



AGROMETEOROLOGICAL BULLETIN

February 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



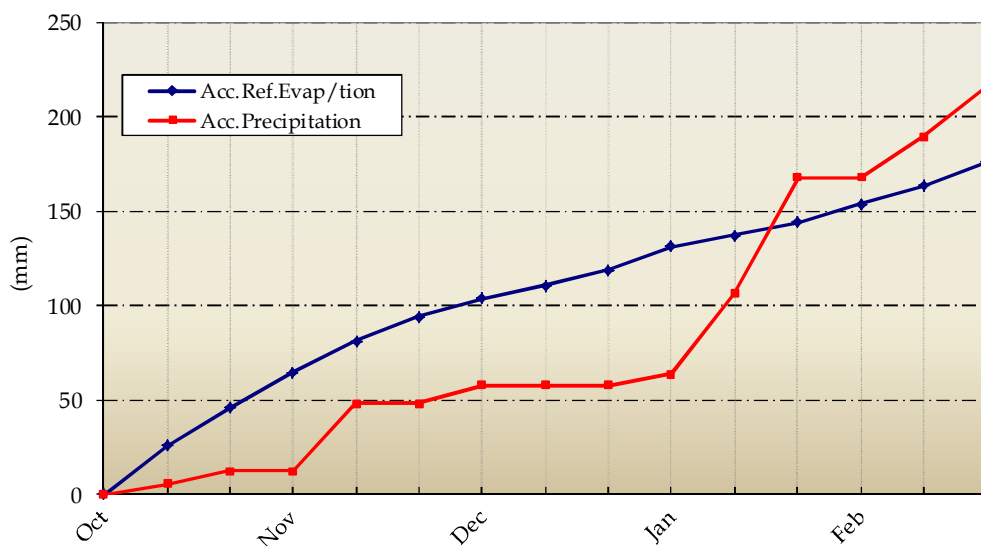
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2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	6.0	5.8	5.4	7.4	11.4	9.4	9.0	12.4	12.0	11.8	9.1	16.6	10.0
	Min	1.6	-0.4	0.4	-5.0	-3.6	-1.8	-5.0	1.0	2.6	6.6	-0.4	10.6	2.2
Relative Humidity	Max	72	77	79	95	82	92	90	93	95	97	87	90	-
	Min	46	44	41	26	26	25	44	61	81	63	46	63	-
Soil Temperature at 10 cm	06 UTC	5.0	4.6	4.2	3.0	3.6	4.0	5.6	6.4	6.4	8.6	5.1	11.1	4.8
	12 UTC	7.2	6.6	6.6	6.0	7.4	10.0	7.4	9.6	8.6	11.8	8.1	13.2	6.1
Sunshine Duration		6.3	4.6	5.0	9.3	9.4	9.7	9.5	3.2	0.0	8.6	6.6	3.3	3.7
Precipitation										10.8	16.3	27.1	42.5	18.4
Evaporation		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.5	1.6	5.1	25.9	10.5
Growing Degrees	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.3	4.2	8.2	85.9	23.6
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3	4.0

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.7	14.8	12.3
Precipitation - Reference Evapotranspiration	14.4	27.7	6.1
Number of Rainy Days	2.0	4.0	2.7
Number of Dry Days	9.0	6.0	-

