



AGROMETEOROLOGICAL BULLETIN

*April 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



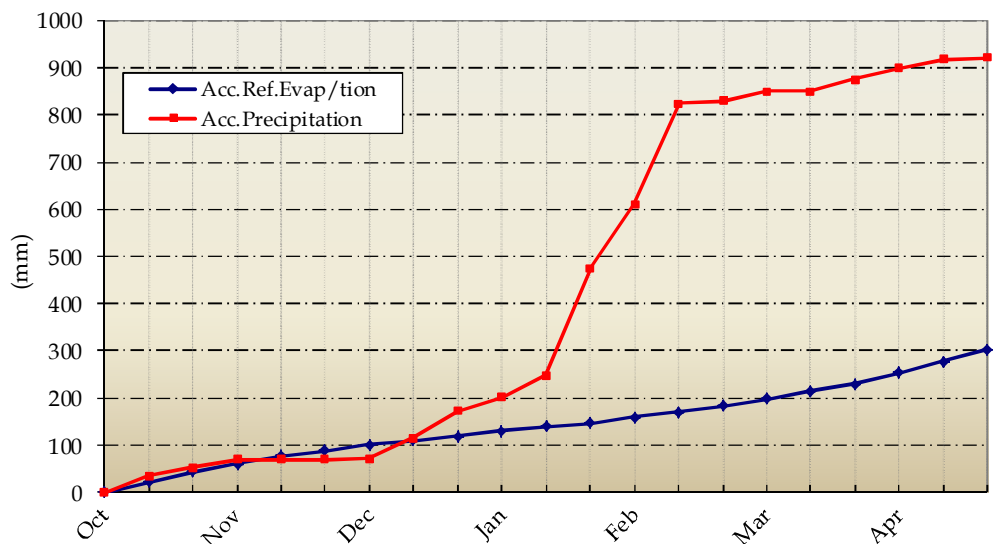
Hellenic National Meteorological Service
Division of Climatology-Applications
El. Venizelou Street 14, 16777
Helliniko, Athens

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

2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.6	15.6	15.4	17.0	15.8	15.6	15.6	17.4	13.4	15.6	15.7	18.9	16.6
	Min	0.6	1.2	5.0	7.6	9.2	4.2	9.4	10.0	9.2	5.8	6.2	6.2	7.0
Relative Humidity	Max	77	92	97	95	82	73	82	86	96	94	87	82	-
	Min	30	58	65	67	46	33	50	55	72	53	53	48	-
Soil Temperature at 10 cm	06 UTC	8.6	9.0	10.8	11.4	13.0	10.6	12.0	12.3	12.8	11.0	11.2	11.6	11.5
	12 UTC	12.6	14.6	12.8	15.4	13.0	13.2	13.6	13.8	13.6	14.6	13.7	16.5	14.7
Sunshine Duration		11.0	10.9	2.1	10.1	4.7	7.3	3.9	2.0	0.0	10.5	6.2	9.0	5.9
Precipitation				0.0		0.4				2.6		3.0	2.1	15.2
Evaporation		5.1	4.0	1.5	4.2	4.8	3.6	7.3	1.8	2.3	2.2	36.8	42.1	38.8
Growing Degrees	5	3.1	3.4	5.2	7.3	7.5	4.9	7.5	8.7	6.3	5.7	59.6	75.4	67.9
	10	0.0	0.0	0.2	2.3	2.5	0.0	2.5	3.7	1.3	0.7	13.2	26.7	22.8

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	25.7	31.6	26.7
Precipitation - Reference Evapotranspiration	-22.7	-29.5	-11.5
Number of Rainy Days	2.0	1.0	2.8
Number of Dry Days	6.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

