



AGROMETEOROLOGICAL BULLETIN

*March 2023
1st 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



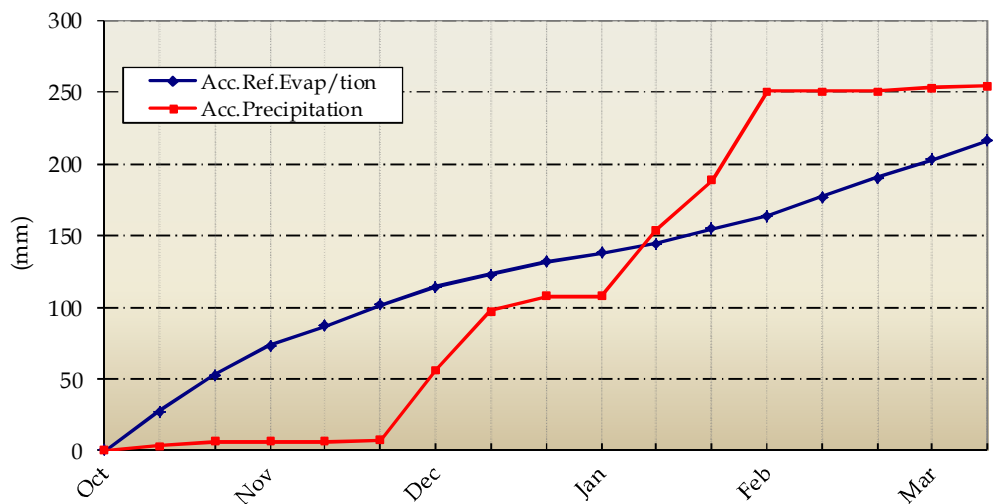
Hellenic National Meteorological Service
 Division of Climatology-Applications
 El. Venizelou Street 14, 16777
 Helliniko, Athens

Web adresses of HNMS
www.emy.gr
www.hnms.gr
www.emy.gov.gr
www.meteo.gov.gr
www.meteohellas.gr

1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	11.6	9.4	10.0	11.4	13.2	14.2	15.4	16.4	15.8	16.8	13.4	8.3	12.3
	Min	8.6	7.0	6.2	5.0	4.6	6.0	6.6	4.4	5.0	8.2	6.2	1.6	4.1
Relative Humidity	Max	89	89	85	94	94	94	97	97	94	95	93	88	90
	Min	76	76	69	64	65	62	70	75	75	78	71	53	60
Soil Temperature at 10 cm	06 UTC	11.0	10.5	9.0	8.6	8.6	9.2	10.3	10.0	10.4	10.8	9.8	5.0	8.0
	12 UTC	14.4	10.4	9.6	10.2	10.4	11.4	11.8	14.6	13.0	13.0	11.9	7.1	9.8
Sunshine Duration		0.0	0.0	0.0	0.0	0.8	6.5	3.3	8.0	7.4	3.0	2.9	4.8	4.6
Precipitation		0.3		0.1		0.7	0.5					1.6	16.2	18.9
Evaporation		1.8	0.7	0.4	1.0	0.7	2.2	0.5	2.6	2.1	1.3	13.3	8.2	18.7
Growing Degrees	5	5.1	3.2	3.1	3.2	3.9	5.1	6.0	5.4	5.4	7.5	47.9	7.6	33.4
	10	0.1	0.0	0.0	0.0	0.0	0.1	1.0	0.4	0.4	2.5	4.5	0.0	6.9

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	13.4	15.3	12.6
Precipitation - Reference Evapotranspiration	-11.8	0.9	6.3
Number of Rainy Days	4.0	4.0	2.3
Number of Dry Days	0.0	3.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

