



# AGROMETEOROLOGICAL BULLETIN

*May 2017  
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



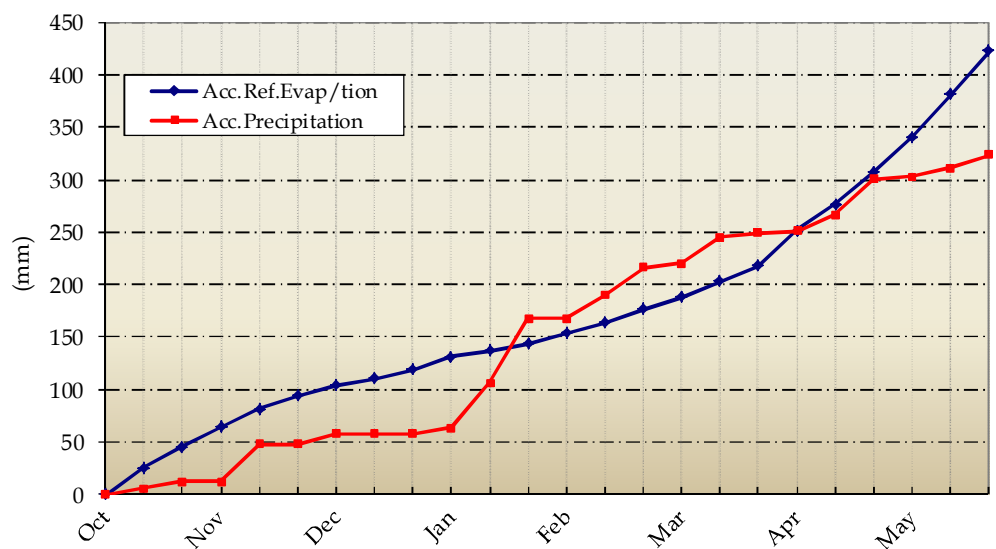
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2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.0	24.2	26.2	27.8	25.4	24.0	20.0	24.0	22.6	22.6	23.9	23.2	22.5
	Min	8.8	10.4	14.2	14.6	9.2	10.4	13.8	11.6	15.6	7.6	11.6	12.4	11.3
Relative Humidity	Max	97	93	93	91	89	93	97	86	76	83	90	92	-
	Min	56	42	52	43	43	34	53	27	26	39	42	52	-
Soil Temperature at 10 cm	06 UTC	16.6	18.4	19.4	20.6	19.4	19.0	19.8	16.0	15.2	17.6	18.2	19.7	17.0
	12 UTC	24.5	21.8	25.6	29.6	25.2	25.6	20.6	23.4	23.6	25.8	24.6	25.0	21.2
Sunshine Duration		11.8	5.0	8.0	9.1	10.4	6.7	0.0	9.0	12.3	13.2	8.6	9.7	8.2
Precipitation					3.6			9.0				12.6	1.1	10.7
Evaporation		3.3	3.8	4.3	2.8	7.9	7.5	2.8	10.5	7.6	6.3	56.8	54.0	57.1
Growing Degrees	5	10.4	12.3	15.2	16.2	12.3	12.2	11.9	12.8	14.1	10.1	127.5	127.8	118.8
	10	5.4	7.3	10.2	11.2	7.3	7.2	6.9	7.8	9.1	5.1	77.5	77.8	68.8

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	41.0	40.0	40.4
Precipitation - Reference Evapotranspiration	-28.4	-38.9	-29.7
Number of Rainy Days	2.0	2.0	2.3
Number of Dry Days	3.0	5.0	-

