



AGROMETEOROLOGICAL BULLETIN

*July 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



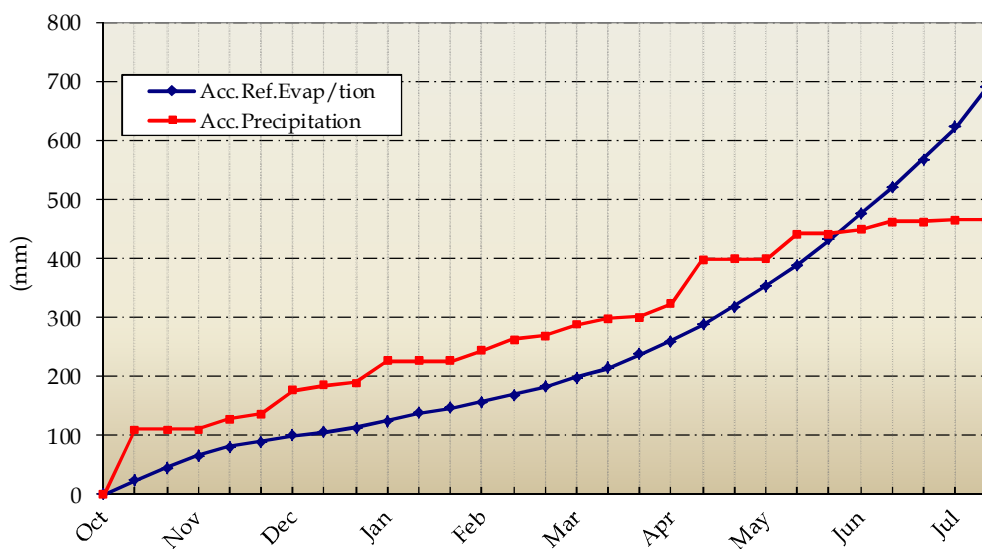
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1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	35.8	35.2	34.6	34.8	35.4	35.6	34.2	29.8	30.8	31.0	33.7	33.1	29.3
	Min	21.4	22.4	22.6	21.8	22.0	25.4	25.6	21.4	17.8	20.0	22.0	20.8	17.0
Relative Humidity	Max	78	73	61	79	74	63	69	58	79	67	70	81	-
	Min	26	39	34	39	36	29	36	35	31	32	34	36	-
Soil Temperature at 10 cm	06 UTC	25.4	25.6	25.2	26.2	26.0	25.6	24.6	24.6	23.8	23.0	25.0	27.2	23.7
	12 UTC	28.8	30.6	29.0	29.6	30.4	27.6	28.0	26.6	27.6	26.0	28.4	31.0	28.2
Sunshine Duration		13.5	13.0	13.7	13.4	11.8	12.2	7.6	9.3	13.7	13.8	12.2	12.1	10.3
Precipitation													24.5	12.1
Evaporation		12.2	11.7	10.5	4.9	12.9	8.4	9.6	10.7	10.3	15.2	106.4	89.5	85.9
Growing Degrees	5	23.6	23.8	23.6	23.3	23.7	25.5	24.9	20.6	19.3	20.5	228.8	219.2	181.3
	10	18.6	18.8	18.6	18.3	18.7	20.5	19.9	15.6	14.3	15.5	178.8	169.2	131.3

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	67.0	61.4	56.1
Precipitation - Reference Evapotranspiration	-67.0	-36.9	-44.0
Number of Rainy Days	0.0	2.0	2.2
Number of Dry Days	19.0	19.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

