



AGROMETEOROLOGICAL BULLETIN

June 2018
1st 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



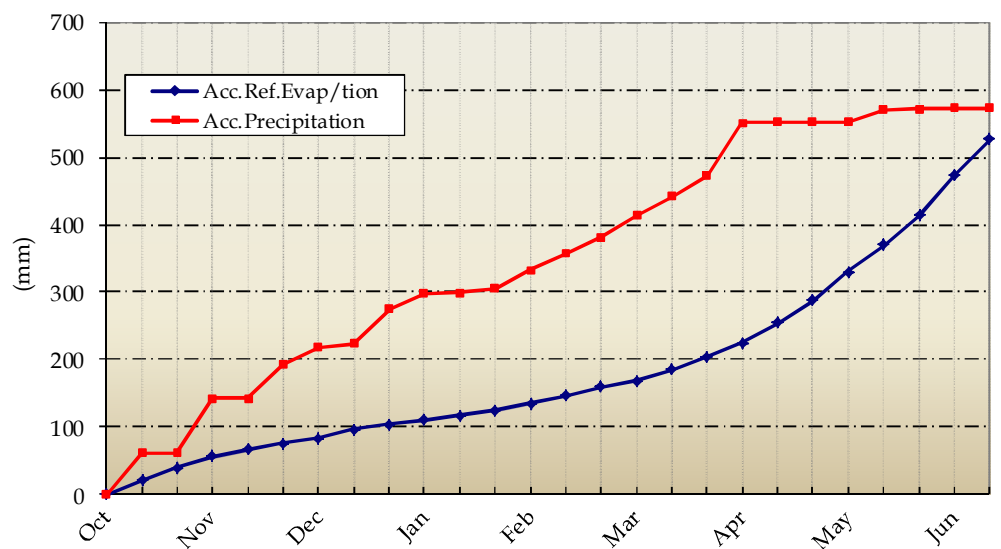
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1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.8	30.4	26.4	29.0	28.8	30.8	31.0	31.2	32.2	32.6	30.5	27.1	25.8
	Min	13.0	20.0	16.8	17.0	17.4	17.2	21.6	17.6	17.8	18.0	17.6	15.3	14.0
Relative Humidity	Max	77	86	72	90	97	83	71	74	77	67	79	94	-
	Min	24	31	45	49	44	39	44	40	38	34	39	50	-
Soil Temperature at 10 cm	06 UTC	22.2	24.2	24.0	24.0	25.0	24.2	25.6	25.4	25.8	26.2	24.7	22.4	20.6
	12 UTC	27.2	28.6	27.4	28.4	29.0	29.0	29.2	29.8	29.4	30.0	28.8	29.2	25.3
Sunshine Duration		9.7	10.7	12.3	10.7	8.3	11.4	6.2	13.2	12.6	9.1	10.4	9.8	9.7
Precipitation													33.0	10.6
Evaporation		10.0	9.8	8.0	8.5	4.6	8.9	9.0	8.4	8.6	11.0	86.8	67.8	72.8
Growing Degrees	5	17.9	20.2	16.6	18.0	18.1	19.0	21.3	19.4	20.0	20.3	190.8	162.0	148.7
	10	12.9	15.2	11.6	13.0	13.1	14.0	16.3	14.4	15.0	15.3	140.8	112.0	98.7

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	54.3	45.5	48.0
Precipitation - Reference Evapotranspiration	-54.3	-12.5	-37.4
Number of Rainy Days	0.0	3.0	2.2
Number of Dry Days	15.0	6.0	-

