



AGROMETEOROLOGICAL BULLETIN

*August 2021
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



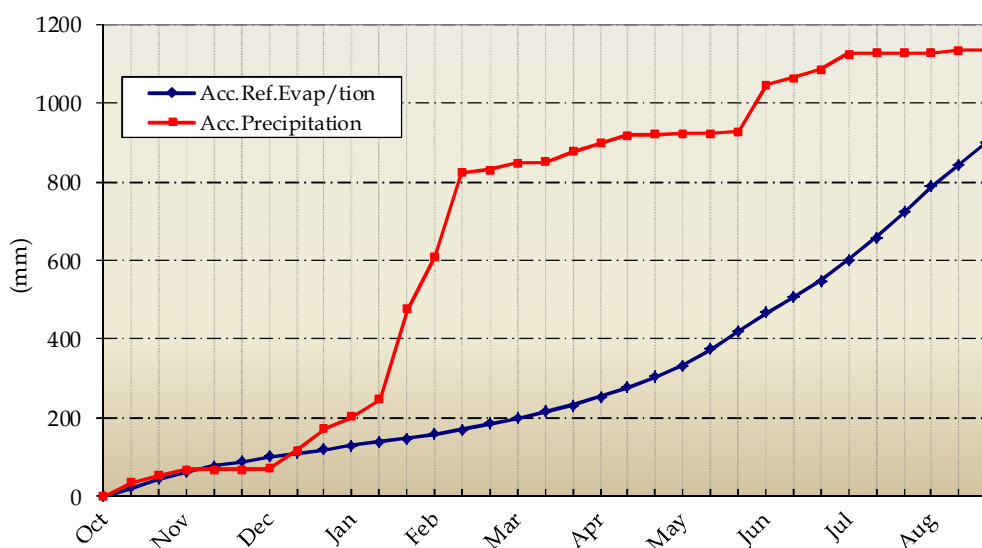
Hellenic National Meteorological Service
Division of Climatology-Applications
El. Venizelou Street 14, 16777
Helliniko, Athens

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

2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.6	34.6	32.6	32.2	33.0	33.0	33.2	33.6	32.0	31.4	32.9	32.3	30.5
	Min	21.6	19.4	23.8	21.4	15.6	16.6	17.6	21.6	22.6	21.0	20.1	19.6	17.7
Relative Humidity	Max	74	83	71	64	81	70	85	82	64	73	75	79	-
	Min	35	30	37	20	24	26	35	35	32	24	30	37	-
Soil Temperature at 10 cm	06 UTC	27.4	28.0	28.2	27.2	26.6	26.6	26.6	28.0	28.6	26.4	27.4	23.8	23.8
	12 UTC	31.4	31.6	31.6	30.2	31.0	30.6	31.0	31.6	30.2	30.4	31.0	27.4	27.9
Sunshine Duration		9.1	12.6	10.2	12.8	12.9	12.7	12.6	12.3	11.1	12.6	11.9	11.2	10.0
Precipitation			0.0							0.0		0.0	5.1	3.9
Evaporation		9.8	10.7	7.0	13.4	10.1	9.3	4.7	10.1	6.2	8.3	89.6	89.4	94.5
Growing Degrees	5	22.6	22.0	23.2	21.8	19.3	19.8	20.4	22.6	22.3	21.2	215.2	209.8	191.3
	10	17.6	17.0	18.2	16.8	14.3	14.8	15.4	17.6	17.3	16.2	165.2	159.8	141.3

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	57.4	53.3	55.4
Precipitation - Reference Evapotranspiration	-57.4	-48.2	-51.5
Number of Rainy Days	0.0	1.0	1.0
Number of Dry Days	14.0	17.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