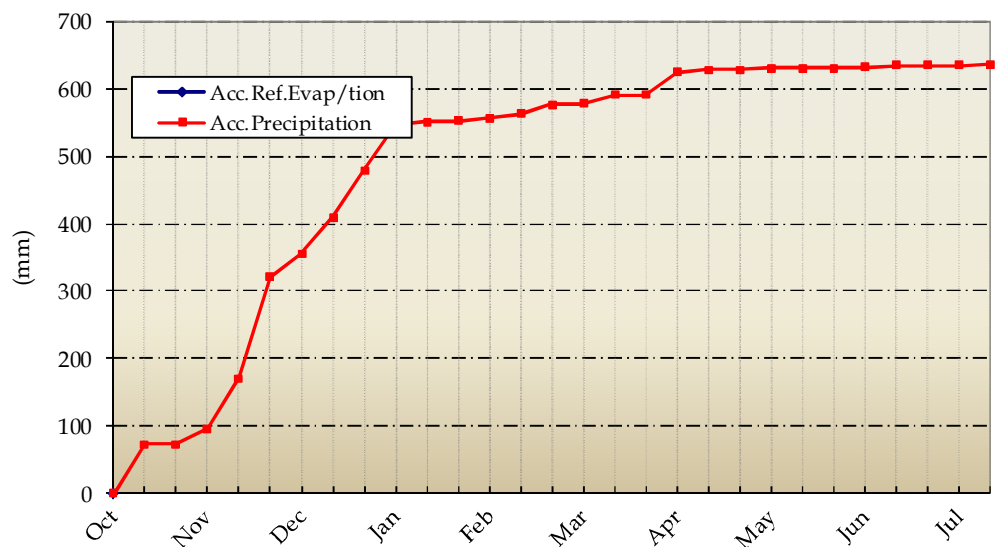


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.4	32.6	34.5	34.2	34.1	30.0	30.5	31.5	32.1	32.3	32.5	33.8	29.5
	Min	19.5	19.8	20.6	20.5	21.7	18.8	19.1	19.0	19.0	17.4	19.5	19.5	17.7
Relative Humidity	Max	88	92	97	98	95	93	95	94	93	96	94	91	-
	Min	44	46	42	45	36	44	47	48	43	28	42	32	-
Soil Temperature at 10 cm	06 UTC	28.0	27.6	29.0	29.4	30.2	29.0	27.4	27.8	28.4	28.0	28.5	28.6	26.9
	12 UTC	31.0	31.4	32.0	32.2	32.4	30.4	29.4	29.6	30.0	31.2	31.0	31.7	31.6
Sunshine Duration		12.9	13.6	12.7	12.1	11.8	6.2	12.5	13.3	12.9	13.1	12.1	13.1	12.0
Precipitation							1.3					1.3		0.7
Evaporation		17.0	11.0	7.9	9.6	8.2	3.2	8.2	7.7	7.2	10.5	90.5	100.4	75.0
Growing Degrees	5	21.5	21.2	22.6	22.4	22.9	19.4	19.8	20.3	20.6	19.9	210.3	216.4	186.1
	10	16.5	16.2	17.6	17.4	17.9	14.4	14.8	15.3	15.6	14.9	160.3	166.4	136.1

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	59.4	53.6
Precipitation - Reference Evapotranspiration	-	-59.4	-52.9
Number of Rainy Days	1.0	0.0	0.3
Number of Dry Days	28.0	24.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

