



AGROMETEOROLOGICAL BULLETIN

September 2020
3rd 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



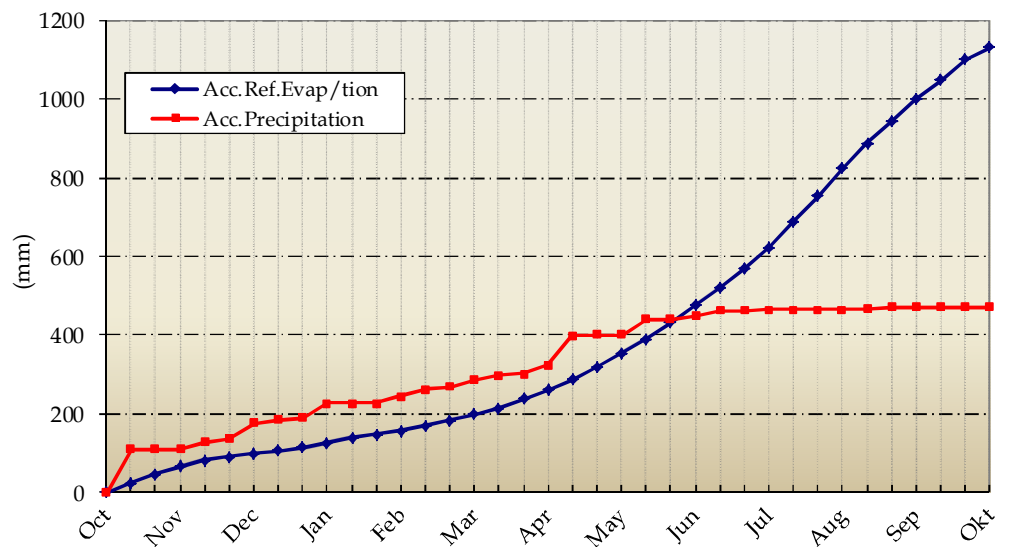
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www.emy.gov.gr
www.meteo.gov.gr
www.meteohellas.gr

3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.4	28.6	26.0	25.6	26.6	26.0	26.2	26.8	26.6	23.4	26.4	25.1	24.9
	Min	18.6	17.4	13.2	16.4	14.8	17.6	13.4	13.4	19.0	10.6	15.4	12.7	13.0
Relative Humidity	Max	77	90	89	96	94	88	85	93	95	88	90	89	-
	Min	36	37	51	61	68	74	40	57	58	42	52	44	-
Soil Temperature at 10 cm	06 UTC	22.4	21.2	21.2	21.2	20.4	22.4	20.0	19.6	22.4	19.4	21.0	19.8	19.0
	12 UTC	26.6	26.4	26.6	24.4	25.4	22.8	24.8	24.8	26.6	22.8	25.1	25.0	22.4
Sunshine Duration		9.5	9.5	10.0	8.3	8.4	0.8	10.5	6.0	8.4	10.0	8.1	8.6	7.5
Precipitation							0.4		0.3			0.7	7.8	12.3
Evaporation		8.8	9.0	3.4	6.4	5.2	2.2	5.7	4.0	4.9	3.3	52.9	42.7	59.3
Growing Degrees	5	18.5	18.0	14.6	16.0	15.7	16.8	14.8	15.1	17.8	12.0	159.3	139.1	139.4
	10	13.5	13.0	9.6	11.0	10.7	11.8	9.8	10.1	12.8	7.0	109.3	89.1	89.4

3rd 10-day period (21-30/09/2020)	Previous Year Value	Past Years Mean Value	
Reference Evapotranspiration	29.4	27.9	31.9
Precipitation - Reference Evapotranspiration	-28.7	-20.1	-19.6
Number of Rainy Days	2.0	1.0	1.1
Number of Dry Days	36.0	3.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

