



AGROMETEOROLOGICAL BULLETIN

*March 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



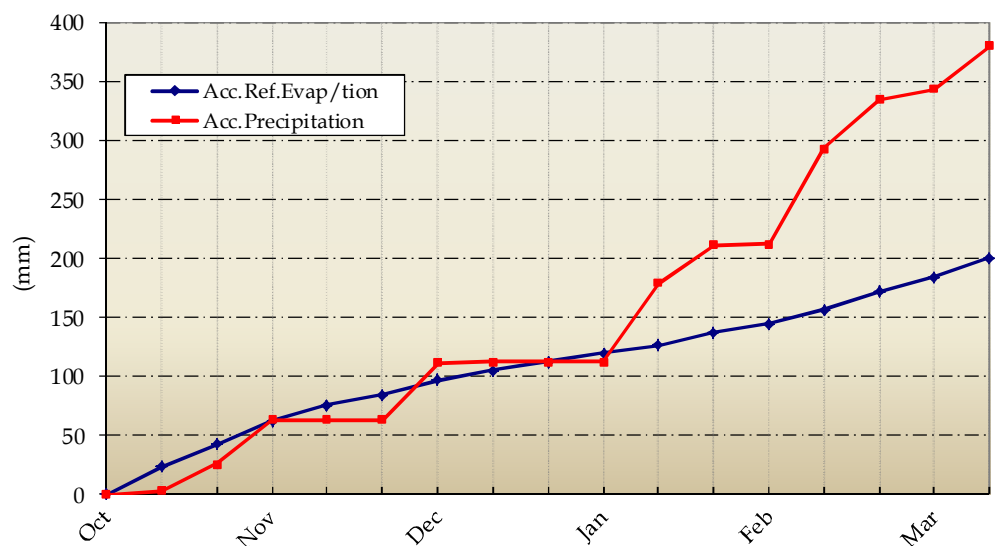
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1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.0	19.8	16.0	16.6	14.2	16.2	17.6	15.4	14.6	14.6	16.2	11.0	10.6
	Min	9.8	9.6	9.2	10.8	3.2	4.2	11.2	11.0	10.6	9.0	8.9	5.7	2.2
Relative Humidity	Max	97	98	90	95	94	92	90	97	95	95	94	88	-
	Min	63	64	61	47	49	71	62	85	73	69	64	64	-
Soil Temperature at 10 cm	06 UTC	11.2	11.4	11.4	12.5	9.6	8.6	12.0	13.0	11.6	10.7	11.2	7.6	5.9
	12 UTC	12.6	14.4	15.4	15.4	12.6	12.6	16.0	13.5	12.2	11.4	13.6	9.5	8.0
Sunshine Duration		0.0	5.6	7.1	8.8	8.7	5.5	9.7	0.5	0.0	2.9	4.9	2.2	4.8
Precipitation					12.4				17.8	4.1	2.0	36.3	103.1	16.7
Evaporation		1.2	1.1	4.6	1.9	3.3	0.9	5.0	0.7	0.7	0.6	20.0	17.1	18.5
Growing Degrees	5	8.4	9.7	7.6	8.7	3.7	5.2	9.4	8.2	7.6	6.8	75.3	33.3	22.8
	10	3.4	4.7	2.6	3.7	0.0	0.2	4.4	3.2	2.6	1.8	26.6	2.9	2.2

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	16.6	13.9	16.2
Precipitation - Reference Evapotranspiration	19.7	89.2	0.5
Number of Rainy Days	4.0	5.0	2.2
Number of Dry Days	7.0	2.0	-