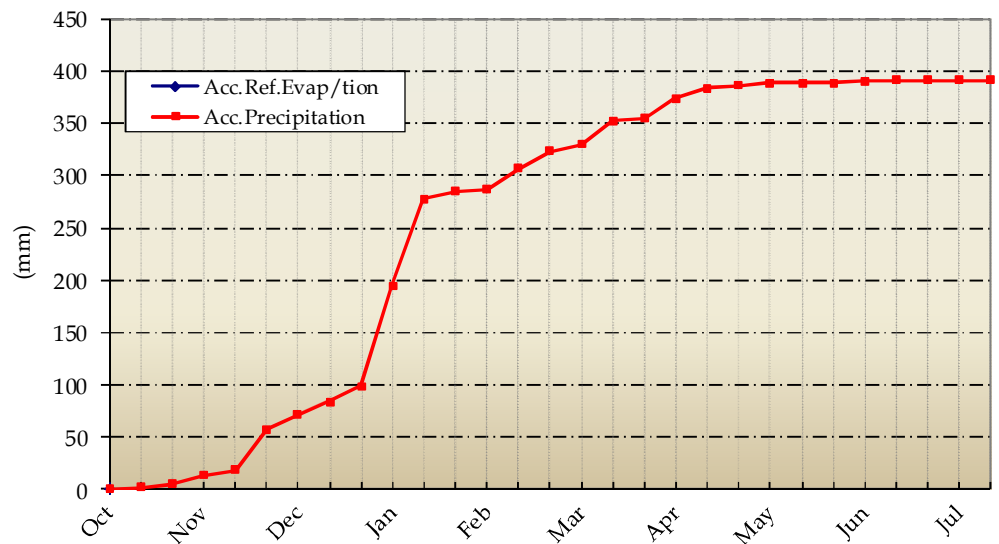


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.6	28.8	29.2	30.0	30.0	28.6	29.4	28.8	28.0	28.4	29.2	30.0	28.4
	Min	23.6	21.4	21.4	21.0	22.0	22.6	22.8	22.2	24.8	22.6	22.4	22.0	21.3
Relative Humidity	Max	84	84	76	84	84	87	91	89	75	75	83	75	-
	Min	45	57	53	52	55	65	56	65	52	53	55	45	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		13.1	13.1	13.0	13.1	13.0	12.3	11.1	9.9	12.6	12.7	12.4	12.8	12.1
Precipitation														0.7
Evaporation		9.6	5.5	5.2	5.6	7.7	4.5	2.6	7.9	8.9	6.3	63.8	67.5	92.1
Growing Degrees	5	22.1	20.1	20.3	20.5	21.0	20.6	21.1	20.5	21.4	20.5	208.1	209.7	198.6
	10	17.1	15.1	15.3	15.5	16.0	15.6	16.1	15.5	16.4	15.5	158.1	159.7	148.6

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	62.5	-
Precipitation - Reference Evapotranspiration	-	-62.5	0.7
Number of Rainy Days	0.0	0.0	0.1
Number of Dry Days	38.0	56.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

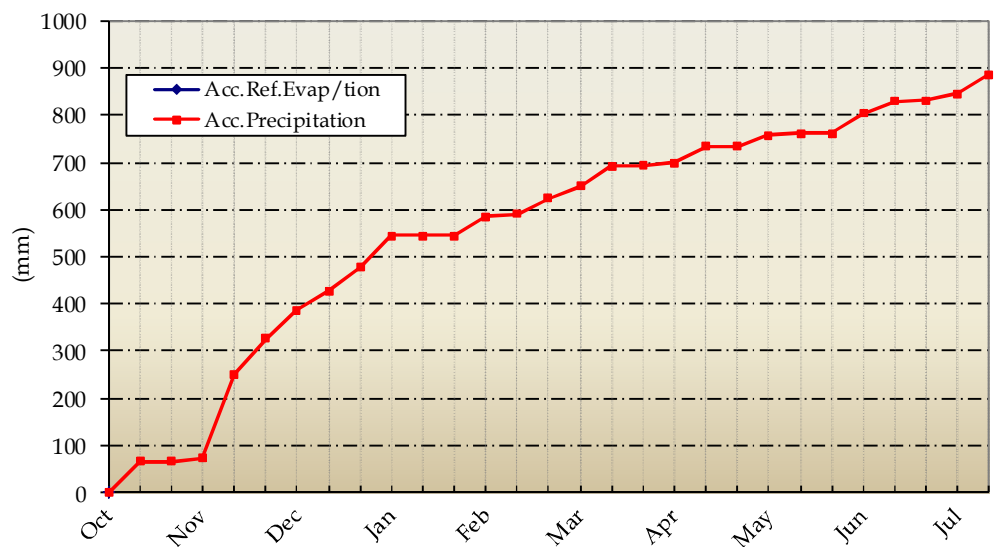


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.6	35.0	35.0	34.6	31.6	29.0	31.6	32.2	31.0	31.4	32.6	34.6	30.4
	Min	15.2	17.0	17.4	15.8	15.8	15.2	15.8	20.6	15.8	16.2	16.5	16.3	14.5
Relative Humidity	Max	100	100	98	82	80	78	81	98	98	98	91	90	-
	Min	33	36	27	32	40	40	43	44	36	33	36	26	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	27.2
Sunshine Duration		10.5	10.2	11.9	11.3	6.0	8.8	8.9	10.0	12.0	13.0	10.3	12.1	10.5
Precipitation			0.4		1.3	28.1		10.2				40.0	0.0	6.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	72.0
Growing Degrees	5	19.9	21.0	21.2	20.2	18.7	17.1	18.7	21.4	18.4	18.8	195.4	204.2	168.8
	10	14.9	16.0	16.2	15.2	13.7	12.1	13.7	16.4	13.4	13.8	145.4	154.2	120.3