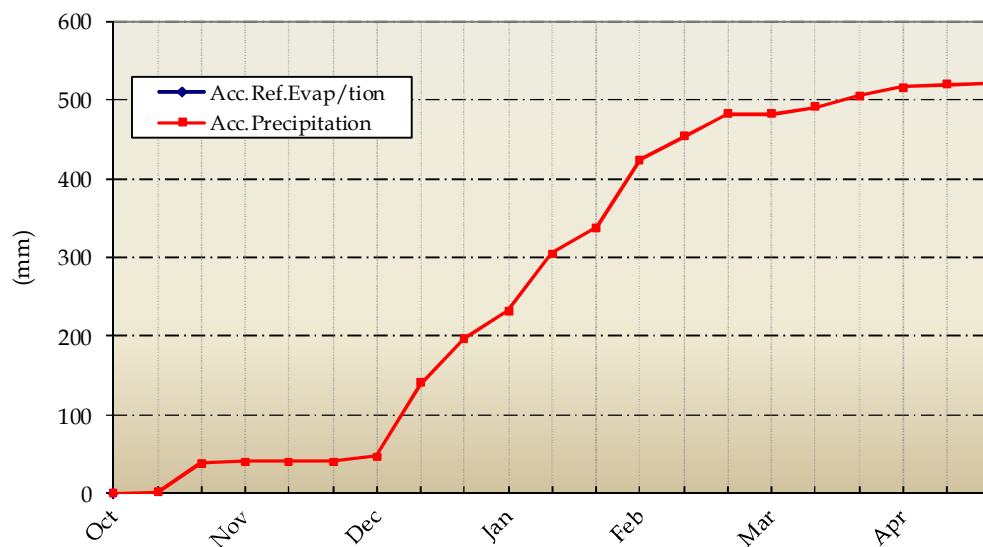


2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.6	21.0	20.8	19.6	17.3	19.9	25.5	18.0	20.1	18.1	19.8	21.7	18.4
	Min	4.7	7.1	9.0	6.6	6.6	5.2	12.0	13.4	7.7	7.5	8.0	8.1	9.1
Relative Humidity	Max	92	91	90	86	90	93	92	95	96	97	92	92	-
	Min	34	21	32	52	40	37	40	54	48	53	41	41	-
Soil Temperature at 10 cm	06 UTC	13.8	14.4	14.2	15.0	14.8	14.8	16.0	18.0	15.4	15.4	15.2	16.2	13.7
	12 UTC	15.4	16.4	18.4	16.4	16.8	16.4	17.6	18.0	17.0	16.8	16.9	18.4	16.7
Sunshine Duration		11.6	11.2	7.7	9.1	8.7	5.3	10.1	0.7	10.3	12.5	8.7	9.7	7.2
Precipitation											1.9	1.9		25.7
Evaporation		4.7	5.1	6.2	4.2	4.8	3.4	6.2	4.8	4.2	3.0	46.6	-	37.7
Growing Degrees	5	6.2	9.1	9.9	8.1	7.0	7.6	13.8	10.7	8.9	7.8	88.9	99.1	87.1
	10	1.2	4.1	4.9	3.1	2.0	2.6	8.8	5.7	3.9	2.8	38.9	49.1	37.4

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	28.2	-	28.0
Precipitation - Reference Evapotranspiration	-26.3	-	-2.3
Number of Rainy Days	1.0	0.0	3.3
Number of Dry Days	14.0	15.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