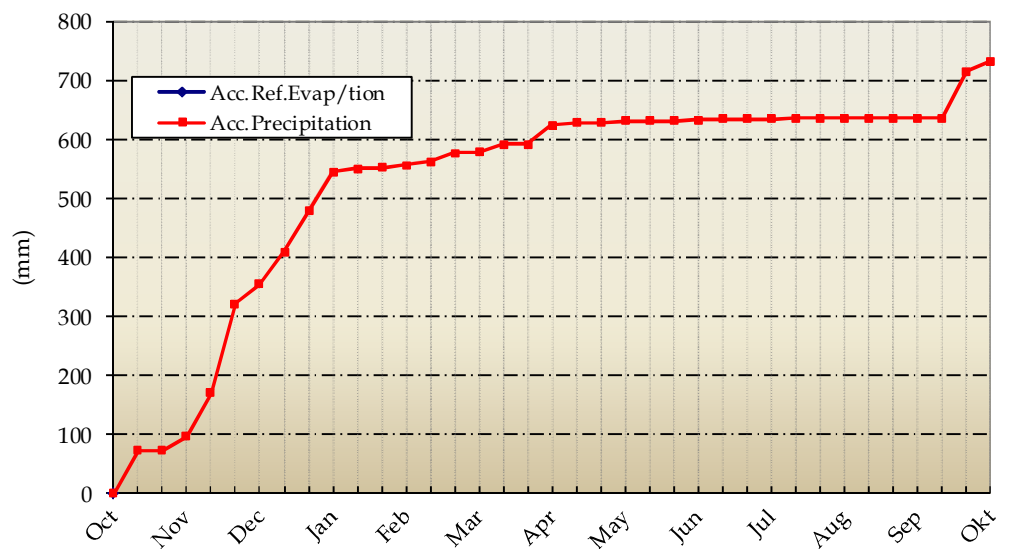


3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.5	28.4	29.1	27.4	28.6	28.2	27.4	29.5	26.9	24.2	27.8	27.9	27.0
	Min	14.0	15.1	18.5	17.7	18.2	20.7	15.2	17.8	15.6	16.0	16.9	17.3	15.6
Relative Humidity	Max	94	92	98	97	97	93	87	95	92	93	94	97	-
	Min	31	44	54	67	42	53	42	52	49	46	48	45	-
Soil Temperature at 10 cm	06 UTC	22.4	22.2	23.6	23.6	23.6	24.2	22.6	23.8	23.0	22.2	23.1	24.1	22.0
	12 UTC	24.4	25.2	25.4	25.3	25.4	25.8	24.2	24.0	24.4	24.0	24.8	26.4	25.5
Sunshine Duration		8.8	8.2	7.9	7.0	9.0	6.4	9.0	5.0	9.1	9.3	8.0	9.1	8.1
Precipitation					15.9		1.3					17.2	39.6	16.0
Evaporation		6.8	8.0	19.8	3.0	6.2	3.8	4.0	3.6	4.2	8.4	67.8	37.7	48.4
Growing Degrees	5	16.3	16.8	18.8	17.6	18.4	19.5	16.3	18.7	16.3	15.1	173.5	176.0	162.7
	10	11.3	11.8	13.8	12.6	13.4	14.5	11.3	13.7	11.3	10.1	123.5	126.0	112.7

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	31.9	30.8
Precipitation - Reference Evapotranspiration	-	7.7	-14.8
Number of Rainy Days	2.0	1.0	1.5
Number of Dry Days	4.0	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

