



AGROMETEOROLOGICAL BULLETIN

June 2023
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



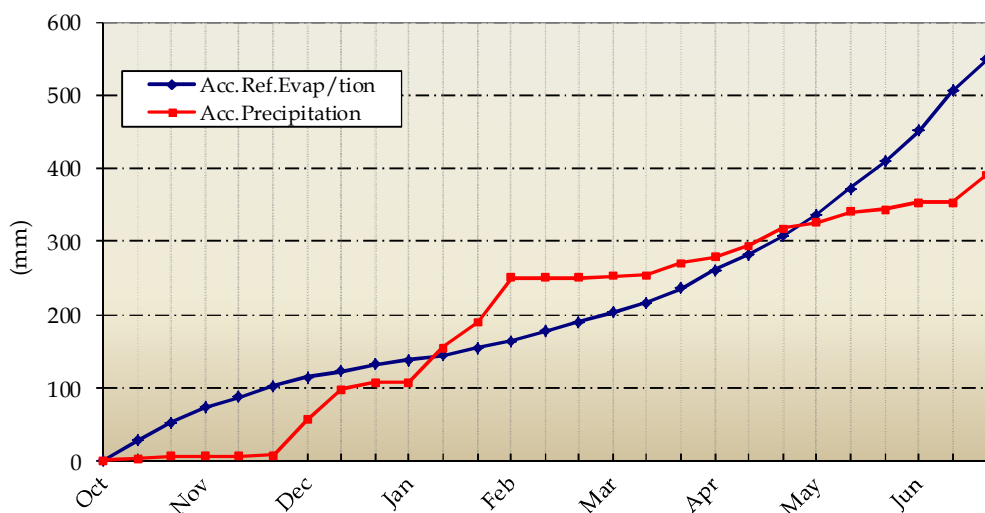
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2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.0	28.6	26.0	27.4	27.4	27.0	26.4	26.2	26.4	27.0	27.0	28.6	28.9
	Min	18.8	17.4	15.8	16.8	15.8	19.0	18.2	17.0	17.0	16.6	17.2	17.7	16.9
Relative Humidity	Max	84	91	88	86	91	90	92	91	94	94	90	85	84
	Min	50	42	42	47	46	65	55	52	59	47	50	41	44
Soil Temperature at 10 cm	06 UTC	24.6	24.0	22.0	22.4	23.2	24.2	22.0	21.5	21.8	22.2	22.8	23.2	23.6
	12 UTC	25.2	28.0	24.6	26.4	26.8	25.0	25.0	25.0	24.8	25.4	25.6	26.4	27.6
Sunshine Duration		3.4	8.9	10.5	11.9	12.3	1.3	2.3	5.8	10.9	9.6	7.7	10.1	10.6
Precipitation			7.0				0.2	3.1	23.6	1.6	1.8	37.3	35.5	10.5
Evaporation		8.0	6.7	5.2	3.6	9.5	3.8	5.2	5.5	3.0	4.8	55.3	85.5	81.3
Growing Degrees	5	18.4	18.0	15.9	17.1	16.6	18.0	17.3	16.6	16.7	16.8	171.4	181.4	163.3
	10	13.4	13.0	10.9	12.1	11.6	13.0	12.3	11.6	11.7	11.8	121.4	131.4	117.7

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.2	53.3	45.7
Precipitation - Reference Evapotranspiration	-5.9	-17.8	-35.2
Number of Rainy Days	6.0	2.0	1.4
Number of Dry Days	13.0	1.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

