



# AGROMETEOROLOGICAL BULLETIN

*February 2022*  
*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

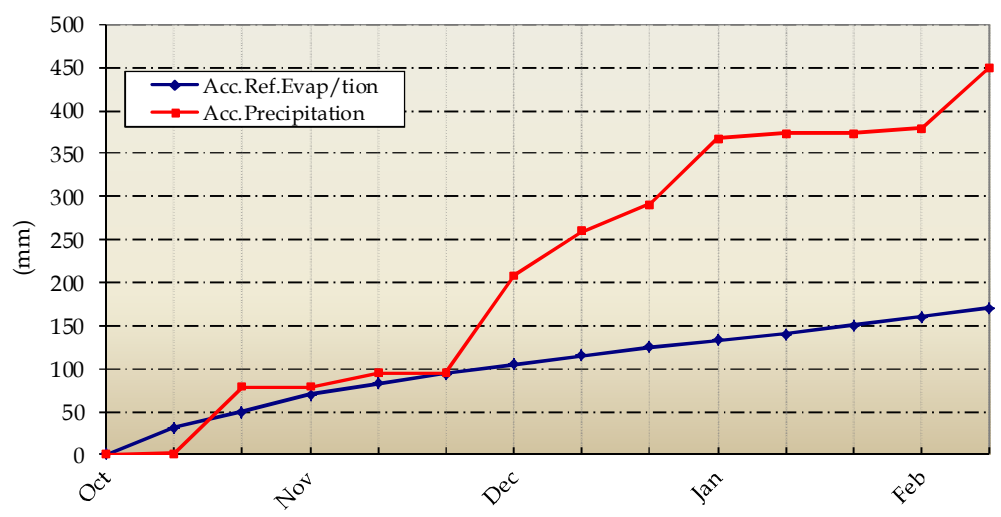
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[www.emy.gr](http://www.emy.gr)  
[www.hnms.gr](http://www.hnms.gr)  
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[www.meteo.gov.gr](http://www.meteo.gov.gr)  
[www.meteohellas.gr](http://www.meteohellas.gr)

Alexandroupoli

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	6.2	5.6	9.6	8.4	12.6	13.6	13.4	12.0	8.4	13.4	10.3	16.3	9.8
	Min	1.0	3.4	2.6	-2.0	-1.8	0.0	2.4	4.4	-2.2	0.4	0.8	10.1	1.5
Relative Humidity	Max	94	94	89	92	92	93	95	94	90	93	93	95	89
	Min	85	76	46	46	48	58	75	53	31	43	56	75	60
Soil Temperature at 10 cm	06 UTC	4.2	5.0	4.0	2.6	3.0	4.4	6.2	7.0	3.4	4.8	4.5	11.2	5.6
	12 UTC	5.4	6.0	6.2	5.0	6.6	7.2	8.4	6.4	6.4	8.2	6.6	12.7	7.0
Sunshine Duration		0.0	0.0	4.2	7.9	8.5	8.5	0.9	0.0	4.5	8.3	4.3	4.5	4.2
Precipitation		23.5	30.4	0.5					15.9			70.3	212.7	16.4
Evaporation		2.2	1.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	3.5	-	10.6
Growing Degrees	5	0.0	0.0	1.1	0.0	0.4	1.8	2.9	3.2	0.0	1.9	11.3	82.0	19.7
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	3.3

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	10.3	11.2	9.0
Precipitation - Reference Evapotranspiration	60.0	201.5	7.4
Number of Rainy Days	4.0	3.0	2.1
Number of Dry Days	9.0	1.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

