



AGROMETEOROLOGICAL BULLETIN

*May 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



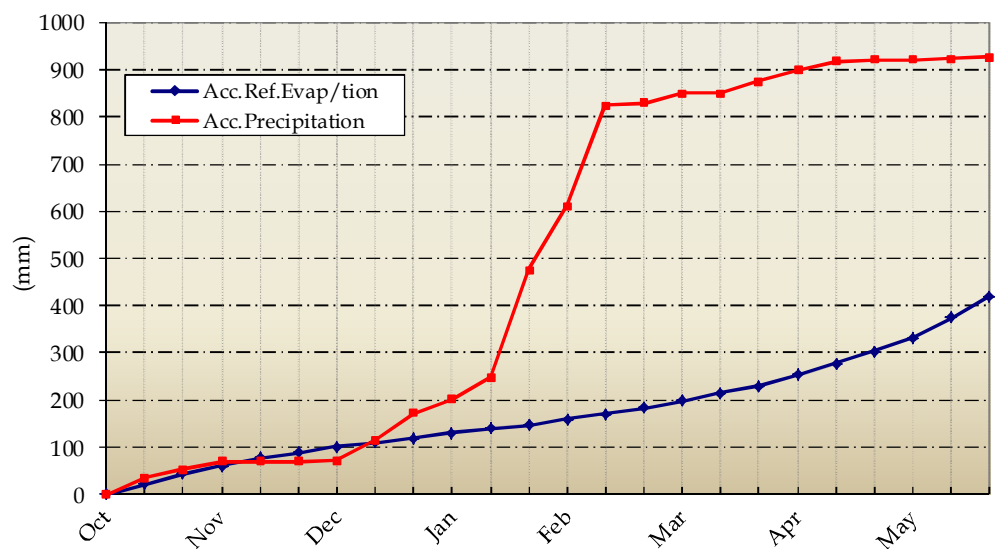
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2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.0	23.6	22.4	23.6	23.2	22.0	23.0	25.0	26.4	24.0	23.7	27.2	22.5
	Min	12.0	7.6	8.0	13.8	11.6	10.2	10.4	13.4	10.2	14.4	11.2	17.0	11.3
Relative Humidity	Max	65	56	84	87	90	95	95	80	93	89	83	81	-
	Min	19	25	45	48	44	57	56	39	37	51	42	43	-
Soil Temperature at 10 cm	06 UTC	15.4	17.0	16.8	19.4	19.4	19.2	19.0	20.2	18.7	20.0	18.5	19.4	17.0
	12 UTC	19.8	21.4	21.0	22.6	23.4	22.2	23.4	23.8	23.2	24.3	22.5	23.0	21.2
Sunshine Duration		13.2	10.9	12.9	11.3	9.8	10.4	12.5	10.4	13.1	11.4	11.6	7.9	8.2
Precipitation						1.4	0.1		1.6			3.1		10.7
Evaporation		9.9	5.4	10.1	5.0	5.0	17.1	6.4	6.6	4.9	9.2	79.6	62.5	57.1
Growing Degrees	5	13.0	10.6	10.2	13.7	12.4	11.1	11.7	14.2	13.3	14.2	124.4	171.1	118.8
	10	8.0	5.6	5.2	8.7	7.4	6.1	6.7	9.2	8.3	9.2	74.4	121.1	68.8

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	44.3	43.5	40.4
Precipitation - Reference Evapotranspiration	-41.2	-43.5	-29.7
Number of Rainy Days	3.0	0.0	2.3
Number of Dry Days	8.0	13.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

