

CLIMATOLOGICAL ANALYSIS

SEASON

WINTER 2017/2018



BOSNIA AND HERZEGOVINA
FEDERATION OF BOSNIA AND HERZEGOVINA
FEDERAL HYDROMETEOROLOGICAL INSTITUTE

CLIMATOLOGICAL ANALYSIS SEASONE WINTER 2017 – 2018.

Sarajevo, March 2018.

Mean air temperatures during the climatological winter 2017 - 2018 (1st December 2017. – 28th February 2018.) ranged between 1,8 °C in Livno and 8,5°C in Neum. On the mountain areas air temperatures were in the range of -6,1 °C on Bjelasnica to -0,1 °C on Ivan Sedlo. Temperature deviations from the normal values during the winter, which covers the period (1961.-1990.) were positive. Deviation of the mean temperature than the average winter temperature ranged from -0,2 °C on Bjelasnica to 2,6 °C in Gradacac. By percentage temperature values are classified into the category of normal, warm and very warm.

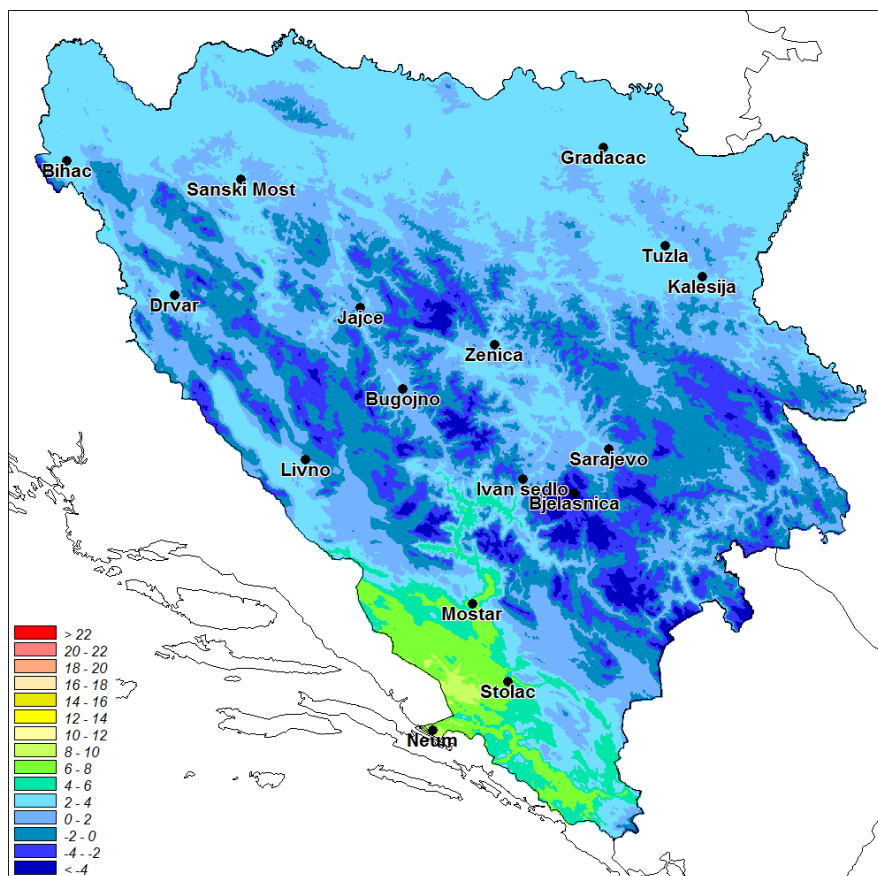
STATION	DEVIATION (°C)				PERCENTILES
	DECEMBER	JANUARY	FEBRUARY	WINTER	
Bihać	2,8	5,8	-3,2	1,8	79
Bjelašnica	-1,4	2,3	-1,2	-0,2	42
Bugojno	2,5	5,4	-0,7	2,4	97
Gradačac	3,6	6,0	-1,8	2,6	93
Ivan Sedlo	1,0	4,7	-1,3	1,4	85
Jajce	2,5		-1,7	1,8	82
Kalesija	2,3	4,6	-1,6	1,8	89
Livno	1,5	4,2	-1,2	1,4	84
Mostar	0,6	2,7	-0,6	0,8	77
Neum	-0,2	3,4	0,0	1,1	84
Sarajevo	1,9	5,0	-0,9	2,0	97
Sanski Most	2,8	5,2	-1,8	2,1	85
Stolac	0,4	2,8	-0,4	1,1	85
Tuzla	2,6	4,9	-1,3	2,0	89
Zenica	2,8	4,6	-0,6	2,2	97

