



AGROMETEOROLOGICAL BULLETIN

March 2024
3rd 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



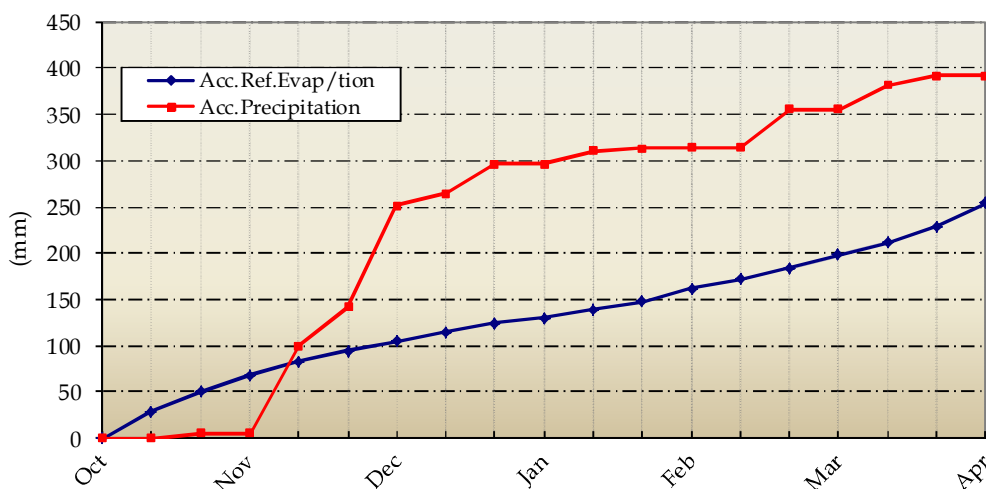
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3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Last Years Mean Value
Temperature	Max	14.6	13.8	15.0	17.0	15.4	14.6	20.6	20.0	20.2	21.2	22.2	17.7	15.8	14.5
	Min	2.0	5.2	2.2	5.2	8.4	2.0	9.0	9.2	10.8	8.0	7.4	6.3	5.0	5.4
Relative Humidity	Max	89	90	94	93	91	93	88	91	100	97	94	93	91	89
	Min	54	40	61	56	50	62	45	62	71	59	60	56	54	52
Soil Temperature at 10 cm	06 UTC	9.4	10.6	9.8	10.4	12.4	10.0	11.4	12.0	13.3	13.4	13.6	11.5	10.9	9.3
	12 UTC	12.4	12.6	12.4	14.6	13.6	12.4	14.2	16.0	16.3	16.4	17.2	14.4	13.4	11.9
Sunshine Duration		9.2	10.8	10.0	8.4	2.2	3.6	6.4	0.8	8.9	10.7	9.1	7.3	7.2	6.3
Precipitation						0.1		0.2	0.4				0.7	8.9	14.5
Evaporation		3.7	3.6	1.6	2.8	2.1	1.9	1.6	2.1	2.2	3.1	3.7	28.4	21.9	35.0
Growing Degrees	5	3.3	4.5	3.6	6.1	6.9	3.3	9.8	9.6	10.5	9.6	9.8	77.0	59.1	49.5
	10	0.0	0.0	0.0	1.1	1.9	0.0	4.8	4.6	5.5	4.6	4.8	27.3	12.0	12.2

3rd 10-day period (21-31/03/2024)	Previous Year Value	Past Years Mean Value	
Reference Evapotranspiration	25.0	24.3	18.4
Precipitation - Reference Evapotranspiration	-24.3	-15.4	-3.9
Number of Rainy Days	3.0	2.0	2.5
Number of Dry Days	4.0	10.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



