



AGROMETEOROLOGICAL BULLETIN

December 2022
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



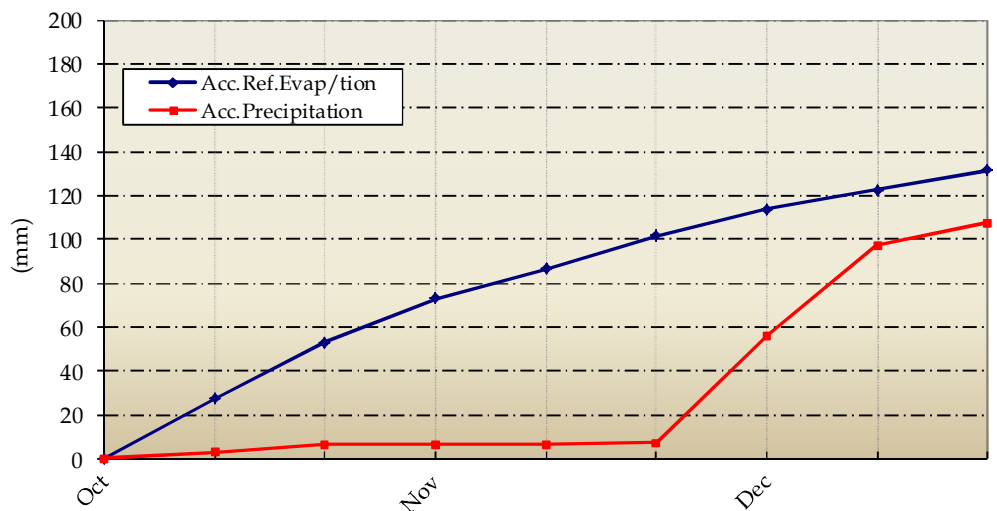
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2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.4	17.2	14.8	9.8	15.0	18.8	19.2	17.4	9.0	8.6	14.8	10.4	9.9
	Min	16.2	8.6	5.4	3.4	6.4	12.6	12.8	9.0	3.4	0.6	7.8	4.8	2.4
Relative Humidity	Max	92	97	91	92	96	96	96	91	85	78	91	89	91
	Min	76	56	66	56	91	86	78	77	51	42	68	58	64
Soil Temperature at 10 cm	06 UTC	15.4	13.4	13.4	8.8	10.6	13.2	14.0	15.0	11.0	7.4	12.2	7.9	6.9
	12 UTC	15.4	14.0	12.2	10.0	11.0	14.2	15.4	15.0	10.6	8.0	12.6	8.7	7.9
Sunshine Duration		0.0	3.1	0.1	3.8	0.0	0.1	4.1	0.0	6.0	7.9	2.5	2.5	2.9
Precipitation		5.6		1.7		2.6			0.0	0.0		9.9	30.4	18.5
Evaporation		7.4	1.2	3.0	0.1	1.5	0.7	1.0	1.7	0.0	0.0	16.6	11.6	19.7
Growing Degrees	5	12.3	7.9	5.1	1.6	5.7	10.7	11.0	8.2	1.2	0.0	63.7	26.2	20.8
	10	7.3	2.9	0.1	0.0	0.7	5.7	6.0	3.2	0.0	0.0	25.9	6.9	3.5

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	9.2	9.8	6.6
Precipitation - Reference Evapotranspiration	0.7	20.6	11.9
Number of Rainy Days	3.0	6.0	2.5
Number of Dry Days	2.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



