

CLIMATOLOGICAL ANALYSIS

SEASON

SUMMER 2015



BOSNIA AND HERZEGOVINA
FEDERATION OF BOSNIA AND HERZEGOVINA
FEDERAL HYDROMETEOROLOGICAL INSTITUTE

CLIMATOLOGICAL ANALYSIS SEASONE SUMMER 2015

Sarajevo, Oktober 2015

Mean air temperatures during the climatological summer 2015. year (1st June – 31th August) ranged between 20,7 °C in Livno and Bugojno and 26,7 °C in Mostar. On the mountain areas air temperatures were in the range of 11,5 °C on Bjelasnica to 17,8 °C on Ivan Sedlo. Temperature deviations from the normal values during the summer, which covers the period (1961-1990) were positive. Deviation of the mean temperature than the average summer temperature ranged from 2.2 °C on Ivan Sedlo to 3,4 °C in Bugojno and Zenica. By percentage temperature values are classified into the category of extremely warm.

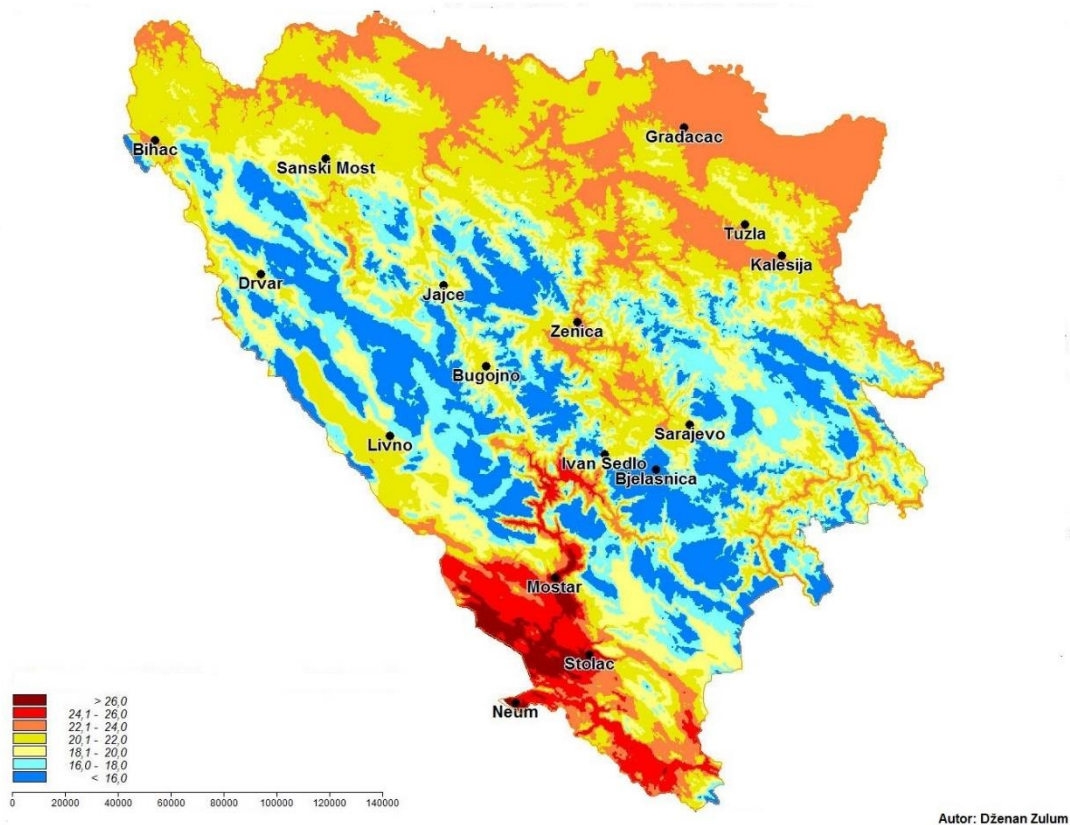
STATION	DEVIATION (°C)				PERCENTILES
	June	July	August	Summer	
Bihać	1,7	3,8	2,9	2,8	100
Bjelašnica	0,5	4,4	3,2	2,7	100
Bugojno	1,8	4,7	3,7	3,4	100
Drvar	1,3	3,9	3,2	2,8	100
Gradačac	1,7	4,1	4,1	3,3	100
Ivan Sedlo	0,6	3,3	2,7	2,2	100
Jajce	0,6	4,1	2,7	2,3	100
Kalesija	1,8	4,3	3,7	3,3	100
Livno	2,1	4,4	3,2	3,2	100
Mostar	2,6	4,8	2,4	3,3	100
Sarajevo	0,9	4,3	3,3	2,8	100
Sanski Most	1,3	3,4	3,1	2,6	100
Stolac	2,2	4,5	3,3	3,3	100
Tuzla	1,3	4,1	4,0	3,1	100
Zenica	1,7	4,6	4,0	3,4	100

