



# AGROMETEOROLOGICAL BULLETIN

*September 2020*  
*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



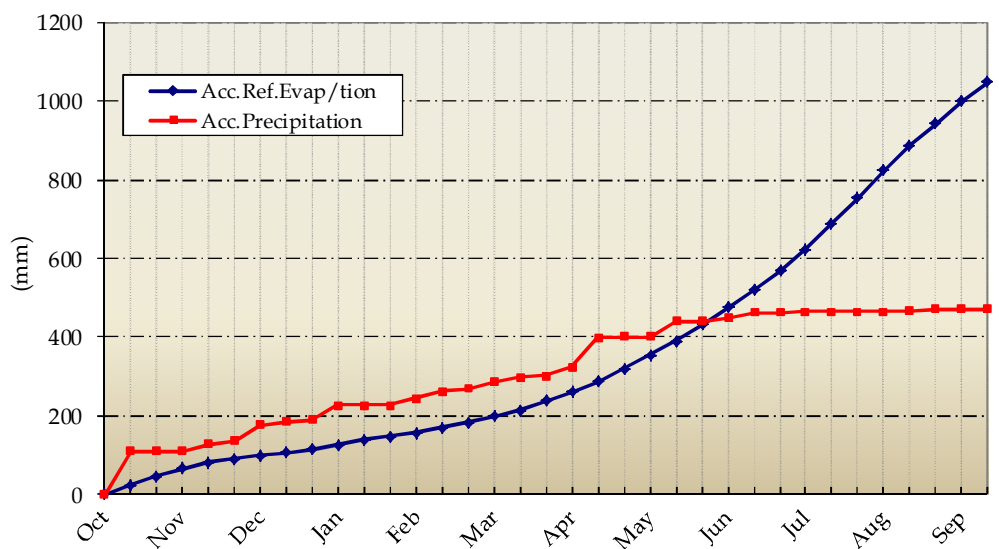
Hellenic National Meteorological Service  
Division of Climatology-Applications  
El. Venizelou Street 14, 16777  
Helliniko, Athens

*Web adresses of HNMS*  
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1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.4	36.6	34.8	30.6	29.2	32.0	33.4	34.6	32.6	32.2	33.0	31.5	27.3
	Min	17.4	20.0	17.2	20.0	14.0	15.2	16.4	16.4	22.0	21.0	18.0	18.2	15.0
Relative Humidity	Max	86	73	91	89	87	83	82	82	76	79	83	78	-
	Min	29	29	37	36	40	36	30	29	37	29	33	29	-
Soil Temperature at 10 cm	06 UTC	26.0	25.4	23.6	24.0	24.0	22.8	22.6	23.6	25.2	25.2	24.2	25.9	21.2
	12 UTC	30.4	28.8	28.2	27.2	27.8	28.4	27.2	29.2	30.0	30.6	28.8	31.2	24.9
Sunshine Duration		12.1	11.3	11.3	10.2	12.4	11.6	11.2	11.2	11.4	11.3	11.4	10.9	8.8
Precipitation														6.6
Evaporation		6.4	8.9	7.3	10.2	4.8	9.0	8.4	6.5	12.2	9.9	83.6	84.8	73.7
Growing Degrees	5	20.9	23.3	21.0	20.3	16.6	18.6	19.9	20.5	22.3	21.6	205.0	198.6	161.8
	10	15.9	18.3	16.0	15.3	11.6	13.6	14.9	15.5	17.3	16.6	155.0	148.6	111.8

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	50.0	51.8	42.4
Precipitation - Reference Evapotranspiration	-50.0	-51.8	-35.8
Number of Rainy Days	0.0	0.0	1.1
Number of Dry Days	21.0	24.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