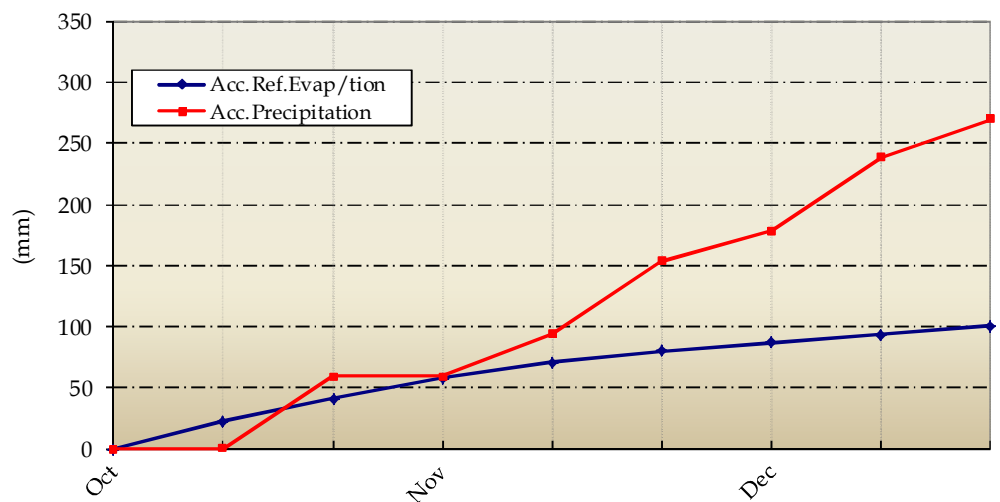
Andravida

2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.0	19.0	14.9	18.0	20.7	22.0	23.3	20.4	19.8	14.0	19.2	13.5	15.1
	Min	16.1	12.0	11.0	7.2	17.0	11.6	10.1	14.5	9.4	2.0	11.1	4.8	6.6
Relative Humidity	Max	98	99	99	98	97	98	91	99	99	96	97	94	92
	Min	60	72	76	78	81	63	50	71	53	46	65	53	56
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	10.7	10.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	11.8	12.4
Sunshine Duration		3.3	1.4	0.0	0.7	4.4	4.3	5.3	5.1	5.5	5.6	3.6	4.3	4.0
Precipitation		19.0	3.9	8.4	0.1							31.4	86.3	33.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	12.7	35.4
Growing Degrees	5	13.1	10.5	8.0	7.6	13.9	11.8	11.7	12.5	9.6	3.0	101.5	41.5	49.9
	10	8.1	5.5	3.0	2.6	8.9	6.8	6.7	7.5	4.6	0.0	53.5	5.5	14.2

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	6.4	5.3	8.9
Precipitation - Reference Evapotranspiration	25.0	81.0	24.9
Number of Rainy Days	4.0	4.0	4.0
Number of Dry Days	0.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