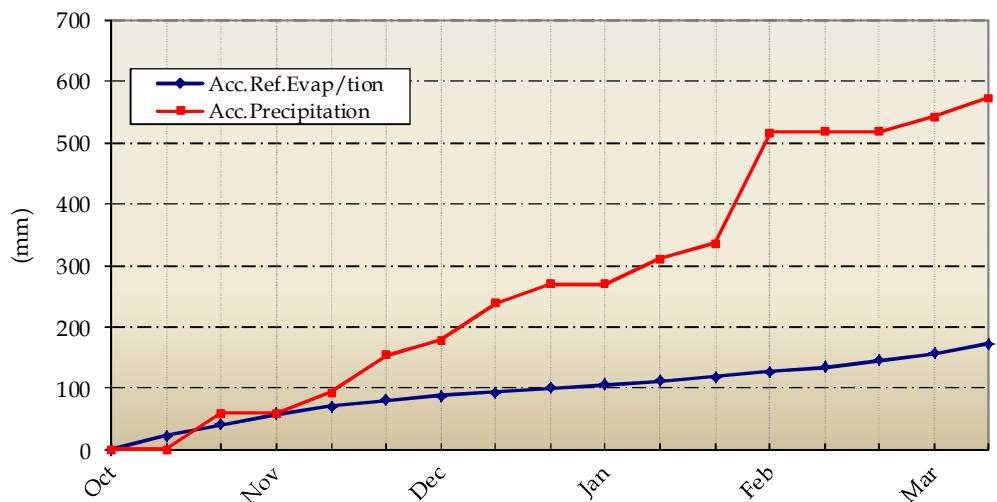


1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.0	17.8	17.1	17.8	14.2	16.8	15.4	16.4	18.2	18.8	17.2	12.7	16.2
	Min	7.3	9.9	7.2	10.0	9.2	7.3	11.4	5.6	6.8	10.8	8.6	5.6	7.0
Relative Humidity	Max	97	98	97	93	96	96	98	99	97	97	97	95	92
	Min	60	68	59	64	66	56	69	63	56	65	63	56	53
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	10.8	11.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	11.7	13.5
Sunshine Duration		1.3	4.4	5.6	7.5	3.6	6.3	0.7	7.8	4.6	3.7	4.6	5.2	5.4
Precipitation						3.2	0.8	26.9				30.9	55.3	19.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	6.2	35.3
Growing Degrees	5	8.2	8.9	7.2	8.9	6.7	7.1	8.4	6.0	7.5	9.8	78.5	41.7	55.9
	10	3.2	3.9	2.2	3.9	1.7	2.1	3.4	1.0	2.5	4.8	28.5	2.3	17.5

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	14.8	14.0	18.8
Precipitation - Reference Evapotranspiration	16.1	41.3	0.5
Number of Rainy Days	3.0	7.0	3.0
Number of Dry Days	27.0	0.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



