



AGROMETEOROLOGICAL BULLETIN

*April 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



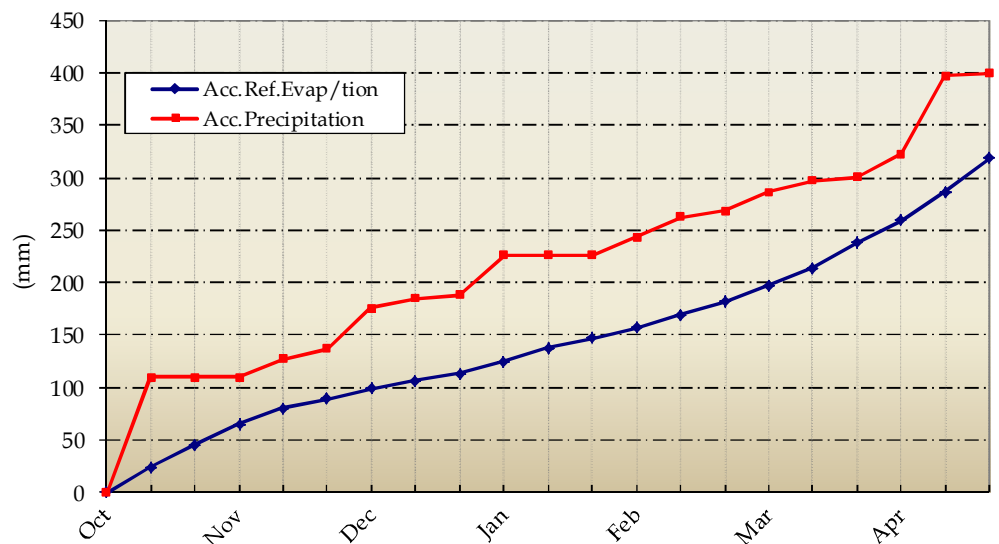
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2nd 10-day period (11-20/04/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.4	18.8	18.0	18.6	16.2	17.6	16.0	18.6	20.2	22.4	18.9	15.8	16.6
	Min	4.6	10.4	5.4	0.4	6.0	7.4	2.4	12.4	6.6	6.4	6.2	7.3	7.0
Relative Humidity	Max	88	55	76	85	85	80	80	88	91	88	82	94	-
	Min	37	30	38	63	72	37	58	57	49	43	48	51	-
Soil Temperature at 10 cm	06 UTC	12.0	12.6	11.4	11.2	13.0	8.6	9.4	11.4	13.0	13.6	11.6	11.6	11.5
	12 UTC	16.6	17.2	16.6	16.6	12.2	15.0	15.6	17.4	19.2	18.6	16.5	14.5	14.7
Sunshine Duration		7.2	10.6	11.5	8.3	0.0	12.4	9.1	11.9	9.6	8.9	9.0	6.3	5.9
Precipitation						2.1						2.1	28.4	15.2
Evaporation		8.6	6.1	5.7	2.2	0.5	5.3	2.7	2.5	4.3	4.2	42.1	29.9	38.8
Growing Degrees	5	8.5	9.6	6.7	4.5	6.1	7.5	4.2	10.5	8.4	9.4	75.4	65.7	67.9
	10	3.5	4.6	1.7	0.0	1.1	2.5	0.0	5.5	3.4	4.4	26.7	16.6	22.8

2nd 10-day period (11-20/04/2020)	Previous Year Value	Past Years Mean Value	
Reference Evapotranspiration	31.6	25.6	26.7
Precipitation - Reference Evapotranspiration	-29.5	2.8	-11.5
Number of Rainy Days	1.0	5.0	2.8
Number of Dry Days	8.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