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

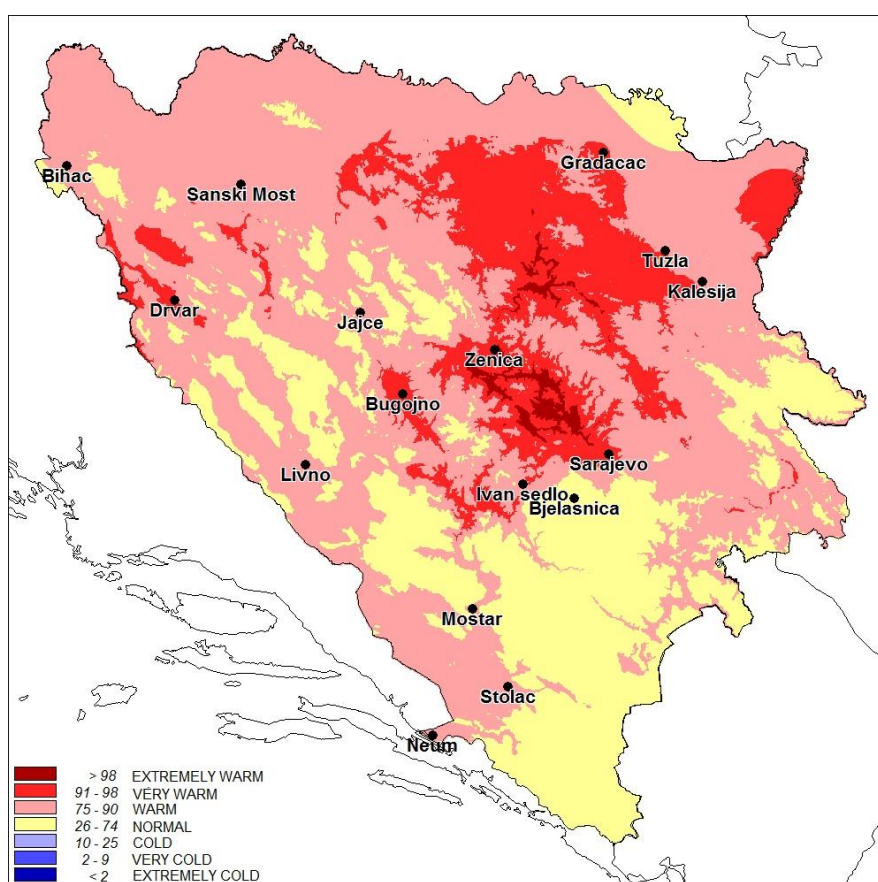
STATION	MOUNTH			STANICA	MOUNTH		
	December	January	February		December	January	February
Bihać				Livno			
Bjelašnica				Mostar			
Bugojno				Neum			
Drvar				Sarajevo			
Gradačac				Sanski Most			
Ivan Sedlo				Stolac			
Jajce				Tuzla			
Kalesija				Zenica			

