



AGROMETEOROLOGICAL BULLETIN

*June 2020
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



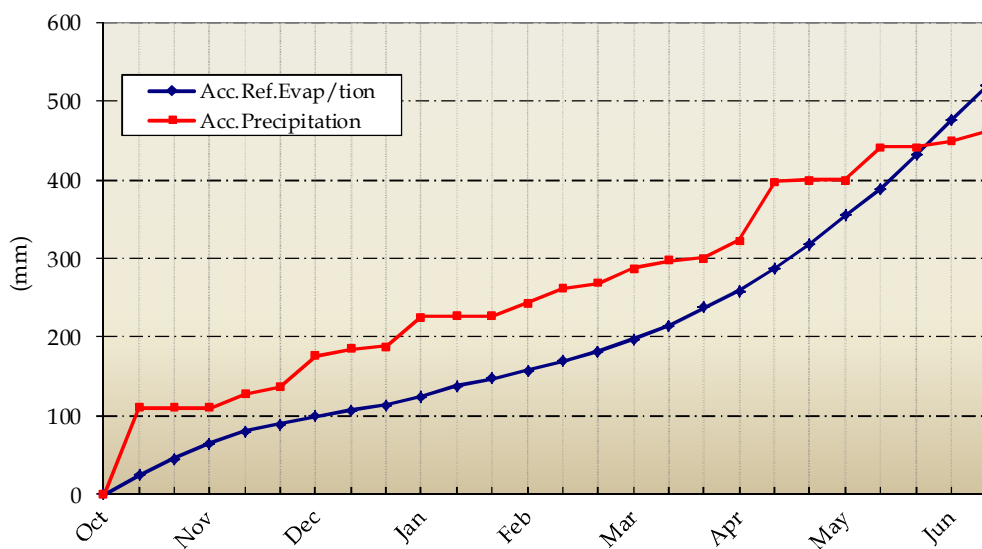
Hellenic National Meteorological Service
 Division of Climatology-Applications
 El. Venizelou Street 14, 16777
 Helliniko, Athens

Web adresses of HNMS
www.emy.gr
www.hnms.gr
www.emy.gov.gr
www.meteo.gov.gr
www.meteohellas.gr

1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.0	21.0	22.0	23.4	24.0	29.4	25.4	24.0	30.2	30.6	25.2	27.2	25.8
	Min	13.4	14.2	14.0	11.8	13.4	15.6	15.2	15.2	15.2	16.0	14.4	16.7	14.0
Relative Humidity	Max	89	83	91	88	83	87	89	90	91	85	88	90	-
	Min	51	52	52	59	59	33	59	53	49	52	52	48	-
Soil Temperature at 10 cm	06 UTC	17.0	17.4	17.2	17.4	19.0	18.4	19.4	20.4	20.0	20.4	18.7	22.5	20.6
	12 UTC	20.0	20.4	21.2	21.0	23.0	22.4	21.8	23.6	23.8	24.6	22.2	26.3	25.3
Sunshine Duration		6.7	9.0	8.8	12.6	12.4	8.6	12.8	10.0	7.4	13.0	10.1	10.9	9.7
Precipitation		13.5		0.0								13.5	23.1	10.6
Evaporation		6.4	4.1	5.9	6.8	3.5	8.3	8.2	2.8	7.7	7.2	60.9	70.1	72.8
Growing Degrees	5	12.7	12.6	13.0	12.6	13.7	17.5	15.3	14.6	17.7	18.3	148.0	169.2	148.7
	10	7.7	7.6	8.0	7.6	8.7	12.5	10.3	9.6	12.7	13.3	98.0	119.2	98.7

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	44.5	49.0	48.0
Precipitation - Reference Evapotranspiration	-31.0	-25.9	-37.4
Number of Rainy Days	1.0	5.0	2.2
Number of Dry Days	2.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