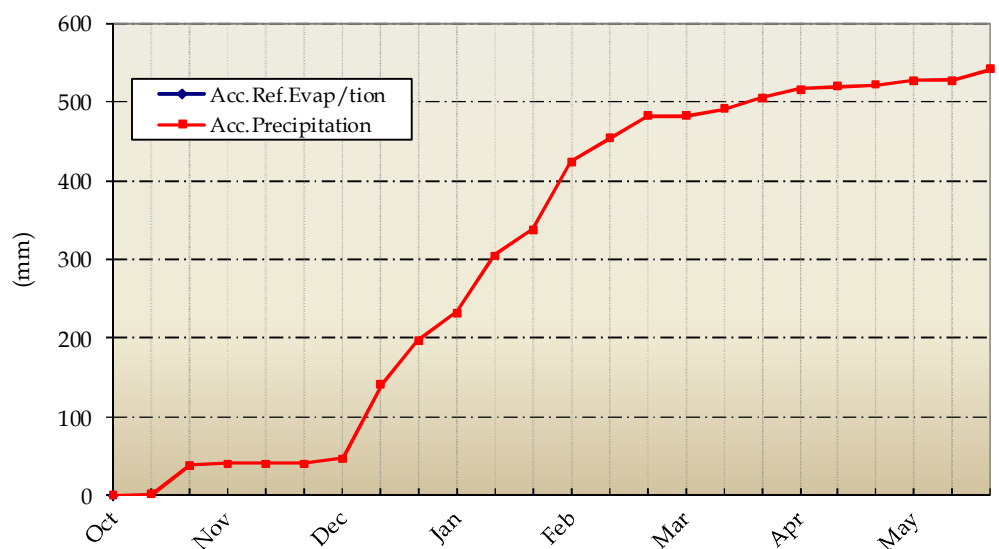


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.1	25.2	24.6	24.4	22.6	22.2	25.3	26.8	26.3	23.9	24.7	32.9	23.9
	Min	9.2	12.5	13.6	12.4	13.2	12.4	12.6	14.0	11.9	14.3	12.6	14.6	12.7
Relative Humidity	Max	96	94	95	93	98	95	95	93	97	94	95	86	-
	Min	31	30	47	34	42	55	41	44	26	34	38	25	-
Soil Temperature at 10 cm	06 UTC	20.8	21.6	21.6	21.4	21.0	19.8	20.2	20.8	20.8	20.4	20.8	22.9	19.3
	12 UTC	22.6	23.4	23.4	23.8	23.4	21.2	22.4	23.8	24.0	21.6	23.0	26.2	23.6
Sunshine Duration		12.9	12.2	12.4	12.7	7.6	12.5	12.1	13.1	12.8	12.4	12.1	10.8	9.4
Precipitation						14.6						14.6		8.3
Evaporation		6.6	6.4	5.2	6.0	0.6	5.3	5.5	5.8	7.5	6.8	55.7	89.5	54.3
Growing Degrees	5	12.7	13.9	14.1	13.4	12.9	12.3	14.0	15.4	14.1	14.1	136.8	187.5	133.2
	10	7.7	8.9	9.1	8.4	7.9	7.3	9.0	10.4	9.1	9.1	86.8	137.5	83.2

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	42.2	-	39.7
Precipitation - Reference Evapotranspiration	-27.6	-	-31.4
Number of Rainy Days	1.0	0.0	1.6
Number of Dry Days	20.0	27.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

