



# AGROMETEOROLOGICAL BULLETIN

*February 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



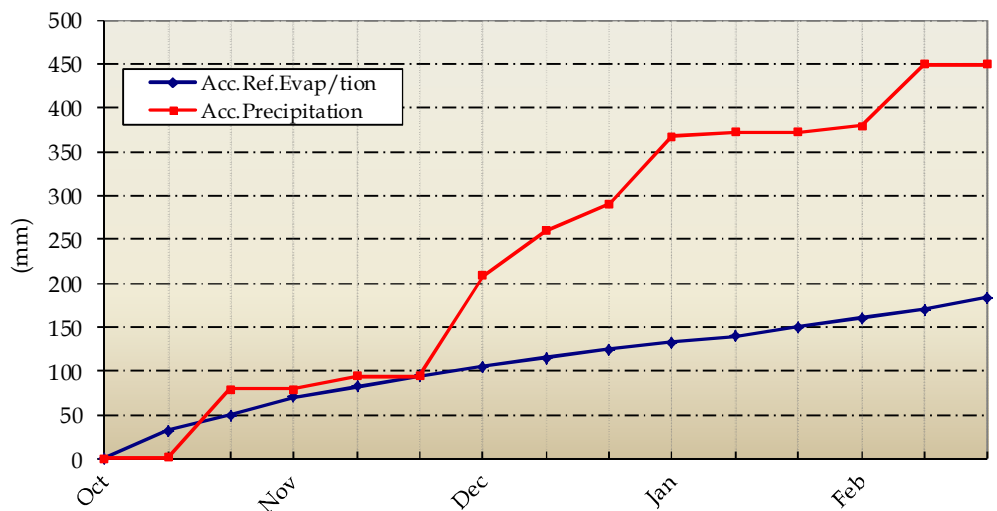
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2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	12.6	14.0	11.0	10.8	11.0	12.8	15.2	17.4	13.6	15.2	13.4	7.0	10.2
	Min	-1.2	3.0	5.0	-1.2	-1.6	6.4	2.8	9.0	-0.4	5.2	2.7	0.4	2.1
Relative Humidity	Max	96	97	82	92	96	94	97	95	88	97	93	79	89
	Min	63	50	48	46	59	65	55	35	45	62	53	52	57
Soil Temperature at 10 cm	06 UTC	4.8	6.4	6.4	4.6	4.8	7.2	7.0	8.8	6.2	7.4	6.4	5.9	5.9
	12 UTC	8.6	9.2	8.0	8.2	8.2	9.6	10.8	10.6	10.0	9.0	9.2	6.8	7.4
Sunshine Duration		8.7	8.3	6.5	8.4	8.2	5.8	7.8	5.7	9.5	1.0	7.0	3.9	4.4
Precipitation													7.4	15.6
Evaporation		0.0	1.5	0.0	0.0	0.0	4.1	1.0	5.7	1.8	1.5	15.6	9.3	30.9
Growing Degrees	5	0.7	3.5	3.0	0.0	0.0	4.6	4.0	8.2	1.6	5.2	30.8	14.0	21.6
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.2	3.4	4.1	3.4

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	13.1	13.8	8.3
Precipitation - Reference Evapotranspiration	-13.1	-6.4	7.3
Number of Rainy Days	0.0	4.0	2.1
Number of Dry Days	12.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

