



AGROMETEOROLOGICAL BULLETIN

September 2020
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



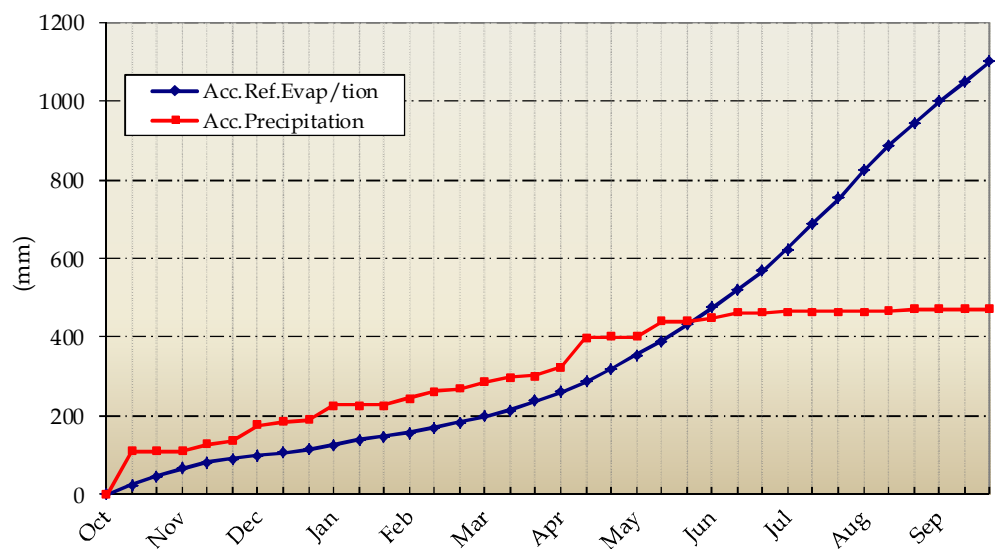
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2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.8	33.2	32.0	32.4	33.2	31.4	30.6	30.4	27.4	26.0	30.8	28.7	26.5
	Min	20.4	20.6	22.0	24.8	23.0	20.6	19.4	18.6	18.8	15.4	20.4	16.5	13.8
Relative Humidity	Max	82	77	69	41	66	74	83	88	77	79	74	75	-
	Min	34	37	37	24	29	41	39	40	36	37	35	37	-
Soil Temperature at 10 cm	06 UTC	25.2	23.0	24.2	25.6	25.0	23.2	23.4	24.0	23.8	20.5	23.8	24.4	19.9
	12 UTC	29.8	29.6	28.8	29.6	29.0	27.2	28.4	28.8	25.6	24.6	28.1	28.6	23.7
Sunshine Duration		11.4	11.6	10.8	8.3	10.6	9.9	9.3	9.6	10.4	9.3	10.1	8.8	8.5
Precipitation													1.8	5.2
Evaporation		13.0	6.1	16.4	13.1	7.6	9.2	4.6	10.2	10.2	4.6	95.0	73.0	66.6
Growing Degrees	5	21.1	21.9	22.0	23.6	23.1	21.0	20.0	19.5	18.1	15.7	206.0	176.0	151.3
	10	16.1	16.9	17.0	18.6	18.1	16.0	15.0	14.5	13.1	10.7	156.0	126.0	101.3

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	52.6	40.7	37.1
Precipitation - Reference Evapotranspiration	-52.6	-38.9	-31.9
Number of Rainy Days	0.0	1.0	0.9
Number of Dry Days	31.0	33.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

