

Correction de minutes

Calcul pour la Latitude $45,4^\circ$ et longitude $-74,03$ UTC-5 pour le 01-01

Correction de minutes pour la latitude

Nous calculerons la proportion réelle de notre latitude entre 45° et 50° . Puisque ces latitudes sont distantes de 5° , et que ma latitude est de $0,4^\circ (45,4^\circ - 40^\circ)$ de 40° vers 45° , la proportion réelle est :

$$0,4^\circ / 5^\circ = 0,08$$

La différence entre le 45° et 50° : $7:58:31 - 7:38:17 = +20 \text{ m } 14\text{s} = 20,23$ ($14/60 = 0.23$)

On additionne si le résultat est positif, on soustrait si le résultat est négatif.

Nous multiplions 0,08 par 20.23:

$$0,08 \times 20,57\text{m} = 1,62 \text{ m} = 1\text{m } 37\text{s} \quad (0.65 * 62 = 37,2)$$

Puis on additionne le résultat de l'heure à 45° pour le 01-01, soit 7:38:17 :

$$7:38:17 + 1\text{m } 37\text{s} = \mathbf{07:39:55 \text{ (correction pour la latitude)}}$$

Correction de minutes pour la longitude

74,03 pour notre exemple, $74^\circ 2'$ ($0.03 \times 60 = 1,8$)

Avec le tableau Conversion of Arc to Time (appelé Conversion d'arc en temps) qui vous permet de rechercher l'heure à partir de cette longitude :

$$74^\circ 2' = 4\text{h } 56 \text{ m}, 2 \text{ minutes} = 8\text{s}$$

Ajoutez 4h 56 m 8s à **07:39:55 (correction pour la latitude)**

$$07:39:55 + 4:56:08 = 12:36:03$$

On a addition ou on soustrait notre UTC (-5 dans notre exemple)

$$12:36:03 - 5 = \mathbf{07:36:03 = \text{l'heure corrigée}}$$

Conversion of Arc to Time

0° - 59°			60° - 119°			120° - 179°			180° - 239°			240° - 299°			300° - 360°			0' - 59'			0" - 59"	
°	h	m	°	h	m	°	h	m	°	h	m	°	h	m	°	h	m	'	m	s	"	s
0	0	00	60	4	00	120	8	00	180	12	00	240	16	00	300	20	00	0	0	00	0	0.00
1	0	04	61	4	04	121	8	04	181	12	04	241	16	04	301	20	04	1	0	04	1	0.07
2	0	08	62	4	08	122	8	08	182	12	08	242	16	08	302	20	08	2	0	08	2	0.13
3	0	12	63	4	12	123	8	12	183	12	12	243	16	12	303	20	12	3	0	12	3	0.20
4	0	16	64	4	16	124	8	16	184	12	16	244	16	16	304	20	16	4	0	16	4	0.27
5	0	20	65	4	20	125	8	20	185	12	20	245	16	20	305	20	20	5	0	20	5	0.33
6	0	24	66	4	24	126	8	24	186	12	24	246	16	24	306	20	24	6	0	24	6	0.40
7	0	28	67	4	28	127	8	28	187	12	28	247	16	28	307	20	28	7	0	28	7	0.47
8	0	32	68	4	32	128	8	32	188	12	32	248	16	32	308	20	32	8	0	32	8	0.53
9	0	36	69	4	36	129	8	36	189	12	36	249	16	36	309	20	36	9	0	36	9	0.60
10	0	40	70	4	40	130	8	40	190	12	40	250	16	40	310	20	40	10	0	40	10	0.67
11	0	44	71	4	44	131	8	44	191	12	44	251	16	44	311	20	44	11	0	44	11	0.73
12	0	48	72	4	48	132	8	48	192	12	48	252	16	48	312	20	48	12	0	48	12	0.80
13	0	52	73	4	52	133	8	52	193	12	52	253	16	52	313	20	52	13	0	52	13	0.87
14	0	56	74	4	56	134	8	56	194	12	56	254	16	56	314	20	56	14	0	56	14	0.93
15	1	00	75	5	00	135	9	00	195	13	00	255	17	00	315	21	00	15	1	00	15	1.00
16	1	04	76	5	04	136	9	04	196	13	04	256	17	04	316	21	04	16	1	04	16	1.07
17	1	08	77	5	08	137	9	08	197	13	08	257	17	08	317	21	08	17	1	08	17	1.13
18	1	12	78	5	12	138	9	12	198	13	12	258	17	12	318	21	12	18	1	12	18	1.20
19	1	16	79	5	16	139	9	16	199	13	16	259	17	16	319	21	16	19	1	16	19	1.27
20	1	20	80	5	20	140	9	20	200	13	20	260	17	20	320	21	20	20	1	20	20	1.33
21	1	24	81	5	24	141	9	24	201	13	24	261	17	24	321	21	24	21	1	24	21	1.40
22	1	28	82	5	28	142	9	28	202	13	28	262	17	28	322	21	28	22	1	28	22	1.47
23	1	32	83	5	32	143	9	32	203	13	32	263	17	32	323	21	32	23	1	32	23	1.53
24	1	36	84	5	36	144	9	36	204	13	36	264	17	36	324	21	36	24	1	36	24	1.60
25	1	40	85	5	40	145	9	40	205	13	40	265	17	40	325	21	40	25	1	40	25	1.67
26	1	44	86	5	44	146	9	44	206	13	44	266	17	44	326	21	44	26	1	44	26	1.73
27	1	48	87	5	48	147	9	48	207	13	48	267	17	48	327	21	48	27	1	48	27	1.80
28	1	52	88	5	52	148	9	52	208	13	52	268	17	52	328	21	52	28	1	52	28	1.87
29	1	56	89	5	56	149	9	56	209	13	56	269	17	56	329	21	56	29	1	56	29	1.93
30	2	00	90	6	00	150	10	00	210	14	00	270	18	00	330	22	00	30	2	00	30	2.00
31	2	04	91	6	04	151	10	04	211	14	04	271	18	04	331	22	04	31	2	04	31	2.07
32	2	08	92	6	08	152	10	08	212	14	08	272	18	08	332	22	08	32	2	08	32	2.13
33	2	12	93	6	12	153	10	12	213	14	12	273	18	12	333	22	12	33	2	12	33	2.20
34	2	16	94	6	16	154	10	16	214	14	16	274	18	16	334	22	16	34	2	16	34	2.27
35	2	20	95	6	20	155	10	20	215	14	20	275	18	20	335	22	20	35	2	20	35	2.33
36	2	24	96	6	24	156	10	24	216	14	24	276	18	24	336	22	24	36	2	24	36	2.40
37	2	28	97	6	28	157	10	28	217	14	28	277	18	28	337	22	28	37	2	28	37	2.47
38	2	32	98	6	32	158	10	32	218	14	32	278	18	32	338	22	32	38	2	32	38	2.53
39	2	36	99	6	36	159	10	36	219	14	36	279	18	36	339	22	36	39	2	36	39	2.60
40	2	40	100	6	40	160	10	40	220	14	40	280	18	40	340	22	40	40	2	40	40	2.67
41	2	44	101	6	44	161	10	44	221	14	44	281	18	44	341	22	44	41	2	44	41	2.73
42	2	48	102	6	48	162	10	48	222	14	48	282	18	48	342	22	48	42	2	48	42	2.80
43	2	52	103	6	52	163	10	52	223	14	52	283	18	52	343	22	52	43	2	52	43	2.87
44	2	56	104	6	56	164	10	56	224	14	56	284	18	56	344	22	56	44	2	56	44	2.93
45	3	00	105	7	00	165	11	00	225	15	00	285	19	00	345	23	00	45	3	00	45	3.00
46	3	04	106	7	04	166	11	04	226	15	04	286	19	04	346	23	04	46	3	04	46	3.07
47	3	08	107	7	08	167	11	08	227	15	08	287	19	08	347	23	08	47	3	08	47	3.13
48	3	12	108	7	12	168	11	12	228	15	12	288	19	12	348	23	12	48	3	12	48	3.20
49	3	16	109	7	16	169	11	16	229	15	16	289	19	16	349	23	16	49	3	16	49	3.27
50	3	20	110	7	20	170	11	20	230	15	20	290	19	20	350	23	20	50	3	20	50	3.33
51	3	24	111	7	24	171	11	24	231	15	24	291	19	24	351	23	24	51	3	24	51	3.40
52	3	28	112	7	28	172	11	28	232	15	28	292	19	28	352	23	28	52	3	28	52	3.47
53	3	32	113	7	32	173	11	32	233	15	32	293	19	32	353	23	32	53	3	32	53	3.53
54	3	36	114	7	36	174	11	36	234	15	36	294	19	36	354	23	36	54	3	36	54	3.60
55	3	40	115	7	40	175	11	40	235	15	40	295	19	40	355	23	40	55	3	40	55	3.67
56	3	44	116	7	44	176	11	44	236	15	44	296	19	44	356	23	44	56	3	44	56	3.73
57	3	48	117	7	48	177	11	48	237	15	48	297	19	48	357	23	48	57	3	48	57	3.80
58	3	52	118	7	52	178	11	52	238	15	52	298	19	52	358	23	52	58	3	52	58	3.87
59	3	56	119	7	56	179	11	56	239	15	56	299	19	56	359	23	56	59	3	56	59	3.93
60	4	00	120	8	00	180	12	00	240	16	00	300	20	00	360	24	00	60	4	00	60	4.00

h= hours of time m= minutes of time s = seconds of time ' = minutes of arc " = seconds of arc