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	51.3
Precipitation - Reference Evapotranspiration	-	-	-44.7
Number of Rainy Days	4.0	0.0	1.5
Number of Dry Days	4.0	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

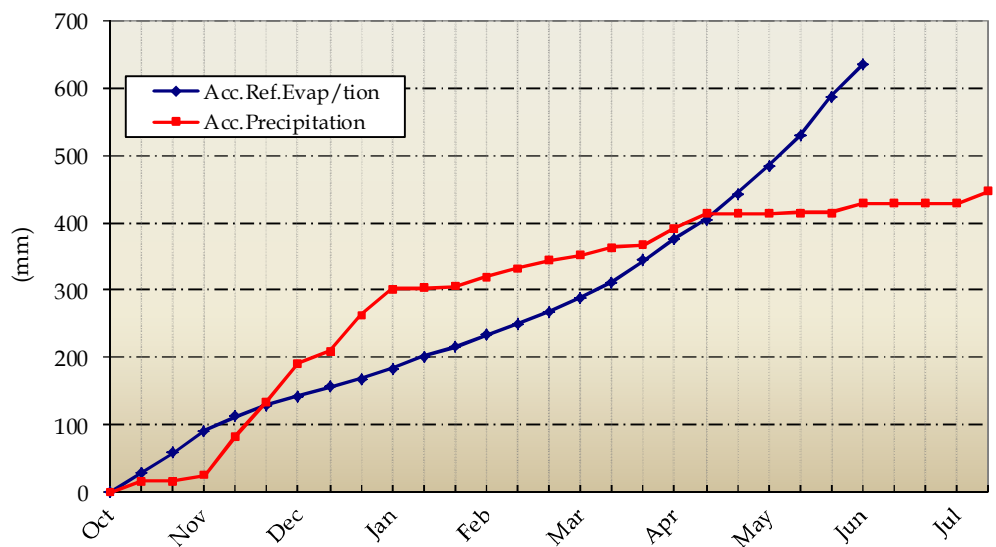


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.6	32.8	34.0	32.4	32.1	30.8	29.6	32.0	29.2	29.9	31.6	33.5	30.8
	Min	17.6	21.2	18.0	19.8	19.0	18.3	17.9	20.0	20.2	17.2	18.9	19.9	17.6
Relative Humidity	Max	83	89	93	89	96	97	98	97	100	99	94	81	-
	Min	30	30	34	33	32	42	52	38	54	40	38	28	-
Soil Temperature at 10 cm	06 UTC	27.4	28.4	28.5	28.5	28.0	28.6	26.0	26.4	27.0	26.5	27.5	27.8	25.3
	12 UTC	31.6	32.0	32.0	32.5	33.5	31.0	29.6	30.0	30.5	30.6	31.3	31.8	29.5
Sunshine Duration		12.5	11.0	12.2	12.2	10.2	7.0	9.8	12.6	8.4	12.6	10.8	12.4	11.4
Precipitation							16.0	1.1				17.1		1.0
Evaporation		11.0	9.0	7.0	12.0	8.0	4.2	8.0	18.1	12.0	7.6	96.9	95.5	89.7
Growing Degrees	5	20.6	22.0	21.0	21.1	20.6	19.6	18.8	21.0	19.7	18.6	202.8	217.2	191.7
	10	15.6	17.0	16.0	16.1	15.6	14.6	13.8	16.0	14.7	13.6	152.8	167.2	141.7

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	68.8	56.4
Precipitation - Reference Evapotranspiration	-	-68.8	-55.4
Number of Rainy Days	2.0	0.0	0.3
Number of Dry Days	35.0	25.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

