



# NAUTIČKI GODIŠNJAK 2018.



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## **PREDGOVOR**

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Iz sadržaja izdvajamo: Astronomski znakovi i kratice (hrvatski, engleski), Imena mjeseci i dana u tjednu (hrvatski, engleski), Efemeride (Sunca, Mjeseca, Proljetne točke i planeta), Pravidna veličina planeta (dijagram), Izlasci i zalasci Sunca (dijagram), Prolaz kroz meridijan - Sunca, planeta i Proljetne točke (dijagram), Zvijezde svrstane po abecedi, po surektascen-ziji i po deklinaciji, Zvijezde do uključivo 3. veličine, Tablice za određivanje zemljopisne širine i azimuta pomoću Sjevernjače, Tablica za pretvaranje lučnih u vremenske vrijednosti, Popravci satnog kuta i deklinacije, Nautičke tablice PRZ, Tablice popravaka visina, Tablice popravaka srednje refrakcije za temperaturu i tlak.

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## ASTRONOMSKI ZNAKOVI I KRATICE

UT	Svjetsko vrijeme .....	Universal Time	UT
Ts	(Griničko srednje vrijeme) .....	(Greenwich Mean Time)	GMT
Tp	Griničko pravo vrijeme .....	Greenwich Apparent Time	GAT
Tz	Griničko zvjezdano vrijeme .....	Greenwich Sidereal Time	GST
Tm	Srednje vrijeme prolaza kroz gornji meridjan u Greenwichu .....	Transit on the Meridian of Greenwich	
ts	Mjesno srednje vrijeme .....	Local Mean Time	LMT
tp	Mjesno pravo vrijeme .....	Local Apparent Time	LAT
tz	Mjesno zvjezdano vrijeme .....	Local Sidereal Time	LST
tx	Zonsko vrijeme.....	Zone Time	ZT
e	Jednadžba vremena .....	Equation of Time (App. - Mean)	Eq. T
S	Grinički satni kut .....	Greenwich Hour Angle	GHA
s	Mjesni satni kut.....	Local Hour Angle, Meridian Angle	LHA
δ	Deklinacija .....	Declination	Dec.
α	Rektascenzija .....	Right Ascension	RA
(360-α)	Surektascenzija .....	Sidereal Hour Angle	SHA
Pl.	Planeti .....	Planets	PI.
r	Polumjer .....	Semidiameter	SD
π	Horizontska paralaksa .....	Horizontal Parallax	H.P.
φ	Geografska širina .....	Latitude	Lat.
λ	Geografska duljina .....	Longitude	Long.
Br.	Broj .....	Number	No.
Vel.	Veličina .....	Magnitude	Mag.
St.	Starost Mjeseca .....	Moon Age	
⊙	Sunce.....	The Sun	
☽	Mjesec.....	The Moon	
●	Mladi Mjesec .....	New Moon	
☽	Prva četvrt .....	First Quarter	
○	Puni Mjesec.....	Full Moon	
☾	Posljednja četvrt .....	Last Quarter	
γ	Proljetna točka .....	First point of Aries	
d	dan .....	Day	
h	sat .....	Hour	
min	minuta .....	Minute of time	
s	sekunda.....	Second of time	
o	stupanj luka .....	Degree of Arc	
,	minuta luka .....	Minute of Arc	
	Popravak satnog kuta .....	Increment of GHA	
	Popravci satnog kuta i deklinacije .....	Correction to GHA and Declination	
	Vrijeme prolaska zvijezda .....	Upper Transit of Stars at Greenwich	
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	Tablice za određivanje geografske širine		
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	Interpolacijske tablice .....	Interpolation Tables	
	Izlazak - Zalazak .....	Rise - Set	
	Trajanje sumraka .....	Twilight Duration	
	Gradičanski .....	Civil	
	Nautički.....	Nautical	

## **IMENA MJESECI I DANA U TJEDNU**

Siječanj .....	January
Veljača .....	February
Ožujak .....	March
Travanj .....	April
Svibanj .....	May
Lipanj .....	June
Srpanj .....	July
Kolovoz .....	August
Rujan .....	September
Listopad .....	October
Studeni .....	November
Prosinac .....	December
<hr/>	
Ponedjeljak .....	Monday
Utorak .....	Tuesday
Srijeda .....	Wednesday
Četvrtak .....	Thursday
Petak .....	Friday
Subota .....	Saturday
Nedjelja .....	Sunday