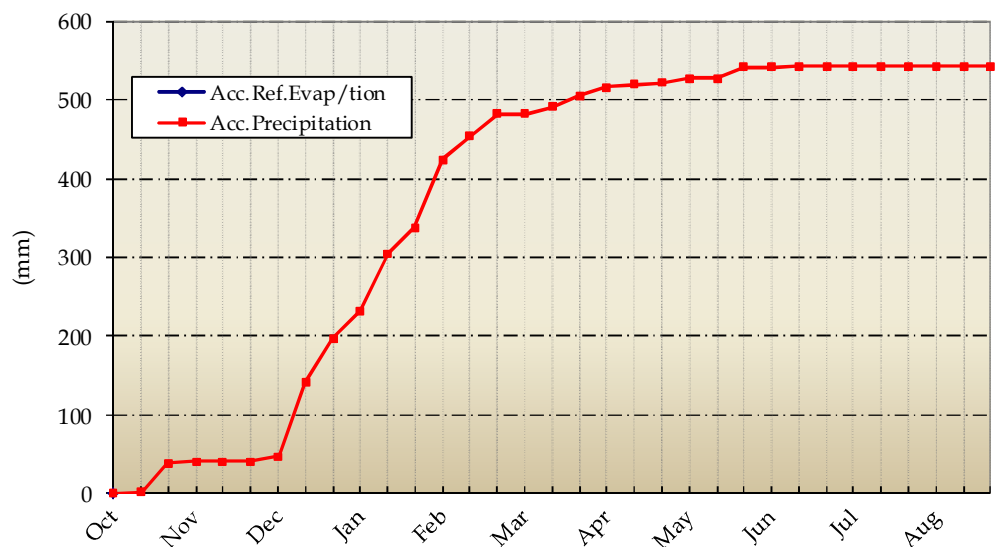


2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	37.6	39.2	35.4	36.5	34.8	35.0	34.3	34.7	32.8	33.9	35.4	33.1	31.2
	Min	21.1	21.6	18.6	20.9	20.0	20.0	22.0	21.7	21.5	21.1	20.8	21.4	18.7
Relative Humidity	Max	93	94	92	86	82	92	95	95	97	92	92	91	-
	Min	30	23	30	26	29	22	31	49	43	35	32	42	-
Soil Temperature at 10 cm	06 UTC	31.0	31.0	30.8	30.6	30.2	29.4	30.6	30.8	30.8	30.8	30.6	30.0	27.4
	12 UTC	33.2	33.4	33.8	34.4	32.4	32.0	33.2	33.2	33.0	33.0	33.2	32.7	31.7
Sunshine Duration		8.3	11.4	12.1	12.5	12.3	12.4	11.6	12.6	11.5	11.6	11.6	11.0	11.2
Precipitation														4.0
Evaporation		10.6	11.6	8.0	13.6	13.0	11.0	1.5	11.0	11.2	9.8	101.3	98.2	73.5
Growing Degrees	5	24.4	25.4	22.0	23.7	22.4	22.5	23.2	23.2	22.2	22.5	231.4	222.8	199.2
	10	19.4	20.4	17.0	18.7	17.4	17.5	18.2	18.2	17.2	17.5	181.4	172.8	149.2

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	46.7	-	49.2
Precipitation - Reference Evapotranspiration	-46.7	-	-45.2
Number of Rainy Days	0.0	0.0	0.3
Number of Dry Days	71.0	12.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