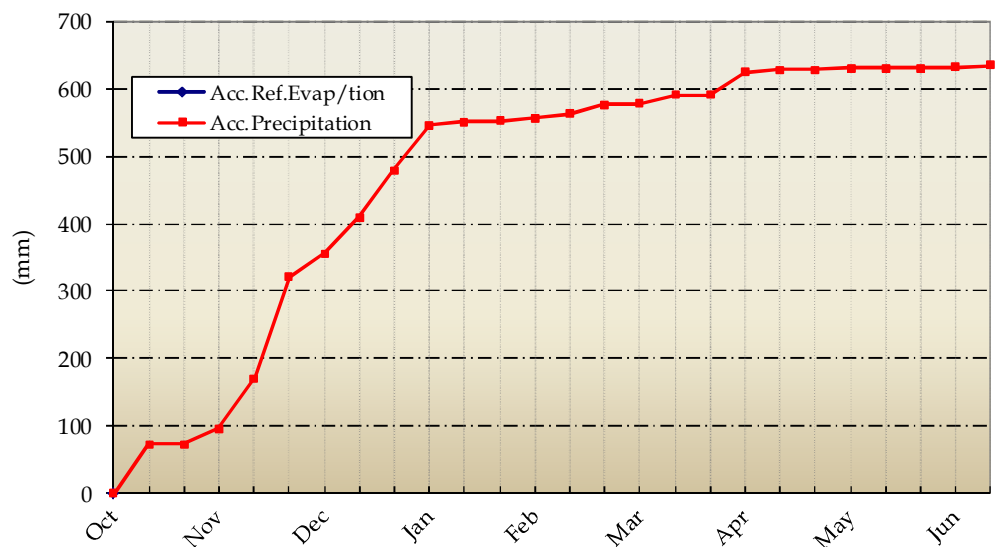


1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.0	23.9	25.1	27.1	29.3	26.0	25.9	27.2	27.6	28.6	26.4	27.7	26.9
	Min	10.8	11.8	12.4	13.8	12.4	18.2	18.3	14.4	15.6	15.7	14.3	15.0	15.3
Relative Humidity	Max	95	91	93	96	93	90	94	95	93	94	93	92	-
	Min	54	44	40	35	26	50	52	43	49	43	44	39	-
Soil Temperature at 10 cm	06 UTC	21.2	21.4	21.6	21.6	21.2	24.8	24.4	24.6	24.8	25.2	23.1	22.3	23.0
	12 UTC	24.4	25.0	25.0	26.2	27.0	26.0	26.8	27.0	26.8	27.8	26.2	24.6	27.7
Sunshine Duration		12.6	13.4	12.9	13.2	11.0	7.2	11.7	12.2	13.0	12.9	12.0	12.2	11.1
Precipitation		0.0					1.1	1.0				2.1		2.3
Evaporation		5.8	6.2	6.8	7.3	11.8	7.3	6.6	7.9	7.4	7.2	74.3	70.9	67.5
Growing Degrees	5	11.9	12.9	13.8	15.5	15.9	17.1	17.1	15.8	16.6	17.2	153.6	163.4	160.7
	10	6.9	7.9	8.8	10.5	10.9	12.1	12.1	10.8	11.6	12.2	103.6	113.4	110.7

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	51.4	48.5
Precipitation - Reference Evapotranspiration	-	-51.4	-46.2
Number of Rainy Days	2.0	0.0	0.7
Number of Dry Days	15.0	14.0	-

The missing info in the tables and the graph are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

