



# AGROMETEOROLOGICAL BULLETIN

*May 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



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

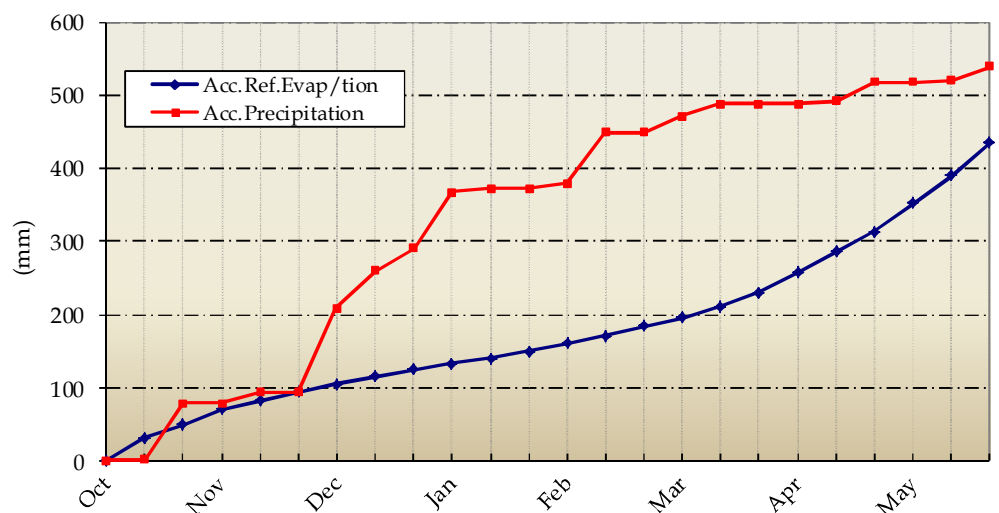
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Alexandroupoli

2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.4	23.8	26.4	23.0	26.6	28.0	26.2	24.2	22.6	26.4	25.0	23.7	23.6
	Min	7.8	9.2	8.8	8.0	14.0	15.8	12.8	11.0	9.0	8.2	10.5	11.2	12.5
Relative Humidity	Max	80	87	87	94	85	89	89	93	79	86	87	83	88
	Min	40	41	28	42	44	42	43	57	38	32	41	42	46
Soil Temperature at 10 cm	06 UTC	16.8	17.4	17.6	20.0	19.6	21.2	21.4	22.0	16.2	16.4	18.9	18.5	18.7
	12 UTC	20.6	21.4	21.6	21.0	22.6	24.6	25.0	23.8	18.0	20.4	21.9	22.5	22.6
Sunshine Duration		11.2	12.1	12.5	11.8	10.0	10.4	12.4	4.7	13.3	13.1	11.2	11.6	9.5
Precipitation									19.1	0.1		19.2	3.1	6.5
Evaporation		5.4	6.0	5.0	6.7	3.9	10.4	6.0	6.2	6.5	8.2	64.3	79.6	63.7
Growing Degrees	5	10.1	11.5	12.6	10.5	15.3	16.9	14.5	12.6	10.8	12.3	127.1	124.4	111.7
	10	5.1	6.5	7.6	5.5	10.3	11.9	9.5	7.6	5.8	7.3	77.1	74.4	68.9

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	44.3	44.3	29.7
Precipitation - Reference Evapotranspiration	-25.1	-41.2	-23.2
Number of Rainy Days	2.0	3.0	1.6
Number of Dry Days	12.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