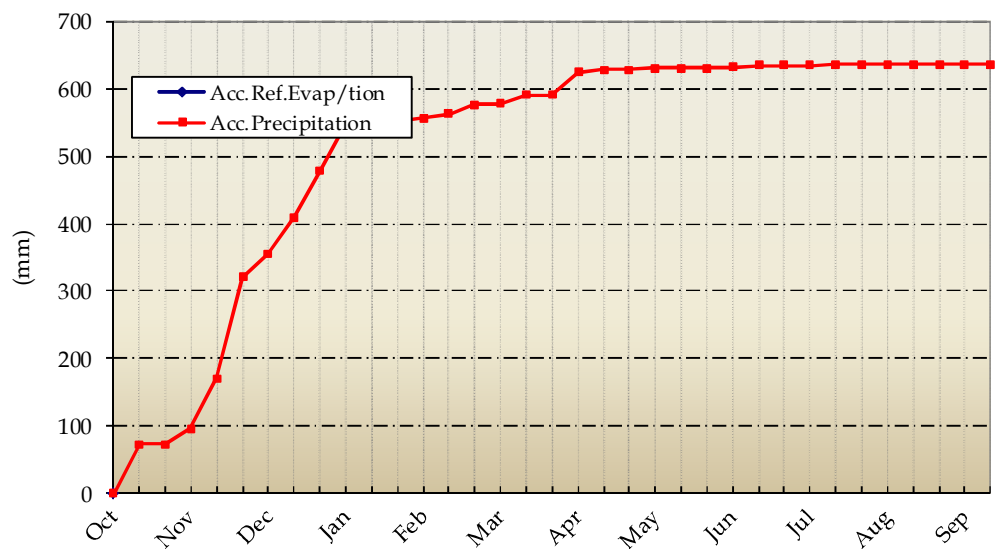


1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.4	31.0	31.0	30.4	31.5	31.5	31.8	32.9	35.2	35.1	32.3	31.5	28.8
	Min	20.3	19.3	17.6	22.7	17.8	15.7	16.5	17.6	18.6	20.6	18.7	19.0	17.3
Relative Humidity	Max	94	87	90	82	93	95	86	85	92	89	89	95	-
	Min	40	31	36	41	29	29	34	36	28	23	33	36	-
Soil Temperature at 10 cm	06 UTC	28.4	29.2	28.6	28.4	28.4	28.2	27.6	27.6	28.0	28.2	28.3	27.7	24.8
	12 UTC	33.2	31.6	30.4	31.0	31.2	30.6	30.4	30.6	31.0	30.2	31.0	30.2	28.9
Sunshine Duration		10.0	10.5	10.2	10.4	10.1	10.2	10.1	10.0	9.7	10.3	10.2	9.5	9.7
Precipitation														5.8
Evaporation		9.2	8.9	9.4	9.0	9.3	8.4	8.8	10.4	11.5	9.2	94.1	79.4	62.5
Growing Degrees	5	21.4	20.2	19.3	21.6	19.7	18.6	19.2	20.3	21.9	22.9	204.8	202.5	180.3
	10	16.4	15.2	14.3	16.6	14.7	13.6	14.2	15.3	16.9	17.9	154.8	152.5	130.3

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	40.6	40.4
Precipitation - Reference Evapotranspiration	-	-40.6	-34.6
Number of Rainy Days	0.0	0.0	1.2
Number of Dry Days	33.0	56.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



