



AGROMETEOROLOGICAL BULLETIN

August 2017
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



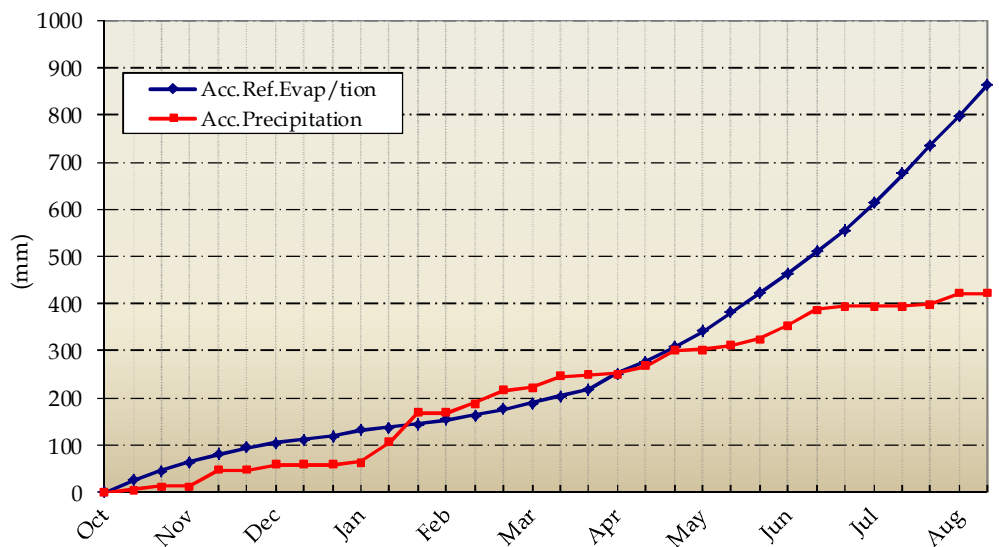
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1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.6	34.2	36.2	37.4	38.6	38.0	38.8	37.6	36.2	36.6	36.6	35.1	31.3
	Min	21.2	22.0	25.2	20.6	20.2	20.8	20.8	22.2	22.4	23.6	21.9	22.0	17.9
Relative Humidity	Max	66	59	55	84	78	78	82	72	77	69	72	69	-
	Min	32	32	22	27	26	28	28	31	39	29	29	29	-
Soil Temperature at 10 cm	06 UTC	24.8	-	-	-	-	-	-	-	-	-	24.8	29.2	24.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	34.6	29.0
Sunshine Duration		13.6	13.1	13.2	12.5	12.8	12.0	11.8	12.7	12.5	12.4	12.7	12.2	10.7
Precipitation							0.0					0.0		4.0
Evaporation		-	-	-	-	-	-	-	-	-	-	-	109.7	96.8
Growing Degrees	5	21.9	23.1	25.7	24.0	24.4	24.4	24.8	24.9	24.3	25.1	242.6	235.5	195.9
	10	16.9	18.1	20.7	19.0	19.4	19.4	19.8	19.9	19.3	20.1	192.6	185.5	145.9

1st 10-day period (1-10/08/2017)	Previous Year Value	Past Years Mean Value	
Reference Evapotranspiration	66.8	65.2	58.5
Precipitation - Reference Evapotranspiration	-66.8	-65.2	-54.5
Number of Rainy Days	0.0	0.0	0.7
Number of Dry Days	13.0	37.0	-