**EFEMERIDE**  
**(Sunca, Mjeseca, Proljetne točke i planeta)**

## Siječanj, 2018.

		π = 0.1		Venera		-3.9	0.1 Mars		1.5	Jupiter		-1.8	Saturn		0.5	Aries				Zvijezde							
		S	δ	°	'	,	S	δ	°	'	,	S	δ	°	'	,	S	°	'	,	Ime	360- α	δ	°	'	,	
1. siječanj 2018. ponedjeljak	UT	°	'	,			°	'	,			°	'	,			°	'	,								
	0	181	17.1	-23	37.9		238	36.7	-15	13.7		235	48.9	-15	53.1		189	5.5	-22	31.9	100	35.8	Acamar	315	15.8	-40	14.3
	1	196	16.2	-23	37.7		253	37.6	-15	14.2		250	51.0	-15	53.2		204	7.6	-22	31.9	115	38.2	Achernar	335	24.4	-57	9.2
	2	211	15.2	-23	37.6		268	38.5	-15	14.7		265	53.0	-15	53.3		219	9.8	-22	31.9	130	40.7	Acrux	173	5.7	-63	11.5
	3	226	14.2	-23	37.5		283	39.5	-15	15.1		280	55.1	-15	53.4		234	11.9	-22	31.9	145	43.2	Adhara	255	9.7	-28	60.0
	4	241	13.2	-23	37.4		298	40.4	-15	15.6		295	57.1	-15	53.5		249	14.1	-22	31.9	160	45.6	Aldebaran	290	45.5	16	32.5
	5	256	12.3	-23	37.3		313	41.3	-15	16.1		310	59.2	-15	53.6		264	16.2	-22	31.9	175	48.1					
	6	271	11.3	-23	37.2		328	42.2	-15	16.6		326	1.2	-15	53.7		279	18.4	-22	31.9	190	50.6	Alioth	166	18.1	55	51.5
	7	286	10.3	-23	37.1		343	43.2	-15	17.0		341	3.2	-15	53.9		294	20.5	-22	31.9	205	53.0	Alkaid	152	56.7	49	13.3
	8	301	9.4	-23	36.9		358	44.1	-15	17.5		356	5.3	-15	54.0		309	22.7	-22	31.9	220	55.5	Al Na'ir	27	40.2	-46	52.6
	9	316	8.4	-23	36.8		13	45.0	-15	18.0		11	7.3	-15	54.1		324	24.8	-22	31.9	235	58.0	Alnilam	275	42.9	-1	11.7
	10	331	7.4	-23	36.7		28	45.9	-15	18.5		26	9.4	-15	54.2		339	27.0	-22	31.9	251	0.4	Alphard	217	52.8	-8	44.3
	11	346	6.5	-23	36.6		43	46.9	-15	18.9		41	11.4	-15	54.3		354	29.1	-22	31.9	266	2.9					
	12	1	5.5	-23	36.5		58	47.8	-15	19.4		56	13.5	-15	54.4		9	31.3	-22	31.9	281	5.3	Alphecca	126	8.7	26	39.3
	13	16	4.5	-23	36.3		73	48.7	-15	19.9		71	15.5	-15	54.5		24	33.4	-22	31.9	296	7.8	Alpheratz	357	40.3	29	11.4
	14	31	3.6	-23	36.2		88	49.6	-15	20.4		86	17.6	-15	54.7		39	35.6	-22	31.9	311	10.3	Altair	62	5.6	8	55.1
	15	46	2.6	-23	36.1		103	50.6	-15	20.8		101	19.6	-15	54.8		54	37.7	-22	31.9	326	12.7	Ankaa	353	12.8	-42	12.9
	16	61	1.6	-23	36.0		118	51.5	-15	21.3		116	21.6	-15	54.9		69	39.8	-22	31.9	341	15.2	Antores	112	22.8	-26	28.0
	17	76	0.7	-23	35.8		133	52.4	-15	21.8		131	23.7	-15	55.0		84	42.0	-22	31.9	356	17.7					
	18	90	59.7	-23	35.7		148	53.3	-15	22.3		146	25.7	-15	55.1		99	44.1	-22	31.9	11	20.1	Arcturus	145	53.1	19	5.4
	19	105	58.7	-23	35.6		163	54.3	-15	22.7		161	27.8	-15	55.2		114	46.3	-22	31.9	26	22.6	Atria	107	22.4	-69	3.2
	20	120	57.8	-23	35.4		178	55.2	-15	23.2		176	29.8	-15	55.4		129	48.4	-22	31.9	41	25.1	Avior	234	16.1	-59	34.0
	21	135	56.8	-23	35.3		193	56.1	-15	23.7		191	31.9	-15	55.5		144	50.6	-22	31.9	56	27.5	Bellatrix	278	28.4	6	21.7