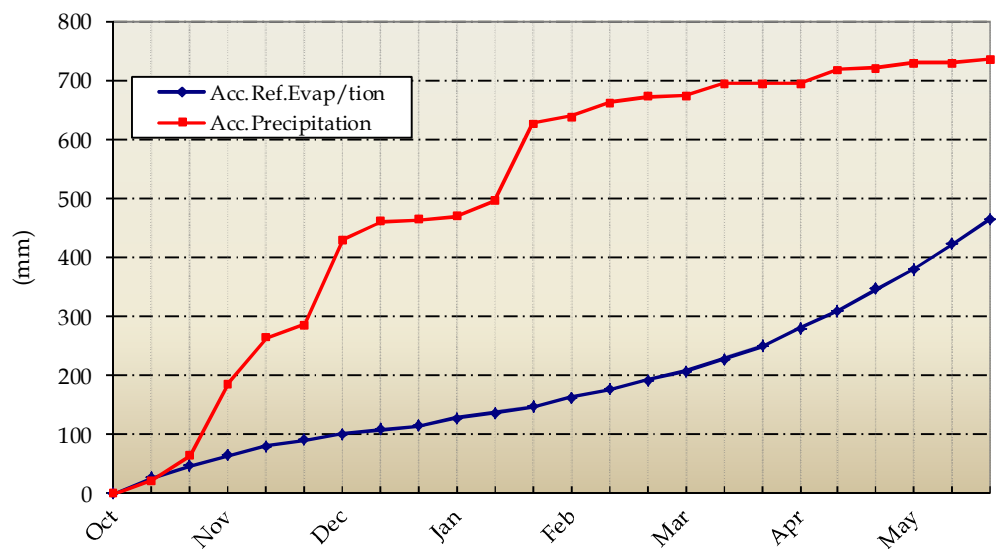
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.0	29.6	28.4	28.5	28.0	22.1	21.2	23.9	24.6	24.4	25.6	24.1	23.9
	Min	11.6	15.4	20.0	13.6	13.3	15.2	15.0	11.6	11.0	13.0	14.0	13.2	12.7
Relative Humidity	Max	88	74	87	89	88	88	88	82	75	89	85	86	-
	Min	30	17	27	23	34	66	47	32	26	38	34	40	-
Soil Temperature at 10 cm	06 UTC	20.8	21.6	25.6	21.0	21.6	22.2	20.0	16.6	17.0	20.5	20.7	-	19.3
	12 UTC	22.6	26.0	26.8	24.5	25.4	22.0	21.0	22.0	22.2	23.0	23.6	-	23.6
Sunshine Duration		8.8	5.2	1.3	7.3	10.4	0.0	0.5	9.5	13.1	12.3	6.8	7.6	9.4
Precipitation							6.2	0.1				6.3	4.0	8.3
Evaporation		6.5	4.0	14.0	5.0	2.0	0.3	7.0	4.0	7.0	7.0	56.8	57.2	54.3
Growing Degrees	5	13.3	17.5	19.2	16.1	15.7	13.7	13.1	12.8	12.8	13.7	147.7	136.3	133.2
	10	8.3	12.5	14.2	11.1	10.7	8.7	8.1	7.8	7.8	8.7	97.7	86.3	83.2

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	42.2	38.7	39.7
Precipitation - Reference Evapotranspiration	-35.9	-34.7	-31.4
Number of Rainy Days	2.0	2.0	1.6
Number of Dry Days	7.0	5.0	-

