

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

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

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

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

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

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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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Date	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher	Lever	Coucher
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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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Temps moyen de Greenwich (GMT) UTC 0 Latitude Sud

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