



# AGROMETEOROLOGICAL BULLETIN

*April 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



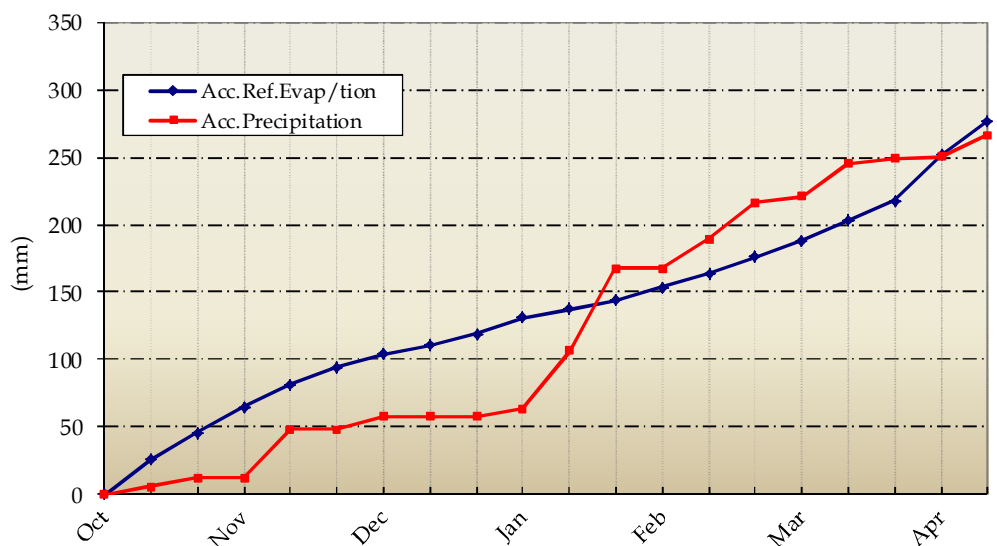
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1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.0	20.6	20.2	18.6	19.2	17.0	13.0	14.4	15.6	17.0	17.4	21.8	16.7
	Min	1.8	-0.6	5.6	10.6	10.8	6.0	8.4	2.8	2.6	4.4	5.2	8.3	6.5
Relative Humidity	Max	91	66	98	98	93	94	92	91	89	90	90	91	-
	Min	15	21	39	56	44	64	59	55	55	45	45	46	-
Soil Temperature at 10 cm	06 UTC	10.8	10.2	11.6	14.2	14.4	13.0	14.0	9.6	10.0	10.4	11.8	14.0	10.4
	12 UTC	16.2	16.6	16.8	17.0	16.8	19.2	15.2	13.8	15.2	16.6	16.3	19.6	13.5
Sunshine Duration		11.7	12.0	8.9	6.2	4.6	8.7	1.6	6.2	5.0	8.6	7.4	8.9	6.1
Precipitation					1.9	1.5		11.5	0.1	1.2		16.2		11.5
Evaporation		5.7	5.6	6.6	2.1	2.0	6.1	1.2	2.1	4.1	6.0	41.5	44.2	34.0
Growing Degrees	5	4.9	5.0	7.9	9.6	10.0	6.5	5.7	3.6	4.1	5.7	63.0	100.6	66.0
	10	0.0	0.0	2.9	4.6	5.0	1.5	0.7	0.0	0.0	0.7	15.4	50.6	21.0

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	25.3	30.7	24.4
Precipitation - Reference Evapotranspiration	-9.1	-30.7	-12.9
Number of Rainy Days	5.0	0.0	2.6
Number of Dry Days	7.0	15.0	-