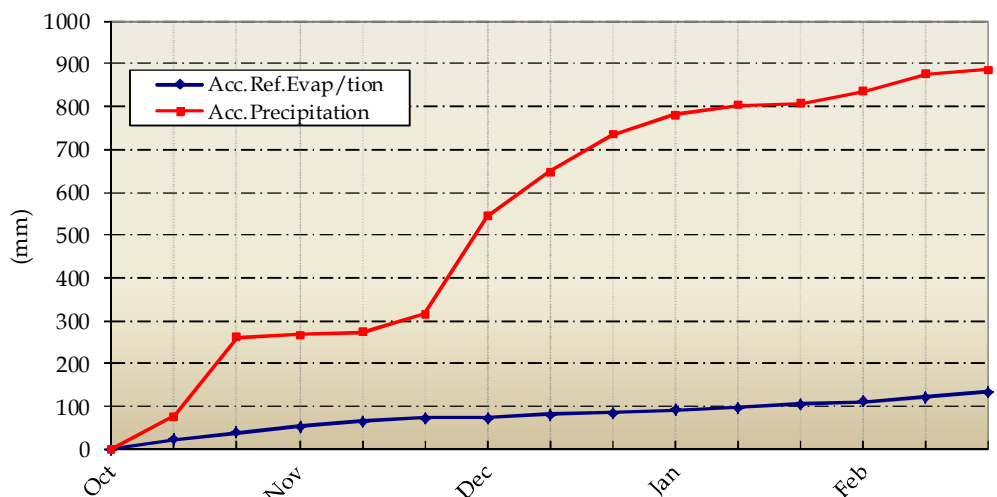


2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.5	14.8	16.8	16.0	17.0	17.5	15.8	16.4	18.5	16.3	16.5	13.6	14.5
	Min	0.9	5.5	6.8	3.0	6.8	8.0	6.1	5.2	5.2	8.8	5.6	4.2	5.6
Relative Humidity	Max	95	94	95	97	92	91	95	95	97	97	95	91	90
	Min	56	63	52	52	61	53	56	63	60	72	59	48	50
Soil Temperature at 10 cm	06 UTC	8.0	9.2	10.4	10.2	10.4	11.2	11.0	11.0	11.0	11.8	10.4	10.0	9.3
	12 UTC	10.0	9.8	11.6	11.6	11.4	11.6	12.0	12.0	12.2	12.7	11.5	10.8	11.5
Sunshine Duration		9.3	2.3	9.0	7.8	7.8	5.8	8.9	8.9	8.9	0.3	6.9	6.0	5.4
Precipitation							8.8	0.8				9.6	29.1	18.6
Evaporation		1.6	1.0	0.8	0.5	0.4	1.6	0.6	0.4	0.8	0.6	8.3	11.8	32.3
Growing Degrees	5	3.2	5.2	6.8	4.5	6.9	7.8	6.0	5.8	6.9	7.6	60.5	40.2	43.0
	10	0.0	0.2	1.8	0.0	1.9	2.8	1.0	0.8	1.9	2.6	12.8	7.5	11.0

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.3	11.0	10.1
Precipitation - Reference Evapotranspiration	-2.7	18.1	8.5
Number of Rainy Days	2.0	5.0	3.7
Number of Dry Days	7.0	1.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