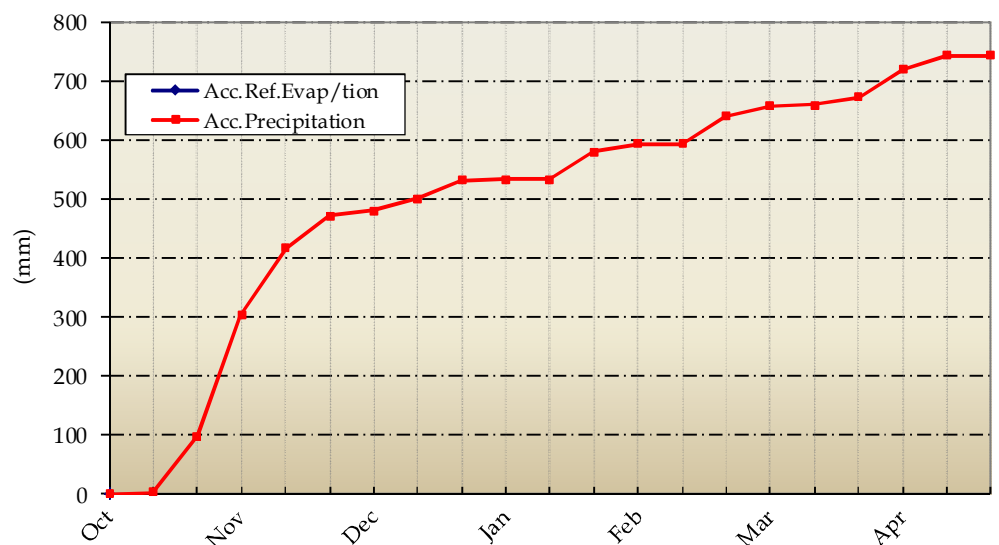


2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.0	18.0	18.6	25.4	19.4	19.4	28.6	25.4	19.0	18.8	20.9	20.3	19.9
	Min	9.2	10.8	8.4	12.0	12.4	12.0	16.4	18.0	16.4	12.8	12.8	11.6	12.0
Relative Humidity	Max	83	87	93	75	93	95	83	86	90	83	87	84	-
	Min	53	59	54	27	66	56	26	54	65	56	52	48	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.4	12.2	11.7	11.8	7.2	8.1	3.2	3.8	6.1	11.8	8.7	9.7	7.4
Precipitation										0.0		0.0	2.4	11.4
Evaporation		4.2	6.8	3.3	6.3	2.8	4.5	5.2	1.1	3.6	5.6	43.4	40.4	52.7
Growing Degrees	5	7.6	9.4	8.5	13.7	10.9	10.7	17.5	16.7	12.7	10.8	118.5	109.5	109.6
	10	2.6	4.4	3.5	8.7	5.9	5.7	12.5	11.7	7.7	5.8	68.5	59.5	59.7

2nd 10-day period (11-20/04/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	11.4
Number of Rainy Days	0.0	2.0
Number of Dry Days	11.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

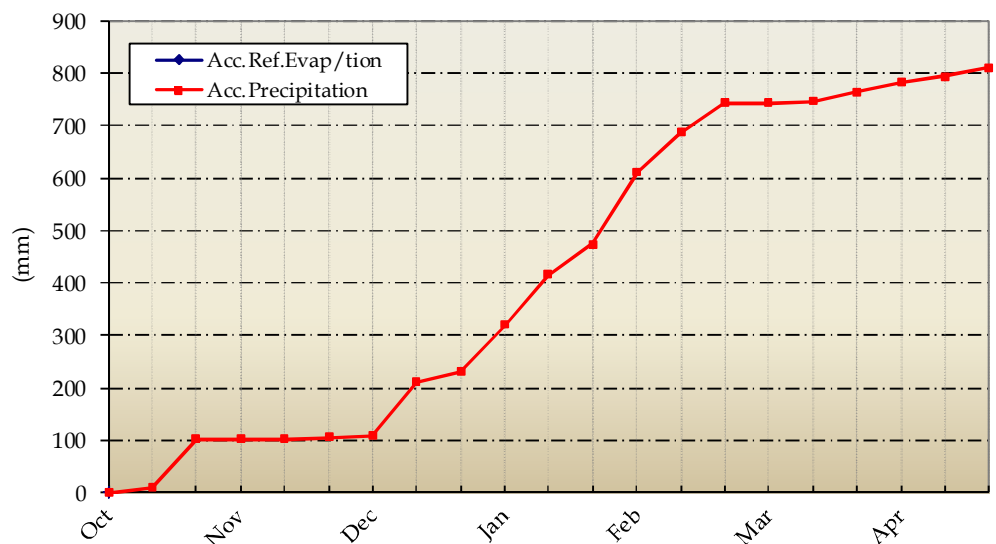


2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.4	21.0	14.8	16.0	16.7	14.0	15.6	19.3	13.6	14.3	16.5	21.3	16.1
	Min	0.0	2.4	6.1	3.2	-1.6	0.1	4.3	9.9	7.3	4.0	3.6	3.6	5.7
Relative Humidity	Max	90	100	100	100	100	100	100	91	94	95	97	99	-
	Min	31	37	57	42	23	42	56	40	65	64	46	37	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	10.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.9
Sunshine Duration		9.1	8.8	5.1	9.2	9.6	0.2	0.0	7.7	2.0	3.5	5.5	6.5	4.9
Precipitation				3.0	0.0				0.0	7.1	7.3	17.4	0.8	35.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	28.5
Growing Degrees	5	4.7	6.7	5.5	4.6	2.6	2.1	5.0	9.6	5.5	4.2	50.2	74.4	58.8
	10	0.0	1.7	0.5	0.0	0.0	0.0	0.0	4.6	0.5	0.0	7.2	24.5	15.8

