



AGROMETEOROLOGICAL BULLETIN

*April 2018
2nd 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



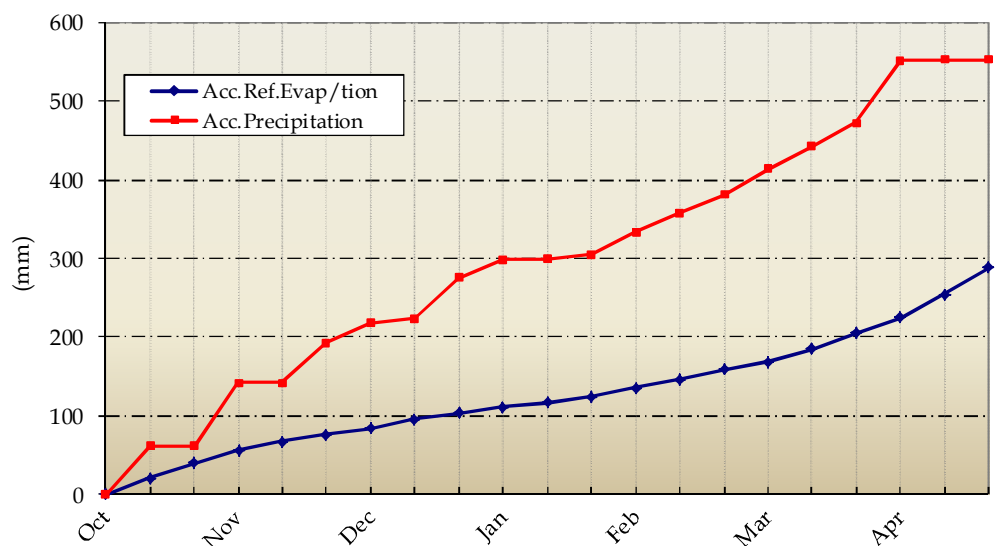
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2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.0	21.0	23.2	26.0	21.8	20.6	24.6	25.2	24.4	19.0	22.4	19.2	16.6
	Min	9.6	7.0	7.4	9.4	11.2	13.6	13.0	8.0	7.6	12.0	9.9	6.8	7.0
Relative Humidity	Max	97	92	97	92	76	55	79	86	86	89	85	88	-
	Min	74	55	50	39	45	25	32	27	33	36	42	50	-
Soil Temperature at 10 cm	06 UTC	14.4	13.2	14.2	15.4	15.8	15.6	15.6	15.2	15.8	16.6	15.2	13.8	11.5
	12 UTC	17.2	18.0	20.2	21.0	20.0	17.8	19.4	20.2	21.4	17.4	19.3	18.7	14.7
Sunshine Duration		0.8	10.7	10.5	10.8	6.6	0.3	8.5	11.3	11.0	4.3	7.5	7.9	5.9
Precipitation								0.0				0.0	33.8	15.2
Evaporation		3.9	2.5	3.6	5.0	7.0	4.4	5.0	6.1	5.5	4.4	47.4	46.3	38.8
Growing Degrees	5	8.8	9.0	10.3	12.7	11.5	12.1	13.8	11.6	11.0	10.5	111.3	79.7	67.9
	10	3.8	4.0	5.3	7.7	6.5	7.1	8.8	6.6	6.0	5.5	61.3	29.7	22.8

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	33.5	30.4	26.7
Precipitation - Reference Evapotranspiration	-33.5	3.4	-11.5
Number of Rainy Days	0.0	2.0	2.8
Number of Dry Days	13.0	7.0	-