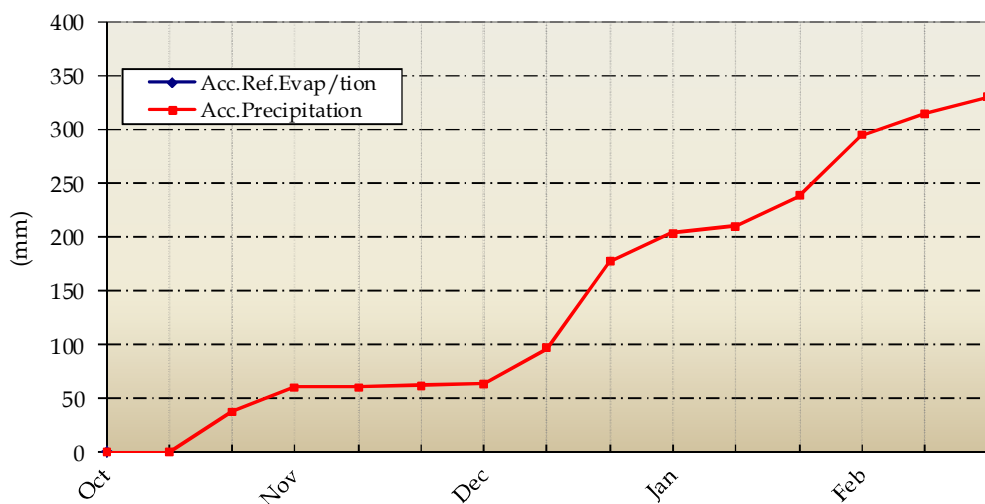
Iraklio

2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.0	16.4	15.8	14.0	15.0	15.2	16.0	16.4	16.2	18.0	15.8	15.1	15.6
	Min	9.6	7.4	11.4	12.2	8.0	7.2	12.2	7.0	13.6	8.2	9.7	8.1	8.9
Relative Humidity	Max	91	91	91	85	92	86	92	83	82	86	88	89	84
	Min	54	47	43	59	62	57	56	55	50	46	53	57	54
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		9.1	6.4	6.4	3.9	9.1	6.4	2.9	9.8	9.9	7.0	7.1	6.1	4.9
Precipitation				5.4				9.7				15.1	45.7	26.9
Evaporation		0.6	1.7	2.3	0.3	2.7	0.4	0.9	2.3	3.1	1.5	15.8	20.1	32.3
Growing Degrees	5	7.3	6.9	8.6	8.1	6.5	6.2	9.1	6.7	9.9	8.1	77.4	65.9	65.9
	10	2.3	1.9	3.6	3.1	1.5	1.2	4.1	1.7	4.9	3.1	27.4	24.3	23.7

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	2.0	4.0	4.0
Number of Dry Days	3.0	16.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

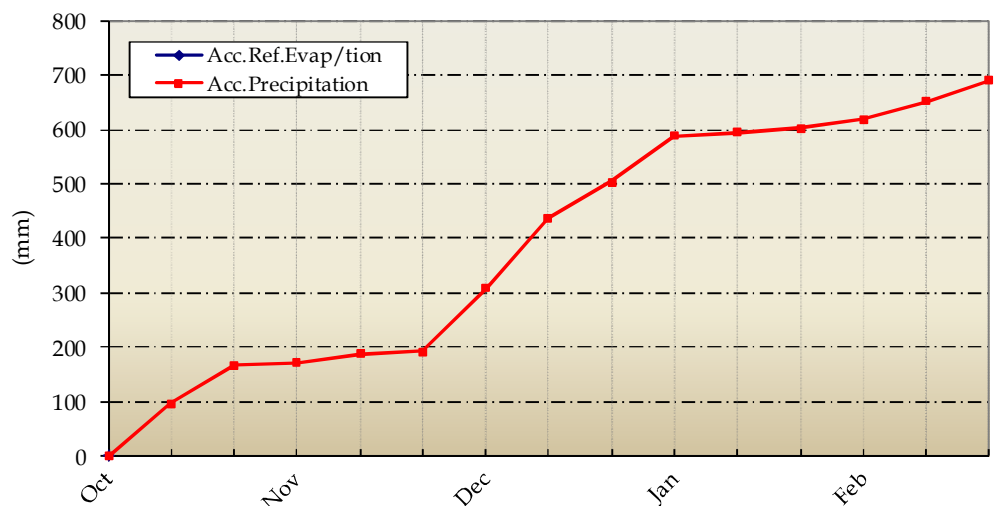


2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.2	14.0	14.2	13.0	9.8	8.8	12.4	16.0	17.4	12.7	13.6	9.9	10.4
	Min	-4.0	-2.1	1.0	2.0	-2.5	4.5	-0.4	2.0	-1.7	1.8	0.1	-1.5	0.5
Relative Humidity	Max	97	100	98	99	98	100	100	100	100	95	99	95	93
	Min	38	54	51	42	73	88	66	42	35	74	56	53	55
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.6
Sunshine Duration		6.9	6.9	2.2	5.4	0.4	0.6	5.8	6.4	7.4	0.0	4.2	5.4	3.6
Precipitation				1.7		2.4	29.8	4.6				38.5	56.8	32.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	1.6	1.0	2.6	2.5	0.0	1.7	1.0	4.0	2.9	2.3	19.4	9.5	12.5
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	9.6
Precipitation - Reference Evapotranspiration	-	-	22.7
Number of Rainy Days	4.0	3.0	3.1
Number of Dry Days	4.0	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