Table 1 Deviation middle of summer air temperatures in relation to cli standard normal and the corresponding percentiles

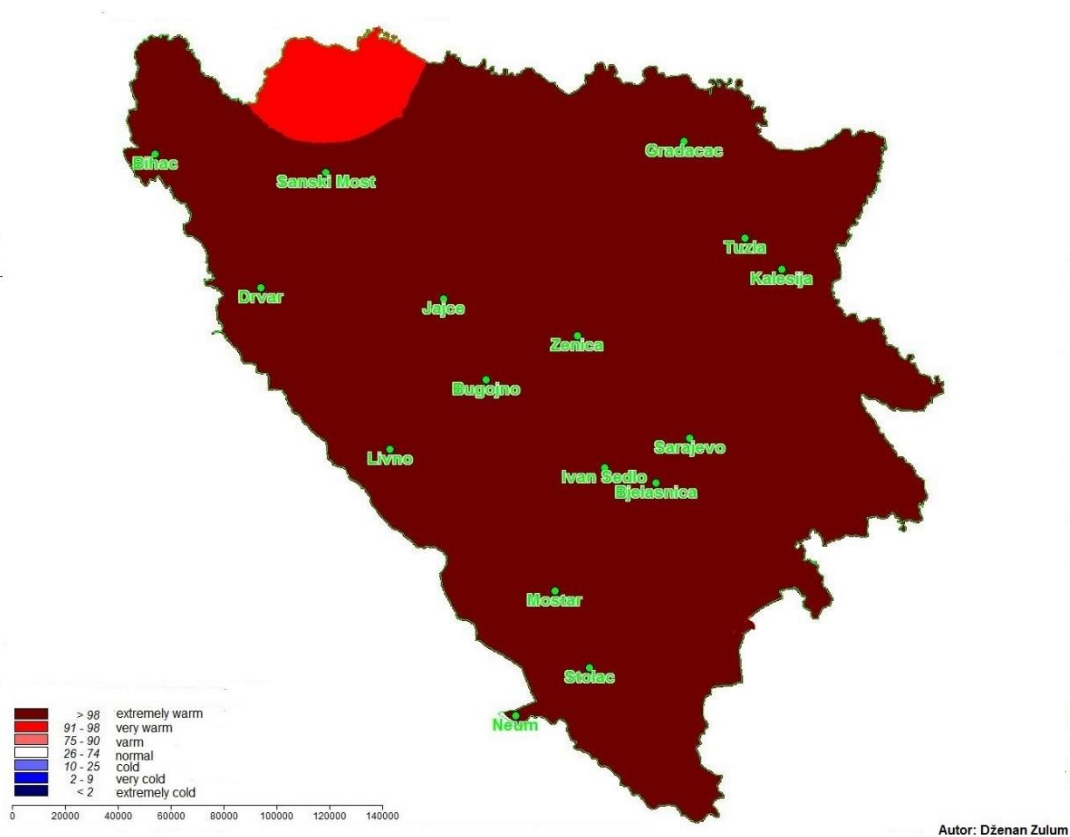
STATION	MOUNTH			STANICA	MOUNTH		
	June	July	August		June	July	August
Bihać				Livno			
Bjelašnica				Mostar			
Bugojno				Sarajevo			
Drvar				Sanski Most			
Gradačac				Stolac			
Ivan Sedlo				Tuzla			
Jajce				Zenica			