	extremely warm	very warm	warm	normal	cold	very cold	extremely cold
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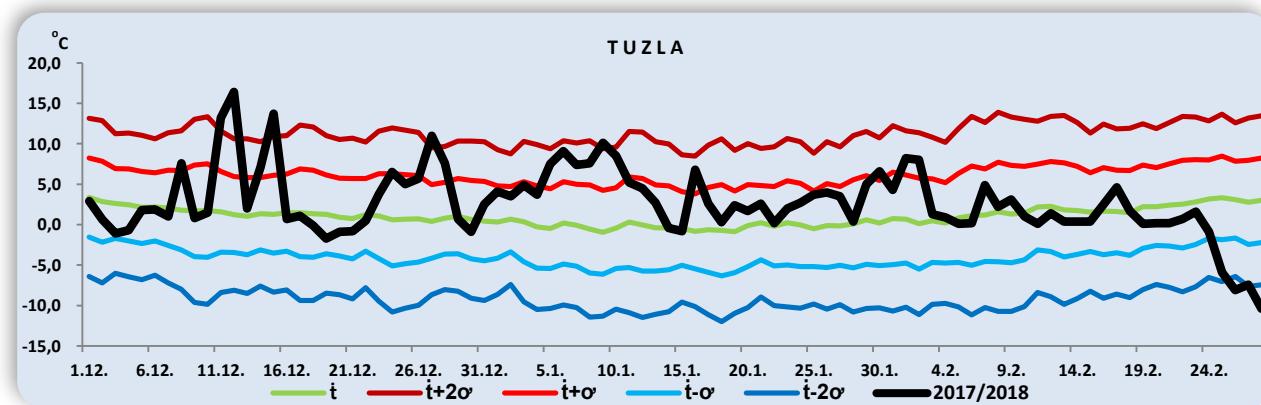
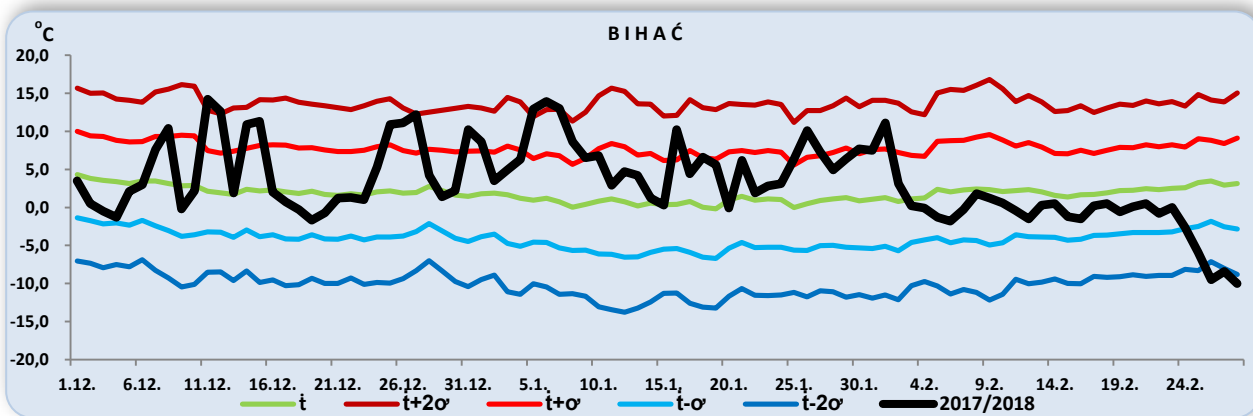