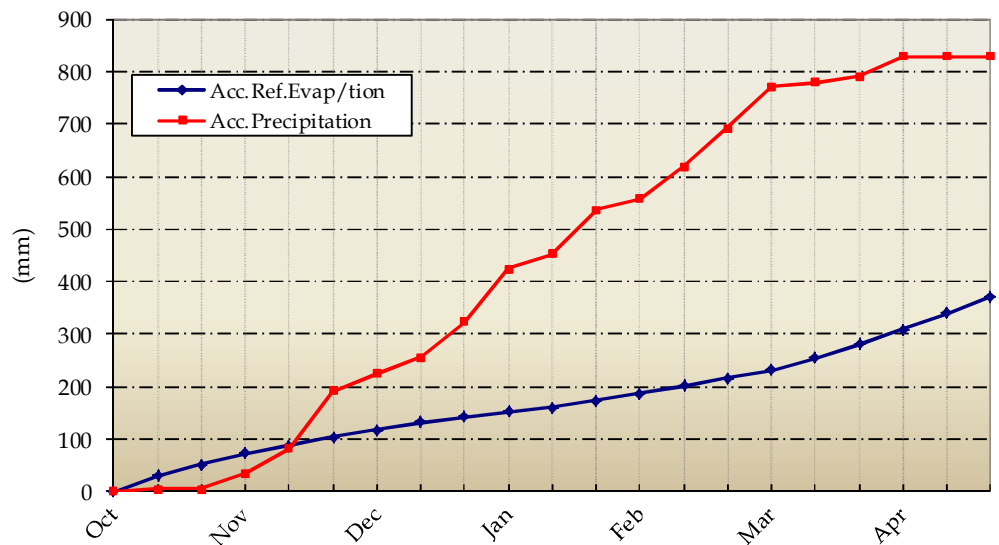
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.8	26.7	23.0	28.8	31.2	21.9	21.4	22.3	23.7	24.7	24.4	20.6	18.4
	Min	11.0	9.0	10.0	9.0	15.4	15.9	12.3	11.3	12.2	10.1	11.6	10.5	9.1
Relative Humidity	Max	89	90	89	90	83	88	90	91	92	87	89	87	-
	Min	54	26	23	33	20	48	48	55	44	37	39	46	-
Soil Temperature at 10 cm	06 UTC	17.0	17.0	16.8	16.8	18.8	19.2	19.4	18.0	18.2	17.9	17.9	16.7	13.7
	12 UTC	17.7	18.4	19.6	19.8	20.4	20.6	22.8	20.4	20.2	20.6	20.0	19.7	16.7
Sunshine Duration		1.5	10.3	10.2	8.8	0.4	2.4	10.2	5.7	7.9	11.1	6.8	10.0	7.2
Precipitation							0.0					0.0	3.6	25.7
Evaporation		6.0	7.0	5.0	4.0	1.0	3.0	7.0	5.0	4.0	5.0	47.0	34.0	37.7
Growing Degrees	5	10.9	12.9	11.5	13.9	18.3	13.9	11.9	11.8	13.0	12.4	130.4	105.6	87.1
	10	5.9	7.9	6.5	8.9	13.3	8.9	6.9	6.8	8.0	7.4	80.4	55.6	37.4

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	31.5	36.2	28.0
Precipitation - Reference Evapotranspiration	-31.5	-32.6	-2.3
Number of Rainy Days	0.0	1.0	3.3
Number of Dry Days	23.0	10.0	-