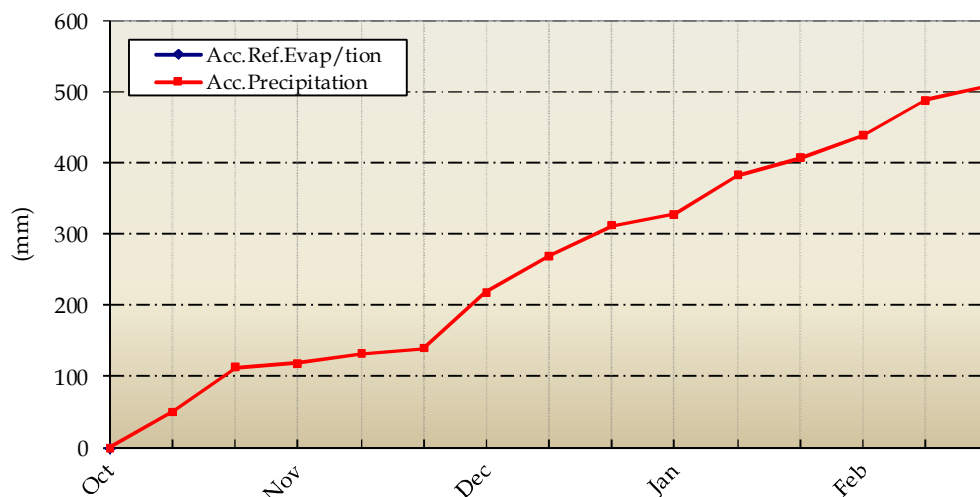
Kalamata

2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.2	17.1	16.5	15.3	16.9	16.2	17.7	18.6	18.0	17.5	17.0	15.1	15.1
	Min	1.0	1.3	5.8	7.2	3.9	5.3	4.9	3.6	4.5	4.7	4.2	3.0	5.4
Relative Humidity	Max	81	98	96	98	96	98	98	96	97	99	96	89	90
	Min	41	47	86	66	62	59	52	55	62	64	59	40	49
Soil Temperature at 10 cm	06 UTC	8.4	-	-	10.8	10.0	10.8	11.2	10.2	10.5	11.0	10.4	9.4	9.8
	12 UTC	9.8	-	-	11.6	11.4	11.6	11.4	11.4	12.4	12.0	11.4	11.0	11.0
Sunshine Duration		10.6	10.0	5.8	4.9	5.3	6.5	5.5	9.3	9.5	4.6	7.2	6.6	5.1
Precipitation		0.0	0.0		4.7		0.1	15.2		0.0	0.0	20.0	18.8	27.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	13.6	31.4
Growing Degrees	5	3.6	4.2	6.2	6.3	5.4	5.8	6.3	6.1	6.3	6.1	56.1	40.7	47.7
	10	0.0	0.0	1.2	1.3	0.4	0.8	1.3	1.1	1.3	1.1	8.3	5.8	11.1

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	14.0
Precipitation - Reference Evapotranspiration	-	-	13.3
Number of Rainy Days	3.0	3.0	4.3
Number of Dry Days	5.0	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



