



AGROMETEOROLOGICAL BULLETIN

*August 2020
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



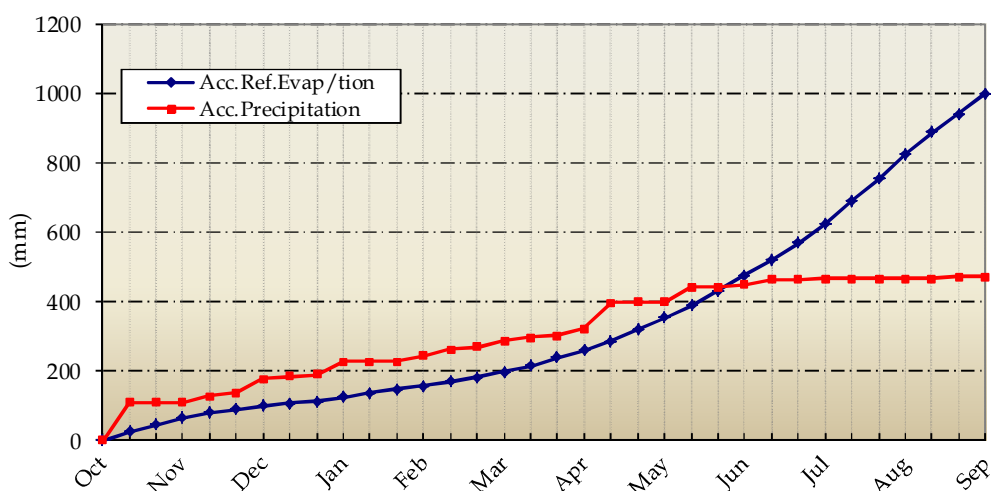
Hellenic National Meteorological Service
Division of Climatology-Applications
El. Venizelou Street 14, 16777
Helliniko, Athens

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

3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.6	33.6	32.8	34.6	32.4	31.4	31.8	35.4	36.4	35.8	34.6	33.7	34.8	29.1
	Min	19.4	18.6	18.0	21.2	19.6	19.8	18.0	17.4	15.2	22.4	20.4	19.1	21.4	16.6
Relative Humidity	Max	87	91	86	88	81	80	91	84	77	78	84	84	63	-
	Min	38	38	40	36	36	41	42	29	30	22	42	36	26	-
Soil Temperature at 10 cm	06 UTC	23.8	23.4	24.8	25.6	24.2	25.2	25.6	24.4	24.2	24.6	24.4	24.6	27.9	23.0
	12 UTC	26.6	27.4	29.4	30.2	28.0	29.8	29.6	28.8	28.8	29.4	30.8	29.0	32.8	27.1
Sunshine Duration		12.2	12.4	12.0	11.8	11.9	11.4	11.0	12.3	12.4	11.8	12.2	11.9	12.0	9.8
Precipitation															4.5
Evaporation		7.5	6.6	9.0	5.6	6.7	8.9	8.0	9.8	5.5	10.3	8.8	86.7	121.0	93.1
Growing Degrees	5	20.5	21.1	20.4	22.9	21.0	20.6	19.9	21.4	20.8	24.1	22.5	235.2	254.3	196.4
	10	15.5	16.1	15.4	17.9	16.0	15.6	14.9	16.4	15.8	19.1	17.5	180.2	199.3	141.4

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	57.6	69.4	54.2
Precipitation - Reference Evapotranspiration	-57.6	-69.4	-49.7
Number of Rainy Days	0.0	0.0	1.0
Number of Dry Days	11.0	14.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