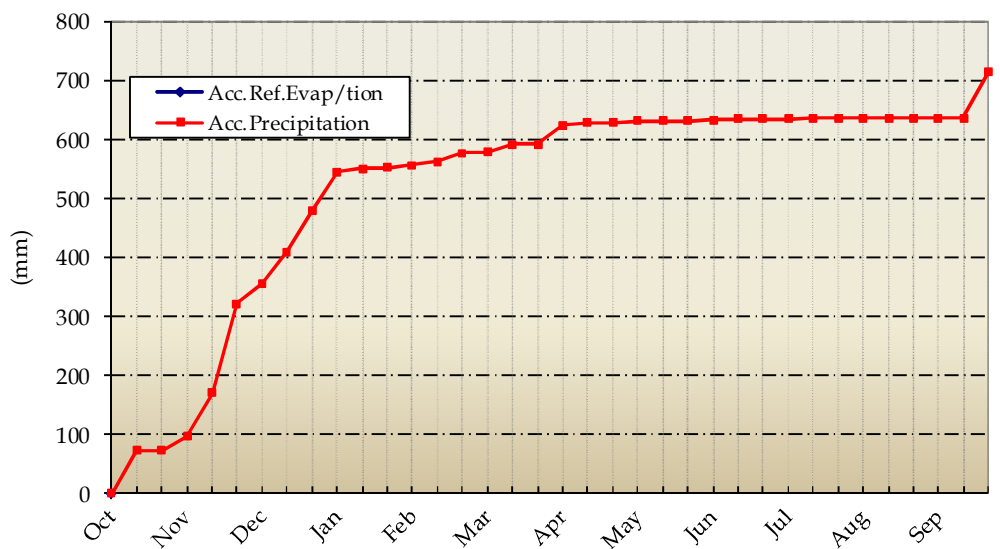


2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.2	32.2	32.6	35.0	34.3	32.5	30.1	23.0	29.0	28.4	31.0	30.1	28.2
	Min	16.7	16.8	18.2	16.6	15.9	15.5	20.3	20.1	19.3	15.1	17.4	17.1	16.5
Relative Humidity	Max	94	96	94	95	81	88	97	98	97	92	93	89	-
	Min	31	34	31	20	20	30	44	83	46	41	38	32	-
Soil Temperature at 10 cm	06 UTC	27.8	27.8	27.6	27.6	26.8	27.2	27.2	26.4	26.0	22.8	26.7	26.1	23.4
	12 UTC	30.2	30.0	29.8	29.8	29.8	28.8	28.2	28.4	24.8	24.8	28.5	28.1	26.9
Sunshine Duration		9.7	9.9	10.1	10.6	9.9	3.6	3.2	0.0	6.3	8.7	7.2	9.7	9.1
Precipitation								26.0	51.4	2.6		80.0	5.9	7.0
Evaporation		8.6	9.0	8.2	9.2	8.6	5.1	0.0	0.0	8.2	6.9	63.8	51.7	56.3
Growing Degrees	5	20.0	19.5	20.4	20.8	20.1	19.0	20.2	16.6	19.2	16.8	192.4	185.9	173.6
	10	15.0	14.5	15.4	15.8	15.1	14.0	15.2	11.6	14.2	11.8	142.4	135.9	123.6

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	40.0	36.2
Precipitation - Reference Evapotranspiration	-	-34.1	-29.2
Number of Rainy Days	3.0	1.0	1.1
Number of Dry Days	39.0	65.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