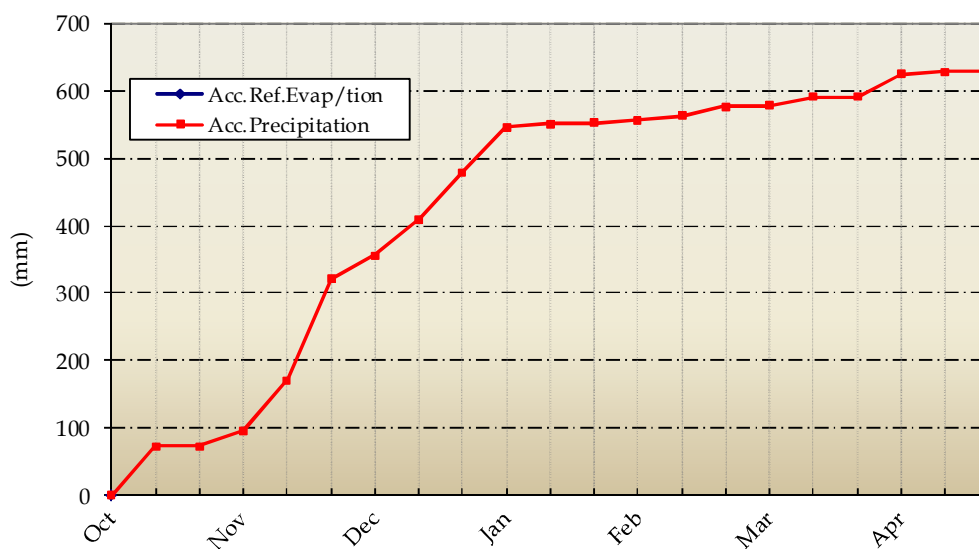


2nd 10-day period (11-20/04/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.6	22.8	23.0	23.3	20.2	20.8	20.0	20.6	22.5	21.1	21.7	18.9	18.4
	Min	5.6	7.4	7.1	7.6	11.4	9.7	7.0	6.2	7.7	11.6	8.1	8.5	9.1
Relative Humidity	Max	95	97	95	90	71	91	95	97	96	93	92	99	-
	Min	37	39	38	18	57	34	45	43	48	51	41	53	-
Soil Temperature at 10 cm	06 UTC	14.4	15.6	16.2	15.8	16.6	16.8	17.0	16.0	16.8	16.8	16.2	14.7	13.7
	12 UTC	17.2	18.0	18.8	18.6	18.8	19.0	19.2	19.4	17.4	17.6	18.4	17.0	16.7
Sunshine Duration		11.5	9.4	11.6	7.2	9.8	12.2	11.5	11.6	11.3	1.1	9.7	8.6	7.2
Precipitation													11.0	25.7
Evaporation		9.1	9.4	-	-	-	-	-	-	-	-	-	43.7	37.7
Growing Degrees	5	9.1	10.1	10.1	10.5	10.8	10.3	8.5	8.4	10.1	11.4	99.1	86.9	87.1
	10	4.1	5.1	5.1	5.5	5.8	5.3	3.5	3.4	5.1	6.4	49.1	36.9	37.4

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	29.4	28.0
Precipitation - Reference Evapotranspiration	-	-18.4	-2.3
Number of Rainy Days	0.0	4.0	3.3
Number of Dry Days	15.0	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

