



# AGROMETEOROLOGICAL BULLETIN

*February 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



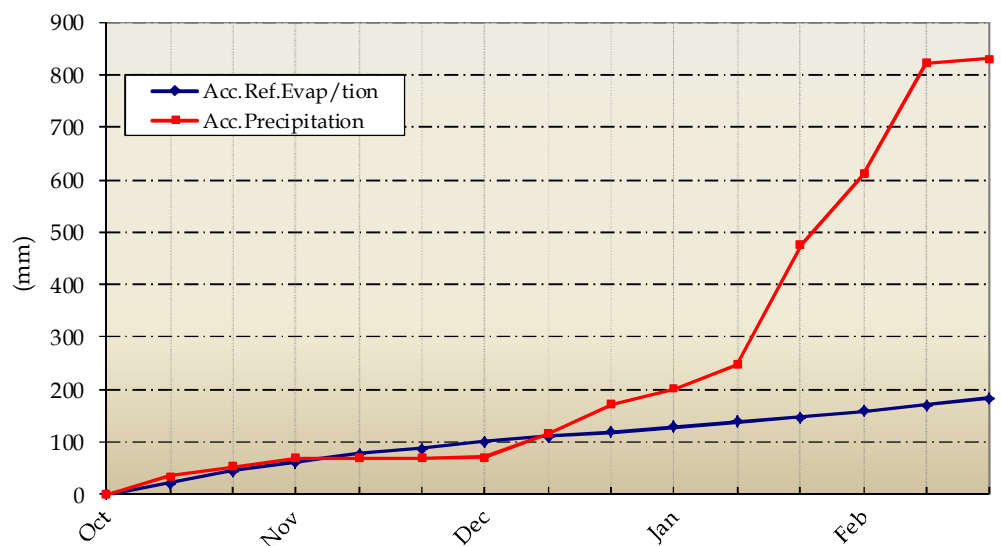
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2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.2	12.2	2.0	-0.8	4.0	3.4	5.4	10.4	9.0	8.4	7.0	13.7	10.0
	Min	12.0	2.0	-2.6	-4.2	-2.0	-1.8	-7.2	0.2	2.8	4.8	0.4	2.2	2.2
Relative Humidity	Max	90	76	70	92	61	70	89	83	83	77	79	91	-
	Min	71	39	41	80	34	32	44	54	61	68	52	53	-
Soil Temperature at 10 cm	06 UTC	13.2	11.0	5.4	4.2	3.6	2.2	2.4	4.2	6.0	6.8	5.9	6.9	4.8
	12 UTC	13.0	10.4	5.6	4.4	4.6	4.8	4.2	6.2	7.6	7.6	6.8	9.3	6.1
Sunshine Duration		0.3	4.9	0.3	0.0	8.8	9.4	9.2	1.9	4.5	0.0	3.9	5.3	3.7
Precipitation		5.7	0.5		1.0				0.2			7.4	6.1	18.4
Evaporation		2.6	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.4	2.2	9.3	11.5	10.5
Growing Degrees	5	9.1	2.1	0.0	0.0	0.0	0.0	0.0	0.3	0.9	1.6	14.0	29.4	23.6
	10	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.1	4.0

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	13.8	12.9	12.3
Precipitation - Reference Evapotranspiration	-6.4	-6.8	6.1
Number of Rainy Days	4.0	1.0	2.7
Number of Dry Days	0.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