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	24.2
Precipitation - Reference Evapotranspiration	-	-	10.9
Number of Rainy Days	3.0	1.0	4.7
Number of Dry Days	4.0	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

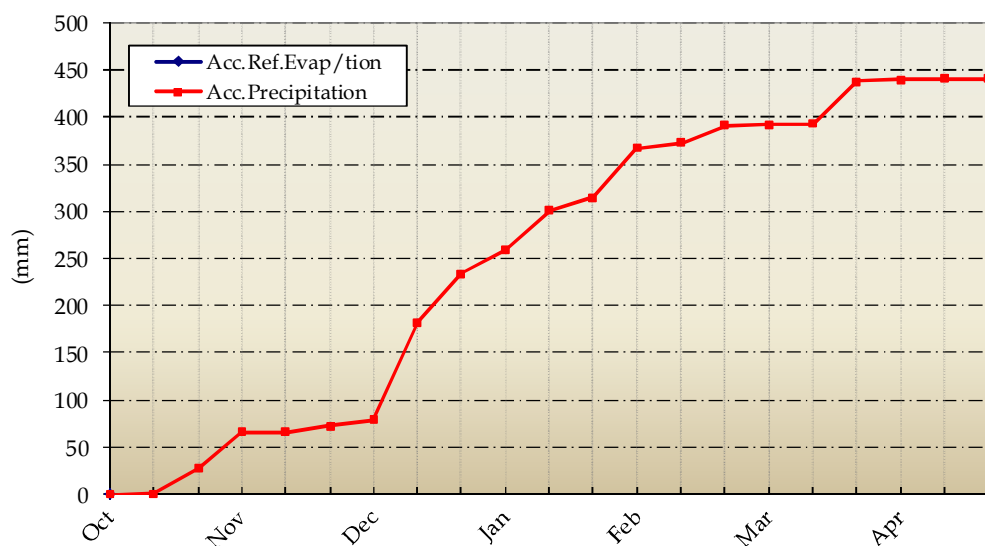


2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.3	19.5	22.7	20.3	21.8	22.7	26.5	21.5	20.6	19.4	21.3	21.7	19.2
	Min	3.9	4.6	8.8	3.6	6.5	8.2	13.8	15.8	8.5	5.3	7.9	8.9	8.4
Relative Humidity	Max	88	92	81	83	82	72	60	88	92	100	84	84	-
	Min	36	39	12	41	30	30	29	44	29	37	33	41	-
Soil Temperature at 10 cm	06 UTC	13.5	13.6	15.0	13.4	14.6	15.5	16.4	18.2	15.4	15.4	15.1	15.5	13.9
	12 UTC	17.5	18.4	18.5	18.4	19.0	18.6	20.0	19.0	19.5	17.8	18.7	19.3	16.9
Sunshine Duration		11.6	11.5	6.8	11.5	11.2	7.9	4.1	0.2	10.4	9.9	8.5	9.3	7.1
Precipitation							0.0			0.1	0.1	0.2	0.0	25.5
Evaporation		5.6	7.4	5.6	6.6	8.4	6.4	6.2	5.6	5.8	5.8	63.4	50.9	41.0
Growing Degrees	5	6.1	7.1	10.8	7.0	9.2	10.5	15.2	13.7	9.6	7.4	96.2	103.0	88.0
	10	1.1	2.1	5.8	2.0	4.2	5.5	10.2	8.7	4.6	2.4	46.2	53.0	38.2

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	38.2	28.5
Precipitation - Reference Evapotranspiration	-	-38.2	-3.0
Number of Rainy Days	2.0	0.0	4.1
Number of Dry Days	13.0	14.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