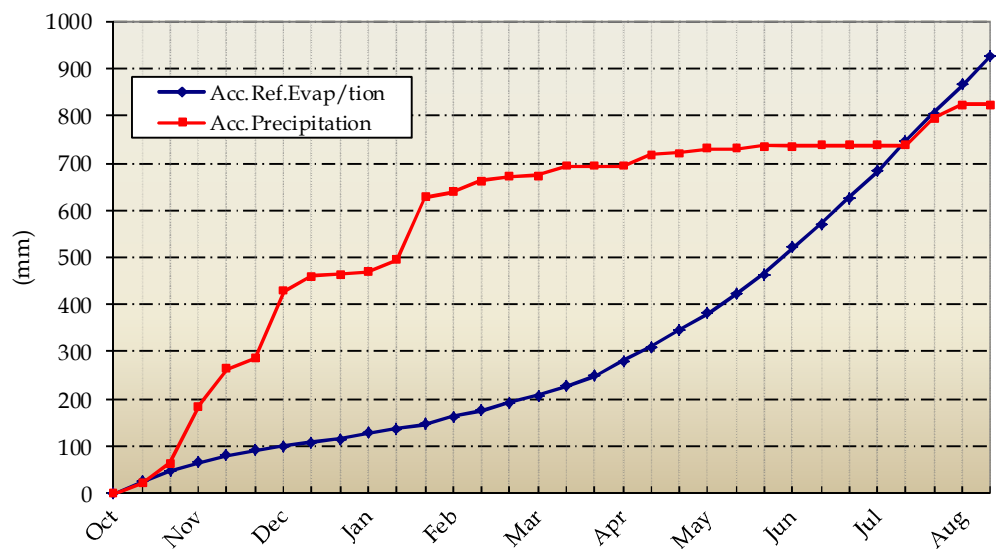
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	34.1	32.0	33.4	34.0	35.1	35.4	34.0	35.3	35.2	34.8	34.3	32.1	31.3
	Min	22.4	16.5	18.6	17.8	20.4	18.7	21.5	21.9	22.5	20.8	20.1	20.9	18.8
Relative Humidity	Max	60	86	82	85	87	86	80	79	83	77	80	87	-
	Min	25	29	32	27	23	29	33	33	32	31	29	41	-
Soil Temperature at 10 cm	06 UTC	28.0	27.4	27.5	28.0	28.5	28.5	29.5	30.0	30.0	30.0	28.7	-	27.8
	12 UTC	29.5	30.5	30.0	31.6	31.0	31.0	31.0	32.0	31.6	32.0	31.0	-	32.1
Sunshine Duration		13.0	13.0	12.7	12.6	12.4	13.0	11.7	10.5	11.9	13.0	12.4	11.8	11.6
Precipitation														0.2
Evaporation		15.0	5.0	10.0	15.0	3.0	14.0	6.0	8.0	14.0	8.0	98.0	56.0	74.9
Growing Degrees	5	23.3	19.3	21.0	20.9	22.8	22.1	22.8	23.6	23.9	22.8	222.2	214.9	200.3
	10	18.3	14.3	16.0	15.9	17.8	17.1	17.8	18.6	18.9	17.8	172.2	164.9	150.3

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	60.7	53.5	52.3
Precipitation - Reference Evapotranspiration	-60.7	-53.5	-52.1
Number of Rainy Days	0.0	0.0	0.1
Number of Dry Days	14.0	45.0	-

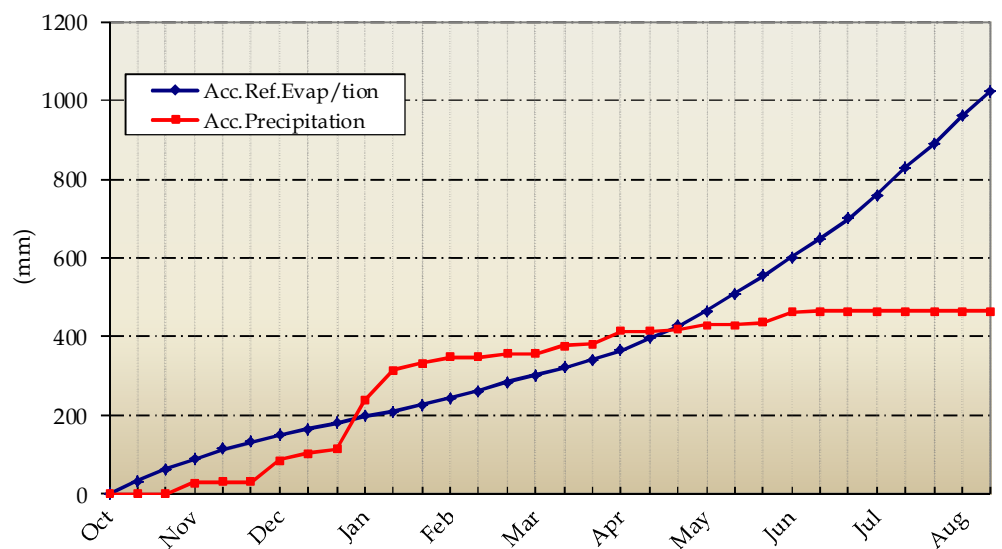
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.0	28.2	28.6	30.6	31.2	31.4	30.2	31.4	29.2	29.6	29.7	30.1	28.6
	Min	24.4	24.4	25.0	26.0	27.6	26.8	28.0	24.0	26.8	26.4	25.9	23.8	22.4
Relative Humidity	Max	76	71	70	62	65	65	78	74	77	76	71	81	-
	Min	67	52	60	51	53	49	52	54	58	55	55	60	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.2	12.1	12.0	12.1	11.6	11.7	11.7	11.5	11.4	11.4	11.8	11.5	11.6
Precipitation														0.0
Evaporation		7.5	9.1	8.1	9.3	9.8	7.6	6.2	7.4	6.2	7.6	78.8	65.3	88.8
Growing Degrees	5	20.7	21.3	21.8	23.3	24.4	24.1	24.1	22.7	23.0	23.0	228.4	219.5	205.0
	10	15.7	16.3	16.8	18.3	19.4	19.1	19.1	17.7	18.0	18.0	178.4	169.5	155.0

