



AGROMETEOROLOGICAL BULLETIN

September 2015
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



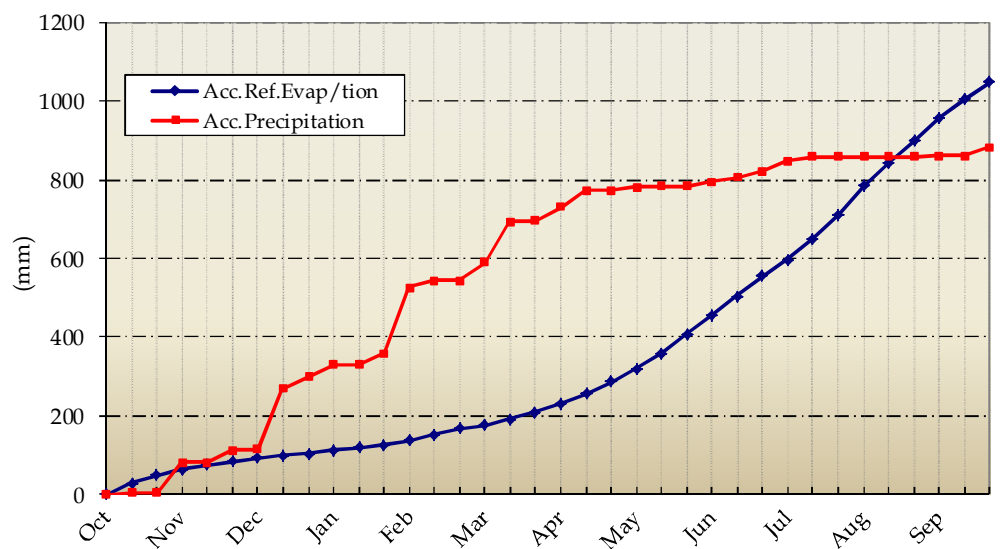
Hellenic National Meteorological Service
Division of Climatology-Applications
El. Venizelou Street 14, 16777
Helliniko, Athens

Web addresses of HNMS
www.hnms.gr
www.emy.gov.gr
www.meteo.gov.gr
www.meteohellas.gr

2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.2	27.0	28.2	28.6	29.0	28.6	30.6	32.4	31.2	27.4	29.4	27.5	26.5
	Min	21.8	17.4	18.0	17.8	17.0	19.0	17.6	19.0	18.2	15.0	18.1	16.5	13.8
Relative Humidity	Max	83	90	73	88	90	81	83	83	82	93	85	86	-
	Min	39	45	36	35	33	35	33	26	31	50	36	34	-
Soil Temperature at 10 cm	06 UTC	26.6	25.4	21.4	22.0	22.4	22.8	22.4	23.2	24.8	23.0	23.4	23.3	19.9
	12 UTC	31.8	26.8	26.4	28.6	28.6	28.6	28.6	28.8	28.4	28.2	28.5	26.7	23.7
Sunshine Duration		11.0	4.1	11.1	11.5	11.4	11.4	11.3	11.1	11.3	10.6	10.5	8.2	8.5
Precipitation			23.6									23.6		5.2
Evaporation		10.5	3.1	8.9	3.3	18.4	4.9	13.5	9.0	5.5	5.4	82.5	69.9	66.6
Growing Degrees	5	21.5	17.2	18.1	18.2	18.0	18.8	19.1	20.7	19.7	16.2	187.5	170.0	151.3
	10	16.5	12.2	13.1	13.2	13.0	13.8	14.1	15.7	14.7	11.2	137.5	120.0	101.3

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	42.8	36.3	37.1
Precipitation - Reference Evapotranspiration	-19.2	-36.3	-31.9
Number of Rainy Days	1.0	0.0	0.9
Number of Dry Days	19.0	13.0	-