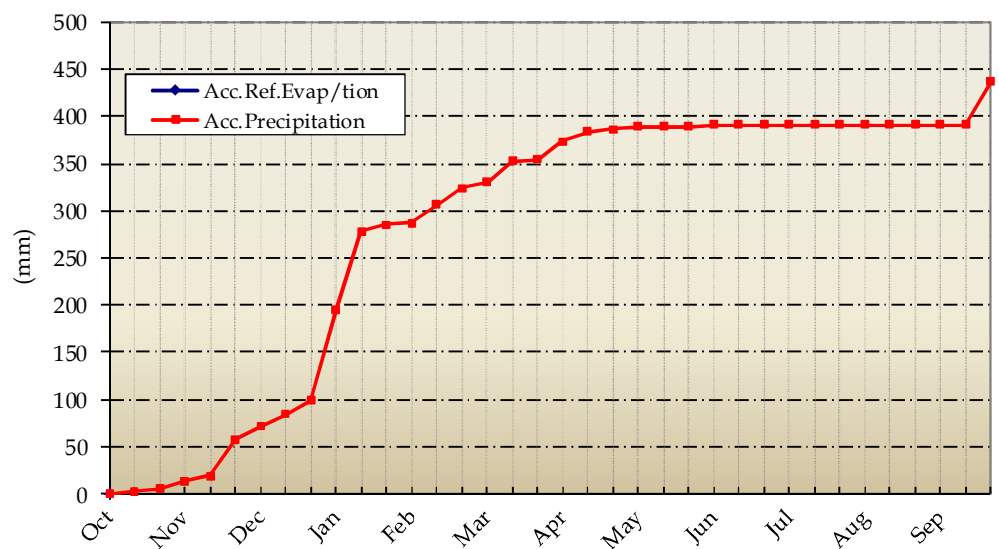


2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.0	29.8	27.6	27.2	28.0	28.0	28.4	30.6	29.4	25.0	28.2	26.8	26.4
	Min	20.6	22.0	22.0	24.0	21.2	21.0	19.0	21.0	23.2	21.4	21.5	20.7	19.5
Relative Humidity	Max	87	86	88	82	86	91	91	89	96	96	89	79	-
	Min	59	56	69	63	68	69	70	49	59	61	62	52	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.4	10.4	8.1	10.3	10.3	9.8	9.5	8.8	8.7	4.5	9.1	10.1	9.4
Precipitation				0.3						38.8	6.6	45.7		6.0
Evaporation		5.4	8.9	4.8	6.9	4.9	3.8	3.2	4.8	10.5	8.4	61.6	52.6	64.4
Growing Degrees	5	19.3	20.9	19.8	20.6	19.6	19.5	18.7	20.8	21.3	18.2	198.7	187.4	179.8
	10	14.3	15.9	14.8	15.6	14.6	14.5	13.7	15.8	16.3	13.2	148.7	137.4	129.8

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	46.7	-
Precipitation - Reference Evapotranspiration	-	-46.7	6.0
Number of Rainy Days	3.0	0.0	0.5
Number of Dry Days	102.0	65.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

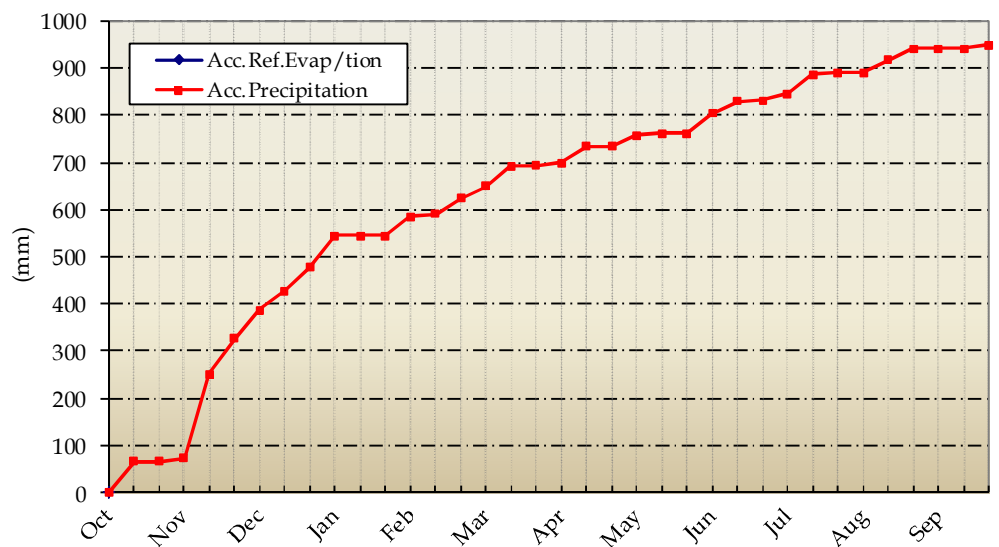


2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.4	32.4	33.4	30.2	30.0	32.0	31.2	24.2	26.0	29.2	30.2	29.4	26.5
	Min	14.8	14.2	13.6	15.2	23.2	15.4	19.0	18.8	19.8	10.5	16.4	13.9	12.2
Relative Humidity	Max	100	95	90	85	80	61	78	83	59	79	81	82	-
	Min	29	23	26	34	26	24	35	57	50	33	34	31	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	18.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	21.1
Sunshine Duration		9.3	9.3	9.5	5.3	9.4	7.8	4.6	0.0	6.0	7.7	6.9	7.9	6.9
Precipitation								0.2	8.0	0.6		8.8	1.8	16.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	43.6
Growing Degrees	5	19.1	18.3	18.5	17.7	21.6	18.7	20.1	16.5	17.9	14.9	183.3	166.7	143.6
	10	14.1	13.3	13.5	12.7	16.6	13.7	15.1	11.5	12.9	9.9	133.3	116.7	93.6

