



AGROMETEOROLOGICAL BULLETIN

February 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



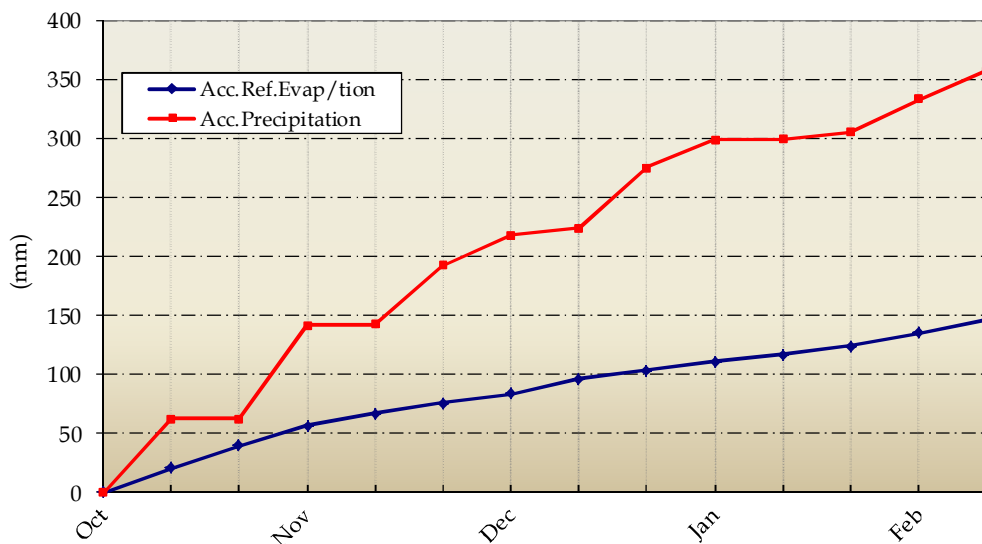
Hellenic National Meteorological Service
 Division of Climatology-Applications
 El. Venizelou Street 14, 16777
 Helliniko, Athens

Web adresses of HNMS
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1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	12.8	15.2	15.2	15.4	11.6	11.4	11.8	15.6	15.6	10.2	13.5	12.3	9.1
	Min	0.6	10.0	12.0	8.4	3.6	0.8	0.8	7.6	2.8	2.4	4.9	4.2	0.8
Relative Humidity	Max	96	93	89	92	90	87	89	97	97	94	92	92	-
	Min	86	58	70	80	64	39	70	67	70	71	68	66	-
Soil Temperature at 10 cm	06 UTC	4.8	8.0	10.0	11.0	7.6	6.0	6.0	8.6	7.8	7.4	7.7	7.5	5.3
	12 UTC	6.6	9.6	10.4	11.4	9.8	9.6	8.4	11.6	10.6	8.6	9.7	8.8	6.6
Sunshine Duration		1.0	1.5	0.2	0.0	9.1	9.0	4.6	6.9	7.6	0.0	4.0	3.2	3.9
Precipitation				0.2	16.2			0.0	1.2		6.5	24.1	21.8	19.4
Evaporation		0.9	0.8	0.7	0.4	0.0	0.0	0.8	1.8	1.3	1.1	7.8	12.4	11.6
Growing Degrees	5	1.7	7.6	8.6	6.9	2.6	1.1	1.3	6.6	4.2	1.3	41.9	39.3	14.1
	10	0.0	2.6	3.6	1.9	0.0	0.0	0.0	1.6	0.0	0.0	9.7	8.9	1.4

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	11.2	9.9	10.9
Precipitation - Reference Evapotranspiration	12.9	11.9	8.5
Number of Rainy Days	4.0	3.0	2.5
Number of Dry Days	11.0	15.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