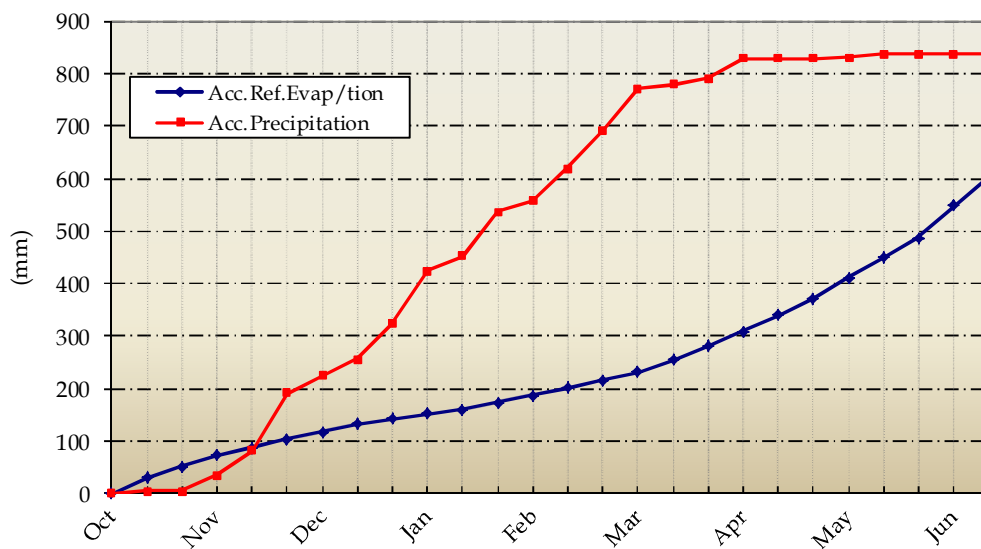
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.2	30.2	30.2	31.0	31.2	30.0	30.8	36.8	29.4	28.4	30.7	28.6	26.9
	Min	18.2	17.8	18.2	18.2	18.6	16.9	18.9	17.4	21.4	19.4	18.5	16.7	15.3
Relative Humidity	Max	97	100	94	93	86	92	93	84	88	89	92	88	-
	Min	37	37	42	26	22	31	29	14	43	46	33	37	-
Soil Temperature at 10 cm	06 UTC	27.0	27.0	27.2	27.0	27.4	27.0	27.6	27.4	28.2	28.4	27.4	25.4	23.0
	12 UTC	27.0	29.2	30.0	28.0	30.0	29.0	33.6	29.8	30.0	31.0	29.8	28.6	27.7
Sunshine Duration		12.4	13.0	12.9	12.2	12.1	11.9	13.0	9.1	12.4	11.4	12.0	10.8	11.1
Precipitation													0.8	2.3
Evaporation		7.0	7.0	7.0	7.0	8.0	8.0	8.0	10.0	9.0	7.0	78.0	70.8	67.5
Growing Degrees	5	18.7	19.0	19.2	19.6	19.9	18.5	19.9	22.1	20.4	18.9	196.1	176.6	160.7
	10	13.7	14.0	14.2	14.6	14.9	13.5	14.9	17.1	15.4	13.9	146.1	126.6	110.7

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	56.8	50.7	48.5
Precipitation - Reference Evapotranspiration	-56.8	-49.9	-46.2
Number of Rainy Days	0.0	1.0	0.7
Number of Dry Days	24.0	20.0	-

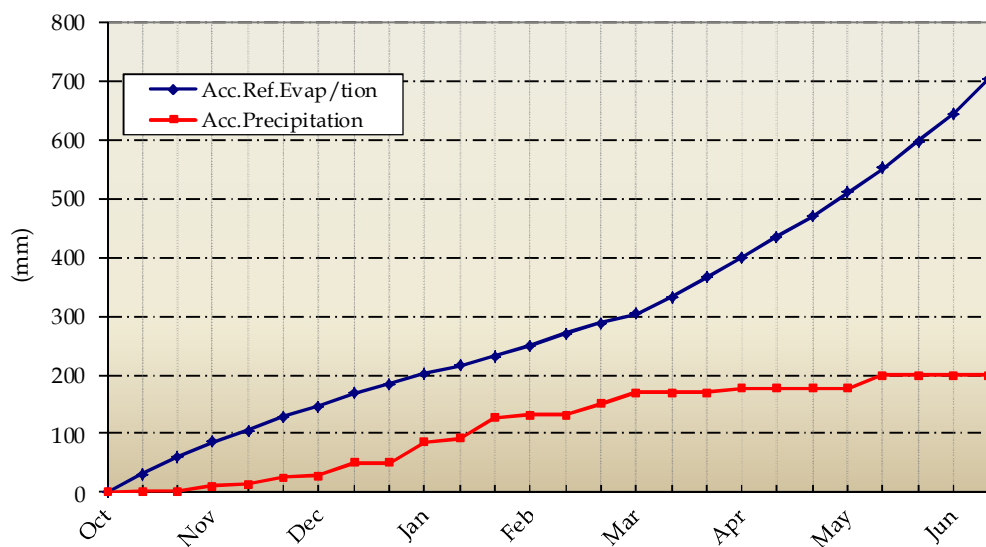
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.8	26.4	28.0	28.0	29.0	32.4	28.8	29.0	30.4	26.6	28.5	25.9	25.7
	Min	21.2	23.8	20.0	18.8	19.4	19.6	22.4	19.8	22.0	21.6	20.9	18.3	17.9
Relative Humidity	Max	72	86	86	86	83	88	80	79	88	83	83	91	-
	Min	45	57	56	49	40	34	48	51	38	59	48	59	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.8	12.8	12.7	12.5	12.2	12.4	12.5	11.6	12.0	12.9	12.4	10.8	11.2
Precipitation													2.5	3.5
Evaporation		11.6	7.4	4.4	8.5	6.2	8.3	2.2	9.2	5.8	5.8	69.4	41.5	76.6
Growing Degrees	5	19.0	20.1	19.0	18.4	19.2	21.0	20.6	19.4	21.2	19.1	197.0	170.7	167.8
	10	14.0	15.1	14.0	13.4	14.2	16.0	15.6	14.4	16.2	14.1	147.0	120.7	117.8