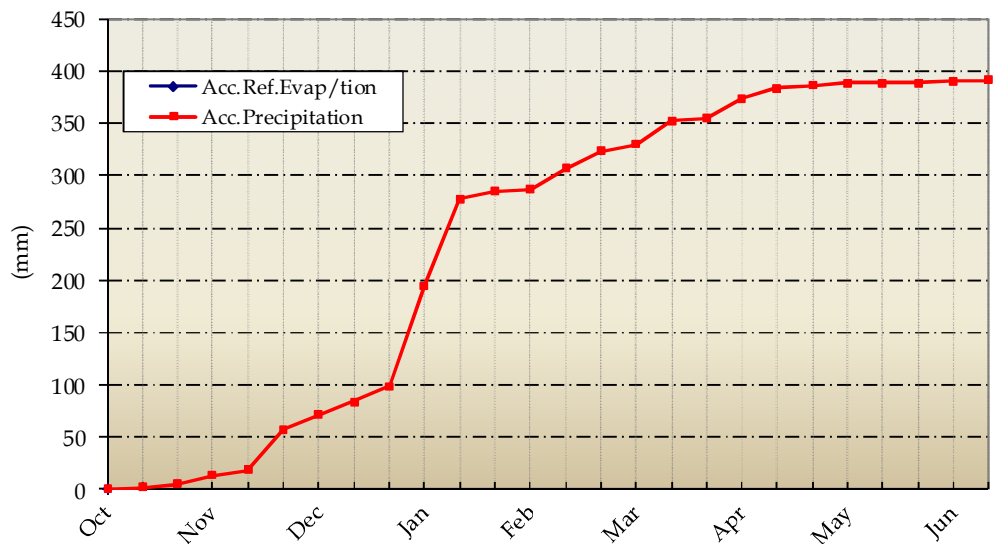


1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.8	22.6	23.0	25.2	29.0	29.2	24.0	26.0	33.6	27.0	26.3	25.2	25.7
	Min	17.4	18.0	14.2	15.2	16.6	21.4	17.4	16.4	17.6	18.6	17.3	18.5	17.9
Relative Humidity	Max	82	92	91	89	90	87	88	90	82	79	87	84	-
	Min	57	61	61	54	30	25	47	53	21	39	45	58	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.8	8.7	9.7	12.9	12.7	10.0	12.9	12.6	10.4	13.0	11.4	12.1	11.2
Precipitation			0.5									0.5		3.5
Evaporation		11.2	3.8	4.1	4.5	11.5	8.2	7.6	9.1	7.1	8.1	75.2	54.6	76.6
Growing Degrees	5	15.6	15.3	13.6	15.2	17.8	20.3	15.7	16.2	20.6	17.8	168.1	168.5	167.8
	10	10.6	10.3	8.6	10.2	12.8	15.3	10.7	11.2	15.6	12.8	118.1	118.5	117.8

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	51.8	-
Precipitation - Reference Evapotranspiration	-	-51.8	3.5
Number of Rainy Days	1.0	0.0	0.5
Number of Dry Days	5.0	26.0	-

The missing info in the tables and the graph are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

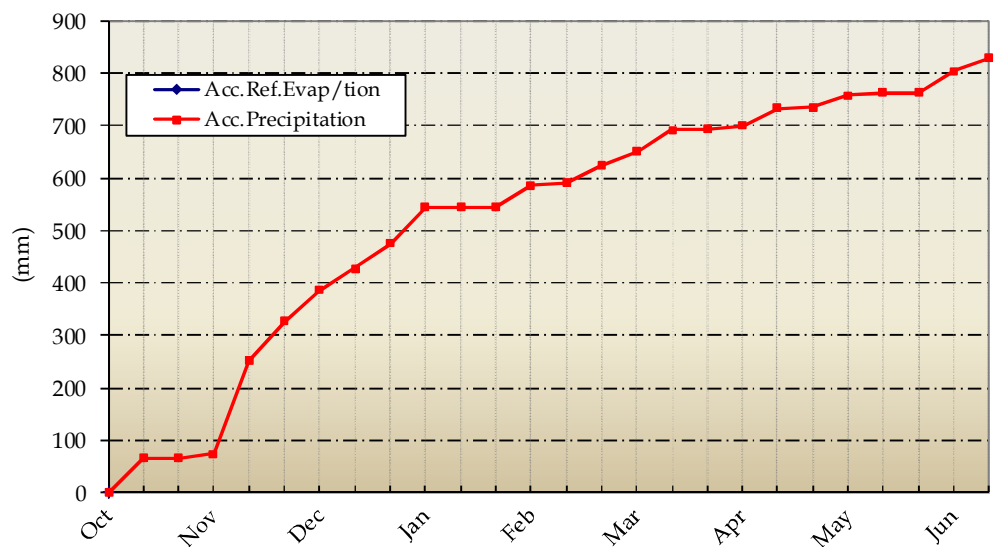


1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.6	20.6	21.4	25.2	24.4	23.0	25.0	24.0	28.4	25.0	23.8	25.9	26.3
	Min	9.8	7.4	7.6	7.4	7.4	14.0	10.0	10.4	12.0	10.6	9.7	12.9	12.0
Relative Humidity	Max	100	99	95	97	97	100	100	100	100	100	99	92	-
	Min	49	43	47	34	38	71	52	54	45	54	49	49	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	18.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.9
Sunshine Duration		8.7	8.5	9.9	11.7	7.7	0.0	10.2	3.9	12.0	8.2	8.1	7.7	9.1
Precipitation		0.0	5.0				13.3	0.0	0.4	0.1	5.5	24.3	28.7	14.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	46.7
Growing Degrees	5	10.2	9.0	9.5	11.3	10.9	13.5	12.5	12.2	15.2	12.8	117.1	144.1	141.5
	10	5.2	4.0	4.5	6.3	5.9	8.5	7.5	7.2	10.2	7.8	67.1	94.1	91.5