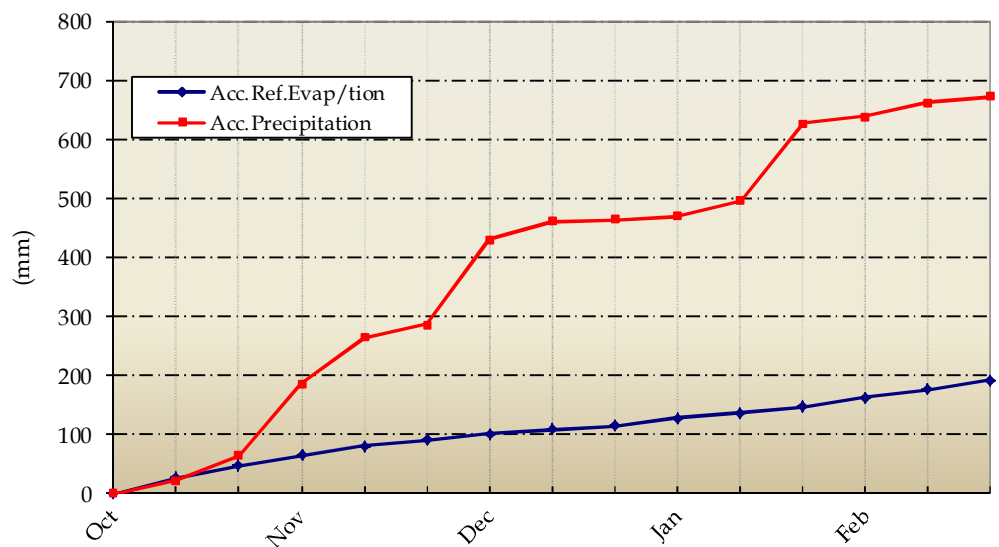
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.6	14.2	12.8	12.0	12.9	15.4	15.8	15.8	16.4	14.6	14.6	19.7	14.5
	Min	3.4	2.0	0.6	-0.6	-2.2	0.4	0.4	6.5	11.0	9.5	3.1	10.9	6.2
Relative Humidity	Max	90	89	87	89	83	87	89	90	90	89	88	87	-
	Min	47	44	41	34	30	33	46	56	61	59	45	50	-
Soil Temperature at 10 cm	06 UTC	10.4	9.6	9.0	8.2	6.0	5.6	5.4	6.2	11.2	12.4	8.4	-	9.1
	12 UTC	11.8	13.0	12.8	13.0	13.0	9.8	10.0	11.2	15.2	16.0	12.6	-	11.0
Sunshine Duration		9.6	8.8	8.2	8.8	9.5	9.0	7.7	2.6	1.7	4.9	7.1	3.8	4.8
Precipitation									1.0	5.4	3.7	10.1	20.9	37.6
Evaporation		2.0	3.0	4.0	1.0	2.0	2.2	2.8	0.1	2.0	0.5	19.6	25.4	21.3
Growing Degrees	5	4.5	3.1	1.7	0.7	0.4	2.9	3.1	6.2	8.7	7.1	38.3	103.2	54.0
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.7	2.1	6.9	53.2	13.3

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	16.4	18.8	14.2
Precipitation - Reference Evapotranspiration	-6.3	2.1	23.4
Number of Rainy Days	3.0	5.0	5.1
Number of Dry Days	7.0	1.0	-

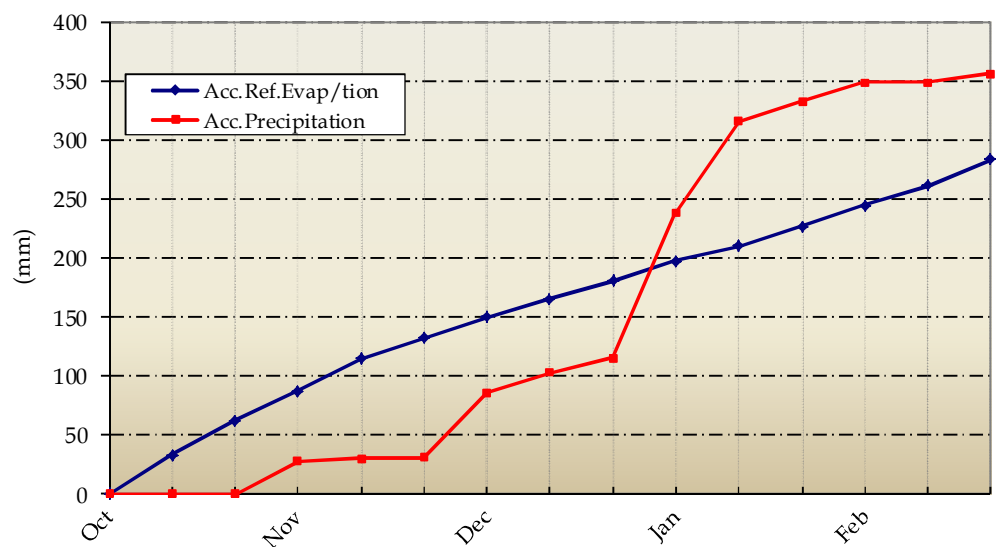
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	13.0	10.8	9.8	9.2	12.6	11.4	13.0	16.2	18.2	19.6	13.4	22.8	15.9
	Min	10.4	10.4	9.6	7.6	8.4	10.0	10.0	4.8	9.6	11.2	9.2	15.6	9.3
Relative Humidity	Max	92	73	86	85	64	67	80	82	86	85	80	72	-
	Min	73	57	59	55	48	57	57	50	53	44	55	40	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.0	0.0	1.0	0.8	6.9	4.0	7.1	6.0	7.8	7.1	4.1	6.3	4.8
Precipitation		4.8		0.0	2.6							7.4		20.7
Evaporation		0.2	5.1	2.7	2.6	5.4	1.4	3.0	4.3	1.2	2.4	28.3	43.4	30.3
Growing Degrees	5	6.7	5.6	4.7	3.4	5.5	5.7	6.5	5.5	8.9	10.4	62.9	142.0	75.8
	10	1.7	0.6	0.0	0.0	0.5	0.7	1.5	0.5	3.9	5.4	14.8	92.0	27.6