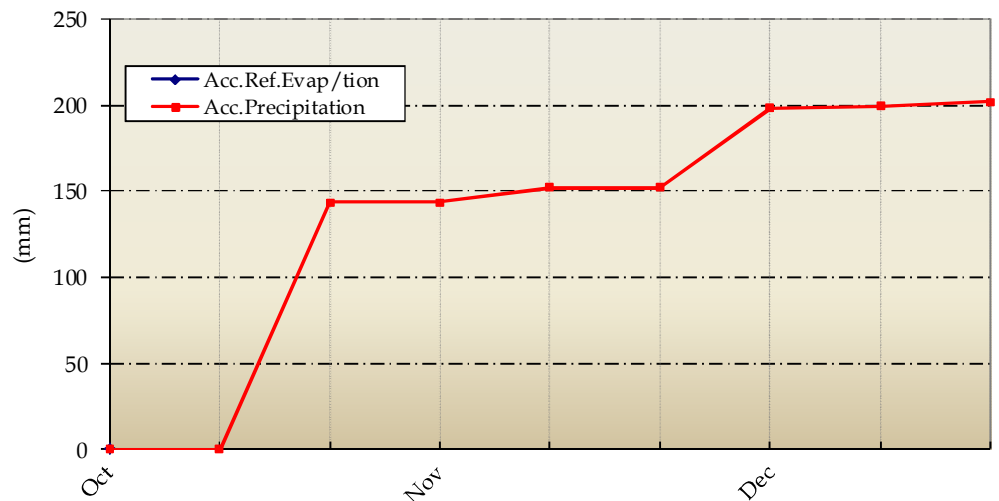
Iraklio

2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.0	20.0	21.4	18.4	24.4	25.0	25.4	22.0	17.8	12.6	20.7	14.9	16.8
	Min	18.2	13.6	15.6	15.0	13.2	14.4	18.0	14.8	12.4	12.6	14.8	10.4	10.7
Relative Humidity	Max	84	85	93	95	87	87	77	91	93	75	87	88	86
	Min	57	69	67	83	60	50	54	60	69	59	63	61	61
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.3	1.8	2.7	1.9	8.1	8.1	7.4	8.0	0.0	0.0	3.8	2.9	3.6
Precipitation		1.0	0.2	0.8	0.4						0.1	2.5	80.2	29.7
Evaporation		0.2	0.2	1.2	0.1	2.6	3.0	3.7	1.9	4.9	2.3	20.1	12.2	30.0
Growing Degrees	5	14.1	11.8	13.5	11.7	13.8	14.7	16.7	13.4	10.1	7.6	127.4	76.2	81.5
	10	9.1	6.8	8.5	6.7	8.8	9.7	11.7	8.4	5.1	2.6	77.4	26.8	35.7

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	5.0	9.0	4.3
Number of Dry Days	9.0	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

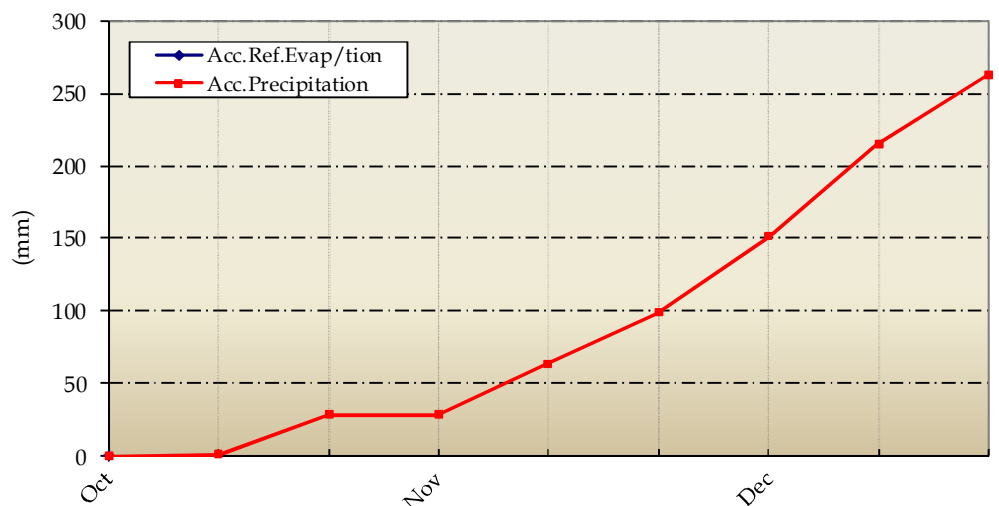


2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	14.4	12.5	10.4	13.4	17.8	18.9	19.3	16.7	16.0	13.5	15.3	9.7	9.6
	Min	11.4	6.3	4.4	6.6	11.7	9.4	13.4	7.4	1.3	2.6	7.4	-0.1	1.0
Relative Humidity	Max	100	100	99	100	100	100	85	100	100	97	98	92	98
	Min	73	67	60	64	74	63	64	70	48	36	62	51	65
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.0
Sunshine Duration		1.9	1.1	0.7	0.0	0.6	5.9	2.2	0.1	6.2	7.8	2.6	5.4	1.9
Precipitation		31.8	9.3	0.5	3.1	3.5		0.0				48.2	67.3	41.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	7.9	4.4	2.4	5.0	9.8	9.2	11.4	7.1	3.7	3.1	63.7	6.9	12.6
	10	2.9	0.0	0.0	0.0	4.8	4.2	6.4	2.1	0.0	0.0	20.2	0.0	0.8