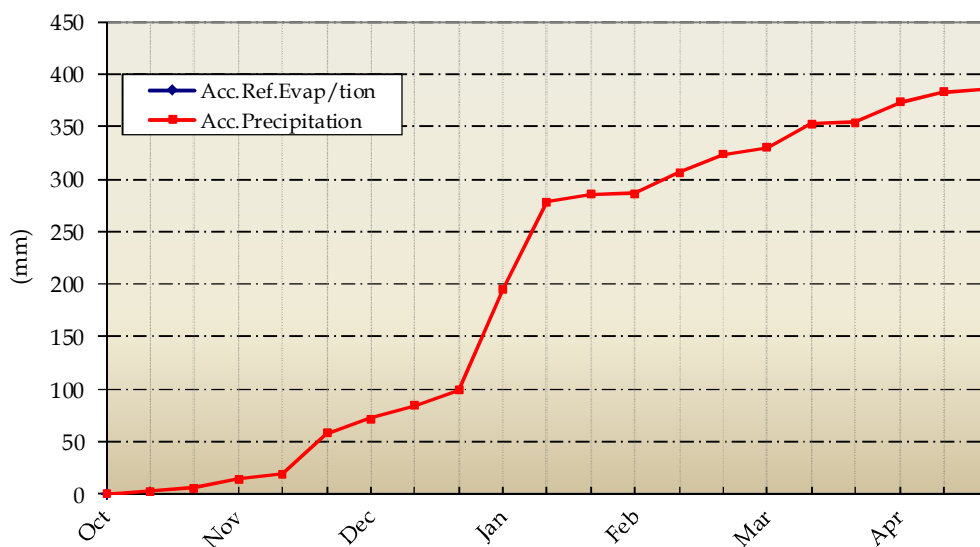


2nd 10-day period (11-20/04/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.8	20.6	19.0	22.6	26.6	16.6	17.8	19.6	20.0	20.2	20.3	18.7	19.9
	Min	12.4	10.0	10.6	11.0	16.0	13.2	12.4	9.0	10.0	11.6	11.6	12.5	12.0
Relative Humidity	Max	68	87	92	65	89	79	90	89	89	92	84	82	-
	Min	41	43	65	21	30	49	56	52	66	56	48	54	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.7	11.0	11.2	11.6	7.3	3.2	11.0	11.8	12.2	6.0	9.7	8.2	7.4
Precipitation							2.4					2.4	16.5	11.4
Evaporation		3.5	1.4	5.8	8.5	6.3	4.2	2.1	1.8	4.3	2.5	40.4	38.1	52.7
Growing Degrees	5	11.1	10.3	9.8	11.8	16.3	9.9	10.1	9.3	10.0	10.9	109.5	105.9	109.6
	10	6.1	5.3	4.8	6.8	11.3	4.9	5.1	4.3	5.0	5.9	59.5	55.9	59.7

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	35.5	-
Precipitation - Reference Evapotranspiration	-	-19.0	11.4
Number of Rainy Days	1.0	2.0	2.0
Number of Dry Days	7.0	6.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

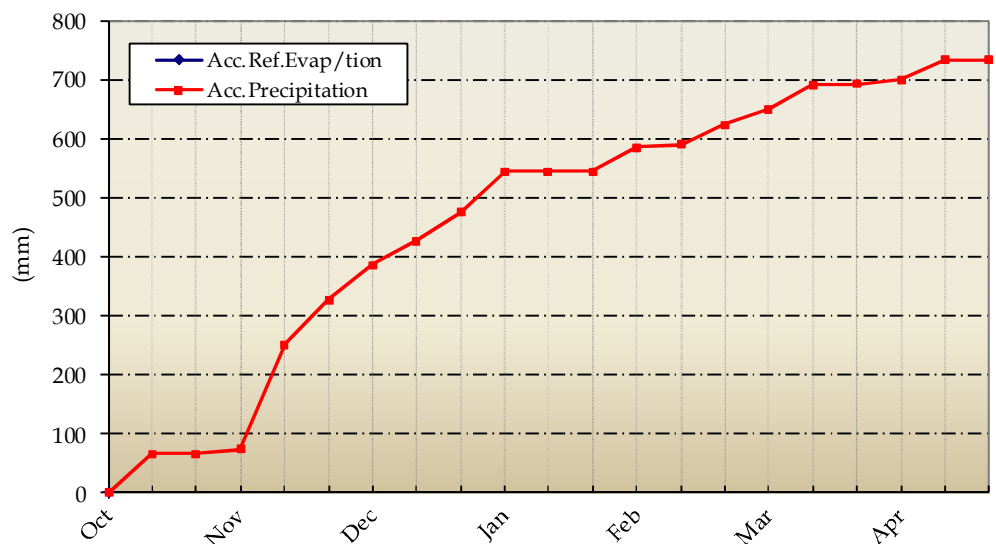


2nd 10-day period (11-20/04/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.8	20.8	21.8	18.4	18.0	20.2	21.4	25.0	24.2	19.0	21.3	16.8	16.1
	Min	1.2	4.0	2.6	1.4	7.4	-0.2	1.4	2.2	5.7	10.5	3.6	6.4	5.7
Relative Humidity	Max	100	100	100	100	90	100	100	97	100	100	99	99	-
	Min	34	36	26	34	53	31	40	29	27	57	37	46	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	10.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.9
Sunshine Duration		9.4	5.5	9.4	1.7	4.2	10.4	9.7	10.4	4.1	0.2	6.5	5.4	4.9
Precipitation					0.0	0.8					0.0	0.8	40.1	35.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	28.5
Growing Degrees	5	7.5	7.4	7.2	4.9	7.7	5.0	6.4	8.6	10.0	9.8	74.4	65.8	58.8
	10	2.5	2.4	2.2	0.0	2.7	0.0	1.4	3.6	5.0	4.8	24.5	15.8	15.8