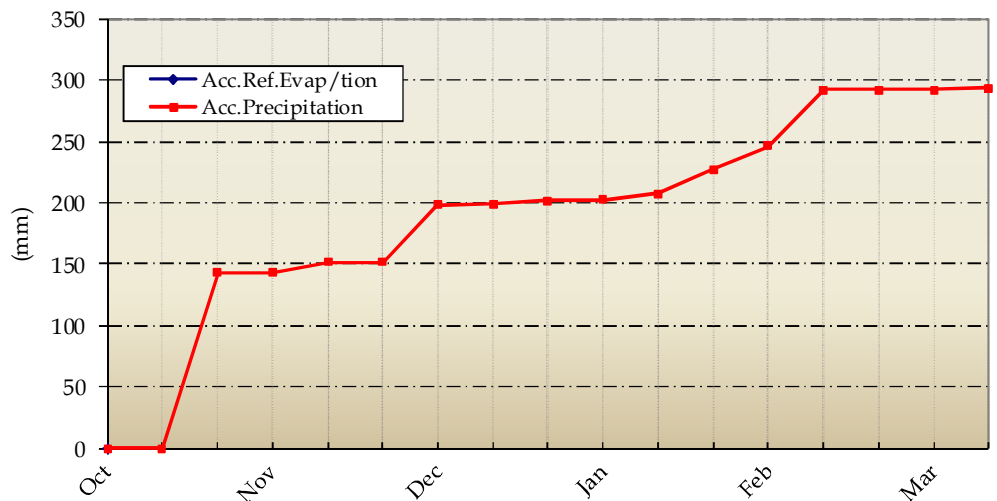
Iraklio

1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.8	18.4	16.8	17.2	17.0	17.4	20.0	23.0	18.0	18.6	18.5	14.7	17.1
	Min	12.6	13.4	10.0	11.2	11.8	11.4	10.4	13.4	10.2	11.0	11.5	9.1	9.7
Relative Humidity	Max	95	93	97	93	90	88	87	93	95	90	92	90	86
	Min	52	74	69	74	62	58	55	40	63	72	62	54	55
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		6.8	4.6	7.0	3.6	5.1	9.6	4.0	10.3	9.8	10.1	7.1	5.5	6.3
Precipitation						1.1						1.1	70.4	12.7
Evaporation		2.0	1.0	3.6	1.6	2.1	4.7	0.9	3.5	4.5	0.9	24.8	-	29.0
Growing Degrees	5	10.7	10.9	8.4	9.2	9.4	9.4	10.2	13.2	9.1	9.8	100.3	68.9	76.5
	10	5.7	5.9	3.4	4.2	4.4	4.4	5.2	8.2	4.1	4.8	50.3	21.2	32.0

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	-
Precipitation - Reference Evapotranspiration	-	-	-
Number of Rainy Days	1.0	5.0	2.4
Number of Dry Days	21.0	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

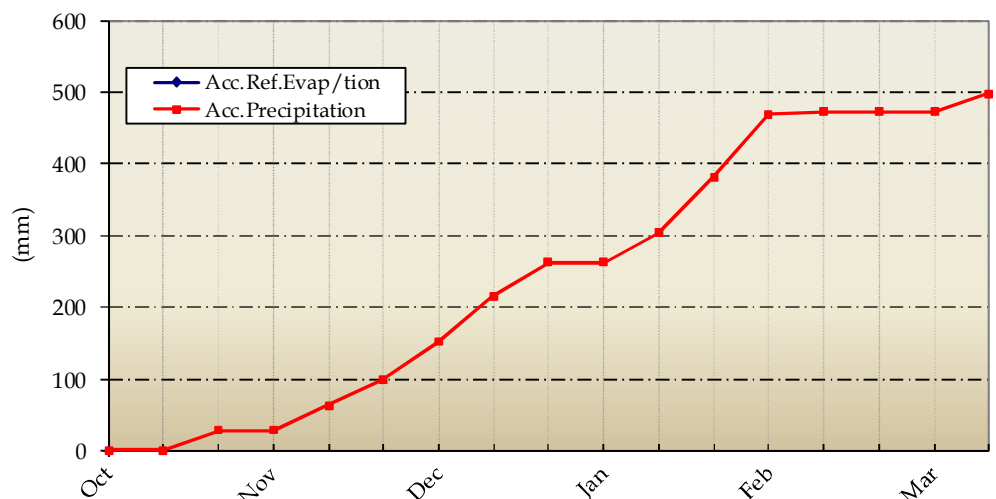


1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.3	13.6	10.6	11.5	10.5	14.3	9.4	14.4	12.9	13.1	13.0	8.8	13.0
	Min	4.3	3.9	1.2	6.4	4.5	3.9	5.9	6.2	4.3	9.3	5.0	0.5	2.4
Relative Humidity	Max	100	100	100	98	100	100	100	100	100	100	100	95	95
	Min	46	56	64	65	66	59	80	46	58	80	62	48	56
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.6
Sunshine Duration		2.8	1.5	0.4	2.7	0.2	4.1	0.0	6.3	0.0	0.0	1.8	3.2	3.9
Precipitation		0.0	0.3	0.1	4.4	8.2	0.1	11.8	0.1		1.1	26.1	35.8	30.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	6.8	3.8	0.9	4.0	2.5	4.1	2.7	5.3	3.6	6.2	39.8	2.9	25.6
	10	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.2	3.3	0.0	3.0