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	63.8	57.4	-
Precipitation - Reference Evapotranspiration	-63.8	-57.4	0.0
Number of Rainy Days	0.0	0.0	0.0
Number of Dry Days	23.0	63.0	-

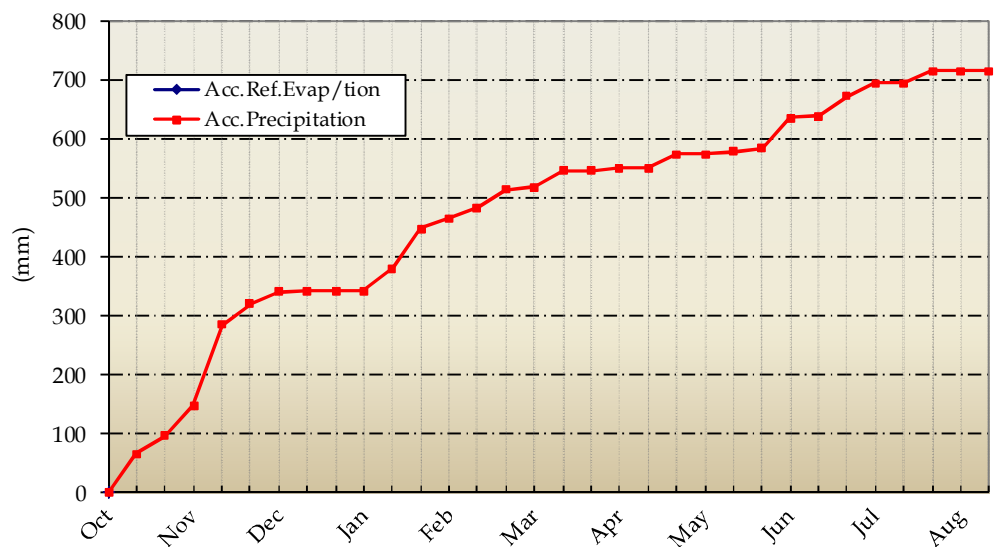
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	35.2	36.4	37.4	38.6	39.8	40.0	40.6	37.8	36.6	37.8	38.0	33.0	31.8
	Min	19.0	18.5	15.5	16.0	17.5	17.4	19.4	21.4	19.0	20.0	18.4	16.7	15.9
Relative Humidity	Max	90	70	95	58	97	66	83	98	71	95	82	96	-
	Min	24	18	14	14	18	15	20	23	26	23	20	31	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	24.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	28.0
Sunshine Duration		12.1	12.1	10.0	12.0	11.6	9.5	8.4	8.4	10.8	10.7	10.6	9.5	10.1
Precipitation									0.1			0.1	28.8	5.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	79.9
Growing Degrees	5	22.1	22.5	21.5	22.3	23.7	23.7	25.0	24.6	22.8	23.9	232.0	198.8	183.5
	10	17.1	17.5	16.5	17.3	18.7	18.7	20.0	19.6	17.8	18.9	182.0	148.8	134.7