	ekstremno toplo		vrlo toplo		toplo		normalno		hladno		vrlo hladno		ekstremno hladno
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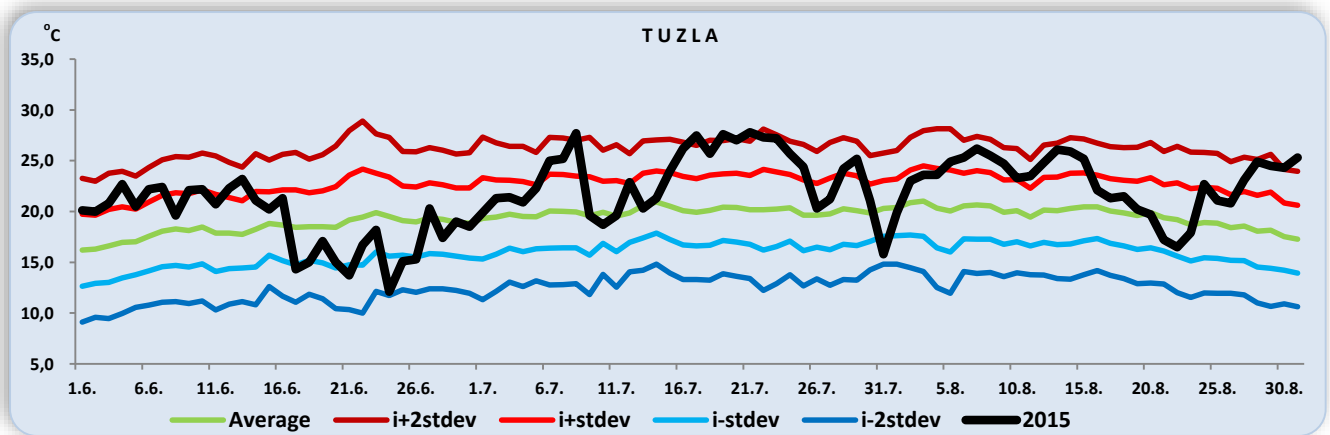
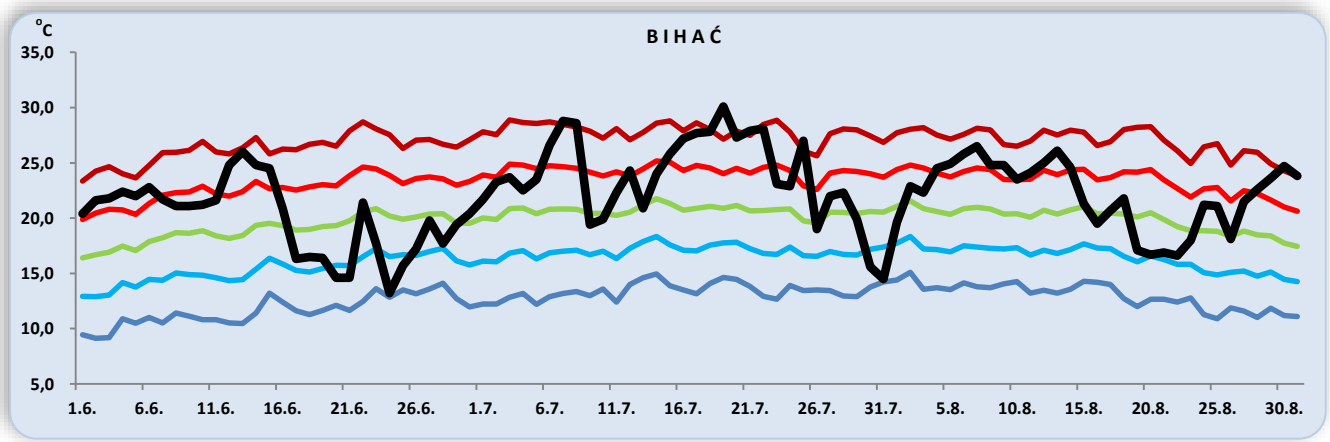