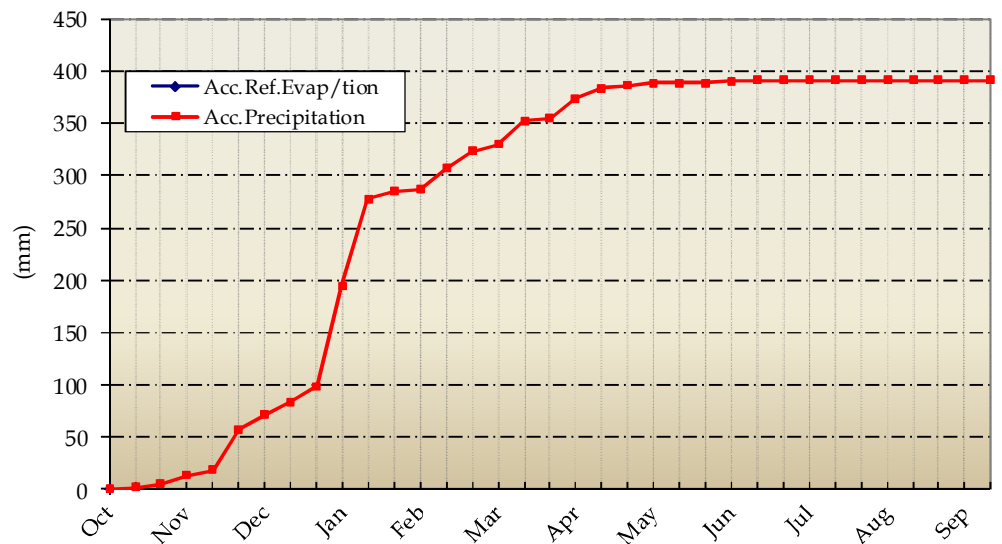
Iraklio

1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.8	33.0	31.4	30.0	27.4	29.0	28.0	30.0	27.6	27.8	29.6	27.9	27.0
	Min	22.6	23.0	22.4	22.6	25.6	24.0	22.0	24.6	25.6	23.6	23.6	22.3	20.4
Relative Humidity	Max	70	82	92	89	74	69	74	82	77	79	79	74	-
	Min	41	39	43	64	55	46	61	51	62	68	53	50	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.6	11.1	10.4	10.8	11.5	11.2	11.2	11.0	10.3	9.4	10.8	11.1	9.9
Precipitation														1.6
Evaporation		5.6	6.2	4.3	5.1	6.8	9.1	1.5	7.3	7.4	6.1	59.4	69.1	74.3
Growing Degrees	5	22.2	23.0	21.9	21.3	21.5	21.5	20.0	22.3	21.6	20.7	216.0	200.9	187.3
	10	17.2	18.0	16.9	16.3	16.5	16.5	15.0	17.3	16.6	15.7	166.0	150.9	137.3

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	52.5	-
Precipitation - Reference Evapotranspiration	-	-52.5	1.6
Number of Rainy Days	0.0	0.0	0.3
Number of Dry Days	100.0	55.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

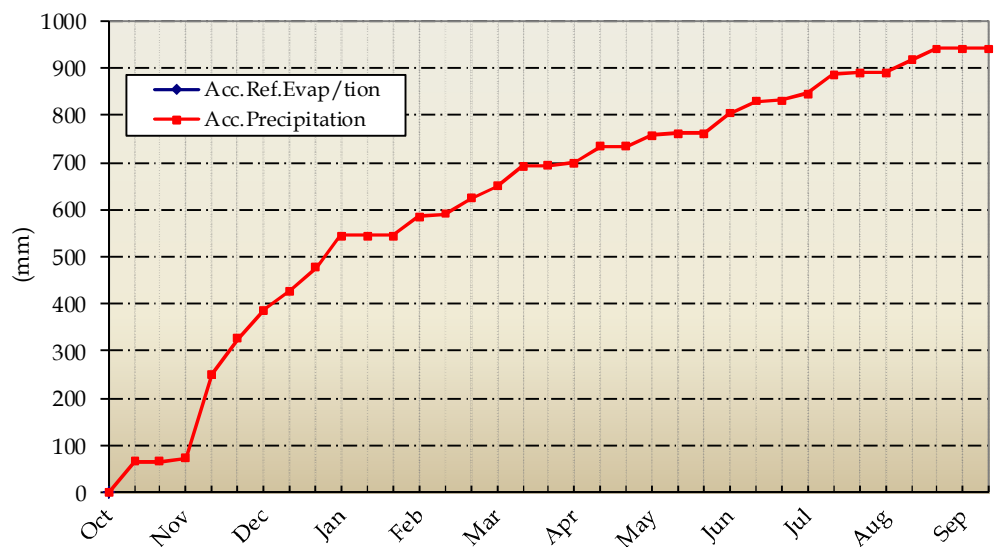


1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.2	31.6	30.6	31.6	31.2	32.2	33.7	35.3	33.3	32.9	32.6	30.7	27.0
	Min	13.6	12.3	17.4	10.8	10.6	9.8	11.2	18.0	18.4	14.0	13.6	14.8	13.0
Relative Humidity	Max	72	71	76	100	100	100	100	78	76	90	86	93	-
	Min	30	34	30	31	23	24	24	23	26	26	27	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	19.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.8
Sunshine Duration		10.3	8.6	9.4	9.8	10.0	9.6	9.6	5.3	9.3	9.2	9.1	7.3	7.5
Precipitation									0.0			0.0	13.2	16.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	44.5
Growing Degrees	5	18.4	17.0	19.0	16.2	15.9	16.0	17.5	21.7	20.9	18.5	180.9	177.9	150.0
	10	13.4	12.0	14.0	11.2	10.9	11.0	12.5	16.7	15.9	13.5	130.9	127.9	100.0