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-01-23	5:59:50	18:07:04	5:42:35	18:24:18	5:24:00	18:42:54	5:02:23	19:04:31	4:49:39	19:17:15	4:34:55	19:31:59	4:17:18	19:49:36	3:55:19	20:11:35
02-01-23	6:00:18	18:07:32	5:43:08	18:24:42	5:24:37	18:43:13	5:03:06	19:04:44	4:50:25	19:17:25	4:35:45	19:32:05	4:18:13	19:49:36	3:56:21	20:11:28
03-01-23	6:00:46	18:08:00	5:43:41	18:25:05	5:25:15	18:43:31	5:03:50	19:04:56	4:51:12	19:17:33	4:36:37	19:32:08	4:19:11	19:49:34	3:57:27	20:11:19
04-01-23	6:01:13	18:08:27	5:44:13	18:25:27	5:25:53	18:43:47	5:04:34	19:05:06	4:52:01	19:17:39	4:37:30	19:32:10	4:20:10	19:49:30	3:58:34	20:11:06
05-01-23	6:01:40	18:08:54	5:44:46	18:25:48	5:26:31	18:44:03	5:05:20	19:05:14	4:52:51	19:17:43	4:38:25	19:32:09	4:21:12	19:49:22	3:59:45	20:10:49
06-01-23	6:02:07	18:09:20	5:45:18	18:26:09	5:27:10	18:44:17	5:06:06	19:05:21	4:53:42	19:17:45	4:39:22	19:32:05	4:22:15	19:49:12	4:00:57	20:10:30
07-01-23	6:02:33	18:09:46	5:45:51	18:26:29	5:27:49	18:44:30	5:06:53	19:05:26	4:54:34	19:17:45	4:40:20	19:32:00	4:23:20	19:48:59	4:02:12	20:10:07
08-01-23	6:02:59	18:10:11	5:46:23	18:26:47	5:28:29	18:44:42	5:07:41	19:05:29	4:55:27	19:17:44	4:41:19	19:31:52	4:24:27	19:48:44	4:03:29	20:09:41
09-01-23	6:03:25	18:10:36	5:46:55	18:27:05	5:29:08	18:44:52	5:08:30	19:05:31	4:56:21	19:17:40	4:42:19	19:31:42	4:25:35	19:48:25	4:04:48	20:09:12
10-01-23	6:03:49	18:11:00	5:47:27	18:27:23	5:29:48	18:45:02	5:09:19	19:05:31	4:57:15	19:17:34	4:43:20	19:31:29	4:26:45	19:48:05	4:06:10	20:08:40
11-01-23	6:04:14	18:11:24	5:47:59	18:27:39	5:30:28	18:45:10	5:10:09	19:05:29	4:58:11	19:17:27	4:44:23	19:31:15	4:27:57	19:47:41	4:07:33	20:08:05
12-01-23	6:04:37	18:11:47	5:48:31	18:27:54	5:31:08	18:45:17	5:10:59	19:05:26	4:59:07	19:17:17	4:45:27	19:30:58	4:29:09	19:47:15	4:08:58	20:07:27
13-01-23	6:05:00	18:12:10	5:49:02	18:28:09	5:31:48	18:45:22	5:11:49	19:05:21	5:00:04	19:17:06	4:46:31	19:30:39	4:30:24	19:46:47	4:10:24	20:06:46
14-01-23	6:05:23	18:12:32	5:49:33	18:28:22	5:32:29	18:45:26	5:12:41	19:05:14	5:01:02	19:16:53	4:47:37	19:30:18	4:31:39	19:46:16	4:11:53	20:06:02
15-01-23	6:05:45	18:12:53	5:50:04	18:28:35	5:33:09	18:45:29	5:13:32	19:05:06	5:02:01	19:16:37	4:48:44	19:29:55	4:32:56	19:45:42	4:13:23	20:05:15
16-01-23	6:06:06	18:13:14	5:50:34	18:28:46	5:33:49	18:45:31	5:14:24	19:04:56	5:03:00	19:16:20	4:49:51	19:29:29	4:34:14	19:45:06	4:14:55	20:04:25
17-01-23	6:06:26	18:13:34	5:51:04	18:28:57	5:34:29	18:45:31	5:15:16	19:04:44	5:03:59	19:16:01	4:50:59	19:29:01	4:35:32	19:44:28	4:16:28	20:03:33
18-01-23	6:06:46	18:13:53	5:51:33	18:29:06	5:35:09	18:45:30	5:16:09	19:04:31	5:04:59	19:15:40	4:52:08	19:28:31	4:36:52	19:43:47	4:18:02	20:02:37
19-01-23	6:07:05	18:14:12	5:52:03	18:29:15	5:35:49	18:45:28	5:17:02	19:04:15	5:06:00	19:15:17	4:53:18	19:27:59	4:38:13	19:43:04	4:19:38	20:01:39
20-01-23	6:07:24	18:14:30	5:52:31	18:29:22	5:36:29	18:45:24	5:17:55	19:03:59	5:07:01	19:14:53	4:54:28	19:27:25	4:39:35	19:42:18	4:21:15	20:00:39
21-01-23	6:07:41	18:14:47	5:52:59	18:29:29	5:37:09	18:45:19	5:18:48	19:03:40	5:08:02	19:14:26	4:55:39	19:26:49	4:40:57	19:41:31	4:22:52	19:59:36
22-01-23	6:07:58	18:15:03	5:53:27	18:29:34	5:37:48	18:45:13	5:19:41	19:03:20	5:09:03	19:13:58	4:56:50	19:26:11	4:42:21	19:40:40	4:24:31	19:58:30
23-01-23	6:08:14	18:15:18	5:53:54	18:29:38	5:38:27	18:45:05	5:20:34	19:02:59	5:10:05	19:13:28	4:58:02	19:25:31	4:43:45	19:39:48	4:26:11	19:57:21
24-01-23	6:08:30	18:15:33	5:54:21	18:29:42	5:39:06	18:44:57	5:21:28	19:02:35	5:11:07	19:12:56	4:59:14	19:24:49	4:45:09	19:38:54	4:27:52	19:56:11
25-01-23	6:08:44	18:15:47	5:54:47	18:29:44	5:39:45	18:44:46	5:22:21	19:02:10	5:12:09	19:12:22	5:00:26	19:24:05	4:46:35	19:37:57	4:29:34	19:54:58
26-01-23	6:08:58	18:16:00	5:55:13	18:29:46	5:40:24	18:44:35	5:23:14	19:01:44	5:13:12	19:11:47	5:01:39	19:23:19	4:48:00	19:36:58	4:31:16	19:53:42
27-01-23	6:09:11	18:16:13	5:55:38	18:29:46	5:41:02	18:44:22	5:24:08	19:01:16	5:14:14	19:11:10	5:02:52	19:22:31	4:49:26	19:35:57	4:32:59	19:52:25
28-01-23	6:09:23	18:16:24	5:56:02	18:29:45	5:41:39	18:44:08	5:25:01	19:00:46	5:15:16	19:10:31	5:04:06	19:21:42	4:50:53	19:34:54	4:34:43	19:51:05
29-01-23	6:09:35	18:16:35	5:56:26	18:29:43	5:42:17	18:43:53	5:25:54	19:00:15	5:16:19	19:09:50	5:05:19	19:20:50	4:52:20	19:33:50	4:36:27	19:49:43
30-01-23	6:09:45	18:16:45	5:56:49	18:29:40	5:42:54	18:43:36	5:26:47	18:59:43	5:17:22	19:09:08	5:06:33	19:19:57	4:53:47	19:32:43	4:38:11	19:48:19
31-01-23	6:09:55	18:16:54	5:57:12	18:29:37	5:43:30	18:43:19	5:27:40	18:59:09	5:18:24	19:08:25	5:07:47	19:19:02	4:55:15	19:31:34	4:39:56	19:46:53

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-02-23	6:10:04	18:17:02	5:57:34	18:29:32	5:44:06	18:43:00	5:28:33	18:58:33	5:19:27	19:07:39	5:09:01	19:18:05	4:56:43	19:30:23	4:41:42	19:45:24
02-02-23	6:10:12	18:17:10	5:57:56	18:29:26	5:44:42	18:42:39	5:29:25	18:57:56	5:20:29	19:06:53	5:10:15	19:17:07	4:58:10	19:29:11	4:43:27	19:43:54
03-02-23	6:10:19	18:17:16	5:58:16	18:29:19	5:45:17	18:42:18	5:30:17	18:57:18	5:21:31	19:06:04	5:11:28	19:16:07	4:59:38	19:27:57	4:45:13	19:42:22
04-02-23	6:10:26	18:17:22	5:58:36	18:29:11	5:45:52	18:41:55	5:31:09	18:56:38	5:22:33	19:05:14	5:12:42	19:15:05	5:01:07	19:26:41	4:46:59	19:40:49
05-02-23	6:10:31	18:17:27	5:58:56	18:29:02	5:46:27	18:41:32	5:32:01	18:55:57	5:23:35	19:04:23	5:13:56	19:14:02	5:02:35	19:25:23	4:48:45	19:39:13
06-02-23	6:10:36	18:17:31	5:59:15	18:28:52	5:47:00	18:41:07	5:32:52	18:55:15	5:24:37	19:03:30	5:15:10	19:12:57	5:04:03	19:24:04	4:50:32	19:37:36
07-02-23	6:10:40	18:17:34	5:59:33	18:28:42	5:47:34	18:40:41	5:33:43	18:54:31	5:25:38	19:02:36	5:16:24	19:11:51	5:05:31	19:22:43	4:52:18	19:35:57
08-02-23	6:10:43	18:17:37	5:59:50	18:28:30	5:48:07	18:40:13	5:34:34	18:53:46	5:26:40	19:01:40	5:17:37	19:10:43	5:06:59	19:21:21	4:54:04	19:34:16
09-02-23	6:10:45	18:17:39	6:00:07	18:28:17	5:48:39	18:39:45	5:35:25	18:53:00	5:27:41	19:00:44	5:18:50	19:09:34	5:08:27	19:19:57	4:55:51	19:32:34
10-02-23	6:10:47	18:17:40	6:00:23	18:28:03	5:49:11	18:39:16	5:36:15	18:52:12	5:28:42	18:59:45	5:20:03	19:08:23	5:09:55	19:18:32	4:57:37	19:30:50
11-02-23	6:10:48	18:17:40	6:00:39	18:27:49	5:49:42	18:38:45	5:37:04	18:51:23	5:29:42	18:58:46	5:21:16	19:07:11	5:11:23	19:17:05	4:59:23	19:29:05
12-02-23	6:10:48	18:17:39	6:00:54	18:27:33	5:50:13	18:38:14	5:37:54	18:50:34	5:30:42	18:57:45	5:22:29	19:05:58	5:12:50	19:15:37	5:01:09	19:27:18
13-02-23	6:10:47	18:17:38	6:01:08	18:27:17	5:50:44	18:37:41	5:38:43	18:49:42	5:31:42	18:56:43	5:23:42	19:04:44	5:14:18	19:14:07	5:02:55	19:25:30
14-02-23	6:10:46	18:17:36	6:01:22	18:27:00	5:51:13	18:37:08	5:39:31	18:48:50	5:32:42	18:55:40	5:24:54	19:03:28	5:15:45	19:12:37	5:04:41	19:23:41
15-02-23	6:10:43	18:17:33	6:01:35	18:26:42	5:51:43	18:36:34	5:40:19	18:47:57	5:33:41	18:54:36	5:26:06	19:02:11	5:17:12	19:11:05	5:06:26	19:21:50
16-02-23	6:10:40	18:17:30	6:01:47	18:26:23	5:52:12	18:35:58	5:41:07	18:47:03	5:34:40	18:53:30	5:27:17	19:00:53	5:18:39	19:09:31	5:08:12	19:19:58
17-02-23	6:10:37	18:17:25	6:01:59	18:26:03	5:52:40	18:35:22	5:41:55	18:46:07	5:35:38	18:52:24	5:28:29	18:59:33	5:20:05	19:07:57	5:09:57	19:18:05
18-02-23	6:10:32	18:17:20	6:02:10	18:25:43	5:53:08	18:34:45	5:42:41	18:45:11	5:36:36	18:51:16	5:29:40	18:58:13	5:21:31	19:06:21	5:11:42	19:16:11
19-02-23	6:10:27	18:17:15	6:02:20	18:25:21	5:53:35	18:34:07	5:43:28	18:44:14	5:37:34	18:50:08	5:30:50	18:56:51	5:22:57	19:04:44	5:13:26	19:14:16
20-02-23	6:10:21	18:17:08	6:02:30	18:24:59	5:54:02	18:33:28	5:44:14	18:43:15	5:38:32	18:48:58	5:32:01	18:55:29	5:24:23	19:03:07	5:15:10	19:12:19
21-02-23	6:10:15	18:17:01	6:02:40	18:24:36	5:54:28	18:32:48	5:45:00	18:42:16	5:39:29	18:47:47	5:33:11	18:54:05	5:25:48	19:01:28	5:16:54	19:10:22
22-02-23	6:10:08	18:16:54	6:02:48	18:24:13	5:54:54	18:32:08	5:45:45	18:41:16	5:40:25	18:46:36	5:34:20	18:52:41	5:27:13	18:59:48	5:18:38	19:08:23
23-02-23	6:10:00	18:16:46	6:02:57	18:23:49	5:55:19	18:31:26	5:46:30	18:40:15	5:41:22	18:45:24	5:35:30	18:51:16	5:28:38	18:58:07	5:20:21	19:06:24
24-02-23	6:09:51	18:16:37	6:03:04	18:23:24	5:55:44	18:30:44	5:47:15	18:39:13	5:42:18	18:44:10	5:36:39	18:49:49	5:30:02	18:56:26	5:22:04	19:04:24
25-02-23	6:09:42	18:16:27	6:03:11	18:22:58	5:56:08	18:30:01	5:47:59	18:38:11	5:43:13	18:42:56	5:37:47	18:48:22	5:31:26	18:54:43	5:23:47	19:02:23
26-02-23	6:09:33	18:16:17	6:03:18	18:22:32	5:56:32	18:29:18	5:48:42	18:37:08	5:44:08	18:41:42	5:38:56	18:46:54	5:32:50	18:53:00	5:25:29	19:00:21
27-02-23	6:09:23	18:16:07	6:03:24	18:22:05	5:56:55	18:28:34	5:49:26	18:36:04	5:45:03	18:40:26	5:40:04	18:45:26	5:34:13	18:51:16	5:27:11	18:58:18
28-02-23	6:09:12	18:15:56	6:03:30	18:21:38	5:57:18	18:27:49	5:50:09	18:34:59	5:45:58	18:39:10	5:41:11	18:43:56	5:35:36	18:49:31	5:28:53	18:56:15