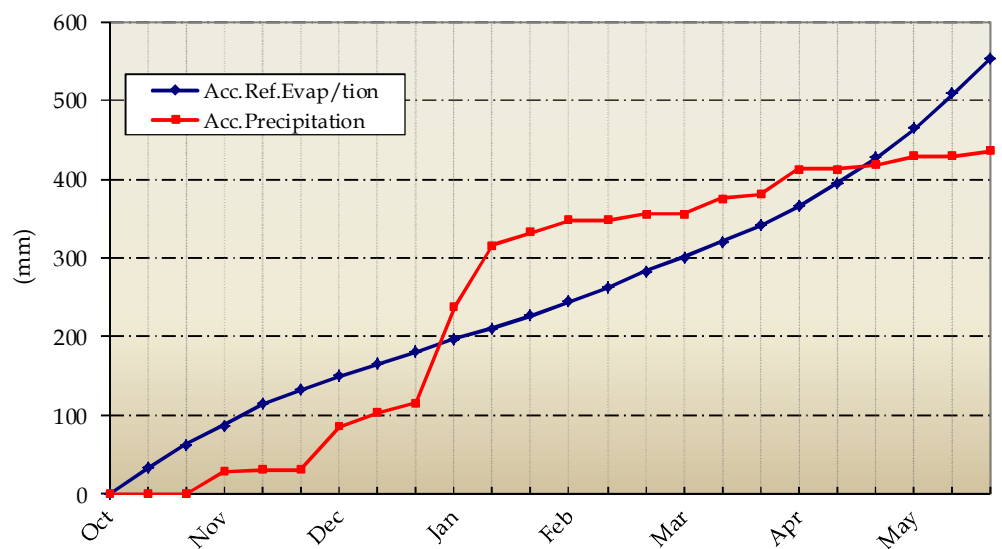
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.6	26.4	35.2	28.2	25.4	22.6	22.0	20.2	20.0	22.0	24.5	25.4	23.1
	Min	14.0	16.0	20.8	23.6	17.0	19.4	14.6	16.4	17.0	14.4	17.3	16.9	15.3
Relative Humidity	Max	84	89	76	84	96	90	92	88	89	83	87	83	-
	Min	59	53	34	53	67	61	69	74	61	59	59	45	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.5	10.1	9.6	10.2	12.6	7.3	8.0	5.7	9.0	12.9	9.8	7.7	9.7
Precipitation							0.0	3.3	3.2			6.5	6.2	3.5
Evaporation		7.1	4.4	7.3	6.3	6.8	6.0	5.2	3.2	6.0	5.4	57.7	47.2	61.2
Growing Degrees	5	13.3	16.2	23.0	20.9	16.2	16.0	13.3	13.3	13.5	13.2	158.9	161.2	142.0
	10	8.3	11.2	18.0	15.9	11.2	11.0	8.3	8.3	8.5	8.2	108.9	111.2	92.0

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	45.2	44.7	-
Precipitation - Reference Evapotranspiration	-38.7	-38.5	3.5
Number of Rainy Days	2.0	2.0	0.9
Number of Dry Days	24.0	8.0	-

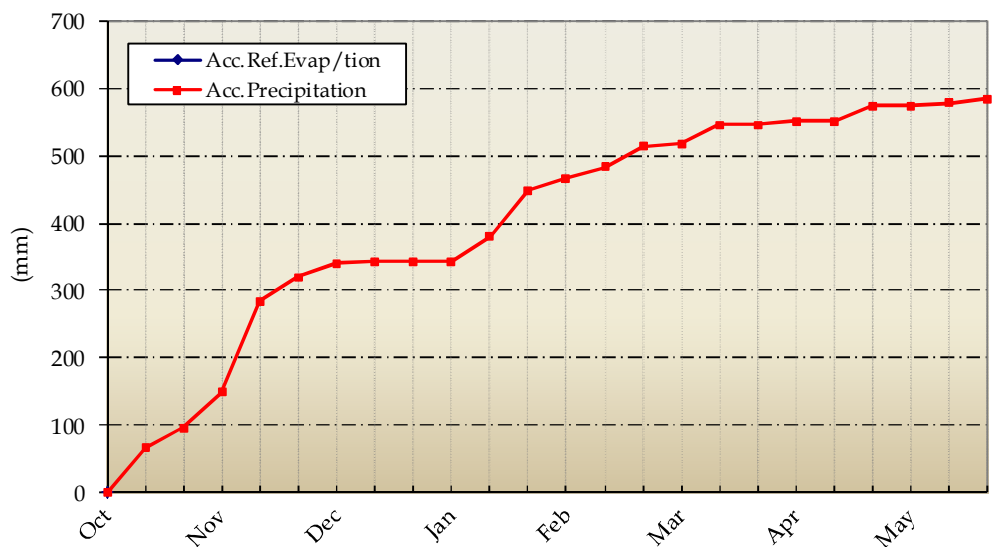
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.4	26.6	29.1	28.4	28.0	20.0	21.4	20.6	24.2	25.4	24.5	19.7	22.8
	Min	4.4	16.0	14.6	13.4	13.2	15.1	12.1	12.6	-	7.5	12.1	10.4	10.0
Relative Humidity	Max	100	71	88	86	99	94	88	-	79	95	89	99	-
	Min	38	26	32	26	23	48	35	-	34	27	32	52	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	15.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	19.5
Sunshine Duration		5.2	-	9.5	12.0	-	-	2.9	-	10.3	12.5	8.7	5.8	7.2
Precipitation		0.0	0.0			1.6	2.9	1.8				6.3	56.5	19.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.9
Growing Degrees	5	7.9	16.3	16.9	15.9	15.6	12.6	11.8	11.6	-	11.5	-	100.4	113.3
	10	2.9	11.3	11.9	10.9	10.6	7.6	6.8	6.6	-	6.5	-	50.4	63.4