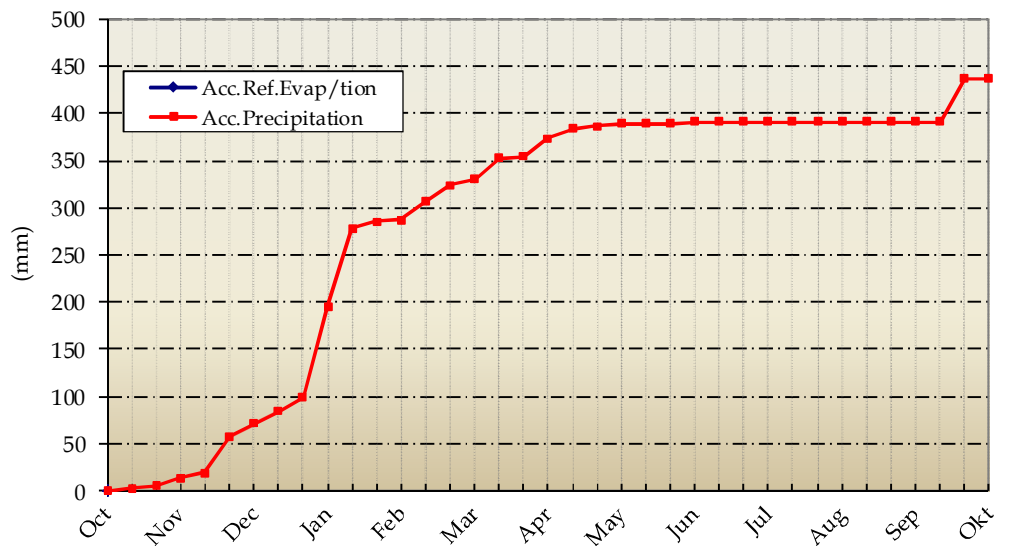


3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.4	26.0	26.8	28.2	27.4	34.4	27.8	35.6	28.0	25.6	28.5	25.9	25.7
	Min	22.6	22.6	18.8	20.0	21.2	21.8	21.4	20.8	23.8	22.2	21.5	19.1	18.8
Relative Humidity	Max	76	90	91	92	78	77	82	84	81	80	83	86	-
	Min	61	62	70	58	59	27	56	29	60	59	54	56	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		5.0	9.9	11.1	6.7	10.5	9.5	9.5	5.7	6.6	9.6	8.4	10.0	8.3
Precipitation					0.0							0.0		4.1
Evaporation		15.1	5.0	4.1	3.4	4.3	3.4	3.1	3.1	4.1	4.6	50.2	41.3	61.7
Growing Degrees	5	19.0	19.3	17.8	19.1	19.3	23.1	19.6	23.2	20.9	18.9	200.2	175.0	172.5
	10	14.0	14.3	12.8	14.1	14.3	18.1	14.6	18.2	15.9	13.9	150.2	125.0	122.5

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	37.4	-
Precipitation - Reference Evapotranspiration	-	-37.4	4.1
Number of Rainy Days	0.0	0.0	0.6
Number of Dry Days	10.0	75.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