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	59.2	48.0	-
Precipitation - Reference Evapotranspiration	-59.2	-45.5	3.5
Number of Rainy Days	0.0	2.0	0.5
Number of Dry Days	33.0	7.0	-

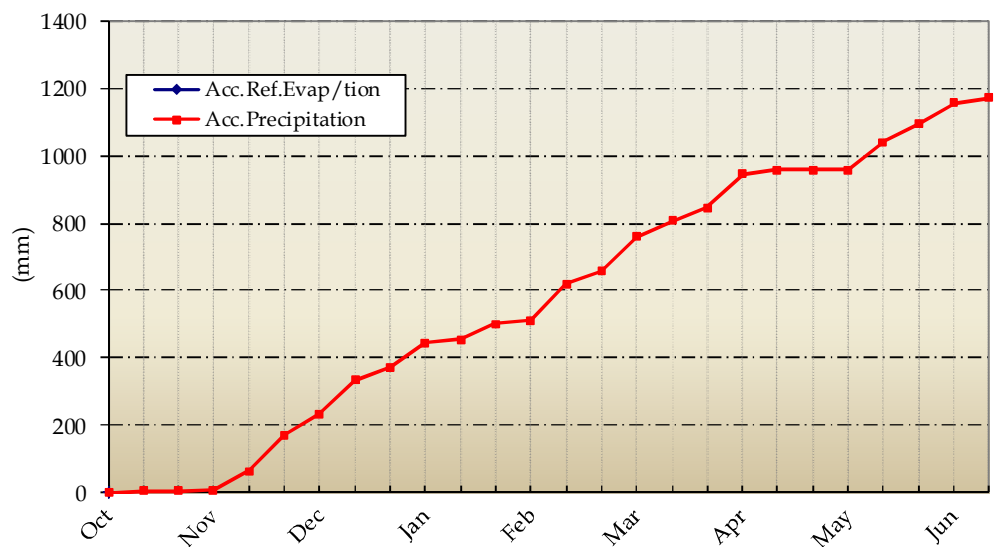
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.0	29.4	29.6	30.4	29.8	27.4	29.8	34.0	27.6	27.4	29.4	28.4	26.3
	Min	12.6	15.4	12.4	15.6	14.0	14.4	14.4	15.5	20.0	13.6	14.8	15.3	12.0
Relative Humidity	Max	100	88	100	100	96	100	100	93	84	100	96	92	-
	Min	42	48	43	34	30	46	42	36	57	50	43	41	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	18.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.9
Sunshine Duration		6.7	9.5	12.0	12.4	11.8	9.5	12.4	12.1	10.5	6.3	10.3	9.4	9.1
Precipitation		0.0	0.0	0.0			0.7				16.5	17.2	2.4	14.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	46.7
Growing Degrees	5	15.8	17.4	16.0	18.0	16.9	15.9	17.1	19.8	18.8	15.5	171.2	-	141.5
	10	10.8	12.4	11.0	13.0	11.9	10.9	12.1	14.8	13.8	10.5	121.2	-	91.5