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	33.0
Precipitation - Reference Evapotranspiration	-	-	-16.6
Number of Rainy Days	0.0	4.0	2.1
Number of Dry Days	24.0	34.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

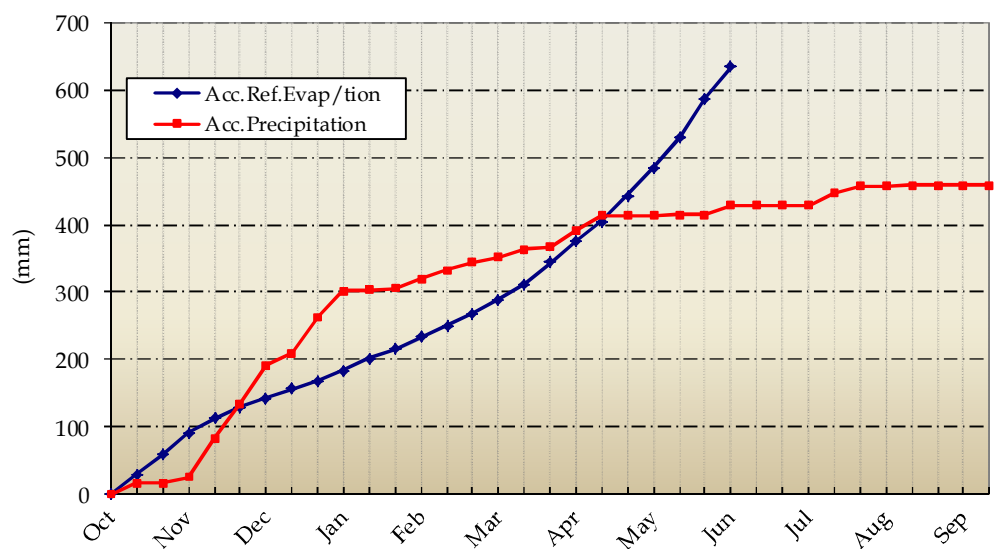


1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	37.7	37.1	35.0	36.0	32.0	31.8	30.6	30.6	37.7	33.0	34.2	30.6	29.3
	Min	20.2	23.5	19.2	23.6	18.5	17.2	16.2	18.0	20.3	18.0	19.5	19.2	16.6
Relative Humidity	Max	78	71	73	71	82	82	80	82	90	83	79	82	-
	Min	15	18	20	14	25	28	30	42	16	25	23	34	-
Soil Temperature at 10 cm	06 UTC	28.0	28.6	28.0	28.5	28.0	27.2	26.8	27.0	27.0	27.4	27.6	27.0	23.8
	12 UTC	33.0	35.0	31.0	32.0	31.5	31.0	30.6	31.0	31.0	30.5	31.7	29.5	27.2
Sunshine Duration		11.3	12.5	11.3	11.4	9.1	10.9	11.3	10.4	10.4	11.2	11.0	10.2	9.3
Precipitation													6.4	7.7
Evaporation		7.0	12.6	17.0	9.0	0.8	9.1	7.9	7.2	9.3	9.5	89.4	72.5	67.1
Growing Degrees	5	24.0	25.3	22.1	24.8	20.3	19.5	18.4	19.3	24.0	20.5	218.1	199.3	179.8
	10	19.0	20.3	17.1	19.8	15.3	14.5	13.4	14.3	19.0	15.5	168.1	149.3	129.8

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	52.6	43.1
Precipitation - Reference Evapotranspiration	-	-46.2	-35.4
Number of Rainy Days	0.0	1.0	1.1
Number of Dry Days	39.0	52.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