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-03-23	6:09:01	18:15:44	6:03:35	18:21:10	5:57:41	18:27:03	5:50:51	18:33:53	5:46:52	18:37:53	5:42:18	18:42:26	5:36:59	18:47:46	5:30:34	18:54:10
02-03-23	6:08:49	18:15:32	6:03:39	18:20:41	5:58:03	18:26:17	5:51:33	18:32:47	5:47:45	18:36:35	5:43:25	18:40:55	5:38:21	18:45:59	5:32:15	18:52:06
03-03-23	6:08:36	18:15:19	6:03:43	18:20:12	5:58:25	18:25:31	5:52:15	18:31:41	5:48:39	18:35:17	5:44:32	18:39:24	5:39:43	18:44:12	5:33:55	18:50:00
04-03-23	6:08:24	18:15:06	6:03:47	18:19:43	5:58:46	18:24:44	5:52:56	18:30:33	5:49:32	18:33:58	5:45:38	18:37:52	5:41:05	18:42:25	5:35:36	18:47:54
05-03-23	6:08:11	18:14:53	6:03:51	18:19:13	5:59:07	18:23:56	5:53:37	18:29:26	5:50:25	18:32:39	5:46:44	18:36:19	5:42:26	18:40:37	5:37:16	18:45:48
06-03-23	6:07:57	18:14:39	6:03:53	18:18:42	5:59:28	18:23:08	5:54:18	18:28:17	5:51:17	18:31:19	5:47:50	18:34:46	5:43:47	18:38:48	5:38:55	18:43:40
07-03-23	6:07:43	18:14:24	6:03:56	18:18:11	5:59:48	18:22:19	5:54:59	18:27:08	5:52:09	18:29:58	5:48:55	18:33:12	5:45:08	18:36:59	5:40:34	18:41:33
08-03-23	6:07:28	18:14:10	6:03:58	18:17:40	6:00:08	18:21:30	5:55:39	18:25:59	5:53:01	18:28:37	5:50:00	18:31:38	5:46:28	18:35:10	5:42:13	18:39:25
09-03-23	6:07:13	18:13:55	6:04:00	18:17:08	6:00:27	18:20:41	5:56:18	18:24:50	5:53:52	18:27:16	5:51:05	18:30:03	5:47:48	18:33:20	5:43:52	18:37:16
10-03-23	6:06:58	18:13:39	6:04:01	18:16:36	6:00:47	18:19:51	5:56:58	18:23:39	5:54:43	18:25:54	5:52:09	18:28:28	5:49:08	18:31:29	5:45:30	18:35:08
11-03-23	6:06:43	18:13:23	6:04:03	18:16:04	6:01:06	18:19:01	5:57:37	18:22:29	5:55:34	18:24:32	5:53:13	18:26:53	5:50:28	18:29:38	5:47:08	18:32:58
12-03-23	6:06:27	18:13:07	6:04:03	18:15:31	6:01:24	18:18:10	5:58:16	18:21:18	5:56:25	18:23:09	5:54:17	18:25:17	5:51:47	18:27:47	5:48:45	18:30:49
13-03-23	6:06:11	18:12:51	6:04:04	18:14:58	6:01:43	18:17:19	5:58:55	18:20:07	5:57:15	18:21:47	5:55:21	18:23:41	5:53:06	18:25:56	5:50:23	18:28:39
14-03-23	6:05:54	18:12:35	6:04:04	18:14:25	6:02:01	18:16:28	5:59:33	18:18:56	5:58:05	18:20:23	5:56:24	18:22:05	5:54:25	18:24:04	5:52:00	18:26:29
15-03-23	6:05:38	18:12:18	6:04:04	18:13:51	6:02:19	18:15:37	6:00:11	18:17:44	5:58:55	18:19:00	5:57:27	18:20:28	5:55:43	18:22:12	5:53:36	18:24:19
16-03-23	6:05:21	18:12:01	6:04:04	18:13:17	6:02:36	18:14:45	6:00:49	18:16:32	5:59:45	18:17:37	5:58:30	18:18:51	5:57:01	18:20:20	5:55:13	18:22:09
17-03-23	6:05:04	18:11:43	6:04:04	18:12:43	6:02:54	18:13:53	6:01:27	18:15:20	6:00:34	18:16:13	5:59:33	18:17:14	5:58:19	18:18:28	5:56:49	18:19:58
18-03-23	6:04:46	18:11:26	6:04:03	18:12:09	6:03:11	18:13:01	6:02:04	18:14:08	6:01:23	18:14:49	6:00:35	18:15:37	5:59:37	18:16:36	5:58:25	18:17:47
19-03-23	6:04:29	18:11:09	6:04:02	18:11:35	6:03:28	18:12:09	6:02:42	18:12:55	6:02:12	18:13:25	6:01:37	18:14:00	6:00:54	18:14:43	6:00:01	18:15:37
20-03-23	6:04:11	18:10:51	6:04:01	18:11:00	6:03:45	18:11:17	6:03:19	18:11:43	6:03:01	18:12:01	6:02:39	18:12:23	6:02:11	18:12:50	6:01:36	18:13:26
21-03-23	6:03:53	18:10:33	6:04:00	18:10:26	6:04:02	18:10:25	6:03:56	18:10:30	6:03:50	18:10:37	6:03:41	18:10:45	6:03:29	18:10:58	6:03:11	18:11:15
22-03-23	6:03:35	18:10:15	6:03:59	18:09:51	6:04:18	18:09:32	6:04:33	18:09:18	6:04:38	18:09:12	6:04:43	18:09:08	6:04:45	18:09:05	6:04:46	18:09:04
23-03-23	6:03:17	18:09:57	6:03:58	18:09:17	6:04:35	18:08:40	6:05:09	18:08:05	6:05:27	18:07:48	6:05:44	18:07:31	6:06:02	18:07:12	6:06:21	18:06:53
24-03-23	6:02:59	18:09:39	6:03:57	18:08:42	6:04:51	18:07:47	6:05:46	18:06:53	6:06:15	18:06:24	6:06:45	18:05:53	6:07:19	18:05:20	6:07:56	18:04:42
25-03-23	6:02:41	18:09:21	6:03:55	18:08:07	6:05:07	18:06:55	6:06:22	18:05:40	6:07:03	18:04:59	6:07:47	18:04:16	6:08:35	18:03:27	6:09:31	18:02:32
26-03-23	6:02:23	18:09:03	6:03:54	18:07:33	6:05:23	18:06:03	6:06:59	18:04:27	6:07:51	18:03:35	6:08:48	18:02:39	6:09:51	18:01:35	6:11:05	18:00:21
27-03-23	6:02:05	18:08:45	6:03:52	18:06:58	6:05:40	18:05:10	6:07:35	18:03:15	6:08:39	18:02:11	6:09:48	18:01:01	6:11:07	17:59:43	6:12:39	17:58:11
28-03-23	6:01:47	18:08:27	6:03:50	18:06:23	6:05:56	18:04:18	6:08:11	18:02:03	6:09:26	18:00:47	6:10:49	17:59:24	6:12:23	17:57:50	6:14:13	17:56:01
29-03-23	6:01:28	18:08:09	6:03:49	18:05:49	6:06:12	18:03:26	6:08:47	18:00:50	6:10:14	17:59:24	6:11:50	17:57:48	6:13:39	17:55:58	6:15:47	17:53:51
30-03-23	6:01:10	18:07:51	6:03:47	18:05:14	6:06:28	18:02:34	6:09:23	17:59:38	6:11:01	17:58:00	6:12:51	17:56:11	6:14:55	17:54:07	6:17:21	17:51:41
31-03-23	6:00:52	18:07:33	6:03:46	18:04:40	6:06:44	18:01:42	6:09:59	17:58:26	6:11:49	17:56:37	6:13:51	17:54:35	6:16:10	17:52:15	6:18:54	17:49:31

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-04-23	6:00:34	18:07:16	6:03:44	18:04:06	6:07:00	18:00:50	6:10:35	17:57:15	6:12:36	17:55:14	6:14:51	17:52:59	6:17:26	17:50:24	6:20:28	17:47:22
02-04-23	6:00:17	18:06:58	6:03:43	18:03:32	6:07:16	17:59:59	6:11:11	17:56:03	6:13:24	17:53:51	6:15:52	17:51:23	6:18:41	17:48:33	6:22:01	17:45:13
03-04-23	5:59:59	18:06:40	6:03:42	18:02:58	6:07:32	17:59:07	6:11:47	17:54:52	6:14:11	17:52:28	6:16:52	17:49:47	6:19:57	17:46:43	6:23:34	17:43:05
04-04-23	5:59:41	18:06:23	6:03:40	18:02:24	6:07:48	17:58:16	6:12:23	17:53:42	6:14:58	17:51:06	6:17:52	17:48:12	6:21:12	17:44:53	6:25:08	17:40:57
05-04-23	5:59:24	18:06:06	6:03:39	18:01:51	6:08:04	17:57:26	6:12:59	17:52:31	6:15:46	17:49:44	6:18:53	17:46:37	6:22:27	17:43:03	6:26:41	17:38:49
06-04-23	5:59:07	18:05:49	6:03:38	18:01:18	6:08:20	17:56:35	6:13:35	17:51:21	6:16:33	17:48:23	6:19:53	17:45:03	6:23:42	17:41:14	6:28:14	17:36:42
07-04-23	5:58:50	18:05:32	6:03:37	18:00:45	6:08:37	17:55:45	6:14:11	17:50:11	6:17:20	17:47:02	6:20:53	17:43:29	6:24:57	17:39:25	6:29:47	17:34:35
08-04-23	5:58:33	18:05:16	6:03:37	18:00:12	6:08:53	17:54:55	6:14:47	17:49:02	6:18:08	17:45:41	6:21:53	17:41:56	6:26:12	17:37:37	6:31:19	17:32:29
09-04-23	5:58:16	18:05:00	6:03:36	17:59:40	6:09:10	17:54:06	6:15:23	17:47:53	6:18:55	17:44:21	6:22:53	17:40:23	6:27:27	17:35:49	6:32:52	17:30:24
10-04-23	5:58:00	18:04:44	6:03:36	17:59:08	6:09:26	17:53:17	6:15:59	17:46:45	6:19:42	17:43:01	6:23:53	17:38:51	6:28:42	17:34:02	6:34:25	17:28:19
11-04-23	5:57:44	18:04:28	6:03:35	17:58:36	6:09:43	17:52:28	6:16:35	17:45:37	6:20:29	17:41:42	6:24:53	17:37:19	6:29:57	17:32:15	6:35:57	17:26:14
12-04-23	5:57:28	18:04:12	6:03:35	17:58:05	6:10:00	17:51:40	6:17:11	17:44:29	6:21:17	17:40:24	6:25:53	17:35:48	6:31:11	17:30:29	6:37:30	17:24:11
13-04-23	5:57:12	18:03:57	6:03:36	17:57:34	6:10:17	17:50:53	6:17:47	17:43:23	6:22:04	17:39:06	6:26:53	17:34:17	6:32:26	17:28:44	6:39:02	17:22:08
14-04-23	5:56:57	18:03:43	6:03:36	17:57:04	6:10:34	17:50:05	6:18:24	17:42:16	6:22:51	17:37:48	6:27:53	17:32:47	6:33:41	17:26:59	6:40:35	17:20:05
15-04-23	5:56:42	18:03:28	6:03:37	17:56:34	6:10:52	17:49:19	6:19:00	17:41:11	6:23:39	17:36:32	6:28:53	17:31:18	6:34:55	17:25:15	6:42:07	17:18:04
16-04-23	5:56:28	18:03:14	6:03:38	17:56:04	6:11:09	17:48:33	6:19:37	17:40:05	6:24:26	17:35:16	6:29:53	17:29:49	6:36:10	17:23:32	6:43:39	17:16:03
17-04-23	5:56:14	18:03:00	6:03:39	17:55:35	6:11:27	17:47:47	6:20:13	17:39:01	6:25:14	17:34:00	6:30:53	17:28:21	6:37:24	17:21:50	6:45:11	17:14:03
18-04-23	5:56:00	18:02:47	6:03:41	17:55:06	6:11:45	17:47:02	6:20:50	17:37:57	6:26:01	17:32:46	6:31:53	17:26:54	6:38:39	17:20:08	6:46:43	17:12:04
19-04-23	5:55:47	18:02:34	6:03:43	17:54:38	6:12:03	17:46:17	6:21:27	17:36:54	6:26:49	17:31:32	6:32:53	17:25:28	6:39:53	17:18:28	6:48:15	17:10:06
20-04-23	5:55:34	18:02:22	6:03:45	17:54:10	6:12:22	17:45:34	6:22:03	17:35:52	6:27:37	17:30:19	6:33:52	17:24:03	6:41:08	17:16:48	6:49:47	17:08:08
21-04-23	5:55:21	18:02:10	6:03:47	17:53:43	6:12:40	17:44:50	6:22:40	17:34:50	6:28:24	17:29:06	6:34:52	17:22:38	6:42:22	17:15:09	6:51:19	17:06:12
22-04-23	5:55:09	18:01:58	6:03:50	17:53:17	6:12:59	17:44:08	6:23:17	17:33:49	6:29:12	17:27:55	6:35:52	17:21:15	6:43:36	17:13:31	6:52:50	17:04:17
23-04-23	5:54:57	18:01:47	6:03:53	17:52:51	6:13:18	17:43:26	6:23:55	17:32:49	6:30:00	17:26:44	6:36:52	17:19:52	6:44:50	17:11:54	6:54:22	17:02:22
24-04-23	5:54:46	18:01:36	6:03:57	17:52:25	6:13:37	17:42:45	6:24:32	17:31:50	6:30:47	17:25:35	6:37:52	17:18:30	6:46:04	17:10:18	6:55:53	17:00:29
25-04-23	5:54:35	18:01:26	6:04:01	17:52:00	6:13:57	17:42:05	6:25:09	17:30:52	6:31:35	17:24:26	6:38:51	17:17:10	6:47:18	17:08:43	6:57:24	16:58:37
26-04-23	5:54:25	18:01:16	6:04:05	17:51:36	6:14:16	17:41:25	6:25:47	17:29:54	6:32:23	17:23:18	6:39:51	17:15:50	6:48:32	17:07:10	6:58:55	16:56:46
27-04-23	5:54:15	18:01:07	6:04:09	17:51:13	6:14:36	17:40:46	6:26:24	17:28:58	6:33:11	17:22:11	6:40:51	17:14:31	6:49:45	17:05:37	7:00:26	16:54:56
28-04-23	5:54:06	18:00:58	6:04:14	17:50:50	6:14:56	17:40:08	6:27:02	17:28:02	6:33:59	17:21:05	6:41:50	17:13:14	6:50:58	17:04:05	7:01:56	16:53:08
29-04-23	5:53:57	18:00:50	6:04:20	17:50:27	6:15:17	17:39:30	6:27:39	17:27:08	6:34:46	17:20:00	6:42:50	17:11:57	6:52:12	17:02:35	7:03:26	16:51:20
30-04-23	5:53:49	18:00:42	6:04:25	17:50:06	6:15:37	17:38:54	6:28:17	17:26:14	6:35:34	17:18:57	6:43:49	17:10:42	6:53:25	17:01:06	7:04:56	16:49:34