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	24.2
Precipitation - Reference Evapotranspiration	-	-	10.9
Number of Rainy Days	1.0	8.0	4.7
Number of Dry Days	10.0	0.0	-

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

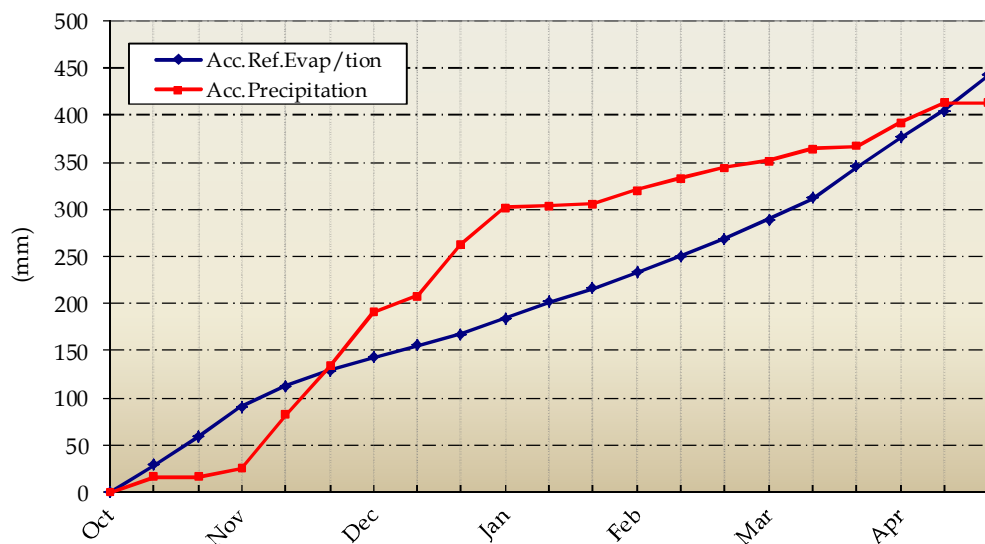
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2020)		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	23.0	22.2	22.0	23.8	20.6	20.2	20.9	21.9	18.8	21.7	18.9	19.2
	Min	11.6	8.0	6.3	5.6	15.1	10.7	6.8	7.2	8.8	9.0	8.9	9.2	8.4
Relative Humidity	Max	85	67	83	90	75	69	91	90	93	92	84	91	-
	Min	21	27	30	36	44	34	49	46	51	68	41	48	-
Soil Temperature at 10 cm	06 UTC	12.2	14.0	14.8	14.8	16.2	16.8	15.0	16.5	17.0	17.5	15.5	14.6	13.9
	12 UTC	18.5	16.0	18.5	18.6	19.0	20.2	20.0	20.8	21.5	19.5	19.3	16.5	16.9
Sunshine Duration		11.5	10.6	10.6	9.1	11.3	8.1	9.3	11.5	10.2	0.9	9.3	7.4	7.1
Precipitation							0.0	0.0				0.0	24.7	25.5
Evaporation		5.4	4.5	6.7	5.4	4.6	5.8	5.4	4.6	6.4	2.1	50.9	32.1	41.0
Growing Degrees	5	12.6	10.5	9.3	8.8	14.5	10.7	8.5	9.1	10.4	8.9	103.0	90.2	88.0
	10	7.6	5.5	4.3	3.8	9.5	5.7	3.5	4.1	5.4	3.9	53.0	40.2	38.2

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	38.2	31.9	28.5
Precipitation - Reference Evapotranspiration	-38.2	-7.2	-3.0
Number of Rainy Days	0.0	6.0	4.1
Number of Dry Days	14.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