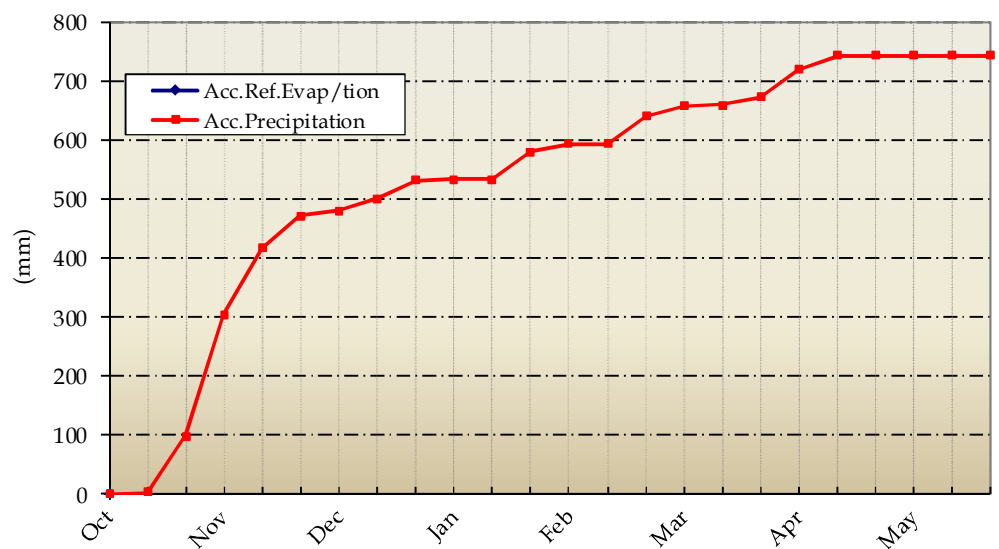


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.0	22.4	23.4	23.2	23.0	22.0	23.0	29.0	25.2	26.0	23.8	31.5	23.1
	Min	16.6	12.2	14.4	15.0	13.2	14.0	14.0	17.0	17.0	17.0	15.0	18.6	15.3
Relative Humidity	Max	85	86	87	85	85	86	85	80	91	81	85	73	-
	Min	58	56	58	59	56	54	64	49	61	60	58	31	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.9	12.7	12.9	13.0	11.8	12.5	12.8	12.2	12.9	12.9	12.7	11.2	9.7
Precipitation														3.5
Evaporation		4.2	4.6	4.8	4.5	5.1	4.3	6.1	6.2	4.2	5.3	49.3	65.1	61.2
Growing Degrees	5	13.8	12.3	13.9	14.1	13.1	13.0	13.5	18.0	16.1	16.5	144.3	200.8	142.0
	10	8.8	7.3	8.9	9.1	8.1	8.0	8.5	13.0	11.1	11.5	94.3	150.8	92.0

2nd 10-day period (11-20/05/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	3.5
Number of Rainy Days	0.0	0.9
Number of Dry Days	41.0	16.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

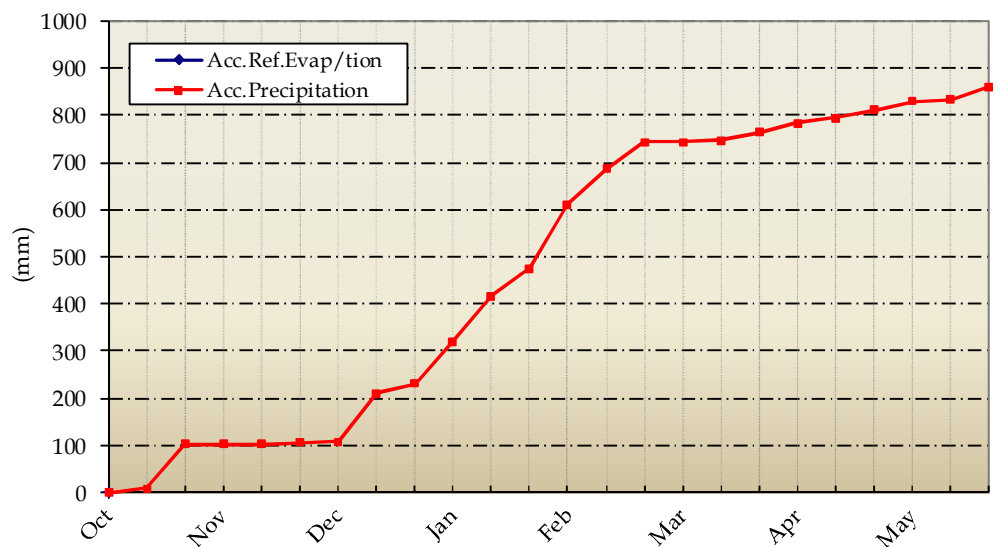


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.4	24.4	24.4	24.0	21.4	21.4	24.4	25.2	24.2	24.1	24.2	32.2	22.8
	Min	7.8	9.8	9.6	9.2	9.1	8.9	8.2	11.9	6.1	7.8	8.8	11.7	10.0
Relative Humidity	Max	100	99	96	99	100	100	99	98	92	96	98	88	-
	Min	32	29	34	27	66	54	39	31	35	31	38	22	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	15.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	19.5
Sunshine Duration		12.0	8.5	11.4	7.9	0.0	8.8	10.7	11.6	12.6	11.3	9.5	9.8	7.2
Precipitation						27.2						27.2	0.0	19.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.9
Growing Degrees	5	13.1	12.1	12.0	11.6	10.3	10.2	11.3	13.6	10.2	11.0	115.2	169.5	113.3
	10	8.1	7.1	7.0	6.6	5.3	5.2	6.3	8.6	5.2	6.0	65.2	119.5	63.4