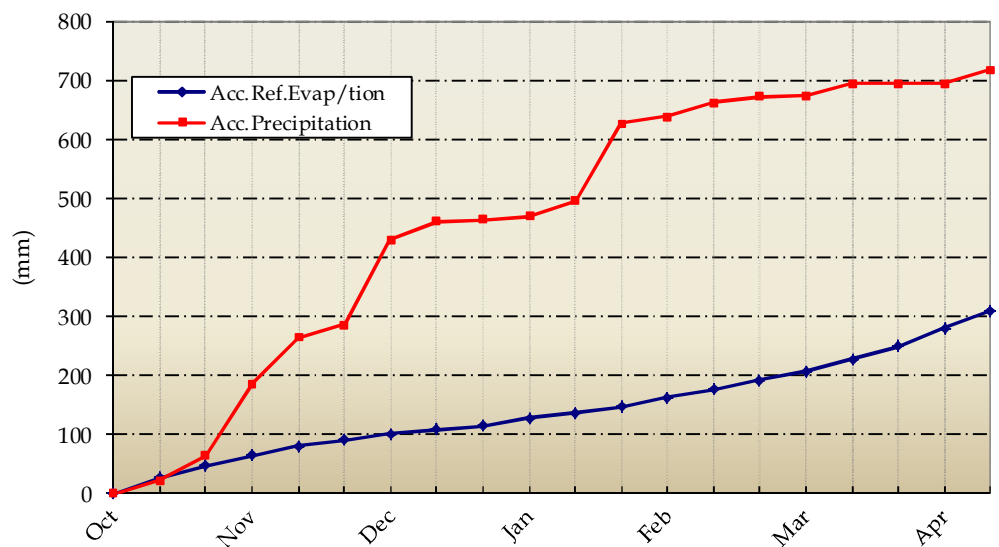
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.6	20.0	14.9	20.7	20.0	18.3	18.6	18.5	19.5	19.9	19.1	22.4	18.6
	Min	4.3	8.6	10.0	9.3	8.9	8.7	9.8	7.4	6.6	6.7	8.0	10.4	8.6
Relative Humidity	Max	90	85	90	90	90	92	89	84	86	90	89	91	-
	Min	29	42	60	28	46	57	52	33	38	34	42	48	-
Soil Temperature at 10 cm	06 UTC	10.6	15.0	14.6	15.0	15.0	12.2	12.4	16.0	15.6	12.8	13.9	-	12.9
	12 UTC	19.6	17.6	13.0	13.4	17.4	17.0	18.4	18.0	18.0	19.6	17.2	-	15.7
Sunshine Duration		11.1	8.4	1.4	11.0	6.3	10.3	8.2	11.4	10.9	7.9	8.7	7.3	6.9
Precipitation				11.6	0.2	7.0	4.1					22.9	7.5	14.7
Evaporation		11.0	3.1	12.7	2.4	6.7	2.0	0.5	0.9	1.6	2.0	42.9	36.5	34.4
Growing Degrees	5	7.5	9.3	7.5	10.0	9.5	8.5	9.2	8.0	8.1	8.3	85.7	114.0	86.1
	10	2.5	4.3	2.5	5.0	4.5	3.5	4.2	3.0	3.1	3.3	35.7	64.0	36.7

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	29.7	29.6	26.7
Precipitation - Reference Evapotranspiration	-6.8	-22.1	-12.0
Number of Rainy Days	4.0	1.0	2.8
Number of Dry Days	23.0	11.0	-