Agrometeorological Data

August 2020

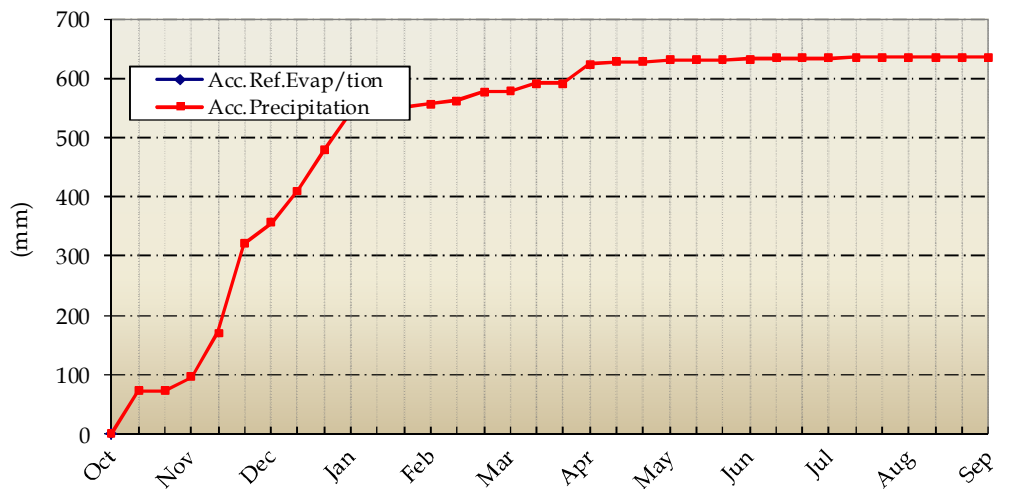
Andravida

3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.4	33.8	34.8	33.4	31.9	31.2	31.8	34.0	32.5	32.0	32.8	32.9	34.6	30.0
	Min	19.8	18.3	19.6	21.0	21.8	21.2	20.1	20.6	20.1	19.3	19.6	20.1	18.0	18.5
Relative Humidity	Max	82	92	91	89	91	93	90	94	93	89	93	91	82	-
	Min	34	35	32	39	50	51	45	28	41	50	47	41	23	-
Soil Temperature at 10 cm	06 UTC	30.2	30.6	28.0	29.8	29.6	30.0	28.4	29.4	29.8	29.2	29.0	29.5	28.2	26.8
	12 UTC	33.6	34.0	33.6	34.0	34.4	34.2	34.6	34.6	32.2	32.2	33.0	33.7	31.5	30.8
Sunshine Duration		10.9	11.1	10.6	10.5	10.0	10.3	9.5	10.0	10.5	10.4	10.4	10.4	11.4	10.6
Precipitation															3.8
Evaporation		9.0	8.4	8.0	9.8	9.0	7.6	8.0	10.8	11.1	10.4	9.6	101.7	100.3	74.7
Growing Degrees	5	21.6	21.1	22.2	22.2	21.9	21.2	21.0	22.3	21.3	20.7	21.2	236.5	234.0	211.8
	10	16.6	16.1	17.2	17.2	16.9	16.2	16.0	17.3	16.3	15.7	16.2	181.5	179.0	156.8

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	57.8	49.7
Precipitation - Reference Evapotranspiration	-	-57.8	-45.9
Number of Rainy Days	0.0	0.0	0.7
Number of Dry Days	23.0	46.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



