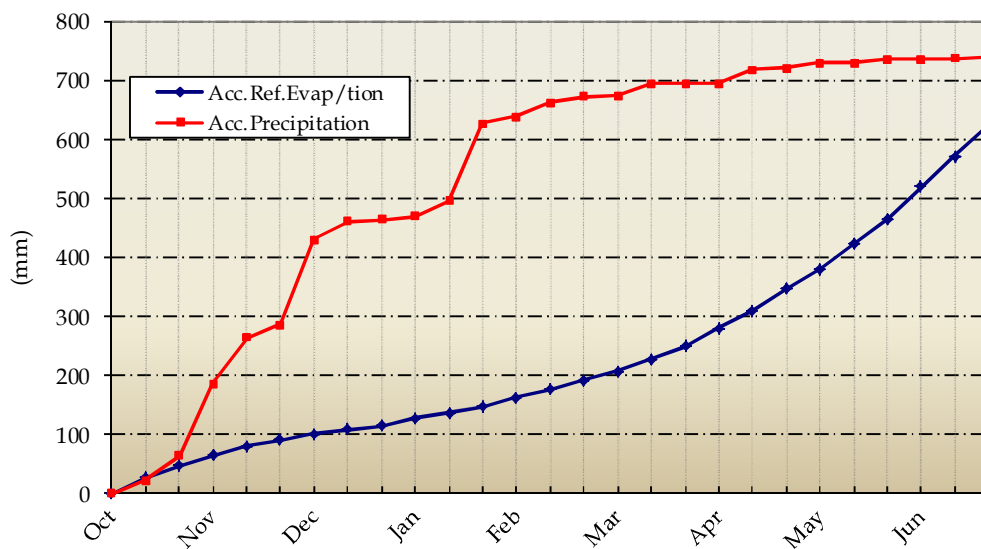
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.2	29.8	28.5	29.6	30.5	31.4	30.0	27.4	27.1	29.2	28.9	29.8	28.1
	Min	17.0	16.6	14.9	17.0	17.9	19.2	20.3	20.1	13.4	15.6	17.2	17.6	16.4
Relative Humidity	Max	87	85	86	93	88	88	86	88	84	85	87	86	-
	Min	48	27	33	28	33	35	40	37	28	24	33	42	-
Soil Temperature at 10 cm	06 UTC	26.5	25.2	24.8	26.0	26.8	27.0	28.4	28.2	25.5	26.0	26.4	-	24.8
	12 UTC	27.5	28.0	27.8	29.0	29.0	31.0	31.0	31.0	26.0	26.6	28.7	-	29.7
Sunshine Duration		1.2	9.8	13.2	13.4	12.3	13.2	13.1	9.0	13.1	13.5	11.2	10.1	11.5
Precipitation									1.4			1.4		2.1
Evaporation		4.0	6.0	11.0	5.0	6.0	4.0	4.1	3.0	13.0	9.0	65.1	51.6	71.4
Growing Degrees	5	16.1	18.2	16.7	18.3	19.2	20.3	20.2	18.8	15.3	17.4	180.4	187.1	172.2
	10	11.1	13.2	11.7	13.3	14.2	15.3	15.2	13.8	10.3	12.4	130.4	137.1	122.2

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	54.3	50.2	50.2
Precipitation - Reference Evapotranspiration	-52.9	-50.2	-48.1
Number of Rainy Days	1.0	0.0	0.4
Number of Dry Days	10.0	11.0	-