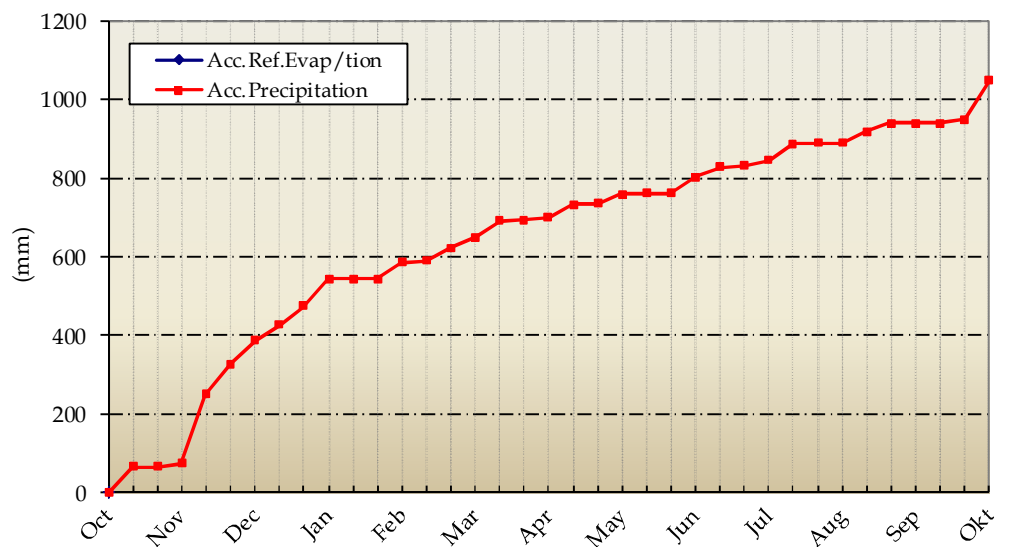


3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.8	28.2	22.5	25.9	27.3	21.1	22.1	25.8	20.5	21.3	24.2	26.8	24.8
	Min	15.6	12.0	15.8	13.5	9.9	13.2	11.1	14.4	13.8	6.7	12.6	11.3	11.3
Relative Humidity	Max	98	99	99	98	99	99	99	95	99	99	98	96	-
	Min	40	37	63	46	40	49	49	46	56	44	47	39	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	16.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	19.5
Sunshine Duration		7.8	7.3	0.5	5.6	7.9	3.1	3.3	6.5	2.8	6.7	5.2	7.3	6.4
Precipitation				22.7	7.9		47.3	1.7	6.9	11.6		98.1	60.9	24.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.6
Growing Degrees	5	16.7	15.1	14.2	14.7	13.6	12.2	11.6	15.1	12.2	9.0	134.3	140.6	130.3
	10	11.7	10.1	9.2	9.7	8.6	7.2	6.6	10.1	7.2	4.0	84.3	90.6	80.3

3rd 10-day period (21-30/09/2020)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	25.1
Precipitation - Reference Evapotranspiration	-	-0.6
Number of Rainy Days	6.0	2.5
Number of Dry Days	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

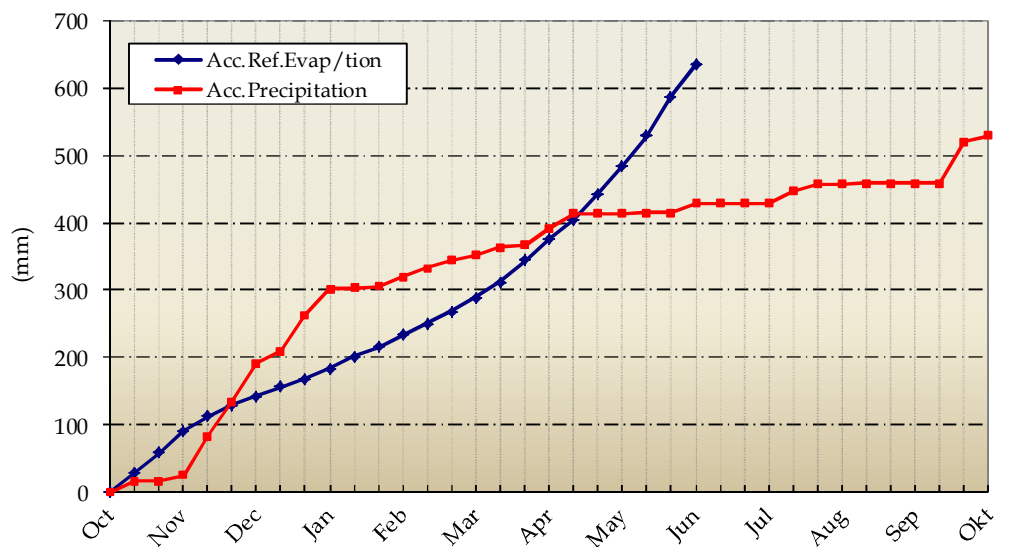


3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.3	27.4	30.4	27.2	30.5	31.0	26.8	26.8	28.5	25.9	28.3	28.8	27.6
	Min	15.7	15.3	16.8	17.7	16.8	18.4	14.6	16.1	15.7	14.1	16.1	17.3	15.0
Relative Humidity	Max	86	94	100	100	100	95	96	100	99	94	96	86	-
	Min	27	42	39	60	36	45	33	69	40	28	42	40	-
Soil Temperature at 10 cm	06 UTC	22.5	22.4	22.8	23.6	22.4	23.2	22.0	22.0	22.0	21.2	22.4	23.8	21.4
	12 UTC	25.4	25.5	26.4	25.0	25.6	25.5	25.0	23.2	25.0	24.6	25.1	25.1	24.4
Sunshine Duration		10.7	9.7	9.8	3.7	10.3	8.2	9.0	0.8	9.2	10.3	8.2	9.2	7.7
Precipitation					9.6				0.1			9.7	11.4	12.3
Evaporation		3.2	1.9	7.5	1.0	3.2	5.0	5.8	1.9	6.0	8.0	43.5	46.7	51.4
Growing Degrees	5	17.0	16.4	18.6	17.5	18.7	19.7	15.7	16.5	17.1	15.0	172.0	180.7	162.8
	10	12.0	11.4	13.6	12.5	13.7	14.7	10.7	11.5	12.1	10.0	122.0	130.7	112.8