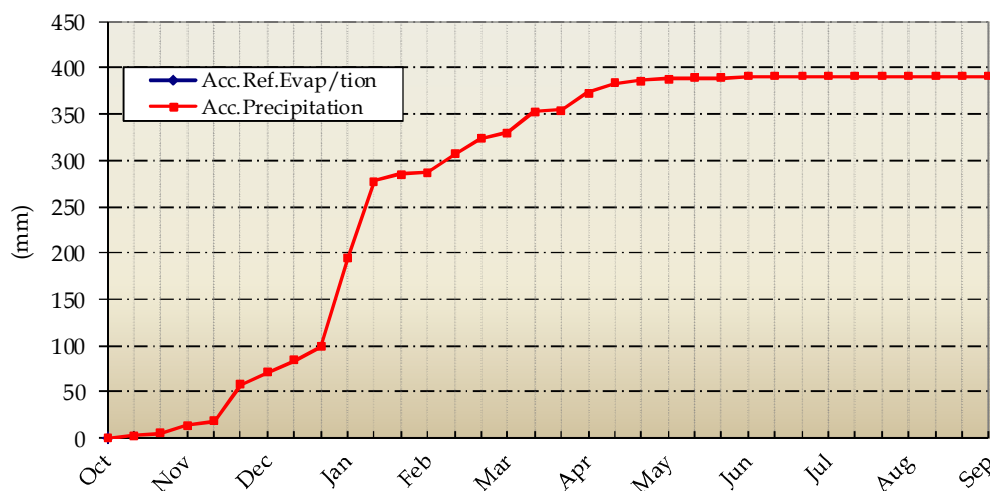
Iraklio

3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	30	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.2	28.6	29.0	29.0	28.8	28.6	29.0	28.6	29.2	30.0	30.8	29.2	28.4	27.8
	Min	25.0	25.8	23.8	23.0	20.6	22.4	22.0	24.2	20.0	21.0	20.8	22.6	22.8	21.3
Relative Humidity	Max	74	69	75	86	85	87	82	82	84	83	79	81	77	-
	Min	52	58	53	56	61	61	54	60	39	62	39	54	59	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.3	11.4	12.0	12.2	13.0	11.8	12.0	12.0	11.9	11.5	12.0	12.0	11.5	10.8
Precipitation															0.6
Evaporation		8.2	7.9	5.5	11.5	4.7	5.3	5.8	5.7	5.1	5.5	10.5	75.7	73.9	88.9
Growing Degrees	5	22.1	22.2	21.4	21.0	19.7	20.5	20.5	21.4	19.6	20.5	20.8	229.7	226.8	215.1
	10	17.1	17.2	16.4	16.0	14.7	15.5	15.5	16.4	14.6	15.5	15.8	174.7	171.8	160.1

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	59.4	-
Precipitation - Reference Evapotranspiration	-	-59.4	0.6
Number of Rainy Days	0.0	0.0	0.1
Number of Dry Days	90.0	45.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

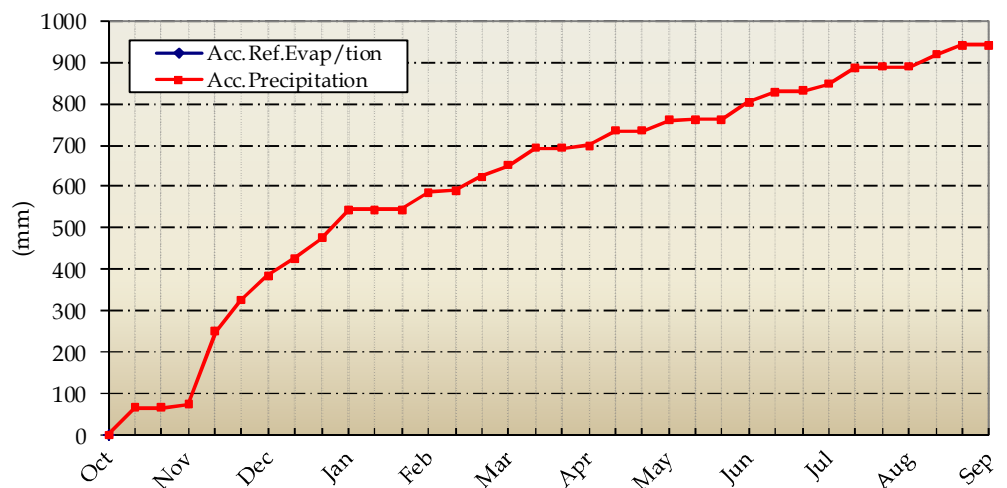


3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.4	34.1	35.2	34.5	33.7	32.9	33.0	34.5	34.8	35.0	35.8	34.3	34.8	29.2
	Min	14.9	13.8	14.7	15.4	16.8	13.2	13.8	15.5	14.8	12.6	13.0	14.4	16.7	14.3
Relative Humidity	Max	91	97	97	97	94	100	100	100	100	100	81	96	76	-
	Min	27	29	25	25	30	28	36	27	26	23	26	27	24	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	21.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	25.5
Sunshine Duration		10.8	10.7	10.4	9.6	9.4	11.1	10.3	10.1	10.1	10.1	11.0	10.3	9.8	8.9
Precipitation															15.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	70.8
Growing Degrees	5	19.2	19.0	20.0	20.0	20.3	18.1	18.4	20.0	19.8	18.8	19.4	212.7	228.4	178.0
	10	14.2	14.0	15.0	15.0	15.3	13.1	13.4	15.0	14.8	13.8	14.4	157.7	173.4	124.8