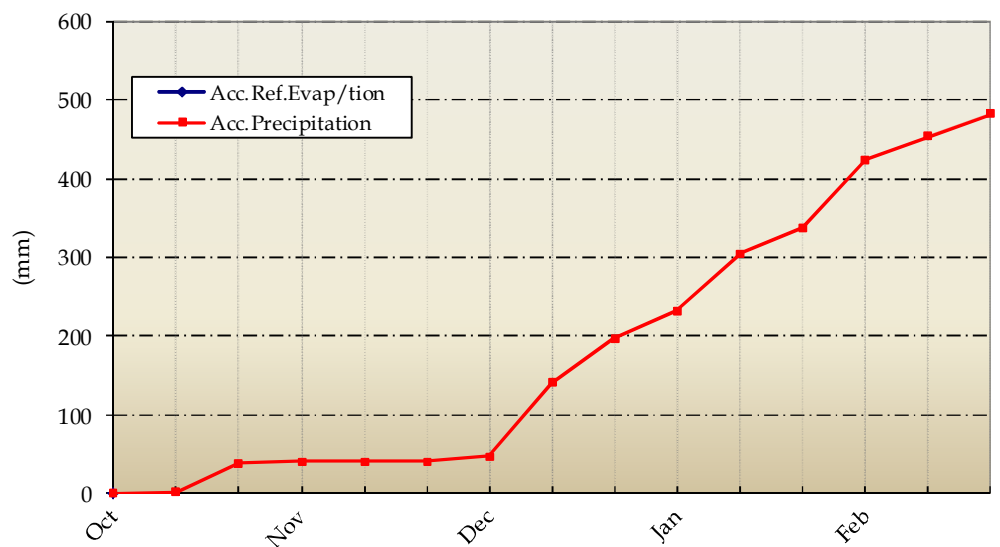


2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.0	16.8	14.9	12.4	8.0	8.4	12.0	14.5	16.4	15.7	13.6	17.4	14.5
	Min	11.2	6.7	7.6	6.4	2.0	1.5	-3.6	3.8	1.8	5.1	4.2	6.4	6.2
Relative Humidity	Max	91	95	96	98	85	72	85	93	96	96	91	96	-
	Min	53	55	61	58	42	31	23	54	45	57	48	53	-
Soil Temperature at 10 cm	06 UTC	12.8	11.0	11.4	12.4	9.8	8.4	6.4	8.6	9.4	10.0	10.0	11.4	9.1
	12 UTC	13.2	13.0	13.0	11.8	9.8	8.8	7.4	9.8	10.4	10.6	10.8	12.6	11.0
Sunshine Duration		2.3	8.7	0.3	0.0	3.0	9.8	9.8	7.9	9.9	7.8	6.0	6.2	4.8
Precipitation		3.5		4.7	20.2	0.5			0.2			29.1	13.5	37.6
Evaporation		1.4	1.2	0.0	0.2	1.0	0.0	0.4	0.2	5.0	2.4	11.8	20.6	21.3
Growing Degrees	5	9.1	6.8	6.3	4.4	0.0	0.0	0.0	4.2	4.1	5.4	40.2	69.0	54.0
	10	4.1	1.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	7.5	21.2	13.3

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	11.0	-	14.2
Precipitation - Reference Evapotranspiration	18.1	-	23.4
Number of Rainy Days	5.0	4.0	5.1
Number of Dry Days	1.0	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