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	21.6	33.1	-
Precipitation - Reference Evapotranspiration	-14.2	-33.1	20.7
Number of Rainy Days	2.0	0.0	4.0
Number of Dry Days	11.0	14.0	-

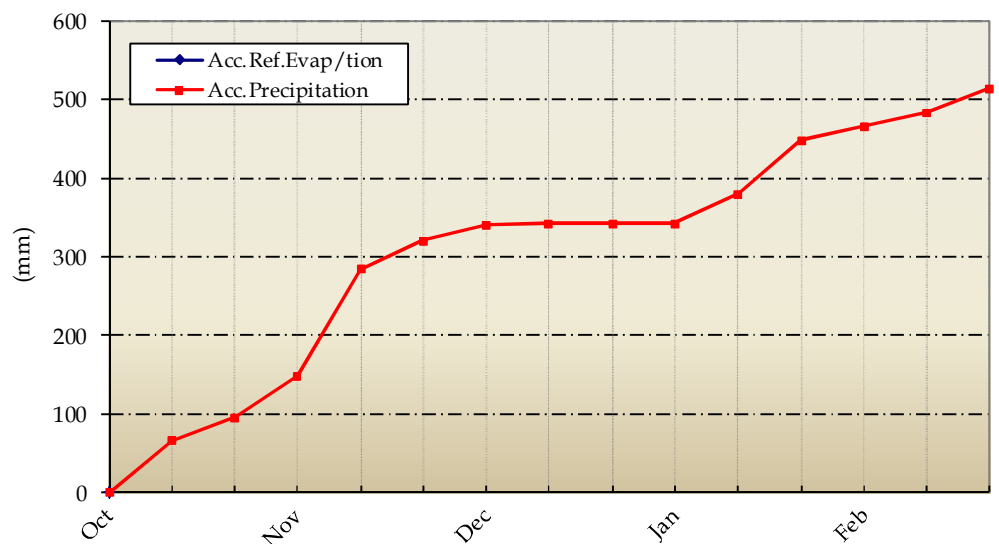
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	12.0	11.0	9.8	10.4	15.5	16.4	12.6	-	7.8	11.7	11.9	15.8	10.3
	Min	-1.6	-4.5	-4.6	-3.1	-6.4	-3.1	-4.2	1.3	-	1.4	-2.8	7.0	1.8
Relative Humidity	Max	-	98	100	97	98	-	100	-	100	100	99	97	-
	Min	42	40	43	17	23	24	46	-	99	44	42	55	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.4
Sunshine Duration		-	6.7	7.2	7.7	8.1	-	6.2	-	0.0	3.6	5.6	1.5	3.3
Precipitation		-	-	-	-	-	-	-	-	31.0	-	31.0	77.9	46.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	11.3
Growing Degrees	5	0.2	0.0	0.0	0.0	0.0	1.7	0.0	-	-	1.6	-	-	18.2
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	0.0	-	-	1.8