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	50.7
Precipitation - Reference Evapotranspiration	-	-	-44.9
Number of Rainy Days	1.0	1.0	1.3
Number of Dry Days	21.0	7.0	-

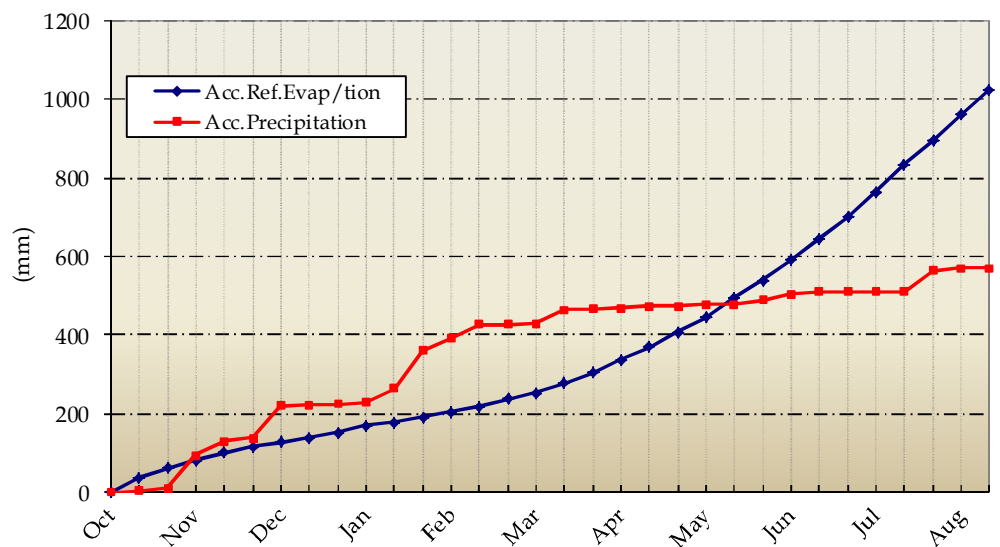
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.0	31.1	33.9	37.9	38.0	37.5	37.7	38.8	36.0	32.5	35.6	33.5	31.8
	Min	17.9	16.7	18.0	16.7	20.0	21.6	21.9	20.6	23.2	21.8	19.8	20.1	18.3
Relative Humidity	Max	90	91	85	78	60	69	83	76	91	93	82	85	-
	Min	36	36	29	22	20	22	29	25	28	49	30	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	26.9	26.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	29.7	30.4
Sunshine Duration		12.6	12.5	12.5	12.5	12.1	11.9	10.3	9.3	11.8	11.9	11.7	10.9	11.0
Precipitation													0.0	3.9
Evaporation		8.6	6.6	7.1	6.6	7.7	5.0	5.3	7.7	5.1	4.9	64.6	84.9	84.1
Growing Degrees	5	20.5	18.9	21.0	22.3	24.0	24.6	24.8	24.7	24.6	22.2	227.4	218.0	200.7
	10	15.5	13.9	16.0	17.3	19.0	19.6	19.8	19.7	19.6	17.2	177.4	168.0	150.7

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	63.4	60.5	56.0
Precipitation - Reference Evapotranspiration	-63.4	-60.5	-52.1
Number of Rainy Days	0.0	0.0	0.5
Number of Dry Days	14.0	34.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