Agrometeorological Data

March 2024

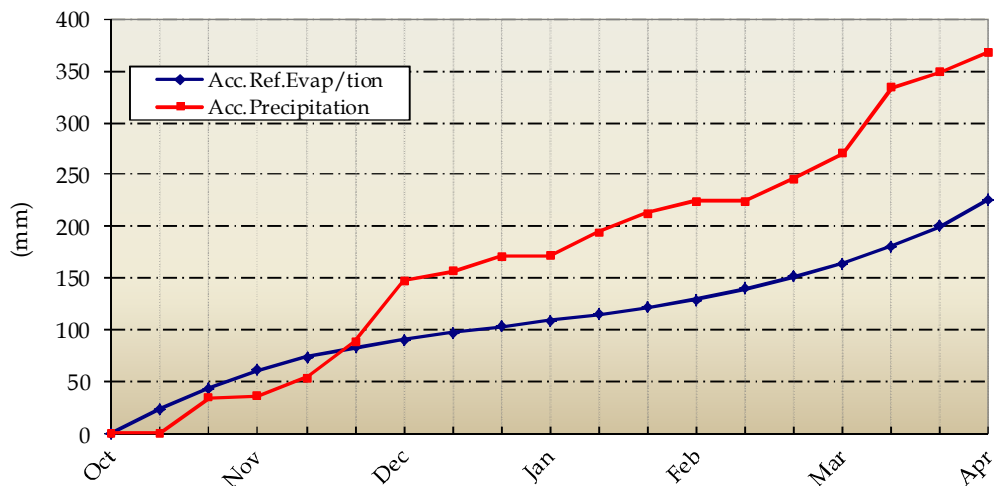
Andravida

3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.1	17.5	17.8	18.0	20.4	23.2	24.4	19.2	20.9	23.6	22.4	20.4	17.8	17.5
	Min	2.7	7.1	8.6	7.3	12.5	10.7	11.7	15.0	8.1	7.9	8.2	9.1	6.5	7.9
Relative Humidity	Max	97	99	99	98	96	96	87	98	99	98	99	97	95	91
	Min	44	49	42	40	62	43	52	60	52	42	50	49	55	50
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	12.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	15.7
Sunshine Duration		10.7	6.5	10.1	8.7	5.3	0.0	5.0	8.9	10.3	10.9	7.6	7.6	8.6	7.0
Precipitation				17.3		0.0	2.3	0.1					19.7	10.2	15.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	41.6
Growing Degrees	5	4.9	7.3	8.2	7.7	11.5	12.0	13.1	12.1	9.5	10.8	10.3	107.2	78.7	69.2
	10	0.0	2.3	3.2	2.7	6.5	7.0	8.1	7.1	4.5	5.8	5.3	52.3	24.5	25.6

3rd 10-day period (21-31/03/2024)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	25.5	25.1
Precipitation - Reference Evapotranspiration	-5.8	-14.9
Number of Rainy Days	3.0	1.0
Number of Dry Days	3.0	10.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