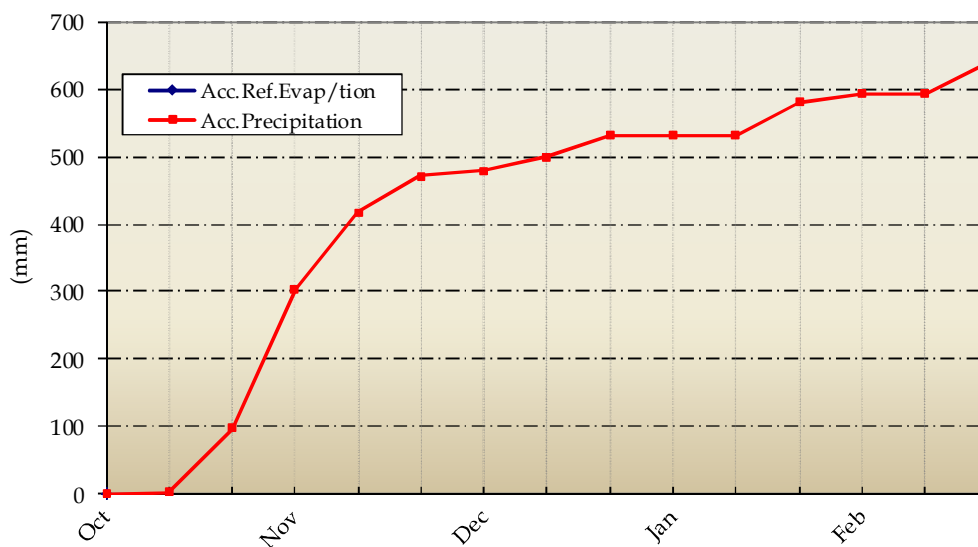
Iraklio

2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.8	17.6	18.8	19.6	9.0	8.2	8.2	15.0	15.6	16.0	15.1	16.6	15.9
	Min	12.4	12.0	8.6	11.8	9.0	5.4	4.8	3.6	7.2	6.2	8.1	11.2	9.3
Relative Humidity	Max	88	90	89	95	95	91	84	84	92	85	89	87	-
	Min	43	64	53	57	77	51	62	58	50	53	57	62	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		7.4	9.3	7.8	7.7	0.0	1.2	1.4	7.9	9.4	9.3	6.1	4.5	4.8
Precipitation					0.5	32.7	2.4	10.1				45.7	17.2	20.7
Evaporation		4.7	0.8	0.4	3.0	0.0	5.1	0.5	2.0	1.8	1.8	20.1	21.2	30.3
Growing Degrees	5	12.6	9.8	8.7	10.7	4.0	1.8	1.5	4.3	6.4	6.1	65.9	88.7	75.8
	10	7.6	4.8	3.7	5.7	0.0	0.0	0.0	0.0	1.4	1.1	24.3	38.7	27.6

2nd 10-day period (11-20/02/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	20.7
Number of Rainy Days	4.0	2.0
Number of Dry Days	16.0	6.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

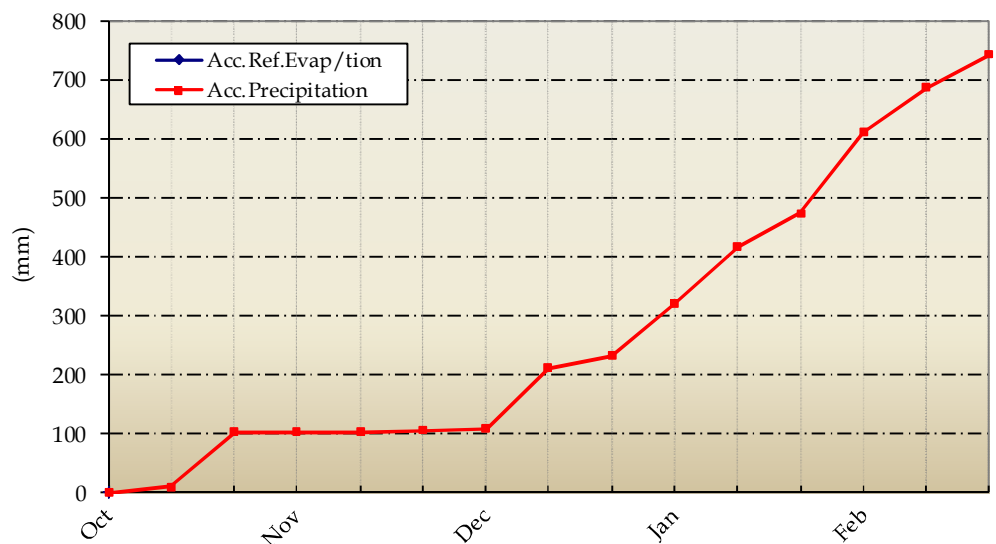


2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	11.3	12.1	7.8	6.8	2.2	5.6	10.4	13.6	14.8	14.5	9.9	13.9	10.3
	Min	6.7	1.8	4.7	-2.1	-2.8	-7.5	-7.4	-1.8	-3.6	-2.9	-1.5	2.2	1.8
Relative Humidity	Max	100	100	100	100	55	100	100	98	98	100	95	91	-
	Min	80	55	90	90	36	30	36	35	28	46	53	56	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.4
Sunshine Duration		0.0	3.6	0.0	0.0	8.1	9.6	7.7	9.0	8.6	7.7	5.4	3.9	3.3
Precipitation		8.0	0.0	15.2	33.6	0.0						56.8	33.3	46.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	11.3
Growing Degrees	5	4.0	2.0	1.3	0.0	0.0	0.0	0.0	0.9	0.6	0.8	9.5	30.8	18.2
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.8