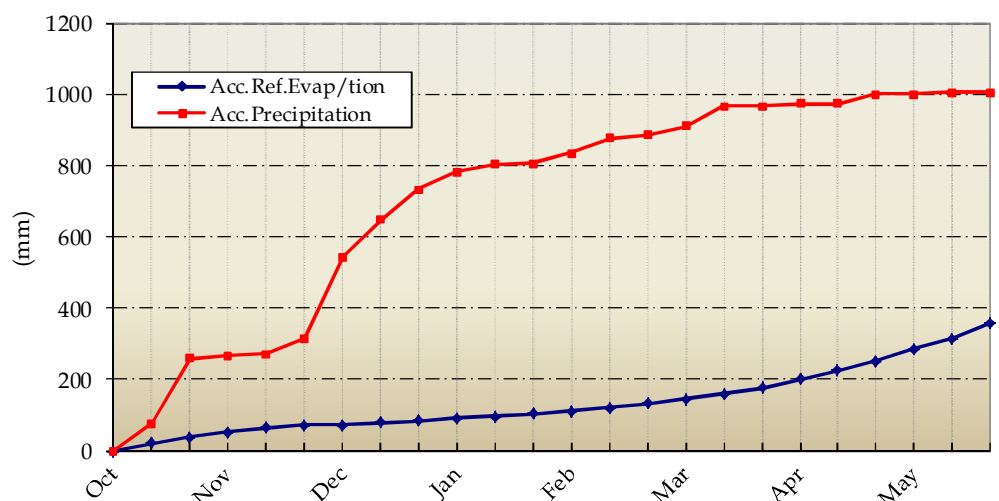


2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.1	25.4	24.6	24.4	26.4	26.2	27.0	26.0	24.9	25.6	25.5	24.7	24.7
	Min	9.3	11.3	13.0	13.2	14.4	13.6	14.1	14.4	17.1	10.7	13.1	12.6	13.4
Relative Humidity	Max	96	95	94	94	97	96	97	97	91	78	94	95	91
	Min	39	44	54	49	53	56	51	61	26	31	46	38	39
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	20.8	20.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	23.0	25.2
Sunshine Duration		12.6	11.4	7.3	10.8	12.4	12.5	12.0	11.9	10.5	13.0	11.4	12.1	9.4
Precipitation													14.6	6.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	55.7	60.6
Growing Degrees	5	11.7	13.4	13.8	13.8	15.4	14.9	15.6	15.2	16.0	13.2	142.9	136.8	113.5
	10	6.7	8.4	8.8	8.8	10.4	9.9	10.6	10.2	11.0	8.2	92.9	86.8	73.4

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	42.1	42.2	41.1
Precipitation - Reference Evapotranspiration	-42.1	-27.6	-34.6
Number of Rainy Days	0.0	1.0	1.2
Number of Dry Days	18.0	20.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