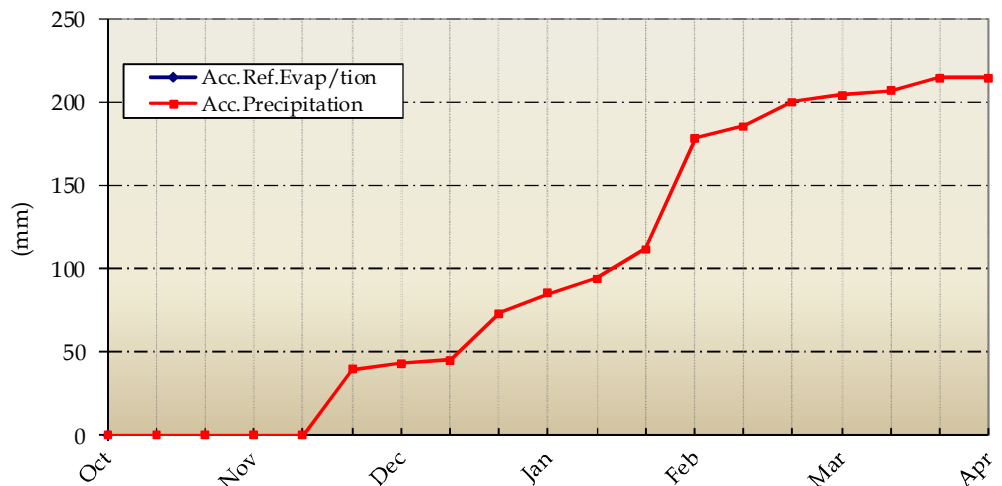
Iraklio

3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.8	17.6	16.8	17.8	24.0	23.4	30.0	25.2	21.6	20.4	21.0	21.2	17.9	18.2
	Min	12.6	8.0	9.2	7.2	11.6	14.0	19.2	23.4	12.8	12.0	12.2	12.9	11.1	10.8
Relative Humidity	Max	73	74	89	77	88	91	62	67	95	95	95	82	87	85
	Min	49	49	49	49	43	28	15	14	60	56	67	44	59	54
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		9.4	10.3	10.3	9.5	9.3	6.7	10.1	3.6	11.4	11.0	10.7	9.3	8.8	7.0
Precipitation														0.8	15.0
Evaporation		3.9	2.7	2.3	1.9	6.6	6.2	11.9	4.2	4.0	1.0	2.9	47.6	36.4	38.5
Growing Degrees	5	9.2	7.8	8.0	7.5	12.8	13.7	19.6	19.3	12.2	11.2	11.6	132.9	104.4	92.8
	10	4.2	2.8	3.0	2.5	7.8	8.7	14.6	14.3	7.2	6.2	6.6	77.9	49.4	44.1

3rd 10-day period (21-31/03/2024)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	-
Precipitation - Reference Evapotranspiration	-	-	-
Number of Rainy Days	0.0	1.0	2.9
Number of Dry Days	11.0	2.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

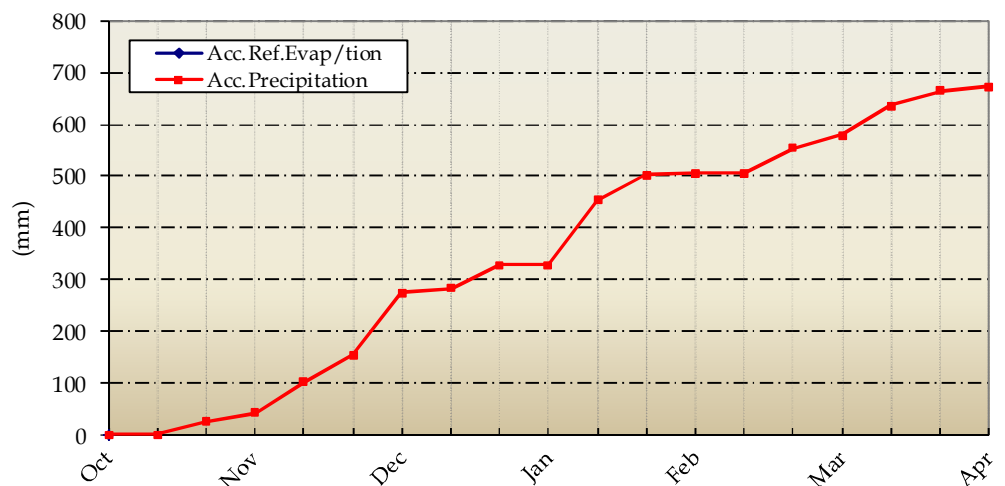


3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.9	15.6	17.4	14.8	17.8	17.6	22.1	19.4	23.2	23.6	23.7	19.3	17.5	15.5
	Min	-1.3	-0.3	0.0	2.2	7.6	9.0	11.2	9.7	2.3	3.4	3.7	4.3	2.0	4.2
Relative Humidity	Max	100	100	100	100	97	100	92	100	100	100	100	99	98	93
	Min	34	53	33	52	31	41	41	38	32	22	34	37	36	48
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	9.0
Sunshine Duration		10.2	2.0	10.2	3.3	8.6	0.0	6.1	10.1	10.7	10.2	6.0	7.0	7.5	4.9
Precipitation							7.7	0.3	0.3				8.3	9.1	27.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	2.8	2.7	3.7	3.5	7.7	8.3	11.7	9.6	7.8	8.5	8.7	74.8	52.1	44.4
	10	0.0	0.0	0.0	0.0	2.7	3.3	6.7	4.6	2.8	3.5	3.7	27.2	6.6	10.6