2nd 10-day period (11-20/09/2020)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	28.7
Precipitation - Reference Evapotranspiration	-	-12.3
Number of Rainy Days	3.0	2.1
Number of Dry Days	30.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

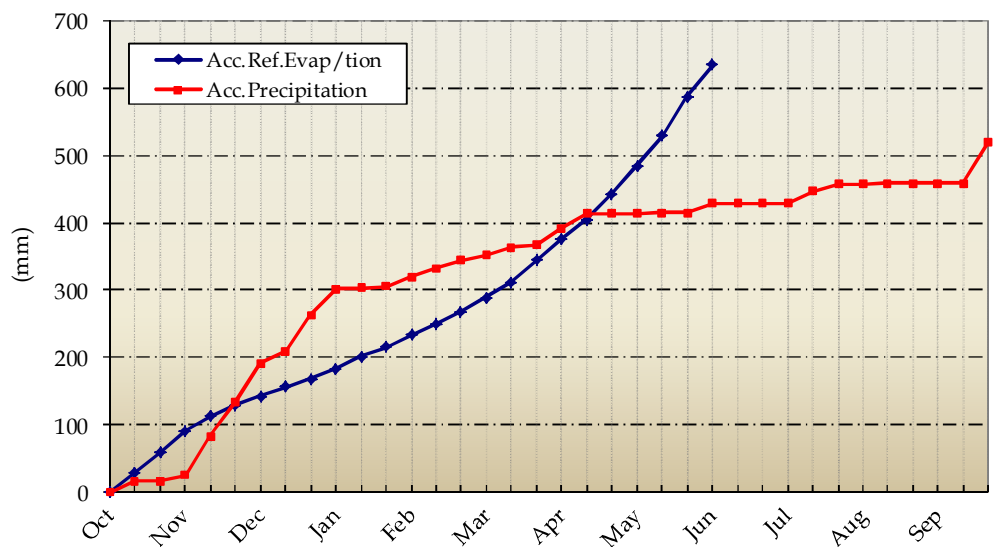


2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.8	29.3	30.6	34.3	31.2	34.5	29.4	26.3	27.1	29.4	30.2	31.1	28.6
	Min	17.3	18.0	19.1	18.0	18.1	16.9	19.2	19.9	20.0	18.2	18.5	18.1	15.9
Relative Humidity	Max	84	91	90	86	64	72	89	100	96	90	86	75	-
	Min	31	37	40	17	22	20	48	70	50	36	37	27	-
Soil Temperature at 10 cm	06 UTC	27.0	27.0	27.5	26.8	24.8	26.4	26.5	25.6	23.0	22.0	25.7	24.7	22.6
	12 UTC	30.0	34.0	30.0	31.0	30.0	28.5	28.5	25.5	25.0	25.5	28.8	27.7	25.8
Sunshine Duration		10.3	10.3	10.6	10.1	10.9	3.7	3.7	0.8	0.8	9.3	7.0	10.2	8.7
Precipitation								5.4	38.0	18.0		61.4	3.4	6.3
Evaporation		8.5	5.0	3.0	8.8	8.2	2.8	1.3	0.0	0.0	-	-	69.3	60.4
Growing Degrees	5	18.6	18.7	19.9	21.2	19.7	20.7	19.3	18.1	18.6	18.8	193.3	196.0	172.4
	10	13.6	13.7	14.9	16.2	14.7	15.7	14.3	13.1	13.6	13.8	143.3	146.0	122.4

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	50.7	38.1
Precipitation - Reference Evapotranspiration	-	-47.3	-31.8
Number of Rainy Days	3.0	2.0	1.0
Number of Dry Days	45.0	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



