



# AGROMETEOROLOGICAL BULLETIN

*August 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



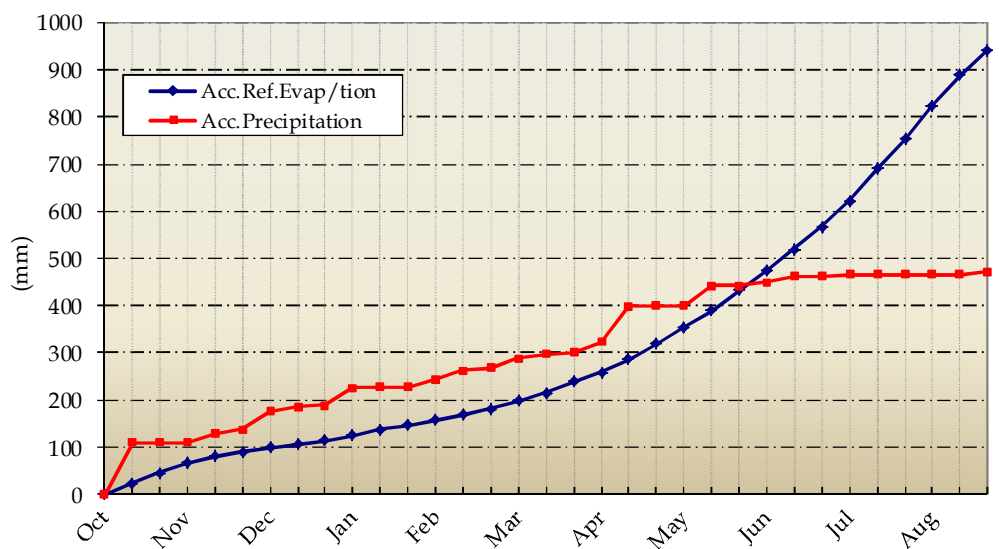
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2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.6	34.8	33.8	33.6	33.2	30.0	31.8	31.6	31.0	29.0	32.3	32.5	30.5
	Min	20.0	17.8	20.0	22.4	19.4	22.0	19.4	17.6	18.0	19.6	19.6	20.2	17.7
Relative Humidity	Max	74	75	76	84	71	72	74	83	84	94	79	80	-
	Min	30	29	33	33	35	42	34	36	49	46	37	32	-
Soil Temperature at 10 cm	06 UTC	23.2	23.2	24.6	25.2	23.6	24.6	23.4	23.0	23.0	24.0	23.8	27.2	23.8
	12 UTC	27.2	27.4	29.2	28.8	27.6	26.4	27.2	26.4	26.8	26.6	27.4	31.4	27.9
Sunshine Duration		12.2	10.9	9.7	12.0	12.3	9.7	12.2	11.0	12.3	10.2	11.2	11.7	10.0
Precipitation											5.1	5.1	3.3	3.9
Evaporation		11.8	8.5	8.7	7.9	8.7	10.8	11.3	8.4	5.9	7.4	89.4	85.8	94.5
Growing Degrees	5	22.3	21.3	21.9	23.0	21.3	21.0	20.6	19.6	19.5	19.3	209.8	213.2	191.3
	10	17.3	16.3	16.9	18.0	16.3	16.0	15.6	14.6	14.5	14.3	159.8	163.2	141.3

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	53.3	56.6	55.4
Precipitation - Reference Evapotranspiration	-48.2	-53.3	-51.5
Number of Rainy Days	1.0	2.0	1.0
Number of Dry Days	17.0	11.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