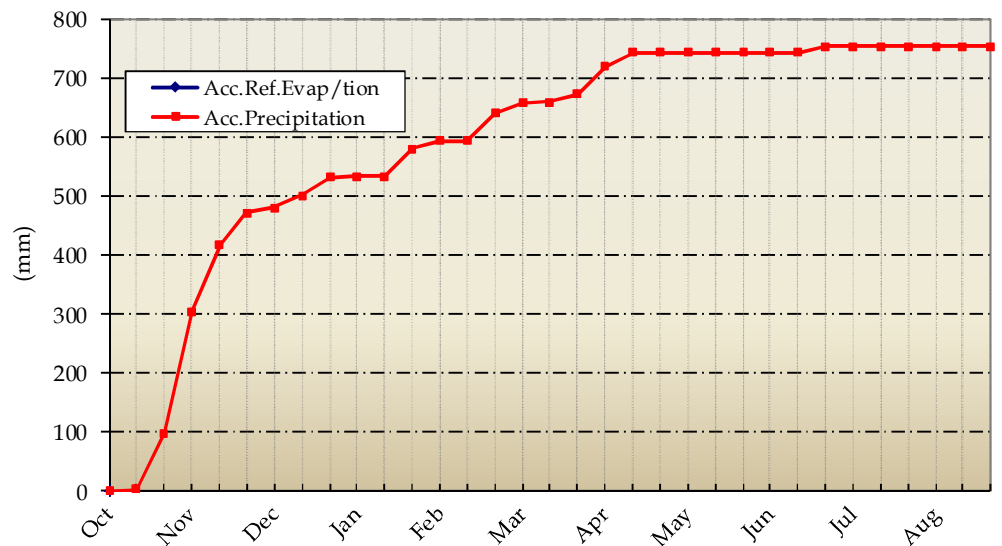


2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.2	30.8	30.0	28.6	28.0	28.4	29.8	31.0	29.6	29.0	29.8	29.8	28.2
	Min	28.0	25.6	26.4	26.0	25.0	19.8	19.6	21.4	22.6	24.4	23.9	24.1	22.2
Relative Humidity	Max	89	87	89	87	88	91	92	94	95	86	90	74	-
	Min	65	65	73	69	73	72	70	70	82	76	72	47	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.1	11.5	12.2	12.3	11.8	12.2	11.0	11.5	11.3	11.9	11.7	12.3	11.0
Precipitation														0.0
Evaporation		8.0	8.0	7.3	8.5	8.1	5.8	6.1	1.7	5.8	8.4	67.7	82.4	81.3
Growing Degrees	5	25.6	23.2	23.2	22.3	21.5	19.1	19.7	21.2	21.1	21.7	218.6	219.4	202.0
	10	20.6	18.2	18.2	17.3	16.5	14.1	14.7	16.2	16.1	16.7	168.6	169.4	152.0

2nd 10-day period (11-20/08/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	0.0
Number of Rainy Days	0.0	0.1
Number of Dry Days	65.0	79.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

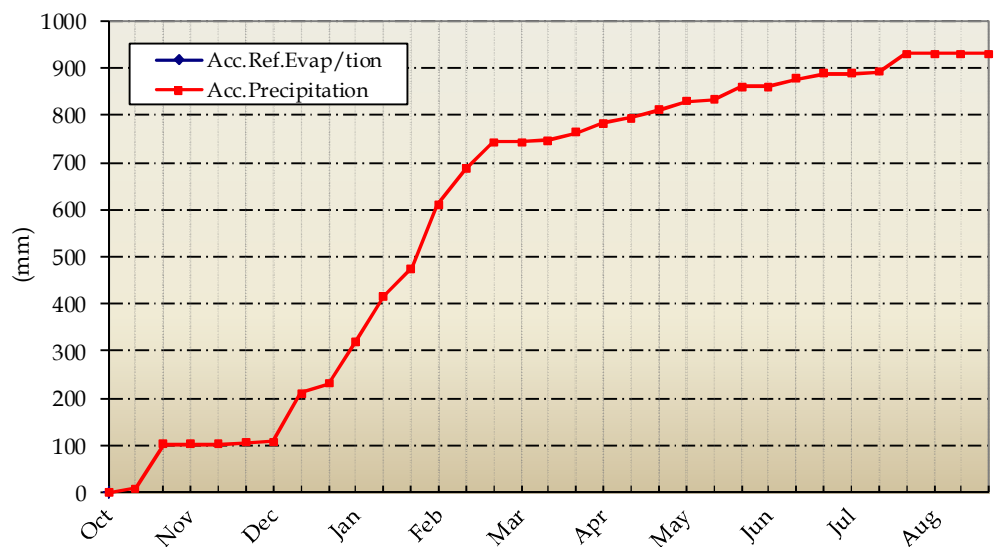


2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	35.0	36.0	35.8	35.2	35.3	35.9	35.5	35.9	34.2	34.5	35.3	32.9	30.9
	Min	18.0	22.8	16.8	16.0	15.4	16.8	17.0	14.8	16.4	15.7	17.0	15.4	15.4
Relative Humidity	Max	88	37	86	89	93	94	96	87	89	84	84	98	-
	Min	25	21	27	22	25	23	25	20	29	22	24	31	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	23.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	27.1
Sunshine Duration		7.6	11.4	9.0	12.0	11.6	11.5	11.7	11.4	8.9	11.7	10.7	10.1	9.5
Precipitation				0.0						0.3		0.3	22.9	11.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	64.1
Growing Degrees	5	21.5	24.4	21.3	20.6	20.4	21.4	21.3	20.4	20.3	20.1	211.5	191.7	176.6
	10	16.5	19.4	16.3	15.6	15.4	16.4	16.3	15.4	15.3	15.1	161.5	141.7	127.8