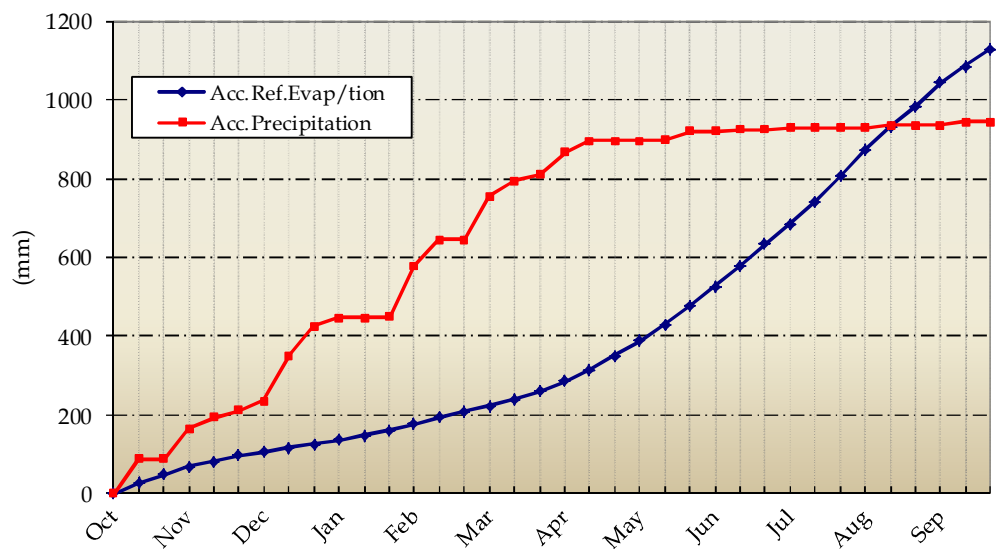
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.0	27.8	30.8	29.9	29.8	30.7	31.9	34.4	33.6	30.6	30.8	28.2	28.2
	Min	21.1	20.4	17.0	17.3	16.8	16.8	17.4	16.9	18.6	20.8	18.3	18.7	16.5
Relative Humidity	Max	88	79	84	81	85	87	87	89	86	81	85	87	-
	Min	47	35	29	27	33	33	31	25	29	51	34	44	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	24.8	23.4
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	28.2	26.9
Sunshine Duration		9.0	10.7	10.6	10.6	10.6	10.3	10.4	10.5	10.0	8.8	10.2	10.0	9.1
Precipitation		0.6										0.6	2.4	7.0
Evaporation		6.0	8.3	6.7	4.0	6.0	6.0	9.4	5.6	6.0	7.9	65.9	-	56.3
Growing Degrees	5	19.6	19.1	18.9	18.6	18.3	18.8	19.7	20.7	21.1	20.7	195.3	184.5	173.6
	10	14.6	14.1	13.9	13.6	13.3	13.8	14.7	15.7	16.1	15.7	145.3	134.5	123.6

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.6	38.9	36.2
Precipitation - Reference Evapotranspiration	-43.0	-36.5	-29.2
Number of Rainy Days	1.0	1.0	1.1
Number of Dry Days	0.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