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	44.4
Precipitation - Reference Evapotranspiration	-	-	-28.5
Number of Rainy Days	0.0	0.0	2.1
Number of Dry Days	14.0	33.0	-

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

August 2020

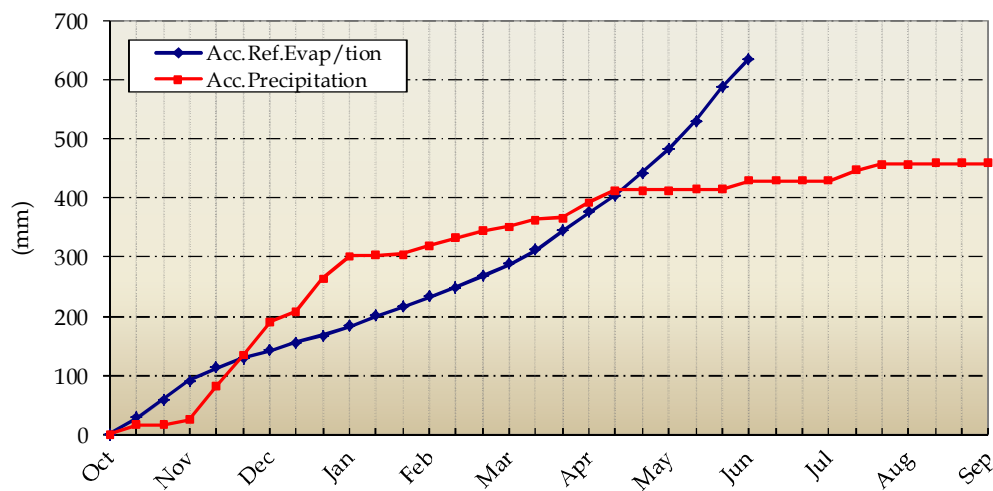
Kalamata

3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.4	34.6	30.0	34.6	31.9	31.3	31.4	31.9	33.0	32.4	34.1	32.6	33.7	30.5
	Min	20.5	20.8	17.8	18.5	19.1	20.4	19.5	19.1	18.4	17.7	22.5	19.5	18.9	17.7
Relative Humidity	Max	93	71	72	82	85	85	90	92	92	78	78	83	76	-
	Min	35	18	20	26	42	46	48	44	25	31	29	33	25	-
Soil Temperature at 10 cm	06 UTC	29.0	28.5	28.0	28.0	28.0	28.0	28.0	28.4	28.0	28.0	28.5	28.2	28.2	25.4
	12 UTC	32.5	33.0	32.0	32.0	31.8	32.0	32.0	32.0	32.2	31.0	32.0	32.0	30.8	29.0
Sunshine Duration		10.1	8.7	8.4	7.7	6.5	3.8	3.6	4.8	4.9	10.7	11.3	7.3	11.3	10.0
Precipitation															3.6
Evaporation		11.8	9.2	9.2	10.8	7.2	8.6	7.4	7.0	7.4	12.0	8.0	98.6	97.2	81.7
Growing Degrees	5	22.0	22.7	18.9	21.6	20.5	20.9	20.5	20.5	20.7	20.1	23.3	231.5	234.1	210.0
	10	17.0	17.7	13.9	16.6	15.5	15.9	15.5	15.5	15.7	15.1	18.3	176.5	179.1	155.0

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	68.6	52.5
Precipitation - Reference Evapotranspiration	-	-68.6	-48.9
Number of Rainy Days	0.0	0.0	0.9
Number of Dry Days	29.0	46.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