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	34.9
Precipitation - Reference Evapotranspiration	-	-	-15.3
Number of Rainy Days	1.0	0.0	3.4
Number of Dry Days	8.0	13.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

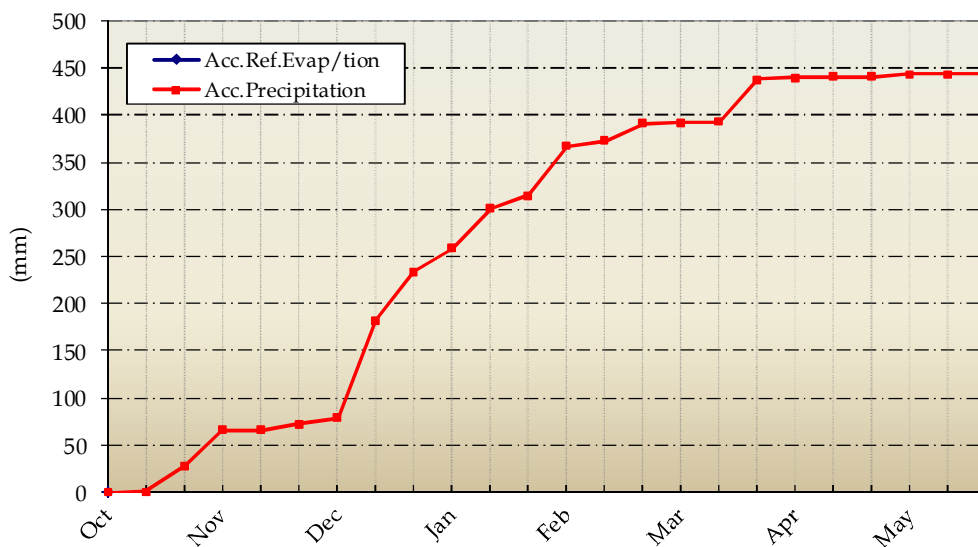


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.5	26.7	26.7	26.6	23.2	25.7	28.2	29.5	27.7	28.9	26.7	32.9	24.3
	Min	8.7	10.4	12.6	10.7	10.4	12.5	13.0	12.1	11.1	13.0	11.4	14.1	12.1
Relative Humidity	Max	100	100	94	94	86	81	80	84	76	83	88	80	-
	Min	54	33	36	23	33	37	26	25	18	29	31	23	-
Soil Temperature at 10 cm	06 UTC	20.4	20.6	20.6	20.6	20.0	19.6	20.4	21.6	21.4	22.2	20.7	22.5	18.7
	12 UTC	23.4	24.0	23.6	24.0	22.0	24.6	26.0	27.6	27.8	27.4	25.0	26.5	22.5
Sunshine Duration		12.8	12.2	11.8	12.6	5.1	12.9	11.7	12.7	12.9	12.8	11.8	10.8	9.1
Precipitation							0.0					0.0		9.5
Evaporation		17.0	11.4	6.0	6.0	8.6	9.0	9.0	10.2	9.4	18.4	105.0	82.1	57.5
Growing Degrees	5	11.1	13.6	14.7	13.7	11.8	14.1	15.6	15.8	14.4	16.0	140.6	184.8	132.1
	10	6.1	8.6	9.7	8.7	6.8	9.1	10.6	10.8	9.4	11.0	90.6	134.8	82.1

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	57.2	39.6
Precipitation - Reference Evapotranspiration	-	-57.2	-30.1
Number of Rainy Days	0.0	0.0	1.8
Number of Dry Days	22.0	13.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