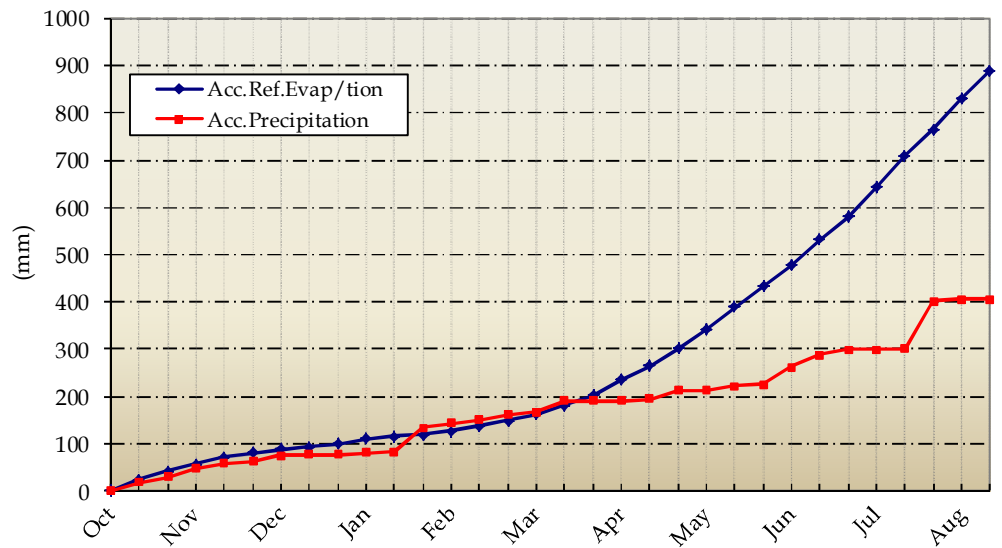


Larisa

1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.2	34.5	35.3	36.0	36.8	37.0	37.4	35.0	35.7	35.2	35.5	34.7	33.2
	Min	18.5	17.2	16.8	17.2	18.2	20.2	20.4	22.4	21.9	20.6	19.3	20.9	18.0
Relative Humidity	Max	82	80	77	74	75	70	70	70	72	76	75	71	-
	Min	29	21	20	18	24	23	25	30	32	29	25	24	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	28.4	27.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	29.7	29.4
Sunshine Duration		12.5	12.4	12.2	11.2	12.0	12.1	11.5	10.1	12.4	11.0	11.7	10.0	10.5
Precipitation													1.2	4.2
Evaporation		0.6	6.6	8.7	10.7	11.4	11.7	10.5	10.7	9.4	10.9	91.2	111.2	91.8
Growing Degrees	5	20.4	20.9	21.1	21.6	22.5	23.6	23.9	23.7	23.8	22.9	224.3	228.2	206.1
	10	15.4	15.9	16.1	16.6	17.5	18.6	18.9	18.7	18.8	17.9	174.3	178.2	156.1

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	60.1	62.0	58.6
Precipitation - Reference Evapotranspiration	-60.1	-60.8	-54.4
Number of Rainy Days	0.0	3.0	1.1
Number of Dry Days	14.0	7.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