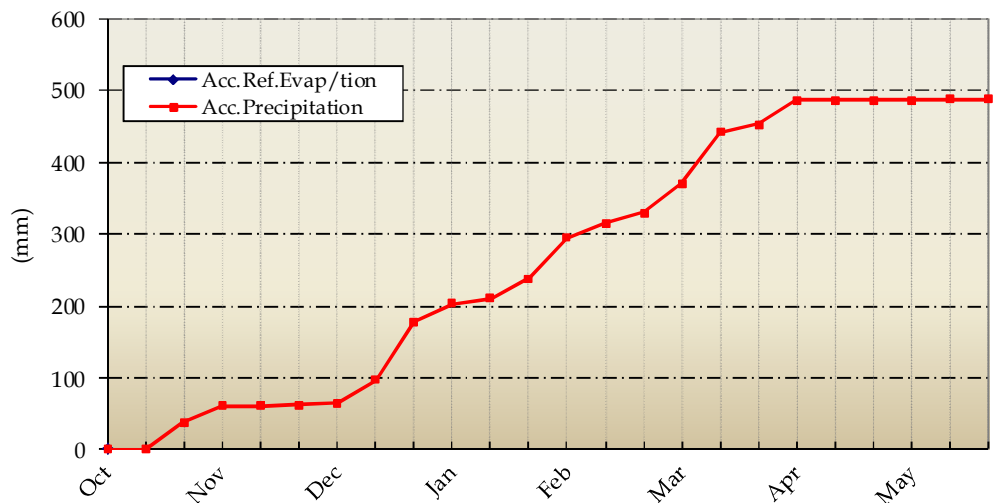


2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.8	21.0	22.8	22.6	23.0	25.6	25.0	25.0	19.6	20.2	22.6	23.8	24.3
	Min	11.4	10.6	13.6	13.4	14.0	14.6	15.4	15.8	19.0	17.2	14.5	15.0	15.7
Relative Humidity	Max	90	80	82	91	89	80	82	91	87	77	85	85	84
	Min	53	55	48	60	63	45	53	53	53	46	53	58	49
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.1	7.0	11.7	12.6	12.7	12.9	12.7	11.9	5.1	10.5	10.9	12.7	10.2
Precipitation														2.8
Evaporation		5.0	2.9	4.0	4.0	4.1	4.6	2.7	4.2	6.5	5.4	43.4	49.3	52.2
Growing Degrees	5	11.1	10.8	13.2	13.0	13.5	15.1	15.2	15.4	14.3	13.7	135.3	144.3	135.3
	10	6.1	5.8	8.2	8.0	8.5	10.1	10.2	10.4	9.3	8.7	85.3	94.3	90.3

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	0.0	0.0	0.8
Number of Dry Days	18.0	41.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

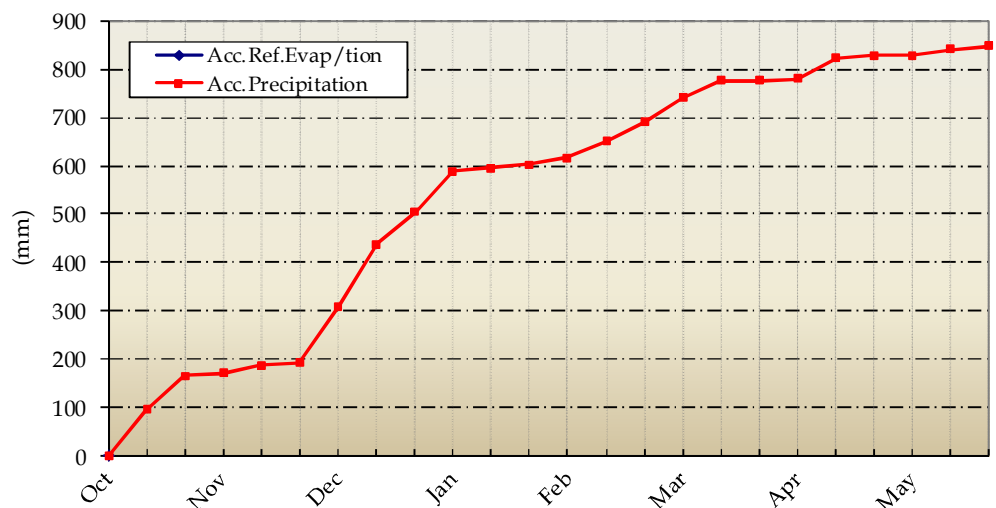


2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.0	25.9	26.8	25.7	27.9	28.8	21.8	28.7	21.9	27.3	26.0	24.2	23.6
	Min	4.8	6.9	8.1	11.0	10.0	9.5	10.7	10.7	12.6	3.5	8.8	8.8	10.4
Relative Humidity	Max	99	98	100	100	100	100	100	100	79	95	97	98	92
	Min	28	33	35	50	37	29	42	34	23	18	33	38	43
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	15.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	17.9
Sunshine Duration		9.3	9.3	7.2	4.8	8.1	10.0	5.8	4.9	12.8	11.4	8.4	9.5	7.5
Precipitation		0.0		4.9	0.6	0.5		1.1	0.0			7.1	27.2	16.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	9.9	11.4	12.5	13.4	14.0	14.2	11.3	14.7	12.3	10.4	123.8	115.2	97.2
	10	4.9	6.4	7.5	8.4	9.0	9.2	6.3	9.7	7.3	5.4	73.8	65.2	57.2