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	40.8	32.9
Precipitation - Reference Evapotranspiration	-	-29.4	-20.6
Number of Rainy Days	2.0	2.0	1.7
Number of Dry Days	4.0	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



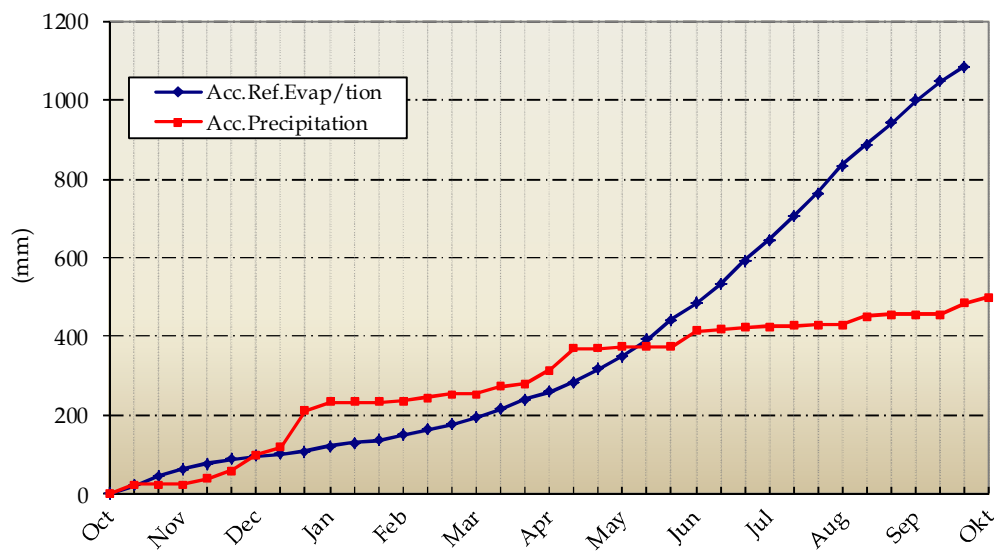
Larisa

3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.6	28.2	24.8	30.2	30.9	26.2	26.4	22.4	26.1	25.6	26.7	28.1	27.3
	Min	11.4	12.8	14.6	16.6	13.9	17.4	10.8	16.0	13.6	11.2	13.8	13.5	13.0
Relative Humidity	Max	97	97	96	95	91	96	86	99	99	87	94	94	-
	Min	43	40	58	36	32	42	35	76	38	27	43	38	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	20.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.7
Sunshine Duration		-	-	-	-	-	-	-	-	-	-	-	6.6	7.0
Precipitation				1.4			9.7		3.3			14.4	7.0	7.0
Evaporation		5.6	6.8	7.7	8.7	10.1	3.1	3.9	2.2	3.9	6.8	58.8	52.9	51.2
Growing Degrees	5	14.0	15.5	14.7	18.4	17.4	16.8	13.6	14.2	14.9	13.4	152.9	157.9	151.5
	10	9.0	10.5	9.7	13.4	12.4	11.8	8.6	9.2	9.9	8.4	102.9	107.9	101.5

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	30.6	31.7
Precipitation - Reference Evapotranspiration	-	-23.6	-24.7
Number of Rainy Days	3.0	1.0	1.7
Number of Dry Days	2.0	3.0	-

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Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