	22	150	55.8	-23	35.2		208	57.0	-15	24.2		206	33.9	-15	55.6		159	52.7	-22	31.8	71	30.0	Betelgeuse	270	57.6	7	24.4
	23	165	54.9	-23	35.0		223	58.0	-15	24.6		221	36.0	-15	55.7		174	54.9	-22	31.8	86	32.5					
2. siječanj 2018. utorak	0	180	53.9	-23	34.9		238	58.9	-15	25.1		236	38.0	-15	55.8		189	57.0	-22	31.8	101	34.9	Canopus	263	54.2	-52	42.5
	1	195	52.9	-23	34.7		253	59.8	-15	25.6		251	40.1	-15	55.9		204	59.2	-22	31.8	116	37.4	Capella	280	29.4	46	0.8
	2	210	52.0	-23	34.6		269	0.7	-15	26.0		266	42.1	-15	56.0		220	1.3	-22	31.8	131	39.8	Deneb	49	29.8	45	20.9
	3	225	51.0	-23	34.5		284	1.6	-15	26.5		281	44.1	-15	56.1		235	3.5	-22	31.8	146	42.3	Denebola	182	30.5	14	28.2
	4	240	50.0	-23	34.3		299	2.6	-15	27.0		296	46.2	-15	56.3		250	5.6	-22	31.8	161	44.8	Diphdo	348	52.8	-17	53.5
	5	255	49.1	-23	34.2		314	3.5	-15	27.5		311	48.2	-15	56.4		265	7.8	-22	31.8	176	47.2					
	6	270	48.1	-23	34.0		329	4.4	-15	27.9		326	50.3	-15	56.5		280	9.9	-22	31.8	191	49.7	Dubhe	193	47.8	61	39.0
	7	285	47.1	-23	33.9		344	5.3	-15	28.4		341	52.3	-15	56.6		295	12.1	-22	31.8	206	52.2	Elnath	278	8.4	28	37.2
	8	300	46.2	-23	33.7		359	6.3	-15	28.9		356	54.4	-15	56.7		310	14.2	-22	31.8	221	54.6	Eltanin	90	45.3	51	29.3
	9	315	45.2	-23	33.6		14	7.2	-15	29.3		11	56.4	-15	56.8		325	16.4	-22	31.8	236	57.1	Enif	33	44.3	9	57.5
	10	330	44.2	-23	33.4		29	8.1	-15	29.8		26	58.5	-15	56.9		340	18.5	-22	31.8	251	59.6	Fomalhaut	15	20.8	-29	31.8
	11	345	43.3	-23	33.3		44	9.0	-15	30.3		42	0.5	-15	57.1		355	20.7	-22	31.8	267	2.0					
	12	0	42.3	-23	33.1		59	10.0	-15	30.7		57	2.6	-15	57.2		10	22.8	-22	31.8	282	4.5	Gacrux	171	57.4	-57	12.5
	13	15	41.4	-23	33.0		74	10.9	-15	31.2		72	4.6	-15	57.3		25	24.9	-22	31.8	297	7.0	Gienah	175	49.1	-17	38.3
	14	30	40.4	-23	32.8		89	11.8	-15	31.7		87	6.7	-15	57.4		40	27.1	-22	31.8	312	9.4	Hadar	148	43.7	-60	27.1
	15	45	39.4	-23	32.7		104	12.7	-15	32.2		102	8.7	-15	57.5		55	29.2	-22	31.8	327	11.9	Hamal	327	57.1	23	32.8
	16	60	38.5	-23	32.5		119	13.6	-15	32.6		117	10.8	-15	57.6		70	31.4	-22	31.8	342	14.3	Kaus Aust.	83	40.2	-34	22.4
	17	75	37.5	-23	32.3		134	14.6	-15	33.1		132	12.8	-15	57.7		85	33.5	-22	31.8	357	16.8					
	18	90	36.5	-23	32.2		149	15.5	-15	33.6		147	14.9	-15	57.8		100	35.7	-22	31.8	12	19.3	Kochab	137	20.9	74	4.8
	19	105	35.6	-23	32.0		164	16.4	-15	34.0		162	16.9	-15	58.0		115	37.8	-22	31.8	27	21.7	Markab	13	35.4	15	18.2
	20	120	34.6	-23	31.9		179	17.3	-15	34.5		177	19.0	-15	58.1		130	40.0	-22	31.8	42	24.2	Menkar	314	11.6	4	9.4
	21	135	33.6	-23	31.7		194	18.2	-15	35.0		192	21.0	-15	58.2		145	42.1	-22	31.8	57	26.7	Menkent	148	4.1	-36	27.2
	22	150	32.7	-23	31.5		209	19.2	-15	35.4		207	23.1	-15	58.3		160	44.3	-22	31.8	72						