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-05-23	5:53:41	18:00:35	6:04:31	17:49:45	6:15:58	17:38:18	6:28:55	17:25:21	6:36:22	17:17:54	6:44:48	17:09:28	6:54:38	16:59:38	7:06:26	16:47:50
02-05-23	5:53:34	18:00:28	6:04:38	17:49:24	6:16:19	17:37:43	6:29:33	17:24:29	6:37:10	17:16:52	6:45:47	17:08:15	6:55:50	16:58:12	7:07:55	16:46:07
03-05-23	5:53:27	18:00:22	6:04:45	17:49:05	6:16:40	17:37:09	6:30:11	17:23:39	6:37:57	17:15:52	6:46:46	17:07:03	6:57:03	16:56:47	7:09:24	16:44:25
04-05-23	5:53:21	18:00:17	6:04:52	17:48:46	6:17:02	17:36:36	6:30:49	17:22:49	6:38:45	17:14:53	6:47:45	17:05:52	6:58:15	16:55:23	7:10:53	16:42:44
05-05-23	5:53:15	18:00:12	6:04:59	17:48:28	6:17:23	17:36:04	6:31:27	17:22:00	6:39:33	17:13:54	6:48:44	17:04:43	6:59:27	16:54:00	7:12:21	16:41:06
06-05-23	5:53:10	18:00:07	6:05:07	17:48:10	6:17:45	17:35:32	6:32:05	17:21:13	6:40:20	17:12:57	6:49:42	17:03:35	7:00:38	16:52:39	7:13:49	16:39:28
07-05-23	5:53:06	18:00:03	6:05:16	17:47:53	6:18:07	17:35:02	6:32:43	17:20:26	6:41:07	17:12:02	6:50:40	17:02:29	7:01:49	16:51:20	7:15:17	16:37:53
08-05-23	5:53:02	18:00:00	6:05:24	17:47:37	6:18:30	17:34:32	6:33:21	17:19:41	6:41:55	17:11:07	6:51:38	17:01:23	7:03:00	16:50:02	7:16:43	16:36:19
09-05-23	5:52:58	17:59:57	6:05:34	17:47:22	6:18:52	17:34:04	6:33:59	17:18:57	6:42:42	17:10:14	6:52:36	17:00:20	7:04:10	16:48:45	7:18:10	16:34:46
10-05-23	5:52:56	17:59:55	6:05:43	17:47:08	6:19:15	17:33:36	6:34:37	17:18:14	6:43:29	17:09:22	6:53:34	16:59:17	7:05:20	16:47:30	7:19:35	16:33:16
11-05-23	5:52:53	17:59:54	6:05:53	17:46:54	6:19:38	17:33:09	6:35:14	17:17:33	6:44:16	17:08:32	6:54:31	16:58:16	7:06:30	16:46:17	7:21:00	16:31:47
12-05-23	5:52:52	17:59:53	6:06:03	17:46:41	6:20:01	17:32:44	6:35:52	17:16:52	6:45:02	17:07:42	6:55:27	16:57:17	7:07:39	16:45:06	7:22:25	16:30:20
13-05-23	5:52:51	17:59:52	6:06:14	17:46:29	6:20:24	17:32:19	6:36:30	17:16:13	6:45:48	17:06:54	6:56:24	16:56:19	7:08:47	16:43:56	7:23:49	16:28:54
14-05-23	5:52:50	17:59:52	6:06:25	17:46:18	6:20:47	17:31:55	6:37:08	17:15:35	6:46:35	17:06:08	6:57:20	16:55:23	7:09:55	16:42:47	7:25:12	16:27:31
15-05-23	5:52:50	17:59:53	6:06:36	17:46:07	6:21:11	17:31:33	6:37:45	17:14:58	6:47:20	17:05:23	6:58:15	16:54:28	7:11:03	16:41:41	7:26:34	16:26:09
16-05-23	5:52:51	17:59:54	6:06:48	17:45:57	6:21:34	17:31:11	6:38:23	17:14:23	6:48:06	17:04:39	6:59:10	16:53:35	7:12:09	16:40:36	7:27:55	16:24:50
17-05-23	5:52:52	17:59:56	6:07:00	17:45:48	6:21:58	17:30:50	6:39:00	17:13:48	6:48:51	17:03:57	7:00:05	16:52:43	7:13:15	16:39:33	7:29:16	16:23:33
18-05-23	5:52:54	17:59:58	6:07:12	17:45:40	6:22:22	17:30:31	6:39:37	17:13:16	6:49:36	17:03:16	7:00:59	16:51:53	7:14:20	16:38:32	7:30:35	16:22:17
19-05-23	5:52:56	18:00:01	6:07:25	17:45:33	6:22:45	17:30:12	6:40:14	17:12:44	6:50:21	17:02:37	7:01:53	16:51:05	7:15:25	16:37:33	7:31:54	16:21:04
20-05-23	5:52:59	18:00:05	6:07:38	17:45:26	6:23:09	17:29:55	6:40:50	17:12:14	6:51:05	17:01:59	7:02:46	16:50:18	7:16:29	16:36:35	7:33:11	16:19:53
21-05-23	5:53:03	18:00:09	6:07:51	17:45:20	6:23:33	17:29:38	6:41:26	17:11:45	6:51:48	17:01:23	7:03:38	16:49:33	7:17:31	16:35:40	7:34:27	16:18:44
22-05-23	5:53:07	18:00:13	6:08:05	17:45:15	6:23:57	17:29:23	6:42:02	17:11:17	6:52:32	17:00:48	7:04:29	16:48:50	7:18:33	16:34:46	7:35:43	16:17:37
23-05-23	5:53:11	18:00:18	6:08:19	17:45:11	6:24:21	17:29:08	6:42:38	17:10:51	6:53:14	17:00:15	7:05:20	16:48:09	7:19:34	16:33:55	7:36:57	16:16:33
24-05-23	5:53:16	18:00:24	6:08:33	17:45:07	6:24:45	17:28:55	6:43:13	17:10:26	6:53:56	16:59:43	7:06:11	16:47:29	7:20:34	16:33:05	7:38:09	16:15:30
25-05-23	5:53:22	18:00:30	6:08:47	17:45:04	6:25:09	17:28:43	6:43:48	17:10:03	6:54:38	16:59:13	7:07:00	16:46:51	7:21:34	16:32:18	7:39:21	16:14:30
26-05-23	5:53:28	18:00:36	6:09:02	17:45:02	6:25:33	17:28:31	6:44:23	17:09:41	6:55:19	16:58:45	7:07:49	16:46:15	7:22:31	16:31:32	7:40:31	16:13:33
27-05-23	5:53:34	18:00:43	6:09:17	17:45:01	6:25:56	17:28:21	6:44:57	17:09:20	6:56:00	16:58:18	7:08:37	16:45:41	7:23:28	16:30:49	7:41:39	16:12:38
28-05-23	5:53:41	18:00:51	6:09:31	17:45:00	6:26:20	17:28:12	6:45:31	17:09:01	6:56:39	16:57:53	7:09:23	16:45:08	7:24:24	16:30:08	7:42:47	16:11:45
29-05-23	5:53:49	18:00:59	6:09:47	17:45:00	6:26:43	17:28:04	6:46:04	17:08:43	6:57:18	16:57:29	7:10:09	16:44:38	7:25:18	16:29:29	7:43:52	16:10:55
30-05-23	5:53:56	18:01:07	6:10:02	17:45:01	6:27:07	17:27:57	6:46:37	17:08:27	6:57:57	16:57:07	7:10:54	16:44:09	7:26:12	16:28:52	7:44:56	16:10:07
31-05-23	5:54:05	18:01:16	6:10:17	17:45:03	6:27:30	17:27:51	6:47:09	17:08:12	6:58:34	16:56:46	7:11:38	16:43:42	7:27:03	16:28:17	7:45:58	16:09:22