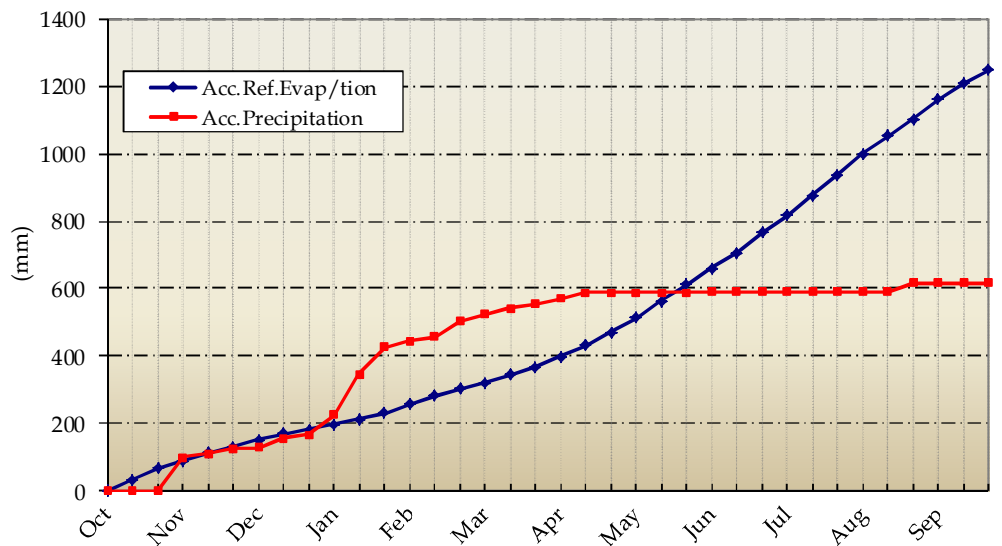


Iraklio

2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.2	28.4	26.8	27.0	27.2	27.2	28.0	28.2	27.0	27.8	27.7	27.6	26.4
	Min	24.0	22.0	23.6	23.6	23.6	23.2	23.6	23.8	20.4	20.6	22.8	21.1	19.5
Relative Humidity	Max	77	80	80	78	78	80	78	87	91	92	82	84	-
	Min	66	57	60	62	59	61	57	63	63	63	61	62	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		9.0	9.5	8.2	8.2	7.9	9.0	8.3	8.1	5.9	9.5	8.4	9.4	9.4
Precipitation													4.4	6.0
Evaporation		1.6	5.2	8.0	5.0	5.3	6.9	4.8	4.8	2.6	3.9	48.1	48.2	64.4
Growing Degrees	5	21.6	20.2	20.2	20.3	20.4	20.2	20.8	21.0	18.7	19.2	202.6	193.7	179.8
	10	16.6	15.2	15.2	15.3	15.4	15.2	15.8	16.0	13.7	14.2	152.6	143.7	129.8

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	41.3	40.8	-
Precipitation - Reference Evapotranspiration	-41.3	-36.4	6.0
Number of Rainy Days	0.0	2.0	0.5
Number of Dry Days	36.0	104.0	-

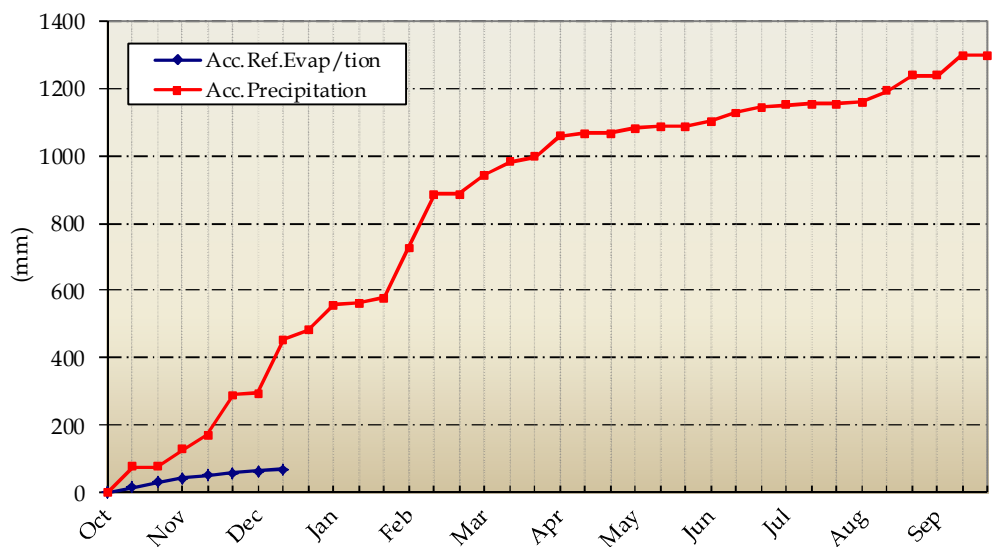
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	26.4	25.4	28.7	28.9	30.3	29.7	31.6	35.4	33.1	30.7	30.0	26.1	26.5
	Min	17.6	12.0	10.6	15.0	12.2	19.0	13.7	14.7	14.5	14.6	14.4	12.6	12.2
Relative Humidity	Max	100	100	100	100	100	93	100	100	94	100	99	97	-
	Min	53	28	37	34	34	46	29	17	32	40	35	46	-
Soil Temperature at 10 cm	06 UTC	-	31.4	31.2	31.2	31.5	31.4	31.4	31.4	31.5	31.6	31.4	-	18.0
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	21.1
Sunshine Duration		5.9	9.3	8.6	8.9	9.1	8.4	8.9	8.9	8.5	8.3	8.5	7.0	6.9
Precipitation		0.0										0.0	12.9	16.4
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	43.6
Growing Degrees	5	17.0	13.7	14.7	17.0	16.3	19.4	17.7	20.1	18.8	17.7	172.1	143.5	143.6
	10	12.0	8.7	9.7	12.0	11.3	14.4	12.7	15.1	13.8	12.7	122.1	93.5	93.6