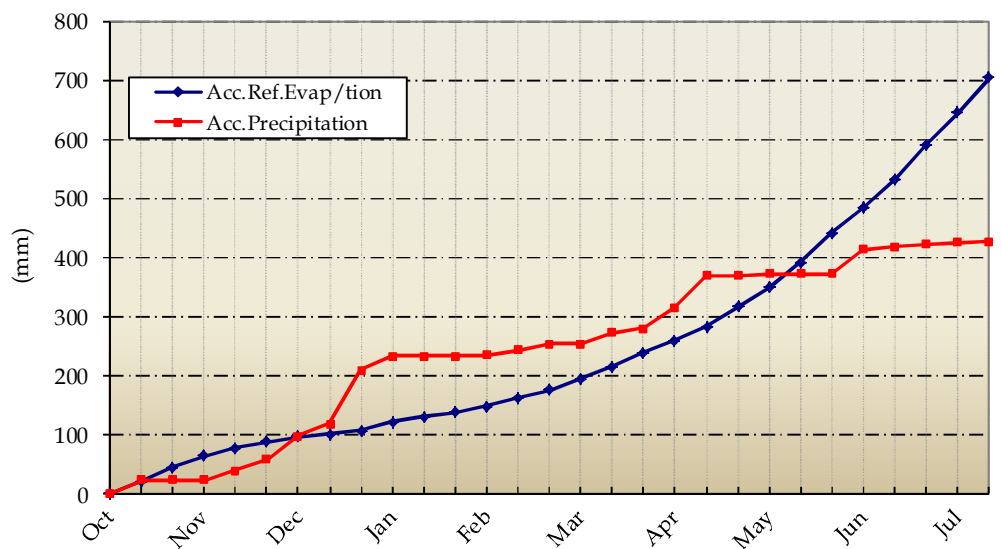


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	37.2	35.2	36.0	35.8	32.8	31.8	34.4	30.8	30.4	31.4	33.6	36.3	32.9
	Min	20.4	20.8	20.0	20.8	21.2	19.8	20.4	21.4	19.7	18.4	20.3	20.1	17.5
Relative Humidity	Max	71	73	84	86	90	96	86	72	78	84	82	77	-
	Min	27	28	32	32	40	40	30	30	37	31	33	33	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	26.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	28.7
Sunshine Duration		11.1	10.1	10.3	10.2	5.0	8.1	9.1	6.0	11.3	11.6	9.3	10.6	10.7
Precipitation					0.2	1.0	1.2					2.4	0.0	5.5
Evaporation		15.0	12.0	13.1	7.9	4.2	6.5	12.6	9.3	13.9	12.1	106.6	94.5	95.9
Growing Degrees	5	23.8	23.0	23.0	23.3	22.0	20.8	22.4	21.1	20.1	19.9	219.4	232.0	202.1
	10	18.8	18.0	18.0	18.3	17.0	15.8	17.4	16.1	15.1	14.9	169.4	182.0	152.1

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	59.2	65.8	62.4
Precipitation - Reference Evapotranspiration	-56.8	-65.8	-56.9
Number of Rainy Days	3.0	0.0	1.4
Number of Dry Days	9.0	10.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



