

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

Attention, astronomical year style is used: The year -8400 in astronomical counting style is the year 8401 BCE in historical counting style.

direct	-8400 Feb 03 j 18:50	22° $\mathbf{K}$ 12'04		max. Earth dist.	-8394 May 26 j 11:37	4° $\mathbf{P}$ 18'33	35.91943 AU
evening set	-8400 May 04 j 13:15	23° $\mathbf{K}$ 48'05					
max. Earth dist.	-8400 May 15 j 13:06	24° $\mathbf{K}$ 08'00	37.46187 AU	conjunction	-8394 May 30 j 01:54	4° $\mathbf{P}$ 25'32	8°52'34
				minimum elong	-8394 May 30 j 01:34	4° $\mathbf{P}$ 25'30	8°52'32
conjunction	-8400 May 19 j 04:07	24° $\mathbf{K}$ 14'39	6°12'39	morning rise	-8394 Jun 11 j 20:33	4° $\mathbf{P}$ 50'12	
minimum elong	-8400 May 19 j 03:53	24° $\mathbf{K}$ 14'38	6°12'32	retrograde	-8394 Sep 08 j 08:48	6° $\mathbf{P}$ 32'00	
morning rise	-8400 Jun 02 j 15:32	24° $\mathbf{K}$ 40'59		opposition	-8394 Nov 25 j 04:31	5° $\mathbf{P}$ 18'28	9°37'35
retrograde	-8400 Aug 28 j 05:50	26° $\mathbf{K}$ 13'57		min. Earth dist.	-8394 Nov 28 j 11:43	5° $\mathbf{P}$ 13'35	33.82055 AU
opposition	-8400 Nov 14 j 11:00	25° $\mathbf{K}$ 02'59	6°47'25	direct	-8393 Feb 15 j 03:15	4° $\mathbf{P}$ 01'28	
min. Earth dist.	-8400 Nov 17 j 17:55	24° $\mathbf{K}$ 58'18	35.34633 AU	evening set	-8393 May 19 j 14:34	5° $\mathbf{P}$ 48'39	
direct	-8399 Feb 04 j 12:42	23° $\mathbf{K}$ 48'45		max. Earth dist.	-8393 May 28 j 12:51	6° $\mathbf{P}$ 05'59	35.66873 AU
evening set	-8399 May 06 j 16:53	25° $\mathbf{K}$ 26'10					
max. Earth dist.	-8399 May 17 j 11:42	25° $\mathbf{K}$ 45'53	37.20376 AU	conjunction	-8393 Jun 01 j 03:45	6° $\mathbf{P}$ 13'05	9°18'59
				minimum elong	-8393 Jun 01 j 03:23	6° $\mathbf{P}$ 13'03	9°18'58
conjunction	-8399 May 21 j 02:23	25° $\mathbf{K}$ 52'33	6°39'16	morning rise	-8393 Jun 13 j 13:53	6° $\mathbf{P}$ 37'18	
minimum elong	-8399 May 21 j 02:07	25° $\mathbf{K}$ 52'32	6°39'10	retrograde	-8393 Sep 10 j 11:41	8° $\mathbf{P}$ 20'52	
morning rise	-8399 Jun 04 j 08:06	26° $\mathbf{K}$ 18'43		opposition	-8393 Nov 27 j 06:00	7° $\mathbf{P}$ 06'55	10°05'41
retrograde	-8399 Aug 30 j 04:28	27° $\mathbf{K}$ 53'01		min. Earth dist.	-8393 Nov 30 j 12:59	7° $\mathbf{P}$ 02'00	33.57411 AU
opposition	-8399 Nov 16 j 08:19	26° $\mathbf{K}$ 41'38	7°15'44	direct	-8392 Feb 17 j 01:37	5° $\mathbf{P}$ 49'28	
min. Earth dist.	-8399 Nov 19 j 15:54	26° $\mathbf{K}$ 36'53	35.08984 AU	evening set	-8392 May 21 j 02:27	7° $\mathbf{P}$ 38'35	
direct	-8398 Feb 06 j 08:18	25° $\mathbf{K}$ 26'58		max. Earth dist.	-8392 May 29 j 16:59	7° $\mathbf{P}$ 55'28	35.42111 AU
evening set	-8398 May 08 j 21:37	27° $\mathbf{K}$ 05'49					
max. Earth dist.	-8398 May 19 j 09:28	27° $\mathbf{K}$ 25'13	36.94530 AU	conjunction	-8392 Jun 02 j 06:23	8° $\mathbf{P}$ 02'30	9°45'12
				minimum elong	-8392 Jun 02 j 06:02	8° $\mathbf{P}$ 02'28	9°45'13
conjunction	-8398 May 23 j 00:56	27° $\mathbf{K}$ 32'01	7°05'57	morning rise	-8392 Jun 14 j 07:05	8° $\mathbf{P}$ 26'12	
minimum elong	-8398 May 23 j 00:40	27° $\mathbf{K}$ 31'59	7°05'51	retrograde	-8392 Sep 11 j 14:27	10° $\mathbf{P}$ 11'38	
morning rise	-8398 Jun 06 j 00:50	27° $\mathbf{K}$ 57'58		opposition	-8392 Nov 28 j 08:25	8° $\mathbf{P}$ 57'16	10°33'36
retrograde	-8398 Sep 01 j 05:38	29° $\mathbf{K}$ 33'38		min. Earth dist.	-8392 Dec 01 j 15:20	8° $\mathbf{P}$ 52'20	33.33079 AU
opposition	-8398 Nov 18 j 06:06	28° $\mathbf{K}$ 21'49	7°44'07	direct	-8391 Feb 18 j 01:24	7° $\mathbf{P}$ 39'23	
min. Earth dist.	-8398 Nov 21 j 13:22	28° $\mathbf{K}$ 17'04	34.83335 AU	evening set	-8391 May 23 j 15:54	9° $\mathbf{P}$ 30'32	
direct	-8397 Feb 08 j 04:20	27° $\mathbf{K}$ 06'41		max. Earth dist.	-8391 May 31 j 20:18	9° $\mathbf{P}$ 46'45	35.17668 AU
evening set	-8397 May 11 j 03:27	28° $\mathbf{K}$ 47'05					
max. Earth dist.	-8397 May 21 j 08:35	29° $\mathbf{K}$ 06'08	36.68678 AU	conjunction	-8391 Jun 04 j 09:39	9° $\mathbf{P}$ 53'52	10°11'12
				minimum elong	-8391 Jun 04 j 09:15	9° $\mathbf{P}$ 53'50	10°11'14
conjunction	-8397 May 25 j 00:22	29° $\mathbf{K}$ 13'00	7°32'40	morning rise	-8391 Jun 16 j 00:33	10° $\mathbf{P}$ 17'00	
minimum elong	-8397 May 25 j 00:04	29° $\mathbf{K}$ 12'59	7°32'36	retrograde	-8391 Sep 13 j 20:38	12° $\mathbf{P}$ 04'22	
morning rise	-8397 Jun 07 j 17:40	29° $\mathbf{K}$ 38'43		opposition	-8391 Nov 30 j 11:29	10° $\mathbf{P}$ 49'36	11°01'16
	-8397 Jun 19 j 12:55	0° $\mathbf{P}$		min. Earth dist.	-8391 Dec 03 j 17:22	10° $\mathbf{P}$ 44'43	33.09068 AU
retrograde	-8397 Sep 03 j 05:45	1° $\mathbf{P}$ 15'48		direct	-8390 Feb 20 j 02:19	9° $\mathbf{P}$ 31'18	
opposition	-8397 Nov 20 j 04:37	0° $\mathbf{P}$ 03'34	8°12'33	evening set	-8390 May 26 j 06:33	11° $\mathbf{P}$ 24'34	
	-8397 Nov 22 j 15:38	30° $\mathbf{R}$ $\mathbf{K}$		max. Earth dist.	-8390 Jun 03 j 00:54	11° $\mathbf{P}$ 40'08	34.93495 AU
min. Earth dist.	-8397 Nov 23 j 13:05	29° $\mathbf{K}$ 58'42	34.57735 AU				
direct	-8396 Feb 10 j 02:39	28° $\mathbf{K}$ 47'58		conjunction	-8390 Jun 06 j 13:44	11° $\mathbf{P}$ 47'16	10°36'56
	-8396 Apr 25 j 17:51	0° $\mathbf{P}$		minimum elong	-8390 Jun 06 j 13:21	11° $\mathbf{P}$ 47'14	10°36'59
evening set	-8396 May 12 j 10:32	0° $\mathbf{P}$ 29'56		morning rise	-8390 Jun 17 j 17:59	12° $\mathbf{P}$ 09'45	
max. Earth dist.	-8396 May 22 j 09:11	0° $\mathbf{P}$ 48'40	36.42917 AU	retrograde	-8390 Sep 16 j 02:49	13° $\mathbf{P}$ 59'10	
				opposition	-8390 Dec 02 j 15:36	12° $\mathbf{P}$ 44'00	11°28'40
conjunction	-8396 May 26 j 00:17	0° $\mathbf{P}$ 55'34	7°59'22	min. Earth dist.	-8390 Dec 05 j 22:07	12° $\mathbf{P}$ 39'02	32.85318 AU
minimum elong	-8396 May 25 j 23:59	0° $\mathbf{P}$ 55'33	7°59'18	direct	-8389 Feb 22 j 05:17	11° $\mathbf{P}$ 25'17	
morning rise	-8396 Jun 08 j 10:38	1° $\mathbf{P}$ 20'58		evening set	-8389 May 28 j 23:02	13° $\mathbf{P}$ 20'45	
retrograde	-8396 Sep 04 j 07:09	2° $\mathbf{P}$ 59'33		max. Earth dist.	-8389 Jun 05 j 06:39	13° $\mathbf{P}$ 35'35	34.69576 AU
opposition	-8396 Nov 21 j 03:52	1° $\mathbf{P}$ 46'53	8°40'58				
min. Earth dist.	-8396 Nov 24 j 11:20	1° $\mathbf{P}$ 42'02	34.32271 AU	conjunction	-8389 Jun 08 j 18:38	13° $\mathbf{P}$ 42'43	11°02'21
direct	-8395 Feb 11 j 03:47	0° $\mathbf{P}$ 30'48		minimum elong	-8389 Jun 08 j 18:12	13° $\mathbf{P}$ 42'41	11°02'26
evening set	-8395 May 14 j 18:32	2° $\mathbf{P}$ 14'26		morning rise	-8389 Jun 19 j 11:32	14° $\mathbf{P}$ 04'29	
max. Earth dist.	-8395 May 24 j 08:55	2° $\mathbf{P}$ 32'42	36.17309 AU	retrograde	-8389 Sep 18 j 10:40	15° $\mathbf{P}$ 56'02	
				opposition	-8389 Dec 04 j 20:25	14° $\mathbf{P}$ 40'27	11°55'43
conjunction	-8395 May 28 j 00:41	2° $\mathbf{P}$ 39'43	8°26'01	min. Earth dist.	-8389 Dec 08 j 01:40	14° $\mathbf{P}$ 35'33	32.61812 AU
minimum elong	-8395 May 28 j 00:21	2° $\mathbf{P}$ 39'42	8°25'59	direct	-8388 Feb 24 j 10:31	13° $\mathbf{P}$ 21'18	
morning rise	-8395 Jun 10 j 03:32	3° $\mathbf{P}$ 04'47		evening set	-8388 May 30 j 17:01	15° $\mathbf{P}$ 19'05	
retrograde	-8395 Sep 06 j 08:58	4° $\mathbf{P}$ 44'56		max. Earth dist.	-8388 Jun 06 j 12:08	15° $\mathbf{P}$ 33'01	34.45881 AU
opposition	-8395 Nov 23 j 03:54	3° $\mathbf{P}$ 31'49	9°09'19				
min. Earth dist.	-8395 Nov 26 j 12:03	3° $\mathbf{P}$ 26'55	34.07027 AU	conjunction	-8388 Jun 10 j 00:23	15° $\mathbf{P}$ 40'14	11°27'25
direct	-8394 Feb 13 j 02:36	2° $\mathbf{P}$ 15'17		minimum elong	-8388 Jun 09 j 23:58	15° $\mathbf{P}$ 40'12	11°27'30
evening set	-8394 May 17 j 03:51	4° $\mathbf{P}$ 00'38		morning rise	-8388 Jun 20 j 05:14	16° $\mathbf{P}$ 01'13	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 2

Attention, astronomical year style is used: The year -8388 in astronomical counting style is the year 8389 BCE in historical counting style.

retrograde	-8388 Sep 19 j 17:50	17° $\Upsilon$ 54'59		evening set	-8381 Jun 20 j 04:15	0° $\delta$ 07'39	
opposition	-8388 Dec 06 j 02:23	16° $\Upsilon$ 38'59	12°22'23	max. Earth dist.	-8381 Jun 22 j 09:12	0° $\delta$ 12'31	32.90283 AU
min. Earth dist.	-8388 Dec 09 j 08:15	16° $\Upsilon$ 34'00	32.38554 AU				
direct	-8387 Feb 25 j 14:14	15° $\Upsilon$ 19'23		conjunction	-8381 Jun 25 j 12:53	0° $\delta$ 19'29	14°07'10
evening set	-8387 Jun 02 j 12:34	17° $\Upsilon$ 19'34		minimum elong	-8381 Jun 25 j 12:26	0° $\delta$ 19'26	14°07'23
max. Earth dist.	-8387 Jun 08 j 20:09	17° $\Upsilon$ 32'39	34.22441 AU	morning rise	-8381 Jun 30 j 20:09	0° $\delta$ 31'12	
				retrograde	-8381 Oct 05 j 16:40	2° $\delta$ 44'15	
conjunction	-8387 Jun 12 j 06:47	17° $\Upsilon$ 39'49	11°52'04	opposition	-8381 Dec 21 j 19:55	1° $\delta$ 25'09	15°11'48
minimum elong	-8387 Jun 12 j 06:21	17° $\Upsilon$ 39'47	11°52'10	min. Earth dist.	-8381 Dec 24 j 18:26	1° $\delta$ 20'27	30.86890 AU
morning rise	-8387 Jun 21 j 22:32	17° $\Upsilon$ 59'53		direct	-8380 Mar 11 j 20:01	0° $\delta$ 02'30	
retrograde	-8387 Sep 22 j 00:53	19° $\Upsilon$ 55'59		evening set	-8380 Jun 22 j 18:12	2° $\delta$ 23'42	
opposition	-8387 Dec 08 j 09:07	18° $\Upsilon$ 39'33	12°48'36	max. Earth dist.	-8380 Jun 23 j 23:31	2° $\delta$ 26'25	32.70418 AU
min. Earth dist.	-8387 Dec 11 j 13:48	18° $\Upsilon$ 34'36	32.15556 AU				
direct	-8386 Feb 27 j 21:15	17° $\Upsilon$ 19'31		conjunction	-8380 Jun 27 j 00:31	2° $\delta$ 33'12	14°26'46
evening set	-8386 Jun 05 j 09:54	19° $\Upsilon$ 22'11		minimum elong	-8380 Jun 27 j 00:06	2° $\delta$ 33'10	14°27'00
max. Earth dist.	-8386 Jun 11 j 02:54	19° $\Upsilon$ 34'09	33.99282 AU	morning rise	-8380 Jul 01 j 05:43	2° $\delta$ 42'37	
				retrograde	-8380 Oct 07 j 07:39	4° $\delta$ 59'25	
conjunction	-8386 Jun 14 j 13:59	19° $\Upsilon$ 41'26	12°16'14	opposition	-8380 Dec 23 j 08:57	3° $\delta$ 39'56	15°32'27
minimum elong	-8386 Jun 14 j 13:34	19° $\Upsilon$ 41'23	12°16'21	min. Earth dist.	-8380 Dec 26 j 04:39	3° $\delta$ 35'24	30.67694 AU
morning rise	-8386 Jun 23 j 15:57	20° $\Upsilon$ 00'29		direct	-8379 Mar 14 j 09:11	2° $\delta$ 16'55	
retrograde	-8386 Sep 24 j 10:10	21° $\Upsilon$ 59'01		evening set	-8379 Jun 26 j 16:40	4° $\delta$ 42'41	
opposition	-8386 Dec 10 j 16:32	20° $\Upsilon$ 42'08	13°14'17	max. Earth dist.	-8379 Jun 26 j 13:02	4° $\delta$ 42'21	32.51302 AU
min. Earth dist.	-8386 Dec 13 j 21:02	20° $\Upsilon$ 37'11	31.92882 AU				
direct	-8385 Mar 02 j 01:58	19° $\Upsilon$ 21'38		conjunction	-8379 Jun 29 j 12:45	4° $\delta$ 49'04	14°45'19
evening set	-8385 Jun 08 j 09:06	21° $\Upsilon$ 26'57		minimum elong	-8379 Jun 29 j 12:19	4° $\delta$ 49'01	14°45'35
max. Earth dist.	-8385 Jun 13 j 12:53	21° $\Upsilon$ 37'51	33.76464 AU	morning rise	-8379 Jul 02 j 07:53	4° $\delta$ 55'21	
				retrograde	-8379 Oct 09 j 22:18	7° $\delta$ 16'42	
conjunction	-8385 Jun 16 j 22:06	21° $\Upsilon$ 45'03	12°39'51	opposition	-8379 Dec 25 j 22:56	5° $\delta$ 56'52	15°51'57
minimum elong	-8385 Jun 16 j 21:38	21° $\Upsilon$ 45'00	12°39'59	min. Earth dist.	-8379 Dec 28 j 17:42	5° $\delta$ 52'22	30.49247 AU
morning rise	-8385 Jun 25 j 08:55	22° $\Upsilon$ 02'58		direct	-8378 Mar 16 j 20:06	4° $\delta$ 33'31	
retrograde	-8385 Sep 26 j 17:53	24° $\Upsilon$ 04'04		max. Earth dist.	-8378 Jun 29 j 05:24	7° $\delta$ 00'35	32.32937 AU
opposition	-8385 Dec 13 j 01:04	22° $\Upsilon$ 46'44	13°39'22				
min. Earth dist.	-8385 Dec 16 j 04:47	22° $\Upsilon$ 41'48	31.70577 AU	conjunction	-8378 Jul 02 j 01:58	7° $\delta$ 07'04	15°02'45
direct	-8384 Mar 03 j 09:16	21° $\Upsilon$ 25'47		minimum elong	-8378 Jul 02 j 01:34	7° $\delta$ 07'02	15°03'02
evening set	-8384 Jun 10 j 10:09	23° $\Upsilon$ 33'50		retrograde	-8378 Oct 12 j 13:44	9° $\delta$ 36'06	
max. Earth dist.	-8384 Jun 14 j 21:51	23° $\Upsilon$ 43'25	33.54068 AU	opposition	-8378 Dec 28 j 13:41	8° $\delta$ 15'55	16°10'14
				min. Earth dist.	-8378 Dec 31 j 06:09	8° $\delta$ 11'33	30.31513 AU
conjunction	-8384 Jun 18 j 06:36	23° $\Upsilon$ 50'39	13°02'50	direct	-8377 Mar 19 j 10:48	6° $\delta$ 52'16	
minimum elong	-8384 Jun 18 j 06:10	23° $\Upsilon$ 50'37	13°03'00	max. Earth dist.	-8377 Jul 01 j 20:13	9° $\delta$ 20'43	32.15294 AU
morning rise	-8384 Jun 26 j 01:17	24° $\Upsilon$ 07'19					
retrograde	-8384 Sep 28 j 04:23	26° $\Upsilon$ 11'06		conjunction	-8377 Jul 04 j 15:52	9° $\delta$ 27'10	15°18'59
opposition	-8384 Dec 14 j 10:23	24° $\Upsilon$ 53'19	14°03'46	minimum elong	-8377 Jul 04 j 15:27	9° $\delta$ 27'08	15°19'18
min. Earth dist.	-8384 Dec 17 j 12:40	24° $\Upsilon$ 48'27	31.48745 AU	retrograde	-8377 Oct 15 j 07:22	11° $\delta$ 57'34	
direct	-8383 Mar 05 j 16:17	23° $\Upsilon$ 31'54		opposition	-8377 Dec 31 j 05:31	10° $\delta$ 37'03	16°27'12
evening set	-8383 Jun 13 j 13:22	25° $\Upsilon$ 42'52		min. Earth dist.	-8376 Jan 02 j 20:23	10° $\delta$ 32'46	30.14493 AU
max. Earth dist.	-8383 Jun 17 j 09:16	25° $\Upsilon$ 51'08	33.32175 AU	direct	-8376 Mar 21 j 00:04	9° $\delta$ 13'06	
				max. Earth dist.	-8376 Jul 03 j 14:08	11° $\delta$ 43'06	31.98362 AU
conjunction	-8383 Jun 20 j 16:03	25° $\Upsilon$ 58'15	13°25'07				
minimum elong	-8383 Jun 20 j 15:36	25° $\Upsilon$ 58'12	13°25'18	conjunction	-8376 Jul 06 j 06:32	11° $\delta$ 49'18	15°33'58
morning rise	-8383 Jun 27 j 16:57	26° $\Upsilon$ 13'29		minimum elong	-8376 Jul 06 j 06:11	11° $\delta$ 49'16	15°34'17
retrograde	-8383 Sep 30 j 14:25	28° $\Upsilon$ 20'09		retrograde	-8376 Oct 16 j 22:28	14° $\delta$ 21'01	
opposition	-8383 Dec 16 j 20:42	27° $\Upsilon$ 01'54	14°27'21	opposition	-8375 Jan 01 j 22:24	13° $\delta$ 00'10	16°42'47
min. Earth dist.	-8383 Dec 19 j 22:26	26° $\Upsilon$ 57'02	31.27466 AU	min. Earth dist.	-8375 Jan 04 j 11:24	12° $\delta$ 56'00	29.98154 AU
direct	-8382 Mar 07 j 23:43	25° $\Upsilon$ 40'03		direct	-8375 Mar 23 j 15:37	11° $\delta$ 35'56	
evening set	-8382 Jun 16 j 19:12	27° $\Upsilon$ 54'07		max. Earth dist.	-8375 Jul 06 j 06:43	14° $\delta$ 07'13	31.82152 AU
max. Earth dist.	-8382 Jun 19 j 20:47	28° $\Upsilon$ 00'48	33.10896 AU				
				conjunction	-8375 Jul 08 j 21:50	14° $\delta$ 13'21	15°47'36
conjunction	-8382 Jun 23 j 02:00	28° $\Upsilon$ 07'50	13°46'35	minimum elong	-8375 Jul 08 j 21:29	14° $\delta$ 13'19	15°47'57
minimum elong	-8382 Jun 23 j 01:34	28° $\Upsilon$ 07'48	13°46'47		-8375 Jul 29 j 05:43	15° $\delta$	
morning rise	-8382 Jun 29 j 07:22	28° $\Upsilon$ 21'27		retrograde	-8375 Oct 19 j 16:17	16° $\delta$ 46'20	
	-8382 Aug 20 j 13:54	0° $\delta$		opposition	-8374 Jan 04 j 15:52	15° $\delta$ 25'08	16°56'55
retrograde	-8382 Oct 03 j 03:20	0° $\delta$ 31'10		min. Earth dist.	-8374 Jan 07 j 02:29	15° $\delta$ 21'07	29.82535 AU
	-8382 Nov 17 j 07:31	30° $\kappa$ $\Upsilon$			-8374 Jan 20 j 04:06	15° $\kappa$ $\delta$	
opposition	-8382 Dec 19 j 07:46	29° $\Upsilon$ 12'30	14°50'04	direct	-8374 Mar 26 j 06:35	14° $\delta$ 00'36	
min. Earth dist.	-8382 Dec 22 j 06:59	29° $\Upsilon$ 07'46	31.06828 AU		-8374 May 26 j 18:08	15° $\delta$	
direct	-8381 Mar 10 j 09:22	27° $\Upsilon$ 50'13		max. Earth dist.	-8374 Jul 09 j 01:53	16° $\delta$ 33'19	31.66674 AU
	-8381 Jun 16 j 16:34	0° $\delta$					

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 3

Attention, astronomical year style is used: The year -8374 in astronomical counting style is the year 8375 BCE in historical counting style.