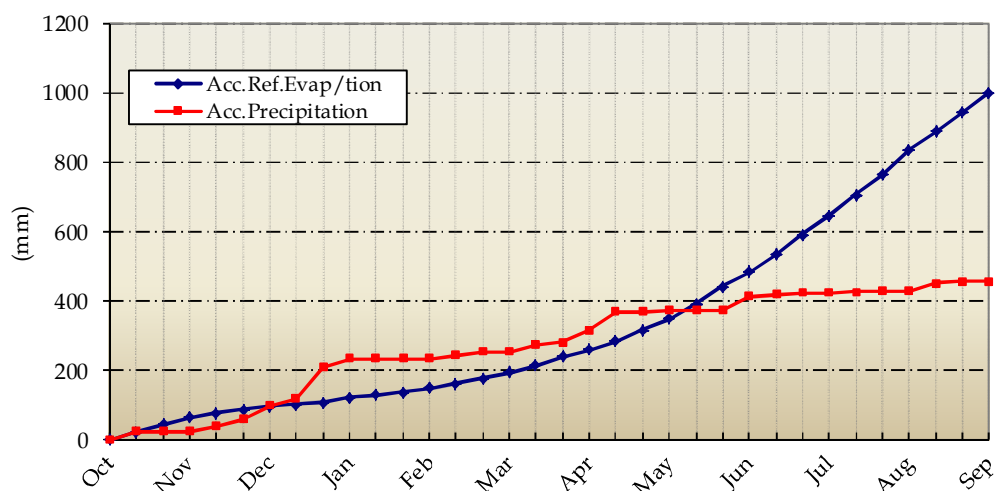


3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.2	35.0	35.4	34.4	34.0	32.0	34.0	35.4	35.6	36.0	37.6	34.9	34.1	31.3
	Min	19.0	18.6	18.2	19.2	19.4	17.2	18.6	15.7	15.2	13.4	15.2	17.2	17.6	16.4
Relative Humidity	Max	74	77	75	82	88	92	88	81	75	79	75	81	71	-
	Min	31	27	28	36	36	34	29	23	20	19	18	27	24	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	25.5
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	27.7
Sunshine Duration		10.7	11.0	10.4	10.2	6.1	10.6	10.3	10.7	10.6	10.5	11.3	10.2	10.5	9.7
Precipitation						1.0							1.0		8.3
Evaporation		9.8	10.5	14.5	5.6	6.9	8.2	9.2	9.6	14.4	8.3	8.1	105.1	128.0	85.2
Growing Degrees	5	21.6	21.8	21.8	21.8	21.7	19.6	21.3	20.6	20.4	19.7	21.4	231.7	229.5	207.5
	10	16.6	16.8	16.8	16.8	16.7	14.6	16.3	15.6	15.4	14.7	16.4	176.7	174.5	152.5

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	57.8	65.6	54.4
Precipitation - Reference Evapotranspiration	-56.8	-65.6	-46.1
Number of Rainy Days	1.0	0.0	1.6
Number of Dry Days	5.0	14.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