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	45.3
Precipitation - Reference Evapotranspiration	-	-	-34.0
Number of Rainy Days	1.0	3.0	1.8
Number of Dry Days	29.0	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

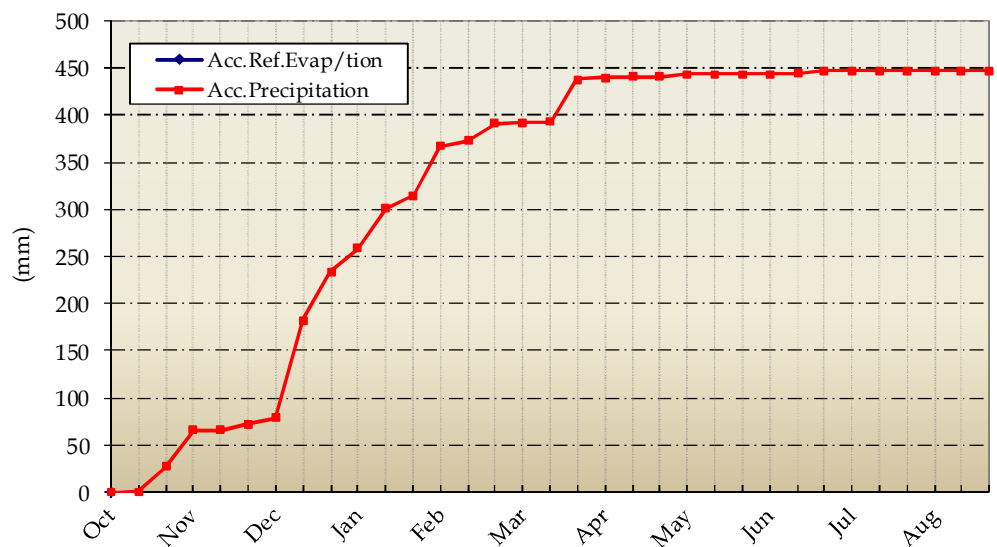


2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.3	36.2	39.4	39.4	32.6	31.0	33.4	32.8	33.2	32.1	34.3	33.0	31.4
	Min	20.4	22.3	20.0	22.6	21.3	17.4	21.2	18.1	20.9	20.5	20.5	19.8	18.2
Relative Humidity	Max	86	89	67	60	87	92	88	80	87	88	82	89	-
	Min	41	32	20	25	28	44	32	35	46	49	35	34	-
Soil Temperature at 10 cm	06 UTC	29.0	28.8	28.0	38.5	27.6	28.4	29.0	28.6	29.0	29.0	29.6	28.6	25.7
	12 UTC	33.4	34.0	33.6	33.8	33.2	32.8	33.2	38.0	33.2	35.0	34.0	32.9	29.6
Sunshine Duration		10.1	9.9	11.6	10.6	12.1	12.0	12.0	11.5	11.7	10.2	11.2	11.4	10.6
Precipitation														3.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	93.4	78.6
Growing Degrees	5	21.9	24.3	24.7	26.0	22.0	19.2	22.3	20.5	22.1	21.3	224.1	214.3	198.2
	10	16.9	19.3	19.7	21.0	17.0	14.2	17.3	15.5	17.1	16.3	174.1	164.3	148.2

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	50.7
Precipitation - Reference Evapotranspiration	-	-	-46.8
Number of Rainy Days	0.0	0.0	0.7
Number of Dry Days	66.0	18.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