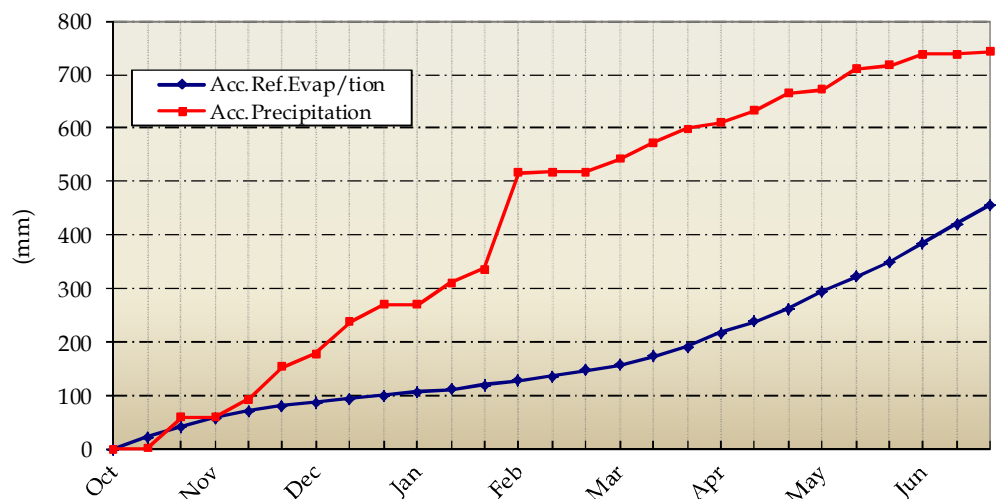


2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.0	27.3	27.4	28.8	28.6	26.8	25.2	26.9	29.6	30.0	27.9	30.0	28.9
	Min	17.0	17.0	16.6	17.2	18.4	20.8	19.6	18.0	17.0	16.6	17.8	18.2	17.2
Relative Humidity	Max	97	97	95	96	93	93	98	95	96	96	96	92	91
	Min	56	56	54	50	56	53	62	48	43	46	52	42	41
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	25.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	31.2
Sunshine Duration		7.0	6.7	7.7	7.1	1.1	4.2	4.2	7.4	8.3	8.0	6.2	11.3	11.3
Precipitation						0.4		3.6				4.0		2.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	74.6
Growing Degrees	5	17.5	17.2	17.0	18.0	18.5	18.8	17.4	17.5	18.3	18.3	178.4	191.0	149.4
	10	12.5	12.2	12.0	13.0	13.5	13.8	12.4	12.5	13.3	13.3	128.4	141.0	107.9

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	36.0	47.9	45.2
Precipitation - Reference Evapotranspiration	-32.0	-47.9	-42.8
Number of Rainy Days	2.0	0.0	0.4
Number of Dry Days	13.0	10.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



