



AGROMETEOROLOGICAL BULLETIN

September 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



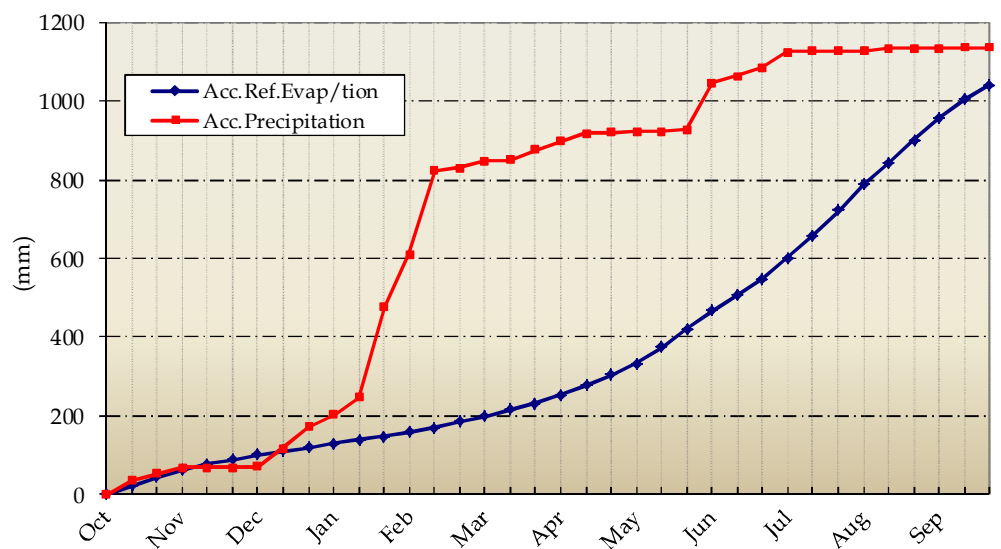
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Web addresses of HNMS
www.hnms.gr
www.emy.gov.gr
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www.meteohellas.gr

2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.6	29.8	28.2	31.4	28.6	28.4	26.8	27.4	28.4	28.4	28.4	30.8	26.5
	Min	11.6	10.0	12.6	13.6	12.6	12.4	15.2	18.0	14.6	15.4	13.6	20.4	13.8
Relative Humidity	Max	81	79	79	82	85	89	85	88	91	88	85	74	-
	Min	26	25	28	26	33	39	53	47	43	55	38	35	-
Soil Temperature at 10 cm	06 UTC	20.6	21.4	21.0	21.4	21.7	20.4	21.6	23.0	22.4	23.0	21.6	23.8	19.9
	12 UTC	25.4	16.6	27.6	26.2	25.6	25.6	26.7	28.2	27.2	27.8	25.7	28.1	23.7
Sunshine Duration		11.4	9.3	7.9	9.5	9.2	10.9	10.2	8.3	8.9	10.6	9.6	10.1	8.5
Precipitation						0.9			0.3			1.2		5.2
Evaporation		7.8	6.7	5.0	9.0	3.9	5.5	4.5	5.3	6.1	7.9	61.7	95.0	66.6
Growing Degrees	5	14.1	14.9	15.4	17.5	15.6	15.4	16.0	17.7	16.5	16.9	160.0	206.0	151.3
	10	9.1	9.9	10.4	12.5	10.6	10.4	11.0	12.7	11.5	11.9	110.0	156.0	101.3

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	35.4	52.6	37.1
Precipitation - Reference Evapotranspiration	-34.2	-52.6	-31.9
Number of Rainy Days	2.0	0.0	0.9
Number of Dry Days	4.0	31.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