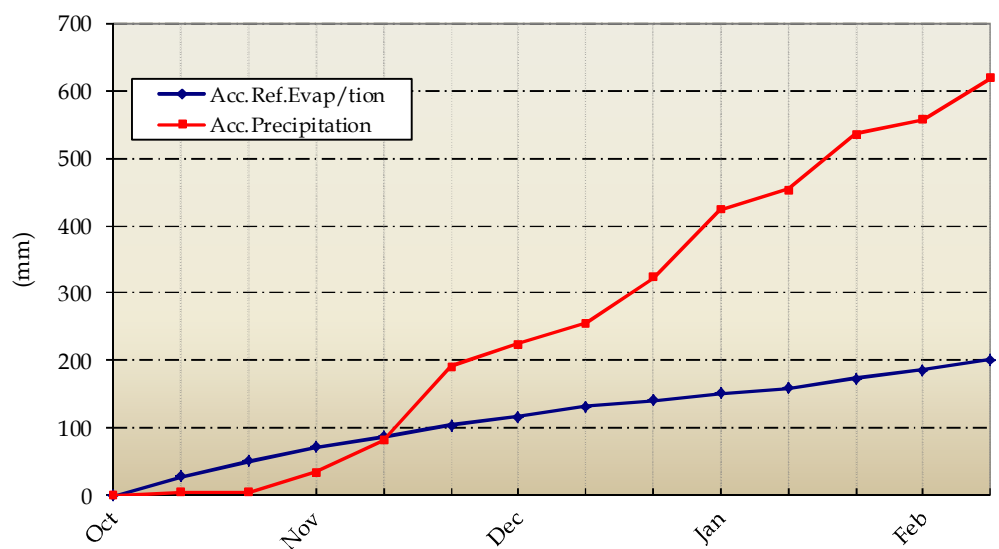


Andravida

1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.8	16.6	17.0	14.8	14.6	17.2	18.8	16.8	16.2	12.8	16.1	16.2	14.0
	Min	7.9	11.0	12.4	8.3	2.7	5.1	8.3	7.2	8.4	10.0	8.1	8.8	4.8
Relative Humidity	Max	89	83	89	90	91	84	89	88	88	90	88	88	-
	Min	47	67	55	71	53	51	51	53	53	67	57	55	-
Soil Temperature at 10 cm	06 UTC	11.0	11.4	12.0	12.0	9.8	10.0	10.2	11.4	11.2	11.0	11.0	10.7	9.2
	12 UTC	11.2	12.0	12.0	12.4	11.0	11.4	11.2	12.2	12.0	10.2	11.6	12.8	10.9
Sunshine Duration		2.1	0.6	0.0	0.2	8.6	6.5	2.5	5.5	0.9	0.4	2.7	4.8	5.2
Precipitation				9.6	20.5				3.5	0.3	27.1	61.0	24.2	28.0
Evaporation		2.0	0.4	1.4	3.5	3.0	2.0	0.7	3.3	8.8	2.6	27.7	28.6	19.1
Growing Degrees	5	6.9	8.8	9.7	6.6	3.7	6.2	8.6	7.0	7.3	6.4	71.0	75.3	44.7
	10	1.9	3.8	4.7	1.6	0.0	1.2	3.6	2.0	2.3	1.4	22.3	25.3	7.9

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	14.5	14.0	12.4
Precipitation - Reference Evapotranspiration	46.5	10.2	15.6
Number of Rainy Days	5.0	5.0	4.1
Number of Dry Days	11.0	5.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