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-06-23	5:54:13	18:01:25	6:10:33	17:45:05	6:27:53	17:27:46	6:47:41	17:07:58	6:59:11	16:56:27	7:12:21	16:43:17	7:27:54	16:27:44	7:46:59	16:08:40
02-06-23	5:54:23	18:01:34	6:10:49	17:45:08	6:28:15	17:27:42	6:48:12	17:07:45	6:59:47	16:56:10	7:13:03	16:42:54	7:28:43	16:27:14	7:47:57	16:08:00
03-06-23	5:54:32	18:01:44	6:11:04	17:45:12	6:28:38	17:27:39	6:48:42	17:07:35	7:00:22	16:55:54	7:13:44	16:42:33	7:29:31	16:26:46	7:48:54	16:07:22
04-06-23	5:54:42	18:01:55	6:11:20	17:45:16	6:29:00	17:27:36	6:49:12	17:07:25	7:00:56	16:55:40	7:14:23	16:42:13	7:30:17	16:26:20	7:49:49	16:06:48
05-06-23	5:54:52	18:02:05	6:11:36	17:45:21	6:29:22	17:27:35	6:49:41	17:07:17	7:01:30	16:55:28	7:15:02	16:41:56	7:31:02	16:25:56	7:50:42	16:06:15
06-06-23	5:55:03	18:02:16	6:11:52	17:45:27	6:29:44	17:27:35	6:50:09	17:07:10	7:02:02	16:55:17	7:15:39	16:41:40	7:31:45	16:25:34	7:51:33	16:05:46
07-06-23	5:55:14	18:02:27	6:12:08	17:45:33	6:30:05	17:27:36	6:50:36	17:07:05	7:02:33	16:55:08	7:16:15	16:41:26	7:32:26	16:25:15	7:52:22	16:05:19
08-06-23	5:55:25	18:02:39	6:12:24	17:45:40	6:30:26	17:27:38	6:51:03	17:07:01	7:03:04	16:55:00	7:16:49	16:41:14	7:33:06	16:24:58	7:53:08	16:04:55
09-06-23	5:55:36	18:02:51	6:12:39	17:45:48	6:30:46	17:27:41	6:51:29	17:06:58	7:03:33	16:54:54	7:17:22	16:41:05	7:33:44	16:24:43	7:53:53	16:04:34
10-06-23	5:55:48	18:03:03	6:12:55	17:45:56	6:31:06	17:27:45	6:51:54	17:06:57	7:04:01	16:54:50	7:17:54	16:40:57	7:34:20	16:24:30	7:54:35	16:04:16
11-06-23	5:56:00	18:03:15	6:13:11	17:46:04	6:31:26	17:27:49	6:52:18	17:06:57	7:04:28	16:54:47	7:18:24	16:40:50	7:34:55	16:24:20	7:55:15	16:04:00
12-06-23	5:56:12	18:03:27	6:13:26	17:46:13	6:31:45	17:27:55	6:52:41	17:06:58	7:04:54	16:54:46	7:18:53	16:40:46	7:35:27	16:24:12	7:55:53	16:03:47
13-06-23	5:56:25	18:03:40	6:13:42	17:46:23	6:32:03	17:28:01	6:53:04	17:07:00	7:05:18	16:54:46	7:19:21	16:40:44	7:35:58	16:24:06	7:56:28	16:03:36
14-06-23	5:56:37	18:03:52	6:13:57	17:46:33	6:32:21	17:28:08	6:53:25	17:07:04	7:05:42	16:54:48	7:19:46	16:40:43	7:36:27	16:24:03	7:57:01	16:03:29
15-06-23	5:56:50	18:04:05	6:14:12	17:46:43	6:32:39	17:28:16	6:53:46	17:07:09	7:06:04	16:54:51	7:20:11	16:40:44	7:36:54	16:24:01	7:57:31	16:03:24
16-06-23	5:57:03	18:04:18	6:14:26	17:46:54	6:32:55	17:28:25	6:54:05	17:07:16	7:06:25	16:54:56	7:20:33	16:40:47	7:37:18	16:24:02	7:57:59	16:03:22
17-06-23	5:57:15	18:04:31	6:14:41	17:47:06	6:33:12	17:28:35	6:54:23	17:07:23	7:06:44	16:55:02	7:20:54	16:40:52	7:37:41	16:24:05	7:58:24	16:03:22
18-06-23	5:57:28	18:04:44	6:14:55	17:47:17	6:33:27	17:28:45	6:54:40	17:07:32	7:07:02	16:55:10	7:21:14	16:40:59	7:38:02	16:24:11	7:58:47	16:03:26
19-06-23	5:57:41	18:04:57	6:15:09	17:47:30	6:33:42	17:28:57	6:54:56	17:07:42	7:07:19	16:55:20	7:21:31	16:41:08	7:38:21	16:24:18	7:59:07	16:03:32
20-06-23	5:57:55	18:05:10	6:15:23	17:47:42	6:33:56	17:29:08	6:55:11	17:07:54	7:07:34	16:55:30	7:21:47	16:41:18	7:38:37	16:24:28	7:59:24	16:03:41
21-06-23	5:58:08	18:05:23	6:15:36	17:47:55	6:34:10	17:29:21	6:55:25	17:08:06	7:07:48	16:55:43	7:22:01	16:41:30	7:38:52	16:24:39	7:59:39	16:03:52
22-06-23	5:58:21	18:05:36	6:15:49	17:48:08	6:34:23	17:29:34	6:55:38	17:08:19	7:08:01	16:55:56	7:22:14	16:41:43	7:39:04	16:24:53	7:59:51	16:04:06
23-06-23	5:58:34	18:05:49	6:16:01	17:48:22	6:34:35	17:29:48	6:55:49	17:08:34	7:08:12	16:56:11	7:22:24	16:41:59	7:39:14	16:25:09	8:00:00	16:04:23
24-06-23	5:58:47	18:06:02	6:16:13	17:48:35	6:34:46	17:30:03	6:55:59	17:08:50	7:08:21	16:56:27	7:22:33	16:42:16	7:39:22	16:25:27	8:00:07	16:04:42
25-06-23	5:58:59	18:06:15	6:16:25	17:48:49	6:34:56	17:30:18	6:56:08	17:09:06	7:08:30	16:56:45	7:22:40	16:42:34	7:39:27	16:25:47	8:00:11	16:05:04
26-06-23	5:59:12	18:06:28	6:16:36	17:49:03	6:35:06	17:30:34	6:56:16	17:09:24	7:08:36	16:57:04	7:22:45	16:42:55	7:39:31	16:26:09	8:00:12	16:05:28
27-06-23	5:59:25	18:06:40	6:16:47	17:49:18	6:35:15	17:30:50	6:56:22	17:09:43	7:08:41	16:57:24	7:22:48	16:43:17	7:39:32	16:26:33	8:00:10	16:05:55
28-06-23	5:59:37	18:06:52	6:16:57	17:49:32	6:35:23	17:31:07	6:56:27	17:10:02	7:08:44	16:57:45	7:22:50	16:43:40	7:39:31	16:26:59	8:00:06	16:06:24
29-06-23	5:59:49	18:07:05	6:17:07	17:49:47	6:35:29	17:31:24	6:56:31	17:10:23	7:08:46	16:58:08	7:22:49	16:44:05	7:39:27	16:27:27	7:59:58	16:06:56
30-06-23	6:00:01	18:07:16	6:17:16	17:50:02	6:35:36	17:31:42	6:56:33	17:10:44	7:08:46	16:58:32	7:22:47	16:44:31	7:39:22	16:27:56	7:59:48	16:07:30

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-07-23	6:00:13	18:07:28	6:17:25	17:50:16	6:35:41	17:32:01	6:56:35	17:11:07	7:08:45	16:58:56	7:22:42	16:44:59	7:39:14	16:28:28	7:59:35	16:08:06
02-07-23	6:00:25	18:07:39	6:17:33	17:50:31	6:35:45	17:32:19	6:56:34	17:11:30	7:08:42	16:59:22	7:22:36	16:45:28	7:39:03	16:29:01	7:59:20	16:08:45
03-07-23	6:00:36	18:07:50	6:17:40	17:50:46	6:35:48	17:32:38	6:56:33	17:11:54	7:08:37	16:59:49	7:22:28	16:45:59	7:38:51	16:29:36	7:59:01	16:09:25
04-07-23	6:00:47	18:08:01	6:17:47	17:51:01	6:35:50	17:32:58	6:56:30	17:12:19	7:08:31	17:00:17	7:22:18	16:46:31	7:38:36	16:30:13	7:58:40	16:10:08
05-07-23	6:00:58	18:08:12	6:17:53	17:51:16	6:35:52	17:33:18	6:56:25	17:12:45	7:08:23	17:00:47	7:22:06	16:47:04	7:38:19	16:30:51	7:58:16	16:10:53
06-07-23	6:01:08	18:08:22	6:17:59	17:51:31	6:35:52	17:33:38	6:56:19	17:13:11	7:08:13	17:01:17	7:21:52	16:47:38	7:37:59	16:31:31	7:57:49	16:11:41
07-07-23	6:01:18	18:08:31	6:18:04	17:51:46	6:35:51	17:33:58	6:56:12	17:13:38	7:08:02	17:01:48	7:21:36	16:48:14	7:37:37	16:32:12	7:57:20	16:12:30
08-07-23	6:01:28	18:08:41	6:18:08	17:52:01	6:35:50	17:34:19	6:56:03	17:14:06	7:07:49	17:02:20	7:21:18	16:48:51	7:37:13	16:32:55	7:56:48	16:13:21
09-07-23	6:01:37	18:08:50	6:18:11	17:52:16	6:35:47	17:34:40	6:55:53	17:14:34	7:07:35	17:02:52	7:20:58	16:49:29	7:36:47	16:33:40	7:56:13	16:14:14
10-07-23	6:01:46	18:08:58	6:18:14	17:52:30	6:35:43	17:35:01	6:55:42	17:15:03	7:07:19	17:03:26	7:20:36	16:50:08	7:36:18	16:34:26	7:55:35	16:15:09
11-07-23	6:01:55	18:09:06	6:18:16	17:52:45	6:35:38	17:35:23	6:55:29	17:15:32	7:07:01	17:04:00	7:20:13	16:50:48	7:35:48	16:35:13	7:54:55	16:16:06
12-07-23	6:02:03	18:09:14	6:18:18	17:52:59	6:35:32	17:35:44	6:55:14	17:16:02	7:06:41	17:04:35	7:19:47	16:51:29	7:35:15	16:36:02	7:54:13	16:17:04
13-07-23	6:02:10	18:09:21	6:18:18	17:53:13	6:35:25	17:36:06	6:54:58	17:16:33	7:06:20	17:05:11	7:19:20	16:52:12	7:34:39	16:36:52	7:53:27	16:18:04
14-07-23	6:02:17	18:09:28	6:18:18	17:53:27	6:35:17	17:36:28	6:54:41	17:17:04	7:05:57	17:05:48	7:18:50	16:52:55	7:34:02	16:37:43	7:52:39	16:19:06
15-07-23	6:02:24	18:09:34	6:18:17	17:53:41	6:35:08	17:36:50	6:54:22	17:17:35	7:05:33	17:06:25	7:18:19	16:53:39	7:33:22	16:38:35	7:51:49	16:20:09
16-07-23	6:02:30	18:09:39	6:18:15	17:53:54	6:34:58	17:37:12	6:54:02	17:18:07	7:05:07	17:07:03	7:17:46	16:54:23	7:32:41	16:39:29	7:50:56	16:21:14
17-07-23	6:02:36	18:09:45	6:18:13	17:54:08	6:34:47	17:37:34	6:53:41	17:18:40	7:04:39	17:07:41	7:17:11	16:55:09	7:31:57	16:40:23	7:50:00	16:22:20
18-07-23	6:02:41	18:09:49	6:18:09	17:54:21	6:34:34	17:37:56	6:53:18	17:19:12	7:04:10	17:08:20	7:16:34	16:55:56	7:31:11	16:41:19	7:49:03	16:23:27
19-07-23	6:02:45	18:09:53	6:18:05	17:54:33	6:34:21	17:38:18	6:52:53	17:19:45	7:03:39	17:09:00	7:15:56	16:56:43	7:30:23	16:42:16	7:48:02	16:24:36
20-07-23	6:02:49	18:09:57	6:18:00	17:54:46	6:34:06	17:38:40	6:52:27	17:20:19	7:03:06	17:09:40	7:15:15	16:57:31	7:29:33	16:43:13	7:47:00	16:25:46
21-07-23	6:02:53	18:10:00	6:17:55	17:54:58	6:33:51	17:39:02	6:52:00	17:20:52	7:02:32	17:10:20	7:14:33	16:58:19	7:28:41	16:44:12	7:45:55	16:26:58
22-07-23	6:02:56	18:10:02	6:17:48	17:55:10	6:33:34	17:39:24	6:51:32	17:21:26	7:01:56	17:11:01	7:13:49	16:59:09	7:27:46	16:45:11	7:44:48	16:28:10
23-07-23	6:02:58	18:10:04	6:17:41	17:55:21	6:33:16	17:39:46	6:51:02	17:22:00	7:01:19	17:11:43	7:13:03	16:59:58	7:26:50	16:46:11	7:43:38	16:29:24
24-07-23	6:03:00	18:10:05	6:17:32	17:55:32	6:32:57	17:40:07	6:50:30	17:22:34	7:00:40	17:12:24	7:12:16	17:00:49	7:25:52	16:47:12	7:42:26	16:30:38
25-07-23	6:03:01	18:10:05	6:17:23	17:55:43	6:32:37	17:40:29	6:49:57	17:23:09	7:00:00	17:13:06	7:11:27	17:01:40	7:24:52	16:48:14	7:41:13	16:31:54
26-07-23	6:03:01	18:10:05	6:17:13	17:55:53	6:32:16	17:40:51	6:49:23	17:23:43	6:59:18	17:13:49	7:10:36	17:02:31	7:23:50	16:49:16	7:39:57	16:33:10
27-07-23	6:03:01	18:10:05	6:17:03	17:56:03	6:31:54	17:41:12	6:48:48	17:24:18	6:58:35	17:14:31	7:09:43	17:03:23	7:22:47	16:50:19	7:38:39	16:34:27
28-07-23	6:03:01	18:10:04	6:16:51	17:56:13	6:31:31	17:41:33	6:48:11	17:24:53	6:57:50	17:15:14	7:08:49	17:04:15	7:21:41	16:51:23	7:37:19	16:35:46
29-07-23	6:03:00	18:10:02	6:16:39	17:56:22	6:31:07	17:41:55	6:47:33	17:25:28	6:57:04	17:15:57	7:07:53	17:05:08	7:20:34	16:52:27	7:35:57	16:37:04
30-07-23	6:02:58	18:09:59	6:16:26	17:56:31	6:30:41	17:42:16	6:46:54	17:26:03	6:56:16	17:16:41	7:06:56	17:06:01	7:19:25	16:53:32	7:34:33	16:38:24
31-07-23	6:02:55	18:09:56	6:16:12	17:56:40	6:30:15	17:42:36	6:46:13	17:26:38	6:55:27	17:17:24	7:05:57	17:06:55	7:18:14	16:54:37	7:33:07	16:39:45