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	4.0
Precipitation - Reference Evapotranspiration	-	-	37.2
Number of Rainy Days	5.0	3.0	3.6
Number of Dry Days	0.0	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

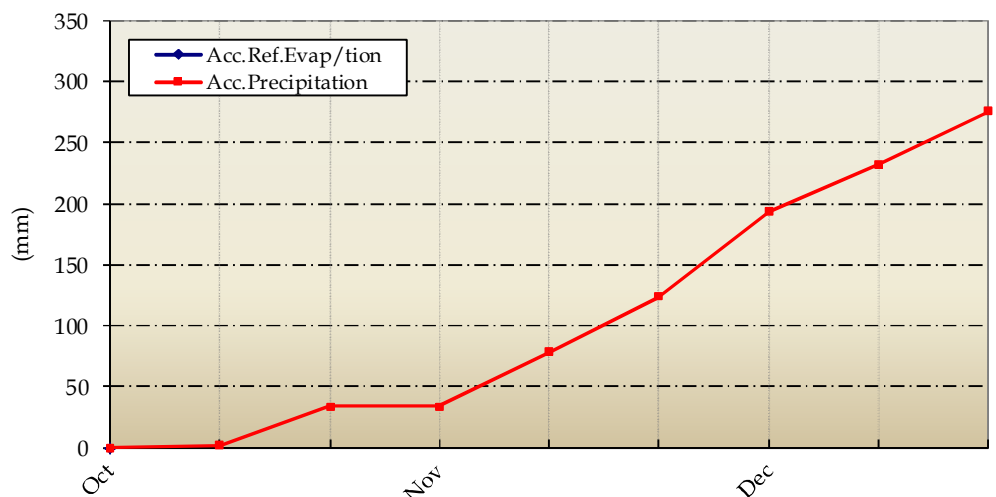


2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.7	18.3	16.4	17.8	21.7	20.6	22.1	23.1	22.2	15.9	19.8	14.8	16.0
	Min	12.5	7.4	11.6	8.0	14.5	10.2	11.2	14.2	10.8	6.8	10.7	5.4	6.4
Relative Humidity	Max	99	99	99	99	99	99	98	97	98	77	96	93	92
	Min	70	70	69	72	72	74	65	64	41	39	64	58	56
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	10.9	11.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	11.0	12.0
Sunshine Duration		0.9	1.8	0.1	1.0	5.0	6.2	7.4	6.9	6.1	7.4	4.3	4.3	4.3
Precipitation		25.5	2.7	9.6	5.2							43.0	42.6	40.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	22.0
Growing Degrees	5	11.1	7.9	9.0	7.9	13.1	10.4	11.7	13.7	11.5	6.4	102.5	50.9	54.5
	10	6.1	2.9	4.0	2.9	8.1	5.4	6.7	8.7	6.5	1.4	52.5	8.6	15.6

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	6.1
Precipitation - Reference Evapotranspiration	-	-	34.2
Number of Rainy Days	4.0	4.0	4.1
Number of Dry Days	0.0	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