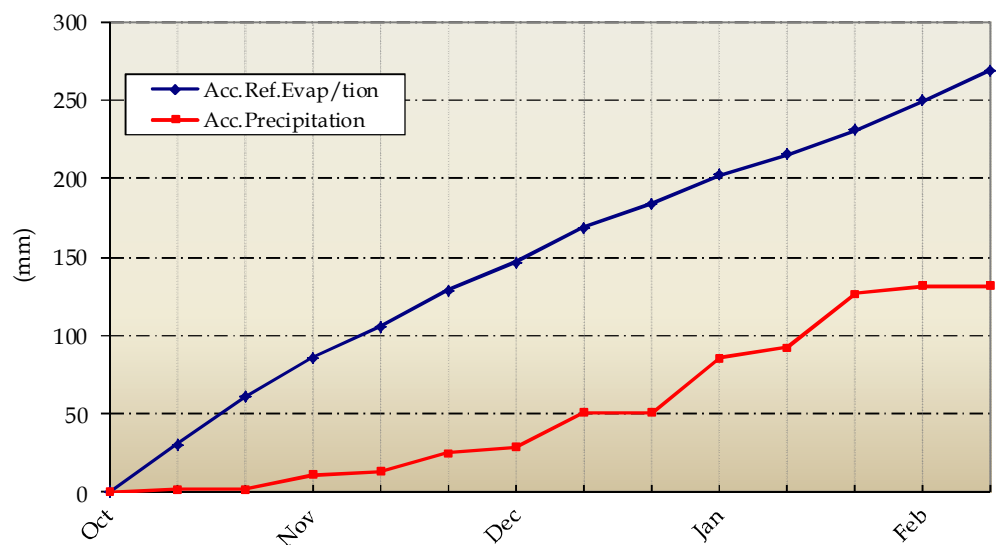


Iraklio

1st 10-day period (1-10/02/2018)		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	18.0	19.4	16.6	16.2	21.6	16.6	15.2	19.6	17.6	16.7	14.6
	Min	7.8	11.8	14.4	15.0	10.4	8.2	9.6	15.2	9.4	11.2	11.3	9.8	8.7
Relative Humidity	Max	86	74	78	82	92	97	73	88	84	76	83	88	-
	Min	65	54	58	61	73	65	36	46	63	42	56	59	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		3.0	3.8	1.9	1.7	5.3	7.0	1.8	1.3	0.0	3.9	3.0	6.1	4.3
Precipitation								0.3		0.2		0.5	0.0	22.4
Evaporation		2.0	3.3	2.6	3.6	2.3	1.4	4.1	0.9	0.7	3.8	24.7	21.7	29.3
Growing Degrees	5	6.4	9.6	11.2	12.2	8.5	7.2	10.6	10.9	7.3	10.4	94.3	82.8	66.4
	10	1.4	4.6	6.2	7.2	3.5	2.2	5.6	5.9	2.3	5.4	44.3	32.8	19.8

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	19.6	17.1	-
Precipitation - Reference Evapotranspiration	-19.1	-17.1	22.4
Number of Rainy Days	2.0	0.0	4.2
Number of Dry Days	12.0	11.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

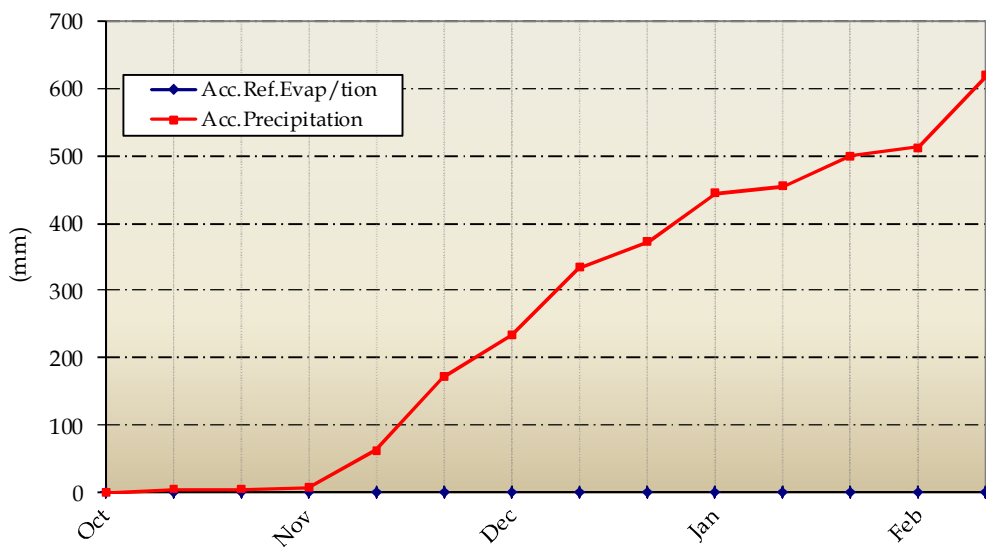


Ioannina

1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	7.8	10.4	10.0	10.8	10.4	14.0	14.2	11.8	10.0	9.8	10.9	12.2	10.0
	Min	1.5	7.6	7.6	5.4	-0.6	-3.0	2.8	5.0	4.0	5.6	3.6	3.3	0.6
Relative Humidity	Max	97	100	100	97	100	100	97	100	100	97	99	100	-
	Min	76	84	97	63	59	41	59	73	81	62	70	61	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	4.2
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	5.1
Sunshine Duration		0.0	0.0	0.0	0.8	2.9	6.2	0.2	2.8	0.5	0.0	1.3	2.5	3.6
Precipitation			8.2	44.2	38.5			0.5	4.1		11.8	107.3	17.6	35.8
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	5.0
Growing Degrees	5	0.0	4.0	3.8	3.1	0.0	0.5	3.5	3.4	2.0	2.7	23.0	-	13.4
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.3