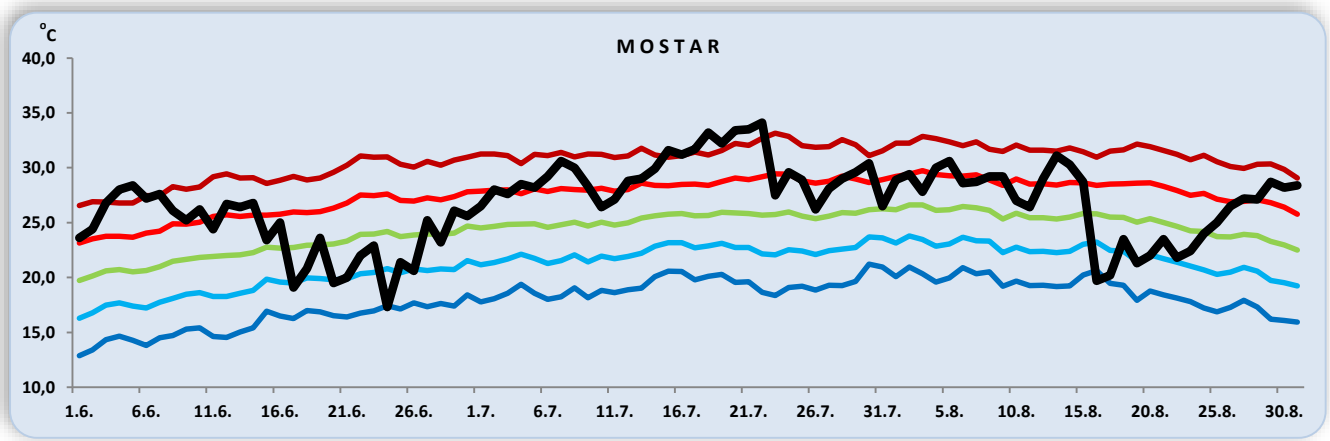
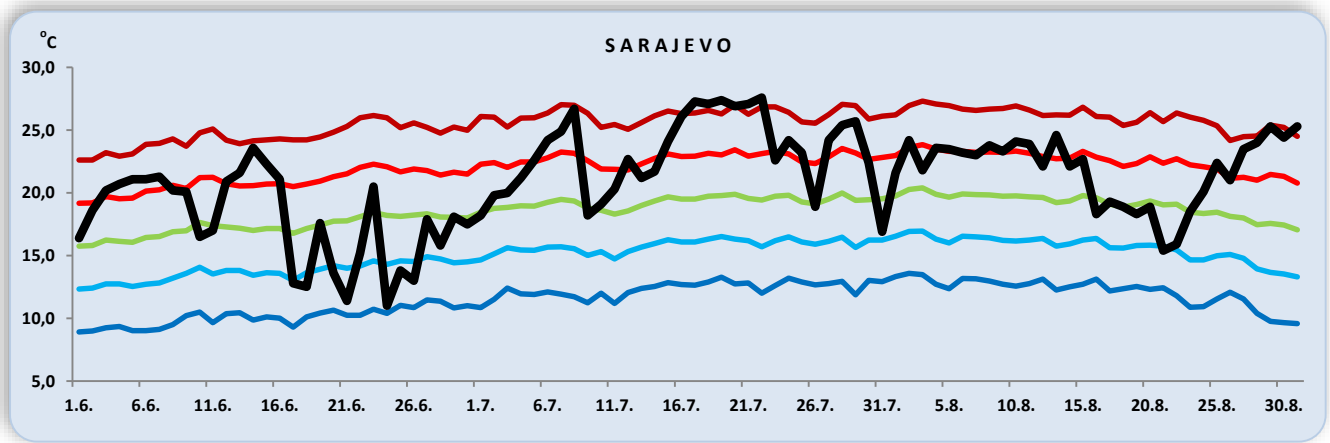
Table 2 Overview of marks mean temperature during the summer months by the method of percentiles



