



AGROMETEOROLOGICAL BULLETIN

September 2016
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



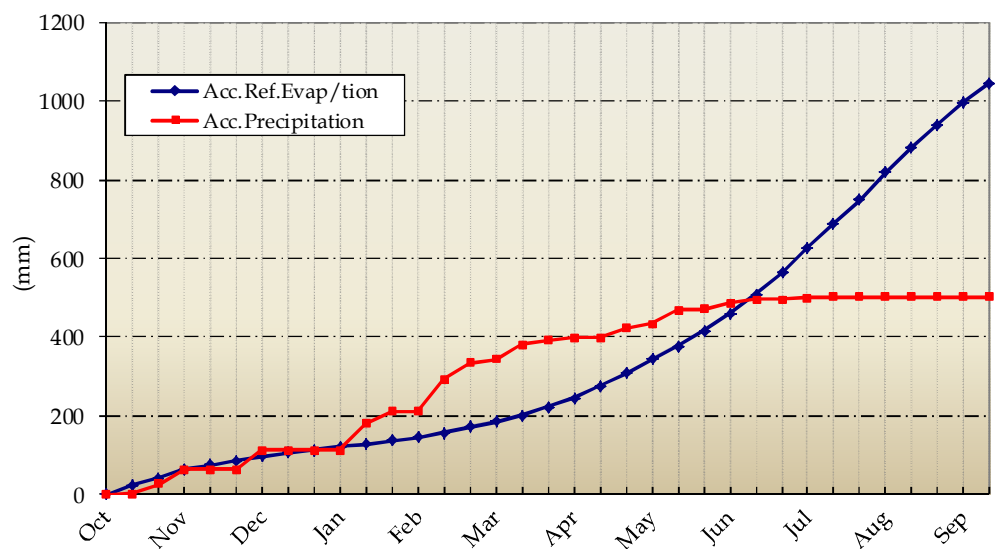
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1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.8	29.6	30.2	31.0	28.6	30.4	30.0	32.6	29.8	30.6	30.4	31.4	27.3
	Min	20.4	18.8	18.4	19.6	16.4	16.0	20.6	22.4	21.6	22.0	19.6	18.9	15.0
Relative Humidity	Max	83	81	81	73	80	83	72	62	73	66	75	84	-
	Min	29	33	26	23	35	26	36	23	40	29	30	38	-
Soil Temperature at 10 cm	06 UTC	27.0	26.2	25.6	25.6	24.4	24.8	26.4	26.0	26.6	25.8	25.8	26.2	21.2
	12 UTC	31.8	30.4	30.4	30.8	30.8	30.6	30.0	30.8	29.8	27.0	30.2	31.2	24.9
Sunshine Duration		11.7	9.2	12.0	11.8	11.8	9.4	3.0	10.2	5.1	4.8	8.9	10.3	8.8
Precipitation													0.0	6.6
Evaporation		5.5	9.7	8.2	10.7	3.8	8.6	8.5	9.0	5.7	12.5	82.2	86.6	73.7
Growing Degrees	5	20.6	19.2	19.3	20.3	17.5	18.2	20.3	22.5	20.7	21.3	199.9	201.8	161.8
	10	15.6	14.2	14.3	15.3	12.5	13.2	15.3	17.5	15.7	16.3	149.9	151.8	111.8

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	48.6	46.4	42.4
Precipitation - Reference Evapotranspiration	-48.6	-46.4	-35.8
Number of Rainy Days	0.0	0.0	1.1
Number of Dry Days	68.0	18.0	-