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	43.4
Precipitation - Reference Evapotranspiration	-	-	-29.0
Number of Rainy Days	2.0	2.0	2.5
Number of Dry Days	5.0	3.0	-

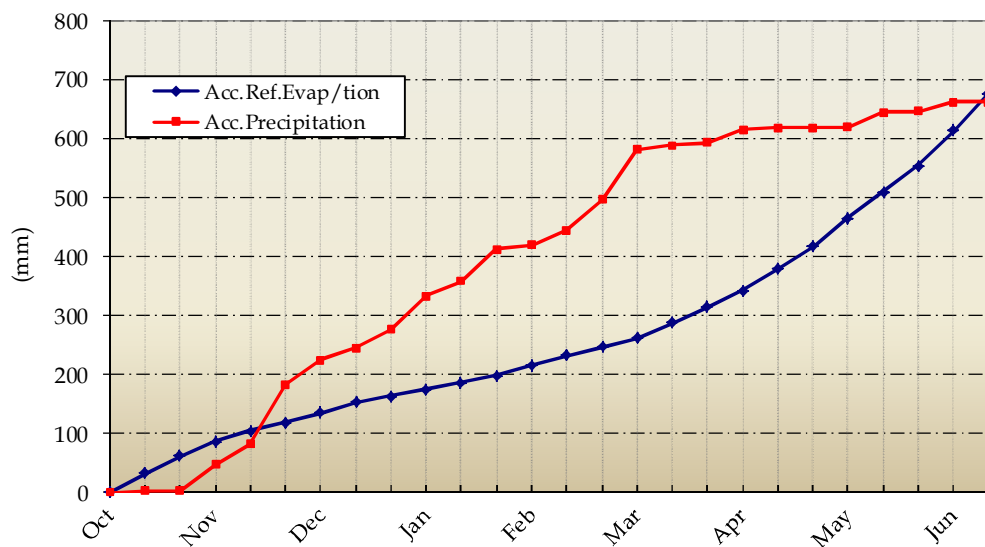
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.4	35.4	31.2	33.2	34.5	31.4	32.0	33.0	31.2	30.3	32.1	29.3	27.6
	Min	15.6	16.8	16.6	18.2	19.2	15.4	15.7	16.4	17.9	18.1	17.0	15.9	14.5
Relative Humidity	Max	92	91	82	77	68	83	88	86	81	80	83	88	-
	Min	41	17	37	20	16	23	28	23	39	39	28	37	-
Soil Temperature at 10 cm	06 UTC	24.0	24.6	25.4	25.4	26.0	25.6	26.0	26.2	26.2	26.0	25.5	-	21.6
	12 UTC	27.2	27.2	28.8	28.6	29.0	29.0	29.8	29.8	29.4	28.8	28.8	-	25.8
Sunshine Duration		12.9	11.3	13.1	11.5	12.9	11.6	11.9	11.7	12.9	13.1	12.3	10.5	10.5
Precipitation													6.0	2.7
Evaporation		13.6	11.0	7.0	10.2	11.8	7.0	9.2	7.8	7.8	7.2	92.6	69.5	75.1
Growing Degrees	5	17.0	21.1	18.9	20.7	21.9	18.4	18.9	19.7	19.6	19.2	195.3	175.9	160.6
	10	12.0	16.1	13.9	15.7	16.9	13.4	13.9	14.7	14.6	14.2	145.3	125.9	110.6

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	63.7	55.2	50.2
Precipitation - Reference Evapotranspiration	-63.7	-49.2	-47.5
Number of Rainy Days	0.0	3.0	0.9
Number of Dry Days	10.0	5.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