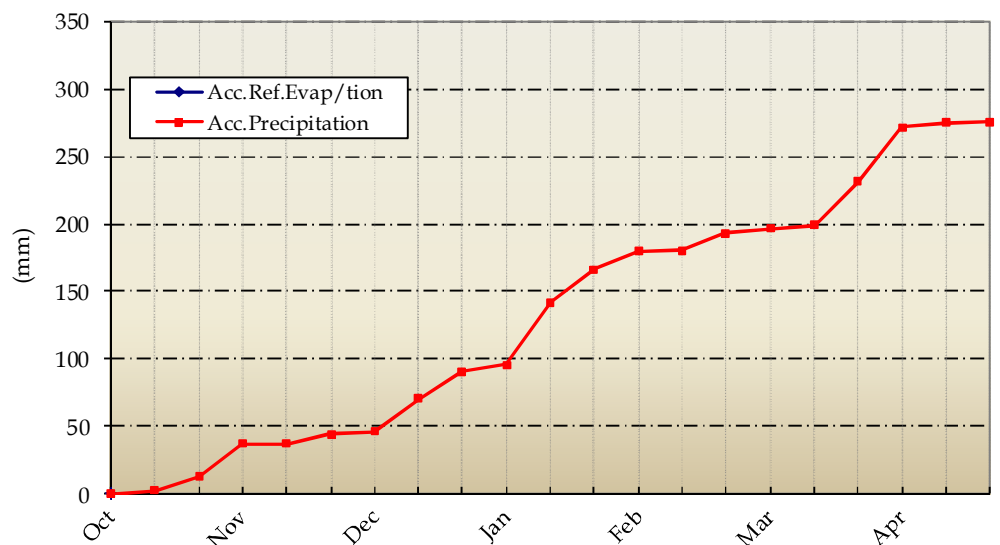
Larisa

2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.6	20.8	20.8	21.2	18.6	14.8	13.0	20.2	19.2	19.8	18.7	22.1	19.0
	Min	-0.4	2.5	8.2	3.6	3.1	3.0	9.4	10.0	6.1	4.0	5.0	5.7	6.4
Relative Humidity	Max	91	94	91	85	86	89	91	97	100	90	91	92	-
	Min	31	43	41	30	28	40	69	56	38	32	41	42	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.8
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	14.4
Sunshine Duration		10.4	9.9	5.0	11.1	10.9	0.2	0.0	4.5	5.9	11.5	6.9	7.7	6.4
Precipitation				0.1			0.5					0.6	0.0	13.6
Evaporation		5.8	1.6	3.2	7.5	5.0	1.3	0.8	3.3	6.2	3.9	38.6	45.9	36.9
Growing Degrees	5	4.1	6.7	9.5	7.4	5.9	3.9	6.2	10.1	7.7	6.9	68.3	89.0	77.0
	10	0.0	1.7	4.5	2.4	0.9	0.0	1.2	5.1	2.7	1.9	20.3	39.8	28.8

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	29.8	33.8	28.6
Precipitation - Reference Evapotranspiration	-29.2	-33.8	-15.0
Number of Rainy Days	2.0	0.0	3.4
Number of Dry Days	4.0	14.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