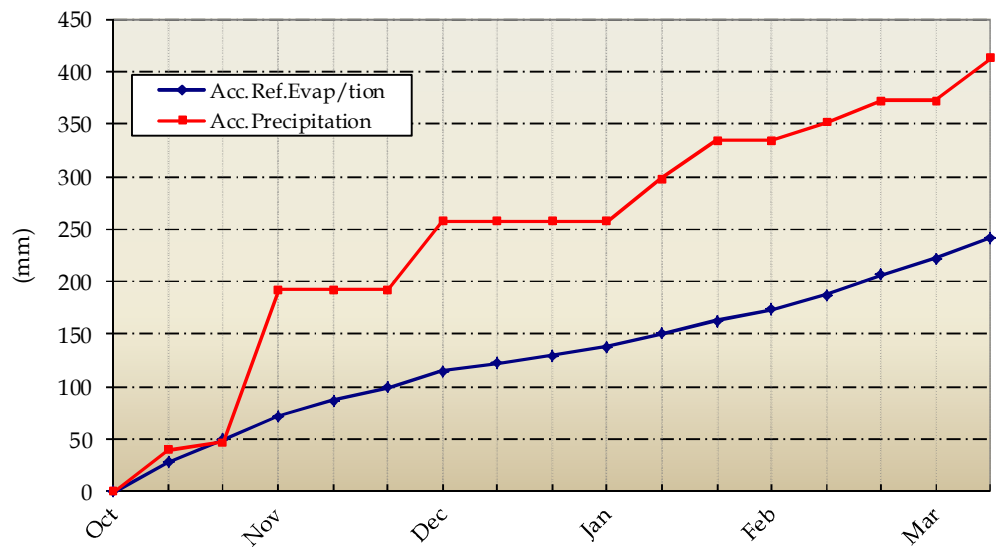
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.2	17.0	16.8	14.2	16.2	19.4	20.2	16.3	16.4	15.3	17.0	16.2	15.2
	Min	10.6	8.0	7.3	9.2	6.2	7.0	5.6	7.2	7.7	7.9	7.7	8.3	5.8
Relative Humidity	Max	86	91	91	86	88	85	90	92	89	90	89	90	-
	Min	50	57	55	56	47	53	39	47	53	42	50	56	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	12.1	10.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	13.1	12.2
Sunshine Duration		0.0	3.7	4.0	4.4	8.9	8.9	2.7	9.3	7.5	8.1	5.8	4.3	6.1
Precipitation		0.2	4.5	9.5	8.7	0.5		5.4			11.7	40.5	39.7	26.8
Evaporation		2.0	0.2	0.5	1.2	1.7	1.9	5.8	1.0	1.2	9.5	25.0	24.0	25.2
Growing Degrees	5	9.4	7.5	7.1	6.7	6.2	8.2	7.9	6.8	7.1	6.6	73.4	72.9	55.6
	10	4.4	2.5	2.1	1.7	1.2	3.2	2.9	1.8	2.1	1.6	23.4	23.3	13.0

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	19.7	17.8	18.0
Precipitation - Reference Evapotranspiration	20.8	21.9	8.8
Number of Rainy Days	7.0	7.0	3.2
Number of Dry Days	9.0	0.0	-

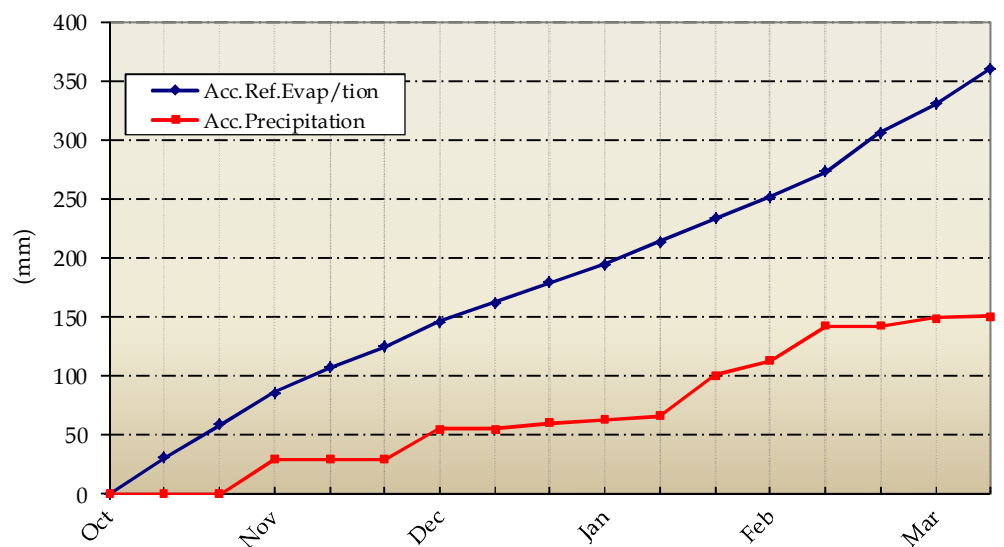
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.4	17.8	18.0	18.0	16.8	18.4	19.6	21.4	17.4	19.0	19.1	17.1	15.6
	Min	21.0	13.6	11.0	10.8	11.6	8.6	13.0	15.0	10.6	10.6	12.6	10.2	8.9
Relative Humidity	Max	91	82	77	84	86	89	72	86	82	79	83	86	-
	Min	16	52	50	44	49	53	46	46	68	47	47	60	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		8.1	8.6	7.9	6.6	9.6	8.4	9.6	3.4	6.3	9.2	7.8	7.0	5.3
Precipitation					2.0							2.0	17.1	20.8
Evaporation		4.2	1.3	1.5	2.9	2.4	1.7	7.7	2.8	1.5	2.9	28.9	29.3	33.2
Growing Degrees	5	17.7	10.7	9.5	9.4	9.2	8.5	11.3	13.2	9.0	9.8	108.3	86.3	72.7
	10	12.7	5.7	4.5	4.4	4.2	3.5	6.3	8.2	4.0	4.8	58.3	36.3	25.3