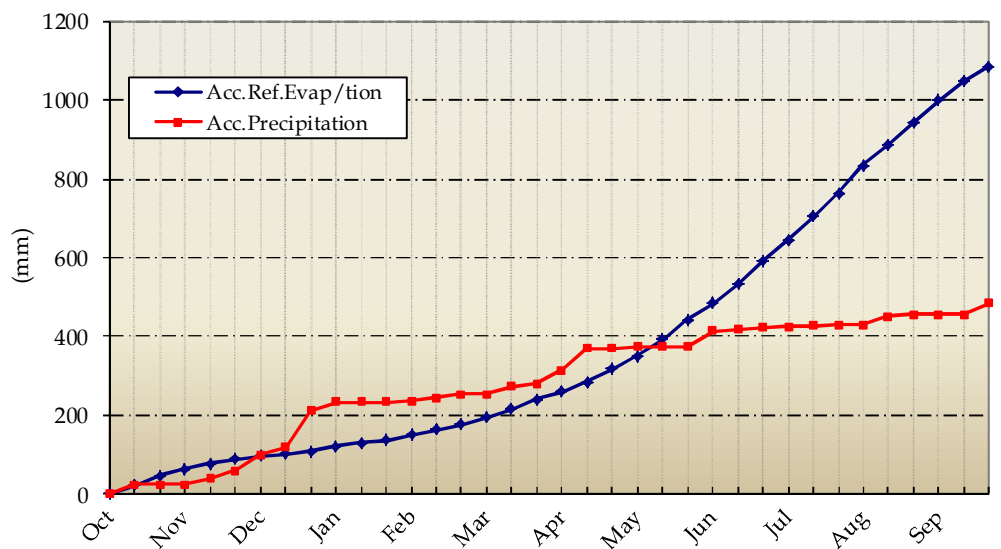
Larisa

2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.6	32.0	32.6	30.9	30.2	29.8	29.2	25.3	25.4	24.6	29.2	30.4	29.0
	Min	18.0	15.8	16.0	17.2	14.4	15.8	15.3	19.6	19.2	15.5	16.7	15.7	14.0
Relative Humidity	Max	76	77	68	72	73	69	76	96	92	96	80	79	-
	Min	32	29	25	23	27	35	40	60	50	51	37	30	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	24.1
Sunshine Duration		8.6	8.8	8.8	2.7	9.5	0.0	0.0	0.0	0.0	0.0	3.8	7.7	8.3
Precipitation									25.8	1.2	1.0	28.0	6.3	12.0
Evaporation		10.3	9.5	11.8	6.9	8.1	7.3	8.7	3.9	3.4	7.6	77.5	82.4	61.4
Growing Degrees	5	19.8	18.9	19.3	19.1	17.3	17.8	17.3	17.5	17.3	15.1	179.2	180.7	165.0
	10	14.8	13.9	14.3	14.1	12.3	12.8	12.3	12.5	12.3	10.1	129.2	130.7	115.0

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	37.1	41.7	38.0
Precipitation - Reference Evapotranspiration	-9.1	-35.4	-26.0
Number of Rainy Days	3.0	1.0	1.2
Number of Dry Days	23.0	33.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