Map 1 Summer mean air temperature at 2015. year (°C)



Map 2 Air temperature during summer 2015 using percentile method compared to the 1961-1990 base period



Graph 1-4 Mean daily air temperatures during the summer 2015

Analysis of the monthly amount of precipitation expressed in% of average values shows that during the summer 2015. year deviations from normal precipitation amounts ranged from 54,5 % in Gradacac to 93,8% in Bugojno.. By percentage amounts of precipitation are classified into categories of extremely dry, very dry, dry and normal

The measured amounts of precipitation were in the range of 131 mm in Livno to 221 mm in Bihać.

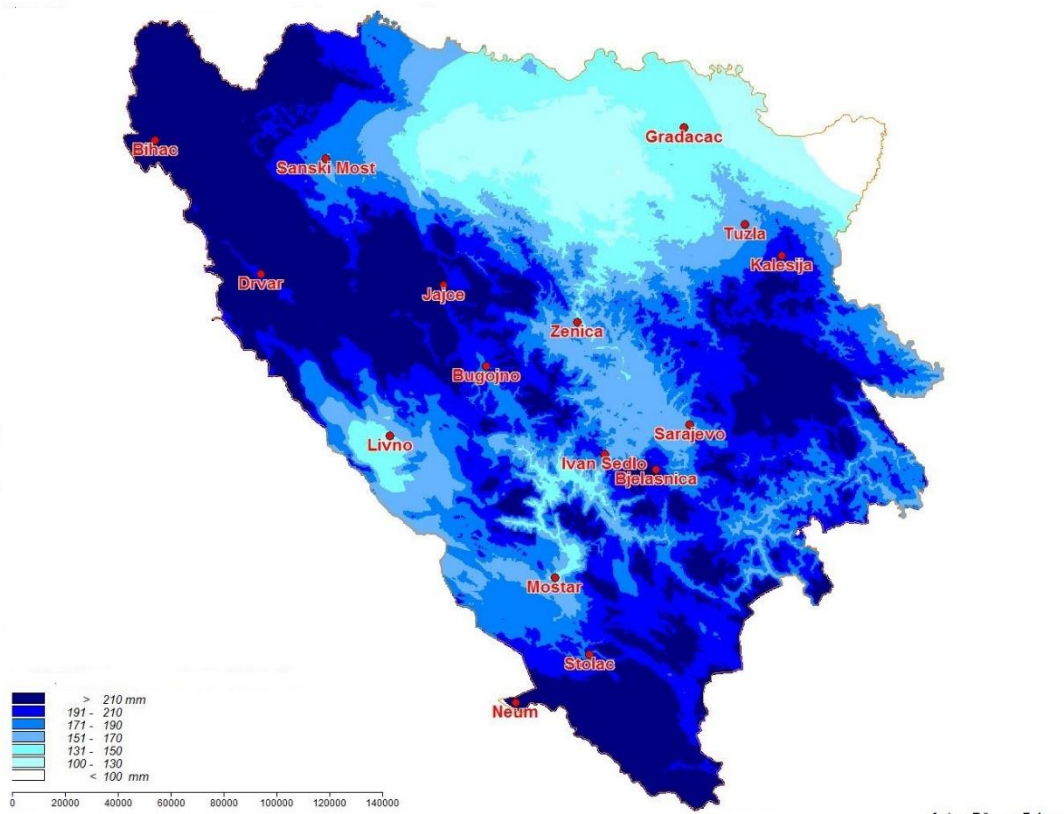
STATION	DEVIATION (%)				PERCENTILES
	JUNE	JULY	AUGUST	SUMMER ¹	
Bihać	73,7	43,8	88,6	68,7	21
Bjelašnica	106,7	25,7	69,4	72,4	15
Bugojno	94,0	67,6	79,5	93,8	40
Gradacac	43,7	6,0	124,0	54,5	6
Ivan Sedlo	89,1	21,2	64,5	62,5	9
Kalesija	98,8	10,5	111,5	74,0	26
Livno	68,7	21,4	67,0	60,3	11
Mostar	43,8	23,9	117,6	74,4	28
Sarajevo	100,0	9,4	81,2	65,2	23
Sanski Most	80,9	26,4	59,3	56,6	5
Tuzla	83,2	10,7	65,8	54,9	11
Zenica	84,4	24,7	96,7	71,0	27