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.6	24.2	-
Precipitation - Reference Evapotranspiration	-28.6	-7.1	20.8
Number of Rainy Days	1.0	3.0	3.3
Number of Dry Days	11.0	1.0	-

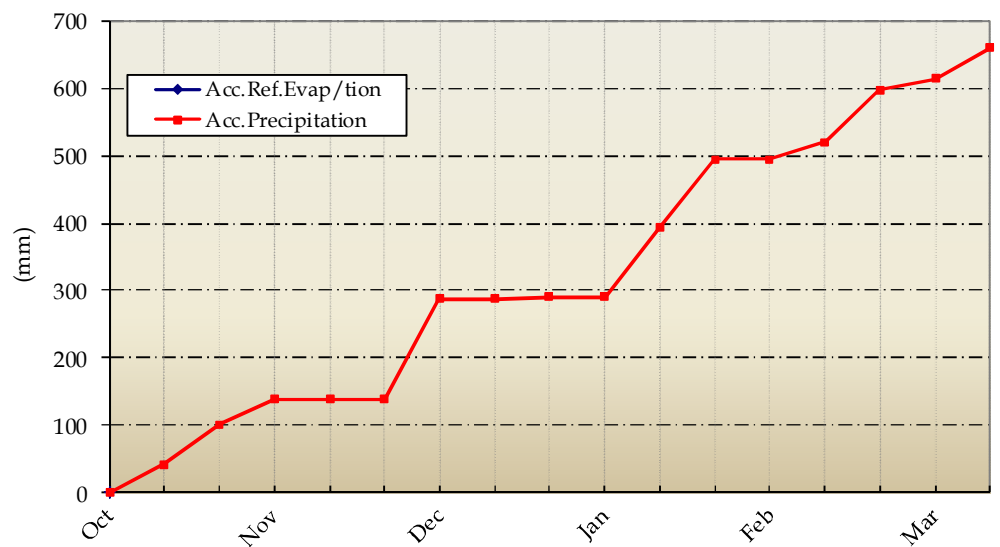
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.2	12.2	11.0	6.2	12.3	16.0	16.2	-	14.4	14.4	13.2	13.2	12.2
	Min	5.6	6.3	5.7	2.6	-0.2	3.8	8.0	2.3	4.0	3.4	4.2	4.0	1.7
Relative Humidity	Max	100	100	100	100	100	88	100	100	100	100	99	97	-
	Min	34	64	69	95	46	50	41	31	31	-	51	47	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.3
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	7.3
Sunshine Duration		7.6	1.0	-	0.3	-	7.1	0.7	3.9	2.7	-	3.3	4.3	4.6
Precipitation		0.0	2.8	14.0	19.9	0.8	0.0	5.8	-	0.5	2.4	46.2	38.1	27.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	14.8
Growing Degrees	5	5.9	4.3	3.4	0.0	1.1	4.9	7.1	-	4.2	3.9	-	-	25.1
	10	0.9	0.0	0.0	0.0	0.0	0.0	2.1	-	0.0	0.0	-	-	2.0

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	15.2
Precipitation - Reference Evapotranspiration	-	-	12.1
Number of Rainy Days	7.0	6.0	3.5
Number of Dry Days	1.0	0.0	-