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	-	9.3
Precipitation - Reference Evapotranspiration	-	-	26.5
Number of Rainy Days	6.0	6.0	3.5
Number of Dry Days	10.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

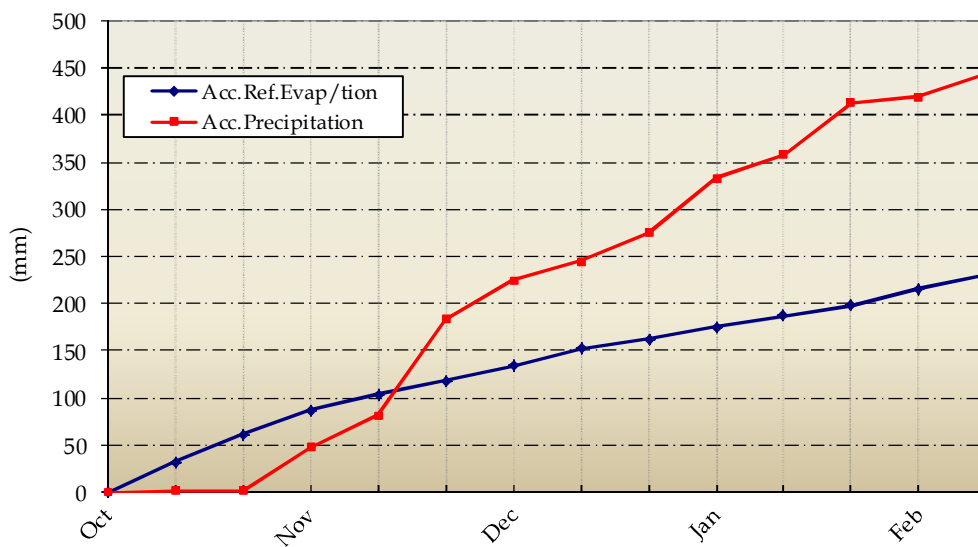


Kalamata

1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	15.8	17.0	16.7	16.1	16.0	17.8	18.6	18.4	16.6	16.1	16.9	16.6	14.9
	Min	3.5	8.8	11.4	14.8	5.4	4.8	8.2	5.1	6.8	10.1	7.9	6.7	4.8
Relative Humidity	Max	93	87	89	84	89	92	86	90	92	92	89	93	-
	Min	45	64	67	70	40	44	50	41	45	67	53	56	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	9.7
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	11.0
Sunshine Duration		2.7	0.7	1.2	0.0	8.9	7.7	0.3	7.1	0.0	1.0	3.0	2.9	5.1
Precipitation			0.0	5.9	1.5				0.0	1.2	16.2	24.8	35.0	28.3
Evaporation		0.6	0.5	0.3	3.8	2.2	3.8	5.8	0.0	1.2	0.0	18.2	30.0	24.5
Growing Degrees	5	4.7	7.9	9.1	10.5	5.7	6.3	8.4	6.8	6.7	8.1	74.0	66.8	48.9
	10	0.0	2.9	4.1	5.5	0.7	1.3	3.4	1.8	1.7	3.1	24.4	19.0	8.7

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	15.9	13.5	14.4
Precipitation - Reference Evapotranspiration	8.9	21.5	13.9
Number of Rainy Days	4.0	6.0	4.1
Number of Dry Days	11.0	2.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