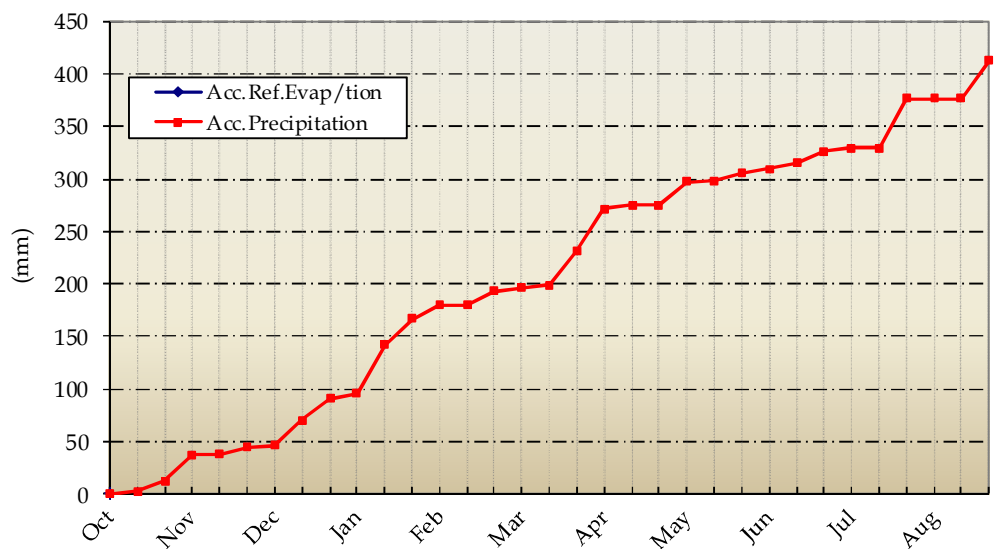
Larisa

2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	36.4	33.8	33.8	31.2	32.2	33.8	35.6	33.8	31.0	29.8	33.1	33.4	32.3
	Min	22.0	20.0	19.4	21.0	18.4	17.4	17.6	21.0	21.0	22.8	20.1	19.2	17.5
Relative Humidity	Max	97	91	84	94	89	82	86	96	88	84	89	85	-
	Min	34	30	38	44	35	31	30	38	40	49	37	34	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	26.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	28.7
Sunshine Duration		8.3	11.5	11.5	9.7	11.9	11.5	10.9	11.1	9.3	6.5	10.2	9.9	9.9
Precipitation			29.5		0.3					6.6		36.4	4.1	6.2
Evaporation		5.7	6.4	13.6	7.1	8.8	9.3	5.5	14.1	7.9	9.5	87.9	100.5	84.1
Growing Degrees	5	24.2	21.9	21.6	21.1	20.3	20.6	21.6	22.4	21.0	21.3	216.0	213.0	199.1
	10	19.2	16.9	16.6	16.1	15.3	15.6	16.6	17.4	16.0	16.3	166.0	163.0	149.1

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	55.8	54.6	53.3
Precipitation - Reference Evapotranspiration	-19.4	-50.5	-47.1
Number of Rainy Days	3.0	1.0	1.4
Number of Dry Days	22.0	8.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