Table 5 Deviation summer precipitation in relation to the climatological standard normal and the corresponding percentiles

STATION	MOUNTH			STATION	MOUNTH		
	June	July	August		June	July	August
Bihać				Livno			
Bjelašnica				Mostar			
Bugojno				Sarajevo			
Drvar				Sanski Most			
Gradacac				Stolac			
Ivan Sedlo				Tuzla			
Jajce				Zenica			

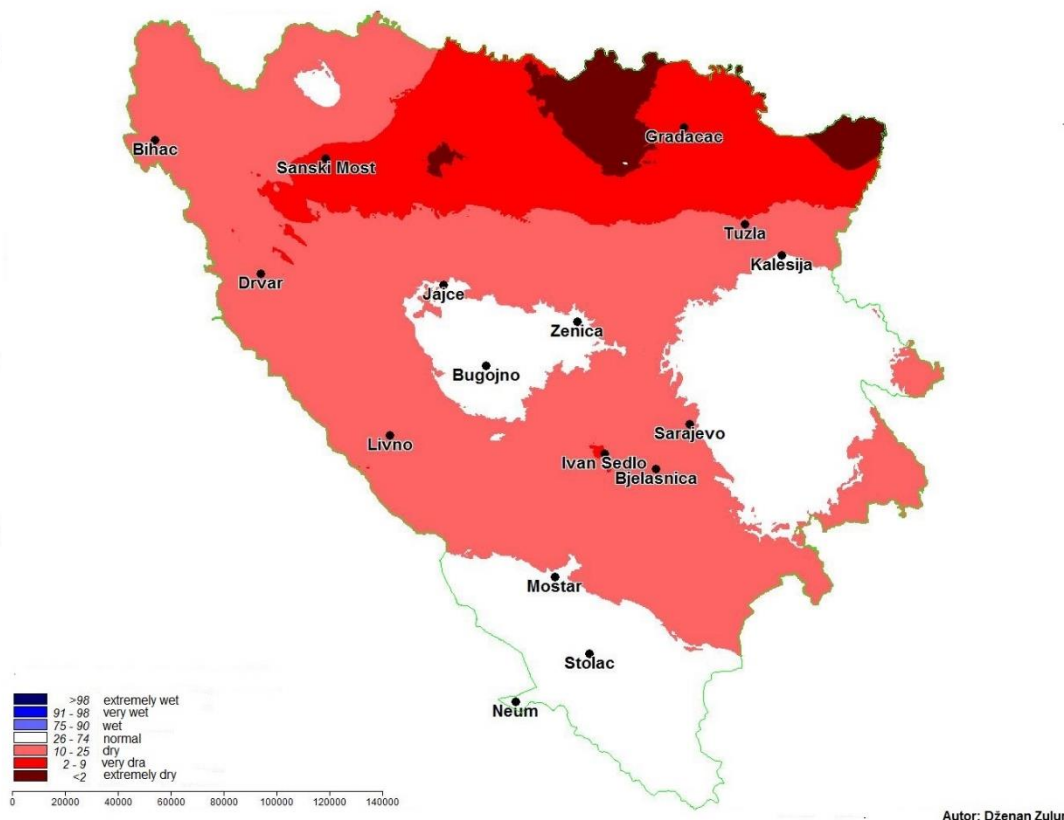
	Extremely dry		Very dry		dry		normal		wet		Very wet		Extremely wet
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Table 6 Overview of marks on precipitation by month basis percentile