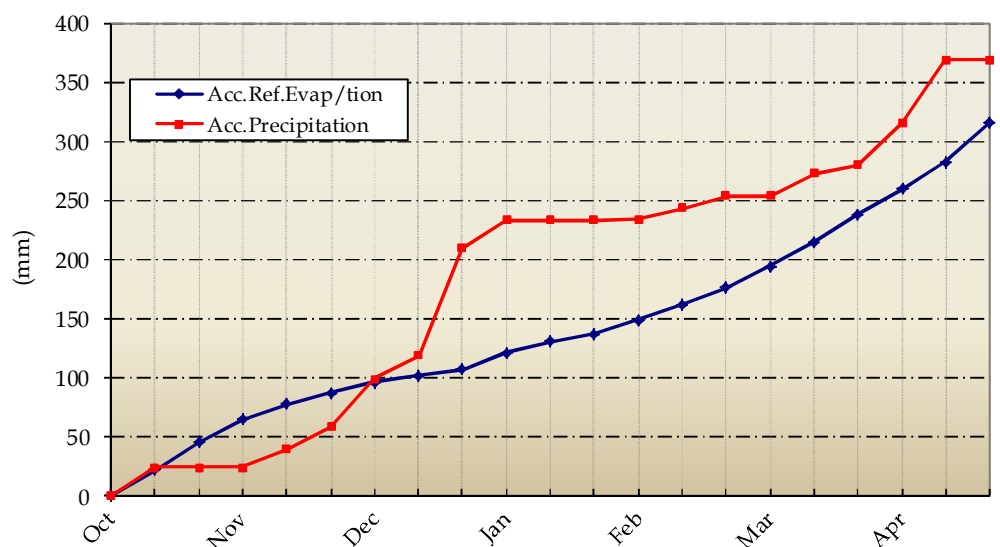
Larisa

2nd 10-day period (11-20/04/2020)		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	19.8	23.0	22.0	15.4	18.2	23.2	26.0	26.2	23.2	22.1	17.4	19.0
	Min	2.8	8.0	8.0	3.0	10.0	0.2	1.6	5.2	8.2	10.0	5.7	6.6	6.4
Relative Humidity	Max	93	89	91	87	93	98	94	92	88	92	92	96	-
	Min	27	43	42	38	53	38	38	40	41	55	42	56	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.8
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	14.4
Sunshine Duration		11.0	6.5	12.0	2.3	0.0	11.3	11.0	11.1	9.2	2.2	7.7	6.2	6.4
Precipitation						0.0						0.0	15.3	13.6
Evaporation		6.0	1.2	7.0	5.0	1.5	5.4	6.6	3.1	5.3	4.8	45.9	-	36.9
Growing Degrees	5	8.4	8.9	10.5	7.5	7.7	4.2	7.4	10.6	12.2	11.6	89.0	70.1	77.0
	10	3.4	3.9	5.5	2.5	2.7	0.0	2.4	5.6	7.2	6.6	39.8	20.1	28.8

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	33.8	26.1	28.6
Precipitation - Reference Evapotranspiration	-33.8	-10.8	-15.0
Number of Rainy Days	0.0	7.0	3.4
Number of Dry Days	14.0	1.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