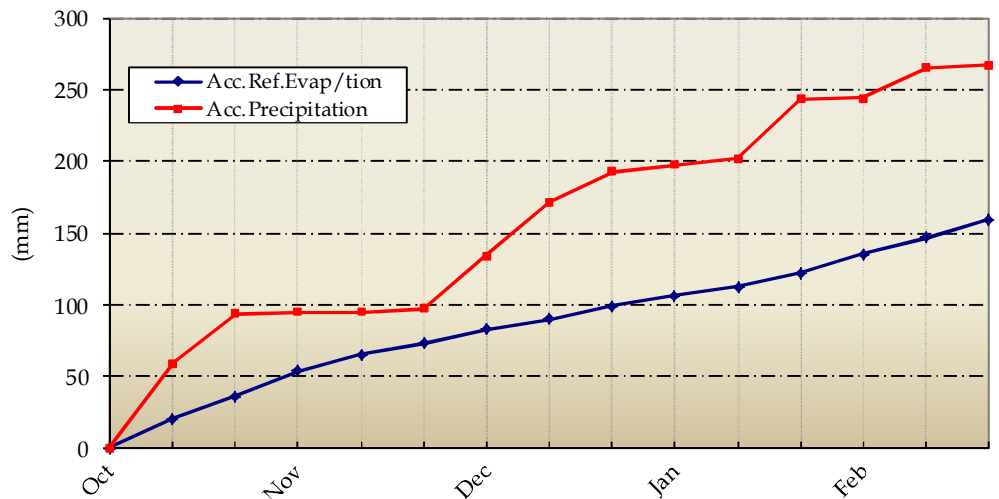
Larisa

2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.6	15.2	9.8	12.8	13.6	13.8	16.2	18.8	18.2	15.8	15.0	9.0	12.4
	Min	-2.4	-1.4	7.2	1.8	-1.6	1.8	4.4	1.2	-0.2	4.6	1.5	-2.1	1.7
Relative Humidity	Max	100	100	98	100	100	99	100	100	93	98	99	90	94
	Min	45	47	67	51	45	65	54	31	35	60	50	44	50
Soil Temperature at 10 cm	06 UTC	6.2	6.6	8.2	6.6	6.8	7.6	7.8	8.4	8.2	9.0	7.5	-	6.9
	12 UTC	6.8	7.0	8.4	7.8	8.4	8.2	8.4	8.6	8.8	9.6	8.2	-	7.5
Sunshine Duration		8.3	7.2	0.3	4.1	8.1	0.3	7.4	8.9	8.7	1.3	5.5	5.9	4.4
Precipitation				1.1				0.6				1.7	13.0	9.9
Evaporation		0.0	1.7	1.5	0.0	0.0	0.0	3.6	2.7	2.6	0.7	12.8	-	14.1
Growing Degrees	5	1.6	1.9	3.5	2.3	1.0	2.8	5.3	5.0	4.0	5.2	32.6	11.6	24.5
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.5	1.5	3.0

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.4	12.8	13.8
Precipitation - Reference Evapotranspiration	-10.7	0.2	-3.9
Number of Rainy Days	2.0	3.0	3.0
Number of Dry Days	4.0	9.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