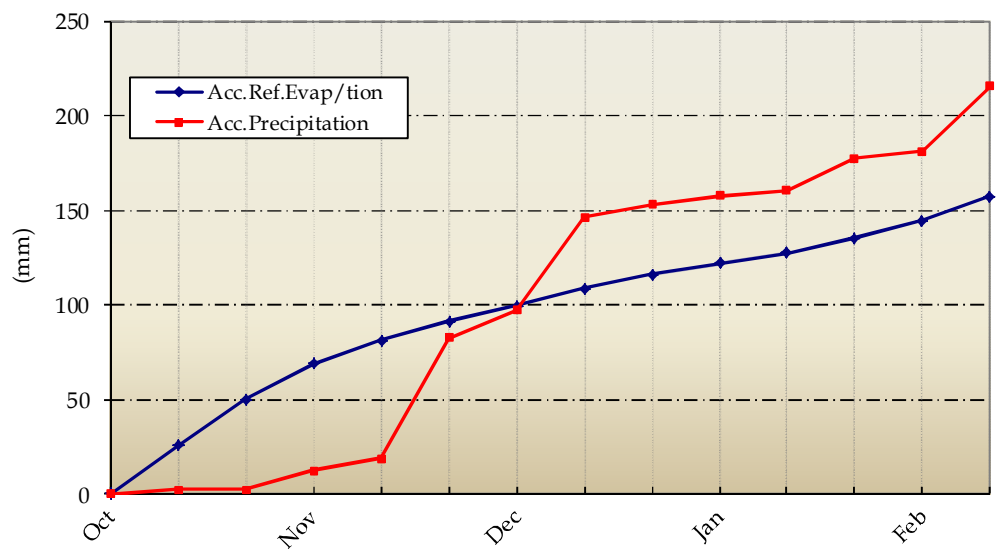


Larisa

1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.4	17.8	18.4	15.5	14.2	14.8	14.4	17.0	14.8	8.8	15.2	14.2	11.2
	Min	-2.4	5.6	8.8	7.0	-1.2	1.5	5.8	5.8	2.2	5.0	3.8	2.5	0.4
Relative Humidity	Max	100	91	91	96	97	99	96	100	97	97	96	100	-
	Min	46	51	47	58	51	52	60	41	50	83	54	56	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	6.8
Sunshine Duration		7.5	1.5	0.9	1.5	7.6	6.2	2.9	5.1	1.8	0.0	3.5	3.8	4.3
Precipitation				0.0	1.2				0.5		32.6	34.3	7.1	9.7
Evaporation		1.7	3.6	1.4	2.3	3.4	3.4	0.1	2.2	3.8	0.0	21.9	16.5	6.9
Growing Degrees	5	2.0	6.7	8.6	6.3	1.5	3.2	5.1	6.4	3.5	1.9	45.1	35.6	16.7
	10	0.0	1.7	3.6	1.3	0.0	0.0	0.1	1.4	0.0	0.0	8.1	5.9	0.7

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.7	11.1	9.6
Precipitation - Reference Evapotranspiration	21.6	-4.0	0.1
Number of Rainy Days	3.0	5.0	2.8
Number of Dry Days	12.0	6.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