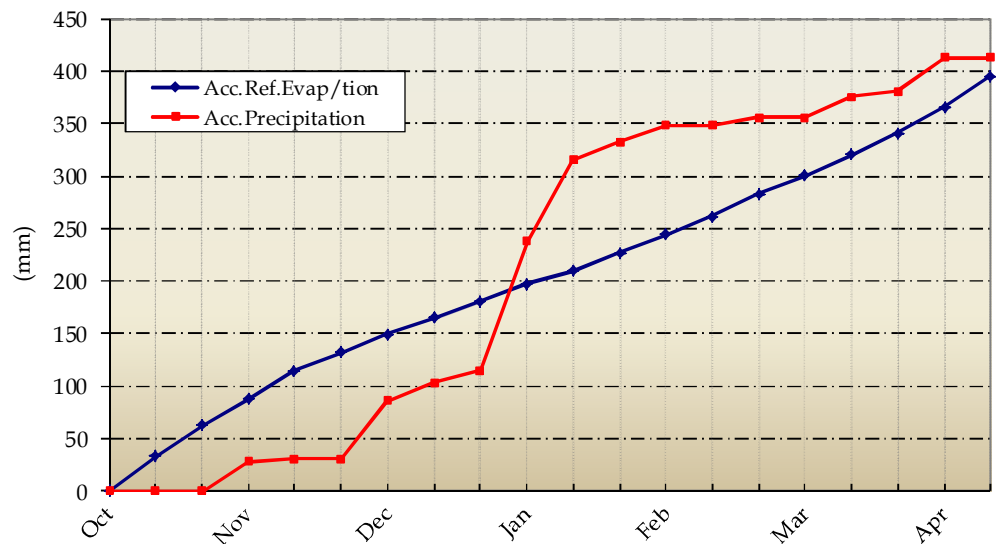
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.0	17.8	23.2	22.4	19.2	18.4	19.2	17.8	17.8	19.0	19.1	21.9	19.4
	Min	13.4	8.6	9.8	16.4	11.8	11.0	11.0	14.0	9.4	13.6	11.9	12.7	11.6
Relative Humidity	Max	88	92	89	87	97	92	92	92	91	90	91	88	-
	Min	73	66	50	60	70	78	65	67	70	63	66	47	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		6.6	10.6	9.0	1.0	7.5	9.9	8.8	6.5	11.4	6.2	7.8	8.3	7.0
Precipitation														8.6
Evaporation		4.8	0.9	6.2	2.4	3.8	0.9	6.4	2.5	2.0	3.6	33.5	30.0	45.2
Growing Degrees	5	9.7	8.2	11.5	14.4	10.5	9.7	10.1	10.9	8.6	11.3	104.9	123.3	105.0
	10	4.7	3.2	6.5	9.4	5.5	4.7	5.1	5.9	3.6	6.3	54.9	73.3	55.0

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	29.8	34.4	-
Precipitation - Reference Evapotranspiration	-29.8	-34.4	8.6
Number of Rainy Days	0.0	0.0	1.8
Number of Dry Days	10.0	13.0	-

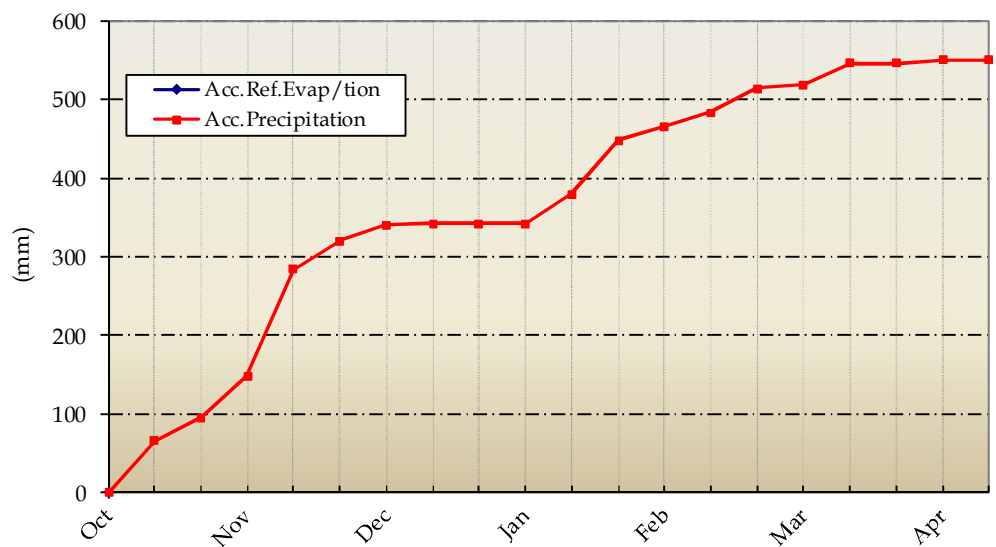
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.4	22.0	12.0	13.6	16.4	18.0	12.0	17.4	21.0	20.6	17.5	22.6	16.8
	Min	3.0	1.2	-	8.0	4.0	6.0	5.2	0.4	4.0	3.6	3.9	7.2	5.4
Relative Humidity	Max	100	-	98	97	100	100	100	97	90	98	98	99	-
	Min	26	-	72	64	50	50	83	36	23	34	49	44	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	9.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.3
Sunshine Duration		9.4	-	0.3	2.6	4.9	5.4	0.4	9.3	10.0	9.7	5.8	5.5	5.1
Precipitation				0.0	0.0		0.0	0.0				0.0	24.3	25.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	24.5
Growing Degrees	5	7.7	6.6	-	5.8	5.2	7.0	3.6	3.9	7.5	7.1	-	99.2	60.9
	10	2.7	1.6	-	0.8	0.2	2.0	0.0	0.0	2.5	2.1	-	49.2	17.6