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	11.4
Precipitation - Reference Evapotranspiration	-	-	35.0
Number of Rainy Days	3.0	3.0	5.0
Number of Dry Days	0.0	5.0	-

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Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

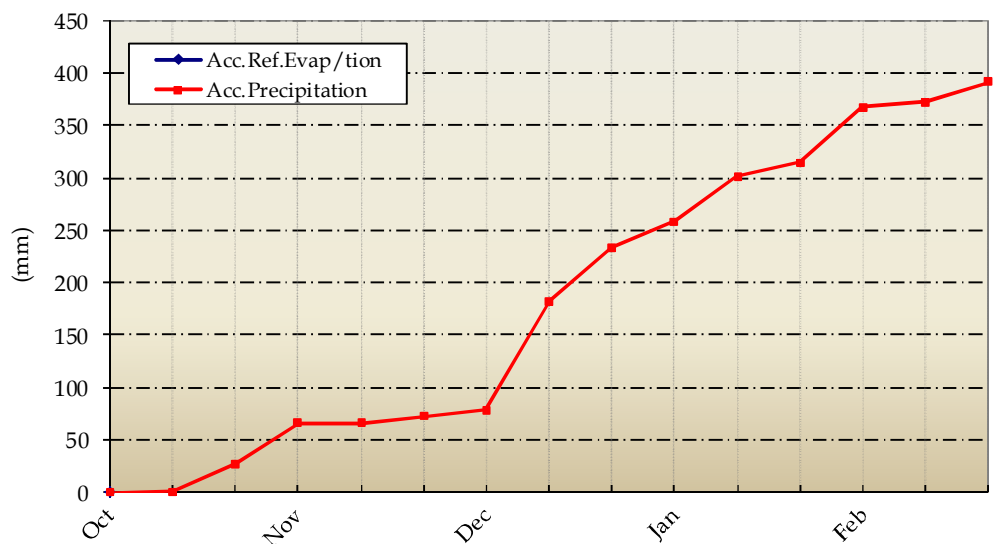


2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.1	19.3	16.6	14.6	8.0	10.2	12.6	17.1	16.4	18.4	15.1	17.7	15.1
	Min	5.3	5.4	5.8	5.5	3.7	-0.3	-2.7	1.6	2.9	2.6	3.0	6.3	5.9
Relative Humidity	Max	100	96	100	100	82	68	66	89	92	97	89	88	-
	Min	57	33	50	59	35	17	23	38	53	38	40	48	-
Soil Temperature at 10 cm	06 UTC	11.4	11.5	10.8	12.6	10.0	6.4	5.6	7.5	8.6	9.2	9.4	11.8	9.6
	12 UTC	12.4	11.5	12.2	13.0	10.0	8.2	8.4	10.5	11.4	12.0	11.0	12.6	10.9
Sunshine Duration		3.5	9.3	6.2	2.2	0.3	9.7	9.8	8.0	8.2	8.5	6.6	6.3	4.5
Precipitation		0.1			17.9	0.8						18.8	10.9	43.8
Evaporation		1.3	2.6	0.2	0.1	1.4	0.0	0.0	2.8	2.2	3.0	13.6	20.2	26.5
Growing Degrees	5	6.7	7.4	6.2	5.1	0.9	0.0	0.0	4.4	4.7	5.5	40.7	69.9	55.5
	10	1.7	2.4	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.5	5.8	21.6	12.8

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	18.9	15.6
Precipitation - Reference Evapotranspiration	-	-8.0	28.2
Number of Rainy Days	3.0	3.0	5.2
Number of Dry Days	0.0	0.0	-