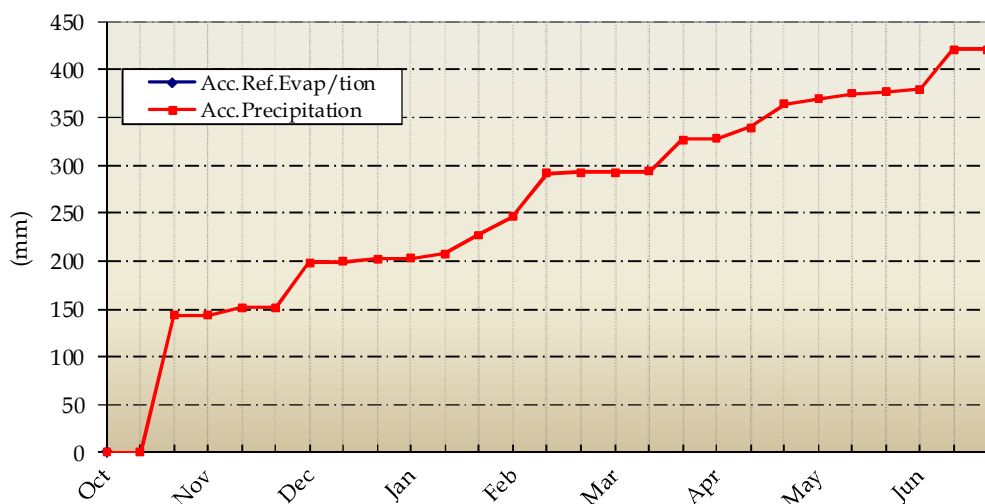
Iraklio

2nd 10-day period (11-20/06/2023)		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	25.8	25.4	25.4	26.0	30.4	26.2	25.2	26.0	28.0	26.4	26.4	27.7
	Min	18.6	18.0	19.0	18.4	17.6	23.0	20.0	21.0	19.8	19.0	19.4	20.9	20.0
Relative Humidity	Max	93	94	91	92	79	83	83	89	84	84	87	82	79
	Min	74	74	68	64	41	42	58	67	61	52	60	54	51
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		13.0	12.8	12.8	12.9	11.6	10.2	13.1	11.8	12.9	13.0	12.4	11.7	12.1
Precipitation										0.5		0.5	0.5	0.3
Evaporation		4.2	9.6	7.4	3.2	7.9	6.2	7.4	4.4	6.7	4.8	61.8	63.2	62.2
Growing Degrees	5	16.9	16.9	17.2	16.9	16.8	21.7	18.1	18.1	17.9	18.5	179.0	186.4	177.2
	10	11.9	11.9	12.2	11.9	11.8	16.7	13.1	13.1	12.9	13.5	129.0	136.4	130.1

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	1.0	2.0	0.2
Number of Dry Days	11.0	19.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

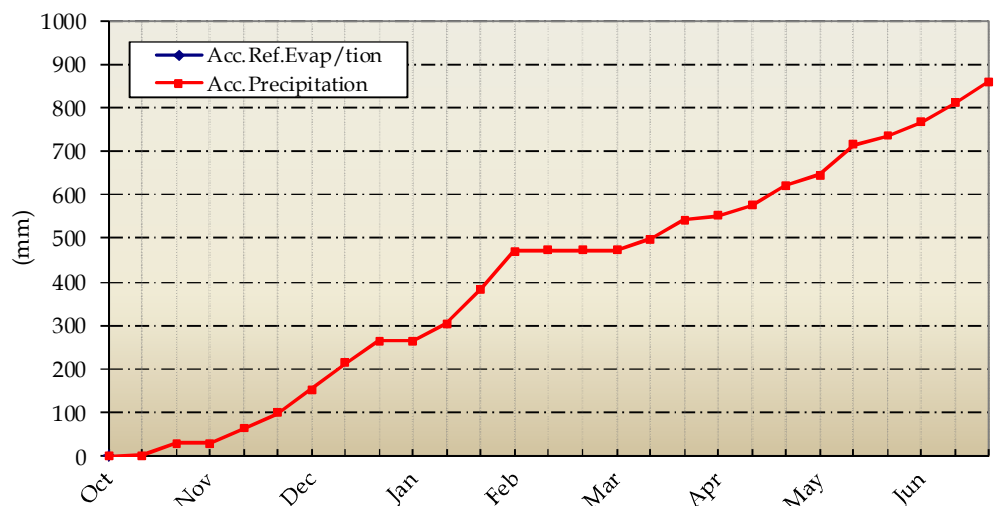


2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.6	25.3	26.4	27.7	22.8	20.6	23.0	26.0	28.0	29.6	25.5	28.4	28.6
	Min	15.6	13.9	13.3	14.5	16.4	15.2	16.0	14.2	10.7	12.4	14.2	13.8	13.9
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	91	91
	Min	50	56	43	46	64	78	54	43	47	38	52	39	41
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	20.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.5
Sunshine Duration		5.1	4.7	6.5	9.3	0.4	0.6	3.1	5.8	12.2	12.8	6.0	7.7	9.7
Precipitation		26.3	2.4	0.5		3.0	14.1	0.9	2.6			49.8	16.2	11.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	15.6	14.6	14.9	16.1	14.6	12.9	14.5	15.1	14.4	16.0	148.6	161.3	136.0
	10	10.6	9.6	9.9	11.1	9.6	7.9	9.5	10.1	9.4	11.0	98.6	111.3	94.1