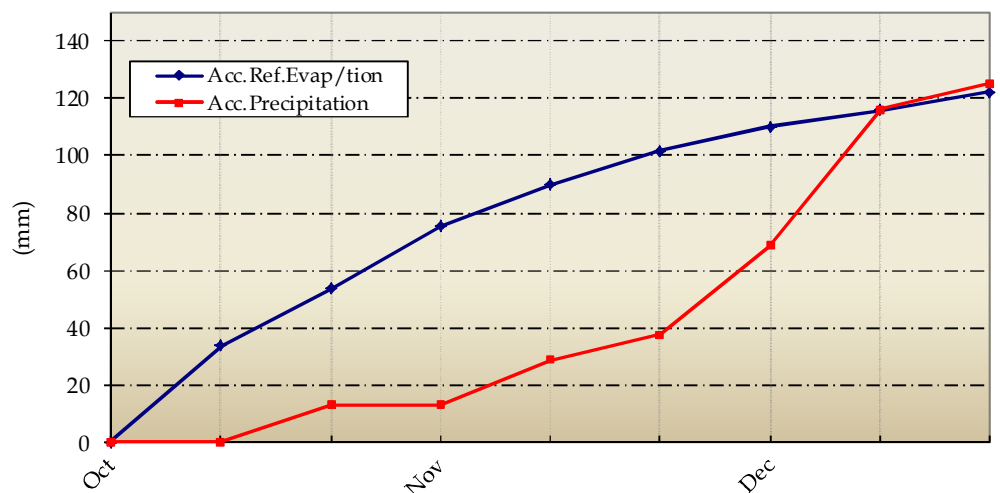


Larisa

2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.2	16.4	13.6	12.2	18.0	19.0	13.8	14.1	12.7	9.6	14.7	11.0	10.4
	Min	11.6	7.0	8.2	9.0	9.6	8.0	10.2	11.4	8.6	5.7	8.9	2.6	2.0
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	92	96
	Min	84	59	60	80	73	99	99	66	72	55	75	51	64
Soil Temperature at 10 cm	06 UTC	13.2	12.8	11.8	12.6	12.8	12.8	13.4	13.8	13.0	12.6	12.9	7.6	7.8
	12 UTC	13.2	13.2	13.0	12.4	13.4	13.2	13.8	14.0	13.4	13.2	13.3	8.5	8.1
Sunshine Duration		1.6	4.2	2.0	0.0	4.6	0.0	0.0	0.0	0.0	1.7	1.4	4.7	2.7
Precipitation		5.9		0.2	0.3					2.6		9.0	20.8	18.0
Evaporation		0.8	1.2	1.5	0.0	0.0	0.7	0.1	3.6	1.8	2.5	12.2	-	16.3
Growing Degrees	5	9.4	6.7	5.9	5.6	8.8	8.5	7.0	7.8	5.7	2.7	68.0	19.9	19.7
	10	4.4	1.7	0.9	0.6	3.8	3.5	2.0	2.8	0.7	0.0	20.3	0.0	1.5

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	6.6	9.1	7.0
Precipitation - Reference Evapotranspiration	2.4	11.7	11.0
Number of Rainy Days	4.0	4.0	3.4
Number of Dry Days	1.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