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	34.9
Precipitation - Reference Evapotranspiration	-	-	-15.3
Number of Rainy Days	3.0	5.0	3.4
Number of Dry Days	5.0	4.0	-

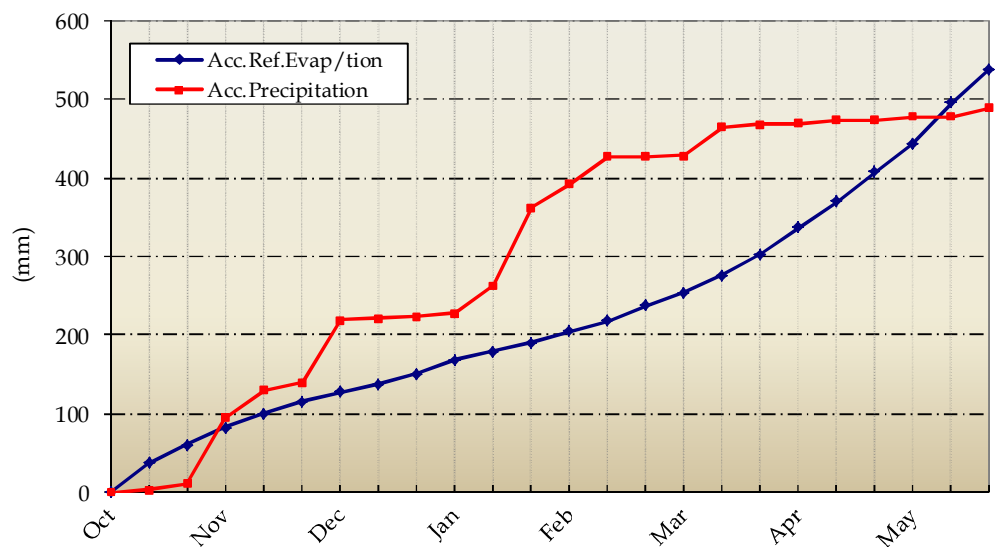
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.8	26.0	29.5	32.6	29.0	22.5	20.4	22.1	25.0	27.4	25.9	24.8	24.3
	Min	10.4	12.6	14.2	16.9	13.2	14.6	14.1	11.6	10.9	13.1	13.2	11.6	12.1
Relative Humidity	Max	90	88	85	79	81	93	91	72	87	91	86	90	-
	Min	28	27	27	20	23	53	46	43	27	30	32	36	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	18.7	18.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	19.6	22.5
Sunshine Duration		12.0	6.6	8.7	9.1	11.8	0.0	0.0	0.8	12.7	12.1	7.4	8.7	9.1
Precipitation				0.0			3.0	7.9				10.9	5.7	9.5
Evaporation		7.4	7.2	2.6	5.2	10.0	1.3	3.3	2.6	6.5	6.3	52.4	42.5	57.5
Growing Degrees	5	12.6	14.3	16.9	19.8	16.1	13.6	12.3	11.9	13.0	15.3	145.5	131.9	132.1
	10	7.6	9.3	11.9	14.8	11.1	8.6	7.3	6.9	8.0	10.3	95.5	81.9	82.1

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.9	44.8	39.6
Precipitation - Reference Evapotranspiration	-33.0	-39.1	-30.1
Number of Rainy Days	2.0	4.0	1.8
Number of Dry Days	23.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