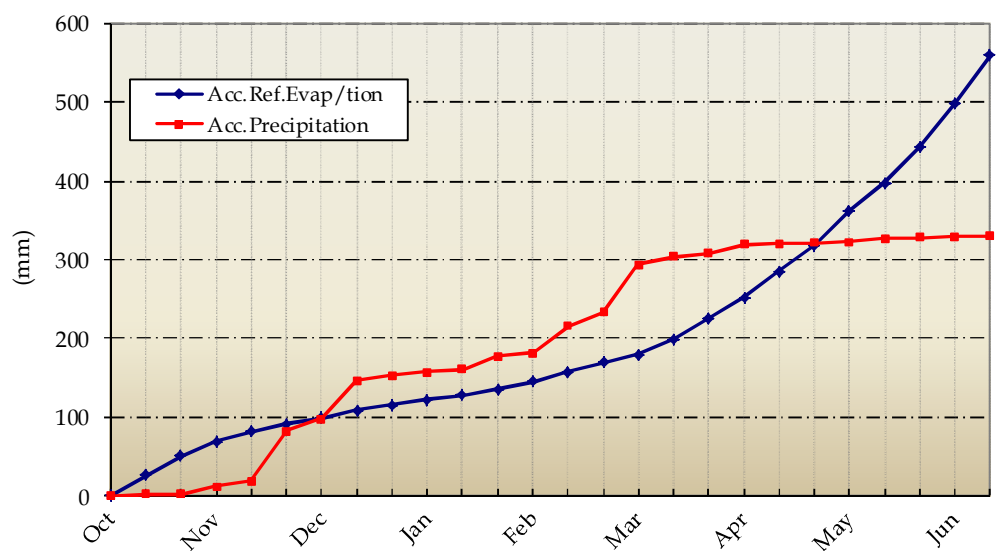


Larisa

1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.2	33.0	33.6	34.4	35.2	34.4	33.6	32.4	34.2	31.0	33.4	31.3	29.7
	Min	13.7	14.4	15.6	16.4	16.4	17.7	19.0	19.0	19.0	18.8	17.0	16.2	14.1
Relative Humidity	Max	84	76	90	92	77	81	77	84	81	74	82	95	-
	Min	21	22	28	20	16	20	29	35	21	29	24	28	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	21.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	24.3
Sunshine Duration		11.4	9.8	10.1	11.3	9.8	9.9	11.6	8.7	10.9	7.4	10.1	10.0	10.4
Precipitation					1.0						0.0	1.0	25.9	9.2
Evaporation		10.5	13.2	15.6	7.7	11.6	8.6	10.3	0.7	9.0	8.2	95.4	97.2	79.0
Growing Degrees	5	18.0	18.7	19.6	20.4	20.8	21.1	21.3	20.7	21.6	19.9	202.0	187.3	169.0
	10	13.0	13.7	14.6	15.4	15.8	16.1	16.3	15.7	16.6	14.9	152.0	137.3	119.0

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	61.0	54.8	54.0
Precipitation - Reference Evapotranspiration	-60.0	-28.9	-44.8
Number of Rainy Days	1.0	3.0	2.3
Number of Dry Days	11.0	5.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