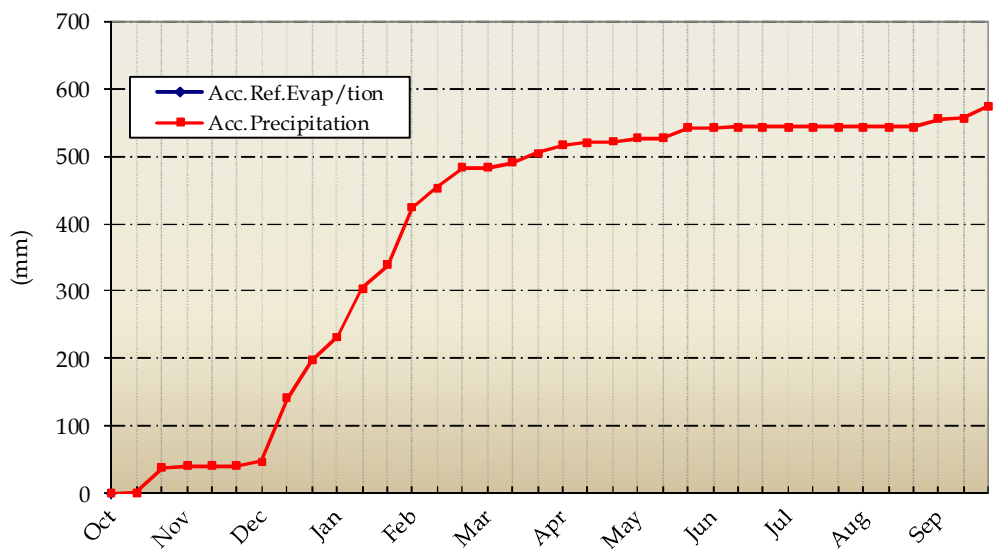


2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.4	25.0	29.8	30.4	29.5	29.9	31.7	32.6	31.0	30.2	30.0	31.0	28.2
	Min	16.1	16.2	17.4	15.1	16.4	17.6	17.3	19.2	19.7	20.6	17.6	17.4	16.5
Relative Humidity	Max	89	94	93	96	95	95	96	94	95	96	94	93	-
	Min	32	51	30	28	49	41	29	34	44	60	40	38	-
Soil Temperature at 10 cm	06 UTC	25.2	26.8	23.0	22.8	23.2	23.8	24.2	25.6	25.8	26.0	24.6	26.7	23.4
	12 UTC	28.6	26.8	26.6	30.8	26.0	27.0	27.0	27.8	28.4	28.6	27.8	28.5	26.9
Sunshine Duration		9.7	0.0	8.5	11.2	10.7	9.9	10.1	9.1	9.6	9.5	8.8	7.2	9.1
Precipitation			17.3	0.8								18.1	80.0	7.0
Evaporation		4.8	1.9	4.4	4.6	5.0	4.6	5.4	5.8	5.0	6.6	48.1	63.8	56.3
Growing Degrees	5	17.8	15.6	18.6	17.8	18.0	18.8	19.5	20.9	20.4	20.4	187.6	192.4	173.6
	10	12.8	10.6	13.6	12.8	13.0	13.8	14.5	15.9	15.4	15.4	137.6	142.4	123.6

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.7	-	36.2
Precipitation - Reference Evapotranspiration	-12.6	-	-29.2
Number of Rainy Days	2.0	3.0	1.1
Number of Dry Days	3.0	39.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