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	43.4
Precipitation - Reference Evapotranspiration	-	-	-29.0
Number of Rainy Days	5.0	4.0	2.5
Number of Dry Days	1.0	1.0	-

The missing info in the tables and the graph are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

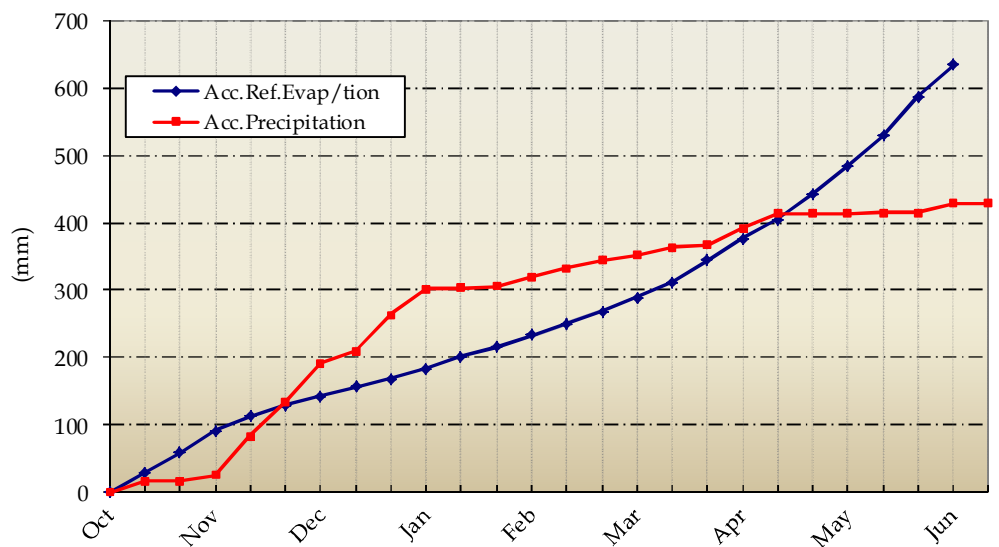


1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.2	23.9	26.7	25.4	25.2	26.5	27.9	28.0	27.3	29.5	26.6	28.4	27.6
	Min	11.1	11.2	11.6	11.6	10.2	18.3	14.3	15.0	9.6	16.0	12.9	14.8	14.5
Relative Humidity	Max	100	95	100	100	100	79	97	98	100	88	96	85	-
	Min	34	37	26	32	38	35	45	41	31	37	36	34	-
Soil Temperature at 10 cm	06 UTC	19.8	20.5	21.0	21.6	21.8	23.2	23.0	23.0	23.6	24.0	22.2	22.3	21.6
	12 UTC	23.5	23.0	24.5	25.5	25.5	26.4	26.0	26.0	27.0	27.0	25.4	25.6	25.8
Sunshine Duration		11.1	10.9	10.8	12.6	10.4	7.4	9.3	12.2	12.3	12.2	10.9	11.0	10.5
Precipitation													8.3	2.7
Evaporation		8.2	8.6	7.2	8.9	8.9	7.0	5.5	9.7	4.1	9.9	78.0	77.1	75.1
Growing Degrees	5	13.2	12.6	14.2	13.5	12.7	17.4	16.1	16.5	13.5	17.8	147.3	166.2	160.6
	10	8.2	7.6	9.2	8.5	7.7	12.4	11.1	11.5	8.5	12.8	97.3	116.2	110.6

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	57.2	50.2
Precipitation - Reference Evapotranspiration	-	-48.9	-47.5
Number of Rainy Days	0.0	2.0	0.9
Number of Dry Days	10.0	6.0	-

The missing info in the tables and the graph are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



