



AGROMETEOROLOGICAL BULLETIN

April 2018
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



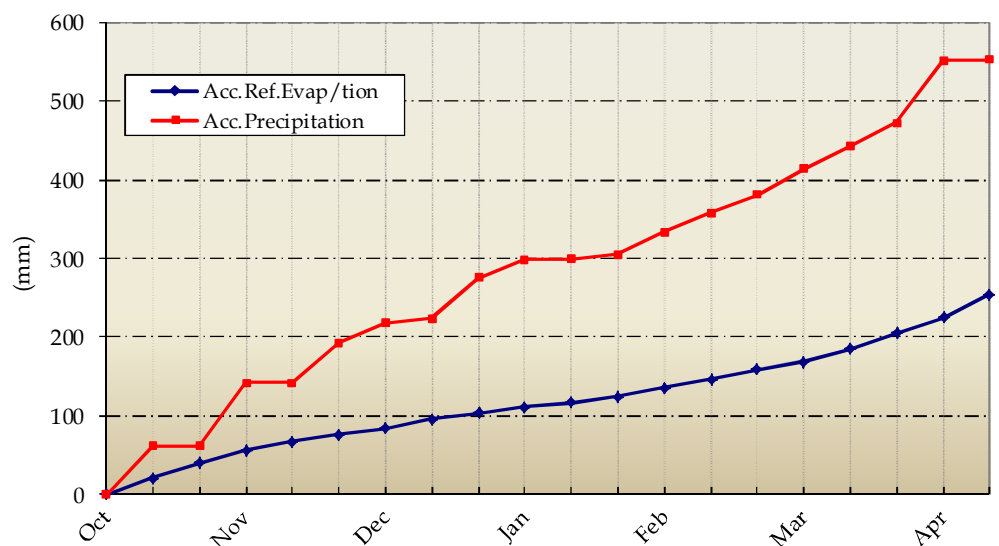
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www.emy.gr
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1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	17.8	18.0	18.0	18.6	17.6	22.0	21.8	23.6	21.4	20.8	20.0	17.4	16.7
	Min	12.6	6.0	3.6	5.0	4.6	10.8	11.4	16.0	6.0	7.0	8.3	5.2	6.5
Relative Humidity	Max	83	95	87	96	95	95	77	96	83	91	90	90	-
	Min	61	43	31	49	56	53	21	23	33	49	42	45	-
Soil Temperature at 10 cm	06 UTC	12.4	10.8	10.6	10.6	11.4	12.4	13.6	13.8	13.0	13.6	12.2	11.8	10.4
	12 UTC	14.2	15.4	15.4	15.6	15.8	15.8	14.6	17.6	17.0	18.4	16.0	16.3	13.5
Sunshine Duration		2.9	11.8	11.4	10.7	5.9	4.1	6.1	10.2	11.0	11.8	8.6	7.4	6.1
Precipitation								1.8				1.8	16.2	11.5
Evaporation		2.4	5.3	2.3	4.7	2.0	3.2	4.9	7.3	7.1	2.6	41.8	41.5	34.0
Growing Degrees	5	10.2	7.0	5.8	6.8	6.1	11.4	11.6	14.8	8.7	8.9	91.3	63.0	66.0
	10	5.2	2.0	0.8	1.8	1.1	6.4	6.6	9.8	3.7	3.9	41.3	15.4	21.0

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.2	25.3	24.4
Precipitation - Reference Evapotranspiration	-28.4	-9.1	-12.9
Number of Rainy Days	1.0	5.0	2.6
Number of Dry Days	9.0	7.0	-