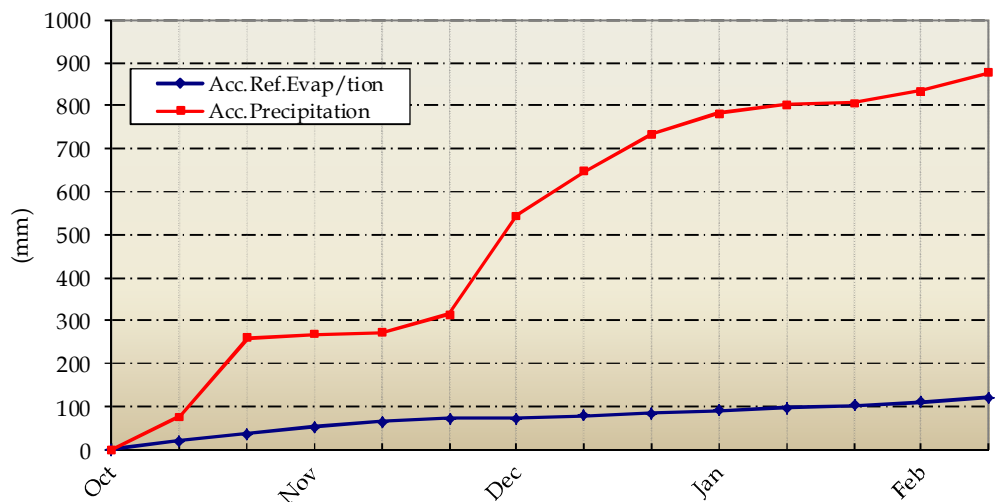


1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.0	13.8	12.3	13.0	16.4	17.4	16.6	13.6	13.5	16.0	14.9	18.0	14.4
	Min	8.0	8.6	7.2	-0.6	4.3	6.6	9.5	7.3	1.2	-0.3	5.2	8.4	5.5
Relative Humidity	Max	98	98	71	92	97	97	97	77	77	92	90	95	90
	Min	65	50	43	33	68	65	66	36	29	42	50	59	54
Soil Temperature at 10 cm	06 UTC	9.4	10.2	9.0	9.0	8.0	9.8	10.8	11.0	7.8	8.0	9.3	12.1	9.3
	12 UTC	10.6	10.6	9.2	10.2	9.2	11.0	11.6	10.4	8.8	9.4	10.1	13.2	11.2
Sunshine Duration		1.8	0.9	6.8	8.7	4.8	6.0	5.5	6.9	9.4	9.3	6.0	6.5	4.7
Precipitation		12.9	28.6	0.6					0.1			42.2	29.5	23.0
Evaporation		0.6	0.9	0.4	0.6	0.2	0.2	0.7	0.4	1.2	1.4	6.6	17.4	31.5
Growing Degrees	5	7.0	6.2	4.8	1.2	5.4	7.0	8.1	5.5	2.4	2.9	50.2	82.2	40.7
	10	2.0	1.2	0.0	0.0	0.4	2.0	3.1	0.5	0.0	0.0	9.1	32.2	9.0

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	9.8	-	7.7
Precipitation - Reference Evapotranspiration	32.4	-	15.3
Number of Rainy Days	4.0	4.0	3.2
Number of Dry Days	2.0	2.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