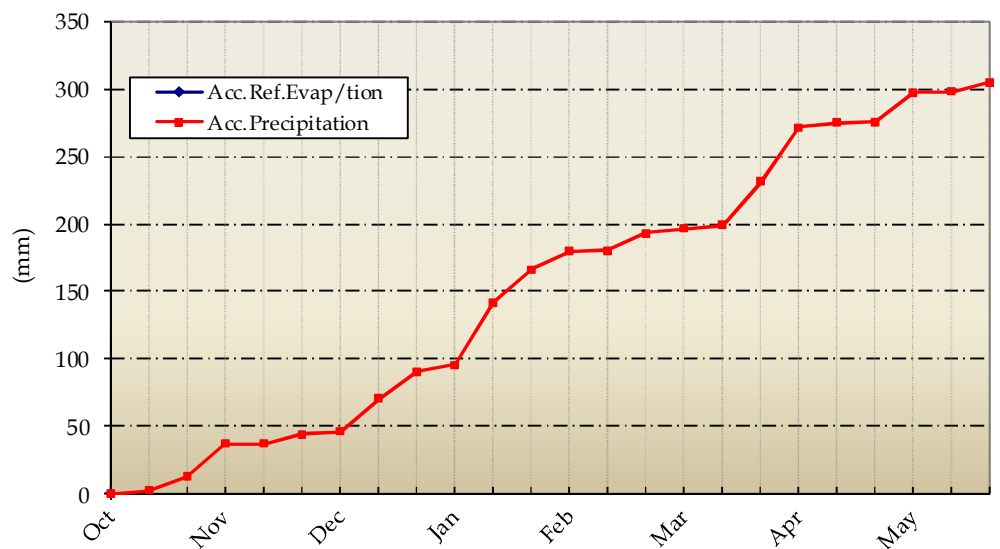


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.8	26.8	28.0	26.8	22.4	28.0	30.6	30.6	31.6	27.8	27.8	32.2	25.6
	Min	7.6	8.4	10.4	9.0	10.0	8.6	10.8	15.0	10.4	10.4	10.1	14.4	11.0
Relative Humidity	Max	92	94	96	85	97	98	92	82	87	82	90	86	-
	Min	33	32	27	25	57	29	26	19	18	19	28	29	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	18.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	20.4
Sunshine Duration		11.6	11.1	12.1	9.9	1.2	12.0	12.2	12.2	12.0	10.2	10.4	8.3	8.3
Precipitation						7.5						7.5		11.8
Evaporation		6.9	8.8	9.0	7.6	0.0	8.9	7.3	12.2	10.6	4.8	76.1	90.0	55.6
Growing Degrees	5	11.7	12.6	14.2	12.9	11.2	13.3	15.7	17.8	16.0	14.1	139.5	183.3	133.1
	10	6.7	7.6	9.2	7.9	6.2	8.3	10.7	12.8	11.0	9.1	89.5	133.3	83.1

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	50.5	50.2	42.0
Precipitation - Reference Evapotranspiration	-43.0	-50.2	-30.2
Number of Rainy Days	1.0	0.0	2.4
Number of Dry Days	8.0	16.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