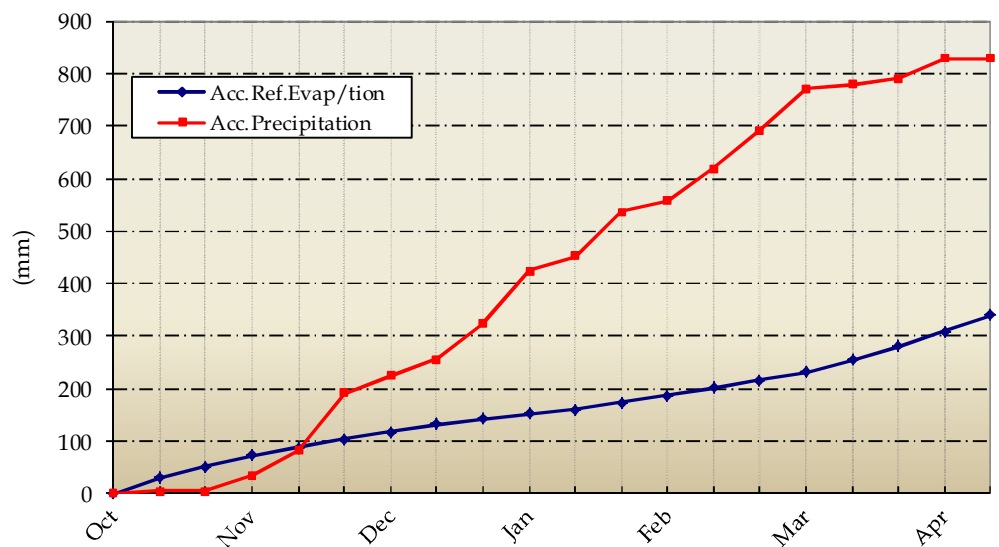
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.9	17.6	21.0	20.6	21.2	18.8	22.4	22.2	23.1	23.0	20.9	19.1	18.6
	Min	13.7	9.3	6.6	7.5	7.1	12.0	10.4	7.9	9.0	8.4	9.2	8.0	8.6
Relative Humidity	Max	80	87	89	84	84	86	87	88	88	90	86	89	-
	Min	34	46	30	27	27	56	43	35	34	42	37	42	-
Soil Temperature at 10 cm	06 UTC	15.2	15.1	15.0	15.5	15.2	16.5	16.2	16.4	15.5	16.0	15.7	13.9	12.9
	12 UTC	17.0	17.8	18.5	18.2	17.5	18.3	19.8	19.0	19.2	18.8	18.4	17.2	15.7
Sunshine Duration		8.8	11.3	11.1	11.1	6.0	6.2	10.7	11.2	9.5	8.2	9.4	8.7	6.9
Precipitation													22.9	14.7
Evaporation		5.0	5.0	5.0	3.0	3.5	3.0	5.0	4.0	3.0	5.0	41.5	42.9	34.4
Growing Degrees	5	11.3	8.5	8.8	9.1	9.2	10.4	11.4	10.1	11.1	10.7	100.4	85.7	86.1
	10	6.3	3.5	3.8	4.1	4.2	5.4	6.4	5.1	6.1	5.7	50.4	35.7	36.7

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	32.4	29.7	26.7
Precipitation - Reference Evapotranspiration	-32.4	-6.8	-12.0
Number of Rainy Days	0.0	4.0	2.8
Number of Dry Days	13.0	23.0	-