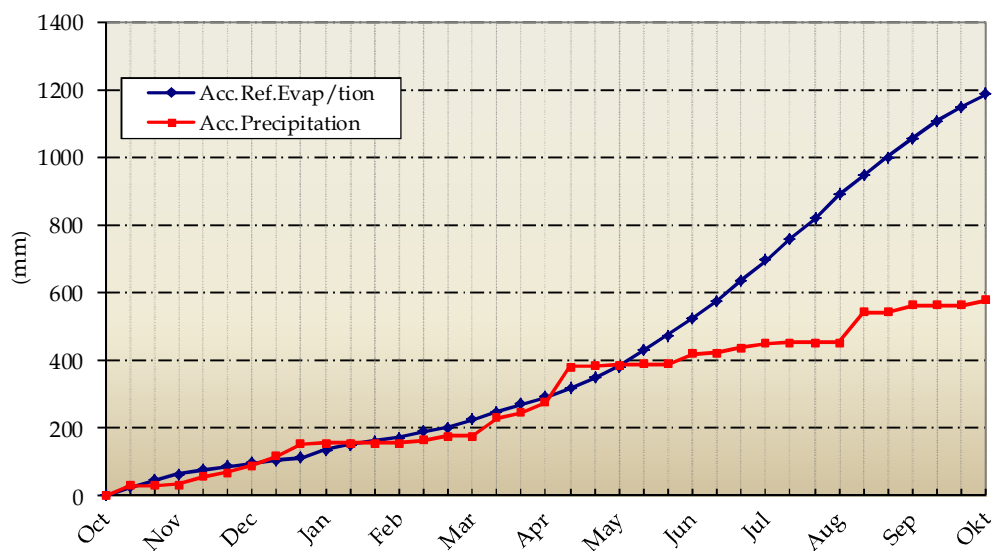
Mikra

3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.4	27.3	27.4	29.1	29.6	25.6	25.8	26.6	26.4	23.9	26.8	26.0	25.8
	Min	13.5	15.9	15.6	16.5	15.3	18.6	12.9	18.5	17.3	17.0	16.1	15.4	14.1
Relative Humidity	Max	76	82	82	83	82	97	76	87	95	58	82	88	-
	Min	36	47	48	37	37	41	32	53	36	32	40	50	-
Soil Temperature at 10 cm	06 UTC	21.8	24.0	23.9	23.8	24.0	25.0	20.8	22.0	22.4	20.4	22.8	21.8	19.9
	12 UTC	25.6	26.0	25.3	26.0	27.1	24.4	22.0	23.5	24.0	21.6	24.6	24.4	23.6
Sunshine Duration		9.6	11.2	5.7	9.5	9.9	3.8	10.3	6.0	9.1	11.0	8.6	8.2	6.9
Precipitation							11.0		2.0			13.0	8.2	10.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	49.1
Growing Degrees	5	15.0	16.6	16.5	17.8	17.5	17.1	14.4	17.6	16.9	15.5	164.6	157.3	149.6
	10	10.0	11.6	11.5	12.8	12.5	12.1	9.4	12.6	11.9	10.5	114.6	107.3	99.6

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	38.5	31.0	29.8
Precipitation - Reference Evapotranspiration	-25.5	-22.8	-19.1
Number of Rainy Days	2.0	1.0	1.5
Number of Dry Days	30.0	3.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