2nd 10-day period (11-20/02/2017)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	11.4
Precipitation - Reference Evapotranspiration	-	35.0
Number of Rainy Days	1.0	5.0
Number of Dry Days	11.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

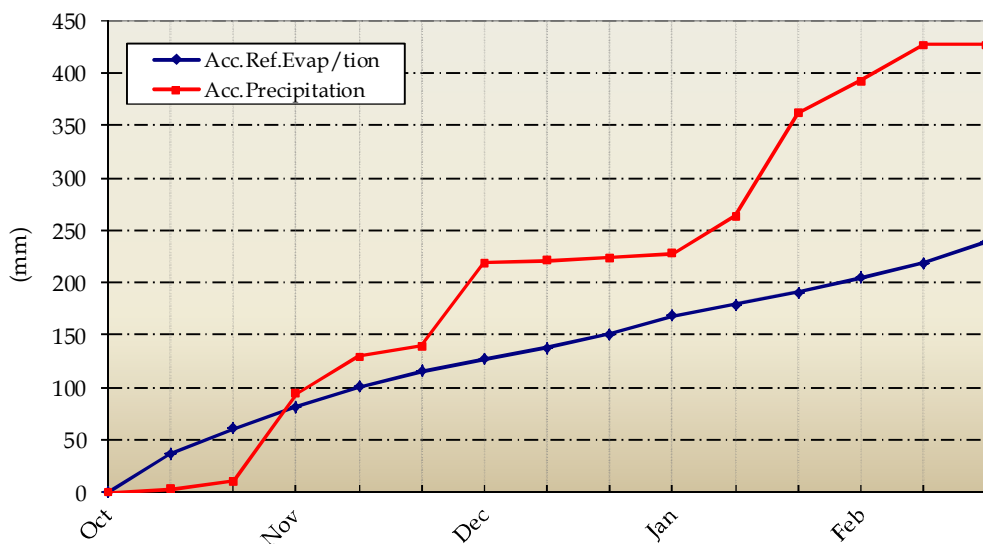


Kalamata

2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	18.1	15.0	14.5	13.4	14.4	16.7	17.6	17.5	17.4	17.4	16.2	20.9	15.1
	Min	8.7	8.5	5.2	6.5	0.2	0.3	3.3	4.7	8.3	6.4	5.2	10.8	5.9
Relative Humidity	Max	71	67	65	69	89	90	92	93	92	92	82	88	-
	Min	38	48	40	29	23	30	41	42	49	52	39	48	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	13.3	9.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	14.0	10.9
Sunshine Duration		7.6	1.9	5.7	9.2	9.8	8.2	6.9	3.3	5.4	8.3	6.6	4.8	4.5
Precipitation		0.2								0.1		0.3	6.8	43.8
Evaporation		3.5	2.5	2.5	4.8	1.0	3.6	3.0	2.0	2.1	1.3	26.3	24.5	26.5
Growing Degrees	5	8.4	6.8	4.9	5.0	2.3	3.5	5.5	6.1	7.9	6.9	57.1	108.5	55.5
	10	3.4	1.8	0.0	0.0	0.0	0.0	0.5	1.1	2.9	1.9	11.5	58.5	12.8

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	19.8	22.0	15.6
Precipitation - Reference Evapotranspiration	-19.5	-15.2	28.2
Number of Rainy Days	2.0	5.0	5.2
Number of Dry Days	0.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