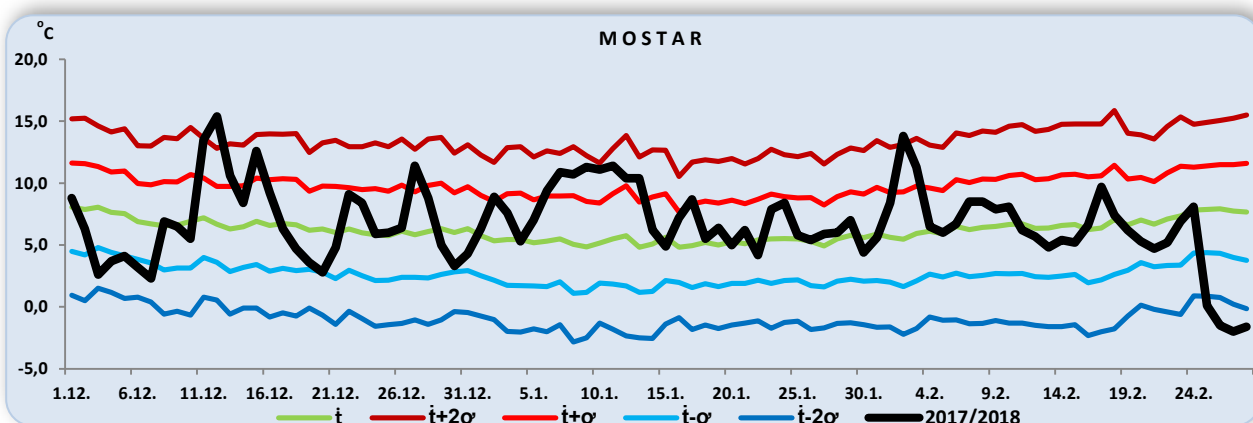
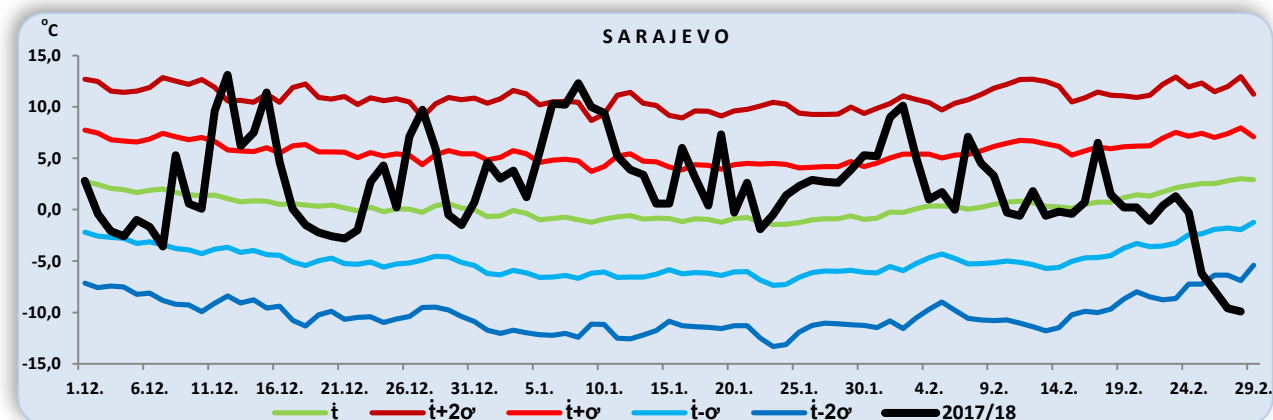
Table 2 Overview of marks mean temperature during the winter months by the method of percentiles