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	-	24.6	28.7
Precipitation - Reference Evapotranspiration	-	-11.7	-12.3
Number of Rainy Days	0.0	3.0	2.1
Number of Dry Days	10.0	3.0	-

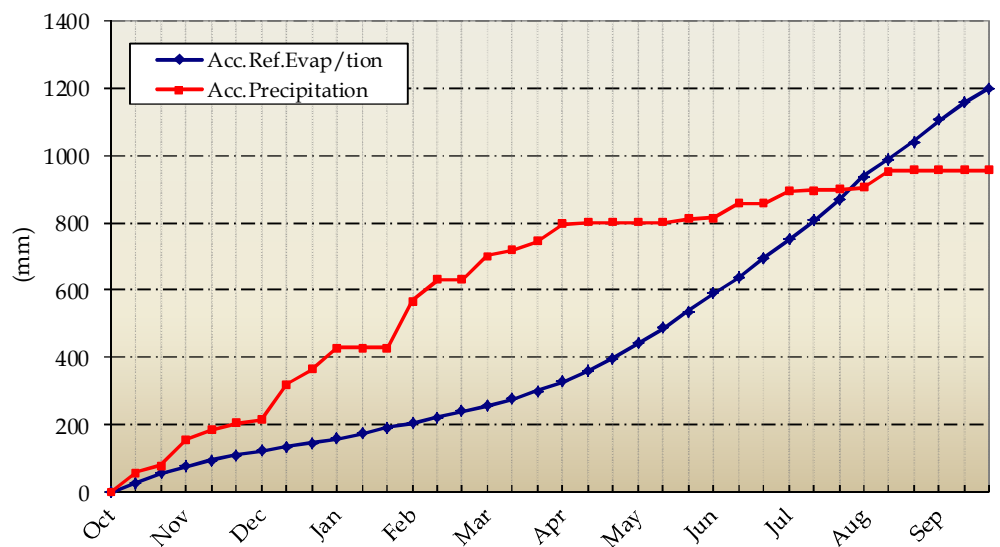
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.8	30.6	30.5	29.1	28.8	28.6	28.5	29.4	30.0	29.6	29.7	29.0	28.6
	Min	18.9	16.9	16.7	16.9	16.5	16.9	14.6	14.5	14.6	17.1	16.4	17.4	15.9
Relative Humidity	Max	92	81	86	88	90	87	92	92	92	90	89	88	-
	Min	32	31	33	43	36	47	53	37	49	43	40	40	-
Soil Temperature at 10 cm	06 UTC	26.0	25.2	25.0	24.8	25.0	24.8	24.4	24.4	24.0	24.8	24.8	24.1	22.6
	12 UTC	26.8	27.0	27.0	26.6	26.4	26.8	26.0	26.0	26.4	26.4	26.5	25.2	25.8
Sunshine Duration		10.1	11.3	10.1	11.1	10.5	11.0	10.7	10.3	8.8	10.3	10.4	10.1	8.7
Precipitation													0.7	6.3
Evaporation		8.5	9.5	2.8	0.5	5.5	7.3	2.2	5.0	5.0	5.5	51.8	-	60.4
Growing Degrees	5	20.4	18.8	18.6	18.0	17.7	17.8	16.6	17.0	17.3	18.4	180.3	181.7	172.4
	10	15.4	13.8	13.6	13.0	12.7	12.8	11.6	12.0	12.3	13.4	130.3	131.7	122.4

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	43.3	43.0	38.1
Precipitation - Reference Evapotranspiration	-43.3	-42.3	-31.8
Number of Rainy Days	0.0	1.0	1.0
Number of Dry Days	11.0	8.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