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Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



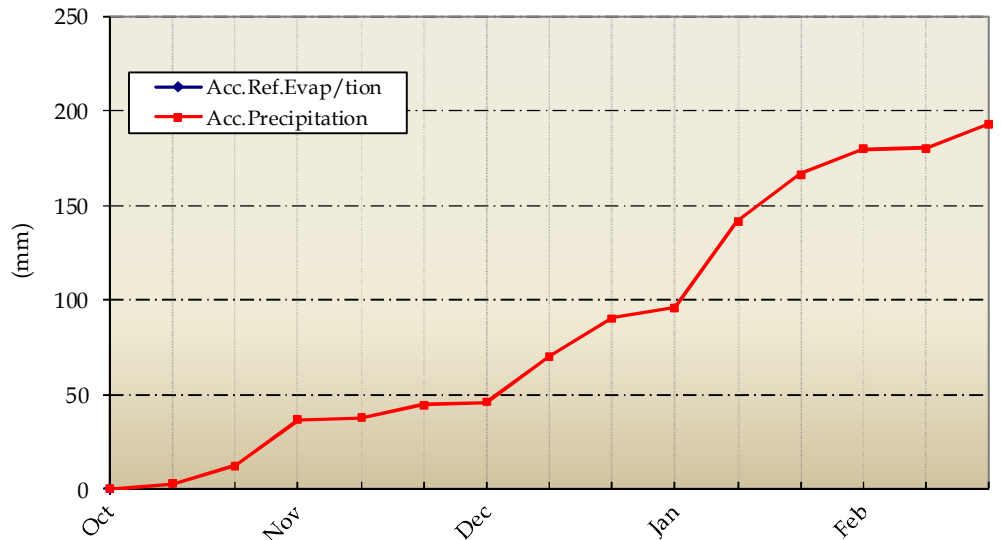
Larisa

2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.0	13.4	4.2	-0.6	3.6	4.4	6.0	12.0	14.7	13.8	9.0	14.4	12.1
	Min	5.0	3.2	-0.6	-2.4	-3.0	-7.0	-8.4	-3.0	-3.4	-1.6	-2.1	3.3	1.9
Relative Humidity	Max	87	82	100	95	85	82	87	92	96	96	90	95	-
	Min	47	44	54	59	35	33	40	46	34	49	44	54	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	7.2
Sunshine Duration		3.8	7.3	0.0	0.0	7.5	8.9	9.4	8.5	8.6	5.3	5.9	4.2	4.0
Precipitation		1.4		7.6	4.0							13.0	9.8	12.7
Evaporation		-	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-	18.3	10.0
Growing Degrees	5	6.5	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.1	11.6	38.3	25.9
	10	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.3	3.3

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.8	13.8	12.0
Precipitation - Reference Evapotranspiration	0.2	-4.0	0.7
Number of Rainy Days	3.0	4.0	3.6
Number of Dry Days	9.0	7.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