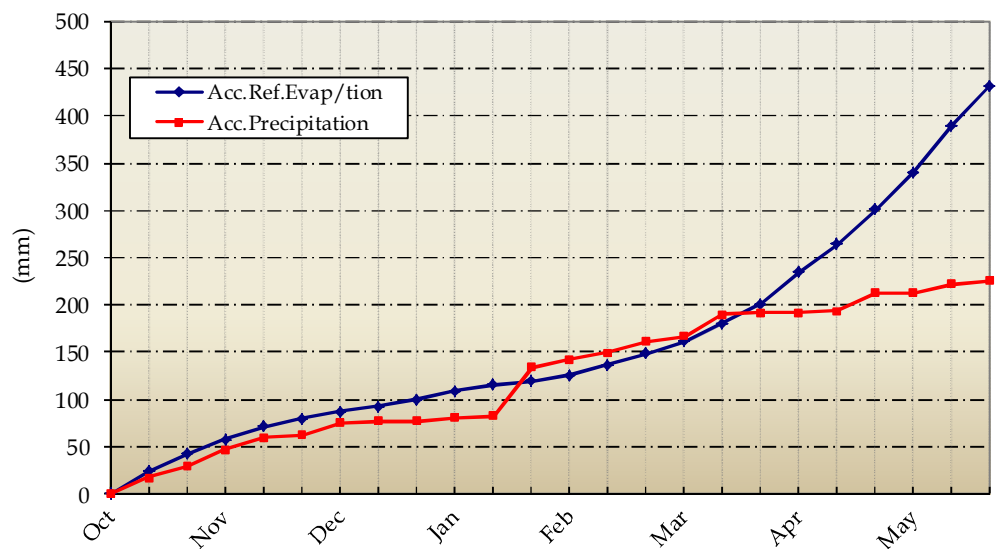


Larisa

2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.1	31.2	36.1	33.6	28.3	20.6	23.2	20.4	25.9	30.0	27.4	25.7	25.6
	Min	9.4	14.8	14.4	15.0	14.8	16.4	13.7	13.4	6.8	8.4	12.7	11.0	11.0
Relative Humidity	Max	100	100	100	58	96	100	100	100	100	96	95	97	-
	Min	39	20	11	11	24	61	30	30	24	20	27	32	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	19.6	18.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	20.2	20.4
Sunshine Duration		5.8	4.6	10.9	11.9	10.4	0.0	0.2	0.4	10.4	9.5	6.4	7.7	8.3
Precipitation							2.0	0.2	2.3			4.5	11.2	11.8
Evaporation		4.0	5.4	11.3	9.0	10.5	2.0	6.2	5.2	6.1	9.3	69.0	68.7	55.6
Growing Degrees	5	12.3	18.0	20.3	19.3	16.6	13.5	13.5	11.9	11.4	14.2	150.8	133.8	133.1
	10	7.3	13.0	15.3	14.3	11.6	8.5	8.5	6.9	6.4	9.2	100.8	83.8	83.1

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	42.8	42.2	42.0
Precipitation - Reference Evapotranspiration	-38.3	-31.0	-30.2
Number of Rainy Days	3.0	3.0	2.4
Number of Dry Days	5.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