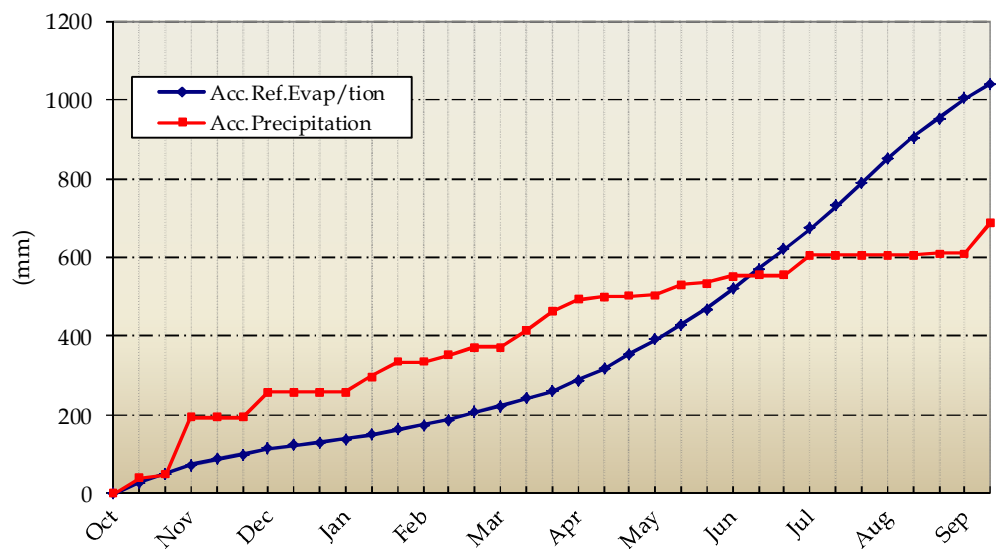
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	32.0	30.3	30.6	31.2	30.6	24.4	28.8	24.9	28.4	28.0	28.9	31.7	28.8
	Min	19.2	20.8	16.7	16.6	18.7	18.6	19.8	19.6	20.4	18.9	18.9	20.0	17.3
Relative Humidity	Max	88	83	87	85	77	92	86	91	90	89	87	86	-
	Min	39	38	31	28	36	68	47	65	44	52	45	39	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	24.8
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	28.9
Sunshine Duration		10.1	7.6	9.9	10.9	10.8	0.0	9.2	0.0	8.8	8.9	7.6	8.8	9.7
Precipitation							58.1	8.5	13.5			80.1	9.0	5.8
Evaporation		9.8	1.0	7.2	6.8	7.1	2.4	1.5	15.0	2.0	3.0	55.8	54.6	62.5
Growing Degrees	5	20.6	20.6	18.7	18.9	19.7	16.5	19.3	17.3	19.4	18.5	189.3	208.7	180.3
	10	15.6	15.6	13.7	13.9	14.7	11.5	14.3	12.3	14.4	13.5	139.3	158.7	130.3

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	37.7	41.7	40.4
Precipitation - Reference Evapotranspiration	42.4	-32.7	-34.6
Number of Rainy Days	3.0	1.0	1.2
Number of Dry Days	22.0	34.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