conjunction	-8374 Jul	11 j 13:56	16° <b>8</b> 39'11	15°59'50	conjunction	-8366 Jul	31 j 14:23	6° <b>II</b> 54'47	16°37'41
minimum elong	-8374 Jul	11 j 13:38	16° <b>8</b> 39'09	16°00'11	minimum elong	-8366 Jul	31 j 14:22	6° <b>II</b> 54'46	16°38'09
retrograde	-8374 Oct	22 j 09:24	19° <b>8</b> 13'21		retrograde	-8366 Nov	12 j 05:41	9° <b>II</b> 35'54	
opposition	-8373 Jan	07 j 10:21	17° <b>8</b> 51'49	17°09'29	opposition	-8365 Jan	28 j 12:33	8° <b>II</b> 12'26	17°44'18
min. Earth dist.	-8373 Jan	09 j 19:34	17° <b>8</b> 47'53	29.67633 AU	min. Earth dist.	-8365 Jan	29 j 20:45	8° <b>II</b> 10'11	28.82367 AU
direct	-8373 Mar	28 j 22:14	16° <b>8</b> 27'01		direct	-8365 Apr	18 j 13:29	6° <b>II</b> 46'27	
max. Earth dist.	-8373 Jul	11 j 20:24	19° <b>8</b> 00'56	31.51977 AU	max. Earth dist.	-8365 Aug	02 j 03:32	9° <b>II</b> 28'19	30.70433 AU
conjunction	-8373 Jul	14 j 06:27	19° <b>8</b> 06'39	16°10'35	conjunction	-8365 Aug	03 j 09:57	9° <b>II</b> 31'26	16°34'02
minimum elong	-8373 Jul	14 j 06:09	19° <b>8</b> 06'37	16°10'58	minimum elong	-8365 Aug	03 j 09:59	9° <b>II</b> 31'26	16°34'32
retrograde	-8373 Oct	25 j 04:14	21° <b>8</b> 41'57		retrograde	-8365 Nov	15 j 02:23	12° <b>II</b> 13'03	
opposition	-8372 Jan	10 j 05:26	20° <b>8</b> 20'05	17°20'26	opposition	-8364 Jan	31 j 12:07	10° <b>II</b> 49'30	17°39'32
min. Earth dist.	-8372 Jan	12 j 11:23	20° <b>8</b> 16'21	29.53516 AU	min. Earth dist.	-8364 Feb	01 j 17:14	10° <b>II</b> 47'28	28.76575 AU
direct	-8372 Mar	30 j 16:06	18° <b>8</b> 55'00		direct	-8364 Apr	20 j 12:12	9° <b>II</b> 23'35	
max. Earth dist.	-8372 Jul	13 j 16:30	21° <b>8</b> 30'09	31.38110 AU	max. Earth dist.	-8364 Aug	04 j 01:49	12° <b>II</b> 05'54	30.65278 AU
conjunction	-8372 Jul	15 j 23:39	21° <b>8</b> 35'37	16°19'45	conjunction	-8364 Aug	05 j 05:37	12° <b>II</b> 08'45	16°28'27
minimum elong	-8372 Jul	15 j 23:24	21° <b>8</b> 35'36	16°20'08	minimum elong	-8364 Aug	05 j 05:41	12° <b>II</b> 08'46	16°28'57
retrograde	-8372 Oct	26 j 22:20	24° <b>8</b> 11'59		retrograde	-8364 Nov	17 j 01:18	14° <b>II</b> 50'46	
opposition	-8371 Jan	12 j 01:26	22° <b>8</b> 49'47	17°29'39	opposition	-8363 Feb	02 j 11:54	13° <b>II</b> 27'10	17°32'41
min. Earth dist.	-8371 Jan	14 j 05:46	22° <b>8</b> 46'09	29.40248 AU	min. Earth dist.	-8363 Feb	03 j 13:04	13° <b>II</b> 25'24	28.71845 AU
direct	-8371 Apr	02 j 09:55	21° <b>8</b> 24'27		direct	-8363 Apr	23 j 10:07	12° <b>II</b> 01'18	
max. Earth dist.	-8371 Jul	16 j 13:02	24° <b>8</b> 00'46	31.25170 AU	max. Earth dist.	-8363 Aug	07 j 02:08	14° <b>II</b> 44'09	30.61186 AU
conjunction	-8371 Jul	18 j 17:04	24° <b>8</b> 05'57	16°27'16	conjunction	-8363 Aug	08 j 01:30	14° <b>II</b> 46'33	16°20'57
minimum elong	-8371 Jul	18 j 16:49	24° <b>8</b> 05'56	16°27'41	minimum elong	-8363 Aug	08 j 01:37	14° <b>II</b> 46'34	16°21'28
retrograde	-8371 Oct	29 j 18:24	26° <b>8</b> 43'18		retrograde	-8363 Nov	19 j 22:25	17° <b>II</b> 28'51	
opposition	-8370 Jan	14 j 21:53	25° <b>8</b> 20'47	17°37'04	opposition	-8362 Feb	05 j 11:58	16° <b>II</b> 05'11	17°23'45
min. Earth dist.	-8370 Jan	16 j 22:20	25° <b>8</b> 17'25	29.27908 AU	min. Earth dist.	-8362 Feb	06 j 10:34	16° <b>II</b> 03'36	28.68124 AU
direct	-8370 Apr	05 j 05:35	23° <b>8</b> 55'13		direct	-8362 Apr	26 j 08:35	14° <b>II</b> 39'24	
max. Earth dist.	-8370 Jul	19 j 09:51	26° <b>8</b> 32'36	31.13215 AU	conjunction	-8362 Aug	10 j 21:22	17° <b>II</b> 24'36	16°11'32
conjunction	-8370 Jul	21 j 11:03	26° <b>8</b> 37'32	16°33'04	minimum elong	-8362 Aug	10 j 21:31	17° <b>II</b> 24'37	16°12'02
minimum elong	-8370 Jul	21 j 10:52	26° <b>8</b> 37'31	16°33'29	max. Earth dist.	-8362 Aug	10 j 00:40	17° <b>II</b> 22'29	30.58138 AU
retrograde	-8370 Nov	01 j 14:20	29° <b>8</b> 15'47		retrograde	-8362 Nov	22 j 21:05	20° <b>II</b> 07'03	
opposition	-8369 Jan	17 j 18:55	27° <b>8</b> 52'59	17°42'33	opposition	-8361 Feb	08 j 11:54	18° <b>II</b> 43'21	17°12'46
min. Earth dist.	-8369 Jan	19 j 17:20	27° <b>8</b> 49'45	29.16579 AU	min. Earth dist.	-8361 Feb	09 j 06:08	18° <b>II</b> 42'05	28.65408 AU
direct	-8369 Apr	08 j 00:12	26° <b>8</b> 27'15		direct	-8361 Apr	29 j 07:28	17° <b>II</b> 17'39	
max. Earth dist.	-8369 Jul	22 j 08:22	29° <b>8</b> 05'43	31.02351 AU	conjunction	-8361 Aug	13 j 17:20	20° <b>II</b> 02'40	16°00'13
conjunction	-8369 Jul	24 j 05:27	29° <b>8</b> 10'16	16°37'03	minimum elong	-8361 Aug	13 j 17:31	20° <b>II</b> 02'41	16°00'45
minimum elong	-8369 Jul	24 j 05:17	29° <b>8</b> 10'15	16°37'29	max. Earth dist.	-8361 Aug	13 j 00:37	20° <b>II</b> 00'57	30.56116 AU
retrograde	-8369 Aug	14 j 02:53	0° <b>II</b>		retrograde	-8361 Nov	25 j 16:36	22° <b>II</b> 45'09	
opposition	-8369 Nov	04 j 11:30	1° <b>II</b> 49'21		opposition	-8360 Feb	11 j 12:11	21° <b>II</b> 21'25	16°59'45
min. Earth dist.	-8368 Jan	20 j 16:38	0° <b>II</b> 26'19	17°46'05	min. Earth dist.	-8360 Feb	12 j 04:00	21° <b>II</b> 20'19	28.63694 AU
direct	-8368 Feb	05 j 15:43	30° <b>8</b>		direct	-8360 May	01 j 06:11	19° <b>II</b> 55'49	
max. Earth dist.	-8368 Apr	09 j 22:20	29° <b>8</b> 00'27		conjunction	-8360 Aug	15 j 12:56	22° <b>II</b> 40'31	15°47'03
conjunction	-8368 Jun	09 j 09:19	0° <b>II</b>		minimum elong	-8360 Aug	15 j 13:09	22° <b>II</b> 40'32	15°47'35
max. Earth dist.	-8368 Jul	24 j 05:46	1° <b>II</b> 39'49	30.92623 AU	max. Earth dist.	-8360 Aug	14 j 23:31	22° <b>II</b> 39'08	30.55148 AU
conjunction	-8368 Jul	26 j 00:03	1° <b>II</b> 44'06	16°39'10	retrograde	-8360 Nov	27 j 14:35	25° <b>II</b> 22'53	
minimum elong	-8368 Jul	25 j 23:57	1° <b>II</b> 44'05	16°39'37	opposition	-8359 Feb	13 j 12:12	23° <b>II</b> 59'08	16°44'44
retrograde	-8368 Nov	06 j 09:04	4° <b>II</b> 23'57		min. Earth dist.	-8359 Feb	13 j 23:24	23° <b>II</b> 58'21	28.63008 AU
opposition	-8367 Jan	22 j 14:55	3° <b>II</b> 00'43	17°47'34	direct	-8359 May	04 j 05:22	22° <b>II</b> 33'38	
min. Earth dist.	-8367 Jan	24 j 06:19	2° <b>II</b> 57'58	28.97214 AU	conjunction	-8359 Aug	18 j 08:28	25° <b>II</b> 17'53	15°32'03
direct	-8367 Apr	12 j 18:13	1° <b>II</b> 34'46		minimum elong	-8359 Aug	18 j 08:43	25° <b>II</b> 17'55	15°32'36
max. Earth dist.	-8367 Jul	27 j 05:28	4° <b>II</b> 15'08	30.84075 AU	max. Earth dist.	-8359 Aug	17 j 22:46	25° <b>II</b> 16'54	30.55240 AU
conjunction	-8367 Jul	28 j 19:09	4° <b>II</b> 18'57	16°39'23	retrograde	-8359 Nov	30 j 10:21	28° <b>II</b> 00'04	
minimum elong	-8367 Jul	28 j 19:05	4° <b>II</b> 18'57	16°39'51	opposition	-8358 Feb	16 j 12:00	26° <b>II</b> 36'17	16°27'45
retrograde	-8367 Nov	09 j 06:06	6° <b>II</b> 59'29		min. Earth dist.	-8358 Feb	16 j 20:41	26° <b>II</b> 35'41	28.63390 AU
opposition	-8366 Jan	25 j 13:28	5° <b>II</b> 36'07	17°46'59	direct	-8358 May	07 j 02:57	25° <b>II</b> 10'54	
min. Earth dist.	-8366 Jan	27 j 01:05	5° <b>II</b> 33'38	28.89228 AU	conjunction	-8358 Aug	21 j 03:39	27° <b>II</b> 54'36	15°15'15
direct	-8366 Apr	15 j 16:11	4° <b>II</b> 10'09		minimum elong	-8358 Aug	21 j 03:56	27° <b>II</b> 54'38	15°15'48
max. Earth dist.	-8366 Jul	30 j 03:15	6° <b>II</b> 51'12	30.76689 AU	max. Earth dist.	-8358 Aug	20 j 22:00	27° <b>II</b> 54'01	30.56458 AU
						-8358 Oct	18 j 14:51	0° <b>8</b>	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 4

Attention, astronomical year style is used: The year -8358 in astronomical counting style is the year 8359 BCE in historical counting style.

retrograde	-8358 Dec 03 j 06:31	0° $\overline{36}$ '27		conjunction	-8351 Sep 07 j 06:07	15° $\overline{43}$ '31	12°32'22
	-8357 Jan 20 j 09:29	30° $\overline{R}$ II		minimum elong	-8351 Sep 07 j 06:32	15° $\overline{43}$ '34	12°32'55
opposition	-8357 Feb 19 j 11:33	29° $\overline{II}$ 12'41	16°08'51	max. Earth dist.	-8351 Sep 08 j 02:22	15° $\overline{45}$ '32	30.98143 AU
min. Earth dist.	-8357 Feb 19 j 15:32	29° $\overline{II}$ 12'25	28.64882 AU	morning rise	-8351 Sep 15 j 16:11	16° $\overline{40}$ '33	
direct	-8357 May 10 j 03:41	27° $\overline{II}$ 47'27		retrograde	-8351 Dec 20 j 21:00	18° $\overline{40}$ '56	
	-8357 Aug 11 j 09:40	0° $\overline{40}$		opposition	-8350 Mar 09 j 21:35	16° $\overline{45}$ '11	13°08'36
evening set	-8357 Aug 22 j 17:45	0° $\overline{40}$ 27'34		min. Earth dist.	-8350 Mar 08 j 23:08	16° $\overline{45}$ '43	29.08056 AU
				direct	-8350 May 28 j 11:06	15° $\overline{43}$ '58	
conjunction	-8357 Aug 23 j 22:20	0° $\overline{40}$ 30'29	14°56'42	evening set	-8350 Aug 31 j 19:46	17° $\overline{40}$ '49	
minimum elong	-8357 Aug 23 j 22:39	0° $\overline{40}$ 30'31	14°57'15				
max. Earth dist.	-8357 Aug 23 j 20:10	0° $\overline{40}$ 30'15	30.58830 AU	conjunction	-8350 Sep 09 j 21:45	18° $\overline{40}$ '11'18	12°03'42
morning rise	-8357 Aug 25 j 03:35	0° $\overline{40}$ 33'28		minimum elong	-8350 Sep 09 j 22:10	18° $\overline{40}$ '11'20	12°04'14
retrograde	-8357 Dec 06 j 02:42	3° $\overline{40}$ 11'56		max. Earth dist.	-8350 Sep 10 j 21:54	18° $\overline{40}$ '13'41	31.08427 AU
opposition	-8356 Feb 22 j 11:00	1° $\overline{40}$ 48'12	15°48'03	morning rise	-8350 Sep 19 j 00:30	18° $\overline{40}$ '32'50	
min. Earth dist.	-8356 Feb 22 j 11:40	1° $\overline{40}$ 48'09	28.67554 AU	retrograde	-8350 Dec 23 j 11:51	20° $\overline{40}$ '47'48	
direct	-8356 May 12 j 00:51	0° $\overline{40}$ 23'07		opposition	-8349 Mar 12 j 17:34	19° $\overline{40}$ '25'18	12°37'15
evening set	-8356 Aug 22 j 06:01	2° $\overline{40}$ 57'00		min. Earth dist.	-8349 Mar 11 j 17:00	19° $\overline{40}$ '26'57	29.18416 AU
				direct	-8349 May 31 j 06:41	18° $\overline{40}$ '02'26	
conjunction	-8356 Aug 25 j 16:50	3° $\overline{40}$ 05'25	14°36'26	evening set	-8349 Sep 02 j 19:25	20° $\overline{40}$ '14'43	
minimum elong	-8356 Aug 25 j 17:10	3° $\overline{40}$ 05'27	14°36'58				
max. Earth dist.	-8356 Aug 25 j 19:19	3° $\overline{40}$ 05'40	30.62430 AU	conjunction	-8349 Sep 12 j 12:38	20° $\overline{40}$ '37'33	11°34'00
morning rise	-8356 Aug 29 j 04:16	3° $\overline{40}$ 13'54		minimum elong	-8349 Sep 12 j 13:04	20° $\overline{40}$ '37'35	11°34'32
retrograde	-8356 Dec 07 j 22:06	5° $\overline{40}$ 46'22		max. Earth dist.	-8349 Sep 13 j 15:22	20° $\overline{40}$ '40'10	31.19617 AU
opposition	-8355 Feb 24 j 09:55	4° $\overline{40}$ 22'43	15°25'27	morning rise	-8349 Sep 22 j 06:45	21° $\overline{40}$ '00'27	
min. Earth dist.	-8355 Feb 24 j 06:06	4° $\overline{40}$ 22'58	28.71429 AU	retrograde	-8349 Dec 26 j 03:56	23° $\overline{40}$ '13'04	
direct	-8355 May 15 j 00:16	2° $\overline{40}$ 57'52		min. Earth dist.	-8348 Mar 13 j 08:05	21° $\overline{40}$ '52'45	29.29652 AU
evening set	-8355 Aug 23 j 15:48	5° $\overline{40}$ 27'42		opposition	-8348 Mar 14 j 12:49	21° $\overline{40}$ '50'49	12°04'51
				direct	-8348 Jun 02 j 02:14	20° $\overline{40}$ '28'19	
conjunction	-8355 Aug 28 j 10:45	5° $\overline{40}$ 39'19	14°14'32	evening set	-8348 Sep 03 j 19:33	22° $\overline{40}$ '38'07	
minimum elong	-8355 Aug 28 j 11:07	5° $\overline{40}$ 39'22	14°15'05				
max. Earth dist.	-8355 Aug 28 j 16:18	5° $\overline{40}$ 39'53	30.67257 AU	conjunction	-8348 Sep 14 j 03:02	23° $\overline{40}$ '02'09	11°03'22
morning rise	-8355 Sep 02 j 06:25	5° $\overline{40}$ 51'02		minimum elong	-8348 Sep 14 j 03:26	23° $\overline{40}$ '02'11	11°03'54
retrograde	-8355 Dec 10 j 18:53	8° $\overline{40}$ 19'43		max. Earth dist.	-8348 Sep 15 j 08:59	23° $\overline{40}$ '05'04	31.31651 AU
opposition	-8354 Feb 27 j 08:27	6° $\overline{40}$ 56'10	15°01'07	morning rise	-8348 Sep 24 j 11:29	23° $\overline{40}$ '26'17	
min. Earth dist.	-8354 Feb 27 j 00:50	6° $\overline{40}$ 56'42	28.76521 AU	retrograde	-8348 Dec 27 j 18:16	25° $\overline{40}$ '36'40	
direct	-8354 May 17 j 21:49	5° $\overline{40}$ 31'36		min. Earth dist.	-8347 Mar 16 j 00:36	24° $\overline{40}$ '16'42	29.41739 AU
evening set	-8354 Aug 25 j 07:33	7° $\overline{40}$ 57'59		opposition	-8347 Mar 17 j 07:21	24° $\overline{40}$ '14'38	11°31'30
				direct	-8347 Jun 04 j 19:13	22° $\overline{40}$ '52'29	
conjunction	-8354 Aug 31 j 04:23	8° $\overline{40}$ 12'10	13°51'04	evening set	-8347 Sep 05 j 20:05	24° $\overline{40}$ '59'53	
minimum elong	-8354 Aug 31 j 04:46	8° $\overline{40}$ 12'12	13°51'37				
max. Earth dist.	-8354 Aug 31 j 14:48	8° $\overline{40}$ 13'13	30.73298 AU	conjunction	-8347 Sep 16 j 16:43	25° $\overline{40}$ '25'00	10°31'53
morning rise	-8354 Sep 06 j 01:49	8° $\overline{40}$ 26'25		minimum elong	-8347 Sep 16 j 17:07	25° $\overline{40}$ '25'02	10°32'25
retrograde	-8354 Dec 13 j 13:02	10° $\overline{40}$ 51'54		max. Earth dist.	-8347 Sep 18 j 01:39	25° $\overline{40}$ '28'12	31.44528 AU
opposition	-8353 Mar 02 j 06:29	9° $\overline{40}$ 28'32	14°35'09	morning rise	-8347 Sep 27 j 14:17	25° $\overline{40}$ '50'13	
min. Earth dist.	-8353 Mar 01 j 19:15	9° $\overline{40}$ 29'18	28.82776 AU	retrograde	-8347 Dec 30 j 07:28	27° $\overline{40}$ '58'25	
direct	-8353 May 20 j 20:33	8° $\overline{40}$ 04'15		min. Earth dist.	-8346 Mar 18 j 14:27	26° $\overline{40}$ '38'56	29.54652 AU
evening set	-8353 Aug 27 j 02:19	10° $\overline{40}$ 27'30		opposition	-8346 Mar 20 j 00:58	26° $\overline{40}$ '36'38	10°57'18
				direct	-8346 Jun 07 j 14:14	25° $\overline{40}$ '14'50	
conjunction	-8353 Sep 02 j 21:25	10° $\overline{40}$ 43'51	13°26'09	evening set	-8346 Sep 07 j 20:46	27° $\overline{40}$ '19'54	
minimum elong	-8353 Sep 02 j 21:50	10° $\overline{40}$ 43'54	13°26'43				
max. Earth dist.	-8353 Sep 03 j 10:36	10° $\overline{40}$ 45'11	30.80503 AU	conjunction	-8346 Sep 19 j 05:29	27° $\overline{40}$ '45'59	9°59'39
morning rise	-8353 Sep 09 j 17:18	11° $\overline{40}$ '00'17		minimum elong	-8346 Sep 19 j 05:52	27° $\overline{40}$ '46'01	10°00'10
retrograde	-8353 Dec 16 j 08:47	13° $\overline{40}$ 22'54		max. Earth dist.	-8346 Sep 20 j 16:58	27° $\overline{40}$ '49'24	31.58221 AU
opposition	-8352 Mar 04 j 04:08	11° $\overline{40}$ '59'42	14°07'40	morning rise	-8346 Sep 30 j 15:26	28° $\overline{40}$ '12'11	
min. Earth dist.	-8352 Mar 03 j 12:41	12° $\overline{40}$ '00'46	28.90172 AU		-8346 Nov 29 j 12:17	0° $\overline{40}$	
direct	-8352 May 22 j 16:47	10° $\overline{40}$ '35'46		retrograde	-8345 Jan 01 j 20:38	0° $\overline{40}$ 18'17	
evening set	-8352 Aug 27 j 22:49	12° $\overline{40}$ '56'05			-8345 Feb 05 j 09:25	30° $\overline{R}$ $\overline{40}$	
				min. Earth dist.	-8345 Mar 21 j 04:51	28° $\overline{40}$ '59'12	29.68427 AU
conjunction	-8352 Sep 04 j 14:01	13° $\overline{40}$ '14'20	12°59'53	opposition	-8345 Mar 22 j 17:55	28° $\overline{40}$ '56'44	10°22'21
minimum elong	-8352 Sep 04 j 14:25	13° $\overline{40}$ '14'23	13°00'26	direct	-8345 Jun 10 j 05:22	27° $\overline{40}$ '35'17	
max. Earth dist.	-8352 Sep 05 j 07:52	13° $\overline{40}$ '16'07	30.88809 AU	evening set	-8345 Sep 09 j 21:37	29° $\overline{40}$ '38'06	
morning rise	-8352 Sep 12 j 05:51	13° $\overline{40}$ '32'40			-8345 Sep 19 j 12:44	0° $\overline{40}$	
retrograde	-8352 Dec 18 j 02:14	15° $\overline{40}$ '52'36					
min. Earth dist.	-8351 Mar 06 j 07:04	14° $\overline{40}$ '30'52	28.98616 AU	conjunction	-8345 Sep 21 j 17:41	0° $\overline{40}$ 05'03	9°26'46
opposition	-8351 Mar 07 j 01:18	14° $\overline{40}$ '29'38	13°38'47	minimum elong	-8345 Sep 21 j 18:04	0° $\overline{40}$ 05'05	9°27'16
direct	-8351 May 25 j 14:50	13° $\overline{40}$ '06'03		max. Earth dist.	-8345 Sep 23 j 08:52	0° $\overline{40}$ 08'48	31.72786 AU
evening set	-8351 Aug 29 j 20:54	15° $\overline{40}$ '23'34		morning rise	-8345 Oct 03 j 14:48	0° $\overline{40}$ 32'07	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -8344 in astronomical counting style is the year 8345 BCE in historical counting style.