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-08-23	6:02:52	18:09:53	6:15:57	17:56:48	6:29:48	17:42:57	6:45:32	17:27:13	6:54:37	17:18:08	7:04:57	17:07:48	7:17:01	16:55:43	7:31:39	16:41:06
02-08-23	6:02:49	18:09:48	6:15:42	17:56:55	6:29:20	17:43:17	6:44:49	17:27:48	6:53:45	17:18:52	7:03:55	17:08:42	7:15:47	16:56:50	7:30:10	16:42:27
03-08-23	6:02:44	18:09:43	6:15:25	17:57:02	6:28:50	17:43:37	6:44:04	17:28:23	6:52:52	17:19:36	7:02:51	17:09:37	7:14:32	16:57:56	7:28:38	16:43:49
04-08-23	6:02:39	18:09:38	6:15:08	17:57:09	6:28:20	17:43:57	6:43:19	17:28:59	6:51:57	17:20:20	7:01:46	17:10:31	7:13:14	16:59:03	7:27:05	16:45:12
05-08-23	6:02:34	18:09:32	6:14:50	17:57:16	6:27:49	17:44:17	6:42:32	17:29:34	6:51:02	17:21:04	7:00:40	17:11:26	7:11:55	17:00:11	7:25:31	16:46:35
06-08-23	6:02:28	18:09:25	6:14:32	17:57:21	6:27:17	17:44:36	6:41:44	17:30:09	6:50:04	17:21:49	6:59:32	17:12:21	7:10:35	17:01:18	7:23:54	16:47:59
07-08-23	6:02:21	18:09:18	6:14:12	17:57:27	6:26:43	17:44:56	6:40:55	17:30:44	6:49:06	17:22:33	6:58:23	17:13:16	7:09:13	17:02:26	7:22:16	16:49:23
08-08-23	6:02:14	18:09:10	6:13:52	17:57:32	6:26:09	17:45:15	6:40:05	17:31:19	6:48:07	17:23:17	6:57:13	17:14:11	7:07:50	17:03:34	7:20:37	16:50:47
09-08-23	6:02:06	18:09:02	6:13:31	17:57:37	6:25:34	17:45:33	6:39:14	17:31:54	6:47:06	17:24:02	6:56:01	17:15:07	7:06:25	17:04:43	7:18:56	16:52:12
10-08-23	6:01:58	18:08:53	6:13:09	17:57:41	6:24:59	17:45:52	6:38:22	17:32:28	6:46:04	17:24:46	6:54:48	17:16:02	7:04:59	17:05:52	7:17:13	16:53:37
11-08-23	6:01:49	18:08:43	6:12:47	17:57:45	6:24:22	17:46:10	6:37:28	17:33:03	6:45:01	17:25:31	6:53:34	17:16:58	7:03:31	17:07:01	7:15:29	16:55:03
12-08-23	6:01:39	18:08:33	6:12:24	17:57:48	6:23:44	17:46:28	6:36:34	17:33:38	6:43:57	17:26:15	6:52:19	17:17:53	7:02:02	17:08:10	7:13:44	16:56:28
13-08-23	6:01:29	18:08:22	6:12:00	17:57:51	6:23:06	17:46:45	6:35:39	17:34:12	6:42:52	17:26:59	6:51:02	17:18:49	7:00:32	17:09:19	7:11:57	16:57:54
14-08-23	6:01:18	18:08:11	6:11:35	17:57:54	6:22:26	17:47:03	6:34:42	17:34:47	6:41:45	17:27:44	6:49:44	17:19:45	6:59:01	17:10:28	7:10:09	16:59:20
15-08-23	6:01:07	18:07:59	6:11:10	17:57:56	6:21:46	17:47:20	6:33:45	17:35:21	6:40:38	17:28:28	6:48:25	17:20:41	6:57:28	17:11:38	7:08:19	17:00:47
16-08-23	6:00:55	18:07:47	6:10:44	17:57:58	6:21:05	17:47:37	6:32:47	17:35:55	6:39:30	17:29:12	6:47:05	17:21:37	6:55:54	17:12:47	7:06:29	17:02:13
17-08-23	6:00:43	18:07:34	6:10:18	17:57:59	6:20:24	17:47:53	6:31:48	17:36:29	6:38:20	17:29:57	6:45:44	17:22:33	6:54:20	17:13:57	7:04:37	17:03:40
18-08-23	6:00:30	18:07:21	6:09:51	17:58:00	6:19:41	17:48:10	6:30:48	17:37:03	6:37:10	17:30:41	6:44:22	17:23:29	6:52:44	17:15:07	7:02:44	17:05:07
19-08-23	6:00:17	18:07:07	6:09:23	17:58:01	6:18:58	17:48:26	6:29:47	17:37:37	6:35:59	17:31:25	6:42:59	17:24:24	6:51:07	17:16:17	7:00:50	17:06:34
20-08-23	6:00:03	18:06:52	6:08:54	17:58:01	6:18:14	17:48:41	6:28:45	17:38:11	6:34:47	17:32:09	6:41:35	17:25:20	6:49:29	17:17:27	6:58:55	17:08:01
21-08-23	5:59:49	18:06:38	6:08:26	17:58:01	6:17:29	17:48:57	6:27:42	17:38:44	6:33:34	17:32:53	6:40:10	17:26:16	6:47:50	17:18:37	6:56:59	17:09:28
22-08-23	5:59:34	18:06:22	6:07:56	17:58:00	6:16:44	17:49:12	6:26:39	17:39:18	6:32:20	17:33:37	6:38:44	17:27:12	6:46:09	17:19:47	6:55:01	17:10:55
23-08-23	5:59:19	18:06:07	6:07:26	17:58:00	6:15:58	17:49:27	6:25:35	17:39:51	6:31:05	17:34:21	6:37:17	17:28:08	6:44:29	17:20:57	6:53:03	17:12:22
24-08-23	5:59:03	18:05:51	6:06:55	17:57:59	6:15:12	17:49:42	6:24:30	17:40:24	6:29:49	17:35:04	6:35:50	17:29:04	6:42:47	17:22:07	6:51:04	17:13:50
25-08-23	5:58:47	18:05:34	6:06:24	17:57:57	6:14:24	17:49:57	6:23:24	17:40:57	6:28:33	17:35:48	6:34:21	17:30:00	6:41:04	17:23:17	6:49:04	17:15:17
26-08-23	5:58:31	18:05:17	6:05:53	17:57:55	6:13:37	17:50:11	6:22:18	17:41:30	6:27:16	17:36:32	6:32:52	17:30:56	6:39:20	17:24:28	6:47:03	17:16:45
27-08-23	5:58:14	18:05:00	6:05:21	17:57:53	6:12:48	17:50:26	6:21:11	17:42:03	6:25:58	17:37:15	6:31:22	17:31:52	6:37:36	17:25:38	6:45:01	17:18:13
28-08-23	5:57:57	18:04:42	6:04:48	17:57:51	6:11:59	17:50:40	6:20:03	17:42:35	6:24:40	17:37:59	6:29:51	17:32:48	6:35:51	17:26:48	6:42:59	17:19:40
29-08-23	5:57:39	18:04:24	6:04:15	17:57:48	6:11:10	17:50:53	6:18:55	17:43:08	6:23:21	17:38:42	6:28:20	17:33:43	6:34:05	17:27:58	6:40:55	17:21:08
30-08-23	5:57:21	18:04:06	6:03:41	17:57:45	6:10:20	17:51:07	6:17:46	17:43:40	6:22:01	17:39:26	6:26:48	17:34:39	6:32:18	17:29:09	6:38:51	17:22:36
31-08-23	5:57:03	18:03:47	6:03:08	17:57:42	6:09:29	17:51:20	6:16:37	17:44:13	6:20:41	17:40:09	6:25:15	17:35:35	6:30:31	17:30:19	6:36:46	17:24:03

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-09-23	5:56:44	18:03:28	6:02:33	17:57:39	6:08:39	17:51:34	6:15:27	17:44:45	6:19:20	17:40:52	6:23:42	17:36:31	6:28:43	17:31:29	6:34:41	17:25:31
02-09-23	5:56:25	18:03:09	6:01:59	17:57:35	6:07:47	17:51:47	6:14:17	17:45:17	6:17:59	17:41:36	6:22:08	17:37:26	6:26:55	17:32:40	6:32:35	17:26:59
03-09-23	5:56:06	18:02:49	6:01:24	17:57:32	6:06:55	17:52:00	6:13:06	17:45:49	6:16:37	17:42:19	6:20:33	17:38:22	6:25:05	17:33:50	6:30:28	17:28:27
04-09-23	5:55:47	18:02:30	6:00:48	17:57:28	6:06:03	17:52:13	6:11:55	17:46:22	6:15:14	17:43:02	6:18:58	17:39:18	6:23:16	17:35:00	6:28:21	17:29:55
05-09-23	5:55:27	18:02:09	6:00:13	17:57:23	6:05:11	17:52:25	6:10:43	17:46:54	6:13:51	17:43:45	6:17:23	17:40:14	6:21:25	17:36:11	6:26:13	17:31:23
06-09-23	5:55:07	18:01:49	5:59:37	17:57:19	6:04:18	17:52:38	6:09:31	17:47:25	6:12:28	17:44:28	6:15:47	17:41:09	6:19:35	17:37:21	6:24:05	17:32:51
07-09-23	5:54:47	18:01:29	5:59:01	17:57:15	6:03:25	17:52:51	6:08:18	17:47:57	6:11:04	17:45:11	6:14:10	17:42:05	6:17:44	17:38:32	6:21:56	17:34:19
08-09-23	5:54:26	18:01:08	5:58:24	17:57:10	6:02:31	17:53:03	6:07:05	17:48:29	6:09:40	17:45:54	6:12:33	17:43:01	6:15:52	17:39:42	6:19:47	17:35:48
09-09-23	5:54:06	18:00:47	5:57:48	17:57:05	6:01:37	17:53:15	6:05:52	17:49:01	6:08:15	17:46:37	6:10:56	17:43:57	6:14:00	17:40:53	6:17:37	17:37:16
10-09-23	5:53:45	18:00:26	5:57:11	17:57:00	6:00:43	17:53:28	6:04:38	17:49:33	6:06:51	17:47:21	6:09:18	17:44:53	6:12:08	17:42:04	6:15:27	17:38:44
11-09-23	5:53:24	18:00:05	5:56:34	17:56:55	5:59:49	17:53:40	6:03:24	17:50:05	6:05:26	17:48:04	6:07:41	17:45:49	6:10:15	17:43:14	6:13:17	17:40:13
12-09-23	5:53:03	17:59:44	5:55:57	17:56:50	5:58:55	17:53:52	6:02:10	17:50:37	6:04:00	17:48:47	6:06:02	17:46:45	6:08:22	17:44:25	6:11:06	17:41:41
13-09-23	5:52:42	17:59:23	5:55:19	17:56:45	5:58:00	17:54:05	6:00:56	17:51:09	6:02:35	17:49:30	6:04:24	17:47:41	6:06:29	17:45:36	6:08:55	17:43:10
14-09-23	5:52:21	17:59:01	5:54:42	17:56:40	5:57:05	17:54:17	5:59:41	17:51:41	6:01:09	17:50:13	6:02:45	17:48:37	6:04:35	17:46:47	6:06:43	17:44:39
15-09-23	5:51:59	17:58:40	5:54:04	17:56:35	5:56:10	17:54:29	5:58:27	17:52:12	5:59:43	17:50:57	6:01:06	17:49:33	6:02:41	17:47:58	6:04:32	17:46:07
16-09-23	5:51:38	17:58:18	5:53:26	17:56:30	5:55:15	17:54:41	5:57:12	17:52:44	5:58:16	17:51:40	5:59:27	17:50:29	6:00:47	17:49:09	6:02:20	17:47:36
17-09-23	5:51:17	17:57:57	5:52:49	17:56:25	5:54:20	17:54:54	5:55:57	17:53:17	5:56:50	17:52:24	5:57:48	17:51:26	5:58:53	17:50:21	6:00:08	17:49:06
18-09-23	5:50:55	17:57:35	5:52:11	17:56:20	5:53:25	17:55:06	5:54:42	17:53:49	5:55:24	17:53:07	5:56:09	17:52:22	5:56:59	17:51:32	5:57:56	17:50:35
19-09-23	5:50:34	17:57:14	5:51:33	17:56:15	5:52:30	17:55:18	5:53:27	17:54:21	5:53:57	17:53:51	5:54:29	17:53:19	5:55:04	17:52:44	5:55:44	17:52:04
20-09-23	5:50:13	17:56:53	5:50:55	17:56:10	5:51:34	17:55:31	5:52:12	17:54:53	5:52:31	17:54:35	5:52:50	17:54:16	5:53:10	17:53:55	5:53:31	17:53:34
21-09-23	5:49:51	17:56:31	5:50:18	17:56:05	5:50:39	17:55:43	5:50:57	17:55:26	5:51:04	17:55:19	5:51:10	17:55:12	5:51:15	17:55:07	5:51:19	17:55:04
22-09-23	5:49:30	17:56:10	5:49:40	17:56:00	5:49:44	17:55:56	5:49:42	17:55:59	5:49:37	17:56:03	5:49:31	17:56:09	5:49:21	17:56:19	5:49:06	17:56:34
23-09-23	5:49:09	17:55:49	5:49:02	17:55:55	5:48:49	17:56:09	5:48:26	17:56:31	5:48:11	17:56:47	5:47:51	17:57:07	5:47:26	17:57:32	5:46:54	17:58:04
24-09-23	5:48:48	17:55:28	5:48:25	17:55:51	5:47:54	17:56:22	5:47:11	17:57:04	5:46:44	17:57:31	5:46:12	17:58:04	5:45:32	17:58:44	5:44:41	17:59:34
25-09-23	5:48:27	17:55:07	5:47:47	17:55:46	5:46:59	17:56:35	5:45:57	17:57:37	5:45:18	17:58:16	5:44:32	17:59:02	5:43:37	17:59:57	5:42:29	18:01:05
26-09-23	5:48:06	17:54:46	5:47:10	17:55:42	5:46:04	17:56:48	5:44:42	17:58:11	5:43:52	17:59:01	5:42:53	17:59:59	5:41:43	18:01:10	5:40:17	18:02:36
27-09-23	5:47:46	17:54:26	5:46:33	17:55:38	5:45:09	17:57:02	5:43:27	17:58:44	5:42:25	17:59:46	5:41:14	18:00:57	5:39:49	18:02:23	5:38:05	18:04:07
28-09-23	5:47:25	17:54:05	5:45:56	17:55:34	5:44:15	17:57:16	5:42:13	17:59:18	5:41:00	18:00:31	5:39:35	18:01:56	5:37:54	18:03:36	5:35:52	18:05:38
29-09-23	5:47:05	17:53:45	5:45:19	17:55:31	5:43:21	17:57:30	5:40:58	17:59:52	5:39:34	18:01:16	5:37:56	18:02:54	5:36:01	18:04:50	5:33:41	18:07:10
30-09-23	5:46:45	17:53:25	5:44:43	17:55:27	5:42:27	17:57:44	5:39:45	18:00:26	5:38:08	18:02:02	5:36:18	18:03:53	5:34:07	18:06:03	5:31:29	18:08:41