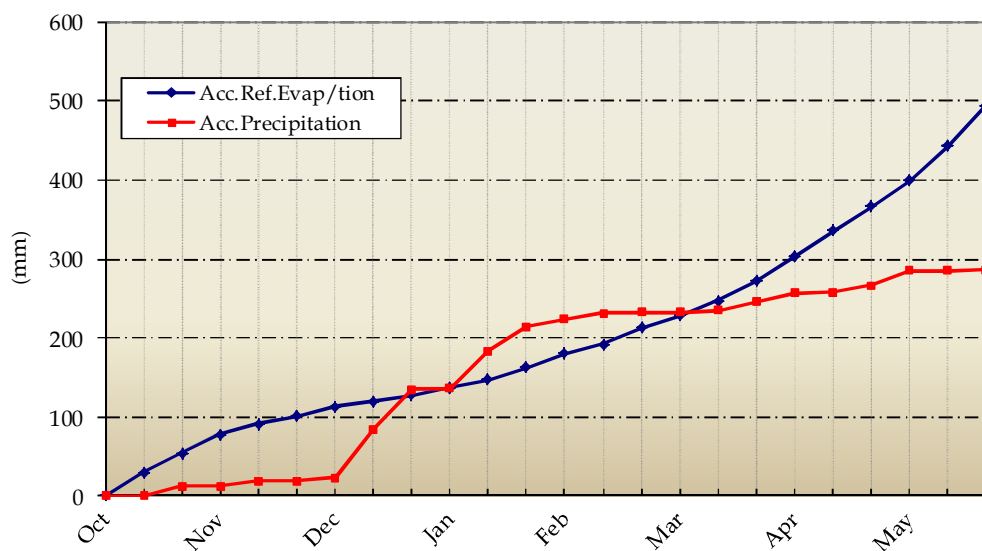
Mikra

2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.8	23.7	27.8	27.0	22.8	25.4	28.0	27.4	28.4	25.9	25.9	29.0	24.3
	Min	10.2	10.1	11.2	11.1	13.9	11.1	12.8	14.4	12.0	14.0	12.1	15.4	12.4
Relative Humidity	Max	91	89	86	83	90	93	84	80	89	93	88	90	-
	Min	43	35	29	25	57	59	33	33	36	27	38	42	-
Soil Temperature at 10 cm	06 UTC	18.4	18.6	19.2	19.8	20.6	19.2	20.0	20.6	20.6	21.2	19.8	21.6	18.8
	12 UTC	21.8	21.8	22.4	23.0	21.0	22.4	22.8	24.2	24.0	25.0	22.8	24.0	23.5
Sunshine Duration		13.0	9.1	10.9	11.1	3.7	11.7	8.0	13.2	13.3	11.4	10.5	8.0	8.1
Precipitation						1.2						1.2		11.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	56.4
Growing Degrees	5	11.5	11.9	14.5	14.1	13.4	13.3	15.4	15.9	15.2	15.0	140.0	172.1	133.6
	10	6.5	6.9	9.5	9.1	8.4	8.3	10.4	10.9	10.2	10.0	90.0	122.1	83.6

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	51.0	44.0	40.9
Precipitation - Reference Evapotranspiration	-49.8	-44.0	-29.1
Number of Rainy Days	1.0	0.0	3.0
Number of Dry Days	9.0	13.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