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	11.8
Precipitation - Reference Evapotranspiration	-	-	18.4
Number of Rainy Days	8.0	7.0	3.2
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

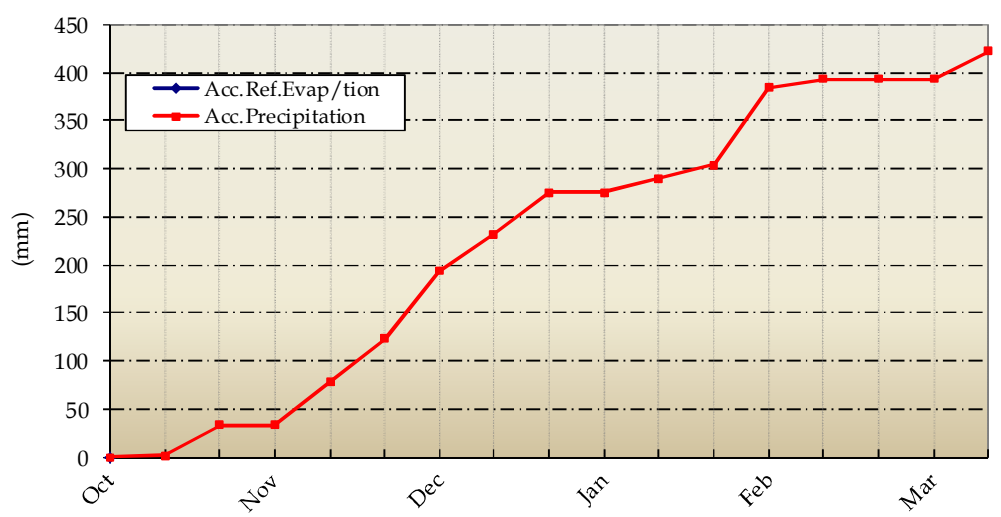


1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.4	18.6	17.7	18.3	15.7	18.4	18.7	19.2	21.0	18.8	18.8	14.2	17.0
	Min	8.7	9.5	5.7	11.0	7.4	6.7	6.3	6.4	7.4	7.0	7.6	5.0	6.4
Relative Humidity	Max	92	98	98	95	98	98	96	98	96	98	97	96	92
	Min	50	63	49	67	51	40	65	45	41	65	54	51	50
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	10.7	11.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	11.1	12.6
Sunshine Duration		6.3	1.7	8.5	5.7	4.8	8.3	2.2	7.8	9.5	6.1	6.1	4.7	5.8
Precipitation			9.0		1.9	10.4	2.4	2.7	2.8		0.1	29.3	53.6	18.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	23.3
Growing Degrees	5	10.1	9.1	6.7	9.7	6.6	7.6	7.5	7.8	9.2	7.9	82.0	46.0	61.2
	10	5.1	4.1	1.7	4.7	1.6	2.6	2.5	2.8	4.2	2.9	32.0	5.9	18.7

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	16.1
Precipitation - Reference Evapotranspiration	-	-	2.1
Number of Rainy Days	7.0	8.0	3.0
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