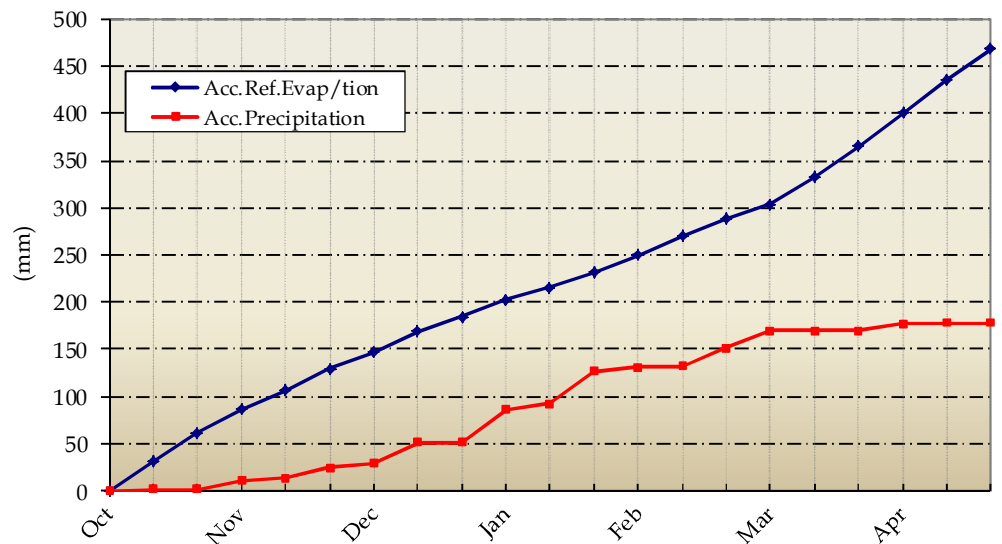
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.4	27.4	21.0	21.4	23.0	22.4	20.4	20.8	20.6	23.0	21.8	20.6	19.9
	Min	13.2	12.4	15.4	14.4	14.2	17.4	15.0	13.4	13.4	13.0	14.2	13.0	12.0
Relative Humidity	Max	93	93	97	95	90	88	93	93	93	86	92	91	-
	Min	32	25	62	63	55	64	67	74	51	42	54	66	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.0	7.1	8.4	8.9	8.3	2.6	8.2	8.0	7.3	9.5	6.8	7.4	7.4
Precipitation													5.8	11.4
Evaporation		3.3	5.6	3.5	1.7	4.2	5.0	3.7	1.8	3.0	8.6	40.4	34.2	52.7
Growing Degrees	5	10.8	14.9	13.2	12.9	13.6	14.9	12.7	12.1	12.0	13.0	130.1	118.4	109.6
	10	5.8	9.9	8.2	7.9	8.6	9.9	7.7	7.1	7.0	8.0	80.1	68.4	59.7

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	33.1	32.0	-
Precipitation - Reference Evapotranspiration	-33.1	-26.2	11.4
Number of Rainy Days	0.0	1.0	2.0
Number of Dry Days	13.0	11.0	-

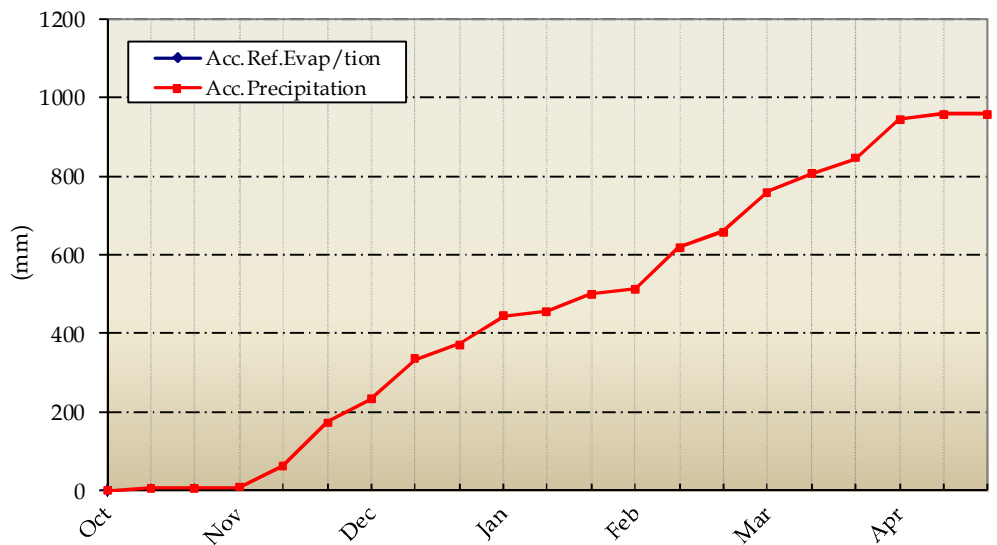
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.8	26.0	26.0	28.0	28.0	23.0	22.4	24.6	23.8	26.0	25.0	19.6	16.1
	Min	6.4	6.0	8.0	8.0	16.0	16.6	10.4	11.4	11.6	8.6	10.3	6.5	5.7
Relative Humidity	Max	100	97	97	85	74	85	90	95	83	86	89	97	-
	Min	33	27	30	23	30	52	50	38	38	29	35	48	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	10.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.9
Sunshine Duration		4.0	8.7	9.1	9.0	1.1	1.2	7.0	5.4	8.3	9.8	6.4	6.2	4.9
Precipitation							0.0					0.0	23.5	35.1
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	28.5
Growing Degrees	5	9.1	11.0	12.0	13.0	17.0	14.8	11.4	13.0	12.7	12.3	126.3	-	58.8
	10	4.1	6.0	7.0	8.0	12.0	9.8	6.4	8.0	7.7	7.3	76.3	-	15.8