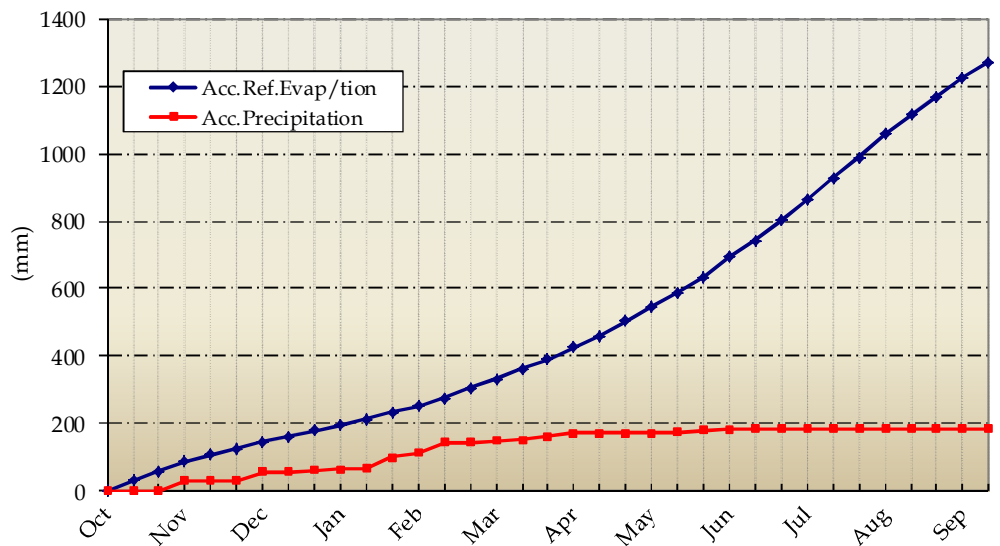


Iraklio

1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.2	28.2	26.4	26.6	27.4	28.6	33.0	29.0	38.0	28.4	29.4	30.5	27.0
	Min	25.6	23.4	23.4	23.4	21.4	19.4	21.0	24.0	22.4	22.0	22.6	22.2	20.4
Relative Humidity	Max	74	75	90	84	93	98	91	83	88	91	87	81	-
	Min	59	50	67	65	71	79	57	54	31	68	60	49	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.9	11.1	9.7	10.7	10.9	9.0	9.8	9.5	7.9	9.7	9.9	10.2	9.9
Precipitation														1.6
Evaporation		7.1	9.5	7.8	4.3	4.5	5.1	7.7	5.7	8.5	6.0	66.2	50.1	74.3
Growing Degrees	5	21.9	20.8	19.9	20.0	19.4	19.0	22.0	21.5	25.2	20.2	209.9	213.6	187.3
	10	16.9	15.8	14.9	15.0	14.4	14.0	17.0	16.5	20.2	15.2	159.9	163.6	137.3

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	47.5	46.4	-
Precipitation - Reference Evapotranspiration	-47.5	-46.4	1.6
Number of Rainy Days	0.0	0.0	0.3
Number of Dry Days	94.0	26.0	-

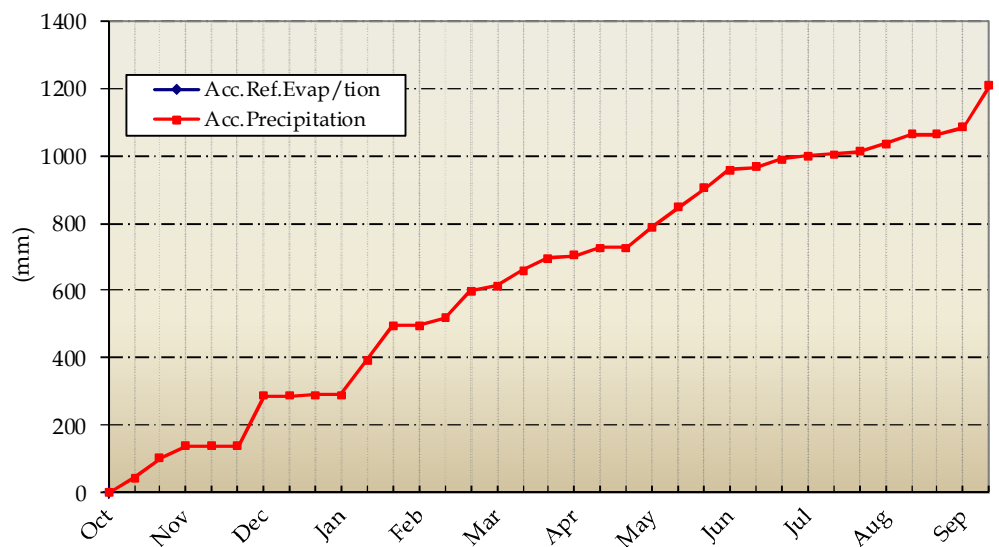
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.2	29.2	30.2	29.3	29.9	21.6	25.0	23.8	23.4	26.9	26.8	30.6	27.0
	Min	13.7	15.4	12.3	11.6	14.1	15.9	16.1	14.6	14.4	15.2	14.3	15.0	13.0
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	94	-
	Min	40	33	24	30	37	79	67	86	66	45	51	31	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	31.6	19.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	22.8
Sunshine Duration		5.0	6.3	8.6	6.5	8.4	0.0	5.8	1.0	2.1	5.3	4.9	7.8	7.5
Precipitation		20.8	0.0				33.5	29.8	19.1	8.3	10.4	121.9	59.9	16.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	44.5
Growing Degrees	5	16.5	17.3	16.3	15.5	17.0	13.8	15.6	14.2	13.9	16.1	155.9	177.9	150.0
	10	11.5	12.3	11.3	10.5	12.0	8.8	10.6	9.2	8.9	11.1	105.9	127.9	100.0

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	33.0
Precipitation - Reference Evapotranspiration	-	-	-16.6
Number of Rainy Days	6.0	4.0	2.1
Number of Dry Days	0.0	15.0	-