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	39.6
Precipitation - Reference Evapotranspiration	-	-	-28.2
Number of Rainy Days	7.0	3.0	2.0
Number of Dry Days	2.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

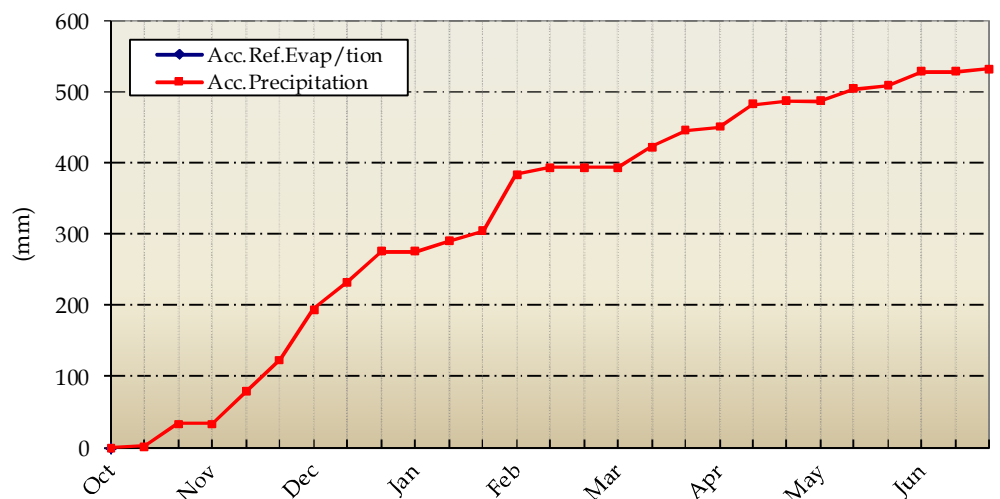


2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.4	28.9	27.7	27.5	32.2	30.4	24.4	29.4	28.0	30.1	28.8	29.2	29.9
	Min	17.4	17.8	16.7	16.2	16.8	18.4	19.0	16.6	15.8	17.4	17.2	17.1	16.7
Relative Humidity	Max	94	94	95	95	95	96	94	96	97	87	94	94	88
	Min	44	47	53	52	30	38	63	48	52	46	47	43	36
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	21.4	22.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	27.6	26.1
Sunshine Duration		11.9	10.5	9.3	12.5	8.8	10.7	2.2	9.0	12.4	10.8	9.8	9.2	11.2
Precipitation			1.1			0.1		2.5	0.1			3.8	35.0	4.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	68.9
Growing Degrees	5	18.4	18.4	17.2	16.9	19.5	19.4	16.7	18.0	16.9	18.8	180.1	181.3	163.2
	10	13.4	13.4	12.2	11.9	14.5	14.4	11.7	13.0	11.9	13.8	130.1	131.3	118.5

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	50.5
Precipitation - Reference Evapotranspiration	-	-	-46.3
Number of Rainy Days	4.0	6.0	1.0
Number of Dry Days	10.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