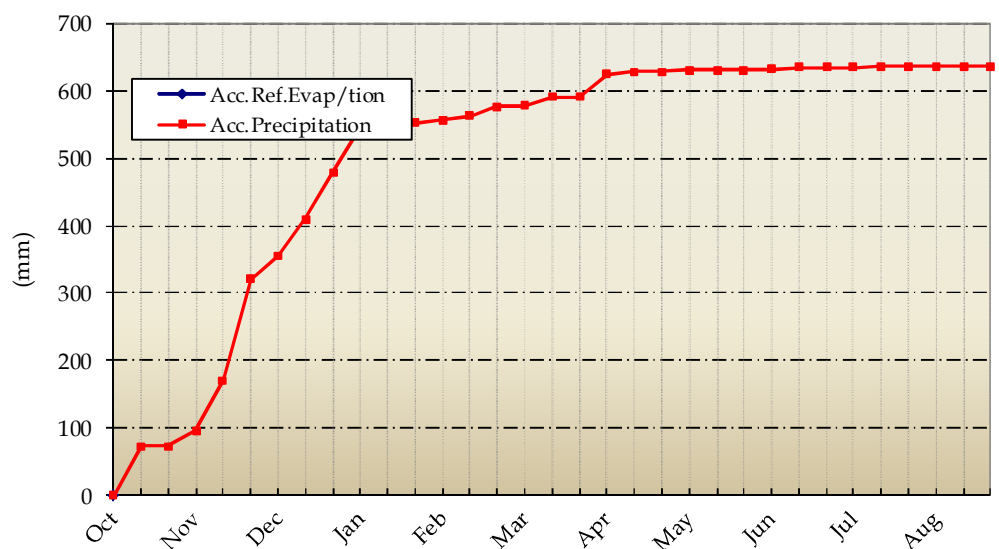


2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.2	32.7	33.9	34.0	35.6	33.1	32.4	33.0	30.7	32.5	33.1	33.5	31.2
	Min	19.6	19.8	21.1	21.6	21.8	21.5	20.3	22.0	22.2	24.6	21.4	19.7	18.7
Relative Humidity	Max	90	92	92	92	95	89	91	93	90	86	91	91	-
	Min	30	45	40	37	36	43	49	50	56	32	42	28	-
Soil Temperature at 10 cm	06 UTC	29.2	29.6	29.8	30.0	30.2	30.6	30.6	30.4	30.0	30.0	30.0	29.2	27.4
	12 UTC	31.8	32.0	32.4	32.4	33.0	32.8	33.4	33.2	33.4	33.0	32.7	31.7	31.7
Sunshine Duration		11.9	11.5	11.5	10.9	10.4	10.8	10.6	10.3	10.7	11.6	11.0	12.0	11.2
Precipitation														4.0
Evaporation		9.2	8.4	9.0	8.4	12.4	11.4	12.2	9.4	8.6	9.2	98.2	90.4	73.5
Growing Degrees	5	21.4	21.3	22.5	22.8	23.7	22.3	21.4	22.5	21.5	23.6	222.8	215.9	199.2
	10	16.4	16.3	17.5	17.8	18.7	17.3	16.4	17.5	16.5	18.6	172.8	165.9	149.2

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	53.4	49.2
Precipitation - Reference Evapotranspiration	-	-53.4	-45.2
Number of Rainy Days	0.0	0.0	0.3
Number of Dry Days	12.0	35.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