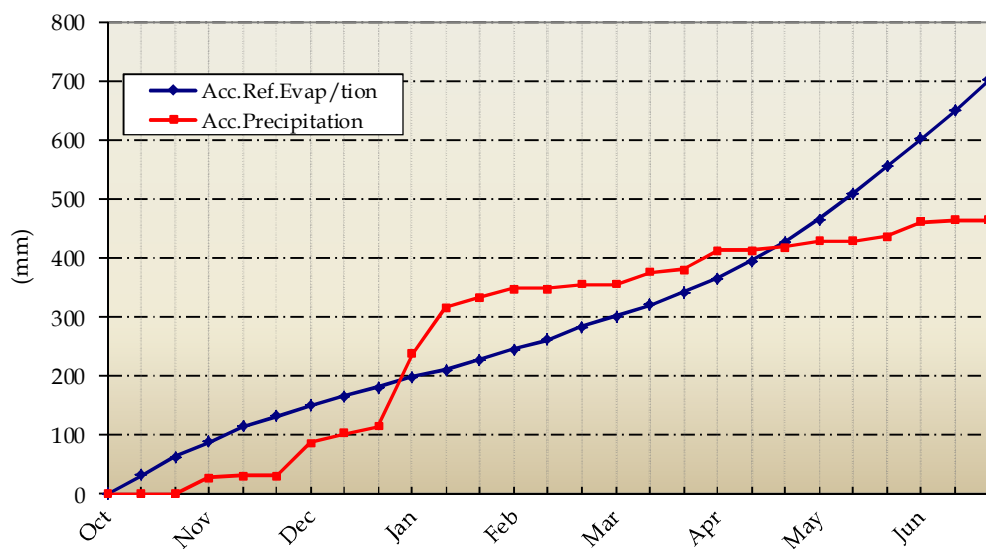
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.8	25.0	25.2	27.0	29.2	28.0	27.8	27.0	25.0	25.2	26.5	29.4	27.5
	Min	18.6	20.0	20.2	18.4	20.0	18.8	19.8	20.2	21.0	21.6	19.9	21.1	19.4
Relative Humidity	Max	78	94	94	76	88	88	91	94	78	68	85	75	-
	Min	64	73	42	52	45	63	55	64	48	55	56	42	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.4	7.8	10.2	13.0	13.0	12.6	11.6	3.2	12.0	12.7	10.8	11.6	12.0
Precipitation									0.0			0.0		0.2
Evaporation		5.4	5.6	5.6	6.3	5.0	4.8	4.3	3.2	7.3	8.9	56.4	61.1	83.8
Growing Degrees	5	17.2	17.5	17.7	17.7	19.6	18.4	18.8	18.6	18.0	18.4	181.9	202.1	184.4
	10	12.2	12.5	12.7	12.7	14.6	13.4	13.8	13.6	13.0	13.4	131.9	152.1	134.4

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	52.0	59.0	-
Precipitation - Reference Evapotranspiration	-52.0	-59.0	0.2
Number of Rainy Days	0.0	0.0	0.2
Number of Dry Days	12.0	12.0	-

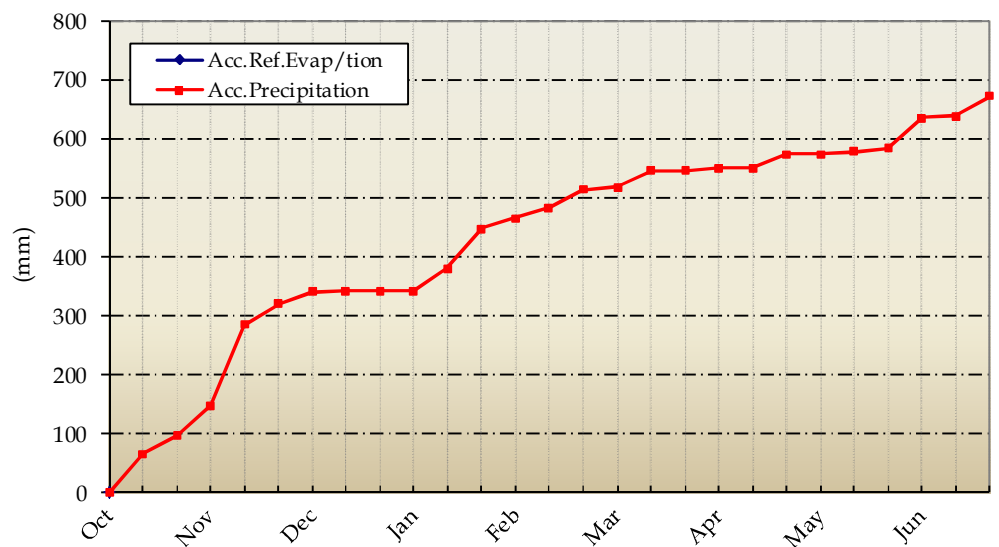
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.4	26.4	30.8	32.8	32.0	27.8	30.0	24.4	24.4	28.8	28.3	28.8	28.0
	Min	13.6	16.0	13.0	17.4	14.6	17.4	19.2	15.0	14.5	12.0	15.3	13.2	13.0
Relative Humidity	Max	93	98	83	92	100	100	100	80	61	97	90	94	-
	Min	52	36	39	30	38	53	49	29	36	32	39	38	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	20.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	25.0
Sunshine Duration		5.1	12.4	13.2	13.0	11.9	7.6	11.1	11.2	8.7	9.7	10.4	8.5	9.8
Precipitation		9.0					25.9	0.0				34.9	21.4	14.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	70.5
Growing Degrees	5	14.5	16.2	16.9	20.1	18.3	17.6	19.6	14.7	14.5	15.4	167.8	160.0	155.2
	10	9.5	11.2	11.9	15.1	13.3	12.6	14.6	9.7	9.5	10.4	117.8	110.0	105.2