Map 1 Mean air temperature winter 2017/2018. year (°C)



Map 2 Air temperature during winter 2017/2018. using percentile method compared to the 1961-1990 base period



Graph 1-4 Mean daily air temperatures during winter 2017-2018. Year

Analysis of the monthly amount of precipitation expressed in % of average values shows that during the winter 2017 - 2018, deviations from normal precipitation amounts ranged from 82,6 % in Mostar, to 235,1 % on Ivan Sedlo. By percentage amounts of precipitation are classified into categories of normal, wet, very wet an extremely wet..

The measured amounts of precipitation were in the range of 220,5 mm in Gradacac to 577,1 mm in Bihac.

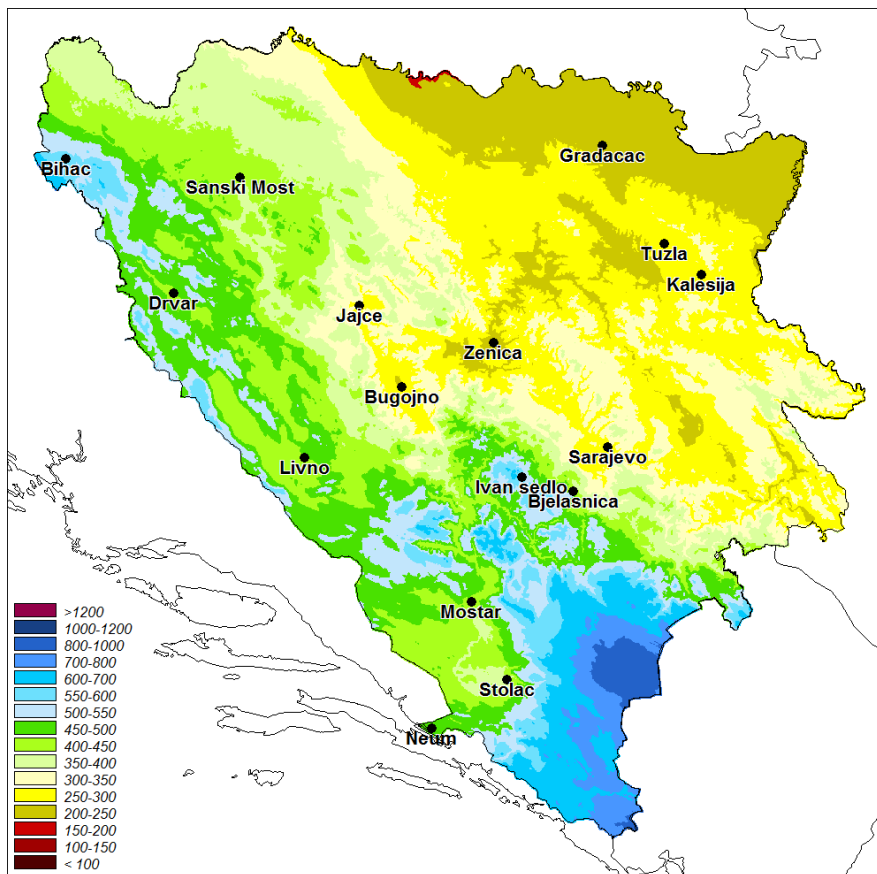
STATION	DEVIATION (%)				PERCENTILES
	DECEMBER	JANUARY	FEBRUARY	WINTER ¹	
Bihać	174,9	140,9	283,5	201,3	100
Bjelašnica	206,3	142,2	178,6	177,7	100
Bugojno	109,7	127,2	169,5	132,6	82
Gradačac	113,9	102,1	140,7	117,7	73
Ivan Sedlo	195,1	72,9	157,8	235,1	100
Jajce	122,9		170,1	135,0	84
Livno		142,8	148,6	139,0	82
Mostar	129,6	96,4	183,5	135,1	83
Sarajevo	102,7	52,7	90,8	82,6	25
Sanski Most	168,6	93,3	114,4	128,5	80
Stolac	156,9	117,3	311,4	188,2	99
Tuzla	187,1	117,4	167,2	140,5	91
Zenica	141,8	108,8	160,9	136,9	86