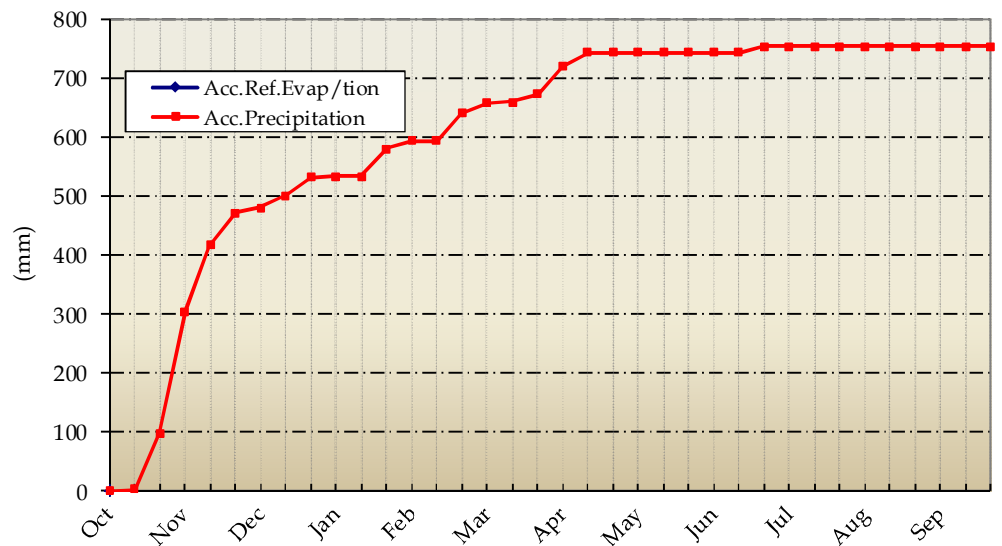
Iraklio

2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.4	26.8	27.0	27.0	27.6	27.6	28.6	31.2	31.8	32.0	28.6	28.2	26.4
	Min	18.8	17.6	18.4	22.2	24.0	23.6	20.4	21.6	22.6	24.2	21.3	21.5	19.5
Relative Humidity	Max	94	92	91	88	82	91	87	97	85	87	89	89	-
	Min	79	73	72	74	71	68	54	54	50	54	65	62	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.3	10.3	10.2	10.8	11.1	11.0	11.0	10.6	9.6	10.5	10.5	9.1	9.4
Precipitation													45.7	6.0
Evaporation		6.2	3.2	7.3	6.3	6.7	6.0	6.0	6.2	3.2	5.5	56.6	61.6	64.4
Growing Degrees	5	17.6	17.2	17.7	19.6	20.8	20.6	19.5	21.4	22.2	23.1	199.7	198.7	179.8
	10	12.6	12.2	12.7	14.6	15.8	15.6	14.5	16.4	17.2	18.1	149.7	148.7	129.8

2nd 10-day period (11-20/09/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	6.0
Number of Rainy Days	0.0	3.0
Number of Dry Days	11.0	102.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

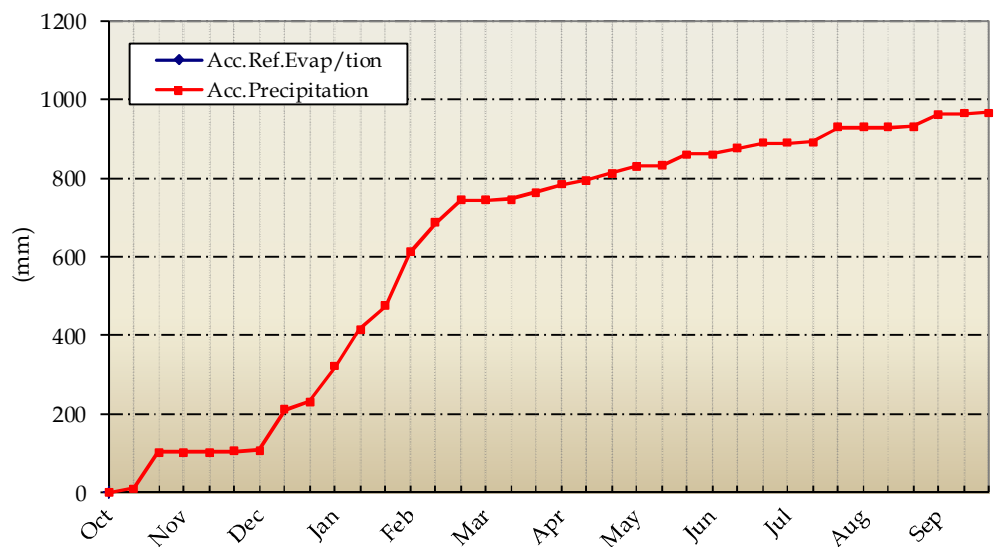


2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.8	24.7	29.4	31.2	30.8	29.8	32.2	29.9	31.3	30.1	29.7	30.2	26.5
	Min	10.4	15.7	11.6	8.5	9.1	10.3	11.9	13.3	14.8	14.7	12.0	16.4	12.2
Relative Humidity	Max	100	95	100	96	96	96	93	95	97	98	97	81	-
	Min	37	34	25	21	20	24	22	36	36	35	29	34	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	18.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	21.1
Sunshine Duration		6.9	0.0	6.1	9.4	10.4	8.0	8.3	6.9	7.9	8.0	7.2	6.9	6.9
Precipitation			0.5						0.0	0.2		0.7	8.8	16.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	43.6
Growing Degrees	5	14.1	15.2	15.5	14.9	15.0	15.1	17.1	16.6	18.1	17.4	158.8	183.3	143.6
	10	9.1	10.2	10.5	9.9	10.0	10.1	12.1	11.6	13.1	12.4	108.8	133.3	93.6