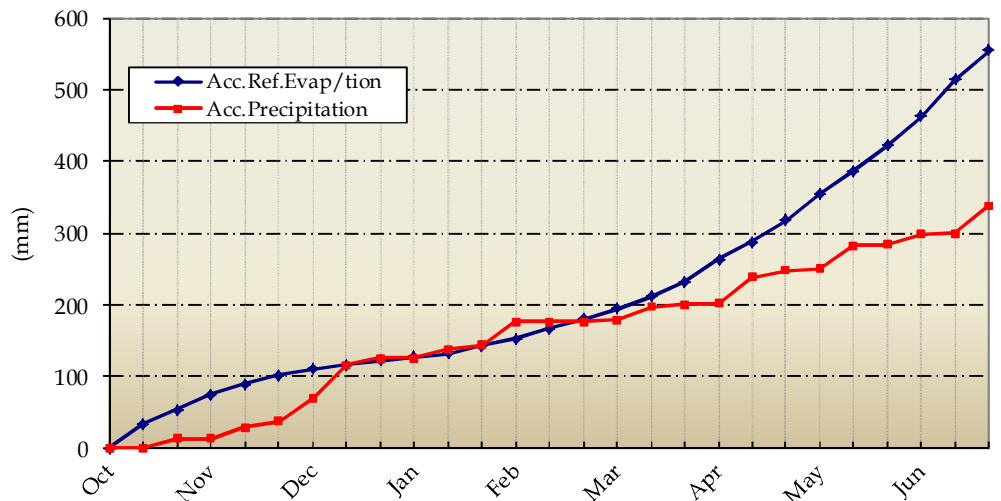


Larisa

2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.6	24.9	27.2	30.2	28.8	25.8	25.8	26.4	31.0	33.4	28.2	30.2	32.2
	Min	17.4	17.0	17.2	14.4	18.0	18.0	18.0	16.0	15.0	15.2	16.6	17.4	17.1
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	95	83
	Min	43	58	45	33	45	48	48	50	32	27	43	36	27
Soil Temperature at 10 cm	06 UTC	25.2	22.2	22.4	22.6	23.8	23.8	22.6	21.8	22.8	24.0	23.1	23.8	24.4
	12 UTC	25.6	25.4	23.4	26.0	24.6	24.4	24.2	23.4	24.0	25.4	24.6	25.5	26.4
Sunshine Duration		1.6	2.2	6.8	10.7	4.6	2.0	1.1	5.5	10.4	10.9	5.6	7.2	10.2
Precipitation		16.5	9.3			0.1	0.1	2.3	10.9			39.2	20.3	9.1
Evaporation		0.7	0.0	9.5	10.3	6.2	5.9	3.5	4.7	9.2	7.8	57.8	74.0	95.5
Growing Degrees	5	18.0	16.0	17.2	17.3	18.4	16.9	16.9	16.2	18.0	19.3	174.2	188.0	178.2
	10	13.0	11.0	12.2	12.3	13.4	11.9	11.9	11.2	13.0	14.3	124.2	138.0	132.8

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	40.5	47.1	51.2
Precipitation - Reference Evapotranspiration	-1.3	-26.8	-42.1
Number of Rainy Days	6.0	3.0	1.6
Number of Dry Days	0.0	3.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