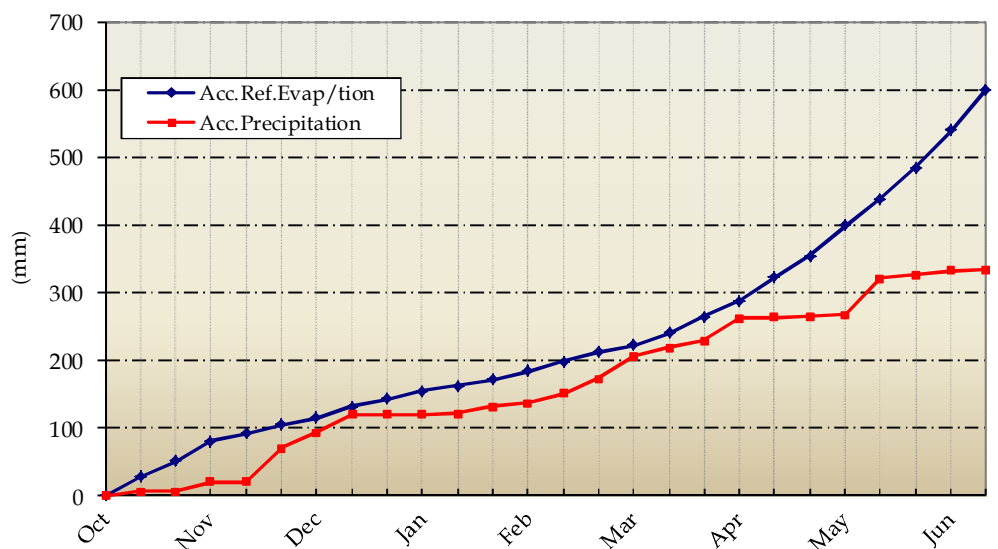




1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.2	30.7	30.6	32.4	33.4	30.9	32.1	30.8	31.6	29.4	31.3	29.4	27.9
	Min	15.8	19.1	17.5	17.8	18.4	19.2	20.4	19.8	18.8	23.8	19.1	17.7	15.4
Relative Humidity	Max	76	64	78	87	72	78	84	75	75	70	76	81	-
	Min	20	21	35	26	21	36	31	36	31	34	29	34	-
Soil Temperature at 10 cm	06 UTC	23.5	25.0	24.6	20.6	26.0	27.0	27.0	27.0	27.0	26.5	25.4	24.9	22.3
	12 UTC	28.0	28.8	28.6	29.0	30.6	30.6	31.0	31.4	31.0	28.4	29.7	29.0	27.3
Sunshine Duration		13.7	10.5	11.0	11.9	10.8	8.8	12.3	10.5	11.6	8.3	10.9	10.5	10.0
Precipitation						0.0				0.7	1.1	1.8	1.4	11.2
Evaporation		10.7	11.7	5.6	11.4	12.5	5.5	9.3	8.7	10.6	3.4	89.4	81.2	74.4
Growing Degrees	5	18.5	19.9	19.1	20.1	20.9	20.1	21.3	20.3	20.2	21.6	201.9	185.2	166.4
	10	13.5	14.9	14.1	15.1	15.9	15.1	16.3	15.3	15.2	16.6	151.9	135.2	116.4

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	59.8	56.3	52.1
Precipitation - Reference Evapotranspiration	-58.0	-54.9	-40.9
Number of Rainy Days	2.0	3.0	2.7
Number of Dry Days	10.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

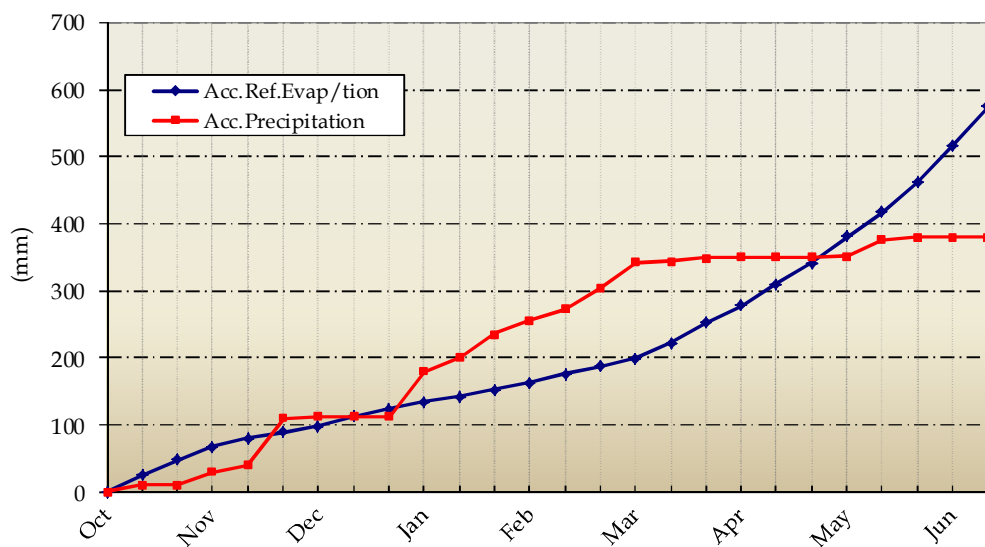


Tanagra

1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.1	31.0	30.9	32.8	35.0	34.8	33.6	33.0	34.0	30.6	32.6	28.9	28.3
	Min	14.4	17.4	7.0	16.2	19.4	20.2	19.8	17.8	17.5	19.8	17.0	16.7	14.2
Relative Humidity	Max	56	56	67	73	70	63	76	71	74	69	68	85	-
	Min	16	21	27	22	14	16	22	26	16	25	20	34	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		13.2	13.1	12.4	13.3	10.5	12.4	12.6	8.9	12.7	9.5	11.9	10.3	
Precipitation													0.1	6.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	17.3	19.2	14.0	19.5	22.2	22.5	21.7	20.4	20.8	20.2	197.7	178.0	
	10	12.3	14.2	9.0	14.5	17.2	17.5	16.7	15.4	15.8	15.2	147.7	128.0	