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	22.5
Precipitation - Reference Evapotranspiration	-	-	3.2
Number of Rainy Days	0.0	4.0	4.1
Number of Dry Days	14.0	3.0	-

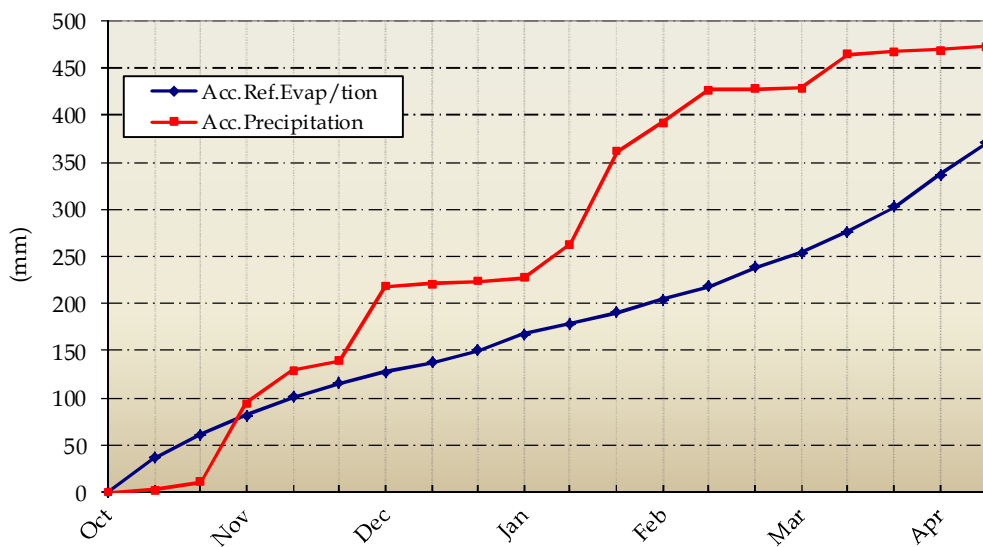
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.9	19.2	20.2	21.0	22.3	21.3	22.0	19.2	19.2	20.4	20.5	22.8	19.3
	Min	7.0	6.0	9.5	5.6	10.2	9.7	8.8	6.4	6.0	5.4	7.5	9.8	8.0
Relative Humidity	Max	90	93	92	92	90	91	88	90	91	91	91	92	-
	Min	26	51	46	29	42	39	36	39	43	41	39	42	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	15.5	12.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	16.5	15.8
Sunshine Duration		10.6	9.6	0.6	7.5	4.5	10.5	10.5	10.6	9.6	7.3	8.1	8.4	6.7
Precipitation					0.2	3.5		0.0				3.7	4.6	16.3
Evaporation		6.2	4.0	1.8	6.5	2.2	4.4	5.6	6.6	2.0	2.9	42.2	33.8	37.8
Growing Degrees	5	8.5	7.6	9.9	8.3	11.3	10.5	10.4	7.8	7.6	7.9	89.7	113.2	86.4
	10	3.5	2.6	4.9	3.3	6.3	5.5	5.4	2.8	2.6	2.9	39.7	63.2	36.8

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	33.7	34.2	28.3
Precipitation - Reference Evapotranspiration	-30.0	-29.6	-12.0
Number of Rainy Days	2.0	1.0	2.8
Number of Dry Days	12.0	13.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