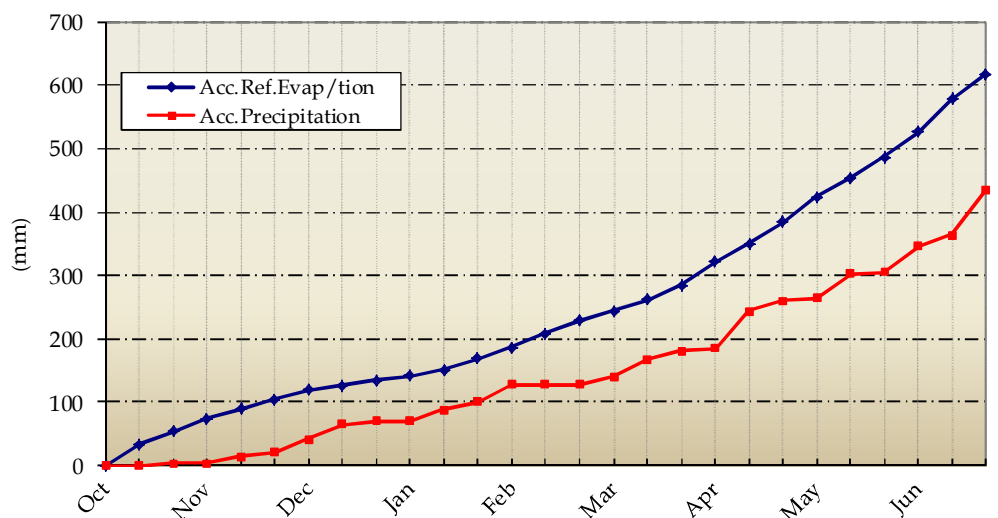
Mikra

2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.4	25.6	25.0	27.4	27.0	25.2	24.0	25.6	29.5	31.5	26.7	28.6	30.5
	Min	18.0	18.0	17.3	16.9	17.6	18.4	17.2	18.4	21.6	16.6	18.0	19.0	18.8
Relative Humidity	Max	100	100	100	100	99	100	100	92	82	96	97	93	77
	Min	61	50	59	45	42	62	65	53	43	36	52	45	33
Soil Temperature at 10 cm	06 UTC	22.2	22.2	21.8	22.0	22.0	22.4	21.0	20.4	22.0	21.8	21.8	23.2	25.1
	12 UTC	23.2	23.6	22.6	24.6	24.0	24.4	21.8	21.6	24.5	25.7	23.6	24.8	30.4
Sunshine Duration		3.5	2.4	6.1	5.9	5.4	3.2	0.4	3.3	13.5	12.4	5.6	8.6	10.7
Precipitation		25.9		1.2		0.3	0.5	41.7	1.4			71.0	28.0	8.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	86.7
Growing Degrees	5	17.2	16.8	16.2	17.2	17.3	16.8	15.6	17.0	20.6	19.1	173.6	187.8	175.7
	10	12.2	11.8	11.2	12.2	12.3	11.8	10.6	12.0	15.6	14.1	123.6	137.8	131.2

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	40.1	51.8	45.8
Precipitation - Reference Evapotranspiration	30.9	-23.8	-37.7
Number of Rainy Days	6.0	4.0	1.5
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



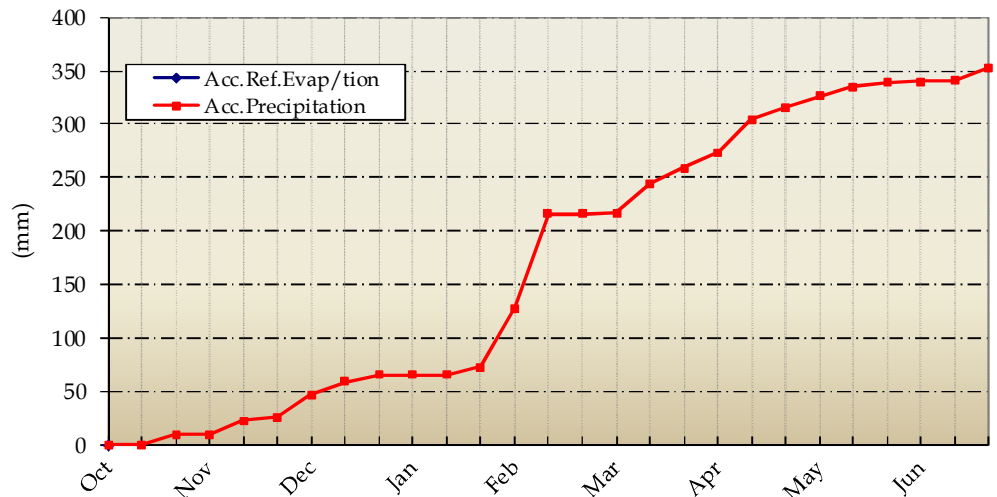
Tanagra

2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.6	28.4	27.5	28.8	29.8	28.7	26.0	23.2	30.0	31.2	28.2	28.6	30.7
	Min	18.1	17.7	17.8	13.6	15.5	16.5	16.8	17.4	16.3	16.4	16.6	18.1	17.3
Relative Humidity	Max	96	96	91	81	78	80	96	97	92	92	90	73	77
	Min	35	31	32	31	30	35	46	55	29	22	35	31	28
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		3.1	6.1	7.3	13.3	8.2	6.9	4.6	5.3	13.2	12.7	8.1	12.1	10.5
Precipitation		8.8	0.1					1.6	1.7			12.2	0.6	2.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	80.8
Growing Degrees	5	18.4	18.1	17.7	16.2	17.7	17.6	16.4	15.3	18.2	18.8	174.2	183.6	160.2
	10	13.4	13.1	12.7	11.2	12.7	12.6	11.4	10.3	13.2	13.8	124.2	133.6	118.2