retrograde	-8344 Jan 04 j 08:20	2°Ω36'12		direct	-8338 Jun 26 j 07:04	13°Ω05'54	
min. Earth dist.	-8344 Mar 22 j 17:44	1°Ω17'33	29.83086 AU	evening set	-8338 Sep 22 j 06:13	14°Ω55'32	
opposition	-8344 Mar 24 j 10:01	1°Ω14'53	9°46'46		-8338 Sep 24 j 08:48	15°Ω	
	-8344 May 23 j 05:53	30°R☿					
direct	-8344 Jun 11 j 21:49	29°☿53'48		conjunction	-8338 Oct 06 j 10:26	15°Ω25'57	5°25'26
	-8344 Jul 01 j 06:53	0°Ω		minimum elong	-8338 Oct 06 j 10:40	15°Ω25'59	5°25'51
evening set	-8344 Sep 10 j 22:38	1°Ω54'27		max. Earth dist.	-8338 Oct 08 j 20:11	15°Ω31'10	32.98592 AU
				morning rise	-8338 Oct 20 j 16:29	15°Ω56'33	
conjunction	-8344 Sep 23 j 04:55	2°Ω22'10	8°53'18	retrograde	-8337 Jan 19 j 04:58	17°Ω48'47	
minimum elong	-8344 Sep 23 j 05:17	2°Ω22'12	8°53'48	min. Earth dist.	-8337 Apr 07 j 16:30	16°Ω33'31	31.09695 AU
max. Earth dist.	-8344 Sep 24 j 22:19	2°Ω26'05	31.88237 AU	opposition	-8337 Apr 10 j 03:41	16°Ω29'45	5°27'29
morning rise	-8344 Oct 05 j 12:41	2°Ω50'00		direct	-8337 Jun 28 j 18:31	15°Ω11'40	
retrograde	-8343 Jan 05 j 21:27	4°Ω52'08		evening set	-8337 Sep 24 j 07:46	16°Ω59'45	
min. Earth dist.	-8343 Mar 25 j 05:42	3°Ω33'57	29.98674 AU				
opposition	-8343 Mar 27 j 01:18	3°Ω31'05	9°10'37	conjunction	-8337 Oct 08 j 17:01	17°Ω30'22	4°50'23
direct	-8343 Jun 14 j 12:25	2°Ω10'23		minimum elong	-8337 Oct 08 j 17:13	17°Ω30'23	4°50'48
evening set	-8343 Sep 12 j 23:43	4°Ω08'59		max. Earth dist.	-8337 Oct 11 j 04:21	17°Ω35'40	33.19297 AU
				morning rise	-8337 Oct 23 j 04:28	18°Ω01'10	
conjunction	-8343 Sep 25 j 15:43	4°Ω37'21	8°19'21	retrograde	-8336 Jan 21 j 11:30	19°Ω52'00	
minimum elong	-8343 Sep 25 j 16:04	4°Ω37'23	8°19'50	min. Earth dist.	-8336 Apr 09 j 00:47	18°Ω37'09	31.30468 AU
max. Earth dist.	-8343 Sep 27 j 13:07	4°Ω41'37	32.04596 AU	opposition	-8336 Apr 11 j 13:29	18°Ω33'18	4°50'06
morning rise	-8343 Oct 08 j 08:57	5°Ω05'52		direct	-8336 Jun 30 j 02:48	17°Ω15'38	
retrograde	-8342 Jan 08 j 08:34	7°Ω06'08		evening set	-8336 Sep 25 j 09:08	19°Ω02'13	
min. Earth dist.	-8342 Mar 27 j 17:32	5°Ω48'24	30.15168 AU				
opposition	-8342 Mar 29 j 15:34	5°Ω45'23	8°34'00	conjunction	-8336 Oct 09 j 23:05	19°Ω32'59	4°15'26
direct	-8342 Jun 17 j 04:03	4°Ω25'05		minimum elong	-8336 Oct 09 j 23:16	19°Ω33'00	4°15'50
evening set	-8342 Sep 15 j 01:01	6°Ω21'43		max. Earth dist.	-8336 Oct 12 j 12:48	19°Ω38'27	33.40470 AU
				morning rise	-8336 Oct 24 j 15:01	20°Ω03'54	
conjunction	-8342 Sep 28 j 01:35	6°Ω50'40	7°45'01	retrograde	-8335 Jan 22 j 16:31	21°Ω53'24	
minimum elong	-8342 Sep 28 j 01:54	6°Ω50'42	7°45'29	min. Earth dist.	-8335 Apr 11 j 08:01	20°Ω38'58	31.51676 AU
max. Earth dist.	-8342 Sep 30 j 00:49	6°Ω55'04	32.21849 AU	opposition	-8335 Apr 13 j 22:22	20°Ω35'02	4°12'52
morning rise	-8342 Oct 11 j 03:46	7°Ω19'45		direct	-8335 Jul 02 j 12:24	19°Ω17'47	
retrograde	-8341 Jan 10 j 20:20	9°Ω18'16		evening set	-8335 Sep 27 j 10:39	21°Ω02'56	
min. Earth dist.	-8341 Mar 30 j 03:17	8°Ω01'04	30.32564 AU				
opposition	-8341 Apr 01 j 05:10	7°Ω57'50	7°57'03	conjunction	-8335 Oct 12 j 04:20	21°Ω33'45	3°40'36
direct	-8341 Jun 19 j 16:40	6°Ω37'58		minimum elong	-8335 Oct 12 j 04:30	21°Ω33'46	3°41'00
evening set	-8341 Sep 17 j 02:06	8°Ω32'43		max. Earth dist.	-8335 Oct 14 j 18:46	21°Ω39'14	33.62036 AU
				morning rise	-8335 Oct 27 j 00:26	22°Ω04'46	
conjunction	-8341 Sep 30 j 10:45	9°Ω02'09	7°10'22	retrograde	-8334 Jan 24 j 23:02	23°Ω52'58	
minimum elong	-8341 Sep 30 j 11:04	9°Ω02'11	7°10'50	min. Earth dist.	-8334 Apr 13 j 13:58	22°Ω38'57	31.73306 AU
max. Earth dist.	-8341 Oct 02 j 13:46	9°Ω06'52	32.39948 AU	opposition	-8334 Apr 16 j 06:22	22°Ω34'56	3°35'50
morning rise	-8341 Oct 13 j 20:57	9°Ω31'44		direct	-8334 Jul 04 j 19:32	21°Ω18'03	
retrograde	-8340 Jan 13 j 05:14	11°Ω28'34		evening set	-8334 Sep 29 j 11:52	23°Ω01'51	
min. Earth dist.	-8340 Mar 31 j 14:32	10°Ω11'48	30.50791 AU				
opposition	-8340 Apr 02 j 18:07	10°Ω08'28	7°19'49	conjunction	-8334 Oct 14 j 09:01	23°Ω32'41	3°05'59
direct	-8340 Jun 21 j 06:45	8°Ω49'03		minimum elong	-8334 Oct 14 j 09:09	23°Ω32'42	3°06'22
evening set	-8340 Sep 18 j 03:29	10°Ω42'01		max. Earth dist.	-8334 Oct 17 j 02:11	23°Ω38'22	33.83995 AU
				morning rise	-8334 Oct 29 j 08:24	24°Ω03'43	
conjunction	-8340 Oct 01 j 19:19	11°Ω11'51	6°35'29	retrograde	-8333 Jan 27 j 03:30	25°Ω50'41	
minimum elong	-8340 Oct 01 j 19:36	11°Ω11'53	6°35'57	min. Earth dist.	-8333 Apr 15 j 20:27	24°Ω37'01	31.95342 AU
max. Earth dist.	-8340 Oct 04 j 00:08	11°Ω16'42	32.58833 AU	opposition	-8333 Apr 18 j 13:45	24°Ω32'57	2°59'05
morning rise	-8340 Oct 15 j 12:54	11°Ω41'51		direct	-8333 Jul 07 j 03:40	23°Ω16'27	
retrograde	-8339 Jan 14 j 15:26	13°Ω37'03		evening set	-8333 Oct 01 j 12:55	24°Ω58'57	
min. Earth dist.	-8339 Apr 02 j 22:54	12°Ω20'52	30.69782 AU				
opposition	-8339 Apr 05 j 05:58	12°Ω17'19	6°42'25	conjunction	-8333 Oct 16 j 12:45	25°Ω29'45	2°31'36
direct	-8339 Jun 23 j 19:57	10°Ω58'21		minimum elong	-8333 Oct 16 j 12:51	25°Ω29'46	2°31'58
evening set	-8339 Sep 20 j 04:52	12°Ω49'37		max. Earth dist.	-8333 Oct 19 j 06:39	25°Ω35'26	34.06356 AU
				morning rise	-8333 Oct 31 j 15:05	26°Ω00'45	
conjunction	-8339 Oct 04 j 03:13	13°Ω19'47	6°00'29	retrograde	-8332 Jan 29 j 08:51	27°Ω46'33	
minimum elong	-8339 Oct 04 j 03:29	13°Ω19'49	6°00'56	min. Earth dist.	-8332 Apr 17 j 00:14	26°Ω33'20	32.17824 AU
max. Earth dist.	-8339 Oct 06 j 10:52	13°Ω24'51	32.78405 AU	opposition	-8332 Apr 19 j 20:17	26°Ω29'07	2°22'37
morning rise	-8339 Oct 18 j 03:28	13°Ω50'07		direct	-8332 Jul 08 j 09:46	25°Ω12'59	
	-8339 Nov 24 j 01:37	15°Ω		evening set	-8332 Oct 02 j 13:57	26°Ω54'16	
retrograde	-8338 Jan 16 j 23:05	15°Ω43'48					
	-8338 Mar 14 j 16:56	15°R♂		conjunction	-8332 Oct 17 j 16:00	27°Ω24'59	1°57'31
min. Earth dist.	-8338 Apr 05 j 08:57	14°Ω28'01	30.89449 AU	minimum elong	-8332 Oct 17 j 16:05	27°Ω25'00	1°57'51
opposition	-8338 Apr 07 j 17:18	14°Ω24'25	6°04'57	max. Earth dist.	-8332 Oct 20 j 12:27	27°Ω30'50	34.29143 AU

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6

Attention, astronomical year style is used: The year -8332 in astronomical counting style is the year 8333 BCE in historical counting style.

morning rise	-8332 Nov 01 j 20:35	27°05'55"		retrograde	-8325 Feb 10 j 18:02	10°03'32"	00
retrograde	-8331 Jan 30 j 10:54	29°04'36"		min. Earth dist.	-8325 Apr 30 j 15:50	9°02'14"	33.87364 AU
min. Earth dist.	-8331 Apr 19 j 05:21	28°02'43"	32.40773 AU	opposition	-8325 May 03 j 21:41	9°02'17"	-1°40'19"
opposition	-8331 Apr 22 j 01:58	28°02'32"	1°46'32"	direct	-8325 Jul 22 j 11:24	8°02'03"	47
direct	-8331 Jul 10 j 16:54	27°02'44"		evening set	-8325 Oct 15 j 17:54	9°02'38"	28
evening set	-8331 Oct 04 j 14:50	28°02'47"					
				conjunction	-8325 Oct 30 j 21:39	10°02'07"	-1°49'56"
conjunction	-8331 Oct 19 j 18:36	29°02'18"	1°23'45"	minimum elong	-8325 Oct 30 j 21:34	10°02'07"	1°49'41"
minimum elong	-8331 Oct 19 j 18:40	29°02'18"	1°24'05"	max. Earth dist.	-8325 Nov 03 j 03:55	10°02'13"	35.99929 AU
max. Earth dist.	-8331 Oct 22 j 16:18	29°02'24"	34.52397 AU	morning rise	-8325 Nov 15 j 04:16	10°02'36"	57
morning rise	-8331 Nov 04 j 00:53	29°02'49"	17	retrograde	-8324 Feb 12 j 17:55	12°02'15"	45
	-8331 Nov 09 j 12:24	0°02'00"		min. Earth dist.	-8324 May 01 j 17:23	11°02'05"	34.12702 AU
retrograde	-8330 Feb 01 j 13:08	1°02'32"	55	opposition	-8324 May 04 j 22:52	11°02'01"	-2°12'54"
min. Earth dist.	-8330 Apr 21 j 07:38	0°02'20"	32.64202 AU	direct	-8324 Jul 23 j 13:35	9°02'48"	16
opposition	-8330 Apr 24 j 06:52	0°02'16"	08	evening set	-8324 Oct 16 j 18:14	11°02'22"	14
	-8330 May 05 j 08:09	30°02'00"					
direct	-8330 Jul 12 j 23:40	29°02'00"	47	conjunction	-8324 Oct 31 j 20:33	11°02'51"	-2°20'29"
	-8330 Sep 15 j 02:21	0°02'00"		minimum elong	-8324 Oct 31 j 20:28	11°02'51"	2°20'15"
evening set	-8330 Oct 06 j 15:34	0°02'39"	51	max. Earth dist.	-8324 Nov 04 j 02:50	11°02'57"	36.25234 AU
				morning rise	-8324 Nov 16 j 01:39	12°02'20"	02
conjunction	-8330 Oct 21 j 20:22	1°02'10"	17	retrograde	-8323 Feb 13 j 17:46	13°02'58"	10
minimum elong	-8330 Oct 21 j 20:24	1°02'10"	18	min. Earth dist.	-8323 May 03 j 16:15	12°02'48"	34.38094 AU
max. Earth dist.	-8330 Oct 24 j 19:52	1°02'16"	18	opposition	-8323 May 06 j 23:09	12°02'43"	-2°44'54"
morning rise	-8330 Nov 06 j 03:57	1°02'40"	56	direct	-8323 Jul 25 j 15:00	11°02'31"	23
retrograde	-8329 Feb 03 j 14:37	3°02'23"	38	evening set	-8323 Oct 18 j 18:30	13°02'04"	40
min. Earth dist.	-8329 Apr 23 j 10:57	2°02'11"	36				
opposition	-8329 Apr 26 j 11:17	2°02'07"	12	conjunction	-8323 Nov 02 j 18:50	13°02'33"	05
direct	-8329 Jul 15 j 03:47	0°02'52"	16	minimum elong	-8323 Nov 02 j 18:44	13°02'33"	05
evening set	-8329 Oct 08 j 16:08	2°02'30"	19	max. Earth dist.	-8323 Nov 06 j 01:42	13°02'39"	21
				morning rise	-8323 Nov 17 j 22:10	14°02'01"	44
conjunction	-8329 Oct 23 j 21:47	3°02'00"	33	retrograde	-8322 Feb 15 j 14:13	15°02'39"	14
minimum elong	-8329 Oct 23 j 21:48	3°02'00"	33	min. Earth dist.	-8322 May 05 j 16:27	14°02'29"	54
max. Earth dist.	-8329 Oct 26 j 23:18	3°02'06"	41	opposition	-8322 May 08 j 23:08	14°02'25"	17
morning rise	-8329 Nov 08 j 05:58	3°02'31"	01	direct	-8322 Jul 27 j 15:35	13°02'13"	07
retrograde	-8328 Feb 05 j 14:19	5°02'12"	49	evening set	-8322 Oct 20 j 18:18	14°02'45"	44
min. Earth dist.	-8328 Apr 24 j 12:44	4°02'01"	14				
opposition	-8328 Apr 27 j 14:49	3°02'56"	45	conjunction	-8322 Nov 04 j 16:33	15°02'13"	45
desc. node	-8328 May 06 j 08:12	3°02'44"	06	minimum elong	-8322 Nov 04 j 16:26	15°02'13"	45
direct	-8328 Jul 16 j 08:21	2°02'42"	14	max. Earth dist.	-8322 Nov 08 j 00:26	15°02'20"	04
evening set	-8328 Oct 09 j 16:44	4°02'19"	21	morning rise	-8322 Nov 19 j 17:30	15°02'42"	00
				retrograde	-8321 Feb 17 j 08:55	17°02'18"	55
conjunction	-8328 Oct 24 j 22:27	4°02'49"	21	min. Earth dist.	-8321 May 07 j 14:59	16°02'09"	53
minimum elong	-8328 Oct 24 j 22:26	4°02'49"	21	opposition	-8321 May 10 j 22:23	16°02'05"	15
behind sun begin	-8328 Oct 24 j 19:50	4°02'49"	09	direct	-8321 Jul 29 j 17:21	14°02'53"	24
behind sun end	-8328 Oct 25 j 01:02	4°02'49"	34	evening set	-8321 Oct 22 j 18:13	16°02'25"	24
max. Earth dist.	-8328 Oct 28 j 00:36	4°02'55"	30				
morning rise	-8328 Nov 09 j 07:06	5°02'19"	35	conjunction	-8321 Nov 06 j 13:43	16°02'53"	00
retrograde	-8327 Feb 06 j 16:21	7°02'00"	34	minimum elong	-8321 Nov 06 j 13:35	16°02'53"	00
min. Earth dist.	-8327 Apr 26 j 14:11	5°02'49"	25	max. Earth dist.	-8321 Nov 09 j 21:21	16°02'59"	15
opposition	-8327 Apr 29 j 17:48	5°02'44"	52	morning rise	-8321 Nov 21 j 12:14	17°02'20"	50
direct	-8327 Jul 18 j 09:04	4°02'30"	46	retrograde	-8320 Feb 19 j 06:16	18°02'57"	11
evening set	-8327 Oct 11 j 17:10	6°02'07"	02	min. Earth dist.	-8320 May 08 j 12:49	17°02'48"	28
				opposition	-8320 May 11 j 21:01	17°02'43"	48
conjunction	-8327 Oct 26 j 22:46	6°02'36"	46	direct	-8320 Jul 30 j 14:56	16°02'32"	15
minimum elong	-8327 Oct 26 j 22:44	6°02'36"	46	evening set	-8320 Oct 23 j 17:45	18°02'03"	40
max. Earth dist.	-8327 Oct 30 j 03:10	6°02'43"	03				
morning rise	-8327 Nov 11 j 07:01	7°02'06"	44	conjunction	-8320 Nov 07 j 10:29	18°02'30"	50
retrograde	-8326 Feb 08 j 16:05	8°02'46"	57	minimum elong	-8320 Nov 07 j 10:20	18°02'30"	50
min. Earth dist.	-8326 Apr 28 j 16:02	7°02'36"	10	max. Earth dist.	-8320 Nov 10 j 19:47	18°02'37"	09
opposition	-8326 May 01 j 19:59	7°02'31"	37	morning rise	-8320 Nov 22 j 05:55	18°02'58"	13
direct	-8326 Jul 20 j 10:48	6°02'17"	57	retrograde	-8319 Feb 20 j 01:29	20°02'34"	04
evening set	-8326 Oct 13 j 17:38	7°02'53"	24	min. Earth dist.	-8319 May 10 j 11:03	19°02'25"	34
				opposition	-8319 May 13 j 19:02	19°02'20"	56
conjunction	-8326 Oct 28 j 22:27	8°02'22"	51	direct	-8319 Aug 01 j 14:05	18°02'09"	42
minimum elong	-8326 Oct 28 j 22:24	8°02'22"	51	evening set	-8319 Oct 25 j 17:18	19°02'40"	35
max. Earth dist.	-8326 Nov 01 j 02:55	8°02'29"	04				
morning rise	-8326 Nov 13 j 06:10	8°02'52"	31	conjunction	-8319 Nov 09 j 06:39	20°02'07"	18

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -8319 in astronomical counting style is the year 8320 BCE in historical counting style.