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	41.9
Precipitation - Reference Evapotranspiration	-	-	-25.0
Number of Rainy Days	4.0	1.0	2.6
Number of Dry Days	6.0	8.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

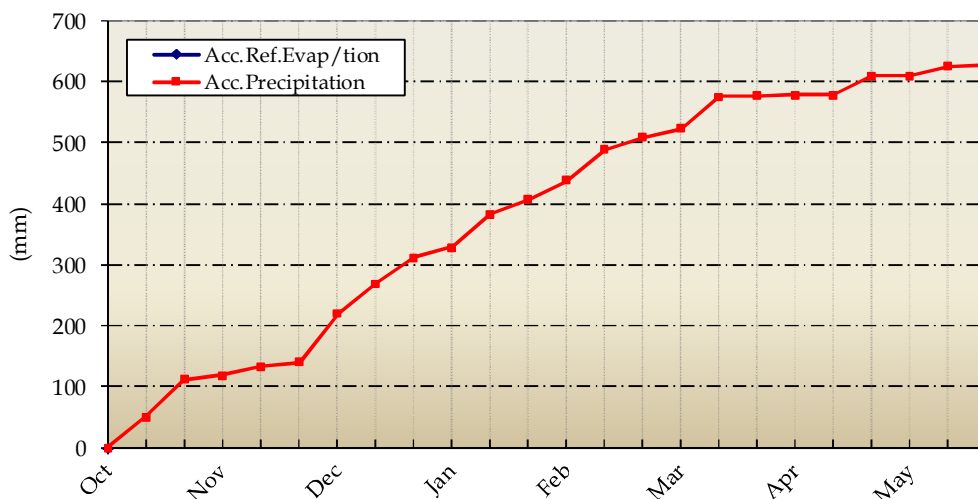


2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.3	25.5	23.3	24.6	25.0	26.8	26.8	27.8	25.5	27.1	25.5	26.7	25.1
	Min	9.1	9.0	10.9	10.6	13.9	12.6	14.0	14.6	15.6	9.8	12.0	11.4	12.5
Relative Humidity	Max	94	94	93	95	97	92	95	95	96	91	94	88	90
	Min	35	31	48	54	51	44	47	43	19	21	39	31	39
Soil Temperature at 10 cm	06 UTC	17.6	19.0	19.0	18.6	20.0	21.0	21.8	21.8	22.8	20.0	20.2	20.7	18.9
	12 UTC	23.8	21.2	21.0	22.0	20.0	24.0	24.6	24.8	23.0	23.0	22.7	25.0	21.7
Sunshine Duration		12.6	12.3	5.9	11.7	12.6	12.9	12.8	10.2	8.3	13.1	11.2	11.8	9.4
Precipitation					0.0	0.0				1.4		1.4	0.0	6.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	105.0	55.2
Growing Degrees	5	10.7	12.3	12.1	12.6	14.5	14.7	15.4	16.2	15.6	13.5	137.4	140.6	119.2
	10	5.7	7.3	7.1	7.6	9.5	9.7	10.4	11.2	10.6	8.5	87.4	90.6	76.2

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	49.9
Precipitation - Reference Evapotranspiration	-	-	-43.0
Number of Rainy Days	1.0	0.0	1.8
Number of Dry Days	9.0	22.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