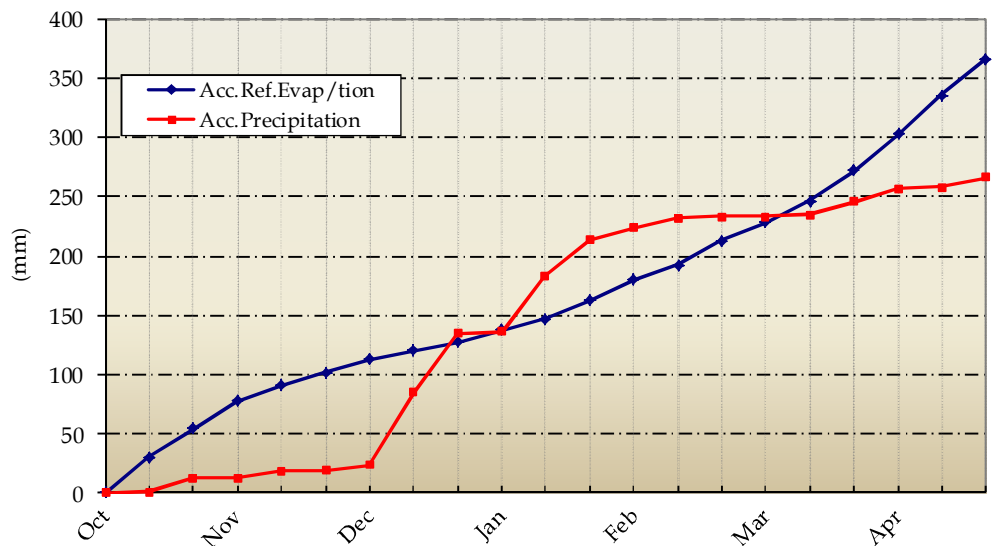
Mikra

2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.2	19.1	18.2	21.4	18.4	14.4	13.0	17.0	18.7	19.2	17.8	20.5	18.2
	Min	4.0	5.1	8.4	5.8	9.6	6.2	10.1	11.2	11.5	6.2	7.8	7.1	7.7
Relative Humidity	Max	86	88	94	94	57	90	93	94	95	94	88	92	-
	Min	44	47	53	29	32	41	76	64	54	37	48	46	-
Soil Temperature at 10 cm	06 UTC	11.2	12.2	13.4	12.8	13.2	13.2	13.4	13.4	14.8	13.0	13.1	13.1	12.6
	12 UTC	14.2	15.0	15.4	16.0	16.4	14.0	14.2	15.0	16.6	16.0	15.3	14.4	16.4
Sunshine Duration		11.8	10.3	1.9	11.2	11.9	0.2	0.0	3.5	4.8	11.3	6.7	7.7	6.1
Precipitation				0.5			0.7	0.4		3.6	3.1	8.3	2.5	14.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	39.8
Growing Degrees	5	6.1	7.1	8.3	8.6	9.0	5.3	6.6	9.1	10.1	7.7	77.9	88.2	79.5
	10	1.1	2.1	3.3	3.6	4.0	0.3	1.6	4.1	5.1	2.7	27.9	38.6	31.0

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.8	31.6	29.0
Precipitation - Reference Evapotranspiration	-22.5	-29.1	-14.5
Number of Rainy Days	5.0	1.0	3.4
Number of Dry Days	6.0	8.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



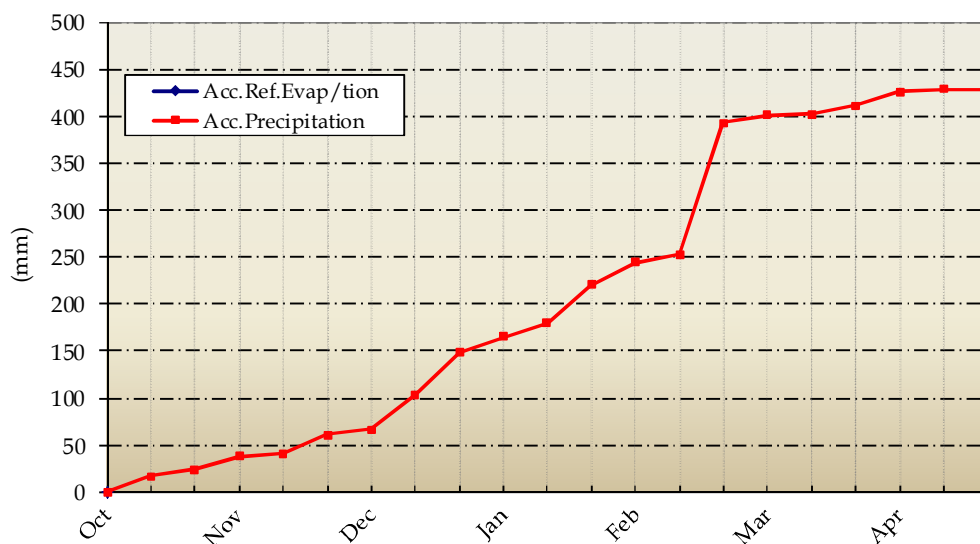
Tanagra

2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.2	19.8	19.8	20.3	18.8	16.9	16.2	17.6	20.8	19.2	18.7	21.4	18.6
	Min	0.6	2.8	5.5	5.2	3.7	7.3	9.3	9.6	7.8	6.8	5.9	7.4	7.2
Relative Humidity	Max	97	93	92	81	82	95	97	99	99	75	91	85	-
	Min	29	29	42	24	37	53	61	61	29	28	39	36	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.4	11.0	4.5	7.9	10.6	1.7	0.0	0.1	10.5	11.9	7.0	9.6	
Precipitation														10.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	3.9	6.3	7.7	7.8	6.3	7.1	7.8	8.6	9.3	8.0	72.6	93.7	
	10	0.0	1.3	2.7	2.8	1.3	2.1	2.8	3.6	4.3	3.0	23.7	43.7	