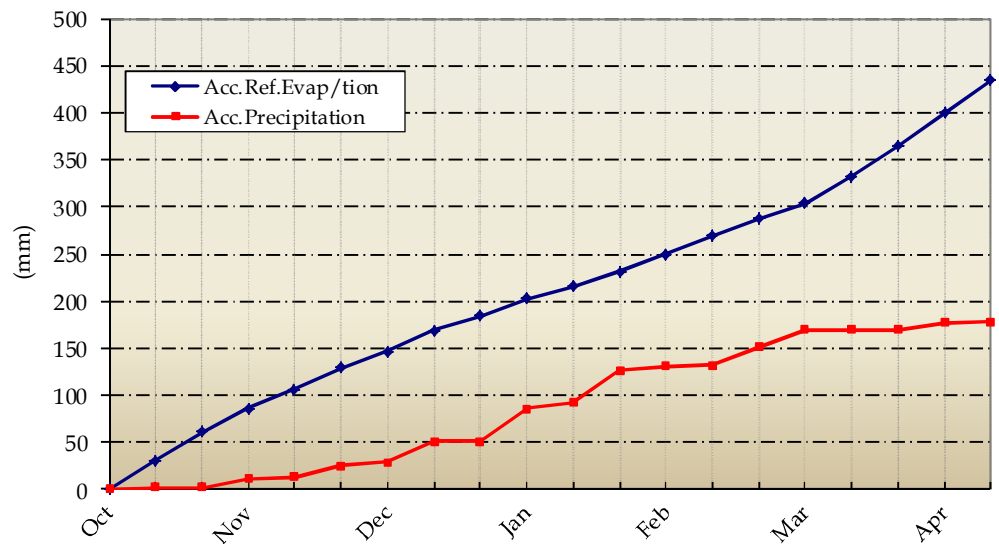
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.6	18.0	18.4	18.8	20.0	20.2	19.2	19.2	19.2	19.8	20.0	19.1	19.4
	Min	14.6	13.8	9.2	9.2	10.0	11.0	12.4	13.2	12.0	11.2	11.7	11.9	11.6
Relative Humidity	Max	82	85	86	85	87	83	83	77	88	93	85	91	-
	Min	32	57	57	60	49	46	64	56	64	67	55	66	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.5	7.3	10.9	11.0	10.6	9.8	7.7	10.5	10.4	10.3	9.9	7.8	7.0
Precipitation								0.7				0.7		8.6
Evaporation		8.0	4.5	4.7	2.2	4.4	3.0	5.3	2.6	4.2	3.4	42.3	33.5	45.2
Growing Degrees	5	16.1	10.9	8.8	9.0	10.0	10.6	10.8	11.2	10.6	10.5	108.5	104.9	105.0
	10	11.1	5.9	3.8	4.0	5.0	5.6	5.8	6.2	5.6	5.5	58.5	54.9	55.0

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	35.3	29.8	-
Precipitation - Reference Evapotranspiration	-34.6	-29.8	8.6
Number of Rainy Days	1.0	0.0	1.8
Number of Dry Days	8.0	10.0	-

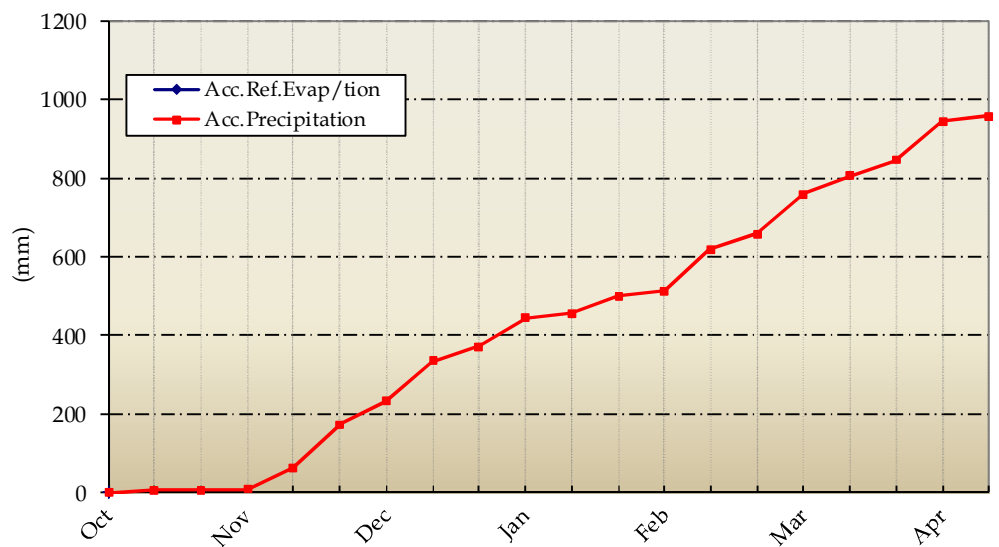
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.0	17.4	20.8	21.6	20.8	17.4	19.4	25.6	24.8	23.0	20.6	17.5	16.8
	Min	6.4	2.6	4.0	2.8	5.6	7.6	6.6	5.6	6.0	5.5	5.3	3.9	5.4
Relative Humidity	Max	100	100	93	98	88	92	100	100	100	97	97	98	-
	Min	57	37	35	23	27	49	42	30	21	29	35	49	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	9.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.3
Sunshine Duration		3.9	8.4	9.3	8.3	5.9	2.1	5.6	10.1	8.7	7.6	7.0	5.8	5.1
Precipitation		10.6	0.2				1.4					12.2	0.0	25.7
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	24.5
Growing Degrees	5	5.7	5.0	7.4	7.2	8.2	7.5	8.0	10.6	10.4	9.3	79.3	-	60.9
	10	0.7	0.0	2.4	2.2	3.2	2.5	3.0	5.6	5.4	4.3	29.3	-	17.6