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	46.5
Precipitation - Reference Evapotranspiration	-	-	-32.4
Number of Rainy Days	2.0	3.0	2.0
Number of Dry Days	5.0	0.0	-

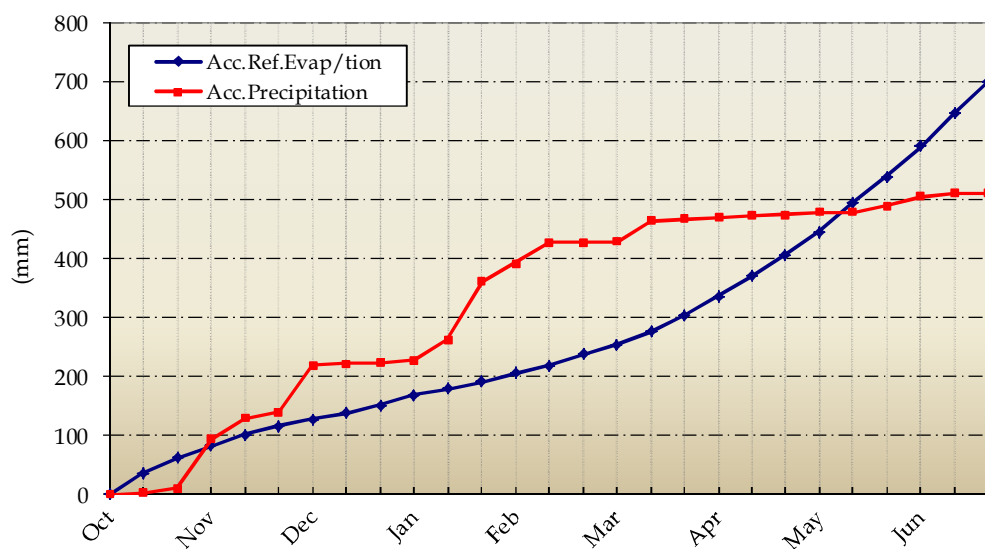
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.2	28.2	29.4	32.3	31.3	28.6	30.2	28.0	27.2	29.1	29.2	30.6	29.3
	Min	17.3	15.0	13.9	17.8	17.8	17.0	17.8	18.8	14.3	14.4	16.4	16.4	15.9
Relative Humidity	Max	86	81	87	84	79	90	91	88	90	89	86	84	-
	Min	37	33	31	28	39	49	43	44	28	30	36	33	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	23.0	23.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	24.8	27.4
Sunshine Duration		4.4	11.7	12.9	13.0	13.0	12.8	12.2	8.0	7.3	9.8	10.5	10.7	11.0
Precipitation									0.4	0.1		0.5	0.4	3.1
Evaporation		5.5	7.0	7.8	5.2	7.3	2.7	14.7	4.4	5.9	5.2	65.7	64.3	80.7
Growing Degrees	5	17.8	16.6	16.7	20.1	19.6	17.8	19.0	18.4	15.8	16.8	178.3	185.3	175.9
	10	12.8	11.6	11.7	15.1	14.6	12.8	14.0	13.4	10.8	11.8	128.3	135.3	125.9

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	54.8	56.0	54.6
Precipitation - Reference Evapotranspiration	-54.3	-55.6	-51.5
Number of Rainy Days	2.0	1.0	0.9
Number of Dry Days	9.0	4.0	-