# Siječanj, 2018.

		Suncem				Mjesec				φ	Svitanje			Izlazak	Mjesečev izlazak																	
	UT	S	δ	S	v	δ	d	π	Naut.	Grad.	Izlazak	1	2	3	4	h	m															
01	0	179	10.1	-23	1.1	16	5.7	3.2	19	19.2	3.6	61.4	N	60	7	9	8	5	9	1	15	0	16	6	17	26	18	54				
sij	1	194	9.8	-23	0.9	30	27.9	3.2	19	22.8	3.4	61.4		58	7	2	7	54	8	45	15	14	16	20	17	38	19	3				
	2	209	9.5	-23	0.7	44	50.1	3.1	19	26.2	3.3	61.4		56	6	55	7	44	8	31	15	26	16	32	17	49	19	11				
	3	224	9.2	-23	0.5	59	12.2	3.1	19	29.5	3.1	61.4		54	6	50	7	35	8	18	15	37	16	43	17	58	19	18				
	4	239	8.9	-23	0.3	73	34.3	3.1	19	32.6	3.0	61.4		52	6	44	7	28	8	8	15	46	16	52	18	6	19	25				
	5	254	8.6	-23	0.1	87	56.4	3.0	19	35.6	2.8	61.4		50	6	39	7	20	7	58	15	55	17	0	18	14	19	31				
	6	269	8.3	-22	59.9	102	18.4	3.0	19	38.4	2.7	61.4		48	6	34	7	14	7	50	16	2	17	8	18	20	19	36				
	7	284	8.0	-22	59.7	116	40.4	2.9	19	41.1	2.5	61.4	N	46	6	30	7	8	7	42	16	9	17	15	18	27	19	41				
	8	299	7.7	-22	59.5	131	2.3	2.9	19	43.6	2.4	61.4		44	6	26	7	2	7	34	16	16	17	21	18	32	19	45				
	9	314	7.4	-22	59.3	145	24.3	2.9	19	46.0	2.2	61.4		42	6	22	6	57	7	28	16	22	17	27	18	38	19	50				
	10	329	7.1	-22	59.1	159	46.1	2.9	19	48.3	2.1	61.5		40	6	18	6	52	7	22	16	27	17	33	18	42	19	54				
	11	344	6.8	-22	58.9	174	8.0	2.8	19	50.3	1.9	61.5		35	6	9	6	40	7	8	16	40	17	45	18	53	20	2				
	12	359	6.5	-22	58.7	188	29.8	2.8	19	52.3	1.8	61.5		30	6	0	6	30	6	56	16	51	17	56	19	3	20	10				
	13	14	6.2	-22	58.5	202	51.6	2.8	19	54.0	1.6	61.5	N	25	5	52	6	20	6	45	17	1	18	5	19	12	20	17				
	14	29	5.9	-22	58.3	217	13.4	2.8	19	55.7	1.5	61.5		20	5	44	6	11	6	35	17	10	18	14	19	19	20	23				
	15	44	5.6	-22	58.0	231	35.2	2.7	19	57.1	1.3	61.5		15	5	36	6	3	6	26	17	18	18	22	19	27	20	29				
	16	59	5.4	-22	57.8	245	56.9	2.7	19	58.5	1.2	61.5		10	5	28	5	54	6	17	17	26	18	30	19	34	20	35				
	17	74	5.1	-22	57.6	260	18.6	2.7	19	59.6	1.0	61.5		5	5	20	5	46	6	8	17	34	18	38	19	41	20	40				
	18	89	4.8	-22	57.4	274	40.3	2.7	20	0.6	0.8	61.5		0	5	12	5	38	5	60	17	41	18	45	19	47	20	46				
	19	104	4.5	-22	57.2	289	2.0	2.7	20	1.5	0.7	61.5	S	-10	4	53	5	20	5	43	17	41	18	45	19	47	20	46				
	20	119	4.2	-22	57.0	303	23.7	2.7	20	2.2	0.5	61.5		-20	4	31	4	60	5	24	17	57	19	0	20	1	20	57				
	21	134	3.9	-22	56.8	317	45.4	2.7	20	2.7	0.4	61.5		-30	4	2	4	36	5	3	18	32	19	35	20	31	21	21				
	22	149	3.6	-22	56.5	332	7.1	2.7	20	3.1	0.2	61.5		-35	3	44	4	21	4	50	18	43	19	45	20	41	21	29				
	23	164	3.3	-22	56.3	346	28.8	2.7	20	3.3	0.1	61.5		-40	3	22	4	3	4	35	18	56	19	58	20	52	21	38				