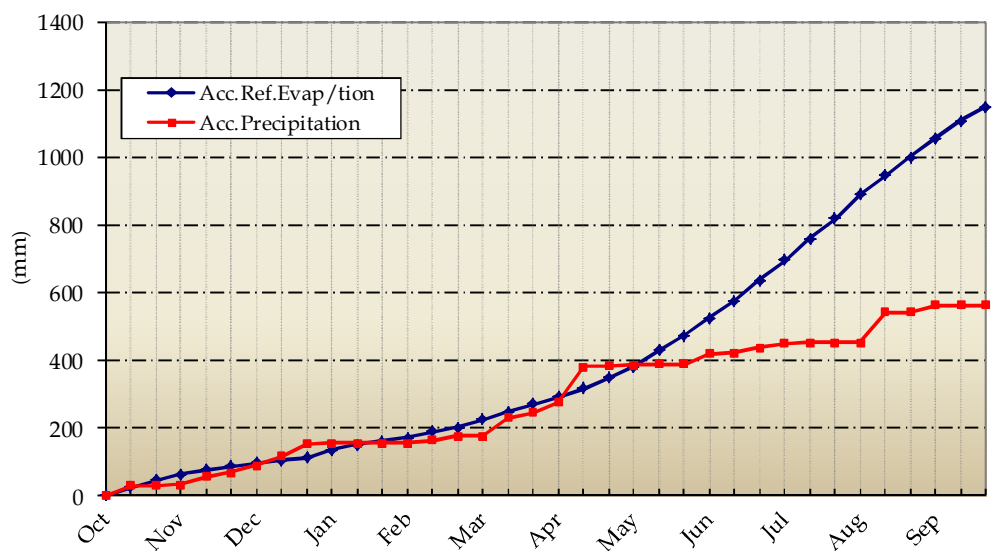
Mikra

2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.8	31.2	32.7	30.0	30.5	29.4	29.2	30.3	27.4	25.6	29.7	29.7	27.5
	Min	20.0	17.6	16.7	21.8	17.9	18.3	18.0	21.0	23.1	18.4	19.3	17.3	15.2
Relative Humidity	Max	84	83	78	73	67	80	80	82	57	74	76	78	-
	Min	43	34	29	32	31	39	49	38	40	45	38	36	-
Soil Temperature at 10 cm	06 UTC	26.0	24.2	25.6	26.2	24.8	25.2	25.2	26.0	26.0	25.0	25.4	25.3	21.4
	12 UTC	28.4	28.2	27.8	27.8	28.0	27.0	27.8	27.6	27.4	27.6	27.8	28.2	25.2
Sunshine Duration		11.3	11.3	10.5	3.8	10.2	11.1	7.4	3.6	8.5	7.8	8.6	8.9	8.1
Precipitation										0.0		0.0	1.9	7.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	62.1
Growing Degrees	5	20.4	19.4	19.7	20.9	19.2	18.9	18.6	20.7	20.3	17.0	195.0	184.9	163.4
	10	15.4	14.4	14.7	15.9	14.2	13.9	13.6	15.7	15.3	12.0	145.0	134.9	113.4

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	39.8	44.1	37.4
Precipitation - Reference Evapotranspiration	-39.8	-42.2	-29.8
Number of Rainy Days	0.0	2.0	1.4
Number of Dry Days	25.0	28.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