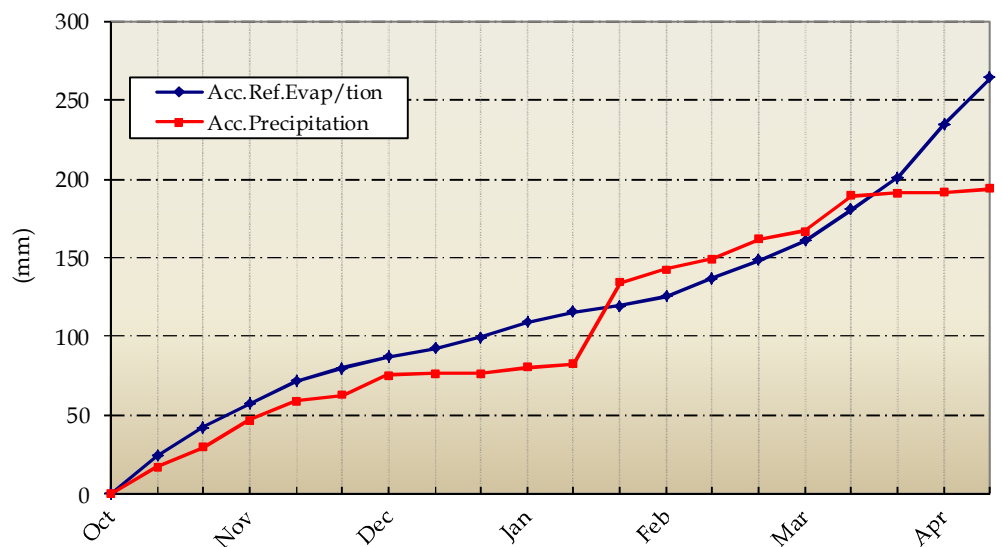




1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.5	20.7	15.4	20.2	19.6	20.2	17.5	19.6	20.4	20.7	19.5	23.2	19.4
	Min	4.4	1.0	4.0	3.9	8.3	4.9	7.1	1.2	3.7	4.0	4.2	7.8	5.6
Relative Humidity	Max	100	96	100	100	100	100	100	100	92	100	99	100	-
	Min	32	19	39	40	50	36	49	26	32	37	36	45	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	14.6	11.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	14.7	13.1
Sunshine Duration		11.4	11.1	1.1	10.5	7.0	8.8	5.6	11.1	10.9	11.8	8.9	6.9	6.6
Precipitation				0.6	0.2	0.1	0.4	1.2				2.5	0.4	12.2
Evaporation		5.1	6.6	0.6	3.3	0.5	4.1	2.8	4.4	4.8	6.4	38.6	37.8	32.3
Growing Degrees	5	7.5	5.9	4.7	7.1	9.0	7.6	7.3	5.4	7.1	7.4	68.7	105.1	75.0
	10	2.5	0.9	0.0	2.1	4.0	2.6	2.3	0.4	2.1	2.4	19.0	55.1	27.5

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	29.6	29.2	26.4
Precipitation - Reference Evapotranspiration	-27.1	-28.8	-14.2
Number of Rainy Days	5.0	1.0	2.6
Number of Dry Days	2.0	15.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