02	0	179	3.0	-22	56.1	0	50.4	2.7	20	3.4	-0.1	61.5		-45	2	52	3	41	4	18	19	11	20	12	21	4	21	48				
sij	1	194	2.7	-22	55.9	15	12.1	2.7	20	3.3	-0.2	61.5		S	-50	2	9	3	12	3	56	19	29	20	30	21	20	22	0			
	2	209	2.4	-22	55.7	29	33.8	2.7	20	3.1	-0.4	61.5			-52	1	43	2	58	3	45	19	38	20	38	21	27	22	5			
	3	224	2.1	-22	55.4	43	55.5	2.7	20	2.7	-0.5	61.5			-54	1	3	2	40	3	33	19	48	20	48	21	35	22	12			
	4	239	1.9	-22	55.2	58	17.2	2.7	20	2.1	-0.7	61.5			-56	Ne		2	19	3	19	19	59	20	58	21	44	22	18			
	5	254	1.6	-22	55.0	72	38.9	2.7	20	1.4	-0.9	61.5			-58	Ne		1	52	3	3	20	11	21	10	21	21	54	22	26		
	6	269	1.3	-22	54.8	87	0.6	2.7	20	0.6	-1.0	61.5			S	-60	Ne	1	9	2	44	20	26	21	24	22	5	22	35			
	7	284	1.0	-22	54.5	101	22.3	2.7	19	59.5	-1.2	61.5																				
	8	299	0.7	-22	54.3	115	44.1	2.8	19	58.4	-1.3	61.5				φ	Zalazak															
	9	314	0.4	-22	54.1	130	5.9	2.8	19	57.0	-1.5	61.5																				
	10	329	0.1	-22	53.9	144	27.6	2.8	19	55.6	-1.6	61.5				N	60	15	6	16	2	16	58	7	47	8	53	9	43	10	18	
	11	343	59.8	-22	53.6	158	49.5	2.8	19	53.9	-1.8	61.4					58	15	23	16	13	17	6	7	33	8	39	9	30	10	8	
	12	358	59.5	-22	53.4	173	11.3	2.9	19	52.2	-1.9	61.4					56	15	37	16	23	17	12	7	21	8	27	9	19	10	0	
	13	13	59.2	-22	53.2	187	33.2	2.9	19	50.2	-2.1	61.4					54	15	49	16	32	17	18	7	10	8	16	9	10	9	52	
	14	28	59.0	-22	52.9	201	55.1	2.9	19	48.1	-2.2	61.4					52	15	60	16	40	17	24	7	1	8	7	9	1	9	45	
	15	43	58.7	-22	52.7	216	17.0	3.0	19	45.9	-2.4	61.4					50	16	9	16	47	17	29	6	53	7	58	8	54	9	39	
	16	58	58.4	-22	52.5	230	38.9	3.0	19	43.5	-2.5	61.4					48	16	18	16	54	17	33	6	45	7	51	8	47	9	33	
	17	73	58.1	-22	52.2	245	0.9	3.0	19	41.0	-2.7	61.4					N	46	16	26	17	0	17	38	6	38	7	44	8	40	9	27
	18	88	57.8	-22	52.0	259	23.0	3.1	19	38.3	-2.8	61.4					44	16	33	17	6	17	42	6	32	7	37	8	34	9	22	
	19	103	57.5	-22	51.8	273	45.1	3.1	19	35.4	-3.0	61.4					42	16	40	17	11	17	46	6	26	7	31	8	29	9	18	
	20	118	57.2	-22	51.5	288	7.2	3.2	19	32.4	-3.1	61.3					40	16	46	17	16	17	50	6	20	7	26	8	24	9	14	
	21	133	56.9	-22	51.3	302	29.3	3.2	19	29.3	-3.3	61.3					35	16	60	17	27	17	59	6	8	7	13	8	12	9	4	
	22	148	56.6	-22	51.1	316	51.5	3.3	19	26.0	-3.4	61.3					30	17	12	17	38	18	8	5	57	7	2	8	2	8	55	
	23	163	56.4	-22	50.8	331	13.8	3.3	19	22.6	-3.6	61.3					N	25	17	23	17	47	18	16	5	48	6	52	7	53	8	48
03	0	178	56.1	-22	50.6	345	36.1	3.4	19	19.0	-3.7	61.3					20	17	32	17	56	18	24	5	39	6	43	7	45	8	41	
sij	1	193	55.8	-22	50.4	35																										