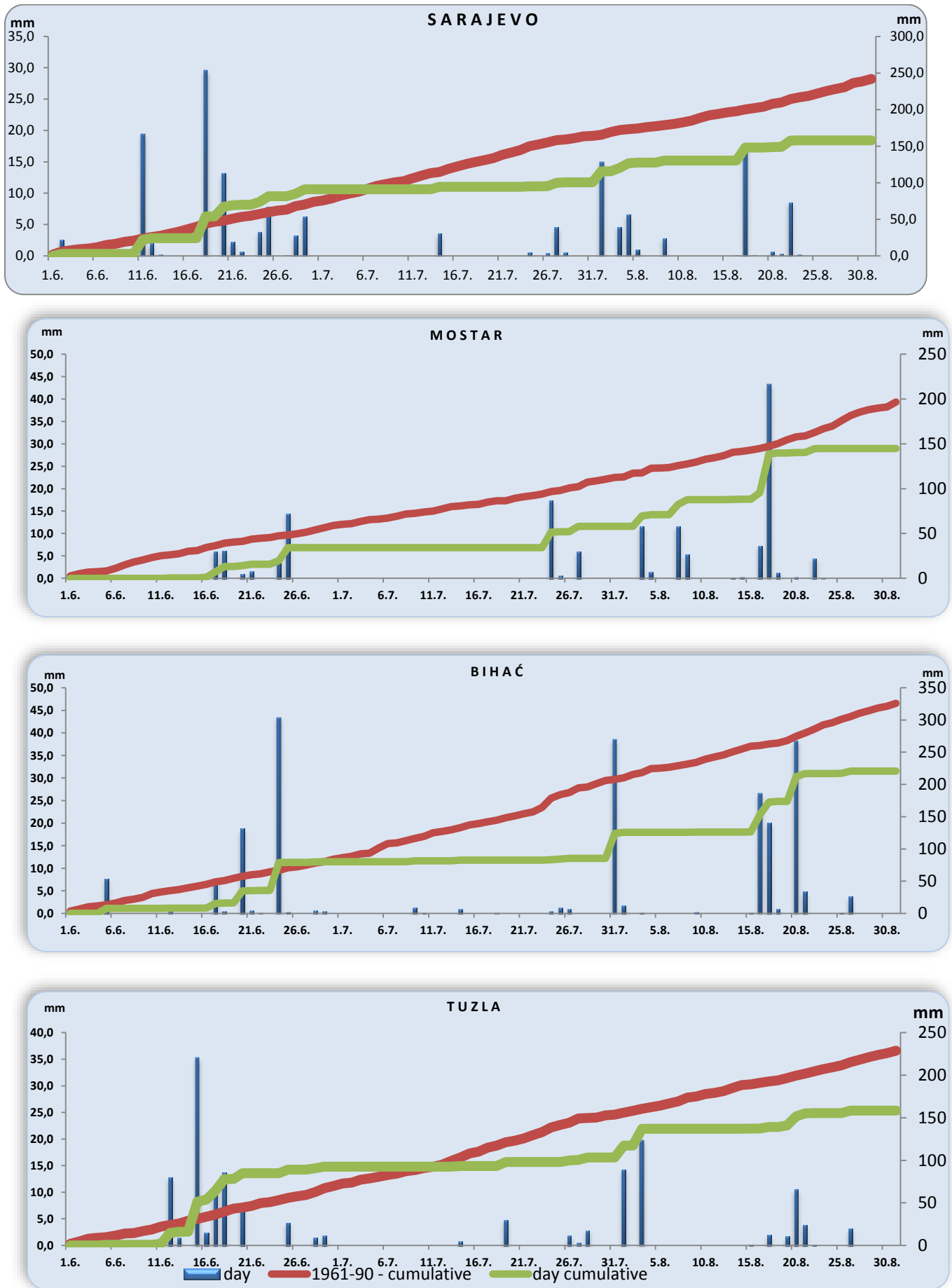
Map 3 Amount precipitation – summer 2015. year (mm)