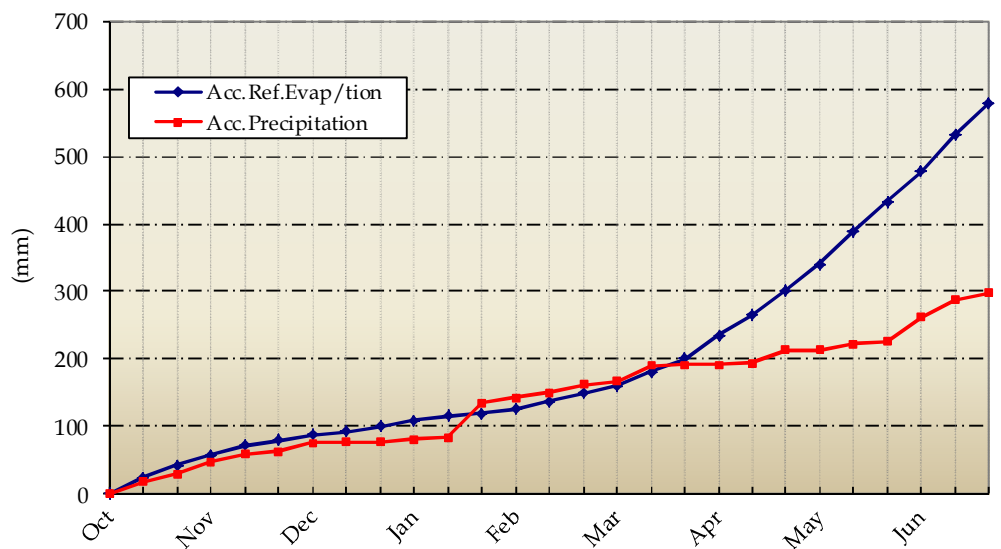
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.0	28.5	32.6	36.4	33.6	29.4	28.9	25.5	27.6	31.2	29.7	34.1	31.7
	Min	17.3	16.0	14.8	17.6	20.9	18.6	17.0	13.0	13.8	15.5	16.4	17.0	15.7
Relative Humidity	Max	100	100	100	99	87	100	100	95	78	86	94	86	-
	Min	72	29	26	20	26	43	46	29	26	20	34	20	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	24.3	23.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	24.4	26.6
Sunshine Duration		0.0	10.6	11.9	11.6	8.8	4.0	4.3	7.8	10.6	11.6	8.1	10.1	10.5
Precipitation		7.2				0.3	0.0	3.4				10.9	3.2	6.2
Evaporation		1.1	6.8	8.3	9.5	8.4	5.6	4.1	6.7	8.0	8.6	67.1	106.3	85.8
Growing Degrees	5	15.2	17.3	18.7	22.0	22.3	19.0	18.0	14.3	15.7	18.4	180.6	205.7	186.8
	10	10.2	12.3	13.7	17.0	17.3	14.0	13.0	9.3	10.7	13.4	130.6	155.7	136.8

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	46.9	62.4	58.5
Precipitation - Reference Evapotranspiration	-36.0	-59.2	-52.3
Number of Rainy Days	3.0	2.0	1.7
Number of Dry Days	1.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