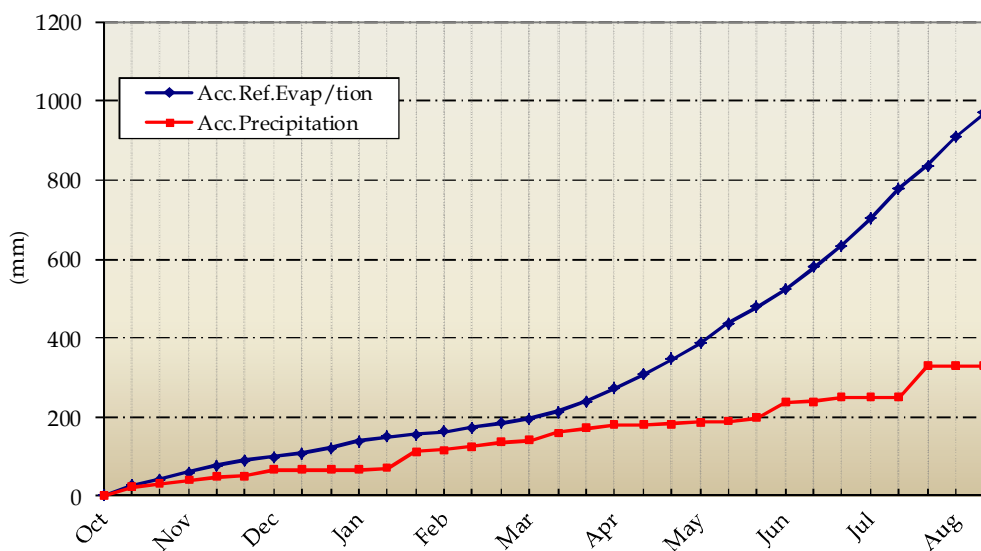


Mikra

1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.1	35.2	35.6	37.0	37.6	38.2	38.0	35.8	35.8	35.6	36.2	33.3	31.9
	Min	20.9	19.0	20.0	20.4	20.3	22.4	24.2	23.9	24.2	24.2	22.0	22.8	19.4
Relative Humidity	Max	67	66	61	59	63	59	63	63	60	64	62	73	-
	Min	31	17	19	16	18	15	18	26	29	28	22	33	-
Soil Temperature at 10 cm	06 UTC	28.8	28.8	28.8	29.4	29.8	30.2	30.6	31.2	31.2	31.3	30.0	30.5	26.9
	12 UTC	33.6	33.4	34.4	33.2	33.0	34.1	34.4	34.8	34.5	34.4	34.0	34.4	31.6
Sunshine Duration		13.6	12.8	12.4	12.5	12.2	12.3	11.0	11.7	12.0	11.5	12.2	10.4	10.2
Precipitation													57.7	5.3
Evaporation		8.7	12.9	10.3	8.8	11.3	9.7	10.2	10.7	10.9	11.5	105.0	93.7	88.0
Growing Degrees	5	22.0	22.1	22.8	23.7	24.0	25.3	26.1	24.9	25.0	24.9	240.7	230.2	206.4
	10	17.0	17.1	17.8	18.7	19.0	20.3	21.1	19.9	20.0	19.9	190.7	180.2	156.4

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	62.5	64.7	56.6
Precipitation - Reference Evapotranspiration	-62.5	-7.0	-51.3
Number of Rainy Days	0.0	2.0	1.3
Number of Dry Days	24.0	11.0	-

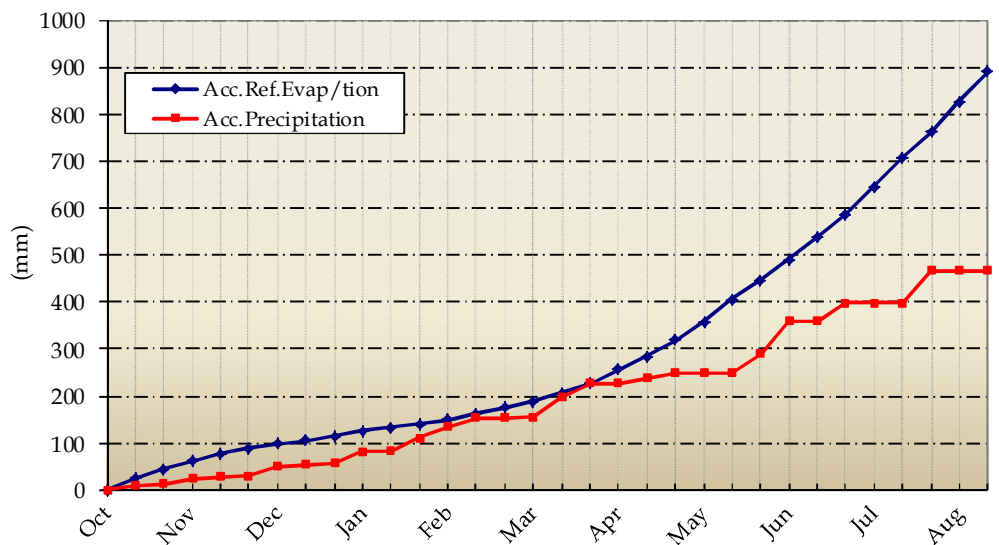
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/08/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.5	30.3	32.3	33.8	35.6	36.3	36.6	34.6	33.0	34.1	33.5	32.9	32.1
	Min	22.0	21.0	22.0	20.8	20.5	23.2	22.0	24.0	25.8	24.8	22.6	22.2	18.7
Relative Humidity	Max	54	58	48	56	61	47	54	50	55	61	54	60	-
	Min	20	26	26	25	21	20	20	16	32	22	23	27	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.9	13.0	12.8	12.5	12.6	12.4	11.9	12.1	12.1	12.1	12.4	11.5	
Precipitation														0.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	20.3	20.7	22.2	22.3	23.1	24.8	24.3	24.3	24.4	24.5	230.6	225.4	
	10	15.3	15.7	17.2	17.3	18.1	19.8	19.3	19.3	19.4	19.5	180.6	175.4	