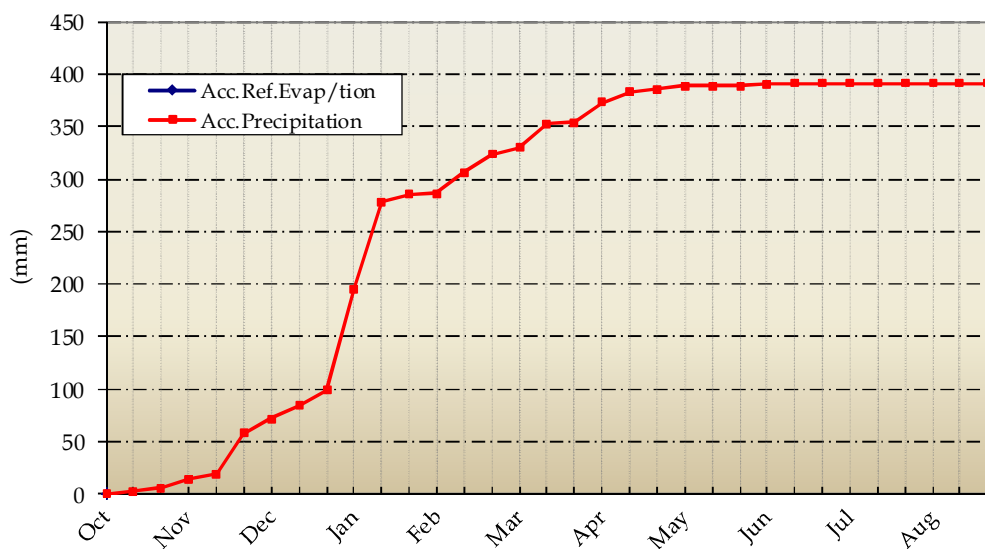
Iraklio

2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.0	31.0	30.6	30.0	31.0	29.4	28.4	29.2	28.8	29.2	29.8	29.0	28.2
	Min	23.2	24.6	25.0	26.6	26.4	22.6	25.4	24.0	21.0	22.4	24.1	22.9	22.2
Relative Humidity	Max	68	65	68	63	58	77	68	85	92	92	74	79	-
	Min	52	42	45	51	32	48	52	27	57	66	47	55	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.6	12.3	12.6	12.2	12.5	12.1	12.3	12.4	12.3	12.0	12.3	12.0	11.0
Precipitation														0.0
Evaporation		9.2	7.4	10.8	11.0	10.8	2.2	11.9	9.5	4.2	5.4	82.4	70.9	81.3
Growing Degrees	5	21.6	22.8	22.8	23.3	23.7	21.0	21.9	21.6	19.9	20.8	219.4	209.3	202.0
	10	16.6	17.8	17.8	18.3	18.7	16.0	16.9	16.6	14.9	15.8	169.4	159.3	152.0

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	55.6	-
Precipitation - Reference Evapotranspiration	-	-55.6	0.0
Number of Rainy Days	0.0	0.0	0.1
Number of Dry Days	79.0	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

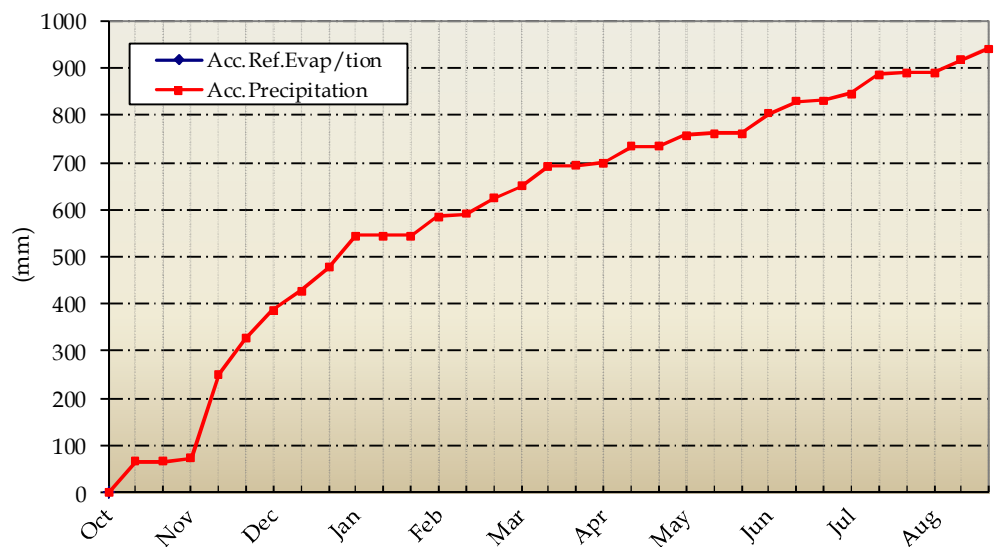


2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.7	34.0	33.1	34.2	33.4	32.8	33.4	32.5	31.1	31.7	32.9	34.6	30.9
	Min	14.8	14.0	15.3	16.3	17.4	15.4	16.6	14.7	17.2	12.7	15.4	19.4	15.4
Relative Humidity	Max	99	99	99	97	98	98	98	99	98	97	98	80	-
	Min	30	30	29	31	35	32	30	31	35	23	31	24	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	23.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	27.1
Sunshine Duration		8.6	10.0	9.8	11.1	10.8	11.0	9.5	9.3	9.6	11.0	10.1	11.0	9.5
Precipitation		0.2	18.8					3.9				22.9		11.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	64.1
Growing Degrees	5	18.8	19.0	19.2	20.3	20.4	19.1	20.0	18.6	19.2	17.2	191.7	219.8	176.6
	10	13.8	14.0	14.2	15.3	15.4	14.1	15.0	13.6	14.2	12.2	141.7	169.8	127.8