3rd 10-day period (21-31/03/2024)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	18.1
Precipitation - Reference Evapotranspiration	-	9.6
Number of Rainy Days	3.0	3.4
Number of Dry Days	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



Agrometeorological Data

March 2024

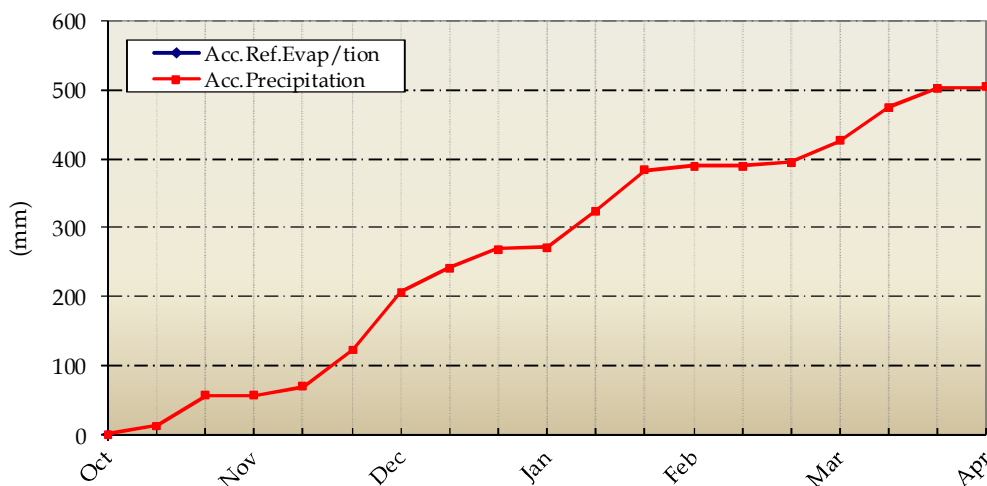
Kalamata

3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.0	19.7	19.7	19.7	21.6	22.2	23.8	23.3	27.0	24.7	22.5	22.2	20.2	18.1
	Min	5.3	6.6	9.3	6.8	11.9	9.1	11.1	14.0	10.7	7.0	7.5	9.0	6.8	7.4
Relative Humidity	Max	96	96	94	95	95	96	92	83	89	94	95	93	92	92
	Min	35	46	26	49	59	49	46	44	20	34	45	41	39	48
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	12.5
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	14.3
Sunshine Duration		10.0	6.8	8.8	8.5	5.4	3.8	8.3	9.5	11.2	10.9	10.3	8.5	9.0	7.1
Precipitation			0.6	0.0		0.0		0.6	0.0				1.2	5.0	21.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	41.1
Growing Degrees	5	7.7	8.2	9.5	8.3	11.8	10.7	12.5	13.7	13.9	10.9	10.0	116.8	93.2	75.0
	10	2.7	3.2	4.5	3.3	6.8	5.7	7.5	8.7	8.9	5.9	5.0	61.8	39.2	28.2

3rd 10-day period (21-31/03/2024)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	25.8
Precipitation - Reference Evapotranspiration	-	-	-4.1
Number of Rainy Days	2.0	1.0	3.6
Number of Dry Days	1.0	10.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