minimum elong	-8319 Nov 09 j 06:29	20° <u>07</u> 17	4°44'44			-8312 May 30 j 07:02	30° <u>08</u> 10	
max. Earth dist.	-8319 Nov 12 j 15:36	20° <u>07</u> 13'32	37.51959 AU	direct		-8312 Aug 12 j 10:39	28° <u>07</u> 58'40	
morning rise	-8319 Nov 23 j 22:49	20° <u>07</u> 34'13				-8312 Oct 21 j 03:13	0° <u>00</u>	
retrograde	-8318 Feb 21 j 23:26	22° <u>07</u> 09'34		evening set		-8312 Nov 06 j 10:01	0° <u>00</u> 27'02	
min. Earth dist.	-8318 May 12 j 06:47	21° <u>07</u> 01'26	35.65517 AU					
opposition	-8318 May 15 j 16:23	20° <u>07</u> 56'44	-5°15'33	conjunction		-8312 Nov 19 j 16:22	0° <u>00</u> 50'14	-7°42'04
direct	-8318 Aug 03 j 10:10	19° <u>07</u> 45'48		minimum elong		-8312 Nov 19 j 16:08	0° <u>00</u> 50'13	7°42'01
evening set	-8318 Oct 27 j 16:35	21° <u>07</u> 16'11		max. Earth dist.		-8312 Nov 23 j 04:05	0° <u>00</u> 56'23	39.31641 AU
				morning rise		-8312 Dec 03 j 01:03	1° <u>00</u> 13'37	
conjunction	-8318 Nov 11 j 02:22	21° <u>07</u> 42'26	-5°12'01	retrograde		-8311 Mar 04 j 08:50	2° <u>00</u> 46'45	
minimum elong	-8318 Nov 11 j 02:12	21° <u>07</u> 42'26	5°11'53	min. Earth dist.		-8311 May 22 j 21:53	1° <u>00</u> 40'39	37.46325 AU
max. Earth dist.	-8318 Nov 14 j 12:54	21° <u>07</u> 48'45	37.77504 AU	opposition		-8311 May 26 j 08:54	1° <u>00</u> 36'01	-8°19'05
morning rise	-8318 Nov 25 j 14:56	22° <u>07</u> 08'54		direct		-8311 Aug 14 j 03:38	0° <u>00</u> 27'20	
retrograde	-8317 Feb 23 j 20:03	23° <u>07</u> 43'49		evening set		-8311 Nov 08 j 08:40	1° <u>00</u> 55'30	
min. Earth dist.	-8317 May 14 j 04:10	22° <u>07</u> 35'54	35.91278 AU					
opposition	-8317 May 17 j 13:25	22° <u>07</u> 31'15	-5°43'45	conjunction		-8311 Nov 21 j 09:27	2° <u>00</u> 18'09	-8°05'00
direct	-8317 Aug 05 j 06:46	21° <u>07</u> 20'38		minimum elong		-8311 Nov 21 j 09:13	2° <u>00</u> 18'08	8°04'57
evening set	-8317 Oct 29 j 15:38	22° <u>07</u> 50'35		max. Earth dist.		-8311 Nov 24 j 21:27	2° <u>00</u> 24'16	39.56911 AU
				morning rise		-8311 Dec 04 j 12:36	2° <u>00</u> 40'59	
conjunction	-8317 Nov 12 j 21:38	23° <u>07</u> 16'21	-5°38'32	retrograde		-8310 Mar 06 j 02:29	4° <u>00</u> 13'55	
minimum elong	-8317 Nov 12 j 21:27	23° <u>07</u> 16'21	5°38'24	min. Earth dist.		-8310 May 24 j 16:54	3° <u>00</u> 08'00	37.71678 AU
max. Earth dist.	-8317 Nov 16 j 08:27	23° <u>07</u> 22'39	38.03175 AU	opposition		-8310 May 28 j 02:41	3° <u>00</u> 03'27	-8°42'44
morning rise	-8317 Nov 27 j 06:12	23° <u>07</u> 42'20		direct		-8310 Aug 15 j 20:59	1° <u>00</u> 55'03	
retrograde	-8316 Feb 25 j 14:43	25° <u>07</u> 16'51		evening set		-8310 Nov 10 j 07:07	3° <u>00</u> 23'00	
min. Earth dist.	-8316 May 14 j 23:08	24° <u>07</u> 09'18	36.17146 AU					
opposition	-8316 May 18 j 09:49	24° <u>07</u> 04'35	-6°11'16	conjunction		-8310 Nov 23 j 02:16	3° <u>00</u> 45'06	-8°27'21
direct	-8316 Aug 06 j 04:13	22° <u>07</u> 54'18		minimum elong		-8310 Nov 23 j 02:02	3° <u>00</u> 45'05	8°27'19
evening set	-8316 Oct 30 j 14:47	24° <u>07</u> 23'51		max. Earth dist.		-8310 Nov 26 j 14:04	3° <u>00</u> 51'11	39.81951 AU
				morning rise		-8310 Dec 05 j 23:26	4° <u>00</u> 07'22	
conjunction	-8316 Nov 13 j 16:30	24° <u>07</u> 49'08	-6°04'27	retrograde		-8309 Mar 07 j 16:34	5° <u>00</u> 40'06	
minimum elong	-8316 Nov 13 j 16:18	24° <u>07</u> 49'07	6°04'20	min. Earth dist.		-8309 May 26 j 09:51	4° <u>00</u> 34'27	37.96788 AU
max. Earth dist.	-8316 Nov 17 j 03:41	24° <u>07</u> 55'24	38.28919 AU	opposition		-8309 May 29 j 19:56	4° <u>00</u> 29'54	-9°05'47
morning rise	-8316 Nov 27 j 21:00	25° <u>07</u> 14'37		direct		-8309 Aug 17 j 17:00	3° <u>00</u> 21'45	
retrograde	-8315 Feb 26 j 08:23	26° <u>07</u> 48'47		evening set		-8309 Nov 12 j 05:28	4° <u>00</u> 49'31	
min. Earth dist.	-8315 May 16 j 19:11	25° <u>07</u> 41'31	36.43094 AU					
opposition	-8315 May 20 j 05:42	25° <u>07</u> 36'50	-6°38'08	conjunction		-8309 Nov 24 j 18:30	5° <u>00</u> 11'03	-8°49'08
direct	-8315 Aug 08 j 01:03	24° <u>07</u> 26'52		minimum elong		-8309 Nov 24 j 18:16	5° <u>00</u> 11'02	8°49'07
evening set	-8315 Nov 01 j 13:39	25° <u>07</u> 56'05		max. Earth dist.		-8309 Nov 28 j 05:31	5° <u>00</u> 17'02	40.06750 AU
				morning rise		-8309 Dec 07 j 09:47	5° <u>00</u> 32'45	
conjunction	-8315 Nov 15 j 11:04	26° <u>07</u> 20'52	-6°29'45	retrograde		-8308 Mar 08 j 07:20	7° <u>00</u> 05'19	
minimum elong	-8315 Nov 15 j 10:52	26° <u>07</u> 20'51	6°29'38	min. Earth dist.		-8308 May 27 j 03:10	5° <u>00</u> 59'51	38.21696 AU
max. Earth dist.	-8315 Nov 18 j 23:21	26° <u>07</u> 27'11	38.54711 AU	opposition		-8308 May 30 j 12:52	5° <u>00</u> 55'21	-9°28'11
morning rise	-8315 Nov 29 j 10:53	26° <u>07</u> 45'50		direct		-8308 Aug 18 j 11:08	4° <u>00</u> 47'27	
retrograde	-8314 Feb 28 j 00:32	28° <u>07</u> 19'42		evening set		-8308 Nov 13 j 03:38	6° <u>00</u> 15'02	
min. Earth dist.	-8314 May 18 j 14:25	27° <u>07</u> 12'44	36.69045 AU					
opposition	-8314 May 22 j 01:08	27° <u>07</u> 08'03	-7°04'20	conjunction		-8308 Nov 25 j 10:36	6° <u>00</u> 36'00	-9°10'20
direct	-8314 Aug 09 j 22:19	25° <u>07</u> 58'26		minimum elong		-8308 Nov 25 j 10:21	6° <u>00</u> 35'59	9°10'20
evening set	-8314 Nov 03 j 12:27	27° <u>07</u> 27'20		max. Earth dist.		-8308 Nov 28 j 22:27	6° <u>00</u> 42'00	40.31362 AU
				morning rise		-8308 Dec 07 j 19:24	6° <u>00</u> 57'06	
conjunction	-8314 Nov 17 j 04:58	27° <u>07</u> 51'36	-6°54'27	retrograde		-8307 Mar 09 j 20:51	8° <u>00</u> 29'31	
minimum elong	-8314 Nov 17 j 04:46	27° <u>07</u> 51'35	6°54'22	min. Earth dist.		-8307 May 28 j 20:06	7° <u>00</u> 24'15	38.46431 AU
max. Earth dist.	-8314 Nov 20 j 16:39	27° <u>07</u> 57'49	38.80470 AU	opposition		-8307 Jun 01 j 05:05	7° <u>00</u> 19'47	-9°49'59
morning rise	-8314 Dec 01 j 00:08	28° <u>07</u> 16'03		direct		-8307 Aug 20 j 05:09	6° <u>00</u> 12'08	
retrograde	-8313 Mar 01 j 19:41	29° <u>07</u> 49'39		evening set		-8307 Nov 15 j 01:46	7° <u>00</u> 39'34	
min. Earth dist.	-8313 May 20 j 08:51	28° <u>07</u> 43'01	36.94956 AU					
opposition	-8313 May 23 j 20:14	28° <u>07</u> 38'19	-7°29'53	conjunction		-8307 Nov 27 j 02:07	7° <u>00</u> 59'57	-9°30'56
direct	-8313 Aug 11 j 16:02	27° <u>07</u> 29'01		minimum elong		-8307 Nov 27 j 01:53	7° <u>00</u> 59'56	9°30'57
evening set	-8313 Nov 05 j 11:13	28° <u>07</u> 57'38		max. Earth dist.		-8307 Nov 30 j 13:00	8° <u>00</u> 05'51	40.55837 AU
				morning rise		-8307 Dec 09 j 04:25	8° <u>00</u> 20'29	
conjunction	-8313 Nov 18 j 22:51	29° <u>07</u> 21'23	-7°18'33	retrograde		-8306 Mar 11 j 13:25	9° <u>00</u> 52'46	
minimum elong	-8313 Nov 18 j 22:38	29° <u>07</u> 21'22	7°18'28	min. Earth dist.		-8306 May 30 j 11:12	8° <u>00</u> 47'45	38.71069 AU
max. Earth dist.	-8313 Nov 22 j 11:38	29° <u>07</u> 27'38	39.06136 AU	opposition		-8306 Jun 02 j 21:04	8° <u>00</u> 43'16	-10°11'09
morning rise	-8313 Dec 02 j 12:52	29° <u>07</u> 45'18		direct		-8306 Aug 21 j 19:58	7° <u>00</u> 35'51	
	-8313 Dec 11 j 03:30	0° <u>00</u>		evening set		-8306 Nov 16 j 23:29	9° <u>00</u> 03'11	
retrograde	-8312 Mar 02 j 13:15	1° <u>00</u> 18'40						
min. Earth dist.	-8312 May 21 j 04:29	0° <u>00</u> 12'15	37.20735 AU	conjunction		-8306 Nov 28 j 17:13	9° <u>00</u> 22'58	-9°50'58
opposition	-8312 May 24 j 14:47	0° <u>00</u> 07'38	-7°54'48	minimum elong		-8306 Nov 28 j 16:57	9° <u>00</u> 22'57	9°50'59

# Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8

Attention, astronomical year style is used: The year -8306 in astronomical counting style is the year 8307 BCE in historical counting style.

max. Earth dist.	-8306 Dec 02 j 05:07	9° <u>♁</u> 28'53	40.80221 AU	conjunction	-8299 Dec 07 j 20:05	18° <u>♁</u> 42'30	-11°55'20
morning rise	-8306 Dec 10 j 12:44	9° <u>♁</u> 42'54		minimum elong	-8299 Dec 07 j 19:51	18° <u>♁</u> 42'29	11°55'27
retrograde	-8305 Mar 13 j 05:20	11° <u>♁</u> 15'06		max. Earth dist.	-8299 Dec 11 j 05:38	18° <u>♁</u> 48'02	42.47400 AU
min. Earth dist.	-8305 Jun 01 j 03:52	10° <u>♁</u> 10'15	38.95631 AU	morning rise	-8299 Dec 17 j 09:42	18° <u>♁</u> 58'02	
opposition	-8305 Jun 04 j 12:44	10° <u>♁</u> 05'50	-10°31'41	retrograde	-8298 Mar 22 j 07:01	20° <u>♁</u> 30'19	
direct	-8305 Aug 23 j 10:48	8° <u>♁</u> 58'39		min. Earth dist.	-8298 Jun 10 j 10:14	19° <u>♁</u> 26'56	40.63517 AU
evening set	-8305 Nov 18 j 21:21	10° <u>♁</u> 25'55		opposition	-8298 Jun 13 j 16:10	19° <u>♁</u> 22'48	-12°38'46
				direct	-8298 Sep 01 j 15:31	18° <u>♁</u> 17'20	
conjunction	-8305 Nov 30 j 08:10	10° <u>♁</u> 45'07	-10°10'24	evening set	-8298 Nov 30 j 05:16	19° <u>♁</u> 44'51	
minimum elong	-8305 Nov 30 j 07:56	10° <u>♁</u> 45'06	10°10'26				
max. Earth dist.	-8305 Dec 03 j 19:38	10° <u>♁</u> 50'58	41.04550 AU	conjunction	-8298 Dec 09 j 09:13	19° <u>♁</u> 59'39	-12°11'00
morning rise	-8305 Dec 11 j 20:35	11° <u>♁</u> 04'26		minimum elong	-8298 Dec 09 j 08:58	19° <u>♁</u> 59'38	12°11'07
retrograde	-8304 Mar 13 j 21:51	12° <u>♁</u> 36'33		max. Earth dist.	-8298 Dec 12 j 18:12	20° <u>♁</u> 05'07	42.70189 AU
min. Earth dist.	-8304 Jun 01 j 18:06	11° <u>♁</u> 31'59	39.20127 AU	morning rise	-8298 Dec 18 j 13:59	20° <u>♁</u> 14'31	
opposition	-8304 Jun 05 j 03:47	11° <u>♁</u> 27'33	-10°51'36	retrograde	-8297 Mar 23 j 18:35	21° <u>♁</u> 46'53	
direct	-8304 Aug 24 j 01:09	10° <u>♁</u> 20'37		min. Earth dist.	-8297 Jun 11 j 23:34	20° <u>♁</u> 43'41	40.86303 AU
evening set	-8304 Nov 19 j 19:09	11° <u>♁</u> 47'51		opposition	-8297 Jun 15 j 05:10	20° <u>♁</u> 39'34	-12°54'43
				direct	-8297 Sep 03 j 06:19	19° <u>♁</u> 34'18	
conjunction	-8304 Nov 30 j 22:45	12° <u>♁</u> 06'27	-10°29'16	evening set	-8297 Dec 02 j 03:06	21° <u>♁</u> 01'55	
minimum elong	-8304 Nov 30 j 22:30	12° <u>♁</u> 06'26	10°29'18				
max. Earth dist.	-8304 Dec 04 j 10:08	12° <u>♁</u> 12'15	41.28799 AU	conjunction	-8297 Dec 10 j 22:04	21° <u>♁</u> 16'03	-12°26'10
morning rise	-8304 Dec 12 j 04:04	12° <u>♁</u> 25'09		minimum elong	-8297 Dec 10 j 21:49	21° <u>♁</u> 16'02	12°26'19
retrograde	-8303 Mar 15 j 11:43	13° <u>♁</u> 57'15		max. Earth dist.	-8297 Dec 14 j 05:36	21° <u>♁</u> 21'24	42.92595 AU
min. Earth dist.	-8303 Jun 03 j 09:44	12° <u>♁</u> 52'52	39.44545 AU	morning rise	-8297 Dec 19 j 17:57	21° <u>♁</u> 30'14	
opposition	-8303 Jun 06 j 18:43	12° <u>♁</u> 48'29	-11°10'54	retrograde	-8296 Mar 24 j 06:05	23° <u>♁</u> 02'42	
direct	-8303 Aug 25 j 16:20	11° <u>♁</u> 41'49		min. Earth dist.	-8296 Jun 12 j 13:05	21° <u>♁</u> 59'39	41.08740 AU
evening set	-8303 Nov 21 j 16:43	13° <u>♁</u> 09'02		opposition	-8296 Jun 15 j 17:51	21° <u>♁</u> 55'35	-13°10'09
				direct	-8296 Sep 03 j 19:55	20° <u>♁</u> 50'30	
conjunction	-8303 Dec 02 j 13:04	13° <u>♁</u> 27'01	-10°47'34	evening set	-8296 Dec 03 j 00:53	22° <u>♁</u> 18'15	
minimum elong	-8303 Dec 02 j 12:50	13° <u>♁</u> 27'00	10°47'38				
max. Earth dist.	-8303 Dec 06 j 01:03	13° <u>♁</u> 32'51	41.52952 AU	conjunction	-8296 Dec 11 j 10:46	22° <u>♁</u> 31'42	-12°40'51
morning rise	-8303 Dec 13 j 10:46	13° <u>♁</u> 45'06		minimum elong	-8296 Dec 11 j 10:33	22° <u>♁</u> 31'41	12°41'00
retrograde	-8302 Mar 16 j 22:21	15° <u>♁</u> 17'12		max. Earth dist.	-8296 Dec 14 j 18:43	22° <u>♁</u> 37'02	43.14670 AU
min. Earth dist.	-8302 Jun 05 j 00:17	14° <u>♁</u> 13'04	39.68826 AU	morning rise	-8296 Dec 19 j 21:19	22° <u>♁</u> 45'12	
opposition	-8302 Jun 08 j 09:08	14° <u>♁</u> 08'42	-11°29'36	retrograde	-8295 Mar 25 j 15:35	24° <u>♁</u> 17'47	
direct	-8302 Aug 27 j 10:00	13° <u>♁</u> 02'17		min. Earth dist.	-8295 Jun 14 j 02:37	23° <u>♁</u> 14'50	41.30854 AU
evening set	-8302 Nov 23 j 14:27	14° <u>♁</u> 29'32		opposition	-8295 Jun 17 j 06:11	23° <u>♁</u> 10'51	-13°25'04
				direct	-8295 Sep 05 j 10:53	22° <u>♁</u> 05'57	
conjunction	-8302 Dec 04 j 03:04	14° <u>♁</u> 46'53	-11°05'18	evening set	-8295 Dec 04 j 22:44	23° <u>♁</u> 33'51	
minimum elong	-8302 Dec 04 j 02:49	14° <u>♁</u> 46'52	11°05'22				
max. Earth dist.	-8302 Dec 07 j 13:47	14° <u>♁</u> 52'36	41.76952 AU	conjunction	-8295 Dec 12 j 22:57	23° <u>♁</u> 46'36	-12°55'02
morning rise	-8302 Dec 14 j 17:10	15° <u>♁</u> 04'21		minimum elong	-8295 Dec 12 j 22:43	23° <u>♁</u> 46'35	12°55'13
retrograde	-8301 Mar 18 j 12:11	16° <u>♁</u> 36'28		max. Earth dist.	-8295 Dec 16 j 05:21	23° <u>♁</u> 51'49	43.36463 AU
min. Earth dist.	-8301 Jun 06 j 14:27	15° <u>♁</u> 32'35	39.92942 AU	morning rise	-8295 Dec 20 j 23:47	23° <u>♁</u> 59'24	
opposition	-8301 Jun 09 j 23:21	15° <u>♁</u> 28'14	-11°47'43	retrograde	-8294 Mar 27 j 04:47	25° <u>♁</u> 32'08	
direct	-8301 Aug 29 j 00:14	14° <u>♁</u> 22'05		min. Earth dist.	-8294 Jun 15 j 14:15	24° <u>♁</u> 29'23	41.52722 AU
evening set	-8301 Nov 25 j 12:00	15° <u>♁</u> 49'21		opposition	-8294 Jun 18 j 18:12	24° <u>♁</u> 25'23	-13°39'27
				direct	-8294 Sep 06 j 21:44	23° <u>♁</u> 20'40	
conjunction	-8301 Dec 05 j 16:57	16° <u>♁</u> 06'05	-11°22'30	evening set	-8294 Dec 06 j 20:36	24° <u>♁</u> 48'46	
minimum elong	-8301 Dec 05 j 16:42	16° <u>♁</u> 06'04	11°22'36				
max. Earth dist.	-8301 Dec 09 j 04:22	16° <u>♁</u> 11'49	42.00741 AU	conjunction	-8294 Dec 14 j 10:59	25° <u>♁</u> 00'48	-13°08'43
morning rise	-8301 Dec 15 j 23:06	16° <u>♁</u> 22'55		minimum elong	-8294 Dec 14 j 10:46	25° <u>♁</u> 00'47	13°08'53
retrograde	-8300 Mar 19 j 01:13	17° <u>♁</u> 55'05		max. Earth dist.	-8294 Dec 17 j 17:41	25° <u>♁</u> 06'00	43.58029 AU
min. Earth dist.	-8300 Jun 07 j 05:58	16° <u>♁</u> 51'21	40.16799 AU	morning rise	-8294 Dec 22 j 01:56	25° <u>♁</u> 12'53	
opposition	-8300 Jun 10 j 13:17	16° <u>♁</u> 47'06	-12°05'16	retrograde	-8293 Mar 28 j 17:13	26° <u>♁</u> 45'49	
direct	-8300 Aug 29 j 14:42	15° <u>♁</u> 41'12		min. Earth dist.	-8293 Jun 17 j 03:35	25° <u>♁</u> 43'09	41.74384 AU
evening set	-8300 Nov 26 j 09:53	17° <u>♁</u> 08'32		opposition	-8293 Jun 20 j 06:01	25° <u>♁</u> 39'16	-13°53'18
				direct	-8293 Sep 08 j 08:39	24° <u>♁</u> 34'43	
conjunction	-8300 Dec 06 j 06:40	17° <u>♁</u> 24'38	-11°39'10	evening set	-8293 Dec 08 j 18:45	26° <u>♁</u> 03'04	
minimum elong	-8300 Dec 06 j 06:26	17° <u>♁</u> 24'37	11°39'16				
max. Earth dist.	-8300 Dec 09 j 16:37	17° <u>♁</u> 30'13	42.24247 AU	conjunction	-8293 Dec 15 j 22:51	26° <u>♁</u> 14'23	-13°21'54
morning rise	-8300 Dec 16 j 04:35	17° <u>♁</u> 40'49		minimum elong	-8293 Dec 15 j 22:37	26° <u>♁</u> 14'22	13°22'05
retrograde	-8299 Mar 20 j 16:23	19° <u>♁</u> 13'02		max. Earth dist.	-8293 Dec 19 j 05:04	26° <u>♁</u> 19'31	43.79418 AU
min. Earth dist.	-8299 Jun 08 j 19:08	18° <u>♁</u> 09'33	40.40340 AU	morning rise	-8293 Dec 23 j 03:18	26° <u>♁</u> 25'42	
opposition	-8299 Jun 12 j 02:43	18° <u>♁</u> 05'18	-12°22'17	retrograde	-8292 Mar 29 j 04:30	27° <u>♁</u> 58'52	
direct	-8299 Aug 31 j 02:51	16° <u>♁</u> 59'37		min. Earth dist.	-8292 Jun 17 j 14:42	26° <u>♁</u> 56'26	41.95852 AU
evening set	-8299 Nov 28 j 07:37	18° <u>♁</u> 27'02		opposition	-8292 Jun 20 j 17:28	26° <u>♁</u> 52'32	-14°06'38



# Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 9

Attention, astronomical year style is used: The year -8292 in astronomical counting style is the year 8293 BCE in historical counting style.