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	45.3
Precipitation - Reference Evapotranspiration	-	-	-34.0
Number of Rainy Days	3.0	0.0	1.8
Number of Dry Days	1.0	22.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

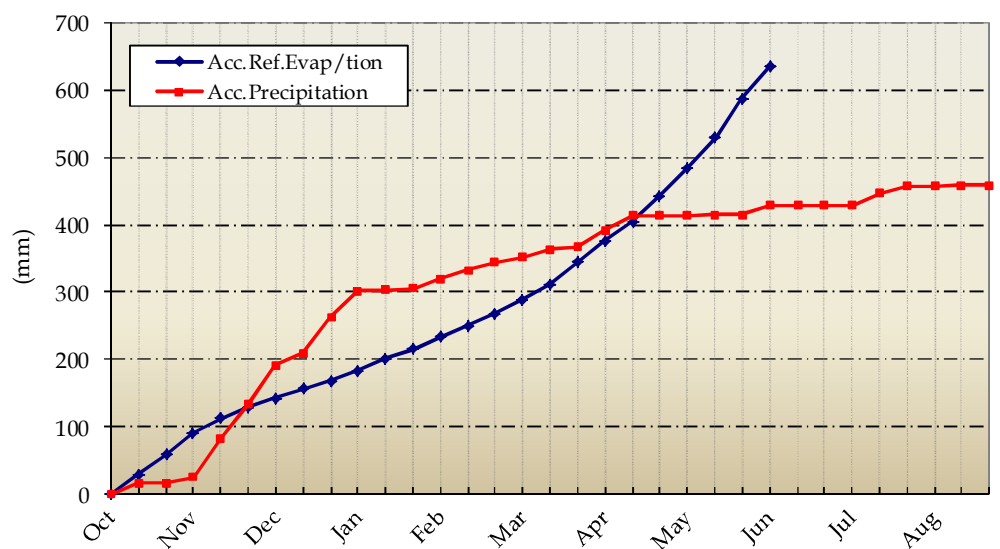


2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.6	35.6	33.2	32.4	31.6	33.6	31.0	30.4	35.7	32.0	33.0	32.4	31.4
	Min	17.2	20.1	20.9	20.0	19.3	20.0	19.4	19.3	19.6	22.7	19.8	20.0	18.2
Relative Humidity	Max	91	73	87	87	89	89	91	96	97	87	89	84	-
	Min	22	21	30	32	41	30	54	52	25	34	34	33	-
Soil Temperature at 10 cm	06 UTC	28.0	28.4	29.0	28.6	28.5	29.0	29.0	28.4	28.0	29.0	28.6	28.7	25.7
	12 UTC	32.0	37.4	32.6	32.5	33.0	32.5	33.2	32.0	32.0	32.2	32.9	31.8	29.6
Sunshine Duration		11.8	10.7	12.1	10.9	11.8	11.4	10.9	11.8	11.3	11.0	11.4	11.8	10.6
Precipitation													0.0	3.9
Evaporation		9.6	10.0	13.8	13.0	5.4	7.6	9.9	5.9	11.2	7.0	93.4	85.4	78.6
Growing Degrees	5	20.9	22.9	22.1	21.2	20.5	21.8	20.2	19.9	22.7	22.4	214.3	211.8	198.2
	10	15.9	17.9	17.1	16.2	15.5	16.8	15.2	14.9	17.7	17.4	164.3	161.8	148.2

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	61.5	50.7
Precipitation - Reference Evapotranspiration	-	-61.5	-46.8
Number of Rainy Days	0.0	0.0	0.7
Number of Dry Days	18.0	35.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