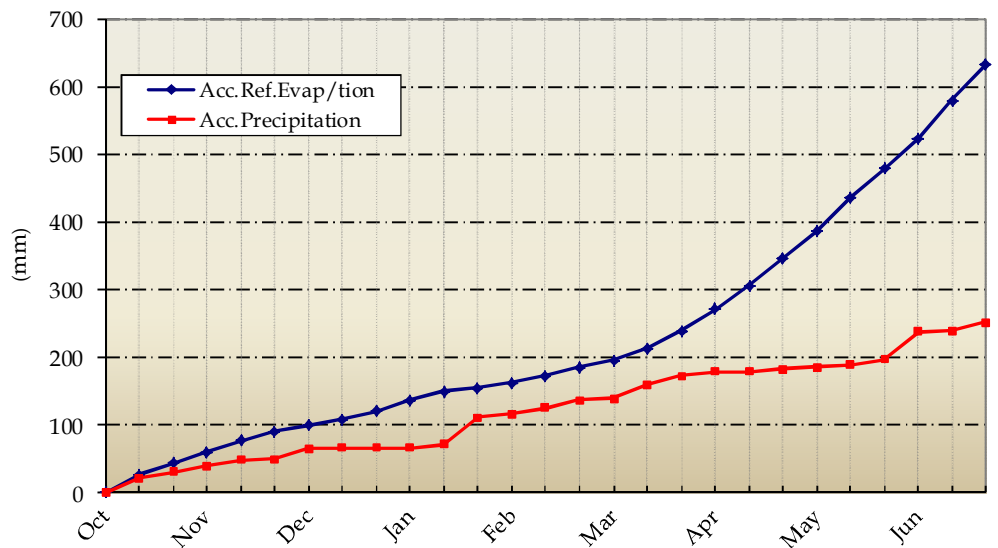


Mikra

2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.8	28.4	32.0	34.3	30.8	27.3	27.8	24.8	28.2	30.0	28.7	30.9	29.7
	Min	18.2	18.2	16.6	18.2	19.9	21.3	18.2	18.9	14.0	15.0	17.8	17.5	17.0
Relative Humidity	Max	87	86	80	84	82	86	80	55	71	66	78	78	-
	Min	57	32	29	23	40	45	42	35	25	28	36	30	-
Soil Temperature at 10 cm	06 UTC	25.6	23.4	23.8	25.6	26.2	26.8	25.1	24.0	23.8	24.2	24.8	25.4	24.4
	12 UTC	26.4	26.8	29.6	30.4	30.3	28.4	27.6	28.2	27.6	29.6	28.5	30.6	29.1
Sunshine Duration		2.2	12.1	13.7	11.1	7.7	2.7	5.4	13.4	6.8	9.4	8.4	10.5	10.3
Precipitation		11.7				0.4	0.0	0.0	0.0			12.1	0.0	11.5
Evaporation		0.3	10.2	12.2	11.5	2.9	7.7	8.5	8.4	6.9	8.9	77.5	83.0	85.4
Growing Degrees	5	16.0	18.3	19.3	21.3	20.4	19.3	18.0	16.9	16.1	17.5	183.0	191.8	183.4
	10	11.0	13.3	14.3	16.3	15.4	14.3	13.0	11.9	11.1	12.5	133.0	141.8	133.4

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	53.7	58.3	57.4
Precipitation - Reference Evapotranspiration	-41.6	-58.3	-45.9
Number of Rainy Days	2.0	0.0	1.8
Number of Dry Days	2.0	12.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

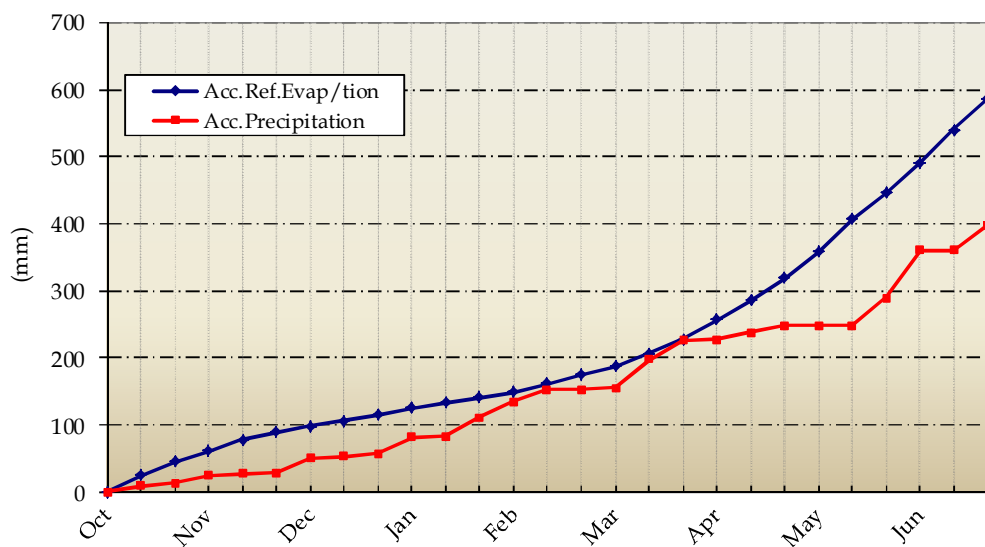


Tanagra

2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.0	25.2	28.6	34.0	30.4	27.8	29.5	21.8	24.1	27.8	27.1	34.0	30.3
	Min	16.3	16.8	15.2	17.2	19.4	18.7	18.0	16.0	13.8	14.2	16.6	18.7	15.8
Relative Humidity	Max	100	90	78	77	94	100	100	99	93	79	91	65	-
	Min	70	34	8	23	40	45	43	46	36	27	37	19	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.0	13.3	13.6	13.1	12.0	7.1	9.1	3.0	12.1	13.5	9.7	10.0	
Precipitation		21.0				0.0	7.0	1.2	8.9			38.1	1.6	2.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	14.2	16.0	16.9	20.6	19.9	18.3	18.8	13.9	14.0	16.0	168.4	213.9	
	10	9.2	11.0	11.9	15.6	14.9	13.3	13.8	8.9	9.0	11.0	118.4	163.9	

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	47.0	56.5	
Precipitation - Reference Evapotranspiration	-8.9	-54.9	2.8
Number of Rainy Days	4.0	1.0	1.4
Number of Dry Days	3.0	5.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