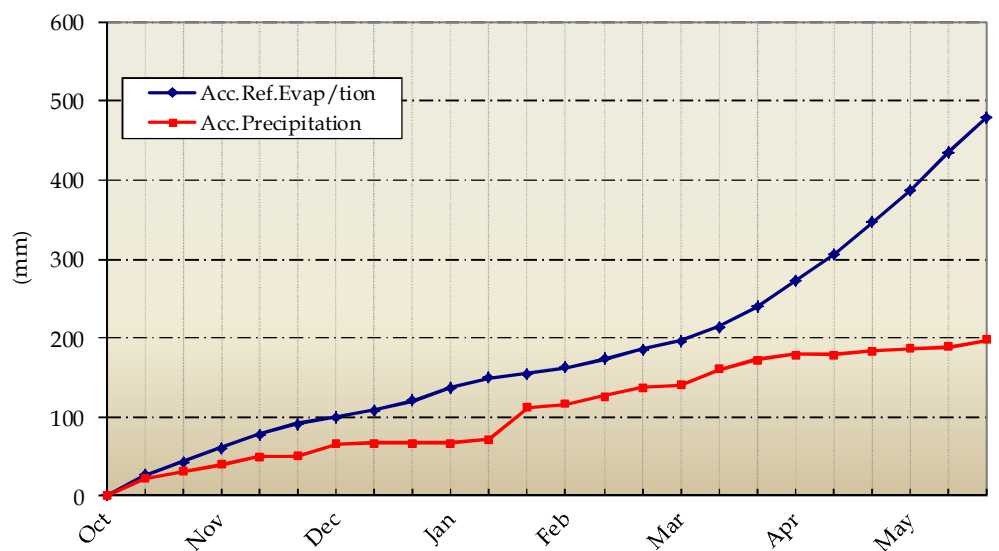


Mikra

2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.0	21.8	25.6	30.5	27.4	21.2	23.8	24.4	24.6	25.6	24.8	24.7	24.3
	Min	11.8	13.0	14.0	15.2	15.2	17.2	13.7	15.6	19.0	10.0	14.5	12.8	12.4
Relative Humidity	Max	93	89	92	75	81	86	93	79	75	72	84	87	-
	Min	47	60	49	25	35	57	40	22	29	27	39	35	-
Soil Temperature at 10 cm	06 UTC	20.6	20.2	20.4	21.2	22.6	23.6	21.0	20.4	18.4	20.1	20.8	19.5	18.8
	12 UTC	25.4	23.0	29.0	26.8	27.4	24.0	24.8	22.4	25.2	26.0	25.4	24.6	23.5
Sunshine Duration		7.6	2.3	8.8	13.1	11.5	0.8	4.1	5.8	12.9	12.2	7.9	8.3	8.1
Precipitation			0.2				0.0	7.3	0.9			8.4	12.3	11.8
Evaporation		4.2	4.1	4.7	10.7	7.4	5.2	5.4	5.3	10.7	5.8	63.5	59.9	56.4
Growing Degrees	5	12.4	12.4	14.8	17.9	16.3	14.2	13.8	15.0	16.8	12.8	146.3	137.6	133.6
	10	7.4	7.4	9.8	12.9	11.3	9.2	8.8	10.0	11.8	7.8	96.3	87.6	83.6

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.2	46.1	40.9
Precipitation - Reference Evapotranspiration	-34.8	-33.8	-29.1
Number of Rainy Days	3.0	4.0	3.0
Number of Dry Days	1.0	7.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

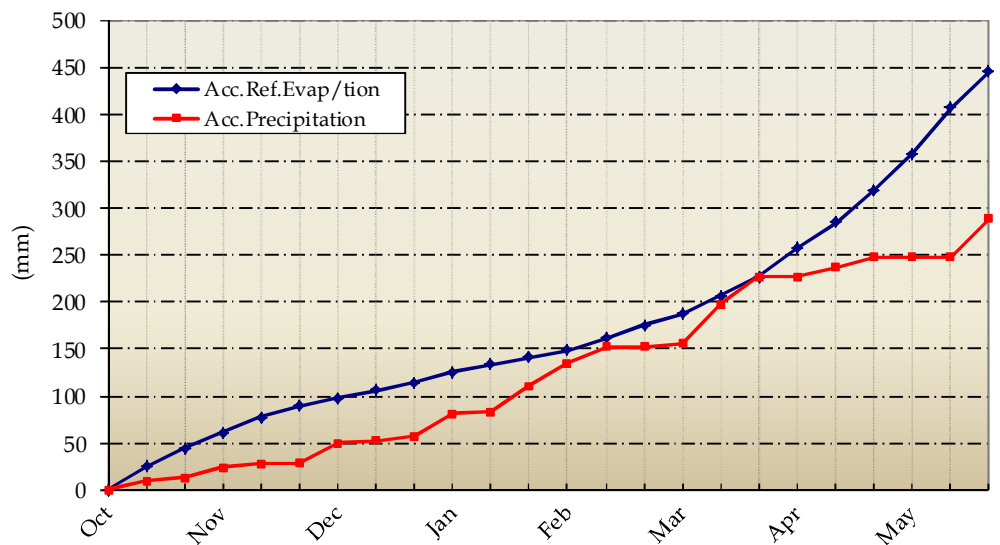




2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.4	27.0	37.2	31.8	27.4	22.8	15.2	14.6	21.5	26.1	24.9	26.5	24.8
	Min	11.1	12.8	19.3	17.7	13.7	13.6	14.5	13.4	12.0	8.3	13.6	12.7	11.2
Relative Humidity	Max	93	82	50	67	74	75	100	99	73	71	78	82	-
	Min	37	28	13	12	30	34	52	82	21	25	33	26	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		9.6	0.5	1.7	11.6	9.4	0.8	0.0	0.0	12.8	13.1	6.0	8.2	
Precipitation								23.7	16.6			40.3	0.0	8.2
Evaporation		-	-	-	-	-	-	-	-	-	-	-	74.1	
Growing Degrees	5	13.3	14.9	23.3	19.8	15.6	13.2	9.9	9.0	11.8	12.2	142.7	145.8	
	10	8.3	9.9	18.3	14.8	10.6	8.2	4.9	4.0	6.8	7.2	92.7	95.8	