direct	-8292 Sep 08 j 21:01	25° <u>♏</u> 48'11		conjunction	-8286 Dec 24 j 04:26	4° <u>♍</u> 35'58	-14°41'08
evening set	-8292 Dec 09 j 17:09	27° <u>♏</u> 16'49		minimum elong	-8286 Dec 24 j 04:15	4° <u>♍</u> 35'57	14°41'24
				morning rise	-8286 Dec 27 j 09:41	4° <u>♍</u> 40'54	
conjunction	-8292 Dec 16 j 10:25	27° <u>♏</u> 27'23	-13°34'35	max. Earth dist.	-8286 Dec 27 j 05:27	4° <u>♍</u> 40'38	45.21800 AU
minimum elong	-8292 Dec 16 j 10:13	27° <u>♏</u> 27'22	13°34'47	retrograde	-8285 Apr 07 j 05:39	6° <u>♍</u> 17'20	
max. Earth dist.	-8292 Dec 19 j 15:40	27° <u>♏</u> 32'27	44.00608 AU	min. Earth dist.	-8285 Jun 26 j 23:29	5° <u>♍</u> 15'56	43.38189 AU
morning rise	-8292 Dec 23 j 04:07	27° <u>♏</u> 37'57		opposition	-8285 Jun 29 j 19:30	5° <u>♍</u> 12'28	-15°26'31
retrograde	-8291 Mar 30 j 15:26	29° <u>♏</u> 11'23		direct	-8285 Sep 18 j 02:37	4° <u>♍</u> 09'27	
min. Earth dist.	-8291 Jun 19 j 02:45	28° <u>♏</u> 09'07	42.17132 AU	evening set	-8285 Dec 23 j 08:49	5° <u>♍</u> 42'20	
opposition	-8291 Jun 22 j 04:41	28° <u>♏</u> 05'16	-14°19'28				
direct	-8291 Sep 10 j 08:51	27° <u>♏</u> 01'08		conjunction	-8285 Dec 25 j 14:49	5° <u>♍</u> 45'46	-14°50'46
evening set	-8291 Dec 11 j 15:48	28° <u>♏</u> 30'07		minimum elong	-8285 Dec 25 j 14:38	5° <u>♍</u> 45'46	14°51'02
				morning rise	-8285 Dec 27 j 20:35	5° <u>♍</u> 49'12	
conjunction	-8291 Dec 17 j 21:52	28° <u>♏</u> 39'53	-13°46'48	max. Earth dist.	-8285 Dec 28 j 13:32	5° <u>♍</u> 50'16	45.40537 AU
minimum elong	-8291 Dec 17 j 21:39	28° <u>♏</u> 39'52	13°47'00	retrograde	-8284 Apr 07 j 14:48	7° <u>♍</u> 26'41	
max. Earth dist.	-8291 Dec 21 j 03:31	28° <u>♏</u> 44'57	44.21608 AU	min. Earth dist.	-8284 Jun 27 j 09:53	6° <u>♍</u> 25'24	43.56850 AU
morning rise	-8291 Dec 24 j 04:07	28° <u>♏</u> 49'40		opposition	-8284 Jun 30 j 05:15	6° <u>♍</u> 21'58	-15°36'11
	-8290 Feb 14 j 11:27	0° <u>♍</u>		direct	-8284 Sep 18 j 13:44	5° <u>♍</u> 19'06	
retrograde	-8290 Apr 01 j 00:11	0° <u>♍</u> 23'26					
	-8290 May 17 j 12:10	30° <u>♏</u>		conjunction	-8284 Dec 26 j 01:06	6° <u>♍</u> 55'00	-15°00'00
min. Earth dist.	-8290 Jun 20 j 14:37	29° <u>♏</u> 21'20	42.38183 AU	minimum elong	-8284 Dec 26 j 00:56	6° <u>♍</u> 54'59	15°00'18
opposition	-8290 Jun 23 j 15:41	29° <u>♏</u> 17'32	-14°31'47	max. Earth dist.	-8284 Dec 28 j 23:45	6° <u>♍</u> 59'28	45.58833 AU
direct	-8290 Sep 11 j 22:07	28° <u>♏</u> 13'37		retrograde	-8283 Apr 08 j 22:59	8° <u>♍</u> 35'28	
evening set	-8290 Dec 13 j 14:53	29° <u>♏</u> 42'59		min. Earth dist.	-8283 Jun 28 j 21:17	7° <u>♍</u> 34'14	43.75089 AU
				opposition	-8283 Jul 01 j 14:39	7° <u>♍</u> 30'54	-15°45'27
conjunction	-8290 Dec 19 j 08:53	29° <u>♏</u> 51'56	-13°58'32	direct	-8283 Sep 20 j 00:55	6° <u>♍</u> 28'09	
minimum elong	-8290 Dec 19 j 08:42	29° <u>♏</u> 51'55	13°58'45				
max. Earth dist.	-8290 Dec 22 j 12:59	29° <u>♏</u> 56'53	44.42369 AU	conjunction	-8283 Dec 27 j 11:05	8° <u>♍</u> 03'38	-15°08'50
	-8290 Dec 24 j 13:02	0° <u>♍</u>		minimum elong	-8283 Dec 27 j 10:55	8° <u>♍</u> 03'38	15°09'06
morning rise	-8290 Dec 25 j 03:05	0° <u>♍</u> 00'55		max. Earth dist.	-8283 Dec 30 j 08:15	8° <u>♍</u> 08'00	45.76761 AU
retrograde	-8289 Apr 02 j 11:26	1° <u>♍</u> 35'03		retrograde	-8282 Apr 10 j 09:50	9° <u>♍</u> 43'40	
min. Earth dist.	-8289 Jun 22 j 01:29	0° <u>♍</u> 33'09	42.58974 AU	min. Earth dist.	-8282 Jun 30 j 06:18	8° <u>♍</u> 42'34	43.92986 AU
opposition	-8289 Jun 25 j 02:32	0° <u>♍</u> 29'23	-14°43'37	opposition	-8282 Jul 02 j 23:50	8° <u>♍</u> 39'14	-15°54'16
	-8289 Jul 19 j 16:30	30° <u>♏</u>		direct	-8282 Sep 21 j 09:07	7° <u>♍</u> 36'36	
direct	-8289 Sep 13 j 08:43	29° <u>♏</u> 25'40					
	-8289 Nov 06 j 08:13	0° <u>♍</u>		conjunction	-8282 Dec 28 j 20:41	9° <u>♍</u> 11'42	-15°17'14
evening set	-8289 Dec 15 j 14:44	0° <u>♍</u> 55'30		minimum elong	-8282 Dec 28 j 20:31	9° <u>♍</u> 11'41	15°17'33
				max. Earth dist.	-8282 Dec 31 j 17:09	9° <u>♍</u> 16'00	45.94366 AU
conjunction	-8289 Dec 20 j 20:01	1° <u>♍</u> 03'35	-14°09'49	retrograde	-8281 Apr 11 j 21:26	10° <u>♍</u> 51'18	
minimum elong	-8289 Dec 20 j 19:48	1° <u>♍</u> 03'34	14°10'03	min. Earth dist.	-8281 Jul 01 j 17:01	9° <u>♍</u> 50'15	44.10592 AU
max. Earth dist.	-8289 Dec 24 j 00:14	1° <u>♍</u> 08'31	44.62828 AU	opposition	-8281 Jul 04 j 08:58	9° <u>♍</u> 47'01	-16°02'40
morning rise	-8289 Dec 26 j 01:21	1° <u>♍</u> 11'41		direct	-8281 Sep 22 j 16:27	8° <u>♍</u> 44'30	
retrograde	-8288 Apr 02 j 23:30	2° <u>♍</u> 46'15					
min. Earth dist.	-8288 Jun 22 j 13:58	1° <u>♍</u> 44'29	42.79427 AU	conjunction	-8281 Dec 30 j 06:24	10° <u>♍</u> 19'14	-15°25'14
opposition	-8288 Jun 25 j 13:02	1° <u>♍</u> 40'49	-14°55'00	minimum elong	-8281 Dec 30 j 06:16	10° <u>♍</u> 19'13	15°25'32
direct	-8288 Sep 13 j 18:17	0° <u>♍</u> 37'19		max. Earth dist.	-8280 Jan 02 j 02:39	10° <u>♍</u> 23'29	46.11711 AU
evening set	-8288 Dec 16 j 15:49	2° <u>♍</u> 07'40		retrograde	-8280 Apr 12 j 04:51	11° <u>♍</u> 58'25	
				min. Earth dist.	-8280 Jul 02 j 02:06	10° <u>♍</u> 57'28	44.27926 AU
conjunction	-8288 Dec 21 j 07:02	2° <u>♍</u> 14'49	-14°20'40	opposition	-8280 Jul 04 j 17:38	10° <u>♍</u> 54'16	-16°10'38
minimum elong	-8288 Dec 21 j 06:52	2° <u>♍</u> 14'49	14°20'55	direct	-8280 Sep 23 j 02:55	9° <u>♍</u> 51'52	
max. Earth dist.	-8288 Dec 24 j 09:47	2° <u>♍</u> 19'38	44.82931 AU				
morning rise	-8288 Dec 25 j 22:15	2° <u>♍</u> 21'59		conjunction	-8280 Dec 30 j 15:47	11° <u>♍</u> 26'15	-15°32'50
retrograde	-8287 Apr 04 j 12:32	3° <u>♍</u> 57'04		minimum elong	-8280 Dec 30 j 15:38	11° <u>♍</u> 26'15	15°33'08
min. Earth dist.	-8287 Jun 24 j 00:25	2° <u>♍</u> 55'28	42.99476 AU	max. Earth dist.	-8279 Jan 02 j 10:20	11° <u>♍</u> 30'24	46.28802 AU
opposition	-8287 Jun 26 j 23:20	2° <u>♍</u> 51'50	-15°05'56	retrograde	-8279 Apr 13 j 12:31	13° <u>♍</u> 05'04	
direct	-8287 Sep 15 j 02:24	1° <u>♍</u> 48'31		min. Earth dist.	-8279 Jul 03 j 11:21	12° <u>♍</u> 04'14	44.45021 AU
evening set	-8287 Dec 18 j 18:02	3° <u>♍</u> 19'30		opposition	-8279 Jul 06 j 02:19	12° <u>♍</u> 01'04	-16°18'10
				direct	-8279 Sep 24 j 12:47	10° <u>♍</u> 58'49	
conjunction	-8287 Dec 22 j 17:42	3° <u>♍</u> 25'38	-14°31'07				
minimum elong	-8287 Dec 22 j 17:30	3° <u>♍</u> 25'37	14°31'21	conjunction	-8278 Jan 01 j 00:57	12° <u>♍</u> 32'52	-15°40'01
morning rise	-8287 Dec 26 j 17:17	3° <u>♍</u> 31'45		minimum elong	-8278 Jan 01 j 00:50	12° <u>♍</u> 32'51	15°40'19
max. Earth dist.	-8287 Dec 25 j 19:07	3° <u>♍</u> 30'20	45.02592 AU	max. Earth dist.	-8278 Jan 03 j 19:55	12° <u>♍</u> 37'01	46.45644 AU
retrograde	-8286 Apr 05 j 22:45	5° <u>♍</u> 07'26		retrograde	-8278 Apr 14 j 19:01	14° <u>♍</u> 11'19	
min. Earth dist.	-8286 Jun 25 j 12:29	4° <u>♍</u> 05'56	43.19075 AU	min. Earth dist.	-8278 Jul 04 j 21:17	13° <u>♍</u> 10'35	44.61842 AU
opposition	-8286 Jun 28 j 09:36	4° <u>♍</u> 02'24	-15°16'26	opposition	-8278 Jul 07 j 10:50	13° <u>♍</u> 07'29	-16°25'18
direct	-8286 Sep 16 j 13:09	2° <u>♍</u> 59'15		direct	-8278 Sep 25 j 23:46	12° <u>♍</u> 05'23	
evening set	-8286 Dec 20 j 22:59	4° <u>♍</u> 31'01					























































































































## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10

Attention, astronomical year style is used: The year -8277 in astronomical counting style is the year 8278 BCE in historical counting style.

conjunction	-8277 Jan 02 j 10:04	13° <b>ℓ</b> 39'06	-15°46'48	direct	-8270 Oct 04 j 13:54	20° <b>ℓ</b> 46'01	
minimum elong	-8277 Jan 02 j 09:55	13° <b>ℓ</b> 39'06	15°47'08				
max. Earth dist.	-8277 Jan 05 j 03:21	13° <b>ℓ</b> 43'09	46.62224 AU	conjunction	-8269 Jan 11 j 06:53	22° <b>ℓ</b> 17'29	-16°28'25
	-8277 Mar 07 j 11:32	15° <b>ℓ</b>		minimum elong	-8269 Jan 11 j 06:49	22° <b>ℓ</b> 17'29	16°28'48
retrograde	-8277 Apr 16 j 05:13	15° <b>ℓ</b> 17'12		max. Earth dist.	-8269 Jan 13 j 14:20	22° <b>ℓ</b> 20'50	47.79986 AU
	-8277 May 26 j 10:23	15° <b>κ</b> <b>ℓ</b>		retrograde	-8269 Apr 24 j 22:22	23° <b>ℓ</b> 52'59	
min. Earth dist.	-8277 Jul 06 j 05:28	14° <b>ℓ</b> 16'38	44.78374 AU	min. Earth dist.	-8269 Jul 15 j 04:09	22° <b>ℓ</b> 53'00	45.95145 AU
opposition	-8277 Jul 08 j 19:01	14° <b>ℓ</b> 13'33	-16°32'01	opposition	-8269 Jul 17 j 07:40	22° <b>ℓ</b> 50'28	-17°12'51
direct	-8277 Sep 27 j 06:54	13° <b>ℓ</b> 11'36		direct	-8269 Oct 05 j 22:01	21° <b>ℓ</b> 49'25	
conjunction	-8276 Jan 03 j 19:06	14° <b>ℓ</b> 45'02	-15°53'12	conjunction	-8268 Jan 12 j 14:58	23° <b>ℓ</b> 20'38	-16°32'05
minimum elong	-8276 Jan 03 j 18:59	14° <b>ℓ</b> 45'01	15°53'33	minimum elong	-8268 Jan 12 j 14:54	23° <b>ℓ</b> 20'38	16°32'30
max. Earth dist.	-8276 Jan 06 j 11:39	14° <b>ℓ</b> 49'00	46.78476 AU	max. Earth dist.	-8268 Jan 14 j 22:35	23° <b>ℓ</b> 23'59	47.92926 AU
	-8276 Jan 13 j 22:53	15° <b>ℓ</b>		retrograde	-8268 Apr 25 j 01:40	24° <b>ℓ</b> 55'49	
retrograde	-8276 Apr 16 j 15:15	16° <b>ℓ</b> 22'48		min. Earth dist.	-8268 Jul 15 j 12:17	23° <b>ℓ</b> 55'54	46.08002 AU
min. Earth dist.	-8276 Jul 06 j 15:46	15° <b>ℓ</b> 22'18	44.94551 AU	opposition	-8268 Jul 17 j 14:32	23° <b>ℓ</b> 53'25	-17°16'22
opposition	-8276 Jul 09 j 03:15	15° <b>ℓ</b> 19'19	-16°38'21	direct	-8268 Oct 06 j 09:00	22° <b>ℓ</b> 52'29	
	-8276 Jul 25 j 11:30	15° <b>κ</b> <b>ℓ</b>					
direct	-8276 Sep 27 j 13:49	14° <b>ℓ</b> 17'32		conjunction	-8267 Jan 12 j 22:46	24° <b>ℓ</b> 23'27	-16°35'24
	-8276 Nov 28 j 21:28	15° <b>ℓ</b>		minimum elong	-8267 Jan 12 j 22:43	24° <b>ℓ</b> 23'27	16°35'48
				max. Earth dist.	-8267 Jan 15 j 04:27	24° <b>ℓ</b> 26'40	48.05598 AU
conjunction	-8275 Jan 04 j 04:08	15° <b>ℓ</b> 50'40	-15°59'15	retrograde	-8267 Apr 26 j 08:51	25° <b>ℓ</b> 58'21	
minimum elong	-8275 Jan 04 j 04:01	15° <b>ℓ</b> 50'40	15°59'36	min. Earth dist.	-8267 Jul 16 j 18:53	24° <b>ℓ</b> 58'34	46.20597 AU
max. Earth dist.	-8275 Jan 06 j 19:56	15° <b>ℓ</b> 54'35	46.94352 AU	opposition	-8267 Jul 18 j 21:10	24° <b>ℓ</b> 56'05	-17°19'31
retrograde	-8275 Apr 17 j 23:10	17° <b>ℓ</b> 28'06		direct	-8267 Oct 07 j 16:18	23° <b>ℓ</b> 55'14	
min. Earth dist.	-8275 Jul 08 j 00:18	16° <b>ℓ</b> 27'44	45.10302 AU				
opposition	-8275 Jul 10 j 11:04	16° <b>ℓ</b> 24'48	-16°44'19	conjunction	-8266 Jan 14 j 06:27	25° <b>ℓ</b> 25'59	-16°38'23
direct	-8275 Sep 28 j 22:49	15° <b>ℓ</b> 23'09		minimum elong	-8266 Jan 14 j 06:24	25° <b>ℓ</b> 25'59	16°38'48
				max. Earth dist.	-8266 Jan 16 j 11:46	25° <b>ℓ</b> 29'10	48.18004 AU
conjunction	-8274 Jan 05 j 12:55	16° <b>ℓ</b> 56'02	-16°04'57	retrograde	-8266 Apr 27 j 17:13	27° <b>ℓ</b> 00'38	
minimum elong	-8274 Jan 05 j 12:49	16° <b>ℓ</b> 56'01	16°05'18	min. Earth dist.	-8266 Jul 18 j 03:31	26° <b>ℓ</b> 00'52	46.32919 AU
max. Earth dist.	-8274 Jan 08 j 02:28	16° <b>ℓ</b> 59'48	47.09779 AU	opposition	-8266 Jul 20 j 03:52	25° <b>ℓ</b> 58'30	-17°22'19
retrograde	-8274 Apr 19 j 07:14	18° <b>ℓ</b> 33'08		direct	-8266 Oct 08 j 22:20	24° <b>ℓ</b> 57'46	
min. Earth dist.	-8274 Jul 09 j 09:29	17° <b>ℓ</b> 32'52	45.25593 AU				
opposition	-8274 Jul 11 j 19:01	17° <b>ℓ</b> 30'00	-16°49'56	conjunction	-8265 Jan 15 j 14:03	26° <b>ℓ</b> 28'17	-16°41'01
direct	-8274 Sep 30 j 07:32	16° <b>ℓ</b> 28'28		minimum elong	-8265 Jan 15 j 14:02	26° <b>ℓ</b> 28'17	16°41'25
				max. Earth dist.	-8265 Jan 17 j 18:38	26° <b>ℓ</b> 31'25	48.30143 AU
conjunction	-8273 Jan 06 j 21:38	18° <b>ℓ</b> 01'04	-16°10'19	retrograde	-8265 Apr 29 j 01:42	28° <b>ℓ</b> 02'40	
minimum elong	-8273 Jan 06 j 21:31	18° <b>ℓ</b> 01'03	16°10'40	min. Earth dist.	-8265 Jul 19 j 10:11	27° <b>ℓ</b> 03'02	46.44932 AU
max. Earth dist.	-8273 Jan 09 j 10:50	18° <b>ℓ</b> 04'48	47.24727 AU	opposition	-8265 Jul 21 j 10:19	27° <b>ℓ</b> 00'41	-17°24'47
retrograde	-8273 Apr 20 j 12:58	19° <b>ℓ</b> 37'52		direct	-8265 Oct 10 j 03:53	26° <b>ℓ</b> 00'03	
min. Earth dist.	-8273 Jul 10 j 19:10	18° <b>ℓ</b> 37'38	45.40373 AU				
opposition	-8273 Jul 13 j 02:46	18° <b>ℓ</b> 34'52	-16°55'13	conjunction	-8264 Jan 16 j 21:37	27° <b>ℓ</b> 30'23	-16°43'19
direct	-8273 Oct 01 j 17:50	17° <b>ℓ</b> 33'27		minimum elong	-8264 Jan 16 j 21:34	27° <b>ℓ</b> 30'23	16°43'45
				max. Earth dist.	-8264 Jan 19 j 00:15	27° <b>ℓ</b> 33'23	48.41944 AU
conjunction	-8272 Jan 08 j 06:16	19° <b>ℓ</b> 05'45	-16°15'20	retrograde	-8264 Apr 29 j 10:21	29° <b>ℓ</b> 04'30	
minimum elong	-8272 Jan 08 j 06:11	19° <b>ℓ</b> 05'45	16°15'43	min. Earth dist.	-8264 Jul 19 j 18:06	28° <b>ℓ</b> 04'56	46.56592 AU
max. Earth dist.	-8272 Jan 10 j 17:15	19° <b>ℓ</b> 09'21	47.39184 AU	opposition	-8264 Jul 21 j 16:40	28° <b>ℓ</b> 02'40	-17°26'54
retrograde	-8272 Apr 20 j 21:24	20° <b>ℓ</b> 42'13		direct	-8264 Oct 10 j 09:04	27° <b>ℓ</b> 02'09	
min. Earth dist.	-8272 Jul 11 j 03:01	19° <b>ℓ</b> 42'06	45.54670 AU				
opposition	-8272 Jul 13 j 10:09	19° <b>ℓ</b> 39'21	-17°00'09	conjunction	-8263 Jan 17 j 05:17	28° <b>ℓ</b> 32'17	-16°45'19
direct	-8272 Oct 02 j 01:34	18° <b>ℓ</b> 38'03		minimum elong	-8263 Jan 17 j 05:17	28° <b>ℓ</b> 32'17	16°45'44
				max. Earth dist.	-8263 Jan 19 j 07:41	28° <b>ℓ</b> 35'16	48.53361 AU
conjunction	-8271 Jan 08 j 14:43	20° <b>ℓ</b> 10'04	-16°20'03		-8263 Apr 06 j 16:05	0° <b>♊</b>	
minimum elong	-8271 Jan 08 j 14:37	20° <b>ℓ</b> 10'04	16°20'25	retrograde	-8263 Apr 30 j 15:08	0° <b>♊</b> 06'10	
max. Earth dist.	-8271 Jan 11 j 00:44	20° <b>ℓ</b> 13'35	47.53168 AU		-8263 May 24 j 16:30	30° <b>κ</b> <b>ℓ</b>	
retrograde	-8271 Apr 22 j 07:31	21° <b>ℓ</b> 46'12		min. Earth dist.	-8263 Jul 21 j 02:01	29° <b>ℓ</b> 06'39	46.67815 AU
min. Earth dist.	-8271 Jul 12 j 12:33	20° <b>ℓ</b> 46'05	45.68523 AU	opposition	-8263 Jul 22 j 22:59	29° <b>ℓ</b> 04'27	-17°28'43
opposition	-8271 Jul 14 j 17:35	20° <b>ℓ</b> 43'27	-17°04'44	direct	-8263 Oct 11 j 17:51	28° <b>ℓ</b> 04'03	
direct	-8271 Oct 03 j 07:21	19° <b>ℓ</b> 42'14					
conjunction	-8270 Jan 09 j 22:52	21° <b>ℓ</b> 13'59	-16°24'24	conjunction	-8262 Jan 18 j 12:36	29° <b>ℓ</b> 33'59	-16°47'01
minimum elong	-8270 Jan 09 j 22:47	21° <b>ℓ</b> 13'58	16°24'48	minimum elong	-8262 Jan 18 j 12:34	29° <b>ℓ</b> 33'59	16°47'27
max. Earth dist.	-8270 Jan 12 j 08:05	21° <b>ℓ</b> 17'26	47.66753 AU	max. Earth dist.	-8262 Jan 20 j 12:36	29° <b>ℓ</b> 36'50	48.64325 AU
retrograde	-8270 Apr 23 j 15:36	22° <b>ℓ</b> 49'47			-8262 Feb 06 j 02:04	0° <b>♊</b>	
min. Earth dist.	-8270 Jul 13 j 19:59	21° <b>ℓ</b> 49'45	45.81990 AU	retrograde	-8262 May 01 j 20:26	1° <b>♊</b> 07'38	
opposition	-8270 Jul 16 j 00:40	21° <b>ℓ</b> 47'09	-17°08'59	min. Earth dist.	-8262 Jul 22 j 08:57	0° <b>♊</b> 08'13	46.78561 AU
				opposition	-8262 Jul 24 j 05:14	0° <b>♊</b> 06'03	-17°30'15

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Attention, astronomical year style is used: The year -8262 in astronomical counting style is the year 8263 BCE in historical counting style.

	-8262 Jul 29 j 09:35	30° 		conjunction	-8253 Jan 28 j 03:41	8° 	37°21'	-16°49'29"	
direct	-8262 Oct 13 j 01:46	29° 	05°44'	minimum elong	-8253 Jan 28 j 03:43	8° 	37°21'	16°49'58"	
	-8262 Dec 25 j 02:23	0° 		max. Earth dist.	-8253 Jan 29 j 17:09	8° 	39°31'	49.42938 AU	
				retrograde	-8253 May 11 j 05:42	10° 	08°59'		
conjunction	-8261 Jan 19 j 20:04	0° 	35°28'	-16°48'26"	min. Earth dist.	-8253 Jul 31 j 23:16	9° 	09°50'	47.55428 AU
minimum elong	-8261 Jan 19 j 20:05	0° 	35°28'	16°48'52"	opposition	-8253 Aug 02 j 08:13	9° 	08°15'	-17°30'45"
max. Earth dist.	-8261 Jan 21 j 19:04	0° 	38°14'	48.74779 AU	direct	-8253 Oct 22 j 08:57	8° 	08°29'	
retrograde	-8261 May 03 j 03:33	2° 	08°53'						
min. Earth dist.	-8261 Jul 23 j 17:32	1° 	09°26'	46.88779 AU	conjunction	-8252 Jan 29 j 10:20	9° 	36°46'	-16°48'17"
opposition	-8261 Jul 25 j 11:24	1° 	07°24'	-17°31'29"	minimum elong	-8252 Jan 29 j 10:23	9° 	36°46'	16°48'47"
direct	-8261 Oct 14 j 08:36	0° 	07°09'		max. Earth dist.	-8252 Jan 30 j 21:32	9° 	38°48'	49.49946 AU
				retrograde	-8252 May 11 j 10:28	11° 	08°16'		
conjunction	-8260 Jan 21 j 03:32	1° 	36°41'	-16°49'35"	min. Earth dist.	-8252 Aug 01 j 05:12	10° 	09°11'	47.62219 AU
minimum elong	-8260 Jan 21 j 03:31	1° 	36°41'	16°50'01"	opposition	-8252 Aug 02 j 13:27	10° 	07°38'	-17°29'18"
max. Earth dist.	-8260 Jan 23 j 00:54	1° 	39°21'	48.84723 AU	direct	-8252 Oct 22 j 15:27	9° 	07°57'	
retrograde	-8260 May 03 j 11:49	3° 	09°50'						
min. Earth dist.	-8260 Jul 24 j 00:05	2° 	10°27'	46.98472 AU	conjunction	-8251 Jan 29 j 16:57	10° 	36°08'	-16°46'50"
opposition	-8260 Jul 25 j 17:22	2° 	08°27'	-17°32'27"	minimum elong	-8251 Jan 29 j 16:59	10° 	36°08'	16°47'20"
direct	-8260 Oct 14 j 13:27	1° 	08°15'		max. Earth dist.	-8251 Jan 31 j 03:21	10° 	38°07'	49.56540 AU
				retrograde	-8251 May 12 j 15:34	12° 	07°30'		
conjunction	-8259 Jan 21 j 10:40	2° 	37°35'	-16°50'27"	opposition	-8251 Aug 03 j 18:39	11° 	06°59'	-17°27'35"
minimum elong	-8259 Jan 21 j 10:40	2° 	37°35'	16°50'55"	min. Earth dist.	-8251 Aug 02 j 12:42	11° 	08°25'	47.68561 AU
max. Earth dist.	-8259 Jan 23 j 05:57	2° 	40°08'	48.94151 AU	direct	-8251 Oct 23 j 22:31	10° 	07°22'	
retrograde	-8259 May 04 j 18:54	4° 	10°29'						
min. Earth dist.	-8259 Jul 25 j 07:51	3° 	11°05'	47.07687 AU	conjunction	-8250 Jan 30 j 23:36	11° 	35°27'	-16°45'06"
opposition	-8259 Jul 26 j 23:17	3° 	09°11'	-17°33'07"	minimum elong	-8250 Jan 30 j 23:40	11° 	35°27'	16°45'36"
direct	-8259 Oct 15 j 19:09	2° 	09°02'		max. Earth dist.	-8250 Feb 01 j 08:23	11° 	37°21'	49.62679 AU
				retrograde	-8250 May 13 j 23:59	13° 	06°40'		
conjunction	-8258 Jan 22 j 17:48	3° 	38°10'	-16°51'02"	opposition	-8250 Aug 04 j 23:42	12° 	06°15'	-17°25'37"
minimum elong	-8258 Jan 22 j 17:48	3° 	38°10'	16°51'29"	min. Earth dist.	-8250 Aug 03 j 18:20	12° 	07°39'	47.74408 AU
max. Earth dist.	-8258 Jan 24 j 12:47	3° 	40°41'	49.03137 AU	direct	-8250 Oct 25 j 01:51	11° 	06°42'	
retrograde	-8258 May 05 j 22:15	5° 	10°49'						
min. Earth dist.	-8258 Jul 26 j 14:48	4° 	11°26'	47.16472 AU	conjunction	-8249 Feb 01 j 06:06	12° 	34°40'	-16°43'08"
opposition	-8258 Jul 28 j 04:59	4° 	09°35'	-17°33'29"	minimum elong	-8249 Feb 01 j 06:09	12° 	34°40'	16°43'38"
direct	-8258 Oct 17 j 04:06	3° 	09°29'		max. Earth dist.	-8249 Feb 02 j 12:37	12° 	36°26'	49.68291 AU
				retrograde	-8249 May 15 j 07:44	14° 	05°44'		
conjunction	-8257 Jan 24 j 00:39	4° 	38°27'	-16°51'19"	min. Earth dist.	-8249 Aug 05 j 01:46	13° 	06°41'	47.79718 AU
minimum elong	-8257 Jan 24 j 00:40	4° 	38°27'	16°51'48"	opposition	-8249 Aug 06 j 04:55	13° 	05°23'	-17°23'23"
max. Earth dist.	-8257 Jan 25 j 17:26	4° 	40°50'	49.11736 AU	direct	-8249 Oct 26 j 05:13	12° 	05°53'	
retrograde	-8257 May 07 j 03:37	6° 	10°52'						
min. Earth dist.	-8257 Jul 27 j 20:55	5° 	11°32'	47.24896 AU	conjunction	-8248 Feb 02 j 12:49	13° 	33°45'	-16°40'55"
opposition	-8257 Jul 29 j 10:37	5° 	09°42'	-17°33'34"	minimum elong	-8248 Feb 02 j 12:54	13° 	33°45'	16°41'25"
direct	-8257 Oct 18 j 11:15	4° 	09°39'		max. Earth dist.	-8248 Feb 03 j 18:34	13° 	35°27'	49.73365 AU
				retrograde	-8248 May 15 j 11:31	15° 	04°37'		
conjunction	-8256 Jan 25 j 07:37	5° 	38°27'	-16°51'19"	min. Earth dist.	-8248 Aug 05 j 08:05	14° 	05°35'	47.84474 AU
minimum elong	-8256 Jan 25 j 07:38	5° 	38°27'	16°51'46"	opposition	-8248 Aug 06 j 09:49	14° 	04°21'	-17°20'55"
max. Earth dist.	-8256 Jan 26 j 23:52	5° 	40°48'	49.19983 AU	direct	-8248 Oct 26 j 12:55	13° 	04°51'	
retrograde	-8256 May 07 j 09:31	7° 	10°39'						
min. Earth dist.	-8256 Jul 28 j 04:26	6° 	11°19'	47.32987 AU	conjunction	-8247 Feb 02 j 19:13	14° 	32°37'	-16°38'28"
opposition	-8256 Jul 29 j 16:07	6° 	09°35'	-17°33'19"	minimum elong	-8247 Feb 02 j 19:17	14° 	32°37'	16°38'58"
direct	-8256 Oct 18 j 17:46	5° 	09°36'		max. Earth dist.	-8247 Feb 03 j 22:15	14° 	34°10'	49.77917 AU
				retrograde	-8247 May 16 j 15:23	16° 	03°19'		
conjunction	-8255 Jan 25 j 14:27	6° 	38°14'	-16°51'00"	opposition	-8247 Aug 07 j 14:44	15° 	03°05'	-17°18'12"
minimum elong	-8255 Jan 25 j 14:28	6° 	38°14'	16°51'29"	min. Earth dist.	-8247 Aug 06 j 13:56	15° 	04°16'	47.88739 AU
max. Earth dist.	-8255 Jan 27 j 05:41	6° 	40°30'	49.27935 AU	direct	-8247 Oct 27 j 20:08	14° 	03°36'	
retrograde	-8255 May 08 j 16:47	8° 	10°14'						
min. Earth dist.	-8255 Jul 29 j 09:53	7° 	10°59'	47.40776 AU	conjunction	-8246 Feb 04 j 01:27	15° 	31°15'	-16°35'45"
opposition	-8255 Jul 30 j 21:31	7° 	09°16'	-17°32'46"	minimum elong	-8246 Feb 04 j 01:32	15° 	31°15'	16°36'17"
direct	-8255 Oct 19 j 22:20	6° 	09°21'		max. Earth dist.	-8246 Feb 05 j 03:51	15° 	32°46'	49.81993 AU
				retrograde	-8246 May 17 j 19:04	17° 	01°47'		
conjunction	-8254 Jan 26 j 20:56	7° 	37°50'	-16°50'24"	opposition	-8246 Aug 08 j 19:38	16° 	01°35'	-17°15'13"
minimum elong	-8254 Jan 26 j 20:58	7° 	37°51'	16°50'51"	min. Earth dist.	-8246 Aug 07 j 21:02	16° 	02°40'	47.92553 AU
max. Earth dist.	-8254 Jan 28 j 10:28	7° 	40°01'	49.35585 AU	direct	-8246 Oct 29 j 03:26	15° 	02°07'	
retrograde	-8254 May 10 j 01:13	9° 	09°40'						
min. Earth dist.	-8254 Jul 30 j 16:50	8° 	10°27'	47.48270 AU	conjunction	-8245 Feb 05 j 07:45	16° 	29°38'	-16°32'47"
opposition	-8254 Aug 01 j 03:00	8° 	08°48'	-17°31'55"	minimum elong	-8245 Feb 05 j 07:49	16° 	29°38'	16°33'17"
direct	-8254 Oct 21 j 01:43	7° 	08°58'		max. Earth dist.	-8245 Feb 06 j 08:47	16° 	31°04'	49.85670 AU