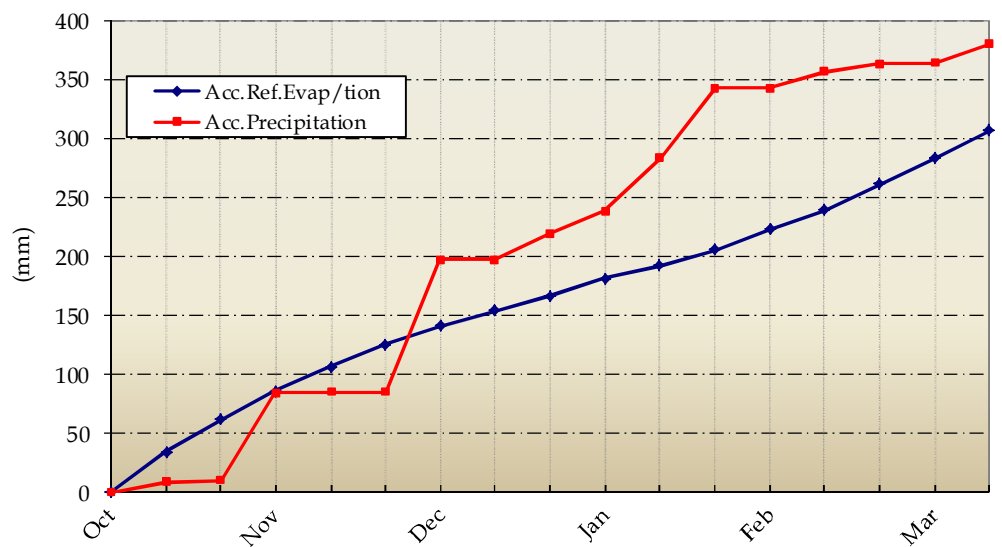
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.2	16.6	17.3	16.6	18.2	16.9	21.4	19.5	20.0	17.0	18.6	17.5	16.0
	Min	12.5	5.0	8.1	6.5	4.0	4.2	6.0	9.6	10.0	7.0	7.3	7.2	5.6
Relative Humidity	Max	89	93	94	94	97	94	94	89	91	93	93	92	-
	Min	29	57	37	48	40	55	44	56	47	46	46	54	-
Soil Temperature at 10 cm	06 UTC	14.4	13.0	13.0	13.0	11.4	12.0	12.4	13.6	14.2	13.6	13.1	11.8	10.3
	12 UTC	15.4	14.4	13.8	13.2	12.8	15.2	15.0	14.8	15.0	14.0	14.4	12.6	12.1
Sunshine Duration		8.4	4.4	5.3	3.9	9.7	7.3	7.3	9.1	7.2	7.0	7.0	5.0	5.8
Precipitation			1.9	3.8	7.3	1.8					0.9	15.7	17.1	26.1
Evaporation		4.0	0.2	0.1	0.1	2.2	2.4	2.8	4.0	2.1	0.6	18.5	-	29.9
Growing Degrees	5	12.4	5.8	7.7	6.6	6.1	5.6	8.7	9.6	10.0	7.0	79.3	73.4	58.2
	10	7.4	0.8	2.7	1.6	1.1	0.6	3.7	4.6	5.0	2.0	29.3	23.4	14.6

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	23.7	21.3	18.8
Precipitation - Reference Evapotranspiration	-8.0	-4.2	7.3
Number of Rainy Days	5.0	5.0	3.2
Number of Dry Days	6.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