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	28.7
Precipitation - Reference Evapotranspiration	-	-	-12.3
Number of Rainy Days	2.0	3.0	2.1
Number of Dry Days	6.0	30.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

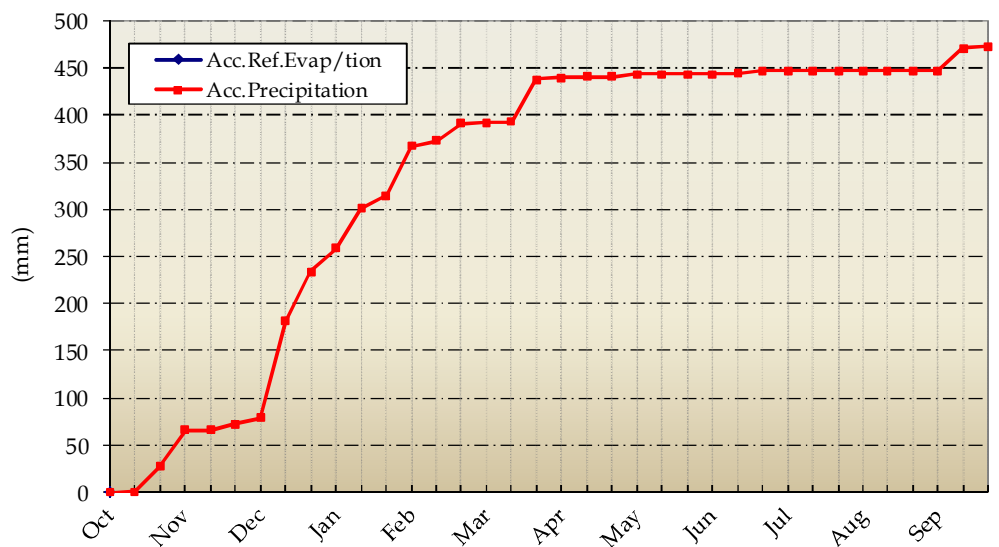


2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.3	28.6	30.8	33.4	29.9	29.7	31.3	32.2	32.4	29.8	30.5	30.2	28.6
	Min	15.6	19.1	20.0	15.3	14.2	16.4	18.3	17.9	17.7	16.1	17.1	18.5	15.9
Relative Humidity	Max	92	92	67	71	85	89	79	88	94	95	85	86	-
	Min	50	41	28	19	33	39	32	41	33	61	38	37	-
Soil Temperature at 10 cm	06 UTC	21.8	23.5	22.4	21.4	22.5	23.4	24.0	24.5	25.0	24.8	23.3	25.7	22.6
	12 UTC	26.5	25.4	25.5	26.6	27.8	28.0	28.4	28.4	29.0	28.4	27.4	28.8	25.8
Sunshine Duration		10.0	1.0	2.8	9.2	11.0	10.5	11.2	9.7	9.8	9.4	8.5	7.0	8.7
Precipitation			1.1		0.3							1.4	61.4	6.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	60.4
Growing Degrees	5	16.5	18.9	20.4	19.4	17.1	18.1	19.8	20.1	20.1	18.0	188.0	193.3	172.4
	10	11.5	13.9	15.4	14.4	12.1	13.1	14.8	15.1	15.1	13.0	138.0	143.3	122.4

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	38.1
Precipitation - Reference Evapotranspiration	-	-	-31.8
Number of Rainy Days	2.0	3.0	1.0
Number of Dry Days	2.0	45.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