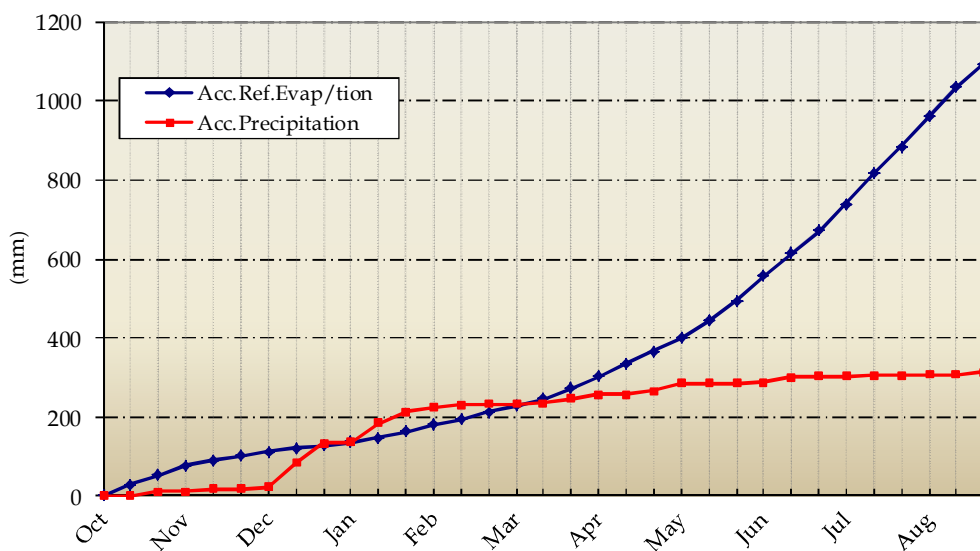
Mikra

2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.8	34.2	33.6	31.8	32.0	33.0	34.6	33.6	29.8	29.7	32.7	31.4	31.3
	Min	23.2	22.8	23.4	23.4	21.4	21.2	20.9	22.4	23.9	23.6	22.6	21.1	18.9
Relative Humidity	Max	88	86	83	81	77	81	80	81	81	81	82	84	-
	Min	32	27	43	45	43	36	30	38	45	45	38	41	-
Soil Temperature at 10 cm	06 UTC	31.2	30.0	29.6	30.0	29.6	29.4	29.4	30.0	27.8	28.4	29.5	26.1	26.0
	12 UTC	33.4	31.8	32.0	31.0	33.0	35.0	32.0	32.4	29.0	29.0	31.9	28.3	30.5
Sunshine Duration		9.4	12.4	12.4	11.6	12.6	12.7	12.4	12.3	6.7	5.1	10.8	11.3	10.0
Precipitation		0.0	2.4							3.6		6.0	1.0	6.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	83.0
Growing Degrees	5	24.0	23.5	23.5	22.6	21.7	22.1	22.8	23.0	21.9	21.7	226.7	212.4	201.0
	10	19.0	18.5	18.5	17.6	16.7	17.1	17.8	18.0	16.9	16.7	176.7	162.4	151.0

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	60.8	55.5	52.4
Precipitation - Reference Evapotranspiration	-54.8	-54.5	-45.8
Number of Rainy Days	2.0	4.0	1.1
Number of Dry Days	18.0	6.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