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	24.2
Precipitation - Reference Evapotranspiration	-	-	10.9
Number of Rainy Days	0.0	3.0	4.7
Number of Dry Days	14.0	14.0	-

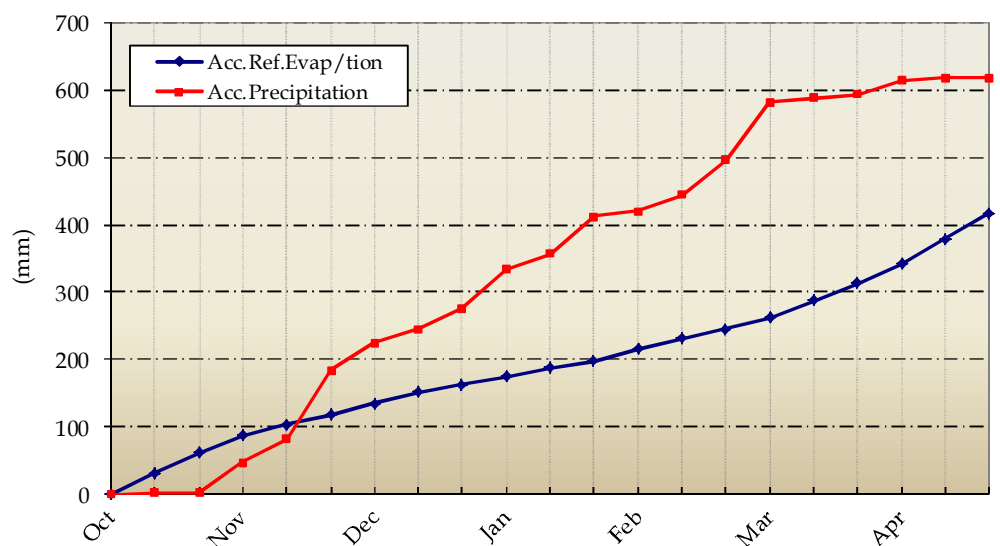
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.3	28.4	24.6	28.2	29.0	24.2	21.6	22.2	24.8	24.2	25.2	21.2	19.2
	Min	9.8	10.2	10.2	9.8	16.8	18.0	10.9	11.0	12.0	9.8	11.8	8.7	8.4
Relative Humidity	Max	87	80	87	90	64	89	89	91	91	91	86	92	-
	Min	37	18	35	34	27	42	52	50	39	34	37	45	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	19.2	19.2	19.2	-	13.9
	12 UTC	-	-	-	-	-	-	-	21.0	-	21.6	21.3	-	16.9
Sunshine Duration		3.4	8.7	11.3	9.6	0.3	3.9	9.4	6.9	10.9	11.1	7.6	9.0	7.1
Precipitation							0.0					0.0	0.9	25.5
Evaporation		3.6	5.2	5.8	3.9	5.3	4.6	4.2	5.0	6.1	9.7	53.4	50.6	41.0
Growing Degrees	5	12.1	14.3	12.4	14.0	17.9	16.1	11.3	11.6	13.4	12.0	135.0	99.3	88.0
	10	7.1	9.3	7.4	9.0	12.9	11.1	6.3	6.6	8.4	7.0	85.0	49.3	38.2

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	38.1	36.5	28.5
Precipitation - Reference Evapotranspiration	-38.1	-35.6	-3.0
Number of Rainy Days	0.0	1.0	4.1
Number of Dry Days	13.0	11.0	-