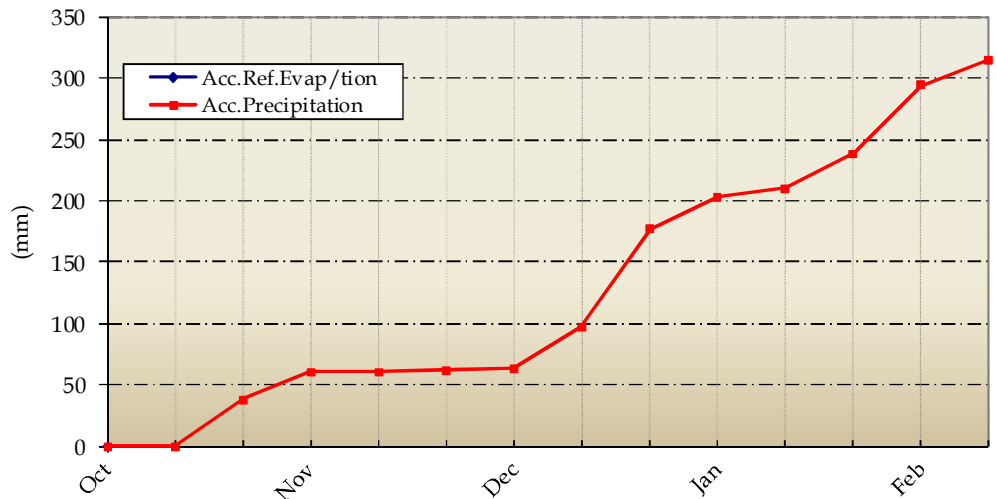
Iraklio

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.4	16.4	14.6	12.2	16.0	17.4	17.6	16.0	11.8	13.4	15.2	19.6	15.3
	Min	7.2	12.0	9.6	9.2	5.4	10.0	9.2	13.0	5.2	11.0	9.2	12.1	8.9
Relative Humidity	Max	88	83	82	80	85	95	92	88	83	74	85	91	85
	Min	47	55	61	56	57	61	62	45	45	38	53	61	56
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		3.3	5.1	4.0	1.3	8.8	8.3	7.6	5.4	3.6	7.2	5.5	7.4	4.7
Precipitation			2.1	0.2	3.9				2.9	11.4		20.5		20.4
Evaporation		1.3	3.3	0.9	4.9	1.1	1.3	0.6	1.3	4.8	3.3	22.8	21.9	24.4
Growing Degrees	5	6.8	9.2	7.1	5.7	5.7	8.7	8.4	9.5	3.5	7.2	71.8	108.5	62.9
	10	1.8	4.2	2.1	0.7	0.7	3.7	3.4	4.5	0.0	2.2	23.3	58.5	21.4

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	
Precipitation - Reference Evapotranspiration	-	-	
Number of Rainy Days	5.0	0.0	3.7
Number of Dry Days	1.0	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



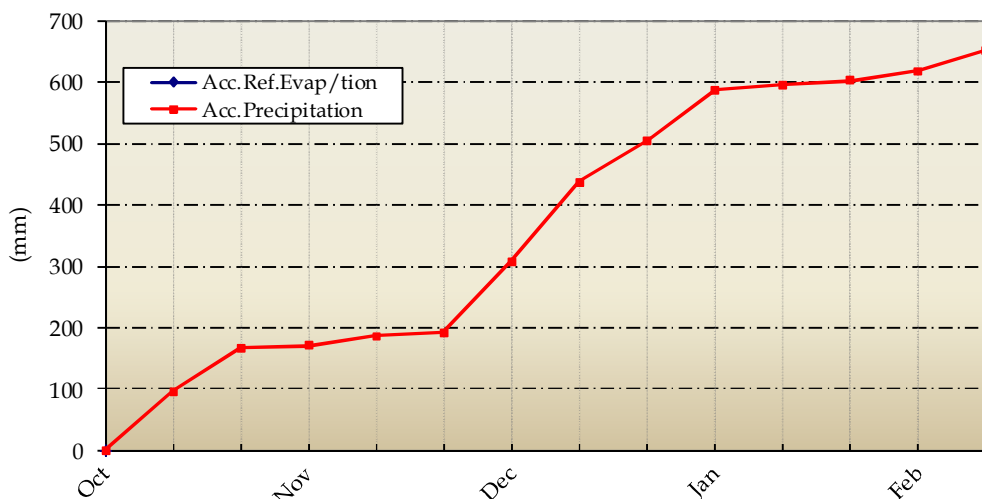
Ioannina

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	9.3	6.4	8.7	11.5	12.9	14.4	11.0	7.6	15.1	16.3	11.3	14.0	10.1
	Min	4.9	2.5	2.7	-6.3	-4.2	-0.7	4.6	1.0	-3.9	-3.9	-0.3	4.0	0.4
Relative Humidity	Max	99	99	90	94	100	100	100	96	95	100	97	99	94
	Min	76	40	29	27	52	41	70	30	36	34	44	65	58
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	3.8
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.1
Sunshine Duration		0.0	0.0	8.7	8.5	5.0	4.5	0.0	6.3	10.2	8.8	5.2	2.7	3.1
Precipitation		12.3	1.6					10.5	9.4			33.8	75.4	28.0
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	
Growing Degrees	5	2.1	0.0	0.7	0.0	0.0	1.9	2.8	0.0	0.6	1.2	9.3	39.9	10.8
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.6