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	4.0	1.0	0.8
Number of Dry Days	2.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

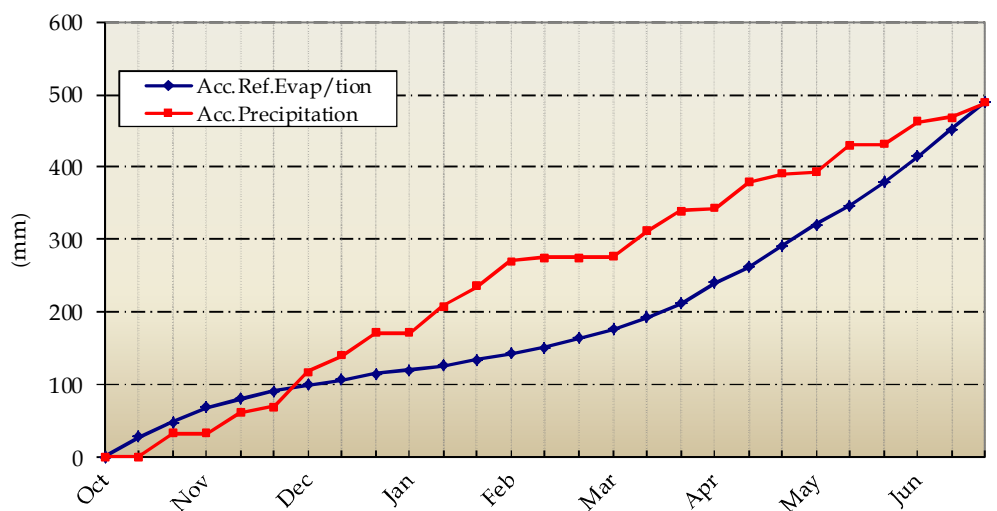


2nd 10-day period (11-20/06/2023)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.2	22.8	23.3	26.0	25.6	25.2	22.0	22.4	27.0	29.4	25.1	26.8	29.0
	Min	12.0	10.6	11.7	12.0	12.6	15.1	15.3	12.6	10.3	12.1	12.4	12.1	12.4
Relative Humidity	Max	98	99	99	99	99	96	97	98	99	98	98	96	86
	Min	28	55	48	41	38	38	58	57	36	30	43	31	28
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	27.6
Sunshine Duration		9.2	4.4	5.5	5.7	8.5	4.9	4.8	7.1	10.7	9.9	7.1	6.9	10.6
Precipitation		0.8	8.9	0.0		0.4		3.1	6.8			20.0	6.6	10.0
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	58.9
Growing Degrees	5	14.6	11.7	12.5	14.0	14.1	15.2	13.7	12.5	13.7	15.8	137.6	145.0	134.2
	10	9.6	6.7	7.5	9.0	9.1	10.2	8.7	7.5	8.7	10.8	87.6	95.0	91.4

2nd 10-day period (11-20/06/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	37.4	38.3	41.4
Precipitation - Reference Evapotranspiration	-17.4	-31.7	-31.4
Number of Rainy Days	5.0	4.0	1.5
Number of Dry Days	2.0	0.0	-

The missing info in the tables 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.

Past Years Mean Values 1991-2020 (Evaporation, Reference Evapotranspiration, Max and Min Relative Humidity 2005-2020)

Mesurements 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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