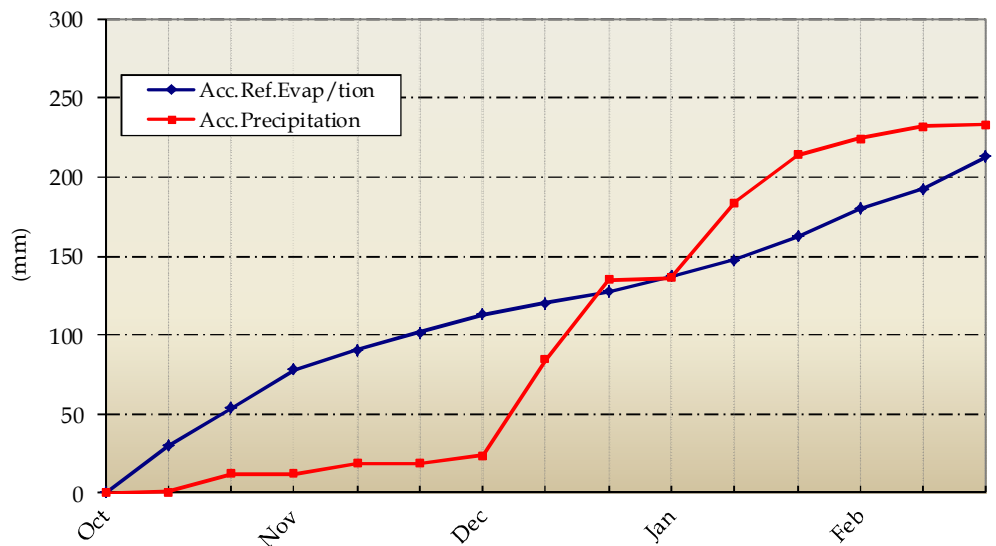
Mikra

2nd 10-day period (11-20/02/2021)		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	9.2	5.0	0.0	5.2	5.7	6.8	13.6	14.3	12.8	9.3	14.0	11.2
	Min	9.1	4.2	-0.2	-2.6	-1.9	0.0	-4.9	-1.1	-0.2	7.8	1.0	4.8	2.9
Relative Humidity	Max	79	54	91	94	60	73	85	82	89	92	80	92	-
	Min	38	34	62	60	38	31	31	42	40	64	44	55	-
Soil Temperature at 10 cm	06 UTC	11.2	8.2	6.4	10.2	3.6	2.8	3.0	4.8	5.2	8.2	6.4	8.4	5.9
	12 UTC	12.4	8.4	6.4	5.2	4.0	4.4	5.2	6.8	9.0	9.4	7.1	9.9	7.7
Sunshine Duration		6.0	8.2	0.0	0.0	9.3	9.3	9.1	9.9	8.6	2.0	6.2	5.1	3.8
Precipitation		1.1		0.0	0.3	0.0						1.4	10.9	15.0
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	14.7
Growing Degrees	5	9.6	1.7	0.0	0.0	0.0	0.0	0.0	1.3	2.1	5.3	19.9	44.2	26.4
	10	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.9	2.4	3.8

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	20.1	13.9	13.1
Precipitation - Reference Evapotranspiration	-18.7	-3.0	1.9
Number of Rainy Days	2.0	5.0	3.4
Number of Dry Days	2.0	5.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