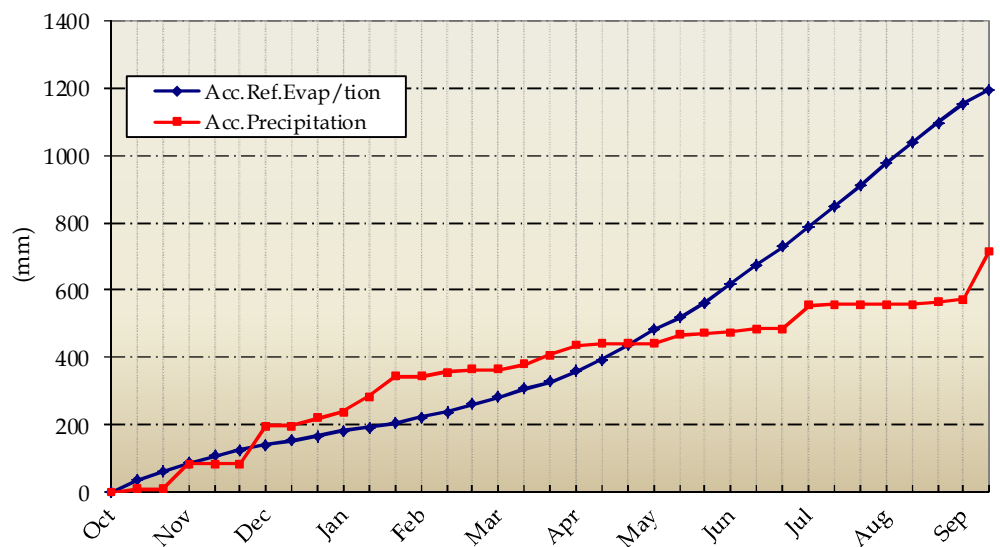
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.4	29.7	32.6	33.8	28.7	26.7	27.2	31.2	27.6	28.9	29.8	34.3	29.3
	Min	19.3	18.4	17.5	16.5	16.2	18.1	18.3	20.6	20.0	18.6	18.4	20.7	16.6
Relative Humidity	Max	81	88	77	79	87	94	93	92	88	89	87	85	-
	Min	36	44	23	18	28	64	63	32	42	48	40	30	-
Soil Temperature at 10 cm	06 UTC	25.4	25.4	24.4	24.0	24.6	24.4	22.0	-	-	-	24.3	26.0	23.8
	12 UTC	27.2	26.4	25.6	26.6	25.4	24.6	-	-	-	-	26.0	28.1	27.2
Sunshine Duration		10.2	5.8	10.9	10.0	8.0	0.6	0.0	-	-	-	6.5	9.6	9.3
Precipitation			1.4				54.8	86.5	0.4			143.1	0.2	7.7
Evaporation		8.8	2.8	8.6	5.0	5.2	0.0	-	-	-	-	-	72.3	67.1
Growing Degrees	5	20.4	19.1	20.1	20.2	17.5	17.4	17.8	20.9	18.8	18.8	190.7	224.8	179.8
	10	15.4	14.1	15.1	15.2	12.5	12.4	12.8	15.9	13.8	13.8	140.7	174.8	129.8

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	40.4	51.6	43.1
Precipitation - Reference Evapotranspiration	102.7	-51.4	-35.4
Number of Rainy Days	4.0	1.0	1.1
Number of Dry Days	7.0	25.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