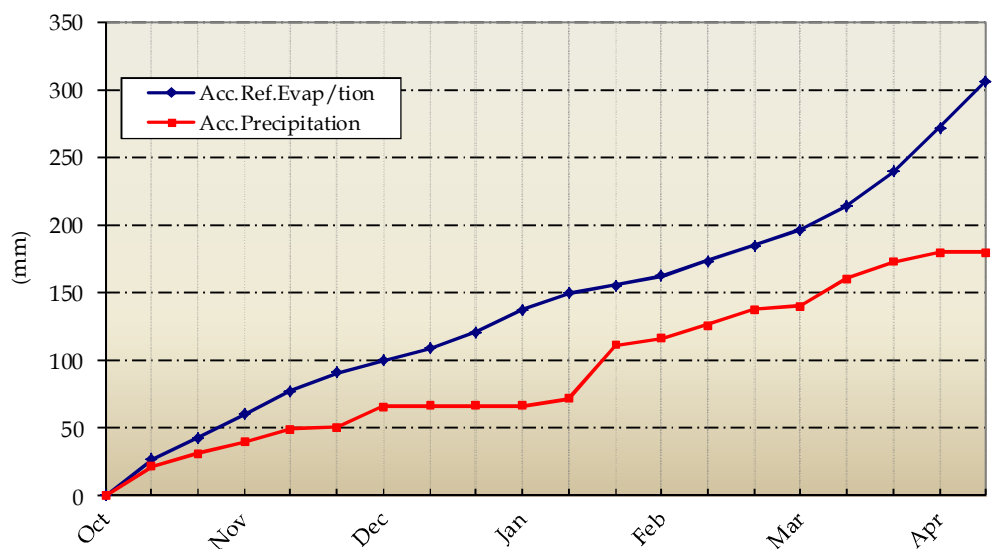


Mikra

1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	19.4	19.8	16.0	18.9	18.6	20.3	16.8	18.0	21.5	19.4	18.9	22.4	18.4
	Min	5.4	4.1	5.2	9.0	8.0	8.7	12.4	10.7	8.3	5.3	7.7	10.4	7.0
Relative Humidity	Max	91	82	82	91	94	85	45	56	75	78	78	91	-
	Min	37	24	50	42	44	38	26	30	25	32	35	49	-
Soil Temperature at 10 cm	06 UTC	12.5	12.4	12.4	13.2	13.4	13.4	14.6	13.0	12.8	14.0	13.2	15.0	11.4
	12 UTC	15.6	16.0	15.2	16.4	15.6	17.2	15.8	15.8	17.0	17.0	16.2	18.1	15.3
Sunshine Duration		11.0	11.0	1.8	9.2	3.1	8.4	4.0	11.1	11.3	11.2	8.2	7.0	6.4
Precipitation				0.0	0.0			0.0				0.0		12.7
Evaporation		5.2	3.2	2.5	4.3	3.6	6.4	3.4	7.6	5.7	4.7	46.6	39.0	39.9
Growing Degrees	5	7.4	7.0	5.6	9.0	8.3	9.5	9.6	9.4	9.9	7.4	82.9	114.0	77.2
	10	2.4	2.0	0.6	4.0	3.3	4.5	4.6	4.4	4.9	2.4	32.9	64.0	28.9

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	34.7	31.0	26.8
Precipitation - Reference Evapotranspiration	-34.7	-31.0	-14.1
Number of Rainy Days	0.0	0.0	2.5
Number of Dry Days	10.0	14.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



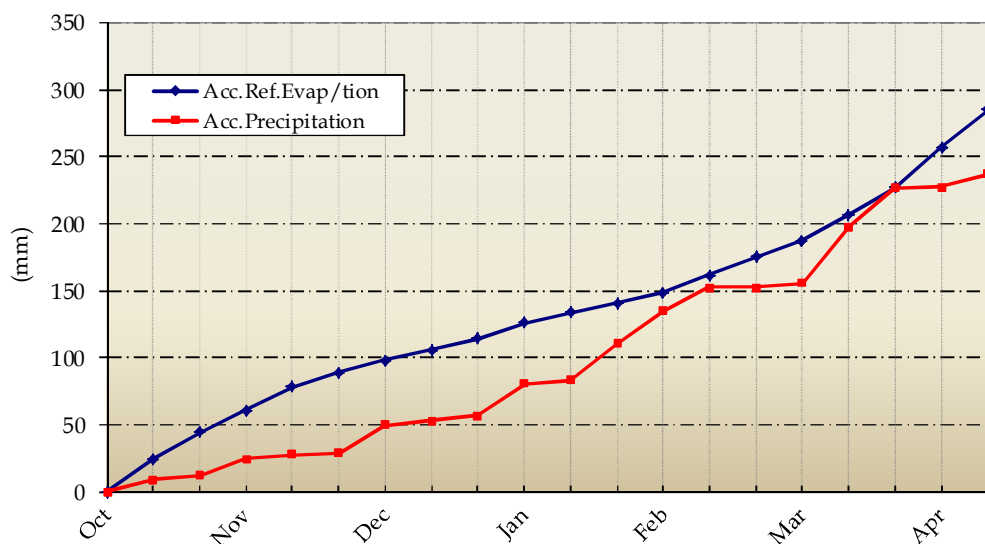


Tanagra

1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.6	19.7	17.2	18.6	19.0	19.8	19.2	17.5	19.0	18.3	18.6	22.9	18.6
	Min	6.8	0.6	4.4	5.7	10.5	7.4	10.2	6.8	6.4	3.4	6.2	8.7	6.4
Relative Humidity	Max	78	90	86	97	100	100	98	95	87	94	92	92	-
	Min	25	21	32	55	52	40	44	29	32	40	37	40	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.9	11.5	4.4	6.5	4.7	6.5	6.1	11.1	11.9	9.6	8.3	7.6	
Precipitation						5.6		2.2	2.3			10.1	1.9	8.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	36.0	
Growing Degrees	5	7.2	5.2	5.8	7.2	9.8	8.6	9.7	7.2	7.7	5.9	74.1	107.9	
	10	2.2	0.2	0.8	2.2	4.8	3.6	4.7	2.2	2.7	0.9	24.1	57.9	