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	64.0	59.2	
Precipitation - Reference Evapotranspiration	-64.0	-59.2	0.7
Number of Rainy Days	0.0	0.0	0.4
Number of Dry Days	14.0	43.0	-

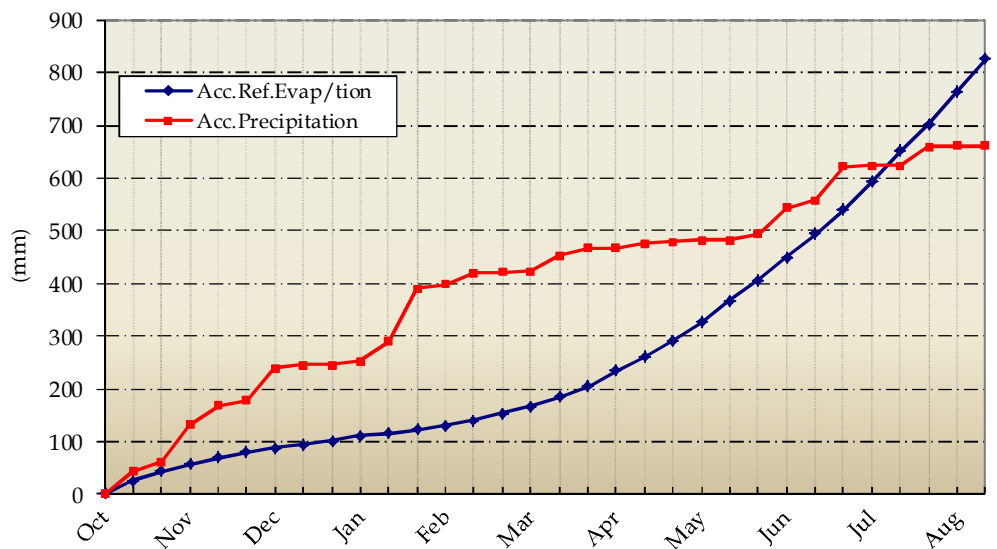
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/08/2017)		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	32.8	34.7	35.3	36.6	36.2	37.6	35.8	35.8	36.3	35.4	32.9	30.8
	Min	18.3	18.2	16.5	15.4	15.6	19.8	16.6	21.5	20.8	19.8	18.2	15.7	14.8
Relative Humidity	Max	59	55	61	64	76	71	79	63	69	68	66	90	-
	Min	14	17	15	18	13	18	18	25	22	18	18	24	-
Soil Temperature at 10 cm	06 UTC	26.6	26.8	27.0	27.0	-	-	28.2	29.2	-	-	27.5	26.6	25.8
	12 UTC	32.0	31.8	31.0	32.2	-	-	33.2	33.2	-	-	32.2	33.0	28.5
Sunshine Duration		12.6	12.6	12.6	12.6	12.5	12.1	11.2	11.1	11.5	12.1	12.1	10.0	10.5
Precipitation													45.9	6.7
Evaporation		6.2	14.4	11.1	-	-	-	9.5	18.3	9.5	9.2	-	71.1	66.4
Growing Degrees	5	20.8	20.5	20.6	20.4	21.1	23.0	22.1	23.7	23.3	23.1	218.4	192.9	178.4
	10	15.8	15.5	15.6	15.4	16.1	18.0	17.1	18.7	18.3	18.1	168.4	142.9	128.4

1st 10-day period (1-10/08/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	62.5	48.7	53.5
Precipitation - Reference Evapotranspiration	-62.5	-2.8	-46.8
Number of Rainy Days	0.0	2.0	1.1
Number of Dry Days	14.0	9.0	-

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

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ΜΕΤΕΩΡΟΛΟΓΙΚΗ
ΥΠΗΡΕΣΙΑ

HELLENIC NATIONAL METEOROLOGICAL SERVICE

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