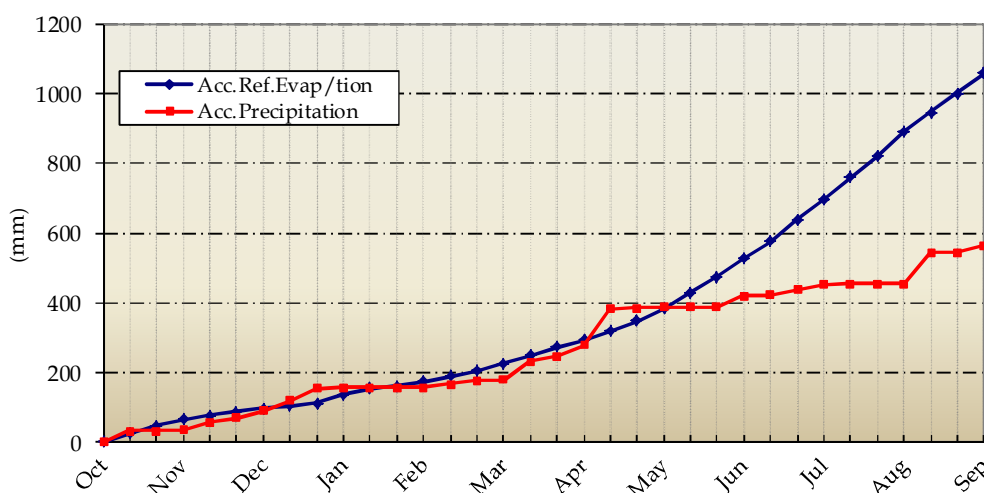
Mikra

3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.4	33.2	33.5	32.4	32.1	30.3	32.1	34.3	34.1	33.4	36.0	33.0	33.8	29.9
	Min	19.9	19.9	20.4	21.2	21.3	20.5	16.9	18.0	18.2	18.0	17.5	19.3	21.3	17.9
Relative Humidity	Max	73	80	71	85	95	82	88	80	75	69	74	79	70	-
	Min	47	31	32	40	41	44	29	28	27	33	28	35	29	-
Soil Temperature at 10 cm	06 UTC	23.4	26.6	26.8	27.0	27.6	25.8	25.2	25.2	24.4	24.6	25.0	25.6	28.6	25.1
	12 UTC	27.8	29.6	28.4	29.0	28.8	27.0	27.4	27.6	27.2	27.4	28.0	28.0	31.9	29.4
Sunshine Duration		12.1	11.0	11.9	11.0	7.5	12.0	12.1	11.9	12.0	11.8	11.9	11.4	11.8	9.2
Precipitation						8.5	12.3						20.8		10.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	84.9
Growing Degrees	5	20.7	21.6	22.0	21.8	21.7	20.4	19.5	21.2	21.2	20.7	21.8	232.3	248.4	208.0
	10	15.7	16.6	17.0	16.8	16.7	15.4	14.5	16.2	16.2	15.7	16.8	177.3	193.4	153.0

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	56.1	53.3	53.4
Precipitation - Reference Evapotranspiration	-35.3	-53.3	-42.9
Number of Rainy Days	2.0	0.0	1.6
Number of Dry Days	4.0	16.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