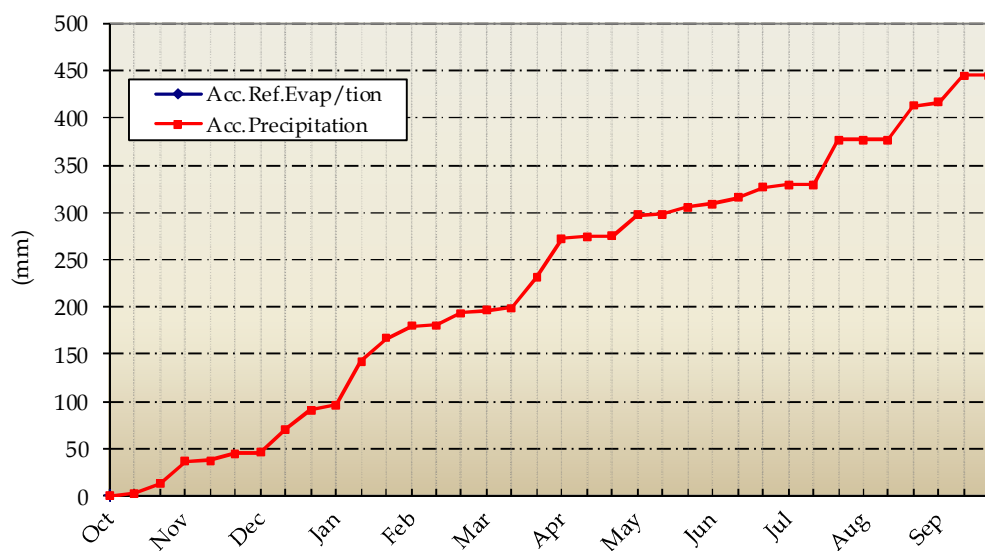
Larisa

2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.2	28.2	29.0	30.8	31.0	32.2	34.6	35.2	35.8	34.8	32.0	29.2	29.0
	Min	14.4	17.2	13.8	13.2	13.2	14.2	15.0	17.8	18.2	16.2	15.3	16.7	14.0
Relative Humidity	Max	98	95	94	85	88	90	91	80	77	80	88	80	-
	Min	40	29	30	26	28	28	27	23	23	26	28	37	-
Soil Temperature at 10 cm	06 UTC	-	-	21.8	21.4	22.0	22.4	22.0	24.0	24.0	24.4	22.8	-	22.0
	12 UTC	-	-	26.4	26.0	28.0	28.0	29.0	29.0	28.2	28.2	27.8	-	24.1
Sunshine Duration		10.8	3.3	7.9	10.9	11.0	9.3	7.5	9.3	6.9	10.1	8.7	3.8	8.3
Precipitation													28.0	12.0
Evaporation		6.9	5.6	4.9	7.9	5.7	7.2	5.1	10.0	9.5	9.8	72.6	77.5	61.4
Growing Degrees	5	16.3	17.7	16.4	17.0	17.1	18.2	19.8	21.5	22.0	20.5	186.5	179.2	165.0
	10	11.3	12.7	11.4	12.0	12.1	13.2	14.8	16.5	17.0	15.5	136.5	129.2	115.0

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	41.2	37.1	38.0
Precipitation - Reference Evapotranspiration	-41.2	-9.1	-26.0
Number of Rainy Days	0.0	3.0	1.2
Number of Dry Days	11.0	23.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