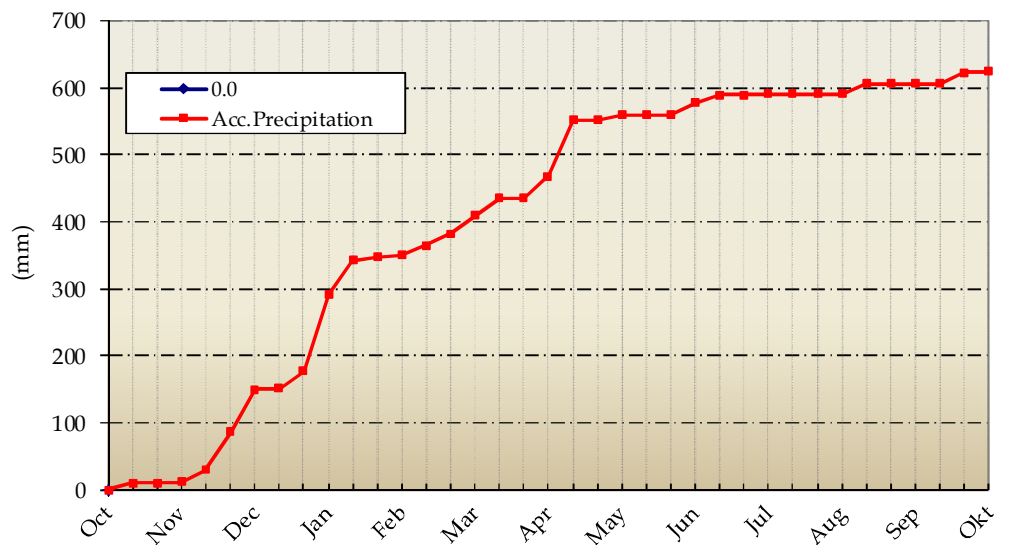
Tanagra

3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.7	26.5	29.0	29.2	31.5	31.2	28.2	29.4	27.8	25.2	28.3	27.1	26.5
	Min	14.6	14.6	14.7	19.5	16.4	19.0	15.8	16.0	18.1	12.8	16.2	15.0	13.9
Relative Humidity	Max	93	95	94	89	94	71	79	94	72	74	86	84	-
	Min	41	38	32	31	23	29	22	44	22	25	31	34	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		6.0	9.6	9.3	7.2	10.1	8.6	10.5	7.1	9.3	10.5	8.8	9.1	
Precipitation					0.5							0.5	1.9	7.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	14.7	15.6	16.9	19.4	19.0	20.1	17.0	17.7	18.0	14.0	172.1	160.6	
	10	9.7	10.6	11.9	14.4	14.0	15.1	12.0	12.7	13.0	9.0	122.1	110.6	

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	31.4	
Precipitation - Reference Evapotranspiration	-	-29.5	7.7
Number of Rainy Days	1.0	1.0	1.7
Number of Dry Days	4.0	10.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



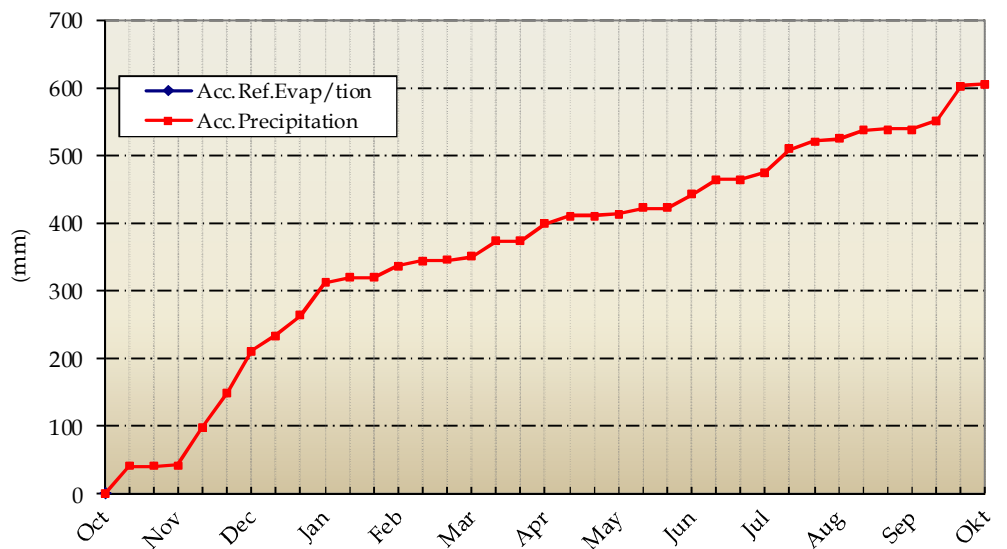
Tripoli

3rd 10-day period (21-30/09/2020)		21	22	23	24	25	26	27	28	29	30	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.9	26.4	28.5	24.9	27.6	26.1	22.9	24.9	22.0	23.1	25.1	26.3	25.0
	Min	-	8.9	11.3	15.7	10.7	15.4	12.5	12.2	12.2	8.3	11.9	10.3	10.2
Relative Humidity	Max	98	98	97	83	92	85	84	85	84	91	90	96	-
	Min	27	30	30	60	28	45	41	50	40	24	38	33	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	19.3	18.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	24.7	21.1
Sunshine Duration		9.6	9.0	9.5	5.1	-	-	10.1	5.5	9.9	9.9	8.6	7.8	7.8
Precipitation					0.0		2.8	0.0	0.6			3.4	2.1	11.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	36.1
Growing Degrees	5	-	12.7	14.9	15.3	14.2	15.8	12.7	13.6	12.1	10.7	-	133.4	126.3
	10	-	7.7	9.9	10.3	9.2	10.8	7.7	8.6	7.1	5.7	-	83.4	76.4

3rd 10-day period (21-30/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	28.0	29.5
Precipitation - Reference Evapotranspiration	-	-25.9	-17.9
Number of Rainy Days	2.0	2.0	1.5
Number of Dry Days	6.0	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





◆ **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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