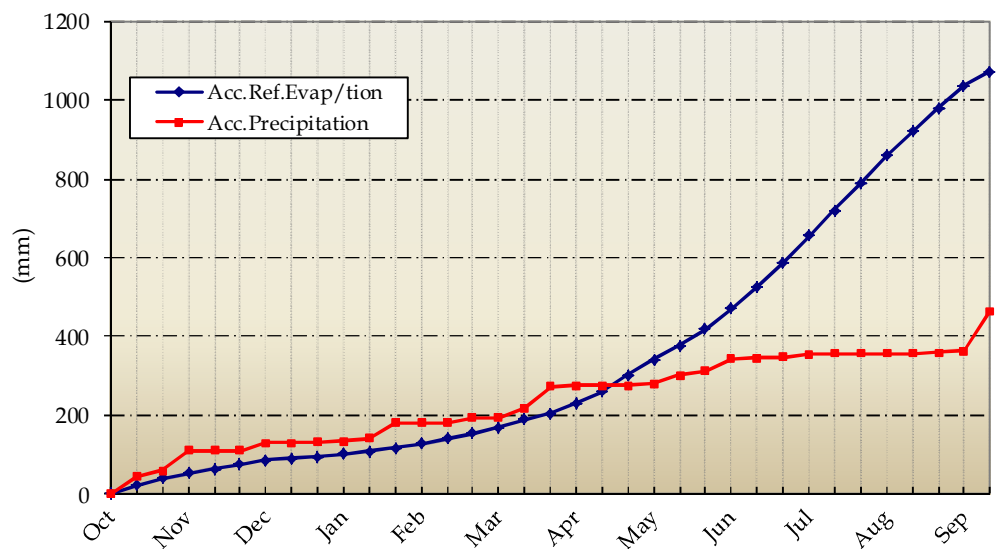


Larisa

1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.2	27.8	31.8	31.4	33.6	27.6	28.2	24.0	26.6	29.4	29.2	33.9	29.4
	Min	22.0	20.1	18.6	17.4	14.2	18.0	19.2	18.5	17.8	18.2	18.4	18.6	14.9
Relative Humidity	Max	96	100	91	73	70	100	100	100	100	100	93	83	-
	Min	37	42	20	21	18	45	51	81	57	34	41	25	-
Soil Temperature at 10 cm	06 UTC	28.2	28.0	27.4	27.6	27.2	27.4	25.4	24.0	24.0	24.0	26.3	27.2	23.3
	12 UTC	28.0	27.8	29.4	27.2	27.2	23.6	25.2	24.0	24.0	24.0	26.0	27.3	25.4
Sunshine Duration		6.0	4.5	10.2	9.7	9.7	0.4	6.3	2.4	2.3	7.1	5.9	7.8	8.7
Precipitation		0.0	0.6				30.4	58.8	11.0	0.9		101.7	12.0	5.6
Evaporation		7.0	4.7	9.7	9.0	10.2	8.0	6.1	0.5	4.2	5.4	64.8	76.0	63.7
Growing Degrees	5	21.6	19.0	20.2	19.4	18.9	17.8	18.7	16.3	17.2	18.8	187.8	212.5	171.4
	10	16.6	14.0	15.2	14.4	13.9	12.8	13.7	11.3	12.2	13.8	137.8	162.5	121.4

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	36.5	48.9	42.5
Precipitation - Reference Evapotranspiration	65.2	-36.9	-36.9
Number of Rainy Days	5.0	4.0	1.4
Number of Dry Days	8.0	13.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