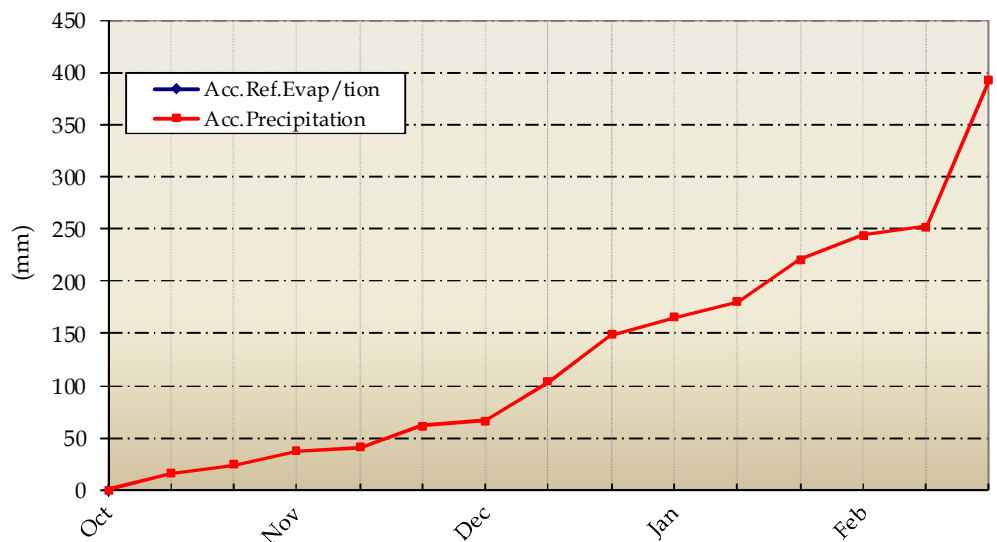
Tanagra

2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.9	15.1	8.1	2.5	1.3	2.0	6.0	10.4	11.7	12.5	9.0	15.0	13.2
	Min	8.6	2.1	5.9	1.2	-1.6	-1.1	-1.7	-5.7	-0.5	-0.6	0.7	5.4	4.1
Relative Humidity	Max	91	97	99	100	100	100	97	84	98	100	97	96	-
	Min	44	48	69	95	69	61	50	46	43	59	58	51	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		5.4	8.8	0.0	0.0	0.0	0.1	7.4	4.2	9.4	3.6	3.9	5.4	
Precipitation		4.2		3.0	18.0	93.1	22.0					140.3	18.7	15.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	9.3	3.6	2.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0	16.4	52.4	
	10	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	6.8	

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	15.6
Number of Rainy Days	5.0	3.0	4.8
Number of Dry Days	0.0	5.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

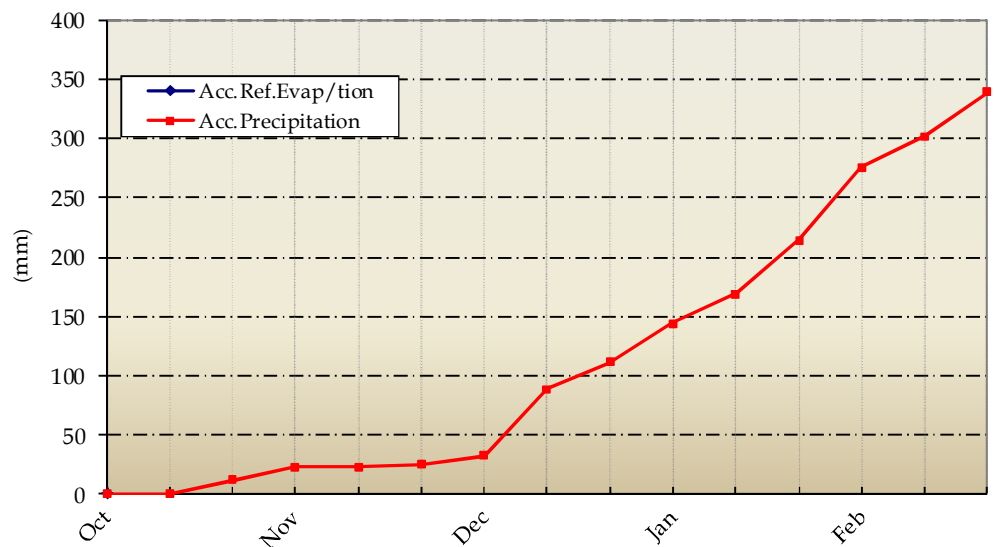


2nd 10-day period (11-20/02/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	14.3	14.0	8.8	6.9	0.8	2.7	9.5	11.8	13.7	13.8	9.6	16.5	10.2
	Min	3.6	1.4	0.5	5.9	-2.0	-4.5	-9.0	-3.8	-3.2	-2.2	-1.3	1.4	1.7
Relative Humidity	Max	87	93	99	100	91	76	89	97	99	100	93	95	-
	Min	50	36	85	76	59	28	20	44	39	46	48	44	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	5.6	4.8
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	9.1	5.7
Sunshine Duration		2.8	8.6	0.0	0.0	0.9	9.3	9.0	6.3	7.3	7.1	5.1	6.3	4.3
Precipitation		5.2		0.0	31.8	0.2						37.2	1.7	39.0
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	11.0
Growing Degrees	5	4.0	2.7	0.0	1.4	0.0	0.0	0.0	0.0	0.3	0.8	9.1	-	17.8
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	1.6

2nd 10-day period (11-20/02/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	11.7	-	12.8
Precipitation - Reference Evapotranspiration	25.5	-	26.2
Number of Rainy Days	3.0	1.0	4.9
Number of Dry Days	0.0	13.0	-

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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