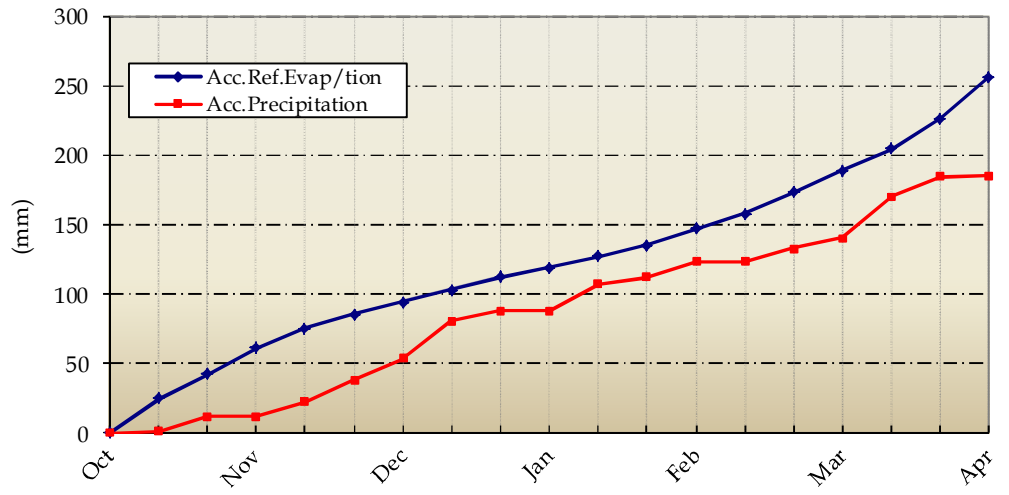


Larisa

3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.6	15.8	18.4	22.0	19.2	15.4	19.6	25.4	25.6	25.5	25.4	21.0	20.2	17.4
	Min	-0.4	2.2	0.8	2.4	5.6	7.2	10.8	9.0	4.4	5.4	5.6	4.8	3.4	5.0
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	100	92	93
	Min	37	52	52	36	46	52	48	30	33	34	34	41	36	46
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.6	10.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	13.7	11.7
Sunshine Duration		9.9	3.7	9.7	7.9	9.0	0.1	5.0	8.4	9.9	10.3	4.2	7.1	8.1	5.7
Precipitation							0.5	0.0					0.5	0.8	10.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	38.7	41.9
Growing Degrees	5	4.1	4.0	4.6	7.2	7.4	6.3	10.2	12.2	10.0	10.5	10.5	87.0	75.2	61.6
	10	0.0	0.0	0.0	2.2	2.4	1.3	5.2	7.2	5.0	5.5	5.5	34.3	22.7	19.2

3rd 10-day period (21-31/03/2024)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.0	31.8	27.9
Precipitation - Reference Evapotranspiration	-29.5	-31.0	-17.2
Number of Rainy Days	1.0	2.0	3.2
Number of Dry Days	6.0	3.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