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	10.5
Precipitation - Reference Evapotranspiration	-	-	17.5
Number of Rainy Days	4.0	5.0	2.8
Number of Dry Days	9.0	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



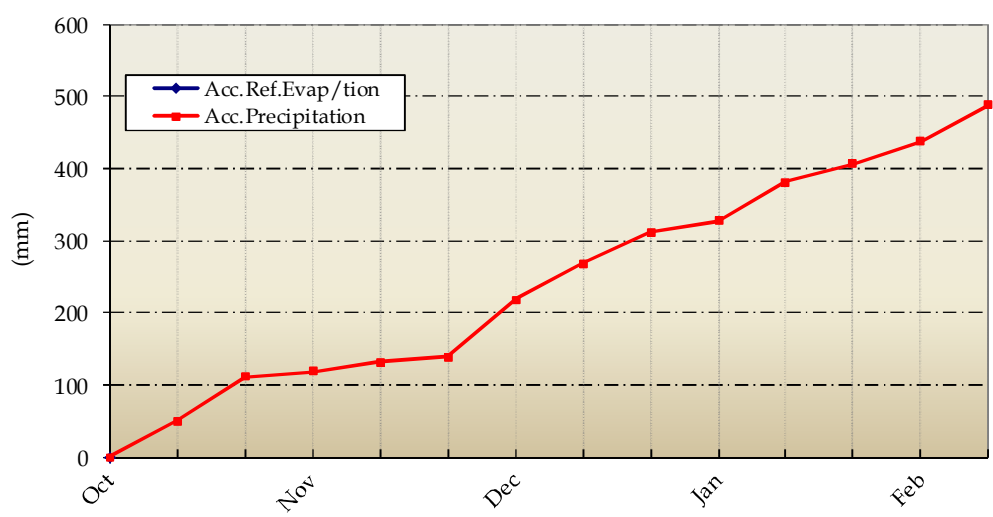
Kalamata

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.8	13.3	14.0	15.8	17.2	18.7	17.9	13.4	14.5	16.8	15.8	19.1	15.1
	Min	9.4	9.0	8.7	3.7	0.7	6.0	7.9	5.9	-0.1	1.6	5.3	7.7	5.3
Relative Humidity	Max	94	98	63	70	98	58	97	93	83	94	85	98	90
	Min	64	70	38	23	55	52	62	35	33	37	47	55	52
Soil Temperature at 10 cm	06 UTC	9.8	10.4	9.4	7.8	-	-	10.8	11.0	8.0	8.0	9.4	11.6	9.8
	12 UTC	10.4	10.8	9.8	8.8	9.8	10.6	11.6	10.4	9.4	9.4	10.1	12.4	10.7
Sunshine Duration		3.0	3.0	3.1	3.1	3.1	6.6	5.2	8.2	9.4	10.6	5.5	6.5	4.6
Precipitation		14.2	33.0	0.0					3.5			50.7	5.1	30.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	17.6	26.1
Growing Degrees	5	8.1	6.2	6.4	4.8	4.0	7.4	7.9	4.7	2.2	4.2	55.6	84.3	46.4
	10	3.1	1.2	1.4	0.0	0.0	2.4	2.9	0.0	0.0	0.0	10.9	34.3	9.9

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	10.4
Precipitation - Reference Evapotranspiration	-	-	20.0
Number of Rainy Days	3.0	4.0	4.1
Number of Dry Days	2.0	1.0	-

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Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