## Siječanj, 2018.

Zvijezde											
Aries											
Saturn											
$\pi = 0.1$	Venera	-3.9	0.1	Mars	1.5	Jupiter	-1.8	Saturn	0.5	Aries	
UT	S °	δ '	S °	δ '	S °	δ '	S °	δ '	S °	Ime	360- °
<b>4. siječanj 2018.</b>											
0	180	7.7	-23	26.8	239	43.1	-15	47.5	238	16.4	-16
1	195	6.7	-23	26.6	254	44.0	-15	48.0	253	18.5	-16
2	210	5.8	-23	26.4	269	44.9	-15	48.5	268	20.5	-16
3	225	4.8	-23	26.2	284	45.8	-15	48.9	283	22.6	-16
4	240	3.9	-23	25.9	299	46.8	-15	49.4	298	24.6	-16
5	255	2.9	-23	25.7	314	47.7	-15	49.8	313	26.7	-16
6	270	2.0	-23	25.5	329	48.6	-15	50.3	328	28.7	-16
7	285	1.0	-23	25.3	344	49.5	-15	50.8	343	30.8	-16
8	300	0.0	-23	25.1	359	50.4	-15	51.2	358	32.8	-16
9	314	59.1	-23	24.9	14	51.3	-15	51.7	13	34.9	-16
10	329	58.1	-23	24.7	29	52.3	-15	52.1	28	37.0	-16
11	344	57.2	-23	24.5	44	53.2	-15	52.6	43	39.0	-16
12	359	56.2	-23	24.3	59	54.1	-15	53.1	58	41.1	-16
13	14	55.3	-23	24.1	74	55.0	-15	53.5	73	43.1	-16
14	29	54.3	-23	23.8	89	55.9	-15	54.0	88	45.2	-16
15	44	53.3	-23	23.6	104	56.9	-15	54.4	103	47.2	-16
16	59	52.4	-23	23.4	119	57.8	-15	54.9	118	49.3	-16
17	74	51.4	-23	23.2	134	58.7	-15	55.4	133	51.3	-16
18	89	50.5	-23	23.0	149	59.6	-15	55.8	148	53.4	-16
19	104	49.5	-23	22.7	165	0.5	-15	56.3	163	55.5	-16
20	119	48.6	-23	22.5	180	1.4	-15	56.7	178	57.5	-16
21	134	47.6	-23	22.3	195	2.4	-15	57.2	193	59.6	-16
22	149	46.7	-23	22.1	210	3.3	-15	57.7	209	1.6	-16
23	164	45.7	-23	21.8	225	4.2	-15	58.1	224	3.7	-16
<b>četvrtak</b>											
<b>5. siječanj 2018.</b>											
0	179	44.7	-23	21.6	240	5.1	-15	58.6	239	5.7	-16
1	194	43.8	-23	21.4	255	6.0	-15	59.0	254	7.8	-16
2	209	42.8	-23	21.1	270	6.9	-15	59.5	269	9.9	-16
3	224	41.9	-23	20.9	285	7.9	-15	60.0	284	11.9	-16
4	239	40.9	-23	20.7	300	8.8	-16	0.4	299	14.0	-16
5	254	40.0	-23	20.4	315	9.7	-16	0.9	314	16.0	-16
6	269	39.0	-23	20.2	330	10.6	-16	1.3	329	18.1	-16
7	284	38.1	-23	20.0	345	11.5	-16	1.8	344	20.2	-16
8	299	37.1	-23	19.7	0	12.4	-16	2.2	359	22.2	-16
9	314	36.2	-23	19.5	15	13.3	-16	2.7	14	24.3	-16