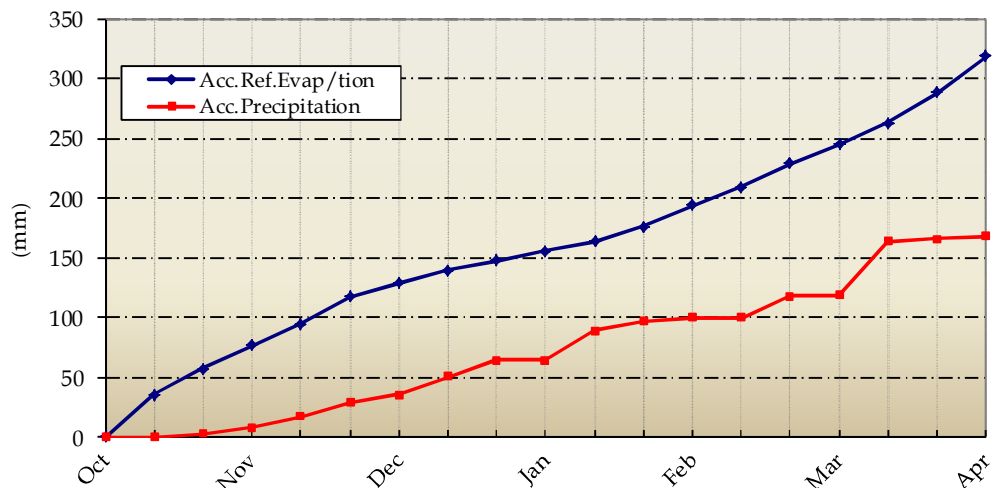
Mikra

3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.5	17.0	16.7	20.8	15.9	14.0	15.2	24.1	25.3	22.1	19.2	18.9	18.1	16.1
	Min	2.5	4.1	4.4	5.2	10.8	6.2	9.6	11.0	7.6	7.6	11.4	7.3	7.1	6.4
Relative Humidity	Max	99	99	100	99	71	100	100	100	100	100	100	97	90	88
	Min	32	48	45	33	33	56	76	38	31	50	76	47	44	48
Soil Temperature at 10 cm	06 UTC	10.6	11.0	11.0	11.6	13.0	11.8	12.4	13.4	13.6	14.0	15.2	12.5	11.5	10.6
	12 UTC	13.4	14.2	15.4	14.6	14.2	13.0	14.4	16.0	16.8	16.4	16.6	15.0	13.3	13.5
Sunshine Duration		10.5	8.6	11.0	8.8	8.1	0.0	1.6	7.8	10.4	11.0	3.8	7.4	8.8	6.0
Precipitation			0.5			0.0	0.0	1.5					2.0	4.0	10.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	35.3
Growing Degrees	5	5.0	5.6	5.6	8.0	8.4	5.1	7.4	12.6	11.5	9.9	10.3	89.1	83.3	59.3
	10	0.0	0.6	0.6	3.0	3.4	0.1	2.4	7.6	6.5	4.9	5.3	34.1	28.3	18.2

3rd 10-day period (21-31/03/2024)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.2	36.4	21.9
Precipitation - Reference Evapotranspiration	-28.2	-32.4	-11.6
Number of Rainy Days	2.0	3.0	2.9
Number of Dry Days	1.0	2.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



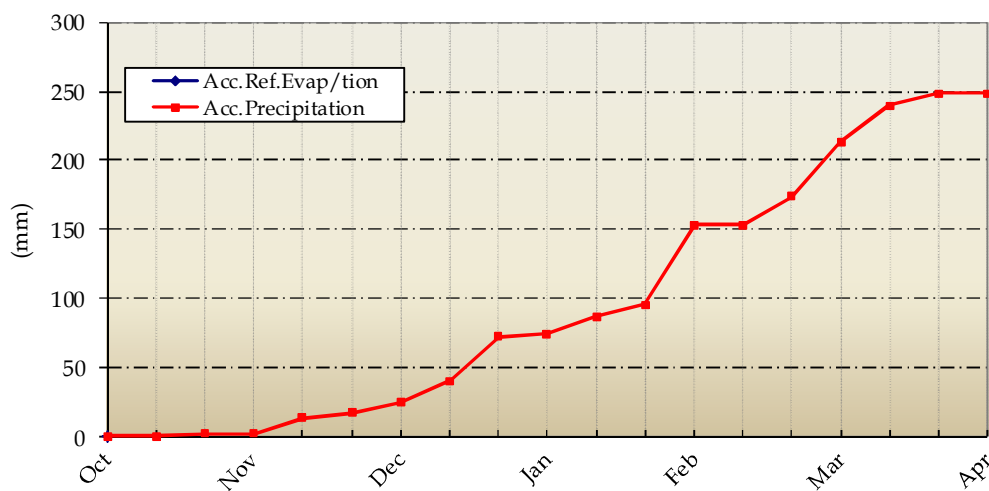
Tanagra

3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.2	16.0	16.6	20.0	23.0	17.0	24.4	24.8	24.2	25.3	25.0	21.3	18.9	16.5
	Min	1.5	3.0	0.6	2.1	13.2	8.4	10.8	13.8	9.0	5.8	5.8	6.7	5.4	6.2
Relative Humidity	Max	97	96	87	95	84	84	96	82	80	82	93	89	88	90
	Min	25	46	38	29	28	44	32	27	30	22	39	33	34	44
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.0	2.4	10.3	10.5	8.6	0.2	5.8	7.1	10.8	10.7	8.8	7.7	8.7	6.4
Precipitation			0.0										0.0	14.2	20.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	33.9
Growing Degrees	5	4.9	4.5	3.6	6.1	13.1	7.7	12.6	14.3	11.6	10.6	10.4	99.3	78.3	59.9
	10	0.0	0.0	0.0	1.1	8.1	2.7	7.6	9.3	6.6	5.6	5.4	46.3	25.0	19.0