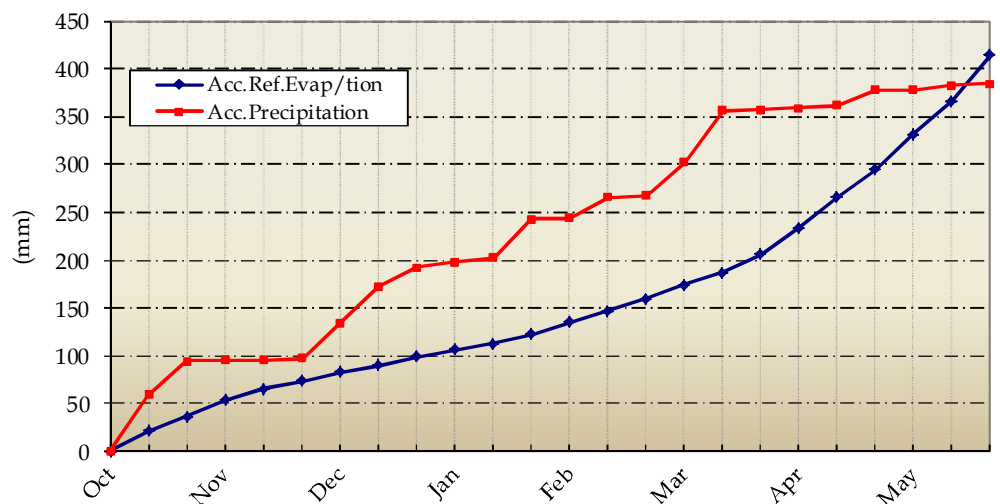


2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.6	29.0	27.6	28.7	31.0	29.6	32.0	30.8	22.0	26.4	28.4	27.8	26.7
	Min	6.2	9.6	11.2	12.4	12.1	13.8	13.6	14.0	11.6	7.6	11.2	10.1	12.1
Relative Humidity	Max	86	85	88	95	98	93	93	96	91	89	91	90	89
	Min	26	27	30	37	29	37	29	30	23	21	29	28	31
Soil Temperature at 10 cm	06 UTC	16.8	17.8	19.0	19.4	20.2	21.0	21.2	21.6	21.0	19.4	19.7	-	18.7
	12 UTC	18.0	19.2	20.4	20.4	22.2	22.8	23.4	23.0	21.8	21.4	21.3	-	20.3
Sunshine Duration		11.0	11.1	11.1	7.8	9.5	8.2	8.5	7.4	11.2	11.1	9.7	10.4	8.5
Precipitation									0.5	0.9		1.4	7.5	8.4
Evaporation		7.5	11.7	5.8	9.5	6.2	7.1	10.1	8.5	10.9	3.8	81.1	76.1	74.5
Growing Degrees	5	11.4	14.3	14.4	15.6	16.6	16.7	17.8	17.4	11.8	12.0	147.9	139.5	127.7
	10	6.4	9.3	9.4	10.6	11.6	11.7	12.8	12.4	6.8	7.0	97.9	89.5	83.7

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	48.3	50.5	50.6
Precipitation - Reference Evapotranspiration	-46.9	-43.0	-42.2
Number of Rainy Days	2.0	1.0	1.9
Number of Dry Days	9.0	8.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