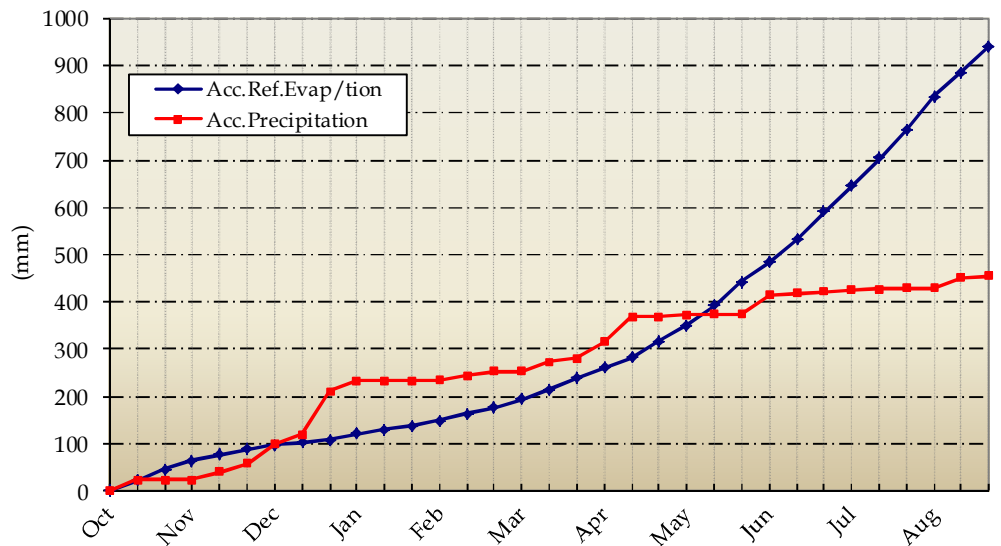
Larisa

2nd 10-day period (11-20/08/2020)		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	36.2	33.2	34.0	33.0	32.2	30.6	33.6	33.6	32.8	33.4	33.8	32.3
	Min	18.2	17.9	20.0	19.0	20.5	20.0	21.8	18.0	18.4	18.0	19.2	18.6	17.5
Relative Humidity	Max	85	85	82	82	86	80	81	89	90	88	85	81	-
	Min	28	26	36	33	25	40	45	35	37	30	34	28	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	26.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	28.7
Sunshine Duration		10.6	10.5	8.8	10.5	10.8	10.7	8.4	9.2	8.8	10.8	9.9	10.3	9.9
Precipitation										4.1		4.1	10.0	6.2
Evaporation		10.0	9.7	10.0	11.7	12.5	10.0	10.3	10.5	6.1	9.7	100.5	111.6	84.1
Growing Degrees	5	21.6	22.1	21.6	21.5	21.8	21.1	21.2	20.8	21.0	20.4	213.0	211.9	199.1
	10	16.6	17.1	16.6	16.5	16.8	16.1	16.2	15.8	16.0	15.4	163.0	161.9	149.1

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	54.6	58.1	53.3
Precipitation - Reference Evapotranspiration	-50.5	-48.1	-47.1
Number of Rainy Days	1.0	1.0	1.4
Number of Dry Days	8.0	30.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