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	22.5
Precipitation - Reference Evapotranspiration	-	-	3.2
Number of Rainy Days	3.0	0.0	4.1
Number of Dry Days	4.0	14.0	-

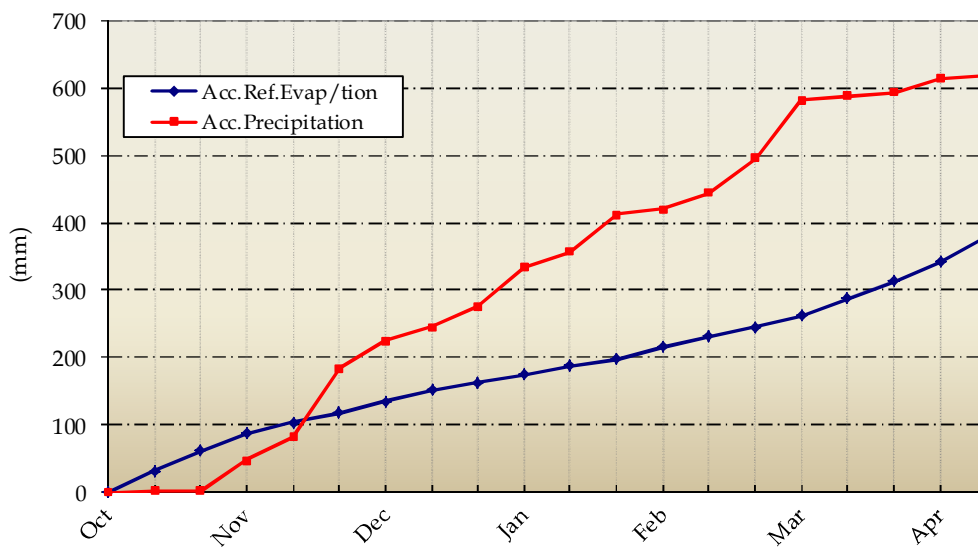
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.7	20.6	20.8	22.6	21.3	23.0	21.4	21.4	21.5	24.5	22.0	20.5	19.3
	Min	8.8	7.3	5.8	5.9	6.3	10.6	9.7	6.2	7.4	7.6	7.6	7.5	8.0
Relative Humidity	Max	92	86	84	89	88	74	92	92	91	92	88	91	-
	Min	33	36	28	30	40	30	43	43	40	26	35	39	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.9
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	15.8
Sunshine Duration		10.0	10.5	11.5	11.5	9.6	6.4	8.4	11.2	10.6	8.3	9.8	8.1	6.7
Precipitation								3.7				3.7	3.7	16.3
Evaporation		1.9	6.8	4.7	4.3	5.6	2.4	2.3	4.8	4.2	5.0	42.0	42.2	37.8
Growing Degrees	5	10.8	9.0	8.3	9.3	8.8	11.8	10.6	8.8	9.5	11.1	97.7	89.7	86.4
	10	5.8	4.0	3.3	4.3	3.8	6.8	5.6	3.8	4.5	6.1	47.7	39.7	36.8

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	37.4	33.7	28.3
Precipitation - Reference Evapotranspiration	-33.7	-30.0	-12.0
Number of Rainy Days	1.0	2.0	2.8
Number of Dry Days	9.0	12.0	-