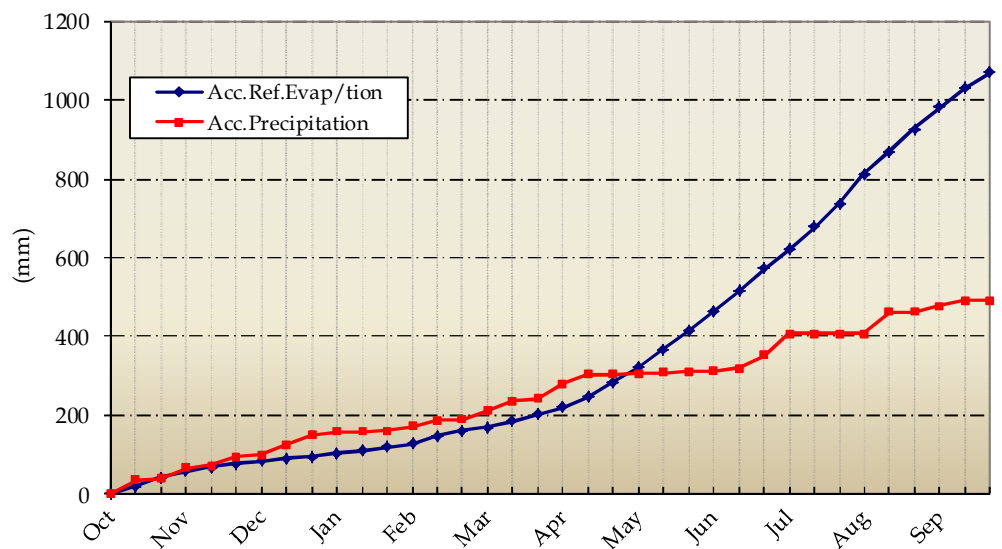


Larisa

2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	31.6	31.8	29.4	29.8	31.2	31.5	33.6	35.0	34.1	33.7	32.2	28.4	29.0
	Min	19.0	17.0	16.6	13.9	13.1	16.4	16.6	19.4	18.1	17.9	16.8	16.9	14.0
Relative Humidity	Max	100	98	99	100	100	100	86	95	89	100	97	98	-
	Min	36	27	34	29	29	31	80	21	28	26	34	38	-
Soil Temperature at 10 cm	06 UTC	25.8	25.8	25.6	25.2	25.4	25.6	25.8	25.2	26.0	26.6	25.7	-	22.0
	12 UTC	25.8	24.8	25.4	25.6	25.4	25.4	25.8	26.0	26.4	26.4	25.7	-	24.1
Sunshine Duration		6.4	9.6	9.1	8.8	9.6	8.3	0.0	8.2	8.2	8.4	7.7	7.4	8.3
Precipitation		0.0										0.0	1.1	12.0
Evaporation		3.4	7.7	6.4	10.7	4.3	6.7	5.1	8.7	5.2	10.9	69.1	60.7	61.4
Growing Degrees	5	20.3	19.4	18.0	16.9	17.2	19.0	20.1	22.2	21.1	20.8	194.9	176.1	165.0
	10	15.3	14.4	13.0	11.9	12.2	14.0	15.1	17.2	16.1	15.8	144.9	126.1	115.0

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	40.3	36.9	38.0
Precipitation - Reference Evapotranspiration	-40.3	-35.8	-26.0
Number of Rainy Days	0.0	1.0	1.2
Number of Dry Days	10.0	4.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