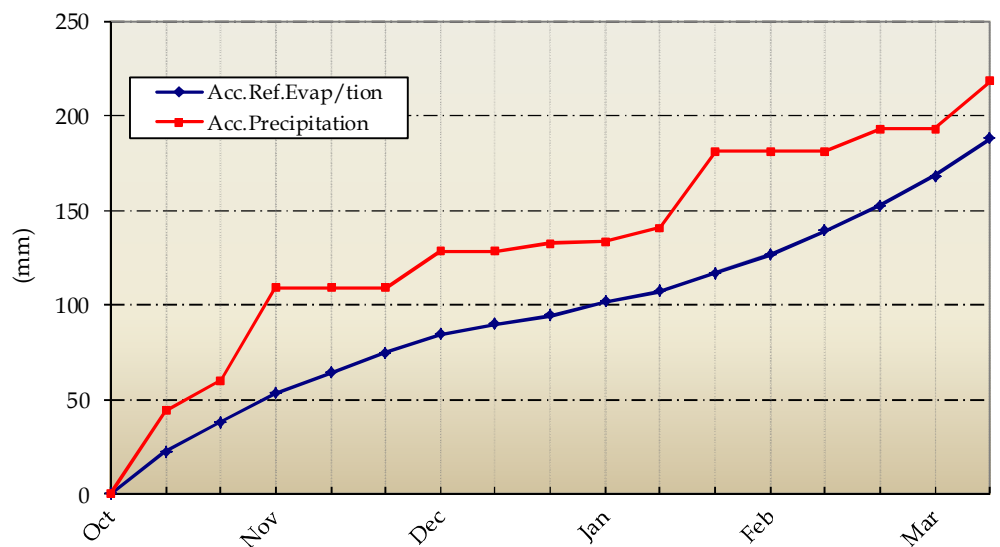


Larisa

1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.0	18.2	17.8	14.8	18.0	18.8	20.0	18.4	15.0	16.4	17.8	14.3	13.6
	Min	7.8	2.4	3.0	4.7	0.4	3.8	4.5	3.6	9.1	4.0	4.3	5.1	2.4
Relative Humidity	Max	100	100	100	100	100	100	100	100	100	100	100	95	-
	Min	24	36	40	43	33	39	50	37	71	39	41	58	-
Soil Temperature at 10 cm	06 UTC	12.4	12.4	12.0	12.0	11.4	11.2	11.6	12.2	12.2	12.2	12.0	-	7.8
	12 UTC	12.4	12.4	11.8	12.0	11.2	11.4	11.6	12.0	12.2	11.8	11.9	-	8.9
Sunshine Duration		8.2	7.0	5.9	4.5	9.2	5.7	0.0	7.5	1.1	8.0	5.7	2.6	4.9
Precipitation					2.1			0.1	3.5	15.1	4.3	25.1	24.4	10.9
Evaporation		4.8	0.7	4.6	2.4	3.2	2.2	4.9	4.9	0.2	3.1	31.0	24.7	18.9
Growing Degrees	5	9.4	5.3	5.4	4.8	4.2	6.3	7.3	6.0	7.1	5.2	60.9	47.1	34.4
	10	4.4	0.3	0.4	0.0	0.0	1.3	2.3	1.0	2.1	0.2	11.9	6.8	4.1

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	19.6	16.0	17.1
Precipitation - Reference Evapotranspiration	5.5	8.4	-6.2
Number of Rainy Days	5.0	3.0	3.2
Number of Dry Days	5.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