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	27.6	29.6	
Precipitation - Reference Evapotranspiration	-17.5	-27.7	8.6
Number of Rainy Days	3.0	1.0	2.9
Number of Dry Days	5.0	13.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

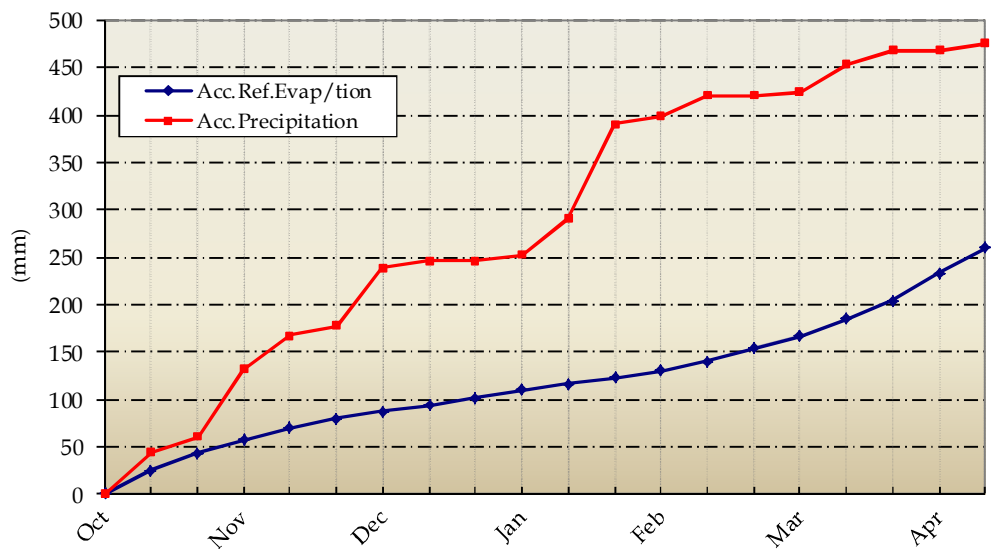


Tripoli

1st 10-day period (1-10/04/2017)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.4	18.7	15.6	18.4	12.9	18.1	17.8	18.7	18.8	15.9	17.2	21.4	17.1
	Min	1.4	0.1	3.2	1.9	5.9	3.8	2.3	1.3	0.8	2.5	2.3	5.8	4.3
Relative Humidity	Max	92	100	100	100	100	100	100	100	100	91	98	97	-
	Min	30	17	44	23	61	39	39	30	29	35	35	29	-
Soil Temperature at 10 cm	06 UTC	10.0	10.4	11.2	10.0	11.8	10.2	10.2	9.8	10.2	10.8	10.5	12.8	9.5
	12 UTC	-	-	14.4	16.2	13.4	15.8	15.4	-	-	15.8	15.2	18.3	11.3
Sunshine Duration		9.8	9.7	1.6	7.9	0.0	9.9	7.6	8.0	11.0	9.7	7.5	8.4	6.6
Precipitation				0.0	0.1	6.3	0.6					7.0	3.8	17.3
Evaporation		3.5	4.5	2.3	3.8	0.2	3.5	2.7	3.0	5.0	4.6	33.1	39.3	26.4
Growing Degrees	5	4.4	4.4	4.4	5.2	4.4	6.0	5.1	5.0	4.8	4.2	47.8	85.8	57.4
	10	0.0	0.0	0.0	0.2	0.0	1.0	0.1	0.0	0.0	0.0	1.2	35.8	16.1

1st 10-day period (1-10/04/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	26.4	31.8	26.6
Precipitation - Reference Evapotranspiration	-19.4	-28.0	-9.3
Number of Rainy Days	3.0	1.0	3.3
Number of Dry Days	18.0	12.0	-

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<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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