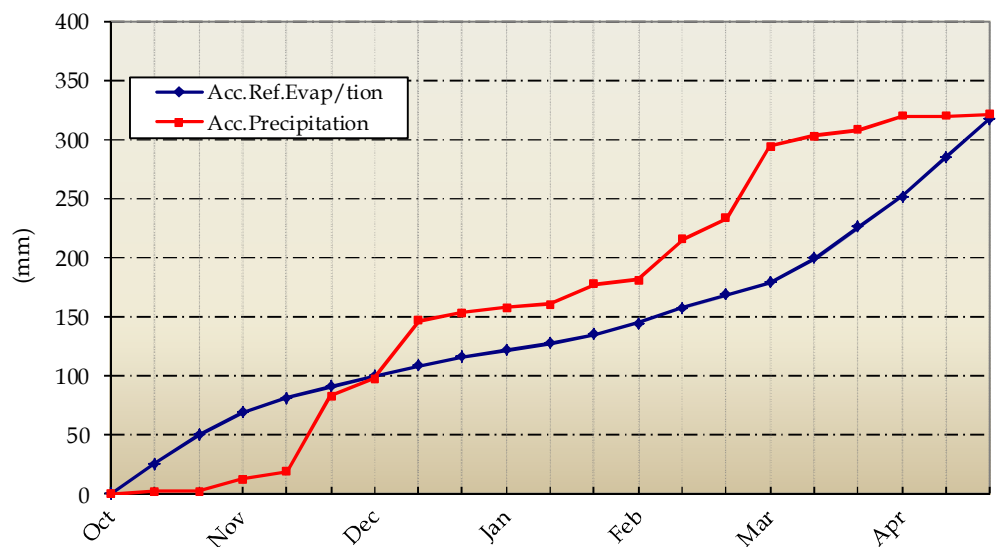
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.0	24.2	24.8	26.2	22.8	18.0	23.2	23.8	23.8	26.8	23.5	22.5	19.0
	Min	8.0	7.0	8.4	8.8	9.5	13.0	7.0	9.6	8.3	8.4	8.8	7.7	6.4
Relative Humidity	Max	92	93	92	89	90	93	96	91	92	93	92	97	-
	Min	54	45	44	34	53	58	42	41	41	30	44	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	12.8
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	14.4
Sunshine Duration		2.2	9.5	10.4	10.2	1.2	0.0	10.7	8.5	6.7	10.3	7.0	9.2	6.4
Precipitation							1.3					1.3	18.6	13.6
Evaporation		2.0	6.6	5.1	5.9	4.7	0.4	4.6	4.9	9.9	2.8	46.9	54.1	36.9
Growing Degrees	5	9.5	10.6	11.6	12.5	11.2	10.5	10.1	11.7	11.1	12.6	111.3	100.7	77.0
	10	4.5	5.6	6.6	7.5	6.2	5.5	5.1	6.7	6.1	7.6	61.3	50.7	28.8

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	33.1	37.0	28.6
Precipitation - Reference Evapotranspiration	-31.8	-18.4	-15.0
Number of Rainy Days	1.0	3.0	3.4
Number of Dry Days	9.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