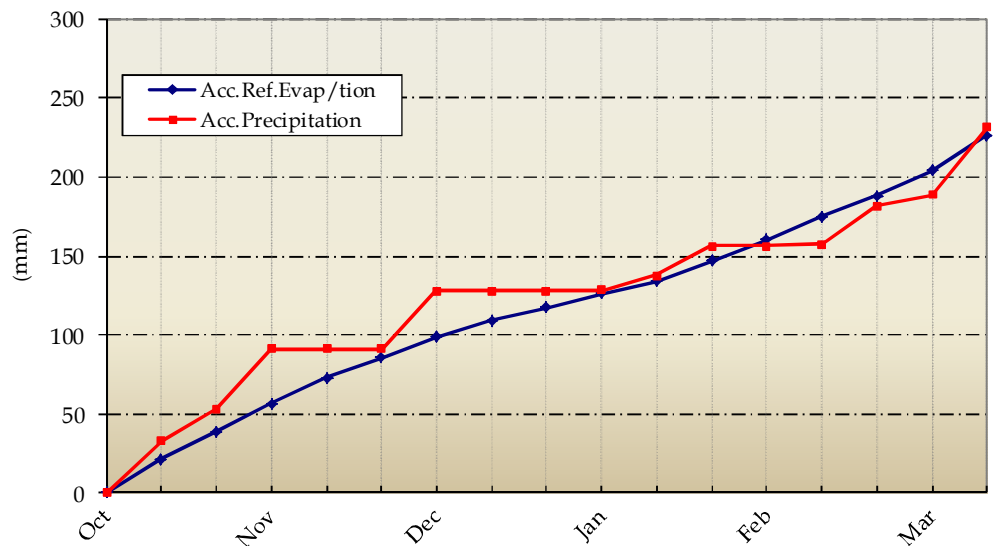


Mikra

1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.6	18.4	18.4	16.2	15.8	17.6	19.5	17.5	12.8	14.0	17.0	10.8	12.6
	Min	12.4	5.4	5.0	6.1	8.4	6.2	5.4	7.5	9.2	9.2	7.5	5.7	3.4
Relative Humidity	Max	91	89	91	92	75	88	94	100	95	93	91	90	-
	Min	49	40	39	28	33	41	43	36	70	63	44	62	-
Soil Temperature at 10 cm	06 UTC	13.0	11.6	11.3	11.6	10.6	10.8	11.0	12.4	13.0	11.6	11.7	8.1	7.2
	12 UTC	15.0	14.0	13.1	13.6	13.0	13.4	13.6	14.6	12.4	12.2	13.5	9.6	9.8
Sunshine Duration		8.7	9.2	7.4	5.9	8.8	6.3	8.4	8.1	0.0	2.8	6.6	2.4	4.9
Precipitation					4.6			0.0	0.3	28.5	9.5	42.9	42.6	13.0
Evaporation		6.0	2.8	4.1	4.0	1.3	1.4	4.4	4.0	3.5	2.8	34.3	33.8	22.1
Growing Degrees	5	11.0	6.9	6.7	6.2	7.1	6.9	7.5	7.5	6.0	6.6	72.3	32.7	33.9
	10	6.0	1.9	1.7	1.2	2.1	1.9	2.5	2.5	1.0	1.6	22.3	1.7	4.3

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	22.1	14.9	17.6
Precipitation - Reference Evapotranspiration	20.8	27.7	-4.6
Number of Rainy Days	4.0	6.0	3.2
Number of Dry Days	6.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

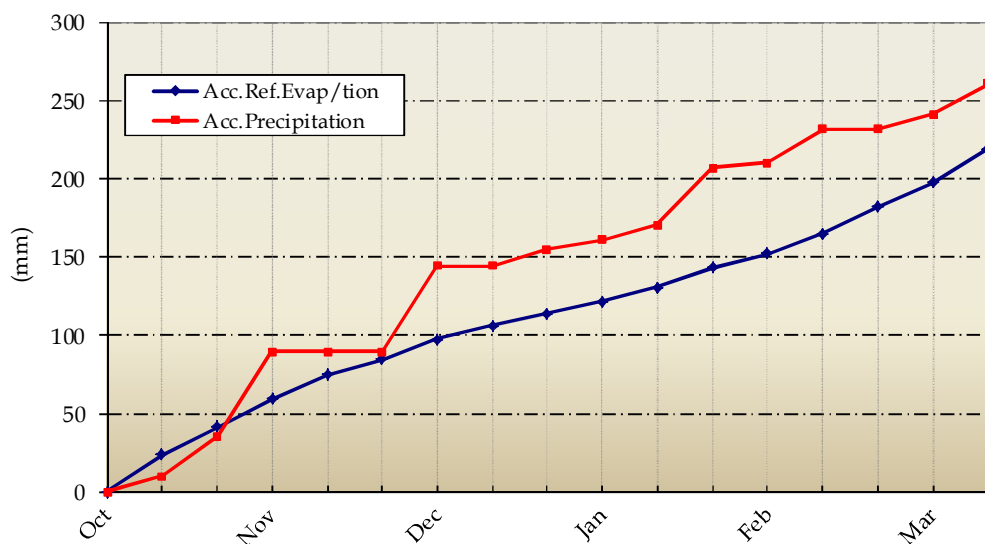


Tanagra

1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.7	18.4	18.0	15.4	18.5	19.6	19.2	15.6	15.0	16.2	17.8	14.5	13.1
	Min	15.0	4.0	4.9	8.8	3.1	3.8	11.7	11.4	8.4	4.9	7.6	6.7	3.8
Relative Humidity	Max	68	98	99	95	84	95	74	100	100	100	91	96	-
	Min	32	31	36	44	24	34	39	82	76	35	43	58	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		7.7	8.8	7.9	6.2	9.8	7.7	8.0	0.1	0.2	9.3	6.6	3.7	
Precipitation					5.0	0.5			2.3	3.1	8.1	19.0	33.4	19.5
Evaporation		4.0	3.0	4.0	2.4	2.6	3.8	3.4	1.0	1.0	3.0	28.2	-	
Growing Degrees	5	13.4	6.2	6.5	7.1	5.8	6.7	10.5	8.5	6.7	5.6	76.8	56.1	
	10	8.4	1.2	1.5	2.1	0.8	1.7	5.5	3.5	1.7	0.6	26.8	13.7	