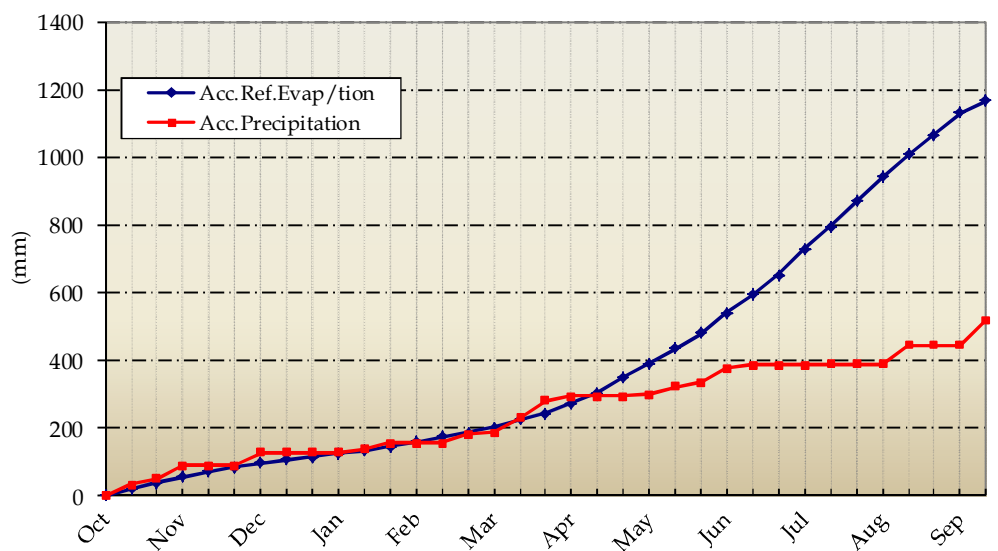


Mikra

1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.8	26.2	31.0	30.9	30.8	26.2	22.7	31.4	27.1	28.6	28.5	31.8	28.1
	Min	21.4	20.8	17.9	18.4	18.0	20.6	19.5	11.2	18.9	20.6	18.7	18.8	16.4
Relative Humidity	Max	79	92	82	78	62	96	98	97	94	79	86	80	-
	Min	40	54	31	26	28	53	88	66	48	34	47	32	-
Soil Temperature at 10 cm	06 UTC	28.4	26.8	26.7	26.8	24.8	26.2	22.2	22.1	21.2	23.2	24.8	26.9	22.6
	12 UTC	32.0	27.0	25.0	29.6	29.4	27.4	22.6	23.6	25.8	26.8	26.9	29.7	26.5
Sunshine Duration		9.2	1.5	8.1	11.0	10.2	1.1	0.7	0.0	1.5	1.6	4.5	8.0	8.4
Precipitation			7.7				7.0	52.8	3.9	1.4	0.3	73.1	12.1	7.2
Evaporation		6.1	2.3	3.6	13.7	8.0	0.4	0.2	0.2	3.8	6.4	44.7	71.0	68.9
Growing Degrees	5	20.6	18.5	19.5	19.7	19.4	18.4	16.1	16.3	18.0	19.6	186.0	203.0	172.3
	10	15.6	13.5	14.5	14.7	14.4	13.4	11.1	11.3	13.0	14.6	136.0	153.0	122.3

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	35.5	45.3	42.4
Precipitation - Reference Evapotranspiration	37.6	-33.2	-35.2
Number of Rainy Days	6.0	3.0	1.4
Number of Dry Days	23.0	16.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

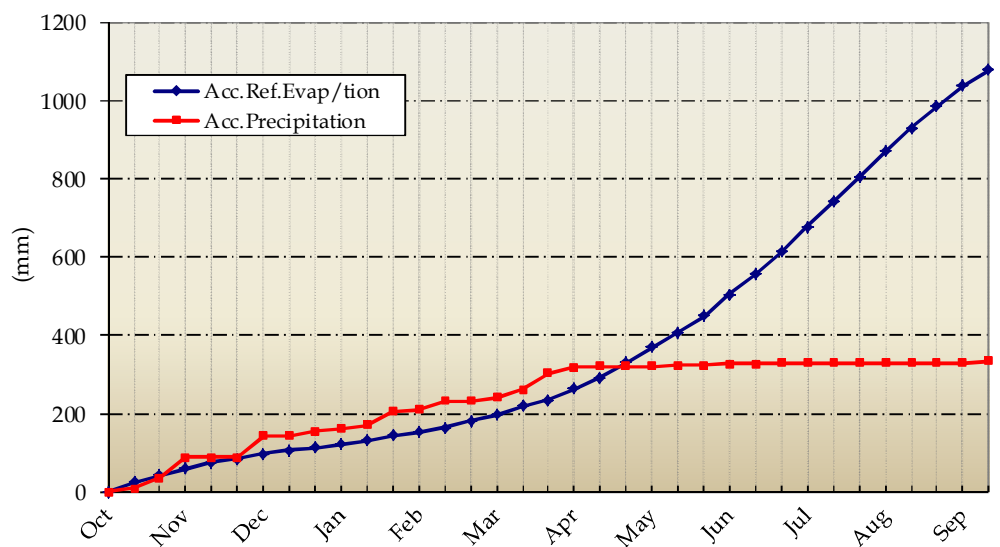


Tanagra

1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.6	27.6	28.0	28.2	31.4	30.0	30.0	27.5	30.2	29.4	29.2	33.9	28.9
	Min	21.8	19.4	18.8	17.2	16.2	19.2	20.0	18.2	18.6	19.7	18.9	20.1	16.1
Relative Humidity	Max	70	71	72	71	58	83	98	97	96	96	81	71	-
	Min	30	34	27	28	20	27	34	49	35	38	32	23	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		11.0	10.3	11.7	11.7	9.8	0.9	6.8	3.2	9.3	6.5	8.1	9.7	
Precipitation							1.7	3.2	0.0			4.9	0.0	8.1
Evaporation		10.7	7.3	10.0	8.0	8.5	4.5	4.1	4.7	6.2	6.0	70.0	86.5	
Growing Degrees	5	20.7	18.5	18.4	17.7	18.8	19.6	20.0	17.9	19.4	19.6	190.5	220.2	
	10	15.7	13.5	13.4	12.7	13.8	14.6	15.0	12.9	14.4	14.6	140.5	170.2	