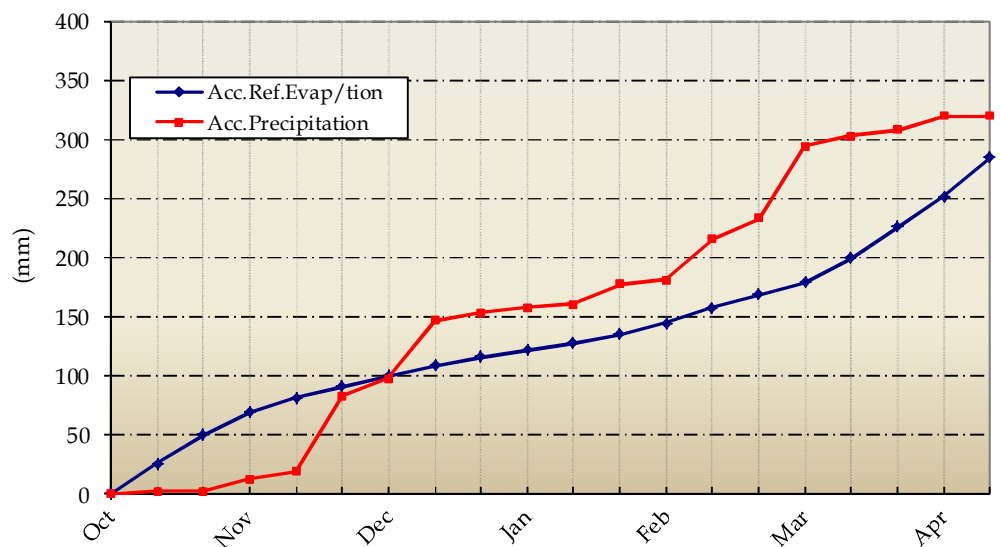
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.2	19.9	21.4	22.9	23.0	21.0	20.8	24.6	23.3	23.6	22.2	19.5	19.4
	Min	10.6	9.2	3.0	4.8	5.8	11.0	14.0	5.8	4.0	5.0	7.3	4.2	5.6
Relative Humidity	Max	85	87	87	89	90	94	90	94	84	90	89	99	-
	Min	24	35	36	32	44	45	45	23	26	35	34	36	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	11.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	13.1
Sunshine Duration		9.0	11.5	11.0	9.5	5.6	1.3	3.3	10.9	10.5	8.3	8.1	8.9	6.6
Precipitation							0.2	0.0				0.2	2.5	12.2
Evaporation		8.3	6.6	4.3	5.0	3.1	3.7	3.2	6.3	4.8	6.7	52.0	38.6	32.3
Growing Degrees	5	10.9	9.6	7.2	8.9	9.4	11.0	12.4	10.2	8.7	9.3	97.5	68.7	75.0
	10	5.9	4.6	2.2	3.9	4.4	6.0	7.4	5.2	3.7	4.3	47.5	19.0	27.5

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	33.2	29.6	26.4
Precipitation - Reference Evapotranspiration	-33.0	-27.1	-14.2
Number of Rainy Days	1.0	5.0	2.6
Number of Dry Days	10.0	2.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