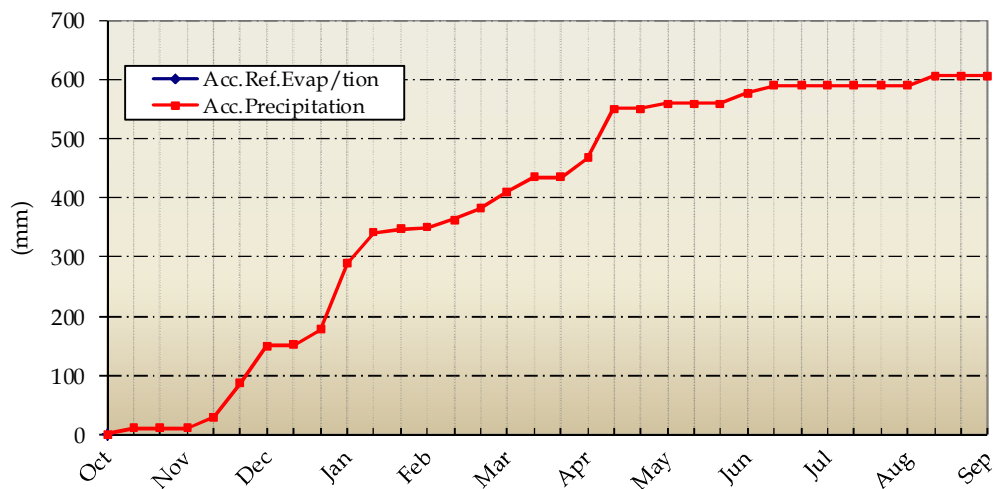


3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.1	32.9	33.6	31.8	33.6	31.1	32.6	33.2	33.8	34.2	35.7	33.0	31.6	30.9
	Min	19.0	19.8	18.6	19.9	19.3	21.4	18.0	17.4	18.0	17.4	18.2	18.8	20.9	17.4
Relative Humidity	Max	62	61	61	65	69	69	74	63	58	62	63	64	60	-
	Min	33	22	24	32	25	27	16	19	19	18	19	23	26	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.5	12.4	12.5	12.0	11.1	11.7	12.2	12.3	12.3	12.8	11.7	12.1	11.9	
Precipitation															5.9
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	19.6	21.4	21.1	20.9	21.5	21.3	20.3	20.3	20.9	20.8	22.0	229.8	233.8	
	10	14.6	16.4	16.1	15.9	16.5	16.3	15.3	15.3	15.9	15.8	17.0	174.8	178.8	

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	62.9	
Precipitation - Reference Evapotranspiration	-	-62.9	5.9
Number of Rainy Days	0.0	0.0	1.0
Number of Dry Days	22.0	45.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



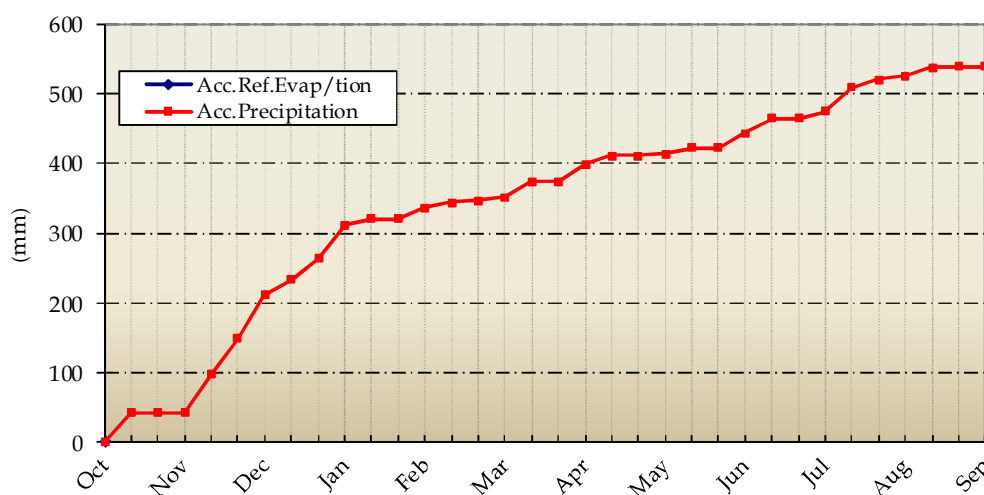
Tripoli

3rd 10-day period (21-31/08/2020)		21	22	23	24	25	26	27	28	29	20	31	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.4	31.6	31.2	31.8	32.2	30.2	31.0	32.6	33.6	33.9	34.6	32.1	31.4	29.3
	Min	14.6	18.1	12.9	14.3	14.7	15.9	17.0	13.2	11.2	12.2	12.3	14.2	16.9	13.3
Relative Humidity	Max	98	34	83	86	95	73	98	96	58	85	89	81	69	-
	Min	27	18	23	25	26	36	27	12	11	15	14	21	20	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	25.9	23.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	33.1	26.2
Sunshine Duration		10.4	11.9	11.6	9.8	7.0	7.2	8.9	11.3	11.6	11.4	11.5	10.2	11.4	9.5
Precipitation						0.4							0.4		5.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-	54.7
Growing Degrees	5	17.5	19.9	17.1	18.1	18.5	18.1	19.0	17.9	17.4	18.1	18.5	199.8	210.5	179.5
	10	12.5	14.9	12.1	13.1	13.5	13.1	14.0	12.9	12.4	13.1	13.5	144.8	155.5	124.5

3rd 10-day period (21-31/08/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	47.7	58.5	47.4
Precipitation - Reference Evapotranspiration	-47.3	-58.5	-42.1
Number of Rainy Days	1.0	0.0	1.2
Number of Dry Days	4.0	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.

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