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 12

Attention, astronomical year style is used: The year -8245 in astronomical counting style is the year 8246 BCE in historical counting style.

retrograde	-8245 May 19 j 00:55	18°♂00'00		direct	-8237 Nov 06 j 23:29	23°♂42'28	
min. Earth dist.	-8245 Aug 09 j 01:48	17°♂00'55	47.95988 AU				
opposition	-8245 Aug 10 j 00:12	16°♂59'50	-17°11'57	conjunction	-8236 Feb 14 j 14:35	25°♂09'34	-15°54'02
direct	-8245 Oct 30 j 08:29	16°♂00'22		minimum elong	-8236 Feb 14 j 14:42	25°♂09'34	15°54'34
				max. Earth dist.	-8236 Feb 15 j 03:29	25°♂10'18	50.03419 AU
conjunction	-8244 Feb 06 j 13:56	17°♂27'47	-16°29'33	retrograde	-8236 May 27 j 00:24	26°♂39'01	
minimum elong	-8244 Feb 06 j 14:02	17°♂27'47	16°30'04	opposition	-8236 Aug 17 j 17:01	25°♂39'22	-16°30'20
max. Earth dist.	-8244 Feb 07 j 13:07	17°♂29'06	49.88984 AU	min. Earth dist.	-8236 Aug 17 j 06:51	25°♂39'51	48.11297 AU
retrograde	-8244 May 19 j 09:16	18°♂58'00		direct	-8236 Nov 07 j 06:28	24°♂40'05	
min. Earth dist.	-8244 Aug 09 j 08:19	17°♂58'52	47.99094 AU				
opposition	-8244 Aug 10 j 04:59	17°♂57'52	-17°08'25	conjunction	-8235 Feb 14 j 20:35	26°♂07'09	-15°48'30
direct	-8244 Oct 30 j 11:01	16°♂58'24		minimum elong	-8235 Feb 14 j 20:44	26°♂07'10	15°49'03
				max. Earth dist.	-8235 Feb 15 j 07:45	26°♂07'47	50.03182 AU
conjunction	-8243 Feb 06 j 20:04	18°♂25'44	-16°26'02	retrograde	-8235 May 28 j 05:45	27°♂36'32	
minimum elong	-8243 Feb 06 j 20:10	18°♂25'44	16°26'33	opposition	-8235 Aug 18 j 21:19	26°♂36'55	-16°24'28
max. Earth dist.	-8243 Feb 07 j 19:12	18°♂27'03	49.91994 AU	min. Earth dist.	-8235 Aug 18 j 11:34	26°♂37'23	48.10715 AU
retrograde	-8243 May 20 j 13:59	19°♂55'48		direct	-8235 Nov 08 j 11:24	25°♂37'37	
opposition	-8243 Aug 11 j 09:33	18°♂55'43	-17°04'36				
min. Earth dist.	-8243 Aug 10 j 13:40	18°♂56'40	48.01890 AU	conjunction	-8234 Feb 16 j 02:31	27°♂04'39	-15°42'45
direct	-8243 Oct 31 j 16:32	17°♂56'16		minimum elong	-8234 Feb 16 j 02:38	27°♂04'40	15°43'17
				max. Earth dist.	-8234 Feb 16 j 11:34	27°♂05'10	50.02464 AU
conjunction	-8242 Feb 08 j 02:02	19°♂23'32	-16°22'14	retrograde	-8234 May 29 j 13:36	28°♂33'58	
minimum elong	-8242 Feb 08 j 02:07	19°♂23'32	16°22'46	opposition	-8234 Aug 20 j 01:40	27°♂34'22	-16°18'21
max. Earth dist.	-8242 Feb 08 j 23:04	19°♂24'44	49.94723 AU	min. Earth dist.	-8234 Aug 19 j 18:00	27°♂34'44	48.09693 AU
retrograde	-8242 May 21 j 18:45	20°♂53'28		direct	-8234 Nov 09 j 13:45	26°♂35'03	
opposition	-8242 Aug 12 j 14:06	19°♂53'27	-17°00'29				
min. Earth dist.	-8242 Aug 11 j 18:49	19°♂54'22	48.04414 AU	conjunction	-8233 Feb 17 j 08:33	28°♂02'04	-15°36'44
direct	-8242 Nov 01 j 21:41	18°♂54'01		minimum elong	-8233 Feb 17 j 08:42	28°♂02'05	15°37'17
				max. Earth dist.	-8233 Feb 17 j 17:18	28°♂02'34	50.01338 AU
conjunction	-8241 Feb 09 j 08:04	20°♂21'14	-16°18'10	retrograde	-8233 May 30 j 18:56	29°♂31'17	
minimum elong	-8241 Feb 09 j 08:11	20°♂21'14	16°18'41	opposition	-8233 Aug 21 j 05:56	28°♂31'42	-16°11'59
max. Earth dist.	-8241 Feb 10 j 04:38	20°♂22'24	49.97162 AU	min. Earth dist.	-8233 Aug 20 j 23:14	28°♂32'02	48.08270 AU
retrograde	-8241 May 22 j 21:30	21°♂51'04		direct	-8233 Nov 10 j 18:22	27°♂32'22	
opposition	-8241 Aug 13 j 18:42	20°♂51'07	-16°56'05				
min. Earth dist.	-8241 Aug 13 j 01:16	20°♂51'57	48.06623 AU	conjunction	-8232 Feb 18 j 14:26	28°♂59'23	-15°30'28
direct	-8241 Nov 03 j 05:22	19°♂51'44		minimum elong	-8232 Feb 18 j 14:34	28°♂59'24	15°31'00
				max. Earth dist.	-8232 Feb 18 j 20:50	28°♂59'45	49.99846 AU
conjunction	-8240 Feb 10 j 14:10	21°♂18'53	-16°13'50		-8232 Apr 07 j 12:25	0°♂	
minimum elong	-8240 Feb 10 j 14:16	21°♂18'53	16°14'22	retrograde	-8232 May 31 j 00:16	0°♂28'33	
max. Earth dist.	-8240 Feb 11 j 09:23	21°♂19'59	49.99287 AU		-8232 Jul 23 j 19:44	30°♂♂	
retrograde	-8240 May 23 j 03:49	22°♂48'38		opposition	-8232 Aug 21 j 10:06	29°♂28'59	-16°05'21
opposition	-8240 Aug 13 j 23:02	21°♂48'46	-16°51'26	min. Earth dist.	-8232 Aug 21 j 04:11	29°♂29'16	48.06517 AU
min. Earth dist.	-8240 Aug 13 j 05:58	21°♂49'35	48.08485 AU	direct	-8232 Nov 10 j 22:51	28°♂29'37	
direct	-8240 Nov 03 j 09:35	20°♂49'24					
				conjunction	-8231 Feb 18 j 20:22	29°♂56'39	-15°23'57
conjunction	-8239 Feb 10 j 20:12	22°♂16'33	-16°09'14	minimum elong	-8231 Feb 18 j 20:31	29°♂56'39	15°24'30
minimum elong	-8239 Feb 10 j 20:20	22°♂16'33	16°09'46	max. Earth dist.	-8231 Feb 19 j 02:17	29°♂56'59	49.98036 AU
max. Earth dist.	-8239 Feb 11 j 13:32	22°♂17'32	50.01028 AU		-8231 Feb 21 j 07:35	0°♂	
retrograde	-8239 May 24 j 11:49	23°♂46'14		retrograde	-8231 Jun 01 j 01:28	1°♂25'46	
opposition	-8239 Aug 15 j 03:36	22°♂46'25	-16°46'31	opposition	-8231 Aug 22 j 14:28	0°♂26'13	-15°58'27
min. Earth dist.	-8239 Aug 14 j 12:37	22°♂47'08	48.09943 AU	min. Earth dist.	-8231 Aug 22 j 10:15	0°♂26'25	48.04456 AU
direct	-8239 Nov 04 j 11:28	21°♂47'06			-8231 Sep 15 j 08:01	30°♂♂	
				direct	-8231 Nov 12 j 07:03	29°♂26'50	
conjunction	-8238 Feb 12 j 02:14	23°♂14'13	-16°04'24		-8230 Jan 08 j 09:22	0°♂	
minimum elong	-8238 Feb 12 j 02:21	23°♂14'14	16°04'56				
max. Earth dist.	-8238 Feb 12 j 18:58	23°♂15'10	50.02336 AU	conjunction	-8230 Feb 20 j 02:04	0°♂53'53	-15°17'10
retrograde	-8238 May 25 j 16:21	24°♂43'50		minimum elong	-8230 Feb 20 j 02:14	0°♂53'53	15°17'42
opposition	-8238 Aug 16 j 08:05	23°♂44'06	-16°41'21	max. Earth dist.	-8230 Feb 20 j 06:53	0°♂54'09	49.95951 AU
min. Earth dist.	-8238 Aug 15 j 18:18	23°♂44'45	48.10917 AU	retrograde	-8230 Jun 02 j 06:38	2°♂22'58	
direct	-8238 Nov 05 j 17:35	22°♂44'48		opposition	-8230 Aug 23 j 18:41	1°♂23'27	-15°51'16
				min. Earth dist.	-8230 Aug 23 j 14:31	1°♂23'39	48.02112 AU
conjunction	-8237 Feb 13 j 08:20	24°♂11'54	-15°59'20	direct	-8230 Nov 13 j 12:09	0°♂24'04	
minimum elong	-8237 Feb 13 j 08:29	24°♂11'55	15°59'51				
max. Earth dist.	-8237 Feb 13 j 22:19	24°♂12'42	50.03145 AU	conjunction	-8229 Feb 21 j 07:57	1°♂51'08	-15°10'07
retrograde	-8237 May 26 j 20:53	25°♂41'26		minimum elong	-8229 Feb 21 j 08:06	1°♂51'09	15°10'40
opposition	-8237 Aug 17 j 12:28	24°♂41'45	-16°35'57	max. Earth dist.	-8229 Feb 21 j 11:01	1°♂51'18	49.93569 AU
min. Earth dist.	-8237 Aug 16 j 23:57	24°♂42'21	48.11378 AU	retrograde	-8229 Jun 03 j 15:09	3°♂20'12	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 13

Attention, astronomical year style is used: The year -8229 in astronomical counting style is the year 8230 BCE in historical counting style.

opposition	-8229 Aug 24 j 22:55	2° $\overline{3}$ 20'43	-15°43'49	retrograde	-8222 Jun 10 j 04:59	10° $\overline{3}$ 02'46	
min. Earth dist.	-8229 Aug 24 j 20:43	2° $\overline{3}$ 20'50	47.99470 AU	opposition	-8222 Aug 31 j 05:11	9° $\overline{3}$ 03'20	-14°44'51
direct	-8229 Nov 14 j 13:06	1° $\overline{3}$ 21'21		min. Earth dist.	-8222 Aug 31 j 12:30	9° $\overline{3}$ 02'59	47.68441 AU
				direct	-8222 Nov 20 j 23:21	8° $\overline{3}$ 03'44	
conjunction	-8228 Feb 22 j 14:01	2° $\overline{3}$ 48'27	-15°02'49	evening set	-8221 Feb 23 j 18:23	9° $\overline{3}$ 23'39	
minimum elong	-8228 Feb 22 j 14:11	2° $\overline{3}$ 48'28	15°03'21				
max. Earth dist.	-8228 Feb 22 j 16:46	2° $\overline{3}$ 48'37	49.90880 AU	conjunction	-8221 Mar 01 j 08:29	9° $\overline{3}$ 31'15	-14°05'06
retrograde	-8228 Jun 03 j 20:16	4° $\overline{3}$ 17'31		minimum elong	-8221 Mar 01 j 08:40	9° $\overline{3}$ 31'15	14°05'38
opposition	-8228 Aug 25 j 03:11	3° $\overline{3}$ 18'04	-15°36'07	max. Earth dist.	-8221 Feb 28 j 23:29	9° $\overline{3}$ 30'44	49.59048 AU
min. Earth dist.	-8228 Aug 25 j 01:46	3° $\overline{3}$ 18'08	47.96477 AU	morning rise	-8221 Mar 06 j 23:04	9° $\overline{3}$ 38'52	
direct	-8228 Nov 14 j 18:10	2° $\overline{3}$ 18'42		retrograde	-8221 Jun 11 j 06:54	11° $\overline{3}$ 00'17	
evening set	-8227 Feb 21 j 06:10	3° $\overline{3}$ 43'44		opposition	-8221 Sep 01 j 09:29	10° $\overline{3}$ 00'49	-14°35'29
				min. Earth dist.	-8221 Sep 01 j 18:46	10° $\overline{3}$ 00'23	47.62064 AU
conjunction	-8227 Feb 22 j 19:48	3° $\overline{3}$ 45'52	-14°55'15	direct	-8221 Nov 22 j 07:00	9° $\overline{3}$ 01'09	
minimum elong	-8227 Feb 22 j 19:58	3° $\overline{3}$ 45'53	14°55'49	evening set	-8220 Feb 24 j 14:08	10° $\overline{3}$ 20'33	
max. Earth dist.	-8227 Feb 22 j 20:08	3° $\overline{3}$ 45'53	49.87817 AU				
morning rise	-8227 Feb 24 j 09:48	3° $\overline{3}$ 48'01		conjunction	-8220 Mar 01 j 14:39	10° $\overline{3}$ 28'44	-13°55'55
retrograde	-8227 Jun 05 j 01:37	5° $\overline{3}$ 14'55		minimum elong	-8220 Mar 01 j 14:51	10° $\overline{3}$ 28'45	13°56'28
opposition	-8227 Aug 26 j 07:27	4° $\overline{3}$ 15'31	-15°28'09	max. Earth dist.	-8220 Mar 01 j 04:16	10° $\overline{3}$ 28'09	49.52627 AU
min. Earth dist.	-8227 Aug 26 j 07:13	4° $\overline{3}$ 15'31	47.93088 AU	morning rise	-8220 Mar 07 j 15:41	10° $\overline{3}$ 36'57	
direct	-8227 Nov 15 j 22:51	3° $\overline{3}$ 16'08		retrograde	-8220 Jun 11 j 10:57	11° $\overline{3}$ 57'47	
evening set	-8226 Feb 21 j 10:14	4° $\overline{3}$ 39'46		opposition	-8220 Sep 01 j 13:47	10° $\overline{3}$ 58'18	-14°25'51
				min. Earth dist.	-8220 Sep 01 j 23:21	10° $\overline{3}$ 57'51	47.55329 AU
conjunction	-8226 Feb 24 j 01:53	4° $\overline{3}$ 43'23	-14°47'28	direct	-8220 Nov 22 j 13:11	9° $\overline{3}$ 58'33	
minimum elong	-8226 Feb 24 j 02:05	4° $\overline{3}$ 43'23	14°48'00	evening set	-8219 Feb 24 j 10:06	11° $\overline{3}$ 17'29	
max. Earth dist.	-8226 Feb 24 j 01:24	4° $\overline{3}$ 43'21	49.84312 AU				
morning rise	-8226 Feb 26 j 17:58	4° $\overline{3}$ 47'00		conjunction	-8219 Mar 02 j 20:36	11° $\overline{3}$ 26'14	-13°46'28
retrograde	-8226 Jun 06 j 04:36	6° $\overline{3}$ 12'26		minimum elong	-8219 Mar 02 j 20:47	11° $\overline{3}$ 26'14	13°47'00
opposition	-8226 Aug 27 j 11:46	5° $\overline{3}$ 13'03	-15°19'57	max. Earth dist.	-8219 Mar 02 j 08:27	11° $\overline{3}$ 25'32	49.45857 AU
min. Earth dist.	-8226 Aug 27 j 13:47	5° $\overline{3}$ 12'57	47.89218 AU	morning rise	-8219 Mar 09 j 07:39	11° $\overline{3}$ 35'01	
direct	-8226 Nov 17 j 06:03	4° $\overline{3}$ 13'39		retrograde	-8219 Jun 12 j 18:42	12° $\overline{3}$ 55'20	
evening set	-8225 Feb 21 j 21:55	5° $\overline{3}$ 36'18		opposition	-8219 Sep 02 j 18:15	11° $\overline{3}$ 55'49	-14°15'56
				min. Earth dist.	-8219 Sep 03 j 05:37	11° $\overline{3}$ 55'16	47.48278 AU
conjunction	-8225 Feb 25 j 08:00	5° $\overline{3}$ 40'57	-14°39'26	direct	-8219 Nov 23 j 15:25	10° $\overline{3}$ 56'00	
minimum elong	-8225 Feb 25 j 08:10	5° $\overline{3}$ 40'58	14°39'59	evening set	-8218 Feb 25 j 06:47	12° $\overline{3}$ 14'30	
max. Earth dist.	-8225 Feb 25 j 05:33	5° $\overline{3}$ 40'49	49.80314 AU				
morning rise	-8225 Feb 28 j 18:29	5° $\overline{3}$ 45'38		conjunction	-8218 Mar 04 j 02:46	12° $\overline{3}$ 23'47	-13°36'46
retrograde	-8225 Jun 07 j 09:11	7° $\overline{3}$ 10'01		minimum elong	-8218 Mar 04 j 02:58	12° $\overline{3}$ 23'48	13°37'20
opposition	-8225 Aug 28 j 16:06	6° $\overline{3}$ 10'39	-15°11'32	max. Earth dist.	-8218 Mar 03 j 14:25	12° $\overline{3}$ 23'05	49.38797 AU
min. Earth dist.	-8225 Aug 28 j 18:42	6° $\overline{3}$ 10'31	47.84817 AU	morning rise	-8218 Mar 10 j 23:13	12° $\overline{3}$ 33'07	
direct	-8225 Nov 18 j 11:50	5° $\overline{3}$ 11'13		retrograde	-8218 Jun 14 j 00:05	13° $\overline{3}$ 52'56	
evening set	-8224 Feb 22 j 12:49	6° $\overline{3}$ 33'03		opposition	-8218 Sep 03 j 22:34	12° $\overline{3}$ 53'25	-14°05'45
				min. Earth dist.	-8218 Sep 04 j 10:29	12° $\overline{3}$ 52'50	47.40928 AU
conjunction	-8224 Feb 26 j 14:09	6° $\overline{3}$ 38'34	-14°31'12	direct	-8218 Nov 24 j 19:59	11° $\overline{3}$ 53'33	
minimum elong	-8224 Feb 26 j 14:20	6° $\overline{3}$ 38'34	14°31'44	evening set	-8217 Feb 26 j 03:53	13° $\overline{3}$ 11'39	
max. Earth dist.	-8224 Feb 26 j 09:19	6° $\overline{3}$ 38'17	49.75758 AU				
morning rise	-8224 Mar 01 j 15:59	6° $\overline{3}$ 44'06		conjunction	-8217 Mar 05 j 08:53	13° $\overline{3}$ 21'28	-13°26'49
retrograde	-8224 Jun 07 j 16:15	8° $\overline{3}$ 07'38		minimum elong	-8217 Mar 05 j 09:05	13° $\overline{3}$ 21'29	13°27'21
opposition	-8224 Aug 28 j 20:30	7° $\overline{3}$ 08'15	-15°02'52	max. Earth dist.	-8217 Mar 04 j 18:20	13° $\overline{3}$ 20'38	49.31451 AU
min. Earth dist.	-8224 Aug 29 j 01:32	7° $\overline{3}$ 08'00	47.79868 AU	morning rise	-8217 Mar 12 j 14:31	13° $\overline{3}$ 31'19	
direct	-8224 Nov 18 j 15:11	6° $\overline{3}$ 08'46		retrograde	-8217 Jun 15 j 06:28	14° $\overline{3}$ 50'41	
evening set	-8223 Feb 22 j 05:37	7° $\overline{3}$ 29'54		opposition	-8217 Sep 05 j 03:02	13° $\overline{3}$ 51'09	-13°55'18
				min. Earth dist.	-8217 Sep 05 j 15:56	13° $\overline{3}$ 50'32	47.33290 AU
conjunction	-8223 Feb 26 j 20:22	7° $\overline{3}$ 36'10	-14°22'43	direct	-8217 Nov 26 j 00:16	12° $\overline{3}$ 51'15	
minimum elong	-8223 Feb 26 j 20:32	7° $\overline{3}$ 36'11	14°23'16	evening set	-8216 Feb 27 j 01:20	14° $\overline{3}$ 08'59	
max. Earth dist.	-8223 Feb 26 j 14:48	7° $\overline{3}$ 35'51	49.70673 AU				
morning rise	-8223 Mar 03 j 11:31	7° $\overline{3}$ 42'28		conjunction	-8216 Mar 05 j 15:12	14° $\overline{3}$ 19'19	-13°16'35
retrograde	-8223 Jun 08 j 22:29	9° $\overline{3}$ 05'13		minimum elong	-8216 Mar 05 j 15:24	14° $\overline{3}$ 19'20	13°17'09
opposition	-8223 Aug 30 j 00:51	8° $\overline{3}$ 05'49	-14°53'59	max. Earth dist.	-8216 Mar 05 j 00:06	14° $\overline{3}$ 18'28	49.23788 AU
min. Earth dist.	-8223 Aug 30 j 06:57	8° $\overline{3}$ 05'31	47.74388 AU	morning rise	-8216 Mar 13 j 05:32	14° $\overline{3}$ 29'40	
direct	-8223 Nov 19 j 19:17	7° $\overline{3}$ 06'16		retrograde	-8216 Jun 15 j 09:35	15° $\overline{3}$ 48'37	
evening set	-8222 Feb 22 j 23:28	8° $\overline{3}$ 26'47		opposition	-8216 Sep 05 j 07:32	14° $\overline{3}$ 49'06	-13°44'35
				min. Earth dist.	-8216 Sep 05 j 22:16	14° $\overline{3}$ 48'23	47.25312 AU
conjunction	-8222 Feb 28 j 02:16	8° $\overline{3}$ 33'44	-14°14'02	direct	-8216 Nov 26 j 07:45	13° $\overline{3}$ 49'10	
minimum elong	-8222 Feb 28 j 02:28	8° $\overline{3}$ 33'45	14°14'35	evening set	-8215 Feb 26 j 23:19	15° $\overline{3}$ 06'35	
max. Earth dist.	-8222 Feb 27 j 18:05	8° $\overline{3}$ 33'16	49.65088 AU				
morning rise	-8222 Mar 05 j 05:37	8° $\overline{3}$ 40'43		conjunction	-8215 Mar 06 j 21:30	15° $\overline{3}$ 17'24	-13°06'07