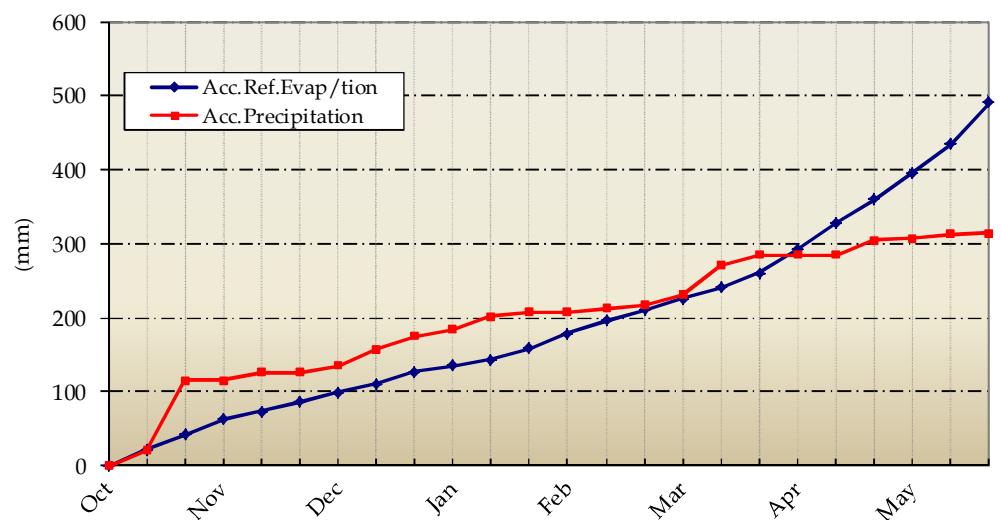
Mikra

2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.8	26.9	27.0	27.2	30.0	28.6	29.0	28.5	22.7	26.8	27.2	25.9	25.1
	Min	11.0	11.4	12.2	14.3	13.6	15.4	14.0	15.8	9.9	9.0	12.7	12.1	13.8
Relative Humidity	Max	96	80	90	91	97	91	86	85	86	81	88	88	84
	Min	29	31	31	36	29	38	43	43	31	20	33	38	38
Soil Temperature at 10 cm	06 UTC	17.8	18.4	19.0	19.8	20.0	20.6	20.8	21.4	20.4	19.8	19.8	19.8	19.8
	12 UTC	20.6	21.8	22.0	22.6	25.4	23.6	24.8	25.8	22.6	24.6	23.4	22.8	24.8
Sunshine Duration		12.1	13.1	12.1	9.3	11.5	12.4	12.3	11.7	13.3	13.3	12.1	10.5	8.8
Precipitation					0.2				0.0	0.2		0.4	1.2	10.0
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	61.0
Growing Degrees	5	13.4	14.2	14.6	15.8	16.8	17.0	16.5	17.2	11.3	12.9	149.6	140.0	128.0
	10	8.4	9.2	9.6	10.8	11.8	12.0	11.5	12.2	6.3	7.9	99.6	90.0	84.0

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	55.9	51.0	38.1
Precipitation - Reference Evapotranspiration	-55.5	-49.8	-28.1
Number of Rainy Days	2.0	1.0	2.1
Number of Dry Days	9.0	9.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





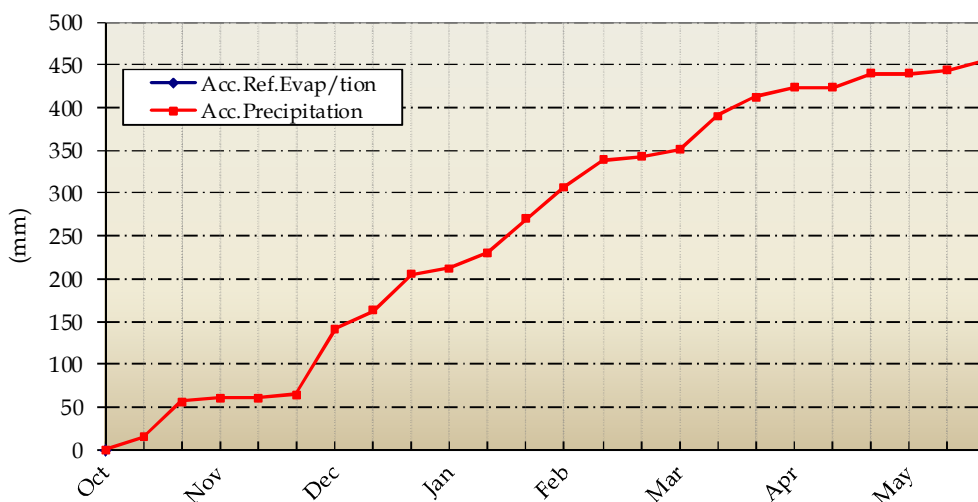
Tanagra

2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.6	26.6	25.7	27.0	29.0	29.2	29.6	30.4	18.8	22.2	26.3	27.1	25.4
	Min	6.0	8.6	10.6	10.9	11.2	14.4	14.2	15.2	10.5	9.0	11.1	11.8	12.4
Relative Humidity	Max	64	71	80	94	82	80	88	100	80	76	82	75	85
	Min	21	24	25	28	28	32	26	30	30	26	27	22	32
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		13.0	13.0	6.0	12.3	11.6	9.2	11.3	9.9	11.3	13.5	11.1	11.7	9.0
Precipitation										11.0		11.0		7.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	59.9
Growing Degrees	5	10.3	12.6	13.2	14.0	15.1	16.8	16.9	17.8	9.7	10.6	136.9	144.6	119.1
	10	5.3	7.6	8.2	9.0	10.1	11.8	11.9	12.8	4.7	5.6	86.9	94.6	76.6