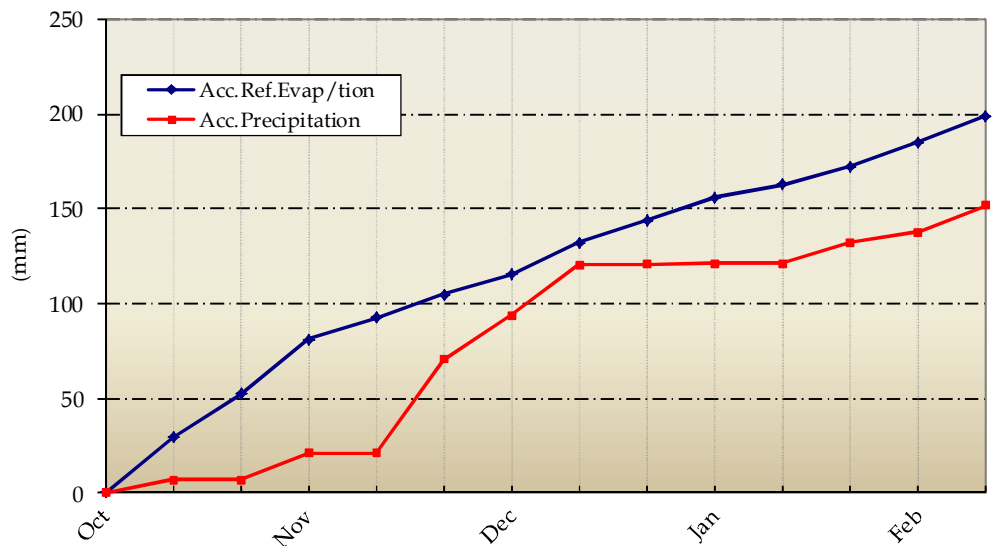


Mikra

1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	14.7	17.1	18.6	17.1	15.0	12.3	13.8	14.0	15.6	11.6	15.0	13.0	10.3
	Min	4.9	6.0	13.6	10.5	1.2	6.0	5.6	5.1	1.8	6.4	6.1	5.4	1.6
Relative Humidity	Max	87	81	65	88	90	95	94	94	91	81	87	91	-
	Min	45	42	39	53	54	59	44	84	36	54	51	56	-
Soil Temperature at 10 cm	06 UTC	7.3	8.4	10.1	11.0	8.3	9.0	8.9	9.0	8.0	8.8	8.9	7.6	5.6
	12 UTC	9.0	9.0	12.0	12.0	9.8	9.6	9.6	10.0	9.4	8.4	9.9	8.9	7.1
Sunshine Duration		6.6	0.9	1.5	2.6	7.5	0.7	2.0	1.6	8.5	0.0	3.2	3.0	4.3
Precipitation			0.2	0.0	2.9		0.1		5.3		5.8	14.3	9.8	10.5
Evaporation		4.0	1.4	1.2	0.3	0.2	0.4	0.6	0.4	1.1	0.6	10.2	14.3	12.4
Growing Degrees	5	4.8	6.6	11.1	8.8	3.1	4.2	4.7	4.6	3.7	4.0	55.5	42.5	17.2
	10	0.0	1.6	6.1	3.8	0.0	0.0	0.0	0.0	0.0	0.0	11.5	9.9	0.8

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	13.6	10.6	11.4
Precipitation - Reference Evapotranspiration	0.7	-0.8	-0.9
Number of Rainy Days	5.0	2.0	2.6
Number of Dry Days	10.0	8.0	-

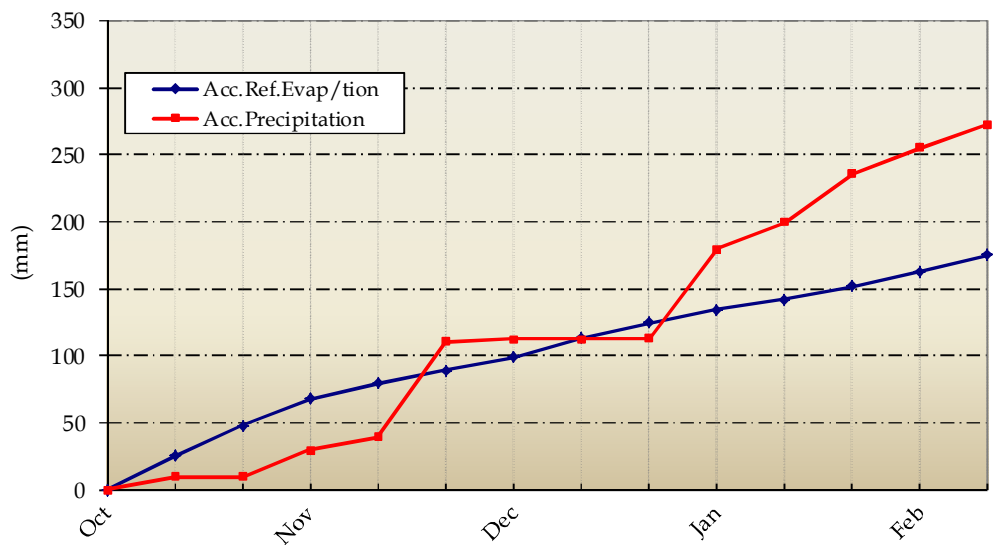
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	16.2	15.0	17.3	17.2	14.0	13.6	14.6	17.8	15.8	11.6	15.3	14.4	12.0
	Min	2.8	10.8	11.8	13.2	4.0	1.6	2.2	10.2	5.8	8.6	7.1	6.5	2.6
Relative Humidity	Max	100	72	76	84	94	99	97	73	95	100	89	90	-
	Min	38	54	55	52	51	49	62	33	45	95	53	53	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		8.2	0.0	1.9	1.2	6.3	7.7	6.2	8.5	2.0	0.0	4.2	3.4	
Precipitation				1.0				0.0			16.5	17.5	17.7	16.3
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	-
Growing Degrees	5	4.5	7.9	9.6	10.2	4.0	2.6	3.4	9.0	5.8	5.1	62.1	54.2	
	10	0.0	2.9	4.6	5.2	0.0	0.0	0.0	4.0	0.8	0.1	17.6	13.2	