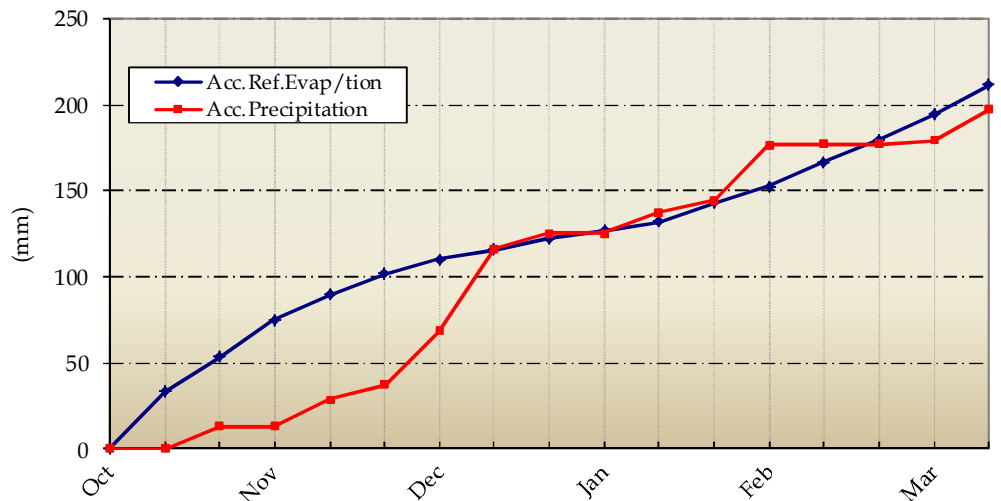


Larisa

1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.8	12.4	16.4	14.8	15.2	17.8	17.0	19.4	20.8	19.6	16.9	9.3	15.2
	Min	10.0	10.4	8.8	8.0	4.0	2.8	6.8	1.4	4.0	8.0	6.4	2.7	3.2
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	97	94
	Min	71	95	54	67	57	39	50	37	39	55	56	57	48
Soil Temperature at 10 cm	06 UTC	12.0	12.4	11.2	12.6	12.0	11.8	12.0	10.8	11.4	12.4	11.9	8.0	8.7
	12 UTC	12.4	12.4	12.4	12.8	12.2	12.0	12.2	12.0	12.4	13.0	12.4	8.1	9.5
Sunshine Duration		1.1	0.0	5.7	1.2	4.4	6.4	6.0	9.7	8.6	1.2	4.4	2.8	4.7
Precipitation			8.2	7.5	0.9	1.1	0.4					18.1	54.8	13.3
Evaporation		1.6	0.1	2.7	0.3	0.1	4.7	2.6	3.5	3.2	2.6	21.4	13.4	36.5
Growing Degrees	5	7.9	6.4	7.6	6.4	4.6	5.3	6.9	5.4	7.4	8.8	66.7	14.2	42.7
	10	2.9	1.4	2.6	1.4	0.0	0.3	1.9	0.4	2.4	3.8	17.1	0.0	9.3

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	17.2	13.0	19.4
Precipitation - Reference Evapotranspiration	0.9	41.8	-6.1
Number of Rainy Days	5.0	6.0	3.3
Number of Dry Days	1.0	1.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