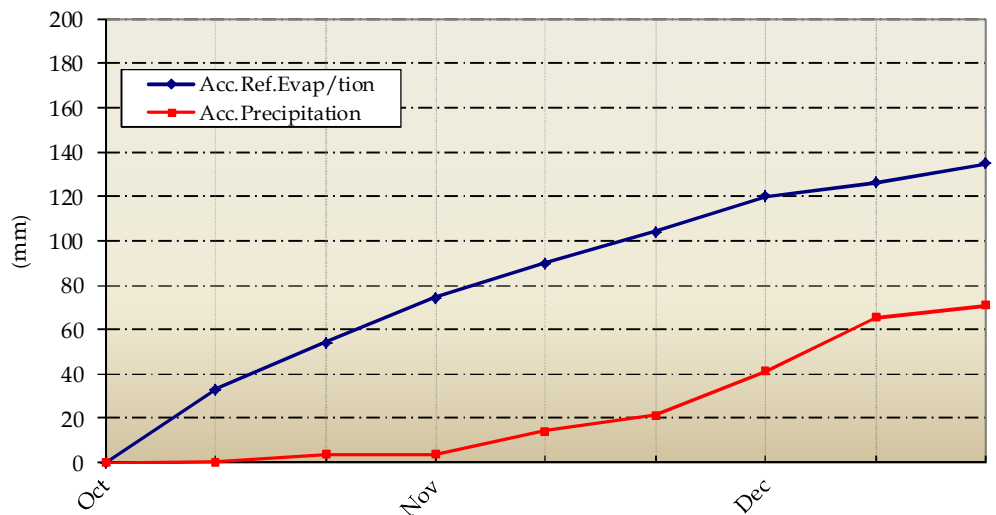
Mikra

2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.6	17.1	14.8	10.9	13.7	14.4	15.7	15.0	13.0	10.0	14.4	10.9	10.4
	Min	15.4	8.8	6.9	7.0	10.2	10.0	12.8	11.8	7.6	4.0	9.4	4.8	3.5
Relative Humidity	Max	100	82	92	99	100	100	100	100	100	92	96	80	91
	Min	60	37	44	76	89	98	95	68	69	36	67	56	61
Soil Temperature at 10 cm	06 UTC	14.6	13.0	12.5	12.0	12.2	13.0	13.6	14.0	12.9	11.4	12.9	8.1	7.0
	12 UTC	14.2	13.3	12.3	12.4	13.4	13.6	14.2	14.4	12.8	11.6	13.2	8.7	8.4
Sunshine Duration		0.0	4.4	4.5	0.0	2.2	0.0	1.9	0.8	0.0	8.1	2.2	4.6	3.3
Precipitation		1.5	0.0		1.4	0.6				0.8	1.1	5.4	17.2	17.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	15.9
Growing Degrees	5	12.5	8.0	5.9	4.0	7.0	7.2	9.3	8.4	5.3	2.0	69.4	28.5	24.3
	10	7.5	3.0	0.9	0.0	2.0	2.2	4.3	3.4	0.3	0.0	23.4	2.0	2.9

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	8.6	16.2	4.2
Precipitation - Reference Evapotranspiration	-3.2	1.0	13.2
Number of Rainy Days	5.0	5.0	2.9
Number of Dry Days	0.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



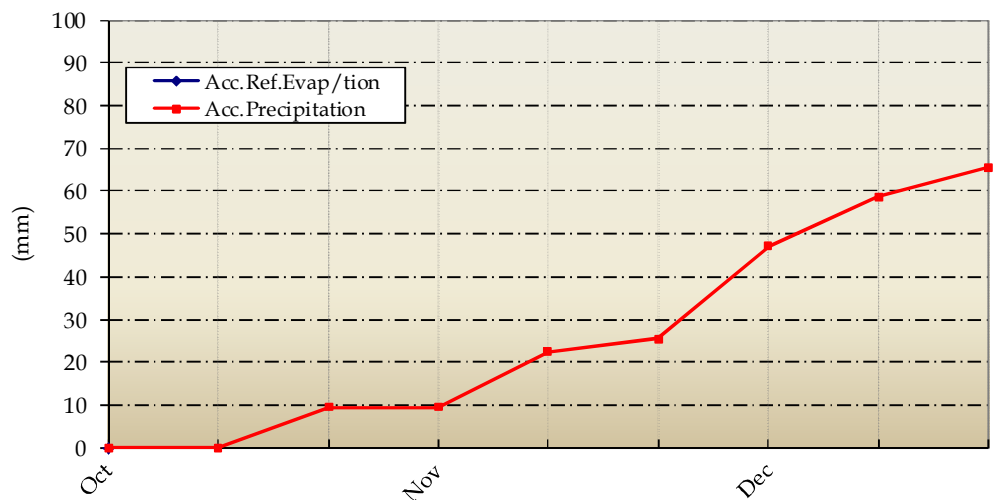
Tanagra

2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.7	17.8	14.4	13.4	22.9	23.1	22.7	19.8	13.3	9.4	17.6	10.7	12.4
	Min	13.4	14.4	11.2	10.1	11.8	8.3	14.4	8.8	12.2	7.2	11.2	5.0	4.7
Relative Humidity	Max	80	77	96	96	93	98	95	99	75	67	88	91	95
	Min	39	44	71	65	42	43	50	71	61	46	53	54	59
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		1.4	0.4	0.0	0.0	4.7	6.7	7.4	3.8	3.2	4.5	3.2	2.7	2.9
Precipitation		6.8			0.1							6.9	42.0	22.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	19.1
Growing Degrees	5	11.6	11.1	7.8	6.8	12.4	10.7	13.6	9.3	7.8	3.3	94.2	29.3	32.8
	10	6.6	6.1	2.8	1.8	7.4	5.7	8.6	4.3	2.8	0.0	45.9	6.7	6.3