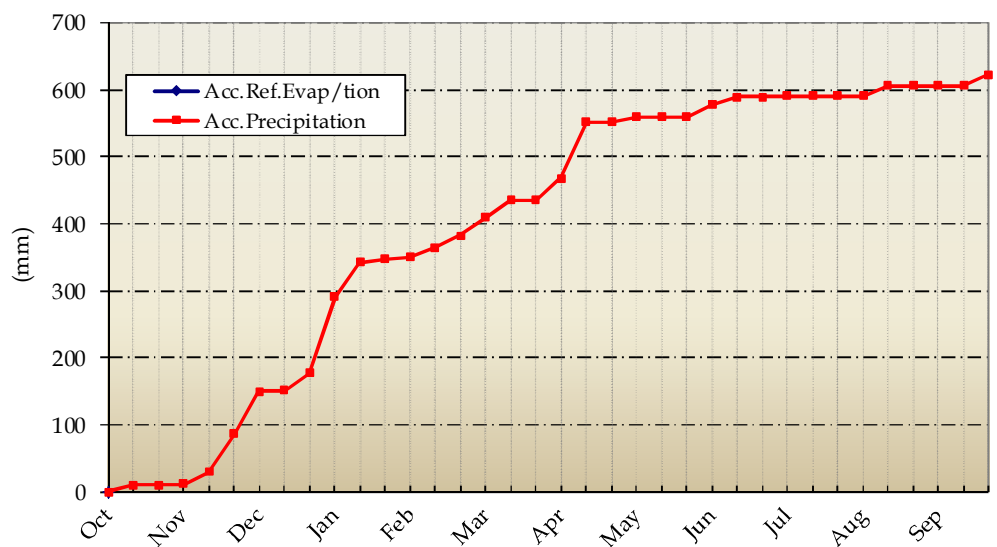
Tanagra

2nd 10-day period (11-20/09/2020)		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	28.0	28.8	29.1	28.5	28.2	28.5	30.0	22.6	23.8	27.6	28.3	28.3
	Min	17.2	17.9	19.3	19.8	19.9	19.1	18.0	21.0	19.8	15.0	18.7	16.6	15.0
Relative Humidity	Max	73	71	65	65	65	68	77	99	100	76	76	74	-
	Min	33	40	38	22	32	33	43	43	59	42	38	27	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.5	10.2	9.0	10.2	10.5	9.9	10.0	2.5	1.4	10.3	8.6	9.4	
Precipitation									3.2	13.6		16.8	3.9	3.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	17.9	18.0	19.1	19.5	19.2	18.7	18.3	20.5	16.2	14.4	181.6	174.5	
	10	12.9	13.0	14.1	14.5	14.2	13.7	13.3	15.5	11.2	9.4	131.6	124.5	

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	40.7	
Precipitation - Reference Evapotranspiration	-	-36.8	3.2
Number of Rainy Days	2.0	1.0	1.0
Number of Dry Days	39.0	57.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

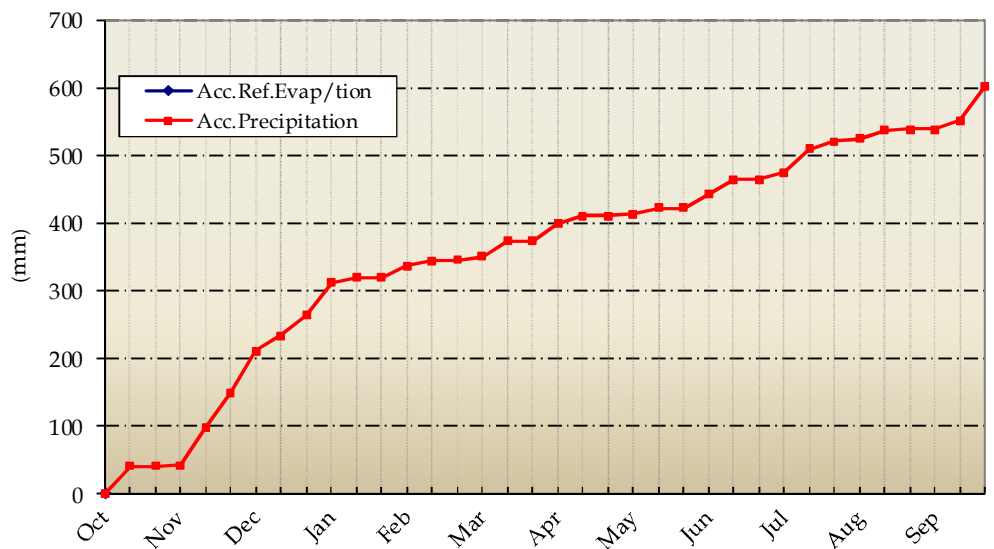


2nd 10-day period (11-20/09/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.8	-	-	28.6	29.0	27.7	26.2	21.8	19.8	23.4	25.8	27.5	26.9
	Min	11.0	10.7	-	18.9	17.9	13.6	12.8	17.6	16.8	8.1	14.2	13.6	11.2
Relative Humidity	Max	73	42	-	87	63	64	79	99	99	-	76	83	-
	Min	19	18	-	22	27	22	28	43	73	-	32	25	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	21.7	20.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	28.3	22.5
Sunshine Duration		11.8	-	9.4	-	10.1	4.2	7.5	1.4	5.8	-	7.2	9.1	8.5
Precipitation		0.0						1.2	30.3	19.7		51.2	2.2	5.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.3
Growing Degrees	5	15.4	-	-	18.8	18.5	15.7	14.5	14.7	13.3	10.8	-	155.8	140.2
	10	10.4	-	-	13.8	13.5	10.7	9.5	9.7	8.3	5.8	-	105.8	90.2

2nd 10-day period (11-20/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	40.0	34.4
Precipitation - Reference Evapotranspiration	-	-37.8	-28.5
Number of Rainy Days	3.0	3.0	1.0
Number of Dry Days	22.0	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





◆ **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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