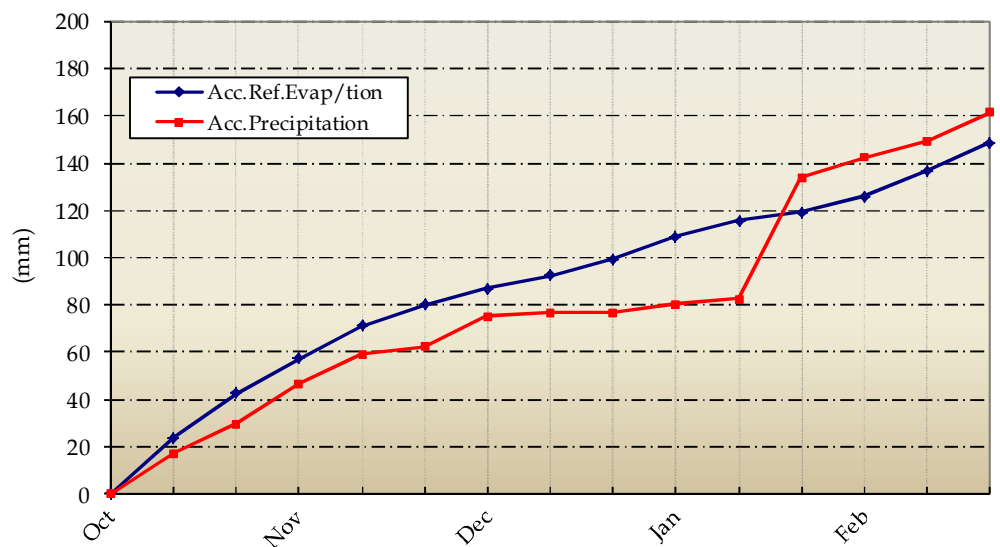


Larisa

2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	7.0	8.4	5.9	9.5	13.4	12.8	13.9	17.1	11.3	14.6	11.4	18.3	12.1
	Min	5.7	3.6	3.8	1.0	-4.1	-0.2	-2.8	-2.0	6.6	4.8	1.6	7.2	1.9
Relative Humidity	Max	77	90	86	95	100	100	100	100	100	100	95	100	-
	Min	65	55	59	41	28	50	45	37	94	47	52	61	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	10.6	6.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	10.6	7.2
Sunshine Duration		0.0	1.8	0.0	7.1	8.0	6.6	7.7	7.2	0.0	7.1	4.6	3.1	4.0
Precipitation				0.0						9.5	2.7	12.2	12.0	12.7
Evaporation		0.1	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.1	1.0	2.6	-	10.0
Growing Degrees	5	1.4	1.0	0.0	0.3	0.0	1.3	0.6	2.6	4.0	4.7	15.7	77.9	25.9
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3	3.3

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	11.9	13.1	12.0
Precipitation - Reference Evapotranspiration	0.3	-1.1	0.7
Number of Rainy Days	2.0	3.0	3.6
Number of Dry Days	8.0	22.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