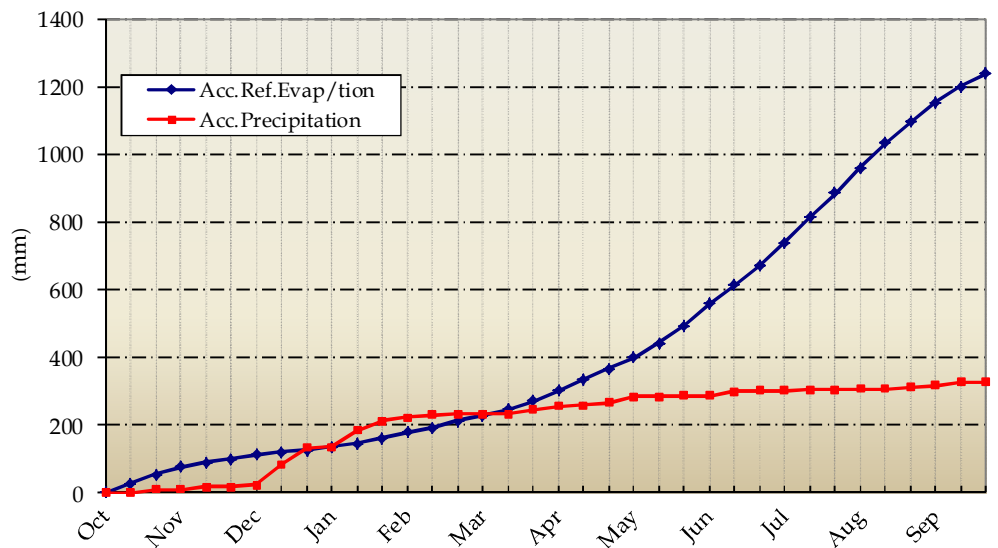
Mikra

2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.5	28.9	29.6	30.5	30.6	31.1	27.2	31.2	28.7	33.6	29.9	29.7	27.5
	Min	16.0	16.4	15.4	15.1	16.8	16.0	17.9	19.0	17.5	18.0	16.8	19.3	15.2
Relative Humidity	Max	86	90	74	75	69	80	85	87	90	87	82	76	-
	Min	50	27	30	27	32	35	59	43	57	30	39	38	-
Soil Temperature at 10 cm	06 UTC	22.2	22.8	22.4	22.4	24.3	23.2	24.2	24.2	24.0	24.2	23.4	25.4	21.4
	12 UTC	24.6	24.8	25.0	25.2	25.0	25.2	25.4	27.2	25.4	24.0	25.2	27.8	25.2
Sunshine Duration		11.1	7.4	6.8	10.9	11.3	9.7	6.6	8.9	6.8	10.6	9.0	8.6	8.1
Precipitation										0.1		0.1	0.0	7.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	62.1
Growing Degrees	5	16.8	17.7	17.5	17.8	18.7	18.6	17.6	20.1	18.1	20.8	183.5	195.0	163.4
	10	11.8	12.7	12.5	12.8	13.7	13.6	12.6	15.1	13.1	15.8	133.5	145.0	113.4

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	39.4	39.8	37.4
Precipitation - Reference Evapotranspiration	-39.3	-39.8	-29.8
Number of Rainy Days	1.0	0.0	1.4
Number of Dry Days	8.0	25.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