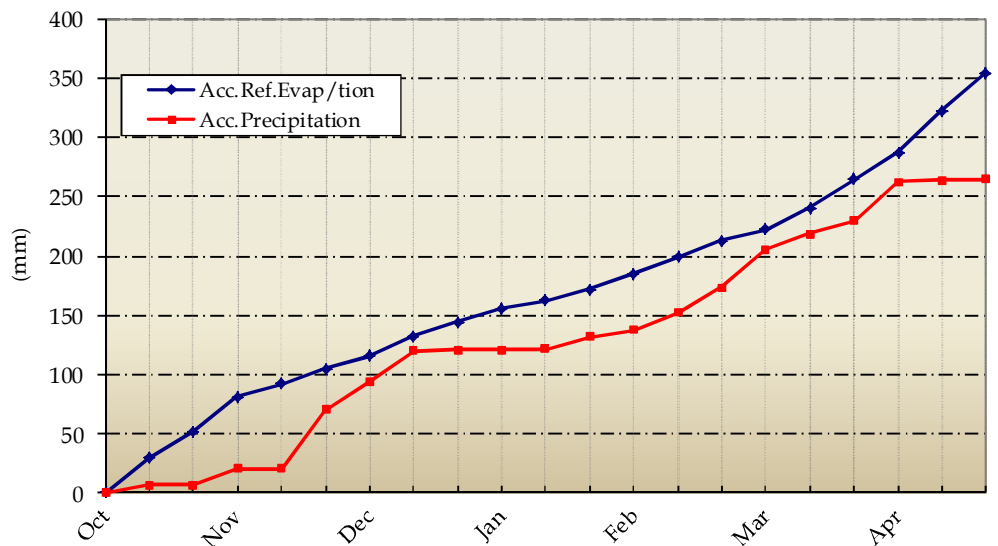


Mikra

2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.0	22.6	22.7	25.9	22.6	19.8	23.6	24.0	24.2	24.4	23.0	21.7	18.2
	Min	9.8	7.9	9.1	10.7	12.6	12.4	9.8	11.0	12.5	13.2	10.9	9.8	7.7
Relative Humidity	Max	86	88	88	90	87	88	90	82	78	90	87	85	-
	Min	41	40	41	31	48	44	33	32	36	33	38	33	-
Soil Temperature at 10 cm	06 UTC	15.0	14.2	15.2	16.2	17.0	16.4	15.5	16.2	16.5	15.9	15.8	15.8	12.6
	12 UTC	15.6	16.4	17.2	17.8	17.6	17.4	17.2	17.0	20.2	21.0	17.7	19.1	16.4
Sunshine Duration		4.8	10.5	8.2	10.7	0.2	0.0	10.5	8.5	5.5	9.2	6.8	8.8	6.1
Precipitation							0.4	0.3			0.0	0.7	4.2	14.5
Evaporation		3.4	5.0	2.1	2.8	1.9	1.1	6.5	6.7	5.8	5.8	41.1	60.7	39.8
Growing Degrees	5	9.9	10.3	10.9	13.3	12.6	11.1	11.7	12.5	13.4	13.8	119.4	107.7	79.5
	10	4.9	5.3	5.9	8.3	7.6	6.1	6.7	7.5	8.4	8.8	69.4	57.7	31.0

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	32.4	40.4	29.0
Precipitation - Reference Evapotranspiration	-31.7	-36.2	-14.5
Number of Rainy Days	2.0	2.0	3.4
Number of Dry Days	8.0	15.0	-

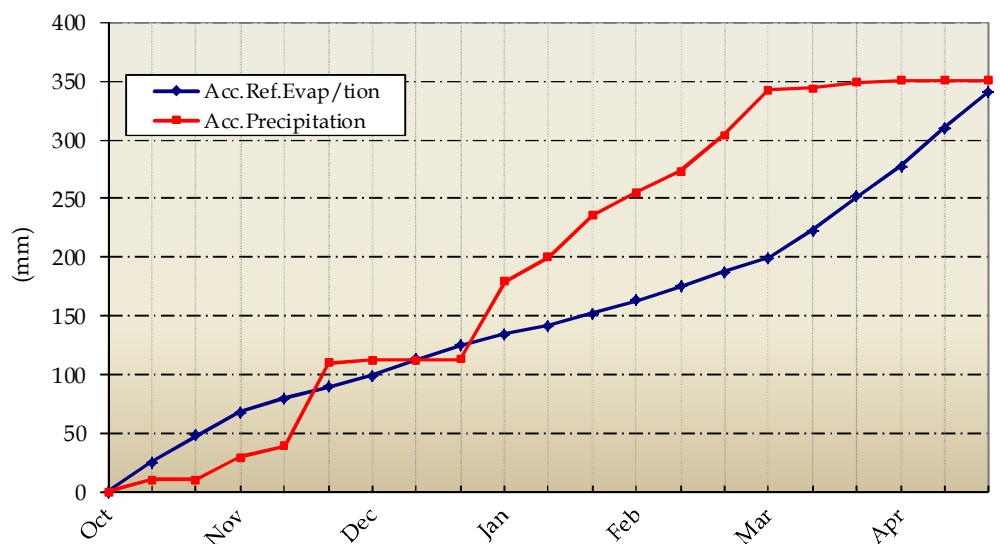
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	20.5	24.1	24.5	26.2	23.6	19.8	23.8	22.8	22.8	23.5	23.2	22.1	18.6
	Min	8.8	7.7	7.0	9.4	10.7	12.9	8.0	9.5	10.8	9.3	9.4	8.2	7.2
Relative Humidity	Max	95	97	96	96	80	90	95	96	76	77	90	89	-
	Min	43	34	37	33	38	52	31	35	34	36	37	30	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.0	9.0	10.8	10.1	0.0	1.2	10.7	8.1	11.4	10.4	7.2	9.5	
Precipitation													11.2	10.8
Evaporation		2.5	4.3	4.2	4.5	3.2	2.5	4.0	3.4	5.0	5.3	38.9	-	
Growing Degrees	5	9.7	10.9	10.8	12.8	12.2	11.4	10.9	11.2	11.8	11.4	112.9	101.6	
	10	4.7	5.9	5.8	7.8	7.2	6.4	5.9	6.2	6.8	6.4	62.9	51.6	