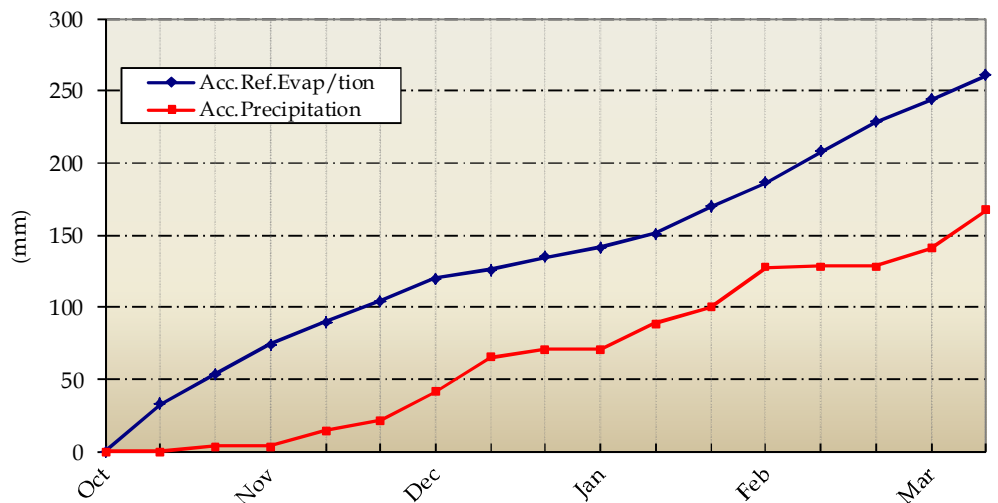
Mikra

1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	13.8	12.6	13.2	13.0	15.4	16.4	16.6	16.6	20.2	19.3	15.7	9.1	13.7
	Min	9.1	10.2	8.9	8.2	7.3	2.7	8.2	4.4	6.2	8.0	7.3	3.7	4.7
Relative Humidity	Max	100	100	100	100	100	100	95	100	93	94	98	92	88
	Min	77	80	80	79	57	36	47	47	37	51	59	58	51
Soil Temperature at 10 cm	06 UTC	11.8	12.0	11.4	10.6	11.0	10.0	11.0	10.6	11.0	11.8	11.1	7.4	8.6
	12 UTC	12.6	12.0	11.8	11.6	13.2	11.6	12.6	12.2	12.6	13.4	12.4	8.0	11.0
Sunshine Duration		0.0	0.0	3.0	1.0	6.6	8.0	3.6	10.7	9.4	1.6	4.4	3.8	4.9
Precipitation		3.6	4.8	4.9	12.3	0.7						26.3	39.8	13.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	34.1
Growing Degrees	5	6.5	6.4	6.1	5.6	6.4	4.6	7.4	5.5	8.2	8.7	65.2	15.8	38.0
	10	1.5	1.4	1.1	0.6	1.4	0.0	2.4	0.5	3.2	3.7	15.6	0.0	8.4

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	17.0	15.1	13.2
Precipitation - Reference Evapotranspiration	9.3	24.7	0.0
Number of Rainy Days	5.0	5.0	3.0
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



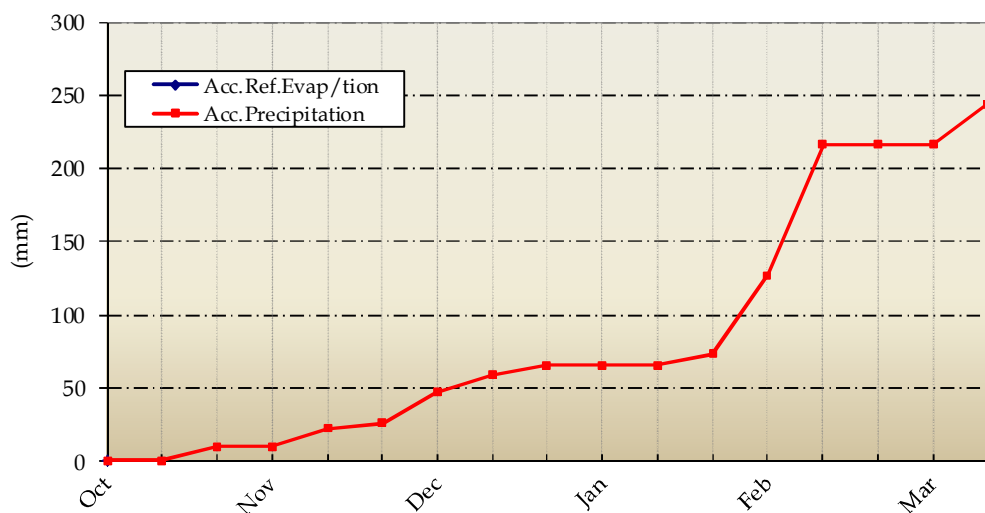
Tanagra

1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.5	14.6	16.0	17.0	15.3	17.7	17.6	19.0	19.7	22.4	17.5	9.9	14.9
	Min	7.5	8.7	7.8	9.8	5.6	4.7	9.7	5.8	3.5	9.2	7.2	3.7	5.1
Relative Humidity	Max	99	100	100	99	98	99	95	96	95	93	97	97	93
	Min	58	64	54	54	42	29	38	35	37	40	45	53	51
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.0	1.0	8.0	7.0	7.6	9.6	1.4	8.4	8.3	7.5	5.9	3.3	5.3
Precipitation			11.5	4.5	8.0	2.5	1.4					27.9	39.3	15.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	25.5
Growing Degrees	5	6.5	6.7	6.9	8.4	5.5	6.2	8.7	7.4	6.6	10.8	73.6	23.1	46.8
	10	1.5	1.7	1.9	3.4	0.5	1.2	3.7	2.4	1.6	5.8	23.6	1.2	12.6