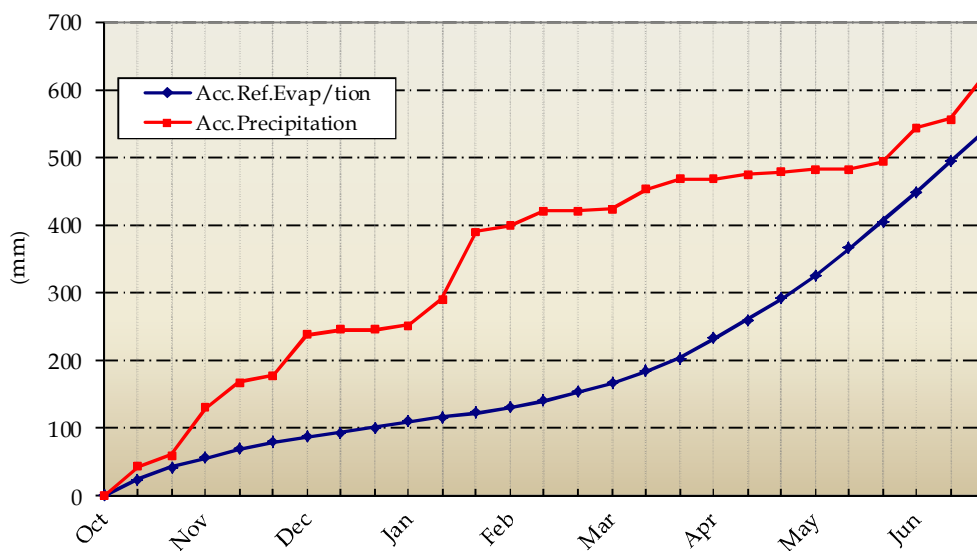


Tripoli

2nd 10-day period (11-20/06/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.6	24.7	28.8	31.8	30.8	28.7	29.4	23.2	23.5	27.6	27.2	31.9	28.6
	Min	13.2	11.4	10.6	12.2	13.4	14.3	13.9	15.1	8.1	9.2	12.1	12.9	11.6
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	90	-
	Min	58	39	28	26	22	40	36	56	33	24	36	20	-
Soil Temperature at 10 cm	06 UTC	22.0	18.2	18.8	21.2	22.0	23.0	22.6	23.2	19.6	19.2	21.0	21.7	22.7
	12 UTC	-	23.8	25.8	28.2	29.4	28.4	-	-	26.4	27.2	27.0	28.6	25.9
Sunshine Duration		1.7	11.7	13.2	10.3	12.2	10.2	11.5	3.9	10.7	13.0	9.8	12.0	10.8
Precipitation		51.5	11.0		0.2				1.8			64.5	0.0	5.7
Evaporation		2.0	6.0	5.9	4.5	7.1	6.3	4.0	3.2	6.2	6.4	51.6	-	62.0
Growing Degrees	5	13.4	13.1	14.7	17.0	17.1	16.5	16.7	14.2	10.8	13.4	146.8	174.1	151.2
	10	8.4	8.1	9.7	12.0	12.1	11.5	11.7	9.2	5.8	8.4	96.8	124.1	101.2

2nd 10-day period (11-20/06/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	45.8	57.3	52.3
Precipitation - Reference Evapotranspiration	18.7	-57.3	-46.6
Number of Rainy Days	4.0	0.0	1.4
Number of Dry Days	2.0	10.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





◆ **List of Symbols and Abbreviations**

Reference Evapotranspiration ETo (mm):

Calculated by the FAO Penman-Montieth equation

$$ET_0 = \frac{0.408 * \Delta * (R_n - G) + \gamma * \frac{900}{T + 273} * u_2 * (e_s - e_a)}{\Delta + \gamma * (1 + 0.34 * u_2)}$$

using 10-day step.

R_n is estimated from sunshine measurements and G assumed to be zero.

Growing Degrees: Degrees with mean temperature exceeding the base of 5 or 10 °C.

Number of Rainy Days: Number of days with precipitation of at least 0.1 mm.

Number of Dry Days: Number of dry days recorded since the last rainy day.

Measurements Units

- ◆ Temperature : °C
- ◆ Relative Humidity : %
- ◆ Soil Temperature : °C
- ◆ Sunshine Duration : Hours
- ◆ Precipitation : mm
- ◆ Evaporation (Pan) : mm
- ◆ Growing Degrees : °C

UTC (Universal Time coordinates) in Greece

- ◆ Winter : Time(UTC) = Local time - 2
- ◆ Summer : Time(UTC) = Local time - 3

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