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	2.0	7.0	4.0
Number of Dry Days	2.0	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



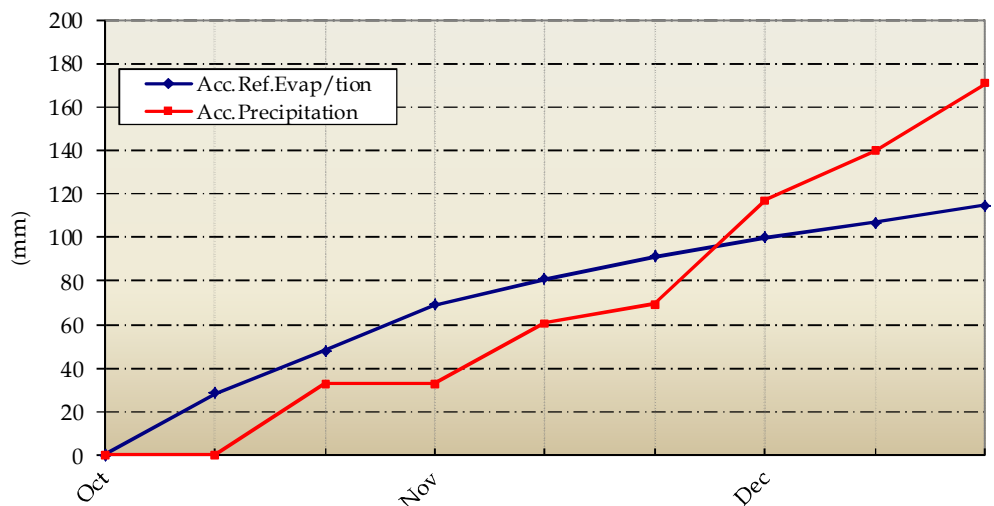
Tripoli

2nd 10-day period (11-20/12/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.9	13.8	11.8	12.3	18.3	20.7	20.9	19.3	12.0	7.3	15.2	8.6	10.2
	Min	9.9	8.7	8.7	7.3	10.7	5.9	4.3	5.4	7.5	3.5	7.2	0.5	1.0
Relative Humidity	Max	95	95	96	96	97	99	99	99	96	96	97	98	96
	Min	64	66	54	82	63	47	44	45	71	56	59	58	59
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.9
Sunshine Duration		2.6	0.9	0.0	0.0	5.7	6.7	7.0	2.5	3.1	5.4	3.4	4.1	3.5
Precipitation		26.7	2.1	1.0	0.3	0.6		0.0	0.1		0.0	30.8	56.7	25.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	44.5
Growing Degrees	5	7.9	6.3	5.3	4.8	9.5	8.3	7.6	7.4	4.8	0.4	62.1	8.0	12.1
	10	2.9	1.3	0.3	0.0	4.5	3.3	2.6	2.4	0.0	0.0	17.2	0.0	0.5

2nd 10-day period (11-20/12/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	8.1	5.5	4.2
Precipitation - Reference Evapotranspiration	22.7	51.2	21.6
Number of Rainy Days	6.0	5.0	3.4
Number of Dry Days	0.0	0.0	-

The missing info in the tables 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.

Past Years Mean Values 1991-2020 (Evaporation, Reference Evapotranspiration, Max and Min Relative Humidity 2005-2020)

Mesurements 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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ΥΠΗΡΕΣΙΑ

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