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	39.3	44.0	
Precipitation - Reference Evapotranspiration	1.0	-44.0	8.2
Number of Rainy Days	2.0	0.0	2.2
Number of Dry Days	15.0	15.0	-

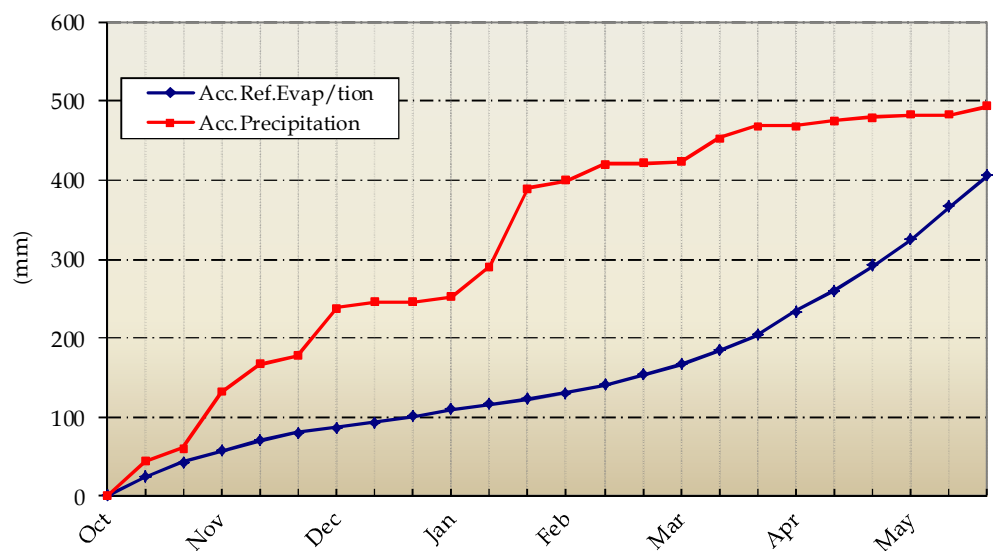
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.3	27.5	30.7	34.0	26.0	18.6	15.0	14.4	22.9	23.8	24.1	23.3	22.9
	Min	4.2	10.2	17.1	12.4	8.7	12.7	10.7	9.6	10.4	6.6	10.3	7.8	8.3
Relative Humidity	Max	100	85	78	83	85	86	100	80	83	99	88	96	-
	Min	17	18	22	10	25	63	64	71	16	17	32	26	-
Soil Temperature at 10 cm	06 UTC	16.8	19.2	21.0	21.6	21.0	21.8	17.4	14.4	13.4	16.4	18.3	17.8	16.7
	12 UTC	24.2	24.6	-	-	28.0	20.8	18.0	16.2	22.0	-	22.0	24.6	19.4
Sunshine Duration		12.3	7.5	10.2	8.6	9.2	0.0	0.0	1.0	12.5	13.0	7.4	8.8	8.4
Precipitation							0.4	9.6	0.6			10.6	2.1	15.5
Evaporation		6.8	8.2	6.2	8.1	8.4	0.3	0.0	3.2	6.1	7.8	55.1	-	41.0
Growing Degrees	5	11.3	13.9	18.9	18.2	12.4	10.7	7.9	7.0	11.7	10.2	121.9	105.2	106.0
	10	6.3	8.9	13.9	13.2	7.4	5.7	2.9	2.0	6.7	5.2	71.9	55.2	56.0

2nd 10-day period (11-20/05/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	40.0	40.5	39.8
Precipitation - Reference Evapotranspiration	-29.4	-38.4	-24.3
Number of Rainy Days	3.0	4.0	2.8
Number of Dry Days	23.0	2.0	-

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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