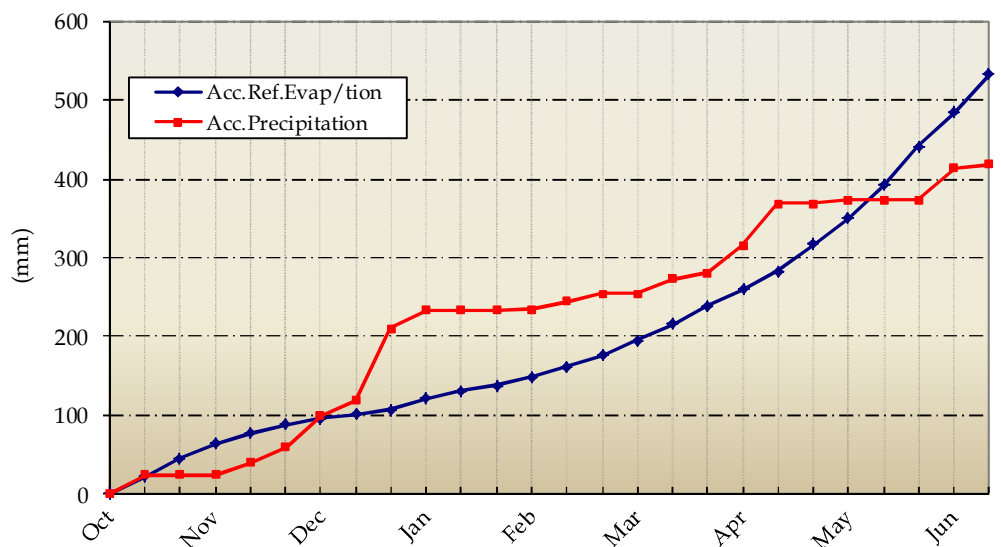
Larisa

1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.0	26.0	26.0	29.8	30.0	26.2	30.0	31.0	29.2	32.8	28.5	30.5	29.7
	Min	10.0	13.0	11.8	10.0	12.7	16.8	13.4	13.4	16.7	15.0	13.3	14.8	14.1
Relative Humidity	Max	93	96	92	95	86	97	98	92	92	95	94	91	-
	Min	41	30	35	22	24	48	32	27	43	24	33	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	21.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	24.3
Sunshine Duration		5.7	10.2	9.5	10.0	10.3	1.3	12.0	9.3	8.1	11.0	8.7	8.7	10.4
Precipitation		0.6		0.3			3.6					4.5	16.3	9.2
Evaporation		4.4	8.9	5.1	6.9	9.8	4.5	5.5	4.0	11.1	11.2	71.4	68.8	79.0
Growing Degrees	5	12.0	14.5	13.9	14.9	16.4	16.5	16.7	17.2	18.0	18.9	158.9	176.5	169.0
	10	7.0	9.5	8.9	9.9	11.4	11.5	11.7	12.2	13.0	13.9	108.9	126.5	119.0

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	48.4	49.3	54.0
Precipitation - Reference Evapotranspiration	-43.9	-33.0	-44.8
Number of Rainy Days	3.0	4.0	2.3
Number of Dry Days	0.0	5.0	-

The missing info in the tables are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