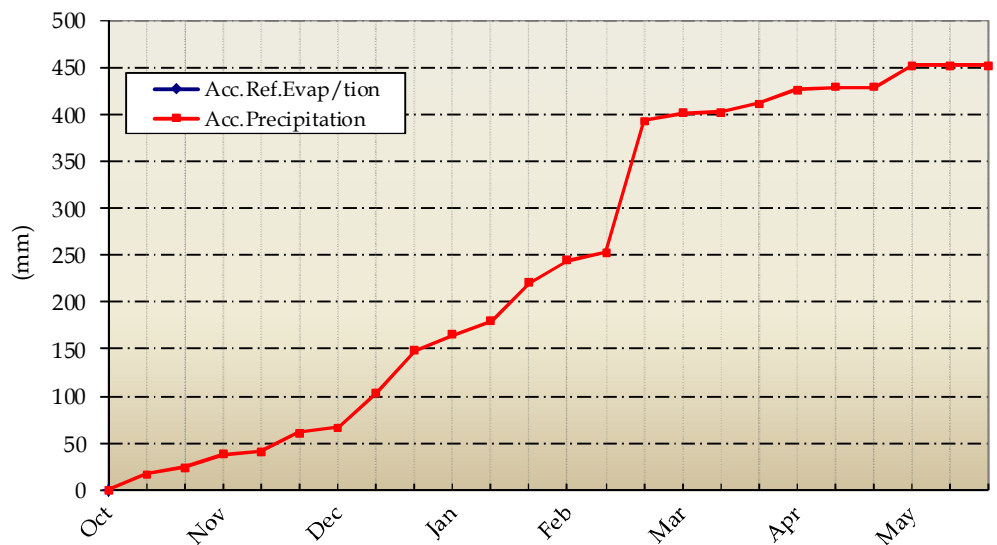


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.2	25.2	27.8	27.5	22.2	25.2	29.0	30.7	30.8	28.2	27.1	32.2	24.8
	Min	7.6	7.2	13.8	11.0	12.3	10.8	13.2	13.8	13.2	15.4	11.8	14.6	11.2
Relative Humidity	Max	75	78	77	71	91	80	82	68	76	53	75	78	-
	Min	21	22	21	19	38	27	23	12	18	18	22	23	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		13.4	12.0	13.0	13.3	4.5	11.6	12.6	13.5	13.3	9.6	11.7	10.4	
Precipitation														8.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	10.9	11.2	15.8	14.3	12.3	13.0	16.1	17.3	17.0	16.8	144.6	184.0	
	10	5.9	6.2	10.8	9.3	7.3	8.0	11.1	12.3	12.0	11.8	94.6	134.0	

2nd 10-day period (11-20/05/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	8.2
Number of Rainy Days	0.0	2.2
Number of Dry Days	25.0	16.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

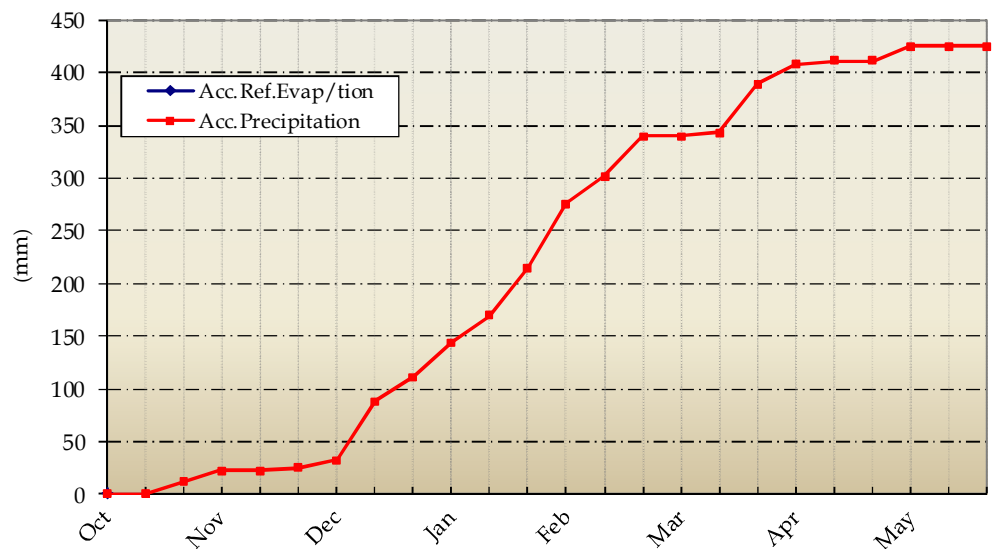


2nd 10-day period (11-20/05/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.0	25.0	23.6	22.7	-	-	26.2	26.6	27.8	22.8	25.1	33.6	22.9
	Min	4.3	7.0	7.2	8.7	6.2	-	6.8	14.4	5.3	9.0	7.7	11.6	8.3
Relative Humidity	Max	91	86	91	86	75	90	94	80	85	81	86	72	-
	Min	20	21	27	23	35	25	26	13	26	34	25	16	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	22.3	16.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	31.7	19.4
Sunshine Duration		12.7	12.3	12.9	12.9	6.6	12.5	12.7	12.6	13.0	12.6	12.1	11.3	8.4
Precipitation					0.0							0.0		15.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	41.0
Growing Degrees	5	10.2	11.0	10.4	10.7	-	-	11.5	15.5	11.6	10.9	-	176.1	106.0
	10	5.2	6.0	5.4	5.7	-	-	6.5	10.5	6.6	5.9	-	126.1	56.0

2nd 10-day period (11-20/05/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	47.0	50.9	39.8
Precipitation - Reference Evapotranspiration	-47.0	-50.9	-24.3
Number of Rainy Days	0.0	0.0	2.8
Number of Dry Days	26.0	13.0	-

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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