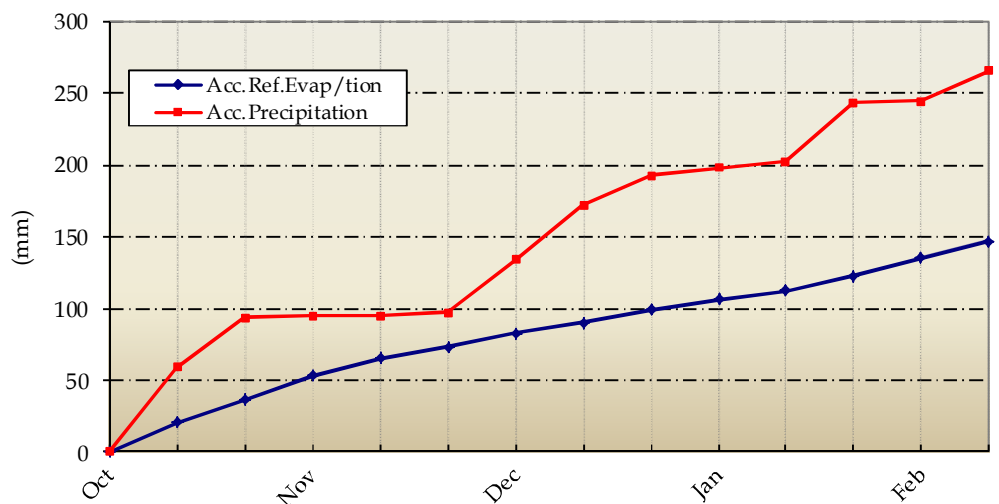
Larisa

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	9.4	7.0	10.8	10.2	12.8	15.6	16.8	13.0	15.0	14.4	12.5	18.3	11.5
	Min	2.4	3.4	0.4	-2.0	-3.8	0.2	2.8	4.1	-2.6	0.4	0.5	3.7	0.7
Relative Humidity	Max	98	99	94	100	96	97	97	90	92	94	96	98	95
	Min	65	89	39	33	47	38	45	50	36	45	49	52	54
Soil Temperature at 10 cm	06 UTC	5.2	6.4	4.4	4.6	4.6	5.4	6.4	7.4	5.2	6.2	5.6	-	5.8
	12 UTC	6.2	6.0	4.4	5.0	4.8	5.2	7.4	7.2	5.6	7.0	5.9	-	6.4
Sunshine Duration		1.3	0.0	5.5	8.3	6.0	7.5	6.0	0.5	9.1	8.4	5.3	5.2	3.9
Precipitation		0.5	13.6						7.1			21.2	0.5	12.2
Evaporation		0.5	0.1	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.6	14.6	15.8
Growing Degrees	5	0.9	0.2	0.6	0.0	0.0	2.9	4.8	3.6	1.2	2.4	16.6	60.0	18.4
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	1.6

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	11.6	14.5	10.1
Precipitation - Reference Evapotranspiration	9.6	-14.0	2.1
Number of Rainy Days	3.0	1.0	2.5
Number of Dry Days	9.0	1.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