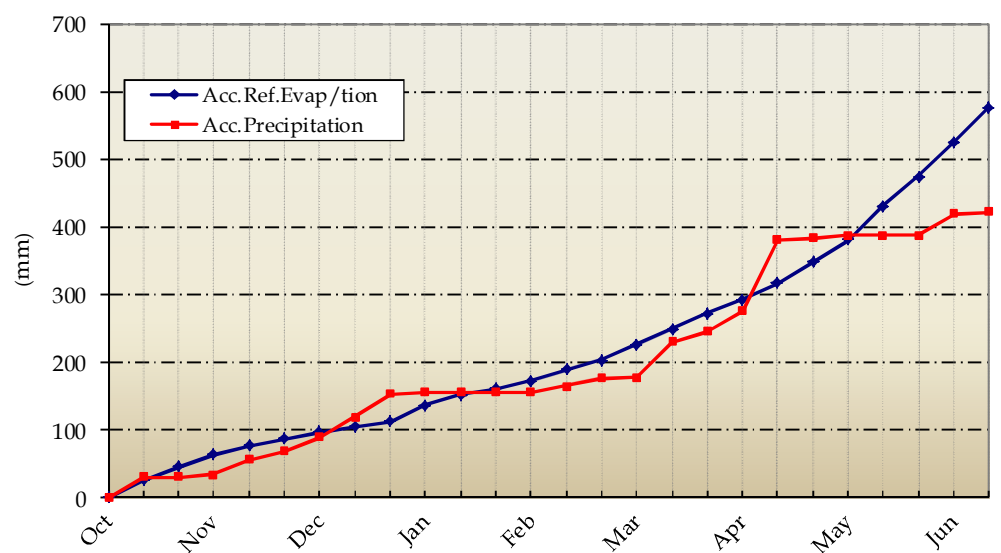
Mikra

1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.0	25.0	25.2	26.8	28.6	26.2	27.4	28.0	26.8	30.7	26.9	28.7	27.9
	Min	15.6	14.2	16.5	12.3	14.7	18.4	15.7	15.4	17.2	16.6	15.7	18.0	15.4
Relative Humidity	Max	85	68	78	78	85	97	97	87	90	97	86	83	-
	Min	43	36	25	33	30	45	38	45	52	39	39	38	-
Soil Temperature at 10 cm	06 UTC	20.2	20.8	20.7	21.0	22.0	23.2	22.0	22.2	23.0	22.8	21.8	22.8	22.3
	12 UTC	23.4	23.6	24.0	24.6	24.8	24.0	26.0	24.8	25.0	26.6	24.7	27.6	27.3
Sunshine Duration		11.4	12.8	13.6	13.2	10.6	3.0	11.3	7.7	7.3	12.8	10.4	11.0	10.0
Precipitation				0.1			0.4	1.9				2.4	9.2	11.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	74.4
Growing Degrees	5	14.8	14.6	15.9	14.6	16.7	17.3	16.6	16.7	17.0	18.7	162.7	183.7	166.4
	10	9.8	9.6	10.9	9.6	11.7	12.3	11.6	11.7	12.0	13.7	112.7	133.7	116.4

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	51.3	55.0	52.1
Precipitation - Reference Evapotranspiration	-48.9	-45.8	-40.9
Number of Rainy Days	3.0	3.0	2.7
Number of Dry Days	6.0	1.0	-

The missing info in the tables are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