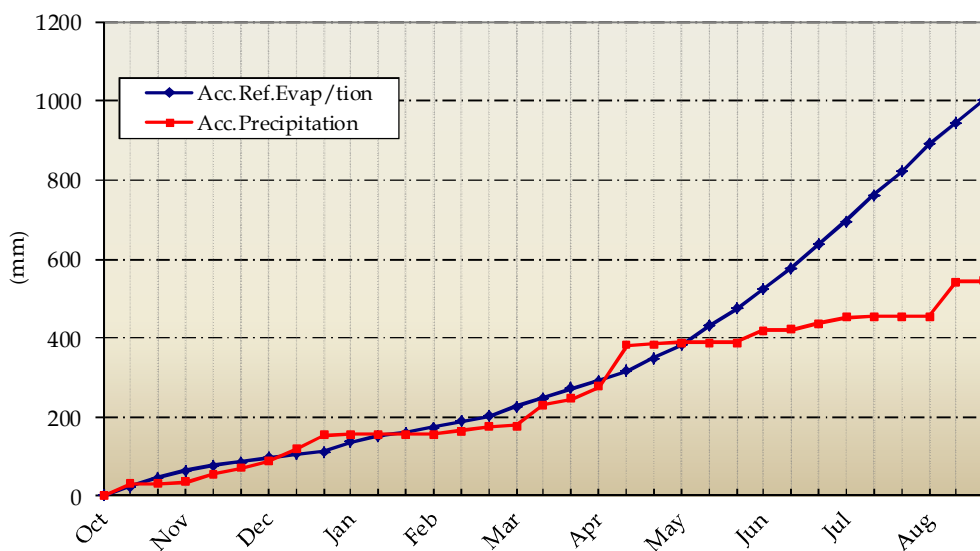
Mikra

2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.0	33.6	32.2	31.6	31.8	29.8	28.6	30.0	31.6	31.6	31.4	32.4	31.3
	Min	20.6	20.3	21.0	20.5	20.6	21.5	22.1	21.5	20.8	22.0	21.1	21.8	18.9
Relative Humidity	Max	82	79	81	84	86	84	88	89	94	75	84	77	-
	Min	34	37	40	45	20	50	50	49	51	38	41	34	-
Soil Temperature at 10 cm	06 UTC	25.4	25.6	26.2	26.0	26.4	26.2	26.4	26.2	26.4	25.8	26.1	28.7	26.0
	12 UTC	27.8	29.6	28.4	30.0	28.2	28.0	27.8	27.6	28.2	27.4	28.3	31.9	30.5
Sunshine Duration		12.7	12.4	11.7	12.0	11.0	11.0	7.7	10.8	11.8	12.0	11.3	11.1	10.0
Precipitation							0.2	0.2		0.1	0.5	1.0	0.7	6.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	83.0
Growing Degrees	5	21.8	22.0	21.6	21.1	21.2	20.7	20.4	20.8	21.2	21.8	212.4	221.3	201.0
	10	16.8	17.0	16.6	16.1	16.2	15.7	15.4	15.8	16.2	16.8	162.4	171.3	151.0

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	55.5	62.0	52.4
Precipitation - Reference Evapotranspiration	-54.5	-61.3	-45.8
Number of Rainy Days	4.0	1.0	1.1
Number of Dry Days	6.0	22.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