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-10-23	5:46:25	17:53:06	5:44:07	17:55:24	5:41:33	17:57:58	5:38:31	18:01:00	5:36:43	18:02:48	5:34:39	18:04:52	5:32:14	18:07:17	5:29:17	18:10:14
02-10-23	5:46:06	17:52:46	5:43:31	17:55:21	5:40:39	17:58:13	5:37:17	18:01:35	5:35:18	18:03:34	5:33:01	18:05:51	5:30:20	18:08:32	5:27:06	18:11:46
03-10-23	5:45:47	17:52:27	5:42:55	17:55:19	5:39:46	17:58:28	5:36:04	18:02:10	5:33:54	18:04:21	5:31:24	18:06:50	5:28:28	18:09:46	5:24:55	18:13:19
04-10-23	5:45:28	17:52:09	5:42:20	17:55:17	5:38:54	17:58:43	5:34:52	18:02:45	5:32:29	18:05:07	5:29:46	18:07:50	5:26:35	18:11:01	5:22:45	18:14:52
05-10-23	5:45:09	17:51:51	5:41:45	17:55:15	5:38:01	17:58:59	5:33:39	18:03:21	5:31:05	18:05:54	5:28:09	18:08:50	5:24:43	18:12:17	5:20:35	18:16:25
06-10-23	5:44:51	17:51:33	5:41:11	17:55:13	5:37:09	17:59:15	5:32:27	18:03:56	5:29:42	18:06:42	5:26:33	18:09:51	5:22:52	18:13:32	5:18:25	18:17:59
07-10-23	5:44:33	17:51:15	5:40:36	17:55:12	5:36:18	17:59:31	5:31:16	18:04:33	5:28:19	18:07:29	5:24:57	18:10:51	5:21:00	18:14:48	5:16:15	18:19:33
08-10-23	5:44:16	17:50:58	5:40:03	17:55:11	5:35:26	17:59:47	5:30:05	18:05:09	5:26:57	18:08:17	5:23:21	18:11:52	5:19:10	18:16:04	5:14:06	18:21:07
09-10-23	5:43:59	17:50:41	5:39:29	17:55:11	5:34:36	18:00:04	5:28:54	18:05:46	5:25:35	18:09:06	5:21:46	18:12:54	5:17:19	18:17:21	5:11:58	18:22:42
10-10-23	5:43:42	17:50:25	5:38:56	17:55:11	5:33:46	18:00:22	5:27:44	18:06:23	5:24:13	18:09:54	5:20:12	18:13:55	5:15:30	18:18:38	5:09:50	18:24:17
11-10-23	5:43:26	17:50:09	5:38:24	17:55:11	5:32:56	18:00:40	5:26:35	18:07:01	5:22:52	18:10:43	5:18:38	18:14:57	5:13:41	18:19:55	5:07:43	18:25:53
12-10-23	5:43:11	17:49:54	5:37:52	17:55:12	5:32:07	18:00:58	5:25:26	18:07:39	5:21:32	18:11:33	5:17:05	18:16:00	5:11:52	18:21:12	5:05:36	18:27:29
13-10-23	5:42:56	17:49:39	5:37:21	17:55:14	5:31:18	18:01:16	5:24:18	18:08:17	5:20:12	18:12:22	5:15:32	18:17:02	5:10:04	18:22:30	5:03:30	18:29:05
14-10-23	5:42:41	17:49:25	5:36:50	17:55:15	5:30:30	18:01:35	5:23:10	18:08:56	5:18:53	18:13:12	5:14:00	18:18:06	5:08:17	18:23:48	5:01:24	18:30:41
15-10-23	5:42:27	17:49:11	5:36:20	17:55:18	5:29:43	18:01:55	5:22:03	18:09:35	5:17:35	18:14:03	5:12:29	18:19:09	5:06:31	18:25:07	4:59:20	18:32:18
16-10-23	5:42:13	17:48:58	5:35:51	17:55:21	5:28:56	18:02:15	5:20:57	18:10:14	5:16:18	18:14:54	5:10:59	18:20:13	5:04:45	18:26:26	4:57:16	18:33:56
17-10-23	5:42:00	17:48:45	5:35:22	17:55:24	5:28:11	18:02:35	5:19:52	18:10:54	5:15:01	18:15:45	5:09:29	18:21:17	5:03:01	18:27:45	4:55:13	18:35:33
18-10-23	5:41:48	17:48:34	5:34:54	17:55:28	5:27:25	18:02:56	5:18:47	18:11:34	5:13:45	18:16:37	5:08:00	18:22:21	5:01:17	18:29:05	4:53:10	18:37:11
19-10-23	5:41:36	17:48:22	5:34:26	17:55:32	5:26:41	18:03:18	5:17:43	18:12:15	5:12:30	18:17:29	5:06:32	18:23:26	4:59:33	18:30:25	4:51:09	18:38:50
20-10-23	5:41:25	17:48:12	5:33:59	17:55:37	5:25:57	18:03:39	5:16:40	18:12:56	5:11:16	18:18:21	5:05:05	18:24:32	4:57:51	18:31:45	4:49:08	18:40:29
21-10-23	5:41:15	17:48:01	5:33:33	17:55:43	5:25:14	18:04:02	5:15:38	18:13:38	5:10:02	18:19:14	5:03:39	18:25:37	4:56:10	18:33:06	4:47:08	18:42:08
22-10-23	5:41:05	17:47:52	5:33:08	17:55:49	5:24:32	18:04:25	5:14:37	18:14:20	5:08:50	18:20:07	5:02:14	18:26:43	4:54:30	18:34:27	4:45:10	18:43:47
23-10-23	5:40:56	17:47:43	5:32:43	17:55:56	5:23:51	18:04:48	5:13:37	18:15:03	5:07:38	18:21:01	5:00:49	18:27:50	4:52:50	18:35:49	4:43:12	18:45:27
24-10-23	5:40:47	17:47:36	5:32:19	17:56:04	5:23:11	18:05:12	5:12:37	18:15:45	5:06:28	18:21:55	4:59:26	18:28:56	4:51:12	18:37:10	4:41:16	18:47:07
25-10-23	5:40:39	17:47:28	5:31:56	17:56:12	5:22:31	18:05:37	5:11:39	18:16:29	5:05:18	18:22:49	4:58:04	18:30:04	4:49:35	18:38:32	4:39:20	18:48:48
26-10-23	5:40:32	17:47:22	5:31:34	17:56:20	5:21:52	18:06:02	5:10:41	18:17:13	5:04:10	18:23:44	4:56:43	18:31:11	4:47:59	18:39:55	4:37:26	18:50:28
27-10-23	5:40:26	17:47:16	5:31:12	17:56:30	5:21:15	18:06:27	5:09:45	18:17:57	5:03:03	18:24:39	4:55:23	18:32:19	4:46:25	18:41:17	4:35:33	18:52:09
28-10-23	5:40:20	17:47:11	5:30:52	17:56:40	5:20:38	18:06:53	5:08:50	18:18:42	5:01:57	18:25:35	4:54:05	18:33:27	4:44:51	18:42:40	4:33:41	18:53:51
29-10-23	5:40:16	17:47:07	5:30:32	17:56:50	5:20:02	18:07:20	5:07:56	18:19:27	5:00:52	18:26:31	4:52:47	18:34:35	4:43:19	18:44:04	4:31:50	18:55:32
30-10-23	5:40:12	17:47:03	5:30:13	17:57:02	5:19:28	18:07:47	5:07:03	18:20:12	4:59:48	18:27:27	4:51:31	18:35:44	4:41:48	18:45:27	4:30:01	18:57:14
31-10-23	5:40:08	17:47:01	5:29:55	17:57:14	5:18:54	18:08:15	5:06:11	18:20:58	4:58:45	18:28:24	4:50:16	18:36:53	4:40:18	18:46:51	4:28:13	18:58:56