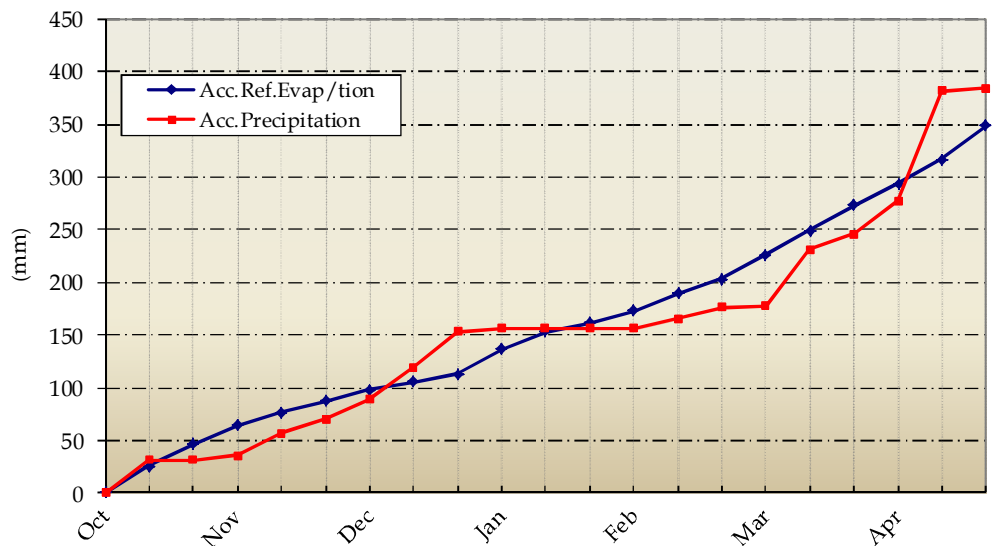
Mikra

2nd 10-day period (11-20/04/2020)		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	19.8	20.4	19.4	16.1	17.1	19.8	23.8	22.3	22.1	20.5	18.0	18.2
	Min	6.2	9.8	9.8	6.5	6.9	2.1	4.3	6.8	9.0	9.9	7.1	10.0	7.7
Relative Humidity	Max	81	90	91	92	95	94	92	93	97	94	92	92	-
	Min	26	44	39	47	67	41	45	43	59	50	46	49	-
Soil Temperature at 10 cm	06 UTC	12.4	13.4	14.0	13.4	13.4	10.6	11.6	12.8	14.2	15.2	13.1	14.0	12.6
	12 UTC	14.0	14.4	15.8	15.6	9.2	12.6	14.0	15.6	15.2	17.4	14.4	16.1	16.4
Sunshine Duration		11.3	6.8	8.2	3.2	0.0	11.9	11.7	11.1	8.1	5.0	7.7	7.3	6.1
Precipitation						2.5					0.0	2.5	54.3	14.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	39.8
Growing Degrees	5	10.2	9.8	10.1	8.0	6.5	4.6	7.1	10.3	10.7	11.0	88.2	89.9	79.5
	10	5.2	4.8	5.1	3.0	1.5	0.0	2.1	5.3	5.7	6.0	38.6	39.9	31.0

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	31.6	29.5	29.0
Precipitation - Reference Evapotranspiration	-29.1	24.8	-14.5
Number of Rainy Days	1.0	6.0	3.4
Number of Dry Days	8.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