3rd 10-day period (21-31/03/2024)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	0.0	2.0	2.9
Number of Dry Days	11.0	10.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

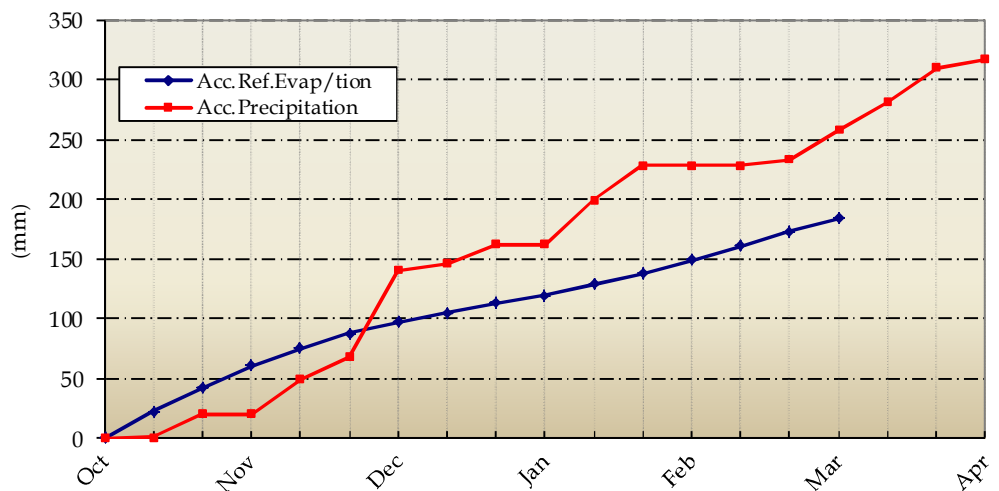


3rd 10-day period (21-31/03/2024)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.9	15.9	13.9	15.7	16.7	19.9	22.8	21.1	24.0	24.2	25.1	19.6	17.1	15.1
	Min	-2.1	-0.6	1.2	-0.3	9.7	4.5	6.4	12.0	2.5	2.0	2.5	3.4	1.2	3.2
Relative Humidity	Max	99	98	99	98	93	97	96	90	94	96	94	96	94	90
	Min	31	34	33	37	49	34	35	20	12	13	14	28	30	44
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	8.3	8.5
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	13.5	10.8
Sunshine Duration		9.7	4.9	7.8	7.1	-	3.8	7.8	8.6	10.5	10.4	9.7	8.0	8.5	6.3
Precipitation			3.9	2.8	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	7.3	3.5	28.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	32.8	35.0
Growing Degrees	5	1.9	2.7	2.6	2.7	8.2	7.2	9.6	11.6	8.3	8.1	8.8	71.5	45.2	42.6
	10	0.0	0.0	0.0	0.0	3.2	2.2	4.6	6.6	3.3	3.1	3.8	26.7	3.8	9.8

3rd 10-day period (21-31/03/2024)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	28.9	25.0
Precipitation - Reference Evapotranspiration	-	-25.4	3.1
Number of Rainy Days	4.0	2.0	3.8
Number of Dry Days	1.0	3.0	-

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)

UTC (Universal Time coordinates) in Greece

- ◆ Winter : Time(UTC) = Local time - 2
- ◆ Summer : Time(UTC) = Local time - 3

Mesurements Units

- ◆ Temperature : °C
- ◆ Relative Humidity : %
- ◆ Soil Temperature : °C
- ◆ Sunshine Duration : Hours
- ◆ Precipitation : mm
- ◆ Evaporation (Pan) : mm
- ◆ Growing Degrees : °C

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HELLENIC NATIONAL METEOROLOGICAL SERVICE

Division of Climatology-Applications

Issue Editors :

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The present bulletin was designed and implemented under the support of Water Resources Management Division of Agriculture University of Athens