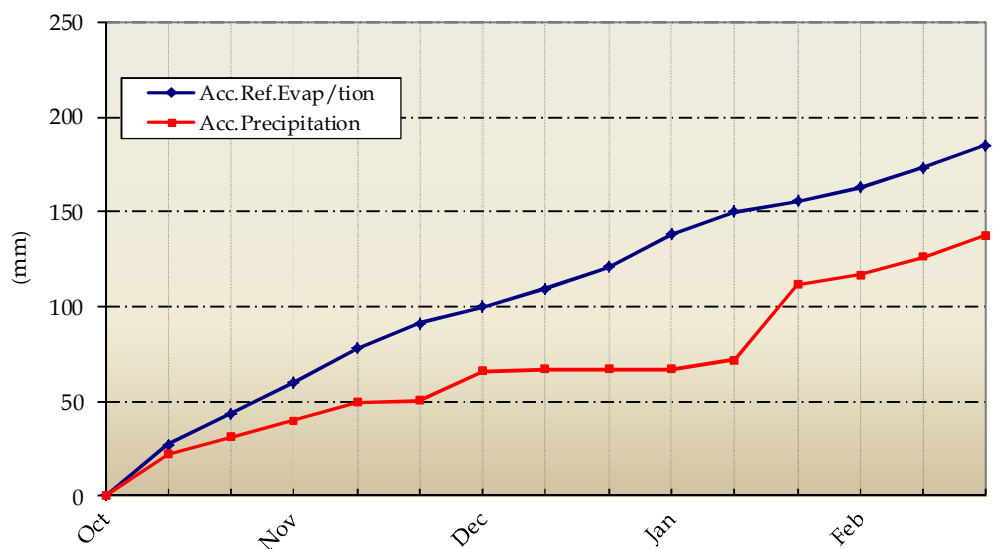


Mikra

2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	8.8	7.7	6.2	9.0	12.8	12.0	10.6	11.9	10.3	12.4	10.2	16.8	11.2
	Min	4.0	4.0	1.2	-3.2	2.2	-0.3	2.5	5.3	6.6	5.7	2.8	9.1	2.9
Relative Humidity	Max	67	62	88	91	74	92	88	94	98	86	84	94	-
	Min	48	47	49	26	28	50	61	60	81	41	49	59	-
Soil Temperature at 10 cm	06 UTC	7.0	6.2	6.3	3.8	4.8	5.2	6.5	6.3	9.0	7.2	6.2	11.0	5.9
	12 UTC	7.6	8.6	6.9	5.6	6.5	7.2	7.8	9.6	9.4	9.0	7.8	12.4	7.7
Sunshine Duration		4.7	1.5	0.4	8.8	8.9	7.3	0.1	4.8	0.0	9.1	4.6	3.0	3.8
Precipitation										11.2		11.2	24.4	15.0
Evaporation		2.4	1.3	0.0	0.0	3.3	3.0	1.2	0.9	1.3	4.9	18.3	16.3	14.7
Growing Degrees	5	1.4	0.9	0.0	0.0	2.5	0.9	1.6	3.6	3.5	4.1	18.3	79.5	26.4
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.2	3.8

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	11.9	13.3	13.1
Precipitation - Reference Evapotranspiration	-0.7	11.1	1.9
Number of Rainy Days	1.0	4.0	3.4
Number of Dry Days	10.0	6.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

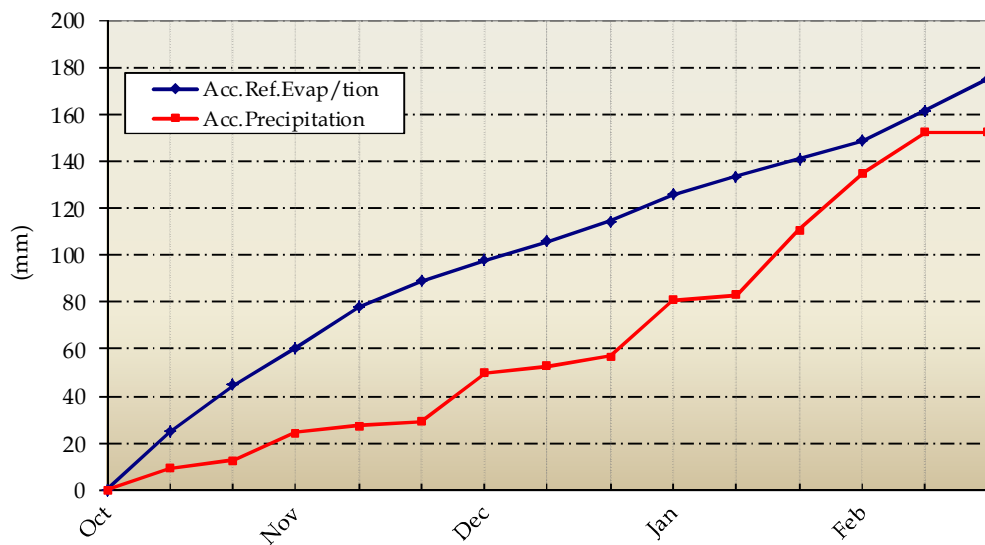


Tanagra

2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	7.9	6.5	6.1	7.5	13.9	10.6	13.2	17.2	15.3	15.8	11.4	19.6	13.2
	Min	6.7	4.6	3.2	3.5	-1.1	-0.6	-1.4	0.0	4.4	8.2	2.8	9.9	4.1
Relative Humidity	Max	75	81	81	79	81	95	100	100	97	99	89	88	-
	Min	59	56	47	36	20	46	35	35	44	46	42	48	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		0.0	0.0	0.0	6.4	8.4	7.5	7.4	8.5	0.0	4.9	4.3	4.5	
Precipitation			0.0									0.0	0.1	15.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	27.0	
Growing Degrees	5	2.3	0.6	0.0	0.5	1.4	0.0	0.9	3.6	4.9	7.0	21.1	97.9	
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	47.9	