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-11-23	5:40:06	17:46:59	5:29:38	17:57:27	5:18:22	18:08:43	5:05:20	18:21:45	4:57:44	18:29:21	4:49:03	18:38:02	4:38:50	18:48:15	4:26:27	19:00:38
02-11-23	5:40:04	17:46:58	5:29:22	17:57:40	5:17:50	18:09:12	5:04:31	18:22:31	4:56:44	18:30:18	4:47:50	18:39:12	4:37:23	18:49:39	4:24:42	19:02:20
03-11-23	5:40:04	17:46:58	5:29:07	17:57:54	5:17:20	18:09:42	5:03:43	18:23:19	4:55:45	18:31:16	4:46:40	18:40:22	4:35:58	18:51:03	4:22:59	19:04:03
04-11-23	5:40:04	17:46:58	5:28:53	17:58:09	5:16:50	18:10:11	5:02:56	18:24:06	4:54:48	18:32:14	4:45:30	18:41:32	4:34:34	18:52:28	4:21:17	19:05:45
05-11-23	5:40:04	17:47:00	5:28:40	17:58:24	5:16:22	18:10:42	5:02:10	18:24:54	4:53:52	18:33:12	4:44:22	18:42:42	4:33:12	18:53:52	4:19:37	19:07:28
06-11-23	5:40:06	17:47:02	5:28:28	17:58:40	5:15:55	18:11:13	5:01:26	18:25:42	4:52:58	18:34:10	4:43:16	18:43:52	4:31:52	18:55:17	4:17:58	19:09:10
07-11-23	5:40:09	17:47:05	5:28:17	17:58:57	5:15:29	18:11:44	5:00:43	18:26:31	4:52:05	18:35:09	4:42:11	18:45:03	4:30:33	18:56:41	4:16:21	19:10:53
08-11-23	5:40:12	17:47:09	5:28:07	17:59:15	5:15:05	18:12:17	5:00:01	18:27:20	4:51:13	18:36:08	4:41:08	18:46:13	4:29:15	18:58:06	4:14:46	19:12:35
09-11-23	5:40:16	17:47:14	5:27:57	17:59:33	5:14:41	18:12:49	4:59:21	18:28:09	4:50:23	18:37:07	4:40:07	18:47:24	4:28:00	18:59:31	4:13:13	19:14:17
10-11-23	5:40:21	17:47:20	5:27:49	17:59:52	5:14:19	18:13:22	4:58:42	18:28:59	4:49:35	18:38:07	4:39:07	18:48:35	4:26:46	19:00:55	4:11:42	19:15:59
11-11-23	5:40:27	17:47:26	5:27:42	18:00:11	5:13:58	18:13:56	4:58:05	18:29:49	4:48:48	18:39:06	4:38:08	18:49:45	4:25:34	19:02:20	4:10:13	19:17:41
12-11-23	5:40:34	17:47:34	5:27:37	18:00:32	5:13:38	18:14:30	4:57:29	18:30:39	4:48:02	18:40:06	4:37:12	18:50:56	4:24:24	19:03:44	4:08:45	19:19:23
13-11-23	5:40:42	17:47:42	5:27:32	18:00:52	5:13:20	18:15:04	4:56:55	18:31:29	4:47:19	18:41:05	4:36:17	18:52:07	4:23:16	19:05:08	4:07:20	19:21:04
14-11-23	5:40:50	17:47:51	5:27:28	18:01:14	5:13:03	18:15:39	4:56:22	18:32:19	4:46:37	18:42:05	4:35:24	18:53:18	4:22:10	19:06:32	4:05:57	19:22:45
15-11-23	5:41:00	17:48:01	5:27:25	18:01:36	5:12:47	18:16:14	4:55:51	18:33:10	4:45:56	18:43:05	4:34:33	18:54:28	4:21:06	19:07:56	4:04:36	19:24:25
16-11-23	5:41:10	17:48:12	5:27:23	18:01:59	5:12:33	18:16:50	4:55:22	18:34:01	4:45:18	18:44:05	4:33:44	18:55:38	4:20:04	19:09:19	4:03:17	19:26:05
17-11-23	5:41:21	17:48:24	5:27:23	18:02:22	5:12:19	18:17:26	4:54:54	18:34:52	4:44:41	18:45:04	4:32:57	18:56:49	4:19:04	19:10:42	4:02:01	19:27:44
18-11-23	5:41:33	17:48:37	5:27:23	18:02:46	5:12:07	18:18:02	4:54:27	18:35:43	4:44:06	18:46:04	4:32:11	18:57:58	4:18:06	19:12:04	4:00:47	19:29:23
19-11-23	5:41:46	17:48:50	5:27:25	18:03:11	5:11:57	18:18:39	4:54:02	18:36:34	4:43:32	18:47:04	4:31:28	18:59:08	4:17:10	19:13:26	3:59:35	19:31:01
20-11-23	5:42:00	17:49:04	5:27:27	18:03:36	5:11:48	18:19:16	4:53:39	18:37:25	4:43:01	18:48:03	4:30:46	19:00:17	4:16:16	19:14:47	3:58:26	19:32:38
21-11-23	5:42:14	17:49:19	5:27:31	18:04:02	5:11:40	18:19:54	4:53:17	18:38:16	4:42:31	18:49:02	4:30:07	19:01:26	4:15:25	19:16:08	3:57:19	19:34:14
22-11-23	5:42:29	17:49:35	5:27:36	18:04:28	5:11:33	18:20:31	4:52:58	18:39:07	4:42:03	18:50:01	4:29:30	19:02:35	4:14:36	19:17:28	3:56:14	19:35:50
23-11-23	5:42:45	17:49:52	5:27:42	18:04:55	5:11:28	18:21:09	4:52:39	18:39:58	4:41:37	18:51:00	4:28:54	19:03:43	4:13:49	19:18:48	3:55:13	19:37:24
24-11-23	5:43:02	17:50:09	5:27:49	18:05:22	5:11:24	18:21:47	4:52:23	18:40:48	4:41:13	18:51:58	4:28:21	19:04:50	4:13:05	19:20:06	3:54:14	19:38:57
25-11-23	5:43:20	17:50:27	5:27:57	18:05:50	5:11:21	18:22:25	4:52:08	18:41:39	4:40:50	18:52:56	4:27:50	19:05:57	4:12:23	19:21:24	3:53:17	19:40:30
26-11-23	5:43:38	17:50:46	5:28:06	18:06:19	5:11:20	18:23:04	4:51:55	18:42:29	4:40:30	18:53:54	4:27:21	19:07:03	4:11:43	19:22:41	3:52:24	19:42:00
27-11-23	5:43:57	17:51:06	5:28:16	18:06:47	5:11:21	18:23:42	4:51:43	18:43:19	4:40:12	18:54:51	4:26:54	19:08:08	4:11:06	19:23:57	3:51:33	19:43:30
28-11-23	5:44:17	17:51:26	5:28:27	18:07:16	5:11:22	18:24:21	4:51:34	18:44:09	4:39:55	18:55:48	4:26:30	19:09:13	4:10:31	19:25:11	3:50:45	19:44:58
29-11-23	5:44:37	17:51:47	5:28:39	18:07:46	5:11:25	18:25:00	4:51:26	18:44:59	4:39:41	18:56:44	4:26:07	19:10:17	4:09:59	19:26:25	3:50:00	19:46:25
30-11-23	5:44:59	17:52:09	5:28:52	18:08:16	5:11:29	18:25:38	4:51:20	18:45:48	4:39:28	18:57:39	4:25:47	19:11:20	4:09:30	19:27:38	3:49:18	19:47:49

Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

	0°		-10°		-20°		-30°		-35°		-40°		-45°		-50°	
Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
01-12-23	5:45:20	17:52:31	5:29:06	18:08:46	5:11:35	18:26:17	4:51:15	18:46:37	4:39:17	18:58:34	4:25:29	19:12:22	4:09:03	19:28:49	3:48:39	19:49:13
02-12-23	5:45:43	17:52:54	5:29:21	18:09:16	5:11:42	18:26:55	4:51:12	18:47:25	4:39:09	18:59:28	4:25:14	19:13:23	4:08:38	19:29:59	3:48:03	19:50:34
03-12-23	5:46:06	17:53:18	5:29:37	18:09:47	5:11:50	18:27:34	4:51:11	18:48:13	4:39:02	19:00:22	4:25:00	19:14:23	4:08:17	19:31:07	3:47:30	19:51:54
04-12-23	5:46:30	17:53:42	5:29:54	18:10:18	5:11:59	18:28:12	4:51:12	18:49:00	4:38:57	19:01:14	4:24:49	19:15:22	4:07:58	19:32:14	3:47:00	19:53:12
05-12-23	5:46:54	17:54:07	5:30:11	18:10:49	5:12:10	18:28:51	4:51:14	18:49:46	4:38:55	19:02:06	4:24:41	19:16:20	4:07:41	19:33:19	3:46:33	19:54:28
06-12-23	5:47:19	17:54:32	5:30:30	18:11:21	5:12:22	18:29:29	4:51:18	18:50:32	4:38:54	19:02:57	4:24:34	19:17:17	4:07:27	19:34:23	3:46:10	19:55:41
07-12-23	5:47:44	17:54:58	5:30:50	18:11:52	5:12:35	18:30:07	4:51:24	18:51:18	4:38:55	19:03:47	4:24:30	19:18:12	4:07:16	19:35:26	3:45:49	19:56:53
08-12-23	5:48:10	17:55:24	5:31:10	18:12:24	5:12:50	18:30:44	4:51:32	18:52:02	4:38:59	19:04:35	4:24:28	19:19:06	4:07:08	19:36:26	3:45:32	19:58:02
09-12-23	5:48:37	17:55:50	5:31:32	18:12:56	5:13:06	18:31:21	4:51:41	18:52:46	4:39:04	19:05:23	4:24:28	19:19:59	4:07:02	19:37:25	3:45:18	19:59:09
10-12-23	5:49:03	17:56:18	5:31:54	18:13:27	5:13:23	18:31:58	4:51:52	18:53:29	4:39:11	19:06:10	4:24:31	19:20:50	4:07:00	19:38:21	3:45:08	20:00:13
11-12-23	5:49:31	17:56:45	5:32:17	18:13:59	5:13:41	18:32:35	4:52:04	18:54:11	4:39:20	19:06:56	4:24:36	19:21:40	4:06:59	19:39:16	3:45:01	20:01:15
12-12-23	5:49:58	17:57:13	5:32:40	18:14:31	5:14:00	18:33:11	4:52:19	18:54:53	4:39:31	19:07:40	4:24:44	19:22:28	4:07:02	19:40:09	3:44:57	20:02:14
13-12-23	5:50:26	17:57:41	5:33:05	18:15:03	5:14:21	18:33:47	4:52:35	18:55:33	4:39:44	19:08:23	4:24:53	19:23:14	4:07:07	19:41:00	3:44:56	20:03:11
14-12-23	5:50:55	17:58:10	5:33:30	18:15:34	5:14:42	18:34:22	4:52:52	18:56:12	4:39:59	19:09:05	4:25:05	19:23:59	4:07:15	19:41:49	3:44:59	20:04:05
15-12-23	5:51:23	17:58:38	5:33:56	18:16:06	5:15:05	18:34:56	4:53:11	18:56:50	4:40:16	19:09:45	4:25:19	19:24:42	4:07:26	19:42:35	3:45:05	20:04:56
16-12-23	5:51:52	17:59:07	5:34:22	18:16:37	5:15:29	18:35:30	4:53:32	18:57:28	4:40:35	19:10:25	4:25:36	19:25:24	4:07:40	19:43:20	3:45:15	20:05:45
17-12-23	5:52:21	17:59:37	5:34:49	18:17:09	5:15:54	18:36:04	4:53:54	18:58:04	4:40:55	19:11:02	4:25:54	19:26:03	4:07:56	19:44:02	3:45:28	20:06:30
18-12-23	5:52:50	18:00:06	5:35:17	18:17:40	5:16:20	18:36:37	4:54:18	18:58:39	4:41:18	19:11:38	4:26:15	19:26:41	4:08:15	19:44:42	3:45:44	20:07:13
19-12-23	5:53:20	18:00:35	5:35:45	18:18:10	5:16:46	18:37:09	4:54:43	18:59:12	4:41:42	19:12:13	4:26:38	19:27:17	4:08:36	19:45:19	3:46:03	20:07:52
20-12-23	5:53:49	18:01:05	5:36:14	18:18:41	5:17:14	18:37:40	4:55:10	18:59:45	4:42:08	19:12:46	4:27:03	19:27:51	4:09:00	19:45:54	3:46:26	20:08:29
21-12-23	5:54:19	18:01:35	5:36:43	18:19:11	5:17:43	18:38:11	4:55:38	19:00:16	4:42:36	19:13:18	4:27:31	19:28:23	4:09:27	19:46:27	3:46:52	20:09:02
22-12-23	5:54:49	18:02:05	5:37:12	18:19:41	5:18:13	18:38:41	4:56:07	19:00:46	4:43:05	19:13:48	4:28:00	19:28:53	4:09:57	19:46:57	3:47:21	20:09:32
23-12-23	5:55:19	18:02:34	5:37:43	18:20:10	5:18:43	18:39:10	4:56:38	19:01:15	4:43:37	19:14:16	4:28:32	19:29:21	4:10:29	19:47:24	3:47:54	20:09:59
24-12-23	5:55:48	18:03:04	5:38:13	18:20:39	5:19:14	18:39:38	4:57:11	19:01:42	4:44:09	19:14:43	4:29:05	19:29:47	4:11:03	19:47:49	3:48:29	20:10:23
25-12-23	5:56:18	18:03:34	5:38:44	18:21:08	5:19:47	18:40:05	4:57:44	19:02:08	4:44:44	19:15:08	4:29:41	19:30:11	4:11:40	19:48:12	3:49:08	20:10:44
26-12-23	5:56:48	18:04:03	5:39:15	18:21:36	5:20:19	18:40:32	4:58:19	19:02:32	4:45:20	19:15:31	4:30:18	19:30:33	4:12:19	19:48:32	3:49:50	20:11:01
27-12-23	5:57:17	18:04:33	5:39:47	18:22:03	5:20:53	18:40:57	4:58:55	19:02:55	4:45:58	19:15:52	4:30:58	19:30:52	4:13:01	19:48:49	3:50:35	20:11:15
28-12-23	5:57:47	18:05:02	5:40:18	18:22:30	5:21:27	18:41:22	4:59:32	19:03:16	4:46:37	19:16:12	4:31:39	19:31:10	4:13:45	19:49:04	3:51:23	20:11:26
29-12-23	5:58:16	18:05:31	5:40:50	18:22:57	5:22:02	18:41:45	5:00:11	19:03:36	4:47:17	19:16:30	4:32:22	19:31:25	4:14:32	19:49:16	3:52:14	20:11:33
30-12-23	5:58:45	18:06:00	5:41:23	18:23:23	5:22:38	18:42:07	5:00:50	19:03:55	4:47:59	19:16:46	4:33:07	19:31:38	4:15:20	19:49:25	3:53:08	20:11:37
31-12-23	5:59:14	18:06:29	5:41:55	18:23:48	5:23:14	18:42:29	5:01:31	19:04:12	4:48:43	19:17:00	4:33:54	19:31:49	4:16:11	19:49:31	3:54:04	20:11:38