Autor: Dženan Zulum



Map 4 Precipitation sums using percentile method during summer 2015 compared to the base period (1961 – 1990)

Autor: Dženan Zulum



Graph 5-8 daily and cumulative rainfall in the summer of 2015

The table below presents the normal (1981-2010) values (N) versus the recorded (R) values of both temperature (mean max and mean min) and accumulated precipitation for the winter period of June, July and August.

	MEAN DAILY MAXIMUM TEMPERATURE (°C)						MEAN DAILY MINIMUM TEMPERATURE (°C)						ACUMULATED PRECIPITATION (mm)					
	June		July		August		June		July		August		June		July		August	
	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N
Sarajevo	24,5	24,0	31,4	27,0	30,3	27,2	12,1	11,9	15,8	13,7	15,5	13,7	91	93	9	74	57	69
Mostar	30,0	28,9	37,0	32,5	34,2	32,7	18,4	16,7	22,4	19,6	20,9	19,6	63	70	24	43	87	60
Tuzla	25,9	25,3	31,4	27,7	31,1	27,8	12,0	12,6	15,5	14,2	15,8	13,8	92	124	11	92	55	78
Bihać	27,1	25,4	31,8	27,9	29,3	27,5	13,0	12,7	16,1	14,1	16,1	13,9	80	109	44	84	97	89
Gradačac	25,9	25,3	31,4	27,6	30,9	27,5	15,9	14,9	19,8	16,7	18,9	16,3	42	108	6	75	72	64
Livno	24,3	23,7	30,9	27,0	29,0	27,4	10,6	9,6	13,6	11,5	13,3	11,1	63	82	21	49	47	60
S Most	26,8	25,9	31,3	28,3	30,2	28,2	12,3	12,3	15,1	13,8	15,7	13,5	84	110	26	75	55	73
Bjelašnica	10,3	10,9	16,6	13,3	15,2	13,4	5,5	5,5	11,0	7,8	10,9	8,2	119	119	26	89	68	101

Season		Air Temperature (°C)						Precipitation sums (mm)			
Station	Rank*	33	50	66	Observed value	Rank*	33	50	66	Observed Value	
Sarajevo	3	18,6	19,2	19,6	20,9	28	228	266	299	166	
Mostar	2	24,0	24,6	25,0	26,7	19	136	158	189	145	
Bihać	2	19,7	20,2	20,6	22,0	25	232	274	325	221	
Tuzla	3	18,9	19,5	20,0	21,8	29	240	282	332	158	
Zenica	2	19,6	20,0	20,7	22,4	25	181	242	258	152	
Bugojno	2	18,0	18,5	19,2	20,7	19	186	201	242	192	
Gradačac	4	20,7	21,1	21,8	23,4	29	225	249	258	141	
Livno	2	18,2	18,6	19,1	20,7	7	158	196	211	131	
Sanski Most	2	19,6	19,9	20,3	21,5	28	228	266	299	166	
Bjelašnica	3	9,2	9,8	10,2	11,5	28	242	286	336	213	

*Rank – 1971-2001 period (coldest/wormest season and lowest/highest seasonal precipitation)

Country	Seasonal temperature		Seasonal precipitation		High Impact Events*
	Observed	SEECOF-13 climate outlook for temperature	Observed	SEECOF-13 climate outlook for precipitation	
Bosnia and Herzegovina	Above normal	Above to near normal (20, 40, 40)	Below normal	Below to near normal (40, 40, 20)	Summer 2015 year was extremely warm. In Sarajevo was the sixth warmest summer. Registered two heat wave. July 2015 was the hottest month of 2015. and the largest anomalies were registered in July. Bihać and Bugojno was the warmest July. Drought was in the first half of July.

¹ The actual amount of precipitation compared to the average sum

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