2nd 10-day period (11-20/04/2021)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-
Precipitation - Reference Evapotranspiration	-	10.8
Number of Rainy Days	0.0	3.9
Number of Dry Days	12.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



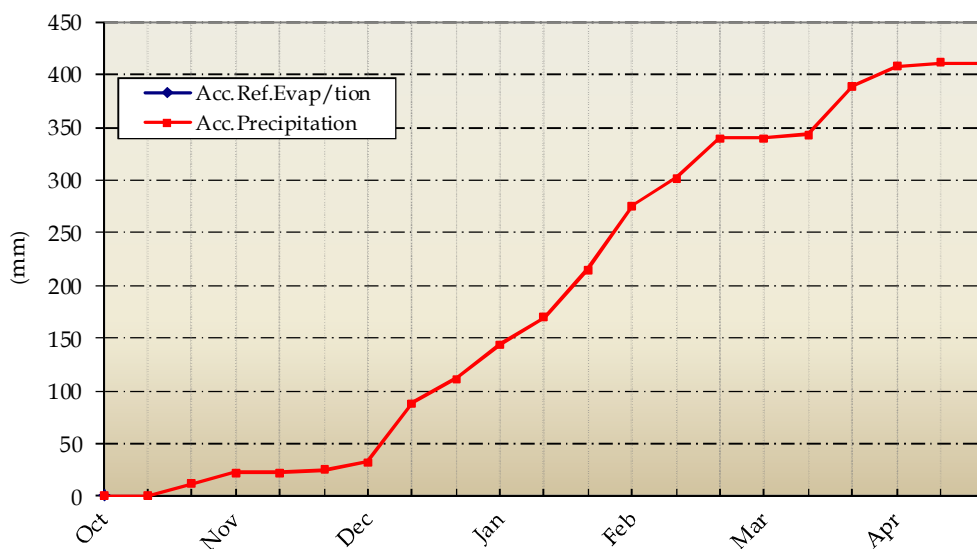
Tripoli

2nd 10-day period (11-20/04/2021)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.1	20.3	19.8	18.6	20.0	15.0	17.8	18.0	15.7	14.7	17.7	21.5	16.3
	Min	-1.3	0.6	4.9	0.0	0.2	2.8	10.4	9.5	3.0	5.3	3.5	4.4	4.8
Relative Humidity	Max	93	96	83	83	93	88	87	89	94	84	89	91	-
	Min	28	31	13	25	11	60	56	44	37	39	34	24	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	10.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.7
Sunshine Duration		10.5	10.6	4.3	10.9	10.1	4.2	3.4	0.2	10.5	8.8	7.4	8.0	6.7
Precipitation		0.0						0.0	0.0	0.0		0.0	0.0	30.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	29.8
Growing Degrees	5	2.9	5.5	7.4	4.3	5.1	3.9	9.1	8.8	4.4	5.0	56.2	-	55.6
	10	0.0	0.5	2.4	0.0	0.1	0.0	4.1	3.8	0.0	0.0	10.8	-	14.5

2nd 10-day period (11-20/04/2021)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	28.8	-	28.5
Precipitation - Reference Evapotranspiration	-28.8	-	2.3
Number of Rainy Days	0.0	0.0	4.5
Number of Dry Days	12.0	16.0	-

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.

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

© HELLENIC NATIONAL METEOROLOGICAL SERVICE

Reproduction is prohibited without written permission

El. Venizelou street 14, Zip Code 16777

Helliniko, Athens



ΕΘΝΙΚΗ
ΜΕΤΕΩΡΟΛΟΓΙΚΗ
ΥΠΗΡΕΣΙΑ

HELLENIC NATIONAL METEOROLOGICAL SERVICE

Division of Climatology-Applications

Issue Editors :

Papakrivou Anastasia

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