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	13.4	16.9	
Precipitation - Reference Evapotranspiration	-13.4	-16.8	15.6
Number of Rainy Days	0.0	1.0	4.8
Number of Dry Days	11.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

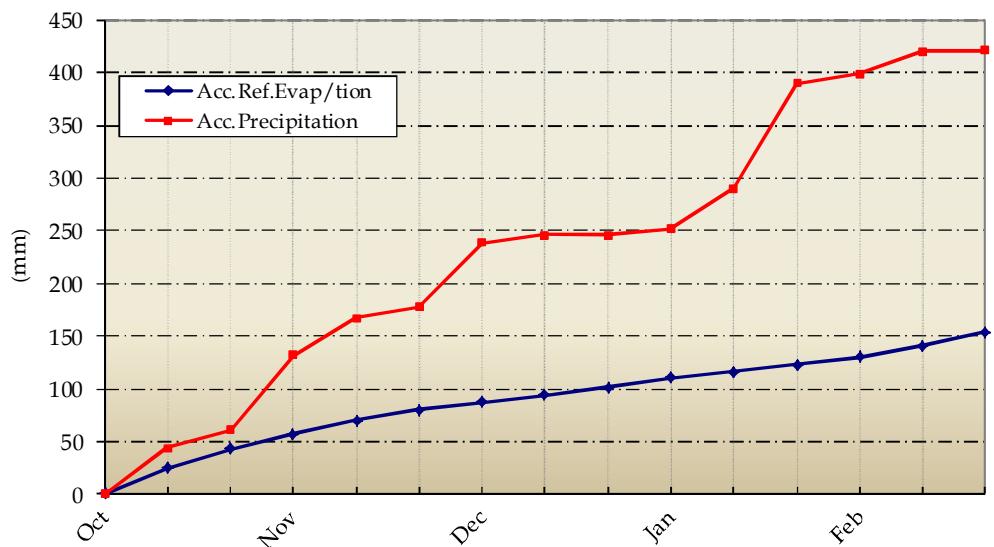


Tripoli

2nd 10-day period (11-20/02/2017)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	8.4	7.9	4.0	6.6	13.3	13.1	14.0	13.1	12.2	14.2	10.7	17.3	10.2
	Min	3.7	0.9	0.2	0.2	-7.4	-4.2	-5.1	-2.1	2.8	4.2	-0.7	6.8	1.7
Relative Humidity	Max	90	87	85	94	100	100	100	100	100	100	96	97	-
	Min	68	55	55	42	18	29	38	46	55	44	45	46	-
Soil Temperature at 10 cm	06 UTC	6.0	5.8	4.6	4.2	2.0	2.4	2.6	3.4	6.0	6.0	4.3	8.8	4.8
	12 UTC	-	-	5.2	5.0	4.4	5.8	5.8	-	-	8.8	5.8	12.1	5.7
Sunshine Duration		1.7	5.9	0.0	5.9	7.8	9.4	8.1	7.9	0.9	7.9	5.6	6.0	4.3
Precipitation										0.3		0.3	16.1	39.0
Evaporation		1.4	1.1	0.9	0.0	0.0	0.0	0.0	0.0	0.8	2.1	6.3	20.6	11.0
Growing Degrees	5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.5	4.2	8.3	70.4	17.8
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.1	1.6

2nd 10-day period (11-20/02/2017)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	13.6	17.0	12.8
Precipitation - Reference Evapotranspiration	-13.3	-0.9	26.2
Number of Rainy Days	1.0	6.0	4.9
Number of Dry Days	10.0	0.0	-

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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