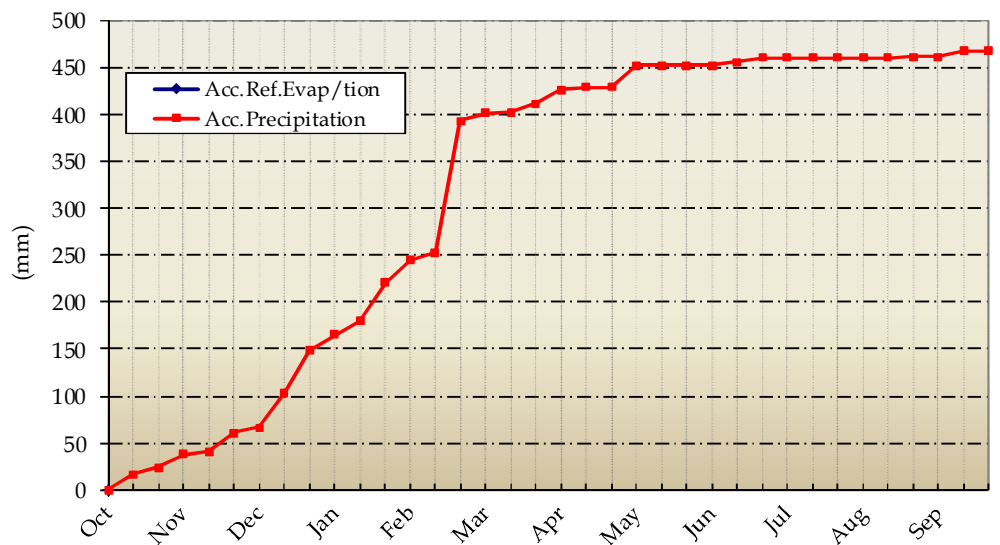
Tanagra

2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.7	26.1	27.2	28.5	30.2	32.1	32.5	36.8	36.8	35.1	31.3	27.6	28.3
	Min	14.8	15.9	17.0	18.8	13.8	14.3	16.2	21.3	22.4	20.4	17.5	18.7	15.0
Relative Humidity	Max	97	78	66	60	68	75	78	70	60	65	72	76	-
	Min	32	27	28	26	22	20	26	17	15	17	23	38	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		5.8	3.2	6.9	10.5	10.6	10.8	10.4	9.7	8.5	10.2	8.7	8.6	
Precipitation			0.0									0.0	16.8	3.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	16.3	16.0	17.1	18.7	17.0	18.2	19.4	24.1	24.6	22.8	194.0	181.6	
	10	11.3	11.0	12.1	13.7	12.0	13.2	14.4	19.1	19.6	17.8	144.0	131.6	

2nd 10-day period (11-20/09/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	3.2
Number of Rainy Days	0.0	2.0
Number of Dry Days	11.0	39.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



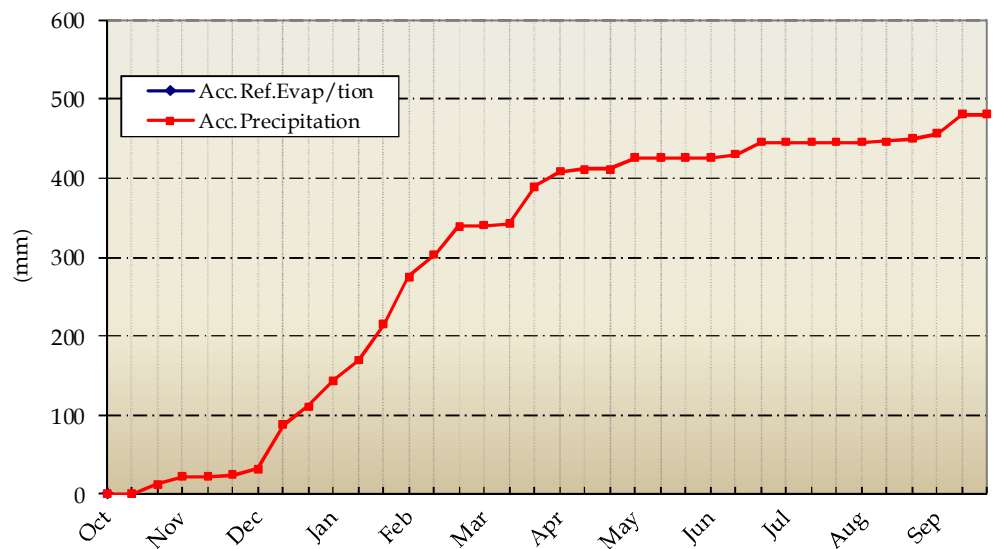
Tripoli

2nd 10-day period (11-20/09/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.2	22.1	25.8	27.9	28.7	30.9	33.2	32.3	32.1	31.0	29.0	25.8	26.9
	Min	10.1	15.2	16.1	14.7	9.0	10.1	11.9	13.4	12.7	12.6	12.6	14.2	11.2
Relative Humidity	Max	99	88	68	82	93	95	93	79	87	82	87	76	-
	Min	31	34	23	20	16	14	19	18	18	19	21	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	20.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.5
Sunshine Duration		6.3	0.6	4.6	10.6	9.0	9.5	9.8	9.9	10.1	10.6	8.1	7.2	8.5
Precipitation			0.1	0.1		0.0						0.2	51.2	5.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.3
Growing Degrees	5	13.2	13.7	16.0	16.3	13.9	15.5	17.6	17.9	17.4	16.8	158.0	-	140.2
	10	8.2	8.7	11.0	11.3	8.9	10.5	12.6	12.9	12.4	11.8	108.0	-	90.2

2nd 10-day period (11-20/09/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	35.6	-	34.4
Precipitation - Reference Evapotranspiration	-35.4	-	-28.5
Number of Rainy Days	2.0	3.0	1.0
Number of Dry Days	2.0	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





◆ **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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