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 14

Attention, astronomical year style is used: The year -8215 in astronomical counting style is the year 8216 BCE in historical counting style.

minimum elong	-8215 Mar 06 j 21:42	15° $\overline{3}$ 17'24	13°06'39	evening set	-8208 Mar 03 j 17:13	21° $\overline{3}$ 54'49	
max. Earth dist.	-8215 Mar 06 j 04:53	15° $\overline{3}$ 16'27	49.15783 AU				
morning rise	-8215 Mar 14 j 20:12	15° $\overline{3}$ 28'14		conjunction	-8208 Mar 13 j 19:38	22° $\overline{3}$ 08'42	-11°46'02
retrograde	-8215 Jun 16 j 14:23	16° $\overline{3}$ 46'48		minimum elong	-8208 Mar 13 j 19:50	22° $\overline{3}$ 08'43	11°46'33
opposition	-8215 Sep 06 j 12:00	15° $\overline{3}$ 47'17	-13°33'37	max. Earth dist.	-8208 Mar 12 j 16:24	22° $\overline{3}$ 07'08	48.46513 AU
min. Earth dist.	-8215 Sep 07 j 03:03	15° $\overline{3}$ 46'33	47.16958 AU	morning rise	-8208 Mar 23 j 22:20	22° $\overline{3}$ 22'37	
direct	-8215 Nov 27 j 13:30	14° $\overline{3}$ 47'18		retrograde	-8208 Jun 23 j 08:38	23° $\overline{3}$ 38'50	
evening set	-8214 Feb 27 j 21:22	16° $\overline{3}$ 04'25		opposition	-8208 Sep 12 j 21:22	22° $\overline{3}$ 38'56	-12°09'47
max. Earth dist.	-8214 Mar 07 j 09:06	16° $\overline{3}$ 14'38	49.07352 AU	min. Earth dist.	-8208 Sep 13 j 22:27	22° $\overline{3}$ 37'43	46.45044 AU
				direct	-8208 Dec 04 j 00:41	21° $\overline{3}$ 38'17	
conjunction	-8214 Mar 08 j 03:46	16° $\overline{3}$ 15'42	-12°55'23	evening set	-8207 Mar 04 j 17:20	22° $\overline{3}$ 53'32	
minimum elong	-8214 Mar 08 j 03:57	16° $\overline{3}$ 15'42	12°55'56	max. Earth dist.	-8207 Mar 13 j 20:53	23° $\overline{3}$ 06'08	48.34953 AU
morning rise	-8214 Mar 16 j 10:44	16° $\overline{3}$ 27'01					
retrograde	-8214 Jun 17 j 21:42	17° $\overline{3}$ 45'14		conjunction	-8207 Mar 15 j 02:18	23° $\overline{3}$ 07'49	-11°33'35
opposition	-8214 Sep 07 j 16:42	16° $\overline{3}$ 45'42	-13°22'23	minimum elong	-8207 Mar 15 j 02:30	23° $\overline{3}$ 07'50	11°34'07
min. Earth dist.	-8214 Sep 08 j 10:10	16° $\overline{3}$ 44'51	47.08151 AU	morning rise	-8207 Mar 25 j 11:47	23° $\overline{3}$ 22'09	
direct	-8214 Nov 28 j 16:56	15° $\overline{3}$ 45'40		retrograde	-8207 Jun 24 j 16:41	24° $\overline{3}$ 38'04	
evening set	-8213 Feb 28 j 20:06	17° $\overline{3}$ 02'29		opposition	-8207 Sep 14 j 02:21	23° $\overline{3}$ 38'06	-11°56'45
				min. Earth dist.	-8207 Sep 15 j 04:30	23° $\overline{3}$ 36'50	46.33198 AU
conjunction	-8213 Mar 09 j 10:25	17° $\overline{3}$ 14'13	-12°44'26	direct	-8207 Dec 05 j 04:27	22° $\overline{3}$ 37'20	
minimum elong	-8213 Mar 09 j 10:38	17° $\overline{3}$ 14'14	12°44'57	evening set	-8206 Mar 05 j 17:25	23° $\overline{3}$ 52'23	
max. Earth dist.	-8213 Mar 08 j 15:02	17° $\overline{3}$ 13'07	48.98444 AU	max. Earth dist.	-8206 Mar 15 j 03:20	24° $\overline{3}$ 05'22	48.23116 AU
morning rise	-8213 Mar 18 j 01:08	17° $\overline{3}$ 26'01					
retrograde	-8213 Jun 19 j 05:18	18° $\overline{3}$ 43'51		conjunction	-8206 Mar 16 j 09:04	24° $\overline{3}$ 07'05	-11°20'52
opposition	-8213 Sep 08 j 21:18	17° $\overline{3}$ 44'18	-13°10'54	minimum elong	-8206 Mar 16 j 09:16	24° $\overline{3}$ 07'05	11°21'23
min. Earth dist.	-8213 Sep 09 j 15:49	17° $\overline{3}$ 43'25	46.98829 AU	morning rise	-8206 Mar 27 j 00:57	24° $\overline{3}$ 21'48	
direct	-8213 Nov 29 j 20:33	16° $\overline{3}$ 44'12		retrograde	-8206 Jun 25 j 21:03	25° $\overline{3}$ 37'28	
evening set	-8212 Feb 29 j 19:10	18° $\overline{3}$ 00'44		opposition	-8206 Sep 15 j 07:29	24° $\overline{3}$ 37'25	-11°43'26
				min. Earth dist.	-8206 Sep 16 j 11:02	24° $\overline{3}$ 36'04	46.21076 AU
conjunction	-8212 Mar 09 j 17:00	18° $\overline{3}$ 12'56	-12°33'14	direct	-8206 Dec 06 j 12:05	23° $\overline{3}$ 36'33	
minimum elong	-8212 Mar 09 j 17:11	18° $\overline{3}$ 12'56	12°33'46	evening set	-8205 Mar 06 j 18:06	24° $\overline{3}$ 51'26	
max. Earth dist.	-8212 Mar 08 j 18:41	18° $\overline{3}$ 11'39	48.89014 AU	max. Earth dist.	-8205 Mar 16 j 08:53	25° $\overline{3}$ 04'43	48.11029 AU
morning rise	-8212 Mar 18 j 15:26	18° $\overline{3}$ 25'10					
retrograde	-8212 Jun 19 j 13:39	19° $\overline{3}$ 42'39		conjunction	-8205 Mar 17 j 15:59	25° $\overline{3}$ 06'31	-11°07'53
opposition	-8212 Sep 09 j 02:06	18° $\overline{3}$ 43'03	-12°59'12	minimum elong	-8205 Mar 17 j 16:12	25° $\overline{3}$ 06'31	11°08'24
min. Earth dist.	-8212 Sep 09 j 22:03	18° $\overline{3}$ 42'06	46.88991 AU	morning rise	-8205 Mar 28 j 14:14	25° $\overline{3}$ 21'36	
direct	-8212 Nov 30 j 00:04	17° $\overline{3}$ 42'53		retrograde	-8205 Jun 27 j 01:54	26° $\overline{3}$ 37'03	
evening set	-8211 Mar 01 j 18:12	18° $\overline{3}$ 59'07		opposition	-8205 Sep 16 j 12:29	25° $\overline{3}$ 36'56	-11°29'50
				min. Earth dist.	-8205 Sep 17 j 16:09	25° $\overline{3}$ 35'36	46.08698 AU
conjunction	-8211 Mar 10 j 23:34	19° $\overline{3}$ 11'46	-12°21'48	direct	-8205 Dec 07 j 18:55	24° $\overline{3}$ 35'58	
minimum elong	-8211 Mar 10 j 23:47	19° $\overline{3}$ 11'46	12°22'20	evening set	-8204 Mar 06 j 18:55	25° $\overline{3}$ 50'43	
max. Earth dist.	-8211 Mar 10 j 00:21	19° $\overline{3}$ 10'26	48.79058 AU				
morning rise	-8211 Mar 20 j 05:21	19° $\overline{3}$ 24'25		conjunction	-8204 Mar 17 j 23:03	26° $\overline{3}$ 06'11	-10°54'37
retrograde	-8211 Jun 20 j 16:44	20° $\overline{3}$ 41'35		minimum elong	-8204 Mar 17 j 23:16	26° $\overline{3}$ 06'11	10°55'08
opposition	-8211 Sep 10 j 06:58	19° $\overline{3}$ 41'55	-12°47'14	max. Earth dist.	-8204 Mar 16 j 14:23	26° $\overline{3}$ 04'17	47.98661 AU
min. Earth dist.	-8211 Sep 11 j 04:56	19° $\overline{3}$ 40'52	46.78633 AU	morning rise	-8204 Mar 29 j 03:32	26° $\overline{3}$ 21'40	
direct	-8211 Dec 01 j 07:31	18° $\overline{3}$ 41'39		retrograde	-8204 Jun 27 j 08:21	27° $\overline{3}$ 36'55	
evening set	-8210 Mar 02 j 17:42	19° $\overline{3}$ 57'37		opposition	-8204 Sep 16 j 17:50	26° $\overline{3}$ 36'45	-11°15'57
max. Earth dist.	-8210 Mar 11 j 05:18	20° $\overline{3}$ 09'15	48.68628 AU	min. Earth dist.	-8204 Sep 17 j 23:33	26° $\overline{3}$ 35'18	45.96033 AU
				direct	-8204 Dec 08 j 00:07	25° $\overline{3}$ 35'41	
conjunction	-8210 Mar 12 j 06:11	20° $\overline{3}$ 10'41	-12°10'08	evening set	-8203 Mar 07 j 19:53	26° $\overline{3}$ 50'18	
minimum elong	-8210 Mar 12 j 06:23	20° $\overline{3}$ 10'41	12°10'40	max. Earth dist.	-8203 Mar 17 j 21:10	27° $\overline{3}$ 04'14	47.85988 AU
morning rise	-8210 Mar 21 j 19:07	20° $\overline{3}$ 23'46					
retrograde	-8210 Jun 21 j 19:39	21° $\overline{3}$ 40'35		conjunction	-8203 Mar 19 j 06:08	27° $\overline{3}$ 06'08	-10°41'05
opposition	-8210 Sep 11 j 11:37	20° $\overline{3}$ 40'52	-12°35'01	minimum elong	-8203 Mar 19 j 06:20	27° $\overline{3}$ 06'09	10°41'36
min. Earth dist.	-8210 Sep 12 j 10:06	20° $\overline{3}$ 39'46	46.67825 AU	morning rise	-8203 Mar 30 j 16:29	27° $\overline{3}$ 22'01	
direct	-8210 Dec 02 j 15:40	19° $\overline{3}$ 40'28		retrograde	-8203 Jun 28 j 15:39	28° $\overline{3}$ 37'05	
evening set	-8209 Mar 03 j 17:20	20° $\overline{3}$ 56'11		opposition	-8203 Sep 17 j 23:09	27° $\overline{3}$ 36'52	-11°01'47
max. Earth dist.	-8209 Mar 12 j 09:57	21° $\overline{3}$ 08'07	48.57756 AU	min. Earth dist.	-8203 Sep 19 j 05:27	27° $\overline{3}$ 35'23	45.83019 AU
				direct	-8203 Dec 09 j 05:03	26° $\overline{3}$ 35'43	
conjunction	-8209 Mar 13 j 12:52	21° $\overline{3}$ 09'39	-11°58'12	evening set	-8202 Mar 08 j 21:21	27° $\overline{3}$ 50'14	
minimum elong	-8209 Mar 13 j 13:05	21° $\overline{3}$ 09'40	11°58'45	max. Earth dist.	-8202 Mar 19 j 01:50	28° $\overline{3}$ 04'23	47.72937 AU
morning rise	-8209 Mar 23 j 08:56	21° $\overline{3}$ 23'10					
retrograde	-8209 Jun 23 j 02:29	22° $\overline{3}$ 39'40		conjunction	-8202 Mar 20 j 13:22	28° $\overline{3}$ 06'27	-10°27'17
opposition	-8209 Sep 12 j 16:32	21° $\overline{3}$ 39'52	-12°22'32	minimum elong	-8202 Mar 20 j 13:35	28° $\overline{3}$ 06'28	10°27'47
min. Earth dist.	-8209 Sep 13 j 17:09	21° $\overline{3}$ 38'40	46.56611 AU	morning rise	-8202 Apr 01 j 05:45	28° $\overline{3}$ 22'42	
direct	-8209 Dec 03 j 20:07	20° $\overline{3}$ 39'20		retrograde	-8202 Jun 30 j 01:28	29° $\overline{3}$ 37'36	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 15

Attention, astronomical year style is used: The year -8202 in astronomical counting style is the year 8203 BCE in historical counting style.

opposition	-8202 Sep 19 j 04:31	28°33'20	-10°47'20	direct	-8196 Dec 15 j 23:18	3°44'21	
min. Earth dist.	-8202 Sep 20 j 12:20	28°33'47	45.69606 AU	evening set	-8195 Mar 14 j 14:31	4°58'29	
direct	-8202 Dec 10 j 08:06	27°36'04		max. Earth dist.	-8195 Mar 25 j 22:26	5°14'30	46.68753 AU
evening set	-8201 Mar 09 j 23:02	28°35'30					
max. Earth dist.	-8201 Mar 20 j 08:37	29°30'45	47.59436 AU	conjunction	-8195 Mar 27 j 19:54	5°17'12	-8°43'25
				minimum elong	-8195 Mar 27 j 20:05	5°17'12	8°43'53
conjunction	-8201 Mar 21 j 21:00	29°30'06	-10°13'14	morning rise	-8195 Apr 10 j 01:07	5°35'54	
minimum elong	-8201 Mar 21 j 21:12	29°30'07	10°13'44	retrograde	-8195 Jul 07 j 01:26	6°49'58	
morning rise	-8201 Apr 02 j 18:58	29°32'43		opposition	-8195 Sep 25 j 22:07	5°48'59	-8°58'34
	-8201 May 01 j 00:28	0°		min. Earth dist.	-8195 Sep 27 j 14:31	5°46'59	44.62913 AU
retrograde	-8201 Jul 01 j 07:43	0°38'28		direct	-8195 Dec 17 j 07:25	4°46'42	
	-8201 Sep 01 j 08:51	30°38'		evening set	-8194 Mar 15 j 17:53	6°00'50	
opposition	-8201 Sep 20 j 10:14	29°38'08	-10°32'37	max. Earth dist.	-8194 Mar 27 j 05:17	6°17'06	46.52394 AU
min. Earth dist.	-8201 Sep 21 j 19:59	29°36'29	45.55707 AU				
direct	-8201 Dec 11 j 14:57	28°36'46		conjunction	-8194 Mar 29 j 04:06	6°19'53	-8°27'29
evening set	-8200 Mar 10 j 01:08	29°35'10		minimum elong	-8194 Mar 29 j 04:18	6°19'54	8°27'58
	-8200 Mar 16 j 10:21	0°		morning rise	-8194 Apr 11 j 14:01	6°38'56	
max. Earth dist.	-8200 Mar 20 j 14:16	0°05'51	47.45448 AU	retrograde	-8194 Jul 08 j 07:24	7°52'57	
				opposition	-8194 Sep 27 j 04:31	6°51'51	-8°41'52
conjunction	-8200 Mar 22 j 04:34	0°08'05	-9°58'55	min. Earth dist.	-8194 Sep 28 j 22:54	6°49'44	44.46293 AU
minimum elong	-8200 Mar 22 j 04:47	0°08'06	9°59'25	direct	-8194 Dec 18 j 14:53	5°49'24	
morning rise	-8200 Apr 03 j 08:08	0°25'04		evening set	-8193 Mar 16 j 21:39	7°03'34	
retrograde	-8200 Jul 01 j 12:31	1°39'40		max. Earth dist.	-8193 Mar 28 j 13:27	7°20'07	46.35797 AU
opposition	-8200 Sep 20 j 15:54	0°39'15	-10°17'38				
min. Earth dist.	-8200 Sep 22 j 02:17	0°37'34	45.41313 AU	conjunction	-8193 Mar 30 j 12:33	7°22'56	-8°11'16
	-8200 Oct 26 j 19:30	30°37'		minimum elong	-8193 Mar 30 j 12:45	7°22'57	8°11'44
direct	-8200 Dec 11 j 23:16	29°37'45		morning rise	-8193 Apr 13 j 02:56	7°42'19	
	-8199 Jan 26 j 17:31	0°		retrograde	-8193 Jul 09 j 14:45	8°56'19	
evening set	-8199 Mar 11 j 03:20	0°52'03		opposition	-8193 Sep 28 j 11:06	7°55'06	-8°24'52
max. Earth dist.	-8199 Mar 21 j 19:49	1°06'59	47.30953 AU	min. Earth dist.	-8193 Sep 30 j 05:35	7°52'59	44.29421 AU
				direct	-8193 Dec 19 j 21:50	6°52'30	
conjunction	-8199 Mar 23 j 12:17	1°09'22	-9°44'21	evening set	-8192 Mar 17 j 01:44	8°06'43	
minimum elong	-8199 Mar 23 j 12:29	1°09'23	9°44'51	max. Earth dist.	-8192 Mar 28 j 19:39	8°23'28	46.18939 AU
morning rise	-8199 Apr 04 j 21:18	1°26'42					
retrograde	-8199 Jul 02 j 19:09	2°41'11		conjunction	-8192 Mar 30 j 20:59	8°26'26	-7°54'46
opposition	-8199 Sep 21 j 21:48	1°40'40	-10°02'24	minimum elong	-8192 Mar 30 j 21:10	8°26'26	7°55'14
min. Earth dist.	-8199 Sep 23 j 10:31	1°38'51	45.26432 AU	morning rise	-8192 Apr 13 j 15:54	8°46'07	
direct	-8199 Dec 13 j 05:31	0°39'02		retrograde	-8192 Jul 10 j 02:28	10°00'08	
evening set	-8198 Mar 12 j 05:41	1°53'15		opposition	-8192 Sep 28 j 17:50	8°58'48	-8°07'33
max. Earth dist.	-8198 Mar 23 j 03:00	2°08'30	47.15996 AU	min. Earth dist.	-8192 Sep 30 j 13:43	8°56'36	44.12290 AU
				direct	-8192 Dec 20 j 00:47	7°56'03	
conjunction	-8198 Mar 24 j 20:03	2°10'55	-9°29'31	evening set	-8191 Mar 18 j 06:02	9°10'21	
minimum elong	-8198 Mar 24 j 20:16	2°10'56	9°30'01	max. Earth dist.	-8191 Mar 30 j 04:14	9°27'25	46.01790 AU
morning rise	-8198 Apr 06 j 10:15	2°28'36					
retrograde	-8198 Jul 04 j 02:37	3°42'58		conjunction	-8191 Apr 01 j 05:46	9°30'23	-7°37'58
opposition	-8198 Sep 23 j 03:42	2°42'20	-9°46'52	minimum elong	-8191 Apr 01 j 05:58	9°30'24	7°38'25
min. Earth dist.	-8198 Sep 24 j 17:01	2°40'30	45.11091 AU	morning rise	-8191 Apr 15 j 04:47	9°50'24	
direct	-8198 Dec 14 j 10:47	1°40'33		retrograde	-8191 Jul 11 j 11:26	11°04'26	
evening set	-8197 Mar 13 j 08:31	2°54'43		opposition	-8191 Sep 30 j 00:46	10°02'59	-7°49'56
max. Earth dist.	-8197 Mar 24 j 08:21	3°10'10	47.00602 AU	min. Earth dist.	-8191 Oct 01 j 22:00	10°00'43	43.94836 AU
				direct	-8191 Dec 21 j 07:14	9°00'05	
conjunction	-8197 Mar 26 j 03:56	3°12'44	-9°14'26	evening set	-8190 Mar 19 j 10:47	10°14'29	
minimum elong	-8197 Mar 26 j 04:08	3°12'45	9°14'55	max. Earth dist.	-8190 Mar 31 j 11:13	10°31'45	45.84300 AU
morning rise	-8197 Apr 07 j 23:25	3°30'46					
retrograde	-8197 Jul 05 j 12:05	4°45'01		conjunction	-8190 Apr 02 j 14:36	10°34'51	-7°20'53
opposition	-8197 Sep 24 j 09:38	3°44'16	-9°31'04	minimum elong	-8190 Apr 02 j 14:46	10°34'51	7°21'20
min. Earth dist.	-8197 Sep 26 j 00:33	3°42'21	44.95359 AU	morning rise	-8190 Apr 16 j 17:52	10°55'11	
direct	-8197 Dec 15 j 15:11	2°42'19		retrograde	-8190 Jul 12 j 19:30	12°09'14	
evening set	-8196 Mar 13 j 11:25	3°56'27		opposition	-8190 Oct 01 j 07:49	11°07'41	-7°32'01
max. Earth dist.	-8196 Mar 24 j 16:01	4°12'13	46.84831 AU	min. Earth dist.	-8190 Oct 03 j 05:46	11°05'22	43.77005 AU
				direct	-8190 Dec 22 j 15:58	10°04'37	
conjunction	-8196 Mar 26 j 12:02	4°14'49	-8°59'04	evening set	-8189 Mar 20 j 15:57	11°19'08	
minimum elong	-8196 Mar 26 j 12:15	4°14'50	8°59'33	max. Earth dist.	-8189 Apr 01 j 18:40	11°36'35	45.66372 AU
morning rise	-8196 Apr 08 j 12:20	4°33'12					
retrograde	-8196 Jul 05 j 18:44	5°47'21		conjunction	-8189 Apr 03 j 23:52	11°39'49	-7°03'31
opposition	-8196 Sep 24 j 15:53	4°46'29	-9°14'58	minimum elong	-8189 Apr 04 j 00:03	11°39'49	7°03'57
min. Earth dist.	-8196 Sep 26 j 08:09	4°44'29	44.79276 AU	morning rise	-8189 Apr 18 j 07:01	12°00'28	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16