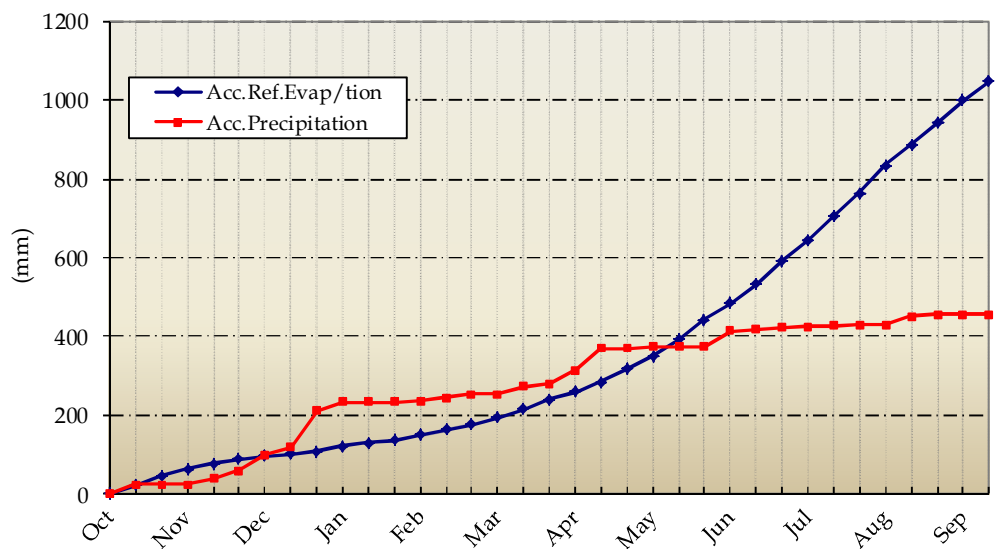
Larisa

1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	38.3	34.4	36.2	31.4	31.2	32.6	34.2	34.6	32.4	32.2	33.8	31.5	29.4
	Min	16.6	18.0	19.0	19.6	17.2	13.0	15.3	16.2	21.8	17.8	17.4	16.3	14.9
Relative Humidity	Max	72	76	72	72	63	79	81	73	69	77	73	78	-
	Min	19	31	28	28	22	23	24	29	35	33	27	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	23.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	25.4
Sunshine Duration		10.3	10.3	9.9	10.2	10.0	9.8	9.2	8.8	8.9	8.5	9.6	9.3	8.7
Precipitation														5.6
Evaporation		9.5	10.3	9.4	12.9	8.0	12.6	4.7	10.2	12.8	10.5	100.9	100.2	63.7
Growing Degrees	5	22.5	21.2	22.6	20.5	19.2	17.8	19.8	20.4	22.1	20.0	206.0	189.1	171.4
	10	17.5	16.2	17.6	15.5	14.2	12.8	14.8	15.4	17.1	15.0	156.0	139.1	121.4

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	49.1	49.9	42.5
Precipitation - Reference Evapotranspiration	-49.1	-49.9	-36.9
Number of Rainy Days	0.0	0.0	1.4
Number of Dry Days	16.0	24.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