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	12.4	12.8	
Precipitation - Reference Evapotranspiration	5.1	4.9	16.3
Number of Rainy Days	2.0	3.0	4.1
Number of Dry Days	9.0	7.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

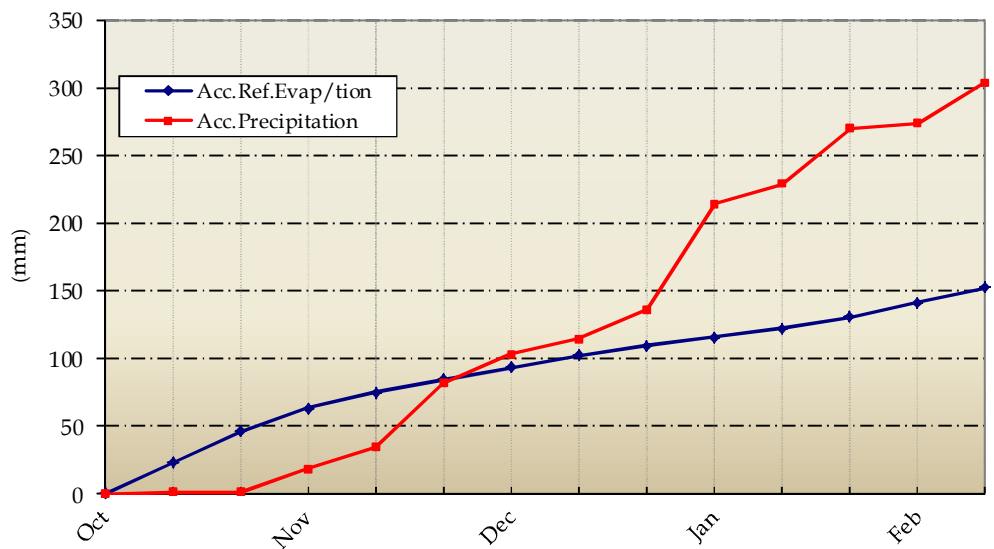


Tripoli

1st 10-day period (1-10/02/2018)		1	2	3	4	5	6	7	8	9	10	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	12.2	12.8	13.4	11.7	12.9	10.8	12.5	13.4	12.3	9.8	12.2	11.8	10.0
	Min	-2.1	5.9	7.2	7.9	-2.2	0.5	5.0	4.7	4.3	6.1	3.7	3.7	0.4
Relative Humidity	Max	100	97	99	100	100	100	93	84	99	100	97	98	-
	Min	44	63	61	74	45	60	67	40	49	71	57	59	-
Soil Temperature at 10 cm	06 UTC	3.6	5.8	7.2	8.0	5.4	6.4	7.6	7.2	7.2	-	6.5	6.1	5.0
	12 UTC	5.2	7.0	-	-	7.6	8.4	8.2	8.8	8.2	-	7.6	8.0	5.8
Sunshine Duration		7.3	1.4	2.4	0.4	6.3	6.2	3.2	7.9	2.1	0.0	3.7	2.7	4.9
Precipitation			0.0	3.2	2.5					0.0	23.8	29.5	21.8	26.5
Evaporation		0.9	1.9	0.5	0.0	0.0	1.0	0.6	1.7	-	-	-	-	8.6
Growing Degrees	5	0.1	4.4	5.3	4.8	0.4	0.7	3.8	4.1	3.3	3.0	29.6	28.7	13.4
	10	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	0.4

1st 10-day period (1-10/02/2018)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	10.8	10.2	11.6
Precipitation - Reference Evapotranspiration	18.7	11.6	14.9
Number of Rainy Days	3.0	4.0	4.1
Number of Dry Days	9.0	8.0	-

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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Issue Editors :

Papakrivou Anastasia

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