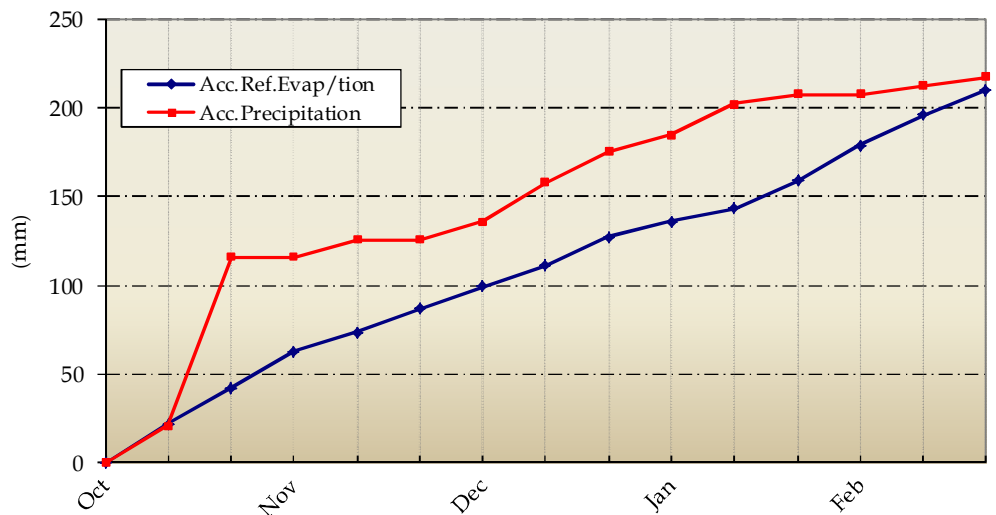
Mikra

2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	12.2	15.0	12.1	11.2	14.0	12.6	15.8	15.8	17.4	13.4	14.0	9.3	11.0
	Min	1.0	1.0	6.7	4.2	3.1	6.6	9.4	5.6	4.5	6.7	4.9	1.0	3.1
Relative Humidity	Max	100	100	86	100	95	100	100	100	85	100	97	80	86
	Min	64	50	48	69	56	79	62	37	44	67	58	44	52
Soil Temperature at 10 cm	06 UTC	6.2	6.8	8.6	8.1	7.8	8.8	9.8	9.8	9.0	9.6	8.4	6.4	6.4
	12 UTC	7.4	7.9	9.4	8.2	8.8	9.8	10.8	10.6	10.0	10.2	9.3	7.1	8.6
Sunshine Duration		9.1	5.1	3.7	1.9	7.6	0.6	5.7	9.4	9.6	0.6	5.3	6.2	4.6
Precipitation					0.2			4.7				4.9	1.4	10.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	15.5
Growing Degrees	5	1.6	3.0	4.4	2.7	3.6	4.6	7.6	5.7	6.0	5.1	44.2	19.9	24.8
	10	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.7	1.0	0.1	4.3	4.9	3.0

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	14.0	20.1	9.7
Precipitation - Reference Evapotranspiration	-9.1	-18.7	0.5
Number of Rainy Days	2.0	2.0	2.6
Number of Dry Days	6.0	2.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