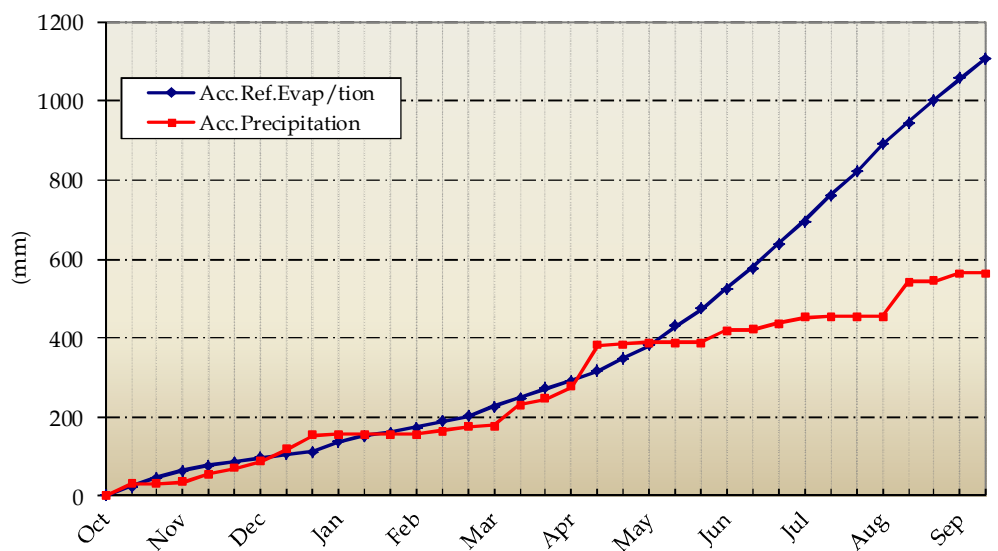
Mikra

1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.7	32.4	31.4	29.1	29.5	30.2	31.8	33.2	31.9	30.6	31.3	30.5	28.1
	Min	19.2	20.7	19.8	22.8	18.2	15.8	17.4	18.2	21.0	21.0	19.4	19.7	16.4
Relative Humidity	Max	86	86	85	54	71	81	83	79	68	78	77	78	-
	Min	44	42	38	38	36	39	36	30	37	46	39	40	-
Soil Temperature at 10 cm	06 UTC	25.4	26.2	26.2	26.2	24.8	24.6	25.4	25.2	26.2	26.2	25.6	27.2	22.6
	12 UTC	28.2	27.8	28.2	27.0	26.0	26.8	27.0	27.6	28.0	28.4	27.5	30.2	26.5
Sunshine Duration		11.4	10.8	10.2	11.1	11.3	11.7	9.8	10.5	10.6	9.7	10.7	9.9	8.4
Precipitation														7.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	68.9
Growing Degrees	5	21.0	21.6	20.6	21.0	18.9	18.0	19.6	20.7	21.5	20.8	203.5	201.0	172.3
	10	16.0	16.6	15.6	16.0	13.9	13.0	14.6	15.7	16.5	15.8	153.5	151.0	122.3

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	50.3	45.6	42.4
Precipitation - Reference Evapotranspiration	-50.3	-45.6	-35.2
Number of Rainy Days	0.0	0.0	1.4
Number of Dry Days	15.0	26.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