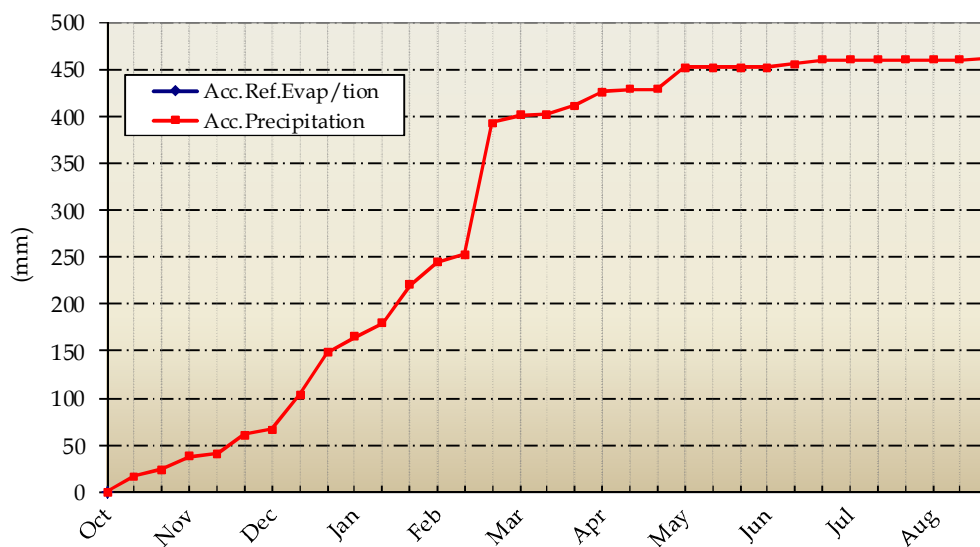
Tanagra

2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	37.6	32.8	33.2	30.2	30.2	32.7	35.4	35.4	32.5	31.3	33.1	31.7	31.8
	Min	22.6	20.9	21.2	23.0	20.6	17.8	16.6	19.8	20.6	21.9	20.5	19.0	18.4
Relative Humidity	Max	70	74	59	57	55	64	68	71	57	66	64	72	-
	Min	18	24	24	23	25	18	15	21	35	28	23	28	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		8.7	10.1	11.9	10.8	12.6	12.4	12.3	11.2	11.7	10.3	11.2	12.1	
Precipitation		0.0	0.2									0.2		3.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	25.1	21.9	22.2	21.6	20.4	20.3	21.0	22.6	21.6	21.6	218.2	203.5	
	10	20.1	16.9	17.2	16.6	15.4	15.3	16.0	17.6	16.6	16.6	168.2	153.5	

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	3.4
Number of Rainy Days	1.0	0.0	0.8
Number of Dry Days	57.0	11.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

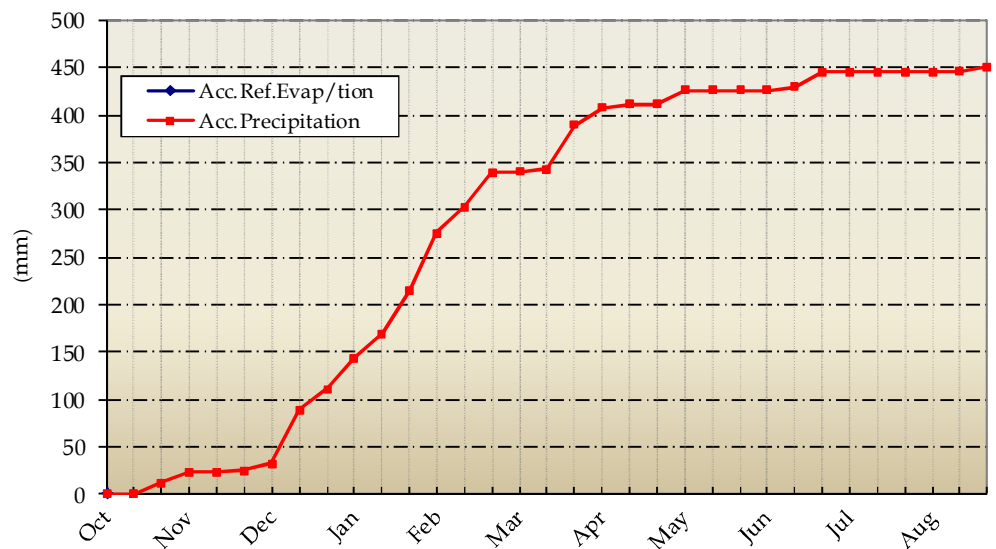


2nd 10-day period (11-20/08/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	39.3	32.0	32.1	29.6	30.7	32.7	33.7	35.2	31.7	30.3	32.7	31.4	29.9
	Min	18.2	19.5	24.9	19.1	20.2	12.0	15.0	14.5	14.7	16.2	17.4	14.3	14.5
Relative Humidity	Max	72	72	73	63	66	75	93	97	98	99	81	91	-
	Min	11	11	23	26	15	19	18	14	27	38	20	28	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	24.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	27.4
Sunshine Duration		10.0	11.7	12.2	11.5	12.0	11.8	9.5	9.9	8.0	7.3	10.4	9.6	9.7
Precipitation								1.2		1.6	1.3	4.1	1.0	13.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	56.3
Growing Degrees	5	23.8	20.8	23.5	19.4	20.5	17.4	19.4	19.9	18.2	18.3	200.8	178.7	172.3
	10	18.8	15.8	18.5	14.4	15.5	12.4	14.4	14.9	13.2	13.3	150.8	128.7	122.3

2nd 10-day period (11-20/08/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	46.9	43.6	47.6
Precipitation - Reference Evapotranspiration	-42.8	-42.6	-33.8
Number of Rainy Days	3.0	3.0	1.4
Number of Dry Days	12.0	3.0	-

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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