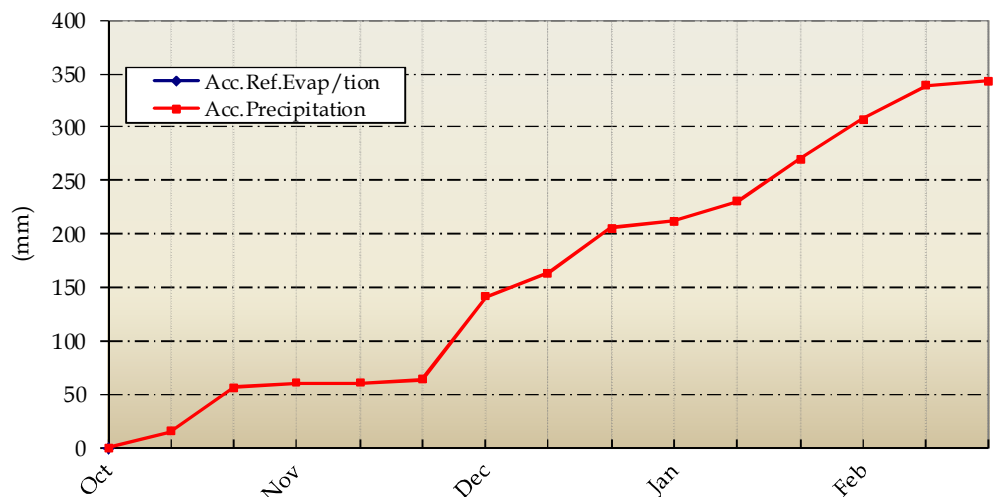
Tanagra

2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.2	14.8	10.4	13.0	14.4	16.4	13.2	17.0	16.6	15.7	14.7	9.0	12.6
	Min	0.7	-0.8	8.3	3.3	0.6	1.5	5.1	3.6	1.0	4.5	2.8	0.7	3.8
Relative Humidity	Max	97	100	96	100	100	100	100	100	96	99	99	97	92
	Min	35	53	62	53	54	52	69	30	36	53	50	58	49
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		8.5	6.7	0.4	6.2	8.3	1.4	1.4	8.5	8.7	0.0	5.0	3.9	4.2
Precipitation				0.4				3.8				4.2	140.3	16.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	23.4
Growing Degrees	5	3.0	2.0	4.4	3.2	2.5	4.0	4.2	5.3	3.8	5.1	37.3	16.4	31.9
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.4	4.3	6.0

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	-
Precipitation - Reference Evapotranspiration	-	-	-
Number of Rainy Days	2.0	5.0	3.2
Number of Dry Days	4.0	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

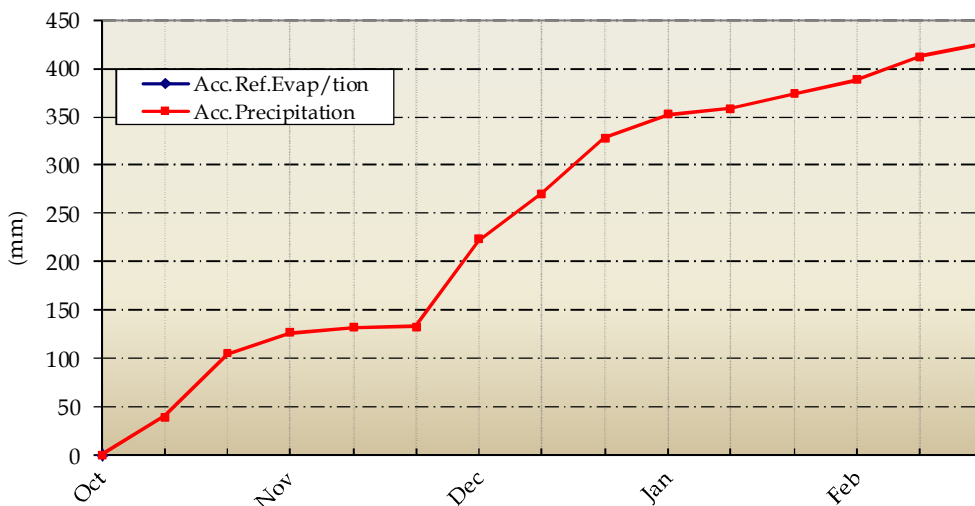


2nd 10-day period (11-20/02/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.4	14.0	10.1	10.4	13.5	13.7	13.2	16.7	17.9	16.6	14.4	9.6	10.4
	Min	-4.8	-3.5	3.9	1.3	-2.7	-0.1	1.8	-0.6	-1.6	0.7	-0.6	-1.3	0.3
Relative Humidity	Max	98	98	98	100	100	100	100	100	100	99	99	93	95
	Min	21	43	65	59	48	48	36	31	31	28	41	48	53
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.5
Sunshine Duration		7.9	6.3	1.6	1.7	6.2	4.7	5.4	8.6	8.8	5.2	5.6	5.1	5.0
Precipitation			0.0	1.8	0.0			10.2				12.0	37.2	26.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	134.0
Growing Degrees	5	1.8	0.3	2.0	0.9	0.4	1.8	2.5	3.1	3.2	3.7	19.5	9.1	12.7
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2

2nd 10-day period (11-20/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	10.8	11.7	10.7
Precipitation - Reference Evapotranspiration	1.2	25.5	15.4
Number of Rainy Days	2.0	3.0	3.9
Number of Dry Days	4.0	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.

**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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