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	58.0	49.1	
Precipitation - Reference Evapotranspiration	-58.0	-49.0	6.3
Number of Rainy Days	0.0	1.0	2.0
Number of Dry Days	18.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

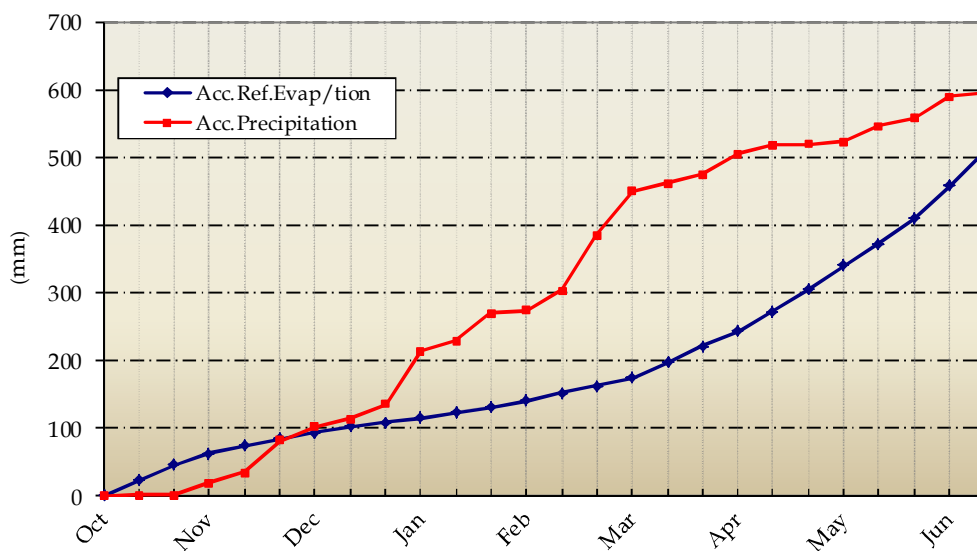


Tripoli

1st 10-day period (1-10/06/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.7	28.3	29.5	29.2	30.6	29.4	30.3	29.4	27.6	27.5	29.0	27.4	26.4
	Min	11.3	10.2	10.9	11.0	12.4	12.2	16.2	12.6	11.5	12.4	12.1	11.4	10.7
Relative Humidity	Max	100	96	100	100	86	86	89	87	89	99	93	100	-
	Min	22	23	24	19	21	21	22	31	29	29	24	28	-
Soil Temperature at 10 cm	06 UTC	19.6	20.0	21.0	19.6	20.6	22.2	22.6	23.8	23.4	23.6	21.6	20.2	20.3
	12 UTC	26.6	-	-	27.4	27.8	28.4	29.2	28.8	-	-	28.0	26.9	23.4
Sunshine Duration		9.8	12.1	7.6	11.7	12.7	10.0	12.8	11.2	12.9	8.8	11.0	9.4	10.2
Precipitation				6.7							0.1	6.8	13.8	6.1
Evaporation		6.0	7.7	3.8	6.2	7.8	8.1	7.0	7.1	7.3	7.8	68.8	-	55.4
Growing Degrees	5	14.5	14.3	15.2	15.1	16.5	15.8	18.3	16.0	14.6	15.0	155.1	144.0	135.3
	10	9.5	9.3	10.2	10.1	11.5	10.8	13.3	11.0	9.6	10.0	105.1	94.0	85.3

1st 10-day period (1-10/06/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	49.2	44.5	48.9
Precipitation - Reference Evapotranspiration	-42.4	-30.7	-42.8
Number of Rainy Days	2.0	3.0	1.6
Number of Dry Days	2.0	3.0	-

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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