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

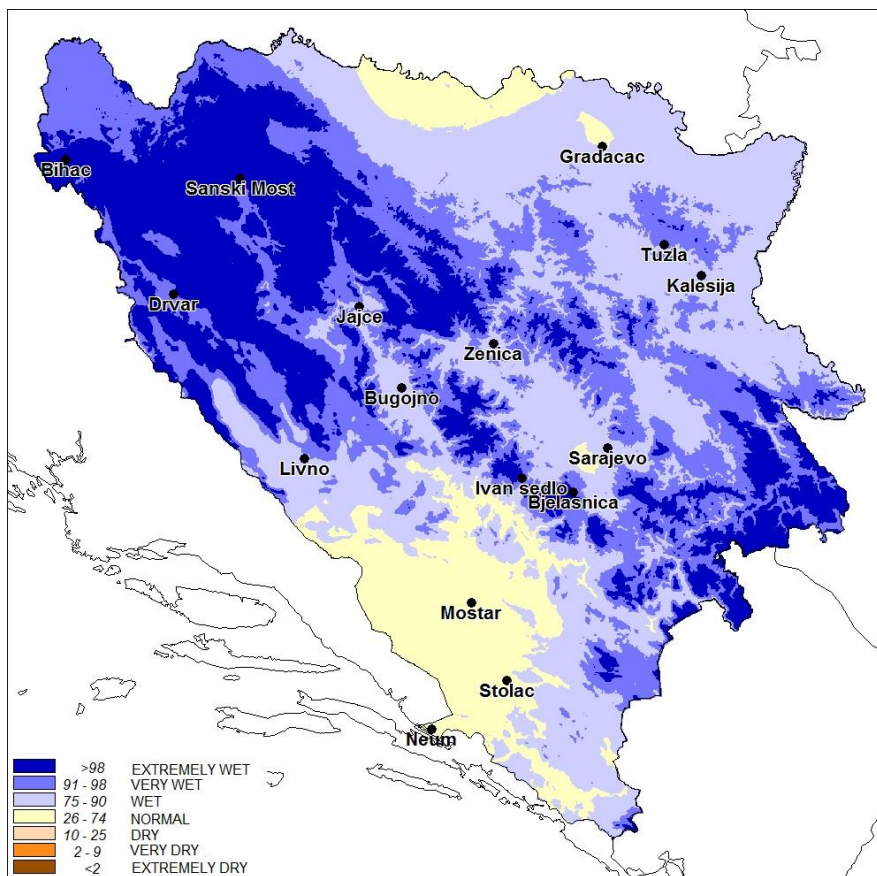
STATION	MOUNTH			STATION	MOUNTH		
	December	January	February		December	January	February
Bihać				Livno			
Bjelašnica				Mostar			
Bugojno				Sarajevo			
Drvar				Sanski Most			
Gradačac				Stolac			
Ivan Sedlo				Tuzla			
Jajce				Zenica			