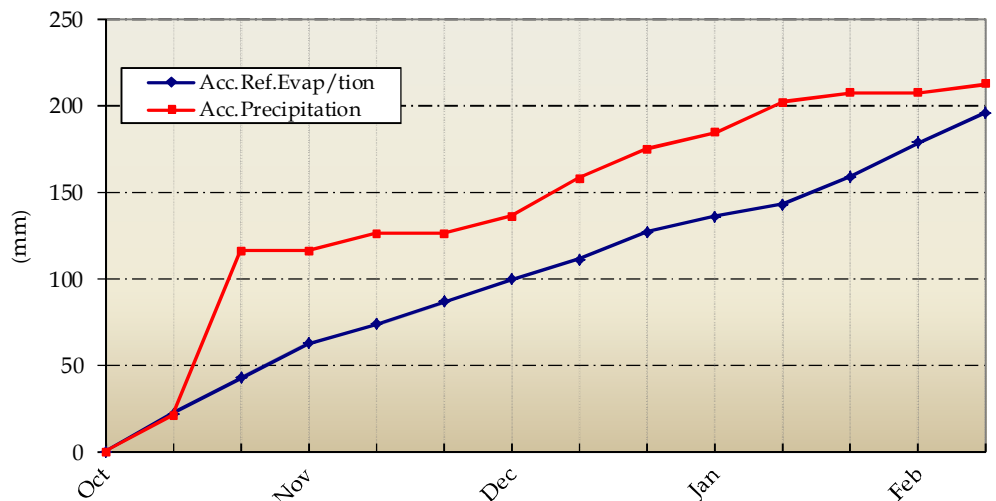
Mikra

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	8.6	6.0	11.0	9.6	10.8	14.8	10.8	10.6	13.0	14.3	11.0	16.1	10.6
	Min	4.0	4.4	4.9	-0.1	-1.8	1.6	2.5	6.5	4.6	0.0	2.7	7.5	2.3
Relative Humidity	Max	96	90	68	81	93	98	100	66	84	94	87	95	88
	Min	62	60	46	36	56	46	67	44	46	39	50	64	56
Soil Temperature at 10 cm	06 UTC	5.6	5.6	5.2	5.0	4.6	5.4	6.4	6.8	5.8	5.2	5.6	10.0	5.7
	12 UTC	6.2	5.4	6.0	5.8	5.6	6.8	7.2	6.8	7.8	7.2	6.5	11.4	7.5
Sunshine Duration		0.0	0.0	7.7	7.7	8.9	9.0	3.7	2.0	8.9	8.8	5.7	5.5	4.2
Precipitation		1.2	3.9					0.1				5.2	7.7	9.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	15.4
Growing Degrees	5	1.3	0.2	3.0	0.0	0.0	3.2	1.7	3.6	3.8	2.2	18.8	68.1	19.9
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1	1.6

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	17.3	12.6	8.6
Precipitation - Reference Evapotranspiration	-12.1	-4.9	0.6
Number of Rainy Days	3.0	2.0	2.3
Number of Dry Days	19.0	1.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