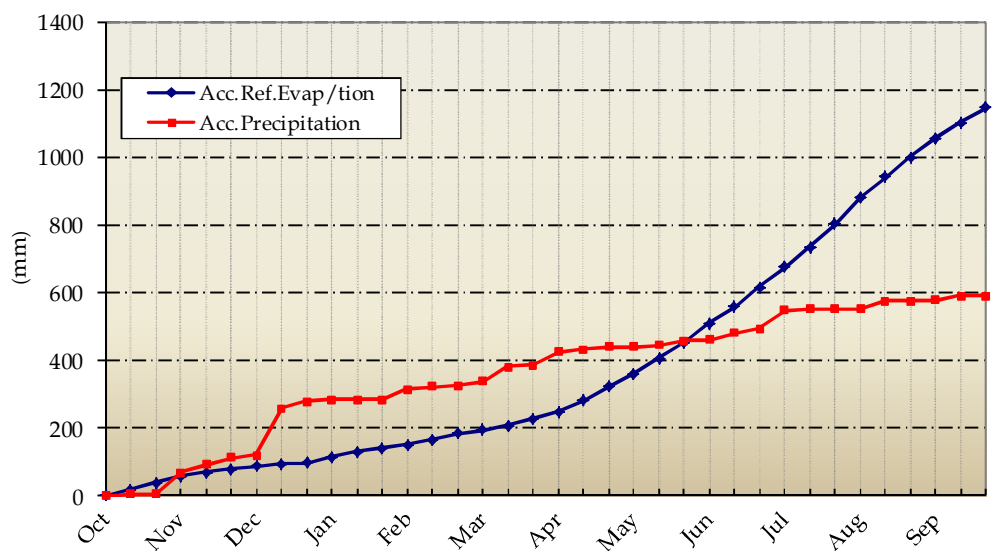


Mikra

2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	29.0	29.0	28.1	28.6	28.5	28.4	29.6	33.0	30.7	29.8	29.5	26.1	27.5
	Min	20.0	21.7	18.2	17.4	16.3	17.7	17.8	18.7	19.6	19.2	18.7	17.2	15.2
Relative Humidity	Max	93	88	90	87	88	90	90	90	83	88	89	91	-
	Min	47	39	44	34	46	49	47	33	45	39	42	50	-
Soil Temperature at 10 cm	06 UTC	24.0	24.0	24.3	24.2	23.8	24.8	25.0	25.4	26.2	26.0	24.8	22.5	21.4
	12 UTC	27.8	27.2	28.0	28.0	27.4	28.0	28.6	29.4	29.6	29.2	28.3	25.9	25.2
Sunshine Duration		7.7	11.1	11.3	10.7	10.7	10.8	10.6	10.4	10.3	10.1	10.4	7.0	8.1
Precipitation													48.1	7.6
Evaporation		7.3	7.8	5.4	8.1	5.9	7.2	5.1	4.4	5.8	12.1	69.1	50.4	62.1
Growing Degrees	5	19.5	20.4	18.2	18.0	17.4	18.1	18.7	20.9	20.2	19.5	190.7	166.4	163.4
	10	14.5	15.4	13.2	13.0	12.4	13.1	13.7	15.9	15.2	14.5	140.7	116.4	113.4

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	42.9	31.3	37.4
Precipitation - Reference Evapotranspiration	-42.9	16.8	-29.8
Number of Rainy Days	0.0	4.0	1.4
Number of Dry Days	10.0	5.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

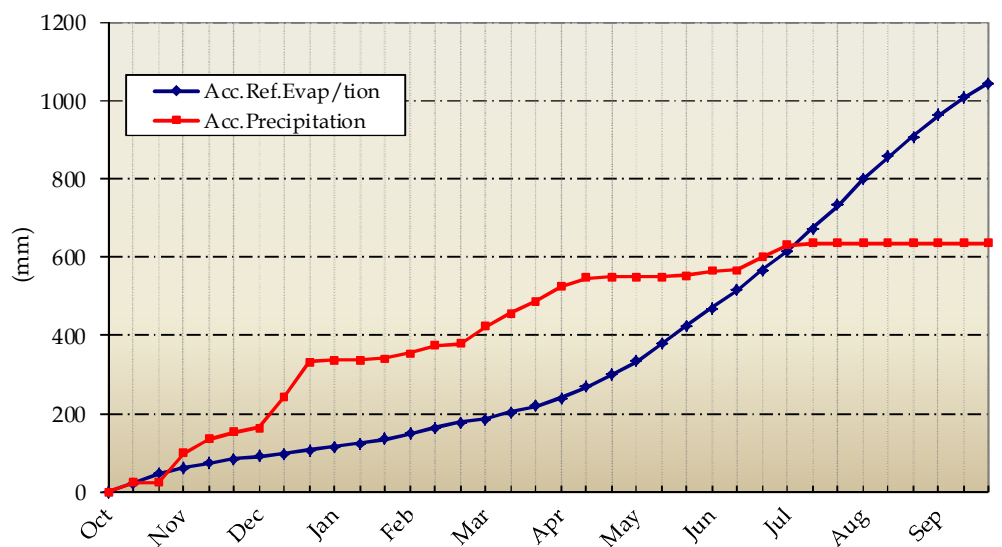


Tanagra

2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	33.0	29.4	27.2	28.2	28.7	29.2	31.1	31.8	30.0	30.4	29.9	28.3	28.9
	Min	19.2	19.3	16.4	17.4	15.8	16.4	15.1	16.1	17.7	15.3	16.9	15.0	16.1
Relative Humidity	Max	83	79	82	77	79	80	91	75	69	94	81	85	-
	Min	26	33	37	30	36	33	25	24	29	25	30	37	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		9.2	10.2	9.7	10.8	10.5	10.8	11.3	10.5	10.5	9.9	10.3	-	-
Precipitation													3.2	8.1
Evaporation		6.5	19.5	6.2	6.8	13.0	7.0	6.2	8.8	8.7	8.3	91.0	-	-
Growing Degrees	5	21.1	19.4	16.8	17.8	17.3	17.8	18.1	19.0	18.9	17.9	183.9	-	-
	10	16.1	14.4	11.8	12.8	12.3	12.8	13.1	14.0	13.9	12.9	133.9	-	-