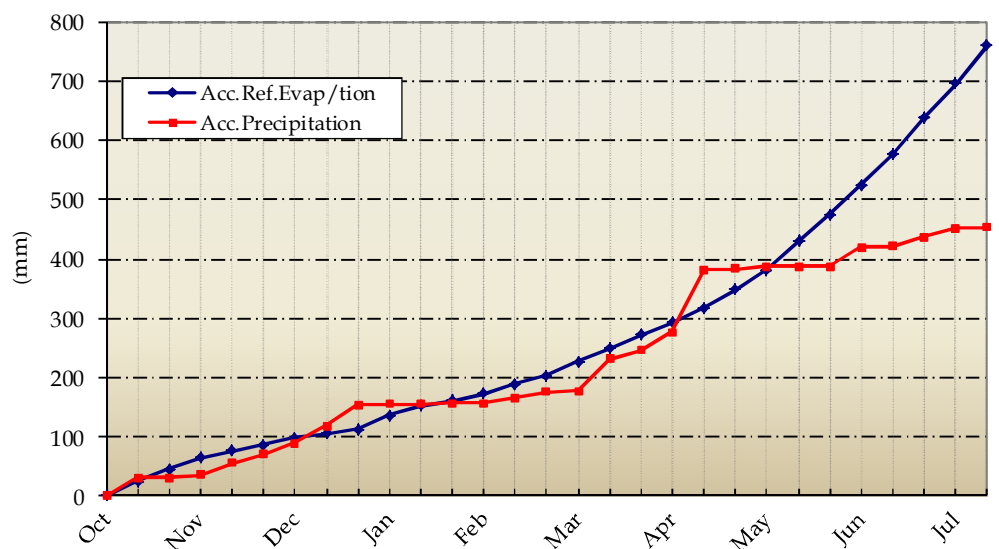
Mikra

1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.8	34.0	34.2	34.4	31.1	31.6	32.2	28.7	29.0	30.2	32.0	34.4	31.1
	Min	21.2	21.6	22.8	26.0	23.4	21.0	23.4	20.4	18.5	18.6	21.7	22.6	18.5
Relative Humidity	Max	76	79	76	66	88	87	77	86	86	76	80	75	-
	Min	35	39	43	35	50	57	45	21	45	40	41	30	-
Soil Temperature at 10 cm	06 UTC	27.0	27.6	28.0	28.4	28.0	26.8	27.2	26.0	27.2	26.6	27.3	27.6	26.2
	12 UTC	30.4	31.2	31.2	32.2	30.4	29.4	29.6	25.2	26.2	26.8	29.3	32.7	30.9
Sunshine Duration		13.0	12.0	12.4	12.6	4.7	9.7	8.6	10.9	13.3	13.0	11.0	12.5	10.7
Precipitation						0.9	1.0	0.0				1.9		8.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	95.7
Growing Degrees	5	23.0	22.8	23.5	25.2	22.3	21.3	22.8	19.6	18.8	19.4	218.6	234.7	198.0
	10	18.0	17.8	18.5	20.2	17.3	16.3	17.8	14.6	13.8	14.4	168.6	184.7	148.0

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	64.7	62.5	61.2
Precipitation - Reference Evapotranspiration	-62.8	-62.5	-52.5
Number of Rainy Days	2.0	0.0	1.7
Number of Dry Days	9.0	11.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