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	39.9	44.3	
Precipitation - Reference Evapotranspiration	-35.0	-44.3	8.1
Number of Rainy Days	2.0	0.0	1.4
Number of Dry Days	69.0	18.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

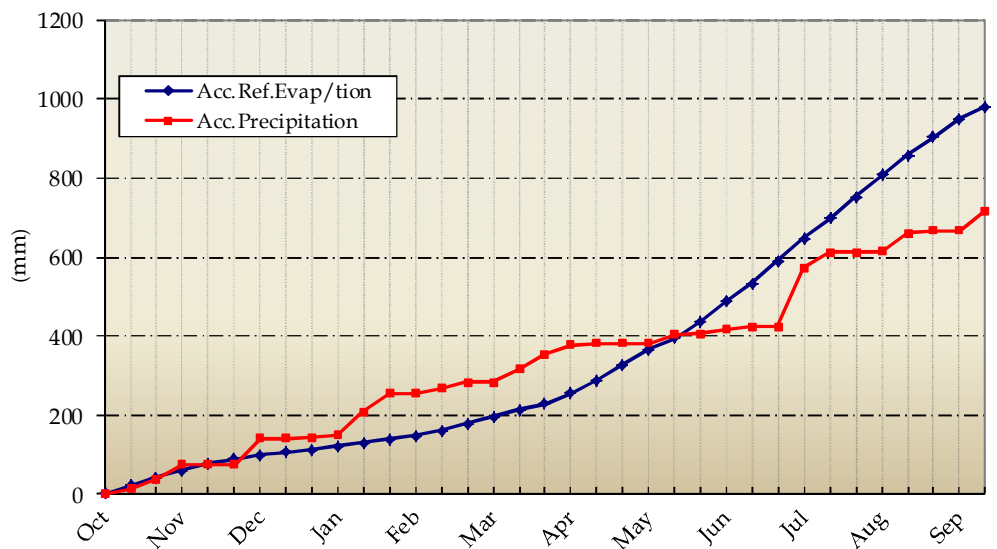


Tripoli

1st 10-day period (1-10/09/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.6	26.4	28.3	29.0	28.1	23.9	25.5	23.6	26.6	26.8	26.8	32.4	27.4
	Min	13.9	14.1	11.6	15.6	9.4	13.1	15.7	16.7	13.1	13.5	13.7	15.3	12.2
Relative Humidity	Max	100	100	100	86	94	100	100	100	100	100	98	90	-
	Min	32	41	24	24	24	48	53	51	45	44	39	23	-
Soil Temperature at 10 cm	06 UTC	23.8	22.6	20.4	21.0	20.8	22.0	19.8	21.2	19.8	20.8	21.2	25.5	21.7
	12 UTC	28.2	25.6	-	-	26.2	23.2	23.2	23.2	24.8	-	24.9	30.0	24.2
Sunshine Duration		6.8	3.0	11.3	10.5	9.0	0.5	7.8	3.3	7.8	8.1	6.8	9.1	9.3
Precipitation		3.1	0.2				24.2	21.0	2.4		0.0	50.9	1.0	5.8
Evaporation		3.1	2.2	6.5	6.3	5.2	0.0	3.8	2.3	3.5	-	-	61.2	47.2
Growing Degrees	5	16.8	15.3	15.0	17.3	13.8	13.5	15.6	15.2	14.9	15.2	152.3	188.5	148.0
	10	11.8	10.3	10.0	12.3	8.8	8.5	10.6	10.2	9.9	10.2	102.3	138.5	98.0

1st 10-day period (1-10/09/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	32.4	40.9	39.2
Precipitation - Reference Evapotranspiration	18.5	-39.9	-33.4
Number of Rainy Days	5.0	1.0	1.6
Number of Dry Days	8.0	25.0	-

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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