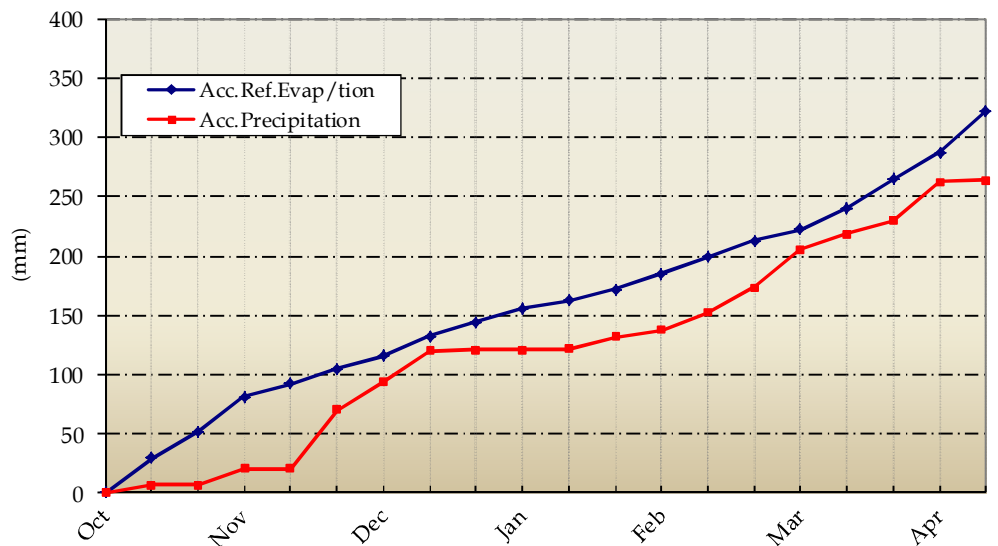


Mikra

1st 10-day period (1-10/04/2018)		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	19.6	21.0	21.0	20.8	20.6	19.6	25.0	22.2	21.6	21.2	18.9	18.4
	Min	10.1	6.0	5.6	5.6	7.8	11.4	13.7	7.8	7.5	7.2	8.3	7.7	7.0
Relative Humidity	Max	91	77	75	77	79	81	80	88	76	78	80	78	-
	Min	29	28	30	38	44	46	56	20	28	34	35	35	-
Soil Temperature at 10 cm	06 UTC	13.0	13.0	12.4	13.0	13.4	14.8	14.6	13.8	14.0	14.2	13.6	13.2	11.4
	12 UTC	14.0	14.2	14.0	14.0	15.2	15.4	15.0	15.4	15.2	16.0	14.8	16.2	15.3
Sunshine Duration		10.6	11.1	11.1	9.1	8.1	3.3	3.2	11.1	11.3	8.1	8.7	8.2	6.4
Precipitation							0.1	1.6				1.7	0.0	12.7
Evaporation		4.0	7.1	5.1	2.9	6.8	0.3	4.7	5.4	8.3	2.3	46.9	46.6	39.9
Growing Degrees	5	10.4	7.8	8.3	8.3	9.3	11.0	11.7	11.4	9.9	9.4	97.4	82.9	77.2
	10	5.4	2.8	3.3	3.3	4.3	6.0	6.7	6.4	4.9	4.4	47.4	32.9	28.9

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	34.4	34.7	26.8
Precipitation - Reference Evapotranspiration	-32.7	-34.7	-14.1
Number of Rainy Days	2.0	0.0	2.5
Number of Dry Days	9.0	10.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

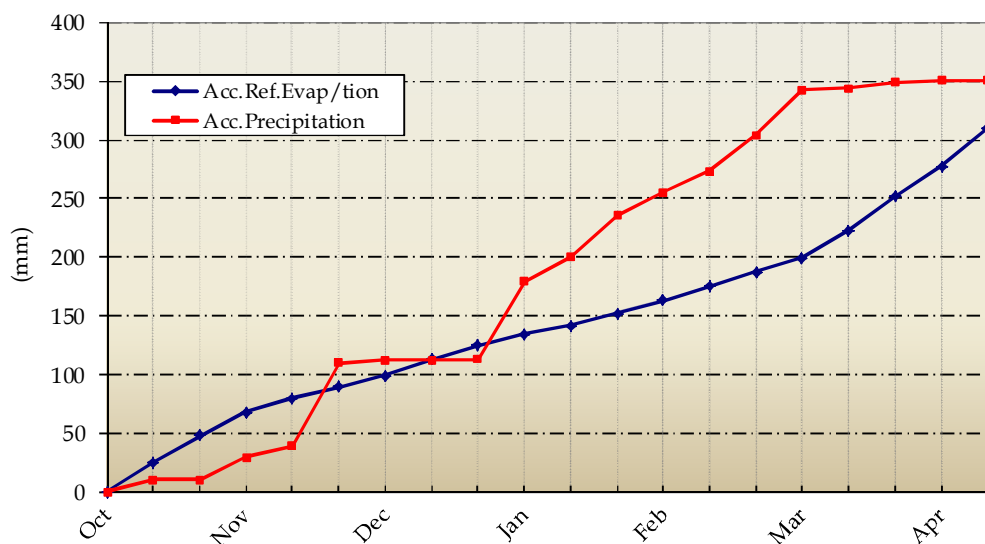


Tanagra

1st 10-day period (1-10/04/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.2	19.8	20.2	22.1	23.6	20.8	17.0	21.0	22.6	22.2	21.2	18.6	18.6
	Min	11.8	6.1	4.7	5.2	7.3	10.2	10.8	10.0	8.0	5.2	7.9	6.2	6.4
Relative Humidity	Max	70	81	94	78	80	95	98	92	86	94	87	92	-
	Min	24	25	30	28	32	44	44	42	41	32	34	37	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		10.6	11.6	11.0	11.3	10.9	5.7	2.7	11.1	11.1	9.8	9.6	8.3	
Precipitation													10.1	8.6
Evaporation		5.6	5.5	5.0	5.1	5.1	3.2	2.8	5.9	5.0	4.5	47.7	-	
Growing Degrees	5	12.5	8.0	7.5	8.7	10.5	10.5	8.9	10.5	10.3	8.7	95.9	74.1	
	10	7.5	3.0	2.5	3.7	5.5	5.5	3.9	5.5	5.3	3.7	45.9	24.1	