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	39.3	-	-
Precipitation - Reference Evapotranspiration	-39.3	-	0.0
Number of Rainy Days	0.0	-	-
Number of Dry Days	28.0	-	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

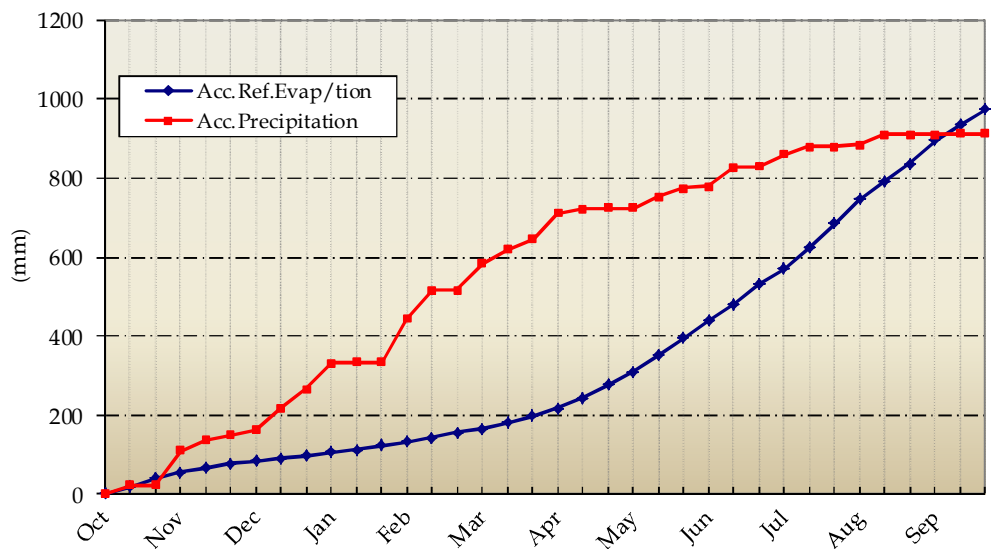


Tripoli

2nd 10-day period (11-20/09/2015)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	28.1	28.7	28.6	27.9	29.8	31.4	33.4	33.1	33.0	31.1	30.5	27.2	26.9
	Min	15.3	11.6	12.0	11.1	9.9	11.0	10.1	10.2	14.2	12.7	11.8	12.3	11.2
Relative Humidity	Max	99	95	95	98	96	93	89	84	85	94	93	96	-
	Min	29	26	28	28	18	19	13	14	21	28	22	30	-
Soil Temperature at 10 cm	06 UTC	24.4	-	-	23.4	22.8	22.8	22.8	22.6	23.4	-	23.2	20.3	20.2
	12 UTC	27.8	27.6	-	-	27.2	26.4	27.8	27.4	-	-	27.4	25.0	22.5
Sunshine Duration		10.4	9.8	0.0	10.5	10.6	10.8	10.8	10.7	9.4	9.9	9.3	8.1	8.5
Precipitation											0.0	0.0	0.8	5.9
Evaporation		2.6	-	-	4.8	5.6	5.9	6.4	8.9	-	-	-	-	40.3
Growing Degrees	5	16.7	15.2	15.3	14.5	14.9	16.2	16.8	16.7	18.6	16.9	161.6	147.9	140.2
	10	11.7	10.2	10.3	9.5	9.9	11.2	11.8	11.7	13.6	11.9	111.6	97.9	90.2

2nd 10-day period (11-20/09/2015)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	38.4	31.4	34.4
Precipitation - Reference Evapotranspiration	-38.4	-30.6	-28.5
Number of Rainy Days	0.0	1.0	1.0
Number of Dry Days	10.0	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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Issue Editors :

Papakrivou Anastasia

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