10	329	35.2	-23	19.2	30	14.3	-16	3.2	29	26.3	-16
11	344	34.3	-23	19.0	45	15.2	-16	3.6	44	28.4	-16
12	359	33.3	-23	18.8	60	16.1	-16	4.1	59	30.5	-16
13	14	32.4	-23	18.5	75	17.0	-16	4.5	74	32.5	-16
14	29	31.4	-23	18.3	90	17.9	-16	5.0	89	34.6	-16
15	44	30.5	-23	18.0	105	18.8	-16	5.4	104	36.6	-16
16	59	29.5	-23	17.8	120	19.8	-16	5.9	119	38.7	-16
17	74	28.6	-23	17.5	135	20.7	-16	6.3	134	40.8	-16
18	89	27.6	-23	17.3	150	21.6	-16	6.8	149	42.8	-16
19	104	26.7	-23	17.0	165	22.5	-16	7.3	164	44.9	-16
20	119	25.7	-23	16.8	180	23.4	-16	7.7	179	46.9	-16
21	134	24.8	-23	16.5	195	24.3	-16	8.2	194	49.0	-16
22	149	23.8	-23	16.2	210	25.2	-16	8.6	209	51.1	-16
23	164	22.9	-23	16.0	225	26.2	-16	9.1	224	53.1	-16
<b>petak</b>											
<b>6. siječanj 2018.</b>											
0	179	21.9	-23	15.7	240	27.1	-16	9.5	239	55.2	-16
1	194	21.0	-23	15.5	255	28.0	-16	10.0	254	57.3	-16
2	209	20.0	-23	15.2	270	28.9	-16	10.4	269	59.3	-16
3	224	19.1	-23	14.9	285	29.8	-16	10.9	285	1.4	-16
4	239	18.1	-23	14.7	300	30.7	-16	11.3	300	3.4	-16
5	254	17.2	-23	14.4	315	31.6	-16	11.8	315	5.5	-16
6	269	16.2	-23	14.1	330	32.6	-16	12.2	330	7.6	-16
7	284	15.3	-23	13.9	345	33.5	-16	12.7	345	9.6	-16
8	299	14.3	-23	13.6	0	34.4	-16	13.1	0	11.7	-16
9	314	13.4	-23	13.3	15	35.3	-16	13.6	15	13.8	-16
10	329	12.4	-23	13.1	30	36.2	-16	14.1	30	15.8	-16
11	344	11.5	-23	12.8	45	37.1	-16	14.5	45	17.9	-16
12	359	10.5	-23	12.5	60	38.0	-16	15.0	60	19.9	-16
13	14	9.6	-23	12.2	75	38.9	-16	15.4	75	22.0	-16
14	29	8.7	-23	12.0	90	39.9	-16	15.9	90	24.1	-16
15	44	7.7	-23	11.7	105	40.8	-16	16.3	105	26.1	-16
16	59	6.8	-23	11.4	120	41.7	-16	16.8	120	28.2	-16
17	74	5.8	-23	11.1	135	42.6	-16	17.2	135	30.3	-16
18	89	4.9	-23	10.8	150	43.5	-16	17.7	150	32.3	-16
19	104	3.9	-23	10.6	165	44.4	-16	18.1	165	34.4	-16
20	119	3.0	-23	10.3	180	45.3	-16	18.6	180	36.5	-16
21	134	2.0	-23	10.0	195	46.2	-16	19.0	195	38.5	-16
22	149	1.1	-23	9.7	210	47.2	-16	19.5	210	40.6	-16
23	164	0.2	-23	9.4	225	48.1	-16	19.9	225	42.7	-16
<b>subota</b>											
	v	-0.9	d	-0.3	v	0.9	d	0.5	v	2.1	d