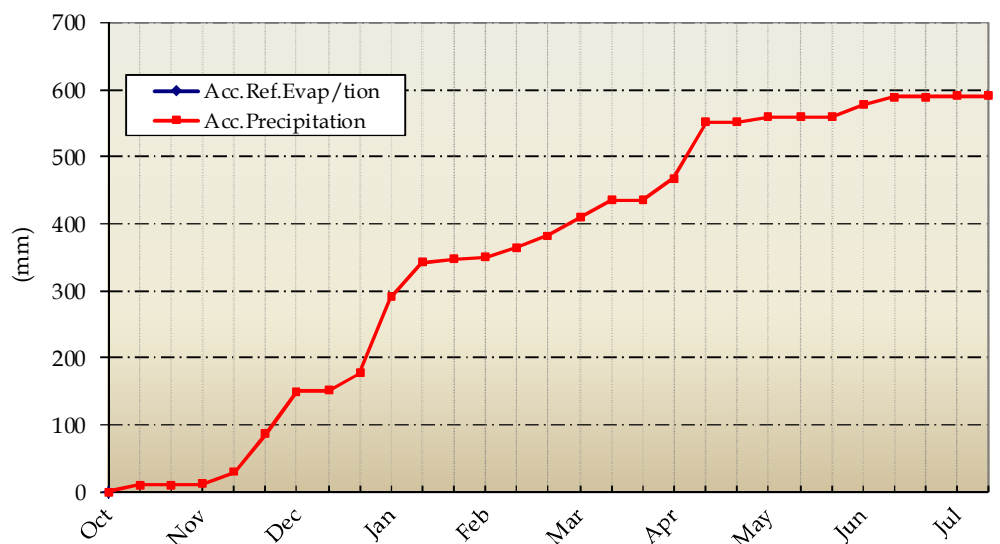


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	36.0	34.2	34.5	35.3	32.6	29.5	31.4	29.4	28.5	29.2	32.1	34.9	31.6
	Min	19.5	20.6	20.0	19.8	20.6	21.3	22.3	23.1	20.0	19.2	20.6	19.4	17.5
Relative Humidity	Max	63	62	62	70	71	67	67	67	71	63	66	62	-
	Min	22	24	28	27	35	43	34	37	30	27	31	18	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		13.5	13.5	13.4	13.6	10.5	3.5	10.3	12.9	13.3	13.5	11.8	12.4	
Precipitation													1.7	3.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	22.8	22.4	22.3	22.6	21.6	20.4	21.9	21.3	19.3	19.2	213.5	221.9	
	10	17.8	17.4	17.3	17.6	16.6	15.4	16.9	16.3	14.3	14.2	163.5	171.9	

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	60.0	
Precipitation - Reference Evapotranspiration	-	-58.3	3.9
Number of Rainy Days	0.0	1.0	1.2
Number of Dry Days	18.0	34.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

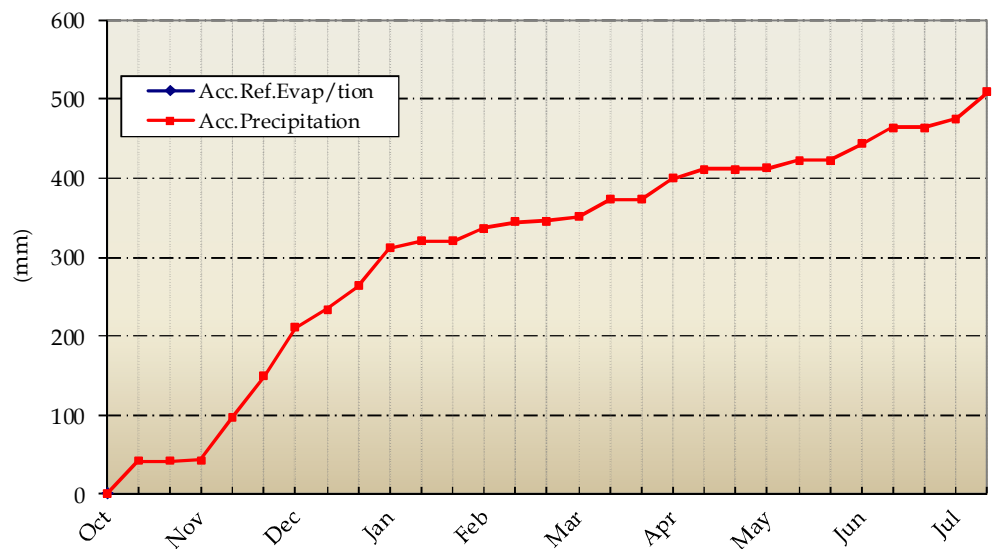


1st 10-day period (1-10/07/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.8	32.9	33.1	31.6	28.4	28.6	29.8	31.1	27.4	30.6	30.7	32.4	30.2
	Min	14.7	16.4	19.6	22.6	18.2	13.9	15.0	16.2	16.4	11.5	16.4	14.8	13.4
Relative Humidity	Max	91	55	76	80	98	100	100	95	95	94	88	85	-
	Min	23	21	20	29	34	37	32	32	42	19	29	21	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	25.4	25.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	33.1	28.1
Sunshine Duration		9.8	12.0	9.8	7.7	7.9	6.2	10.1	8.8	8.4	13.0	9.4	11.5	10.6
Precipitation				0.3	0.3		34.4					35.0	0.0	7.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	64.6
Growing Degrees	5	19.3	19.7	21.4	22.1	18.3	16.3	17.4	18.7	16.9	16.1	185.9	185.9	167.9
	10	14.3	14.7	16.4	17.1	13.3	11.3	12.4	13.7	11.9	11.1	135.9	135.9	117.9

1st 10-day period (1-10/07/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	47.9	56.4	53.2
Precipitation - Reference Evapotranspiration	-12.9	-56.4	-46.1
Number of Rainy Days	3.0	0.0	1.3
Number of Dry Days	3.0	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





◆ **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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