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	30.6	34.5	
Precipitation - Reference Evapotranspiration	-30.6	-23.3	10.8
Number of Rainy Days	0.0	1.0	3.9
Number of Dry Days	23.0	8.0	-

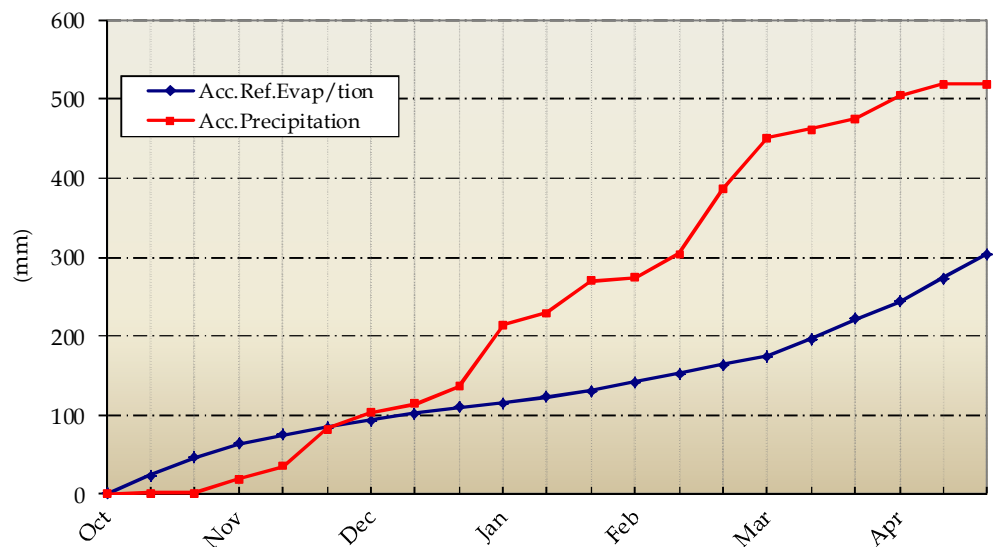
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/04/2018)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.8	22.1	25.9	25.3	22.8	20.5	20.4	21.7	22.0	23.6	22.7	19.0	16.3
	Min	7.0	4.3	3.9	5.5	12.1	13.6	5.3	6.5	7.0	4.8	7.0	4.0	4.8
Relative Humidity	Max	91	96	94	96	78	92	97	99	99	96	94	98	-
	Min	25	30	18	23	24	47	33	39	29	31	30	30	-
Soil Temperature at 10 cm	06 UTC	13.6	12.8	13.6	14.4	16.4	16.6	15.0	16.0	16.0	16.2	15.1	12.2	10.9
	12 UTC	15.0	16.4	16.8	-	-	17.4	19.2	18.8	20.8	20.8	18.2	18.0	12.7
Sunshine Duration		3.2	8.2	11.2	10.2	1.4	3.8	10.2	5.8	9.3	7.4	7.1	9.2	6.7
Precipitation							0.3					0.3	4.1	30.8
Evaporation		1.9	4.3	4.7	5.1	4.0	2.7	3.4	2.2	5.1	-	-	-	29.8
Growing Degrees	5	9.9	8.2	9.9	10.4	12.5	12.1	7.9	9.1	9.5	9.2	98.6	65.1	55.6
	10	4.9	3.2	4.9	5.4	7.5	7.1	2.9	4.1	4.5	4.2	48.6	16.2	14.5

2nd 10-day period (11-20/04/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	31.1	32.4	28.5
Precipitation - Reference Evapotranspiration	-30.8	-28.3	2.3
Number of Rainy Days	1.0	3.0	4.5
Number of Dry Days	8.0	7.0	-

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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