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	5.0	5.0	2.9
Number of Dry Days	1.0	4.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

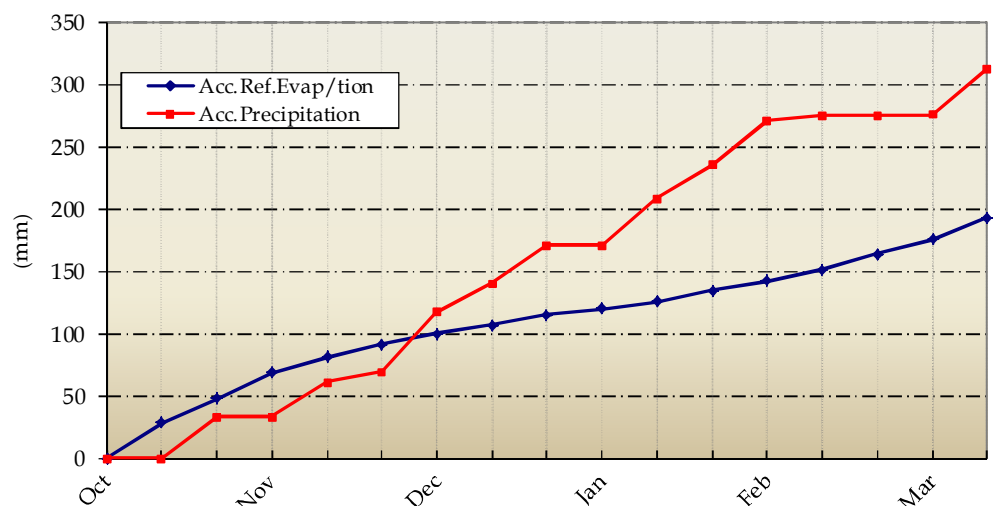


1st 10-day period (1-10/03/2023)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.2	13.6	14.4	13.8	10.6	13.8	12.6	15.4	17.2	18.2	14.8	9.4	13.3
	Min	2.4	7.6	-0.6	6.4	5.0	2.0	6.4	1.8	1.0	3.4	3.5	0.7	1.9
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	97	93
	Min	55	70	37	61	69	40	74	46	41	49	54	55	48
Soil Temperature at 10 cm	06 UTC	7.8	9.4	6.6	9.0	8.4	7.0	7.8	7.4	6.8	8.2	7.8	-	6.9
	12 UTC	12.0	11.6	11.4	12.2	10.6	10.8	10.2	11.6	12.2	13.6	11.6	-	8.8
Sunshine Duration		6.4	1.9	6.4	6.4	5.5	8.3	2.6	8.0	8.9	6.9	6.1	4.6	5.5
Precipitation			9.0		3.0	5.6		12.8	4.6		1.4	36.4	34.0	20.8
Evaporation		1.3	-	1.3	1.0	3.1	2.2	-	1.8	1.8	3.1	-	-	49.7
Growing Degrees	5	5.3	5.6	1.9	5.1	2.8	2.9	4.5	3.6	4.1	5.8	41.6	8.2	26.3
	10	0.3	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.8	1.8	0.0	3.2

1st 10-day period (1-10/03/2023)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	17.1	13.2	18.1
Precipitation - Reference Evapotranspiration	19.3	20.8	2.7
Number of Rainy Days	6.0	6.0	3.1
Number of Dry Days	1.0	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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Helliniko, Athens



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ΥΠΗΡΕΣΙΑ**

HELLENIC NATIONAL METEOROLOGICAL SERVICE

Division of Climatology-Applications

Issue Editors :

Papakrivou Anastasia

anastasia.papakrivou@hnms.gr

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