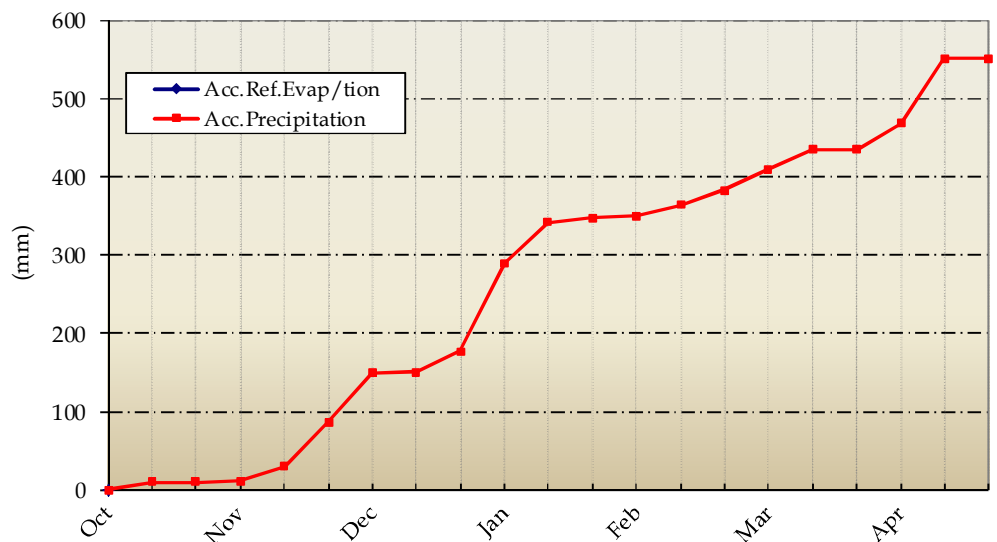


2nd 10-day period (11-20/04/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.2	21.6	21.3	24.6	14.9	15.6	21.6	24.8	23.8	22.2	21.4	16.6	18.6
	Min	5.0	6.0	5.4	8.0	10.1	9.0	3.3	7.3	8.8	10.8	7.4	7.2	7.2
Relative Humidity	Max	78	95	97	75	83	75	79	95	83	94	85	98	-
	Min	26	36	40	20	55	34	28	31	44	46	36	50	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.4	11.3	11.2	7.2	4.7	11.2	11.1	12.2	10.4	5.2	9.6	6.0	
Precipitation													49.0	10.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	9.1	8.8	8.4	11.3	7.5	7.3	7.5	11.1	11.3	11.5	93.7	69.2	
	10	4.1	3.8	3.4	6.3	2.5	2.3	2.5	6.1	6.3	6.5	43.7	19.2	

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	24.5	
Precipitation - Reference Evapotranspiration	-	24.5	10.8
Number of Rainy Days	0.0	8.0	3.9
Number of Dry Days	13.0	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



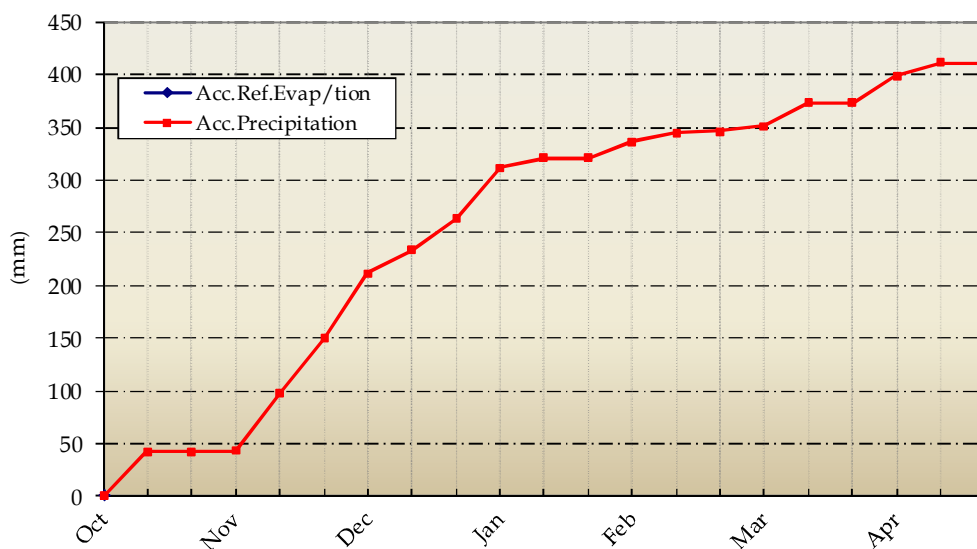
Tripoli

2nd 10-day period (11-20/04/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.4	-	20.1	20.0	19.9	17.6	23.1	23.4	24.9	23.4	21.5	15.0	16.3
	Min	1.5	-	3.5	4.1	7.6	4.1	0.5	5.3	5.4	7.3	4.4	4.5	4.8
Relative Humidity	Max	-	87	88	93	86	94	93	95	94	87	91	99	-
	Min	-	19	26	21	39	34	17	22	24	17	24	45	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	10.8	10.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	13.9	12.7
Sunshine Duration		10.4	9.6	7.4	8.9	0.0	10.7	11.1	9.5	11.4	1.3	8.0	5.7	6.7
Precipitation					0.0	0.0				0.0	0.0	0.0	44.6	30.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	29.8
Growing Degrees	5	6.5	-	6.8	7.1	8.8	5.9	6.8	9.4	10.2	10.4	-	47.5	55.6
	10	1.5	-	1.8	2.1	3.8	0.9	1.8	4.4	5.2	5.4	-	4.2	14.5

2nd 10-day period (11-20/04/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	24.2	28.5
Precipitation - Reference Evapotranspiration	-	20.4	2.3
Number of Rainy Days	0.0	9.0	4.5
Number of Dry Days	16.0	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





◆ **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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