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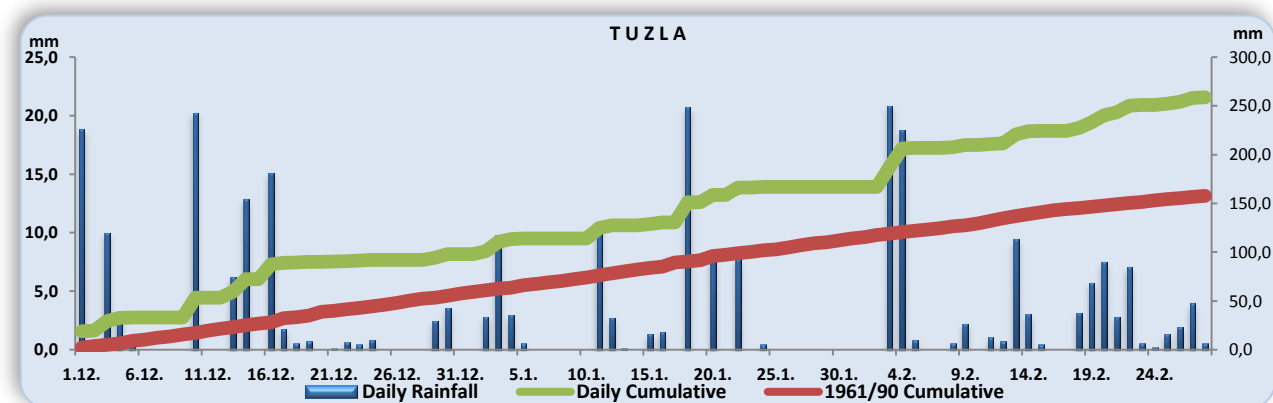
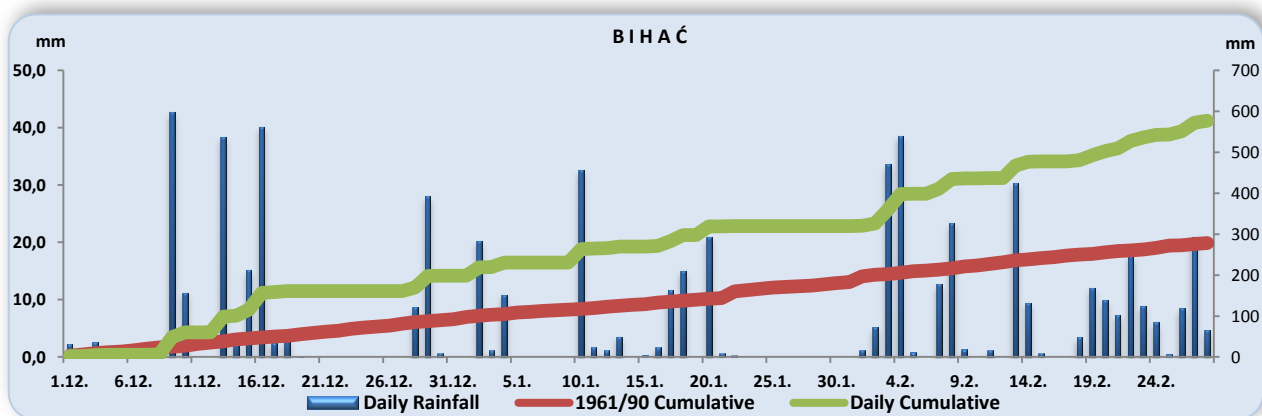
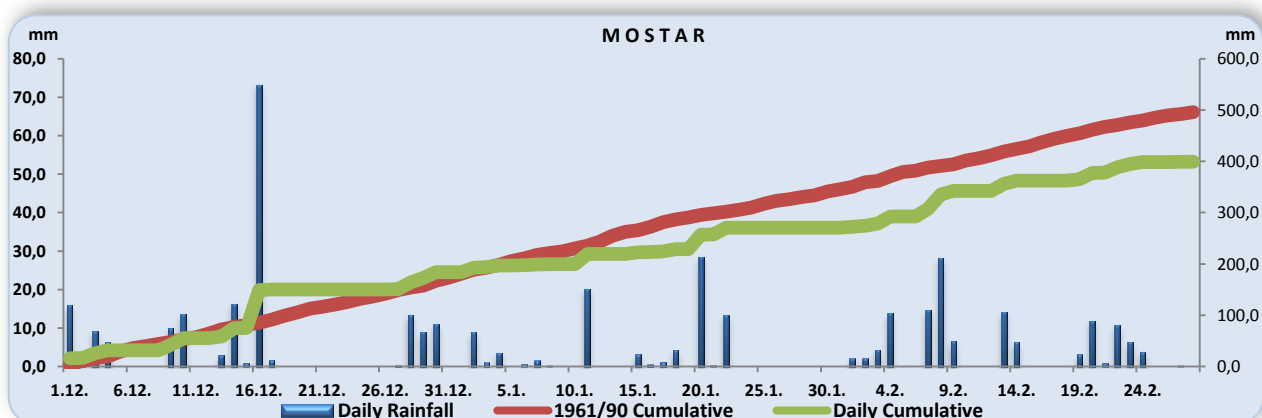
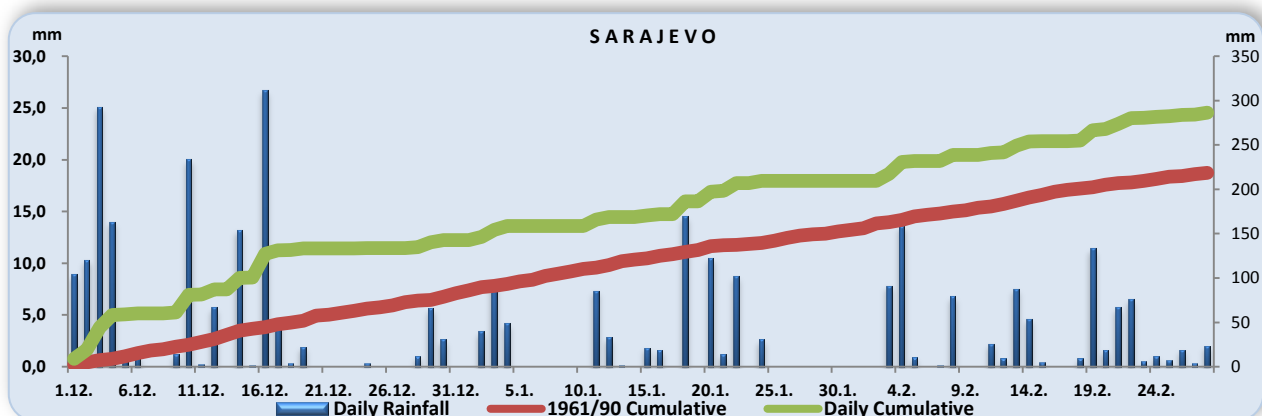
Table 6 Overview of marks on precipitation by month basis percentile