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	32.8	27.6	
Precipitation - Reference Evapotranspiration	-32.8	-17.5	8.6
Number of Rainy Days	0.0	3.0	2.9
Number of Dry Days	13.0	5.0	-

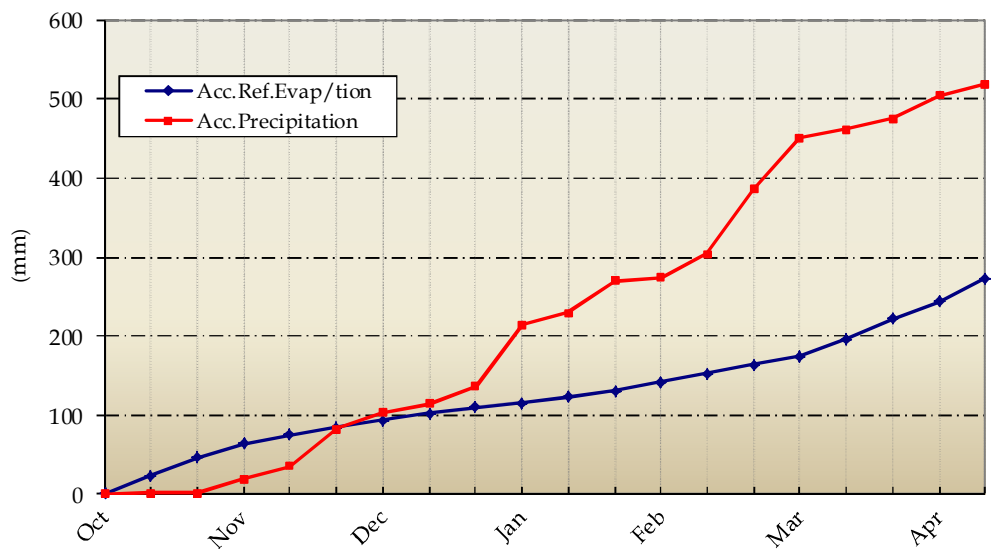
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/04/2018)		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	16.4	18.7	22.3	24.1	17.3	17.3	21.1	21.2	21.5	19.7	17.2	17.1
	Min	7.9	1.8	0.7	1.8	3.3	7.9	4.8	2.5	3.2	3.0	3.7	2.3	4.3
Relative Humidity	Max	91	92	100	96	99	100	100	93	93	95	96	98	-
	Min	33	42	27	29	12	33	47	26	23	21	29	35	-
Soil Temperature at 10 cm	06 UTC	11.2	10.4	10.6	11.0	12.0	13.4	11.8	11.4	12.0	12.4	11.6	10.5	9.5
	12 UTC	-	14.2	14.6	15.4	16.0	-	-	-	-	16.0	15.2	15.2	11.3
Sunshine Duration		10.2	10.0	10.5	10.7	9.5	1.2	7.1	11.2	11.1	8.1	9.0	7.5	6.6
Precipitation							12.9	0.8				13.7	7.0	17.3
Evaporation		4.6	2.8	3.8	3.6	4.4	0.9	2.4	4.1	4.2	4.5	35.3	33.1	26.4
Growing Degrees	5	7.7	4.1	4.7	7.1	8.7	7.6	6.1	6.8	7.2	7.3	67.1	47.8	57.4
	10	2.7	0.0	0.0	2.1	3.7	2.6	1.1	1.8	2.2	2.3	18.3	1.2	16.1

1st 10-day period (1-10/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.0	26.4	26.6
Precipitation - Reference Evapotranspiration	-16.3	-19.4	-9.3
Number of Rainy Days	2.0	3.0	3.3
Number of Dry Days	8.0	18.0	-

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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