2nd 10-day period (11-20/05/2022)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	-
Number of Rainy Days	1.0	0.0
Number of Dry Days	14.0	25.0

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

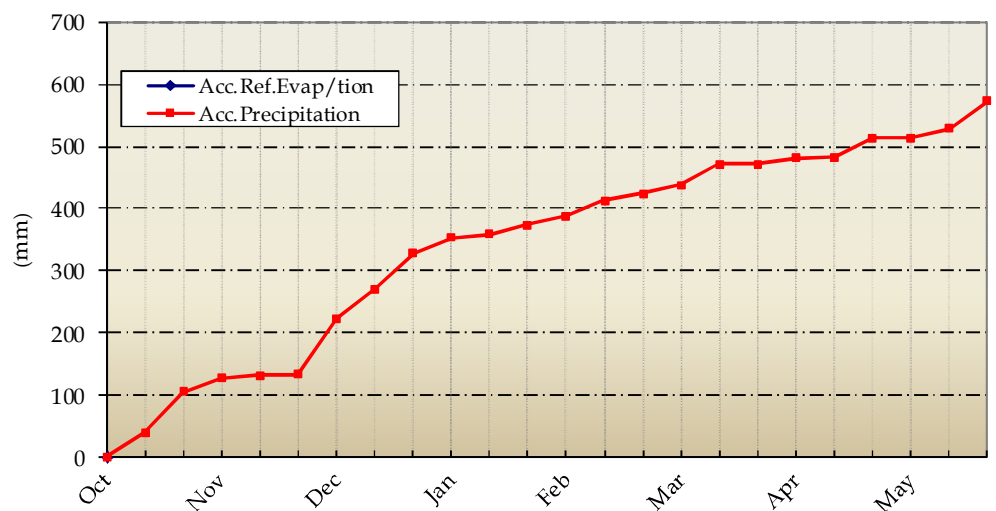


2nd 10-day period (11-20/05/2022)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.3	23.1	24.1	25.6	25.7	26.6	26.3	26.8	16.7	20.6	23.9	25.1	23.9
	Min	1.9	4.3	8.7	6.6	8.8	9.0	9.1	9.7	9.0	7.2	7.4	7.7	8.6
Relative Humidity	Max	96	90	89	95	99	99	99	98	86	71	92	86	87
	Min	15	26	27	25	31	26	31	17	31	22	25	25	31
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	17.5
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	21.7
Sunshine Duration		12.7	11.1	7.0	10.4	9.3	9.9	6.4	7.2	9.2	13.2	9.6	12.1	9.0
Precipitation						18.0	19.4		8.0	0.0		45.4	0.0	11.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.5
Growing Degrees	5	7.6	8.7	11.4	11.1	12.3	12.8	12.7	13.3	7.9	8.9	106.6	-	96.9
	10	2.6	3.7	6.4	6.1	7.3	7.8	7.7	8.3	2.9	3.9	56.6	-	54.6

2nd 10-day period (11-20/05/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	41.0	47.0	36.8
Precipitation - Reference Evapotranspiration	4.4	-47.0	-25.2
Number of Rainy Days	3.0	0.0	2.2
Number of Dry Days	9.0	26.0	-

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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HELLENIC NATIONAL METEOROLOGICAL SERVICE

Division of Climatology-Applications

Issue Editors :

Papakrivou Anastasia

anastasia.papakrivou@hnms.gr

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