Map 3 Amount precipitation – winter 2017/2018. year (mm)



Map 4 Precipitation sums using percentile method during winter 2017/2018 compared to the base period (1961 – 1990)



Graph 5-8 daily and cumulative rainfall in the winter of 2017-2018 year.

Season		Air Temperature (°C)					Precipitation sums (mm)			
Station	Rank*	33	50	66	Observed value	Rank**	33	50	66	Observed Value
Sarajevo	5	1,4	0,9	0,2	2,3	6	237	201	182	286
Mostar	10	6,8	6,2	5,8	6,8	15	585	398	335	410
Bihać	9	2,9	2,0	1,4	3,2	1	368	290	268	577
Tuzla	3	1,9	1,1	0,6	2,7	2	193	171	156	259
Zenica	3	1,6	0,8	0,6	2,8	5	196	159	147	228
Bugojno	3	0,8	0,3	-0,3	1,9	6	205	162	149	247
Gradačac	5	2,8	1,9	1,1	3,8	7	200	169	142	220
Livno	7	1,4	0,5	0,3	1,8	6	354	283	240	425
San Most	6	2,0	1,3	0,8	2,7	1	268	217	185	405
Bjelašnica	16	-5,4	-6,1	-6,5	-6,1	6	344	253	241	431

*Rank – 1981-2010. (period) – warmest season

**Rank – 1981-2010. (period) – highest seasonal precipitation

Country	Seasonal temperature DJF		Seasonal precipitation DJF		High Impact Events
	Observed	SEECOF - 18 climate outlook for temperature	Observed	SEECOF - 18 climate outlook for precipitation	
Bosnia and Herzegovina (FBiH)	Above normal in almost entire Bosnia and Herzegovina (except in mountainous areas)	Above normal (20, 30, 50) in entire Bosnia and Herzegovina	Above normal in almost Bosnia and Herzegovina, (except in central Herzegovina)	No predictive signal (33, 34, 33) in entire Bosnia and Herzegovina	- December Wettest and warmest - January Extremely warm Warmest at 3rd Bihac to 14th Bjelasnica - February Very wet an extremely wet Wettest at Bihać 1st

¹ The actual amount of precipitation compared to the average sum

Photo: Una river (Bihac – February 2018.)

dzenan.zulum@fhmzbih.gov.ba

Analisis prepared: Dženan Zulum