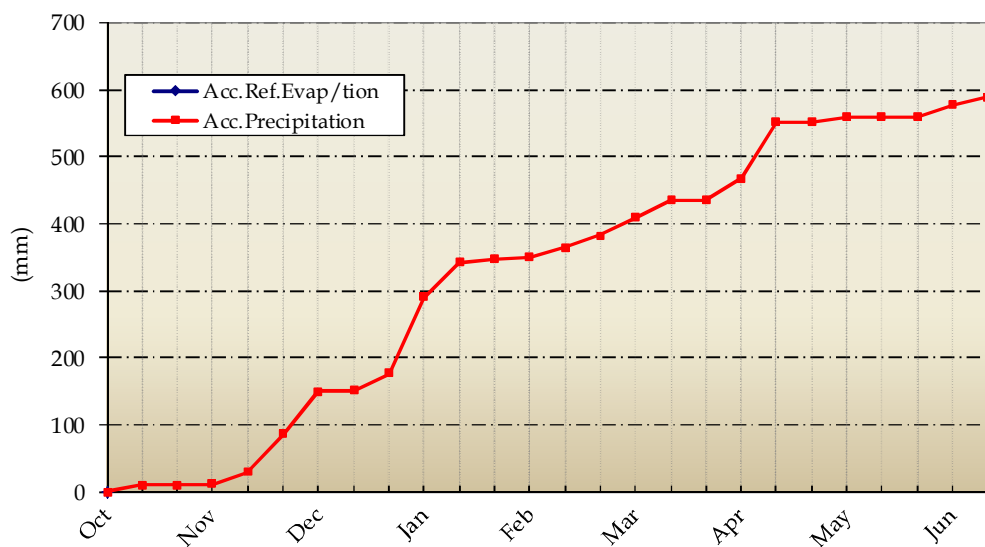
Tanagra

1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.2	23.7	23.8	27.5	27.6	28.8	27.5	30.6	30.0	32.8	27.6	28.8	28.3
	Min	12.1	10.8	13.7	11.1	12.4	16.6	14.2	16.4	16.9	16.6	14.1	15.5	14.2
Relative Humidity	Max	94	96	99	99	84	94	96	92	94	82	93	78	-
	Min	36	33	39	30	24	33	36	30	24	18	30	30	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		8.9	8.3	7.8	12.5	12.0	11.6	12.2	12.3	12.4	13.1	11.1	11.6	
Precipitation		0.0	0.3	12.1								12.4	0.5	6.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	12.7	12.3	13.8	14.3	15.0	17.7	15.9	18.5	18.5	19.7	158.2	171.2	
	10	7.7	7.3	8.8	9.3	10.0	12.7	10.9	13.5	13.5	14.7	108.2	121.2	

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	53.0	
Precipitation - Reference Evapotranspiration	-	-52.5	6.3
Number of Rainy Days	2.0	1.0	2.0
Number of Dry Days	3.0	28.0	-

The missing info in the tables and the graph are due to the absence of data.

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

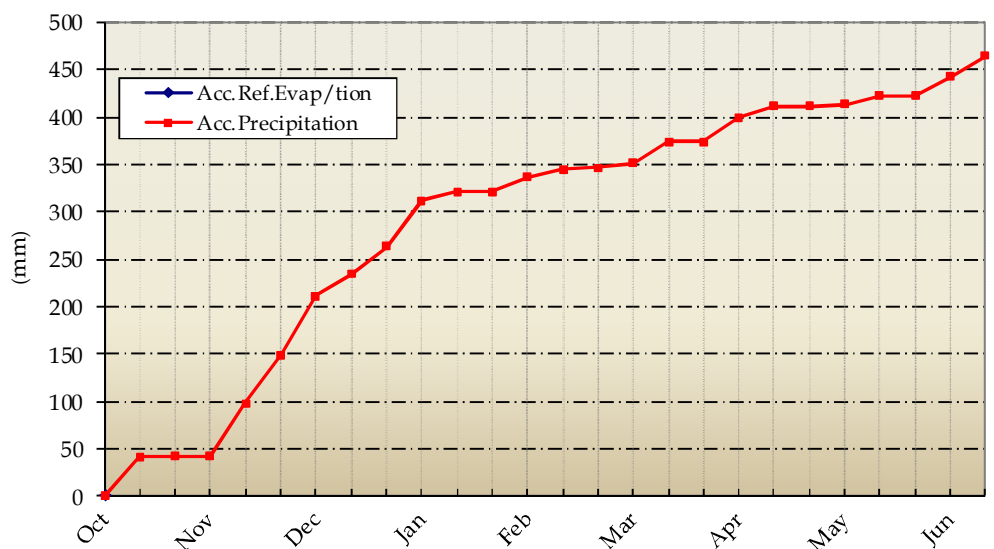


1st 10-day period (1-10/06/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.5	19.4	21.6	24.2	25.0	23.6	25.5	28.4	28.6	26.6	24.2	26.7	26.4
	Min	5.5	5.1	5.9	10.6	11.0	18.6	13.5	9.6	11.9	10.4	10.2	9.8	10.7
Relative Humidity	Max	99	100	99	83	90	82	91	96	89	90	92	91	-
	Min	39	43	38	28	27	31	39	23	21	25	31	28	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	20.1	20.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	28.1	23.4
Sunshine Duration		5.2	7.6	8.4	12.9	11.2	11.6	10.9	12.3	12.3	12.9	10.5	11.9	10.2
Precipitation		17.2	3.5	0.6								21.3	0.1	6.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	55.4
Growing Degrees	5	7.5	7.3	8.8	12.4	13.0	16.1	14.5	14.0	15.3	13.5	122.3	132.5	135.3
	10	2.5	2.3	3.8	7.4	8.0	11.1	9.5	9.0	10.3	8.5	72.3	82.5	85.3

1st 10-day period (1-10/06/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.7	49.2	48.9
Precipitation - Reference Evapotranspiration	-22.4	-49.1	-42.8
Number of Rainy Days	3.0	1.0	1.6
Number of Dry Days	2.0	7.0	-

The missing info in the tables and the graph are due to the absence of data.

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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Papakrivou Anastasia

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