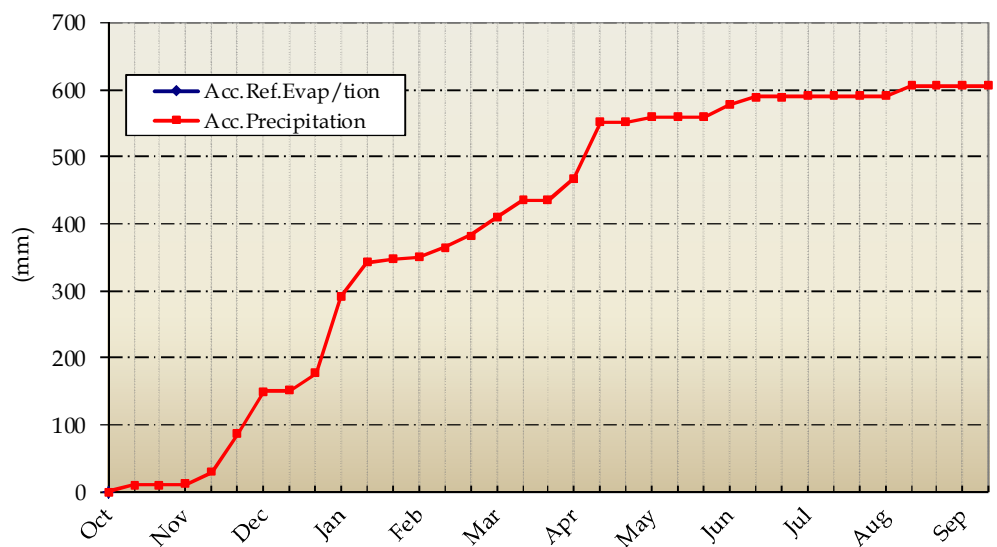
Tanagra

1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	37.4	34.6	33.9	29.8	27.8	30.4	31.8	32.0	29.6	29.8	31.7	29.5	28.9
	Min	17.2	20.6	18.7	20.8	20.2	15.4	16.5	17.8	22.8	19.0	18.9	17.7	16.1
Relative Humidity	Max	65	73	75	59	72	74	62	61	61	73	68	63	-
	Min	16	20	28	28	33	25	23	28	33	29	26	26	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.9	11.2	11.3	11.3	11.7	11.5	11.7	11.2	12.5	11.5	11.6	10.1	
Precipitation														8.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	22.3	22.6	21.3	20.3	19.0	17.9	19.2	19.9	21.2	19.4	203.1	186.0	
	10	17.3	17.6	16.3	15.3	14.0	12.9	14.2	14.9	16.2	14.4	153.1	136.0	

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	44.3	
Precipitation - Reference Evapotranspiration	-	-44.3	8.1
Number of Rainy Days	0.0	0.0	1.4
Number of Dry Days	32.0	55.0	-

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

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



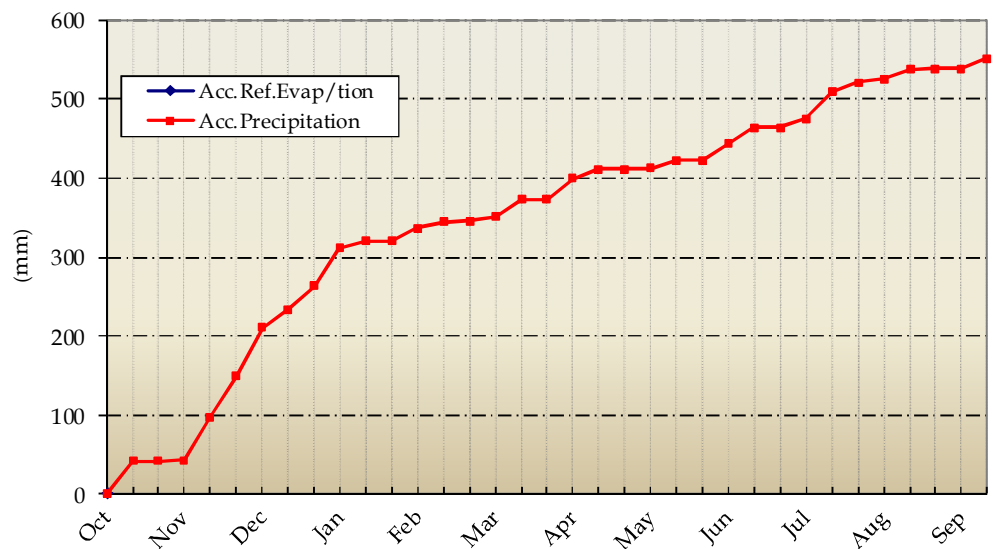
Tripoli

1st 10-day period (1-10/09/2020)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	35.4	32.3	33.4	33.6	27.6	30.8	32.3	32.6	30.2	31.0	31.9	29.1	27.4
	Min	13.9	14.1	13.2	14.2	14.4	10.6	11.0	13.4	18.1	18.2	14.1	12.3	12.2
Relative Humidity	Max	82	64	76	74	83	93	82	81	56	73	76	93	-
	Min	10	19	11	12	30	17	19	18	28	19	18	26	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	23.6	21.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	29.9	24.2
Sunshine Duration		11.3	10.9	-	11.2	9.5	11.2	11.2	10.3	11.0	-	10.8	8.4	9.3
Precipitation													1.4	5.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	47.2
Growing Degrees	5	19.7	18.2	18.3	18.9	16.0	15.7	16.7	18.0	19.2	19.6	180.2	157.1	148.0
	10	14.7	13.2	13.3	13.9	11.0	10.7	11.7	13.0	14.2	14.6	130.2	107.1	98.0

1st 10-day period (1-10/09/2020)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.1	36.0	39.2
Precipitation - Reference Evapotranspiration	-43.1	-34.6	-33.4
Number of Rainy Days	0.0	5.0	1.6
Number of Dry Days	16.0	30.0	-

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.

**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

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Issue Editors :

Papakrivou Anastasia

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