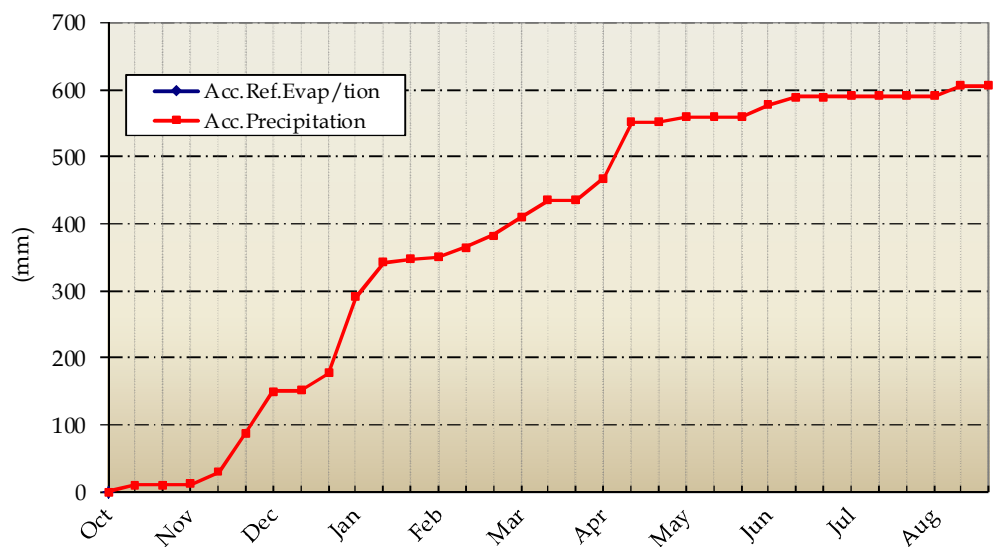


2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.1	33.3	32.1	32.2	33.8	31.7	29.6	31.0	31.8	29.6	31.7	31.6	31.8
	Min	17.8	18.6	19.0	19.6	18.4	19.4	19.9	16.6	19.2	21.3	19.0	19.9	18.4
Relative Humidity	Max	68	68	71	71	69	68	73	77	78	74	72	64	-
	Min	24	26	26	27	19	26	31	31	34	31	28	26	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.4	12.4	12.6	12.3	11.9	12.1	12.4	12.2	10.0	12.5	12.1	11.7	
Precipitation													0.0	3.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	20.0	21.0	20.6	20.9	21.1	20.6	19.8	18.8	20.5	20.5	203.5	207.7	
	10	15.0	16.0	15.6	15.9	16.1	15.6	14.8	13.8	15.5	15.5	153.5	157.7	

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	54.4	
Precipitation - Reference Evapotranspiration	-	-54.4	3.4
Number of Rainy Days	0.0	0.0	0.8
Number of Dry Days	11.0	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



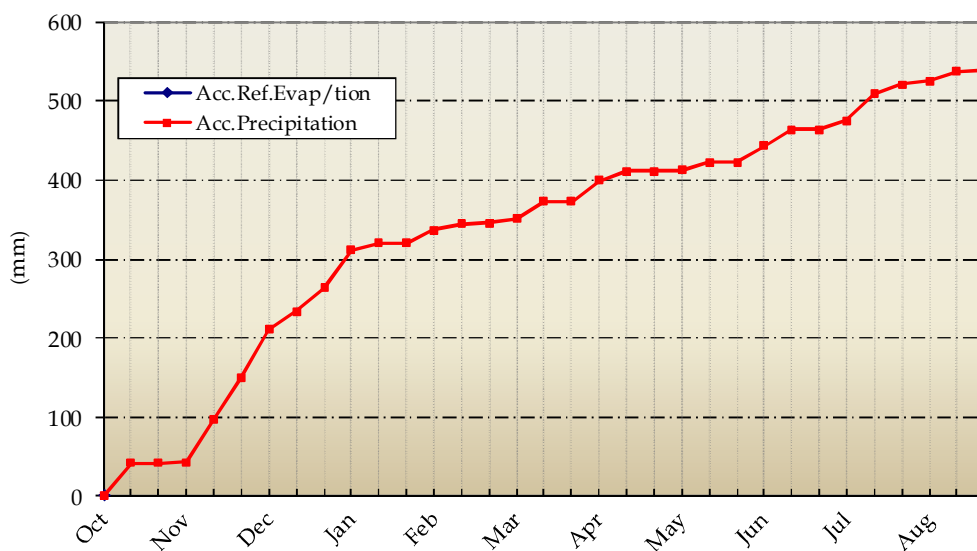
Tripoli

2nd 10-day period (11-20/08/2020)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.7	32.0	31.5	32.4	33.6	31.2	29.7	30.2	31.2	30.6	31.4	31.5	29.9
	Min	12.9	13.8	14.7	15.7	14.5	13.8	14.8	14.8	14.1	14.2	14.3	16.4	14.5
Relative Humidity	Max	88	86	99	100	64	85	97	100	92	96	91	78	-
	Min	22	23	29	26	26	30	37	29	28	32	28	22	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	26.0	24.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	33.1	27.4
Sunshine Duration		10.8	8.8	7.9	10.3	12.0	9.6	9.6	8.8	8.5	9.5	9.6	11.4	9.7
Precipitation				0.6				0.3			0.1	1.0	0.0	13.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	56.3
Growing Degrees	5	17.3	17.9	18.1	19.1	19.1	17.5	17.3	17.5	17.7	17.4	178.7	189.3	172.3
	10	12.3	12.9	13.1	14.1	14.1	12.5	12.3	12.5	12.7	12.4	128.7	139.3	122.3

2nd 10-day period (11-20/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.6	53.2	47.6
Precipitation - Reference Evapotranspiration	-42.6	-53.2	-33.8
Number of Rainy Days	3.0	0.0	1.4
Number of Dry Days	3.0	15.0	-

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<sub>n</sub> 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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