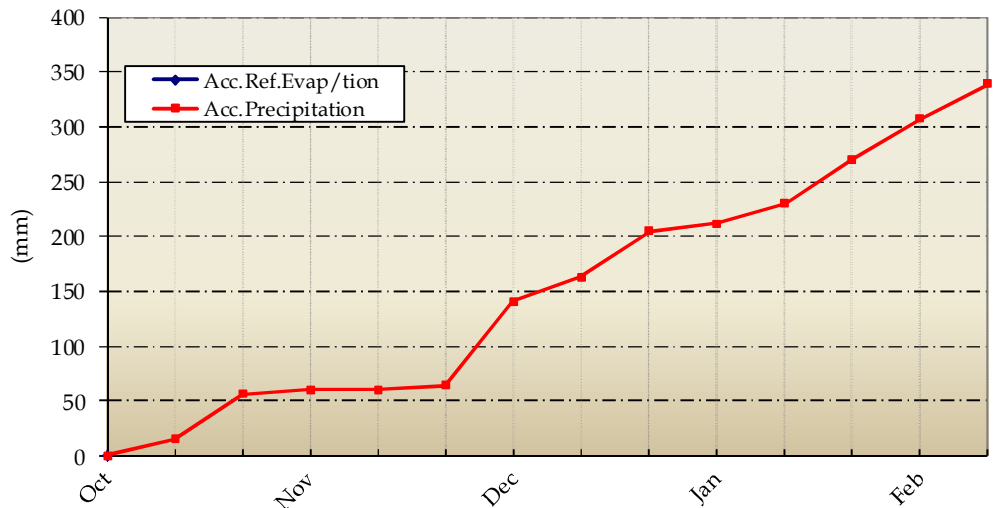
Tanagra

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.4	9.1	7.3	10.6	15.0	14.9	17.0	4.8	11.2	13.4	12.0	19.4	12.3
	Min	4.4	5.8	4.2	3.0	-1.1	3.4	3.0	4.1	3.2	2.0	3.2	8.0	3.2
Relative Humidity	Max	96	100	85	96	100	100	100	93	84	97	95	88	93
	Min	51	89	65	41	44	47	46	54	36	47	52	41	53
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		3.9	0.0	0.2	8.0	8.1	7.5	6.9	0.0	8.5	6.8	5.0	6.6	4.1
Precipitation			21.5	4.7	2.8				2.0			31.0	8.1	18.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	21.1
Growing Degrees	5	5.4	2.5	0.8	1.8	2.0	4.2	5.0	0.0	2.2	2.7	26.4	86.8	29.3
	10	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	36.8	5.2

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	-
Precipitation - Reference Evapotranspiration	-	-	-
Number of Rainy Days	4.0	2.0	3.1
Number of Dry Days	2.0	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



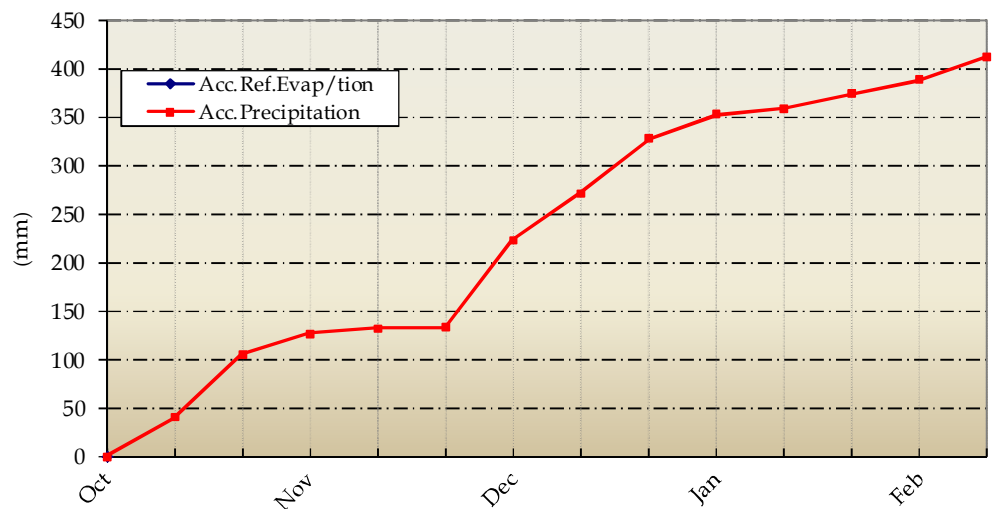
Tripoli

1st 10-day period (1-10/02/2022)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	11.0	9.6	7.0	10.4	12.0	13.9	12.3	5.2	10.9	12.7	10.5	16.1	10.4
	Min	3.2	3.6	2.3	-3.1	-3.4	1.5	6.7	3.5	-5.6	-2.7	0.6	4.1	0.3
Relative Humidity	Max	100	99	82	92	93	99	93	93	93	97	94	94	94
	Min	27	60	49	31	54	54	59	44	20	32	43	42	56
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.8
Sunshine Duration		1.5	3.2	5.7	8.1	4.4	5.7	4.4	4.9	8.7	8.8	5.5	5.4	3.8
Precipitation		5.6	12.9				0.0	0.0	5.6		0.0	24.1	26.9	29.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	153.7
Growing Degrees	5	2.1	1.6	0.0	0.0	0.0	2.7	4.5	0.0	0.0	0.0	10.9	50.8	11.8
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.5

1st 10-day period (1-10/02/2022)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.4	13.2	4.5
Precipitation - Reference Evapotranspiration	11.7	13.7	25.4
Number of Rainy Days	3.0	4.0	3.6
Number of Dry Days	1.0	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





◆ **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.

**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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