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	21.4	16.5	
Precipitation - Reference Evapotranspiration	-2.4	16.9	
Number of Rainy Days	5.0	5.0	4.6
Number of Dry Days	8.0	0.0	-8.0

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

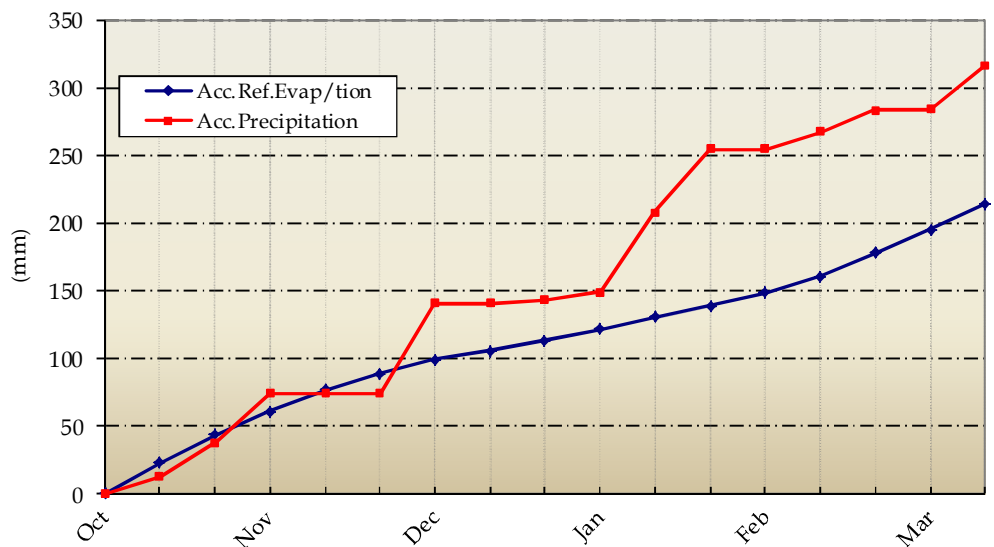


Tripoli

1st 10-day period (1-10/03/2016)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.1	14.9	13.3	9.0	14.6	16.5	15.5	16.4	15.1	10.6	14.3	13.0	11.8
	Min	8.1	0.5	1.1	4.2	2.9	1.3	2.0	6.7	7.1	5.6	4.0	3.7	1.3
Relative Humidity	Max	100	100	100	90	87	97	99	100	100	88	96	98	-
	Min	21	43	41	57	40	35	48	56	51	48	44	54	-
Soil Temperature at 10 cm	06 UTC	10.8	7.8	8.0	7.2	6.4	6.8	7.8	9.6	10.6	9.0	8.4	7.4	6.2
	12 UTC	14.4	11.8	11.6	9.0	-	-	12.8	13.8	13.2	11.2	12.2	10.3	7.4
Sunshine Duration		9.0	7.7	6.5	0.9	10.0	8.6	7.2	6.6	3.3	6.6	6.6	4.9	5.4
Precipitation			0.0	0.0	30.6	0.3				0.2	1.7	32.8	36.9	26.7
Evaporation		4.9	0.4	2.8	1.1	1.4	1.5	2.5	2.0	1.6	0.6	18.8	17.5	15.8
Growing Degrees	5	7.6	2.7	2.2	1.6	3.8	3.9	3.8	6.6	6.1	3.1	41.3	33.3	22.7
	10	2.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.1	0.0	5.3	4.4	1.9

1st 10-day period (1-10/03/2016)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	19.2	16.2	17.7
Precipitation - Reference Evapotranspiration	13.6	20.7	9.0
Number of Rainy Days	4.0	4.0	3.4
Number of Dry Days	8.0	5.0	-

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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