Attention, astronomical year style is used: The year -8189 in astronomical counting style is the year 8190 BCE in historical counting style.

retrograde	-8189 Jul 14 j 02:06	13° $\approx$ 14'33	min. Earth dist.	-8183 Oct 10 j 21:33	18° $\approx$ 50'01	42.40060 AU
opposition	-8189 Oct 02 j 15:10	12° $\approx$ 12'52 -7°13'48	direct	-8183 Dec 30 j 04:30	17° $\approx$ 48'12	
min. Earth dist.	-8189 Oct 04 j 15:29	12° $\approx$ 10'26 43.58721 AU	evening set	-8182 Mar 27 j 13:21	19° $\approx$ 03'51	
direct	-8189 Dec 24 j 01:38	11° $\approx$ 09'37	max. Earth dist.	-8182 Apr 09 j 06:08	19° $\approx$ 22'40	44.28951 AU
evening set	-8188 Mar 20 j 21:30	12° $\approx$ 24'15				
max. Earth dist.	-8188 Apr 02 j 03:15	12° $\approx$ 41'57 45.47985 AU	conjunction	-8182 Apr 11 j 21:04	19° $\approx$ 26'36 -4°54'00	
			minimum elong	-8182 Apr 11 j 21:12	19° $\approx$ 26'37 4°54'23	
conjunction	-8188 Apr 04 j 09:20	12° $\approx$ 45'15 -6°45'52	morning rise	-8182 Apr 27 j 03:28	19° $\approx$ 49'18	
minimum elong	-8188 Apr 04 j 09:29	12° $\approx$ 45'15 6°46'19	retrograde	-8182 Jul 21 j 19:38	21° $\approx$ 04'05	
morning rise	-8188 Apr 18 j 20:13	13° $\approx$ 06'12	opposition	-8182 Oct 09 j 23:37	20° $\approx$ 01'05 -4°57'47	
retrograde	-8188 Jul 14 j 09:35	14° $\approx$ 20'20	min. Earth dist.	-8182 Oct 12 j 07:46	19° $\approx$ 58'11 42.19249 AU	
opposition	-8188 Oct 02 j 22:44	13° $\approx$ 18'30 -6°55'18	direct	-8182 Dec 31 j 10:57	18° $\approx$ 56'13	
min. Earth dist.	-8188 Oct 04 j 23:31	13° $\approx$ 16'02 43.39959 AU	evening set	-8181 Mar 28 j 21:13	20° $\approx$ 12'07	
direct	-8188 Dec 24 j 10:13	12° $\approx$ 15'03	max. Earth dist.	-8181 Apr 10 j 17:04	20° $\approx$ 31'13 44.08139 AU	
evening set	-8187 Mar 22 j 03:16	13° $\approx$ 29'48				
max. Earth dist.	-8187 Apr 03 j 10:02	13° $\approx$ 47'38 45.29113 AU	conjunction	-8181 Apr 13 j 07:50	20° $\approx$ 35'10 -4°34'19	
			minimum elong	-8181 Apr 13 j 07:57	20° $\approx$ 35'10 4°34'43	
conjunction	-8187 Apr 05 j 18:42	13° $\approx$ 51'06 -6°27'57	morning rise	-8181 Apr 28 j 16:42	20° $\approx$ 58'07	
minimum elong	-8187 Apr 05 j 18:52	13° $\approx$ 51'07 6°28'23	retrograde	-8181 Jul 23 j 06:11	22° $\approx$ 13'07	
morning rise	-8187 Apr 20 j 09:21	14° $\approx$ 12'22	opposition	-8181 Oct 11 j 08:32	21° $\approx$ 09'56 -4°37'05	
	-8187 May 27 j 23:58	15° $\approx$	min. Earth dist.	-8181 Oct 13 j 17:16	21° $\approx$ 07'00 41.98244 AU	
retrograde	-8187 Jul 15 j 20:10	15° $\approx$ 26'35	direct	-8180 Jan 01 j 18:54	20° $\approx$ 04'50	
	-8187 Sep 03 j 05:28	15° $\approx$	evening set	-8180 Mar 29 j 05:41	21° $\approx$ 21'03	
opposition	-8187 Oct 04 j 06:28	14° $\approx$ 24'34 -6°36'29	max. Earth dist.	-8180 Apr 11 j 02:14	21° $\approx$ 40'18 43.87147 AU	
min. Earth dist.	-8187 Oct 06 j 09:15	14° $\approx$ 21'59 43.20735 AU				
direct	-8187 Dec 25 j 16:06	13° $\approx$ 20'54	conjunction	-8180 Apr 13 j 18:40	21° $\approx$ 44'21 -4°14'20	
evening set	-8186 Mar 23 j 09:22	14° $\approx$ 35'47	minimum elong	-8180 Apr 13 j 18:48	21° $\approx$ 44'22 4°14'42	
max. Earth dist.	-8186 Apr 04 j 19:19	14° $\approx$ 53'52 45.09783 AU	morning rise	-8180 Apr 29 j 06:09	22° $\approx$ 07'35	
			retrograde	-8180 Jul 23 j 18:55	23° $\approx$ 22'49	
conjunction	-8186 Apr 07 j 04:33	14° $\approx$ 57'22 -6°09'44	opposition	-8180 Oct 11 j 17:41	22° $\approx$ 19'28 -4°16'03	
minimum elong	-8186 Apr 07 j 04:43	14° $\approx$ 57'23 6°10'10	min. Earth dist.	-8180 Oct 14 j 02:58	22° $\approx$ 16'29 41.77065 AU	
	-8186 Apr 08 j 23:21	15° $\approx$	direct	-8179 Jan 02 j 02:56	21° $\approx$ 14'09	
morning rise	-8186 Apr 21 j 22:32	15° $\approx$ 18'56	evening set	-8179 Mar 30 j 14:14	22° $\approx$ 30'42	
retrograde	-8186 Jul 17 j 06:00	16° $\approx$ 33'13	max. Earth dist.	-8179 Apr 12 j 12:34	22° $\approx$ 50'09 43.65939 AU	
opposition	-8186 Oct 05 j 14:16	15° $\approx$ 31'01 -6°17'23				
min. Earth dist.	-8186 Oct 07 j 18:21	15° $\approx$ 28'22 43.01066 AU	conjunction	-8179 Apr 15 j 05:44	22° $\approx$ 54'17 -3°54'02	
	-8186 Nov 01 j 01:55	15° $\approx$	minimum elong	-8179 Apr 15 j 05:51	22° $\approx$ 54'17 3°54'26	
direct	-8186 Dec 27 j 00:06	14° $\approx$ 27'06	morning rise	-8179 Apr 30 j 19:22	23° $\approx$ 17'46	
	-8185 Feb 20 j 07:24	15° $\approx$	retrograde	-8179 Jul 25 j 05:00	24° $\approx$ 33'16	
evening set	-8185 Mar 24 j 16:00	15° $\approx$ 42'09	opposition	-8179 Oct 13 j 03:11	23° $\approx$ 29'45 -3°54'42	
max. Earth dist.	-8185 Apr 06 j 03:09	16° $\approx$ 00'23 44.90046 AU	min. Earth dist.	-8179 Oct 15 j 14:12	23° $\approx$ 26'40 41.55649 AU	
			direct	-8178 Jan 03 j 14:25	22° $\approx$ 24'13	
conjunction	-8185 Apr 08 j 14:28	16° $\approx$ 04'03 -5°51'15	evening set	-8178 Mar 31 j 23:33	23° $\approx$ 41'08	
minimum elong	-8185 Apr 08 j 14:37	16° $\approx$ 04'03 5°51'41	max. Earth dist.	-8178 Apr 13 j 23:15	24° $\approx$ 00'46 43.44477 AU	
morning rise	-8185 Apr 23 j 11:55	16° $\approx$ 25'53				
retrograde	-8185 Jul 18 j 17:00	17° $\approx$ 40'15	conjunction	-8178 Apr 16 j 17:12	24° $\approx$ 04'59 -3°33'27	
opposition	-8185 Oct 06 j 22:15	16° $\approx$ 37'51 -5°57'57	minimum elong	-8178 Apr 16 j 17:18	24° $\approx$ 04'59 3°33'48	
min. Earth dist.	-8185 Oct 09 j 03:00	16° $\approx$ 35'10 42.81028 AU	morning rise	-8178 May 02 j 08:58	24° $\approx$ 28'44	
direct	-8185 Dec 28 j 08:25	15° $\approx$ 33'42	retrograde	-8178 Jul 26 j 14:57	25° $\approx$ 44'31	
evening set	-8184 Mar 24 j 22:44	16° $\approx$ 48'56	opposition	-8178 Oct 14 j 12:45	24° $\approx$ 40'49 -3°33'01	
max. Earth dist.	-8184 Apr 06 j 12:05	17° $\approx$ 07'23 44.69943 AU	min. Earth dist.	-8178 Oct 16 j 23:57	24° $\approx$ 37'43 41.33949 AU	
			direct	-8177 Jan 05 j 01:51	23° $\approx$ 35'03	
conjunction	-8184 Apr 09 j 00:32	17° $\approx$ 11'07 -5°32'28	evening set	-8177 Apr 02 j 09:29	24° $\approx$ 52'21	
minimum elong	-8184 Apr 09 j 00:40	17° $\approx$ 11'07 5°32'52	max. Earth dist.	-8177 Apr 15 j 08:55	25° $\approx$ 12'06 43.22677 AU	
morning rise	-8184 Apr 24 j 01:01	17° $\approx$ 33'15				
retrograde	-8184 Jul 19 j 00:52	18° $\approx$ 47'43	conjunction	-8177 Apr 18 j 05:03	25° $\approx$ 16'28 -3°12'33	
opposition	-8184 Oct 07 j 06:34	17° $\approx$ 45'07 -5°38'13	minimum elong	-8177 Apr 18 j 05:08	25° $\approx$ 16'28 3°12'55	
min. Earth dist.	-8184 Oct 09 j 13:16	17° $\approx$ 42'19 42.60667 AU	morning rise	-8177 May 03 j 22:42	25° $\approx$ 40'29	
direct	-8184 Dec 28 j 18:13	16° $\approx$ 40'43	retrograde	-8177 Jul 28 j 02:29	26° $\approx$ 56'34	
evening set	-8183 Mar 26 j 05:52	17° $\approx$ 56'09	opposition	-8177 Oct 15 j 22:52	25° $\approx$ 52'41 -3°11'01	
max. Earth dist.	-8183 Apr 07 j 21:50	18° $\approx$ 14'50 44.49566 AU	min. Earth dist.	-8177 Oct 18 j 12:15	25° $\approx$ 49'27 41.11901 AU	
			direct	-8176 Jan 06 j 10:37	24° $\approx$ 46'41	
conjunction	-8183 Apr 10 j 10:44	18° $\approx$ 18'37 -5°13'23	evening set	-8176 Apr 02 j 19:42	26° $\approx$ 04'23	
minimum elong	-8183 Apr 10 j 10:53	18° $\approx$ 18'37 5°13'48	max. Earth dist.	-8176 Apr 15 j 20:43	26° $\approx$ 24'19 43.00502 AU	
morning rise	-8183 Apr 25 j 14:13	18° $\approx$ 41'02				
retrograde	-8183 Jul 20 j 08:18	19° $\approx$ 55'38	conjunction	-8176 Apr 18 j 17:09	26° $\approx$ 28'44 -2°51'22	
opposition	-8183 Oct 08 j 14:55	18° $\approx$ 52'51 -5°18'10	minimum elong	-8176 Apr 18 j 17:14	26° $\approx$ 28'44 2°51'43	



## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 17

Attention, astronomical year style is used: The year -8176 in astronomical counting style is the year 8177 BCE in historical counting style.

morning rise	-8176 May 04 j 12:21	26° $\approx$ 52'59	opposition	-8170 Oct 24 j 05:31	4° $\mathbb{H}$ 36'12	-0°28'05
retrograde	-8176 Jul 28 j 14:07	28° $\approx$ 09'25	min. Earth dist.	-8170 Oct 27 j 01:29	4° $\mathbb{H}$ 32'30	39.48439 AU
opposition	-8176 Oct 16 j 09:16	27° $\approx$ 05'19 -2°48'42	direct	-8169 Jan 14 j 16:20	3° $\mathbb{H}$ 28'01	
min. Earth dist.	-8176 Oct 18 j 23:21	27° $\approx$ 02'02 40.89459 AU	evening set	-8169 Apr 12 j 10:11	4° $\mathbb{H}$ 49'09	
direct	-8175 Jan 06 j 20:30	25° $\approx$ 59'03	max. Earth dist.	-8169 Apr 25 j 10:04	5° $\mathbb{H}$ 09'52	41.36433 AU
evening set	-8175 Apr 04 j 06:37	27° $\approx$ 17'10				
max. Earth dist.	-8175 Apr 17 j 06:38	27° $\approx$ 37'10 42.77937 AU	conjunction	-8169 Apr 28 j 13:57	5° $\mathbb{H}$ 14'59	-0°14'54
			minimum elong	-8169 Apr 28 j 13:58	5° $\mathbb{H}$ 14'59	0°15'11
conjunction	-8175 Apr 20 j 05:29	27° $\approx$ 41'46 -2°29'53	behind sun begin	-8169 Apr 28 j 12:08	5° $\mathbb{H}$ 14'52	
minimum elong	-8175 Apr 20 j 05:33	27° $\approx$ 41'46 2°30'15	behind sun end	-8169 Apr 28 j 15:47	5° $\mathbb{H}$ 15'06	
morning rise	-8175 May 06 j 02:19	28° $\approx$ 06'15	morning rise	-8169 May 14 j 14:43	5° $\mathbb{H}$ 40'40	
retrograde	-8175 Jul 30 j 05:27	29° $\approx$ 23'02	retrograde	-8169 Aug 07 j 10:29	7° $\mathbb{H}$ 00'02	
opposition	-8175 Oct 17 j 19:48	28° $\approx$ 18'41 -2°26'03	opposition	-8169 Oct 25 j 18:14	5° $\mathbb{H}$ 54'02	-0°03'32
min. Earth dist.	-8175 Oct 20 j 11:03	28° $\approx$ 15'20 40.66650 AU	min. Earth dist.	-8169 Oct 28 j 14:58	5° $\mathbb{H}$ 50'17	39.24366 AU
direct	-8174 Jan 08 j 04:17	27° $\approx$ 12'08	asc. node	-8169 Dec 17 j 02:26	4° $\mathbb{H}$ 56'25	
evening set	-8174 Apr 05 j 17:50	28° $\approx$ 30'41	direct	-8168 Jan 16 j 04:11	4° $\mathbb{H}$ 45'33	
max. Earth dist.	-8174 Apr 18 j 18:38	28° $\approx$ 50'51 42.54991 AU	evening set	-8168 Apr 13 j 00:48	6° $\mathbb{H}$ 07'19	
			max. Earth dist.	-8168 Apr 25 j 23:28	6° $\mathbb{H}$ 28'07	41.12336 AU
conjunction	-8174 Apr 21 j 18:15	28° $\approx$ 55'30 -2°08'07				
minimum elong	-8174 Apr 21 j 18:19	28° $\approx$ 55'31 2°08'27	conjunction	-8168 Apr 29 j 04:21	6° $\mathbb{H}$ 33'19	0°08'41
morning rise	-8174 May 07 j 16:11	29° $\approx$ 20'13	minimum elong	-8168 Apr 29 j 04:20	6° $\mathbb{H}$ 33'19	0°08'24
	-8174 Jun 05 j 03:38	0° $\mathbb{H}$	behind sun begin	-8168 Apr 28 j 22:38	6° $\mathbb{H}$ 32'57	
retrograde	-8174 Jul 31 j 18:08	0° $\mathbb{H}$ 37'22	behind sun end	-8168 Apr 29 j 10:02	6° $\mathbb{H}$ 33'41	
	-8174 Sep 27 j 06:31	30° $\mathbb{R}$	morning rise	-8168 May 15 j 05:04	6° $\mathbb{H}$ 59'10	
opposition	-8174 Oct 19 j 06:49	29° $\approx$ 32'45 -2°03'06	retrograde	-8168 Aug 08 j 03:24	8° $\mathbb{H}$ 19'06	
min. Earth dist.	-8174 Oct 21 j 23:48	29° $\approx$ 29'18 40.43474 AU	opposition	-8168 Oct 26 j 07:10	7° $\mathbb{H}$ 12'50	0°21'18
direct	-8173 Jan 09 j 15:10	28° $\approx$ 25'54	min. Earth dist.	-8168 Oct 29 j 03:46	7° $\mathbb{H}$ 09'05	39.00232 AU
evening set	-8173 Apr 07 j 05:45	29° $\approx$ 44'55	direct	-8167 Jan 16 j 16:27	6° $\mathbb{H}$ 04'02	
	-8173 Apr 16 j 23:22	0° $\mathbb{H}$	evening set	-8167 Apr 14 j 16:04	7° $\mathbb{H}$ 26'30	
max. Earth dist.	-8173 Apr 20 j 06:26	0° $\mathbb{H}$ 05'11 42.31713 AU	max. Earth dist.	-8167 Apr 27 j 13:36	7° $\mathbb{H}$ 47'22	40.88141 AU
conjunction	-8173 Apr 23 j 07:12	0° $\mathbb{H}$ 09'57 -1°46'03	conjunction	-8167 Apr 30 j 19:20	7° $\mathbb{H}$ 52'40	0°32'25
minimum elong	-8173 Apr 23 j 07:15	0° $\mathbb{H}$ 09'57 1°46'22	minimum elong	-8167 Apr 30 j 19:18	7° $\mathbb{H}$ 52'40	0°32'09
morning rise	-8173 May 09 j 06:18	0° $\mathbb{H}$ 34'52	morning rise	-8167 May 16 j 19:32	8° $\mathbb{H}$ 18'40	
retrograde	-8173 Aug 02 j 05:38	1° $\mathbb{H}$ 52'23	retrograde	-8167 Aug 09 j 17:33	9° $\mathbb{H}$ 39'13	
opposition	-8173 Oct 20 j 17:55	0° $\mathbb{H}$ 47'32 -1°39'49	opposition	-8167 Oct 27 j 20:33	8° $\mathbb{H}$ 32'41	0°46'27
min. Earth dist.	-8173 Oct 23 j 11:06	0° $\mathbb{H}$ 44'02 40.20004 AU	min. Earth dist.	-8167 Oct 30 j 18:54	8° $\mathbb{H}$ 28'49	38.75997 AU
	-8173 Nov 30 j 20:53	30° $\mathbb{R}$	direct	-8166 Jan 18 j 06:03	7° $\mathbb{H}$ 23'35	
direct	-8172 Jan 11 j 05:19	29° $\approx$ 40'20	evening set	-8166 Apr 16 j 08:03	8° $\mathbb{H}$ 46'46	
	-8172 Feb 21 j 04:38	0° $\mathbb{H}$	max. Earth dist.	-8166 Apr 29 j 04:56	9° $\mathbb{H}$ 07'44	40.63821 AU
evening set	-8172 Apr 07 j 18:06	0° $\mathbb{H}$ 59'50				
max. Earth dist.	-8172 Apr 20 j 18:00	1° $\mathbb{H}$ 20'11 42.08148 AU	conjunction	-8166 May 02 j 10:43	9° $\mathbb{H}$ 13'05	0°56'28
conjunction	-8172 Apr 23 j 20:28	1° $\mathbb{H}$ 25'06 -1°23'41	minimum elong	-8166 May 02 j 10:41	9° $\mathbb{H}$ 13'05	0°56'12
minimum elong	-8172 Apr 23 j 20:31	1° $\mathbb{H}$ 25'06 1°24'00	morning rise	-8166 May 18 j 10:15	9° $\mathbb{H}$ 39'14	
morning rise	-8172 May 09 j 20:20	1° $\mathbb{H}$ 50'13	retrograde	-8166 Aug 11 j 07:22	11° $\mathbb{H}$ 00'26	
retrograde	-8172 Aug 02 j 17:04	3° $\mathbb{H}$ 08'09	opposition	-8166 Oct 29 j 10:22	9° $\mathbb{H}$ 53'39	1°11'54
opposition	-8172 Oct 21 j 05:33	2° $\mathbb{H}$ 03'00 -1°16'13	min. Earth dist.	-8166 Nov 01 j 08:40	9° $\mathbb{H}$ 49'45	38.51602 AU
min. Earth dist.	-8172 Oct 24 j 00:32	1° $\mathbb{H}$ 59'24 39.96301 AU	direct	-8165 Jan 19 j 21:27	8° $\mathbb{H}$ 44'14	
direct	-8171 Jan 11 j 17:55	0° $\mathbb{H}$ 55'29	evening set	-8165 Apr 18 j 00:56	10° $\mathbb{H}$ 08'11	
evening set	-8171 Apr 09 j 06:43	2° $\mathbb{H}$ 15'29	max. Earth dist.	-8165 Apr 30 j 18:40	10° $\mathbb{H}$ 29'07	40.39291 AU
max. Earth dist.	-8171 Apr 22 j 07:38	2° $\mathbb{H}$ 36'01 41.84380 AU	conjunction	-8165 May 04 j 02:33	10° $\mathbb{H}$ 34'39	1°20'46
conjunction	-8171 Apr 25 j 09:51	2° $\mathbb{H}$ 40'57 -1°01'03	minimum elong	-8165 May 04 j 02:31	10° $\mathbb{H}$ 34'39	1°20'33
minimum elong	-8171 Apr 25 j 09:53	2° $\mathbb{H}$ 40'57 1°01'21	morning rise	-8165 May 20 j 01:08	11° $\mathbb{H}$ 00'56	
morning rise	-8171 May 11 j 10:16	3° $\mathbb{H}$ 06'16	retrograde	-8165 Aug 12 j 23:42	12° $\mathbb{H}$ 22'49	
retrograde	-8171 Aug 04 j 04:32	4° $\mathbb{H}$ 24'38	opposition	-8165 Oct 31 j 00:41	11° $\mathbb{H}$ 15'46	1°37'38
opposition	-8171 Oct 22 j 17:25	3° $\mathbb{H}$ 19'12 -0°52'18	min. Earth dist.	-8165 Nov 03 j 00:39	11° $\mathbb{H}$ 11'46	38.26997 AU
min. Earth dist.	-8171 Oct 25 j 12:20	3° $\mathbb{H}$ 15'35 39.72422 AU	direct	-8164 Jan 21 j 09:21	10° $\mathbb{H}$ 06'01	
direct	-8170 Jan 13 j 06:25	2° $\mathbb{H}$ 11'21	evening set	-8164 Apr 18 j 18:25	11° $\mathbb{H}$ 30'47	
evening set	-8170 Apr 10 j 20:12	3° $\mathbb{H}$ 31'54	max. Earth dist.	-8164 May 01 j 11:07	11° $\mathbb{H}$ 51'47	40.14515 AU
max. Earth dist.	-8170 Apr 23 j 19:37	3° $\mathbb{H}$ 52'28 41.60460 AU	conjunction	-8164 May 04 j 18:58	11° $\mathbb{H}$ 57'22	1°45'21
conjunction	-8170 Apr 26 j 23:38	3° $\mathbb{H}$ 57'33 -0°38'06	minimum elong	-8164 May 04 j 18:54	11° $\mathbb{H}$ 57'22	1°45'07
minimum elong	-8170 Apr 26 j 23:39	3° $\mathbb{H}$ 57'33 0°38'24	morning rise	-8164 May 20 j 16:06	12° $\mathbb{H}$ 23'46	
morning rise	-8170 May 13 j 00:29	4° $\mathbb{H}$ 23'04	retrograde	-8164 Aug 13 j 15:28	13° $\mathbb{H}$ 46'23	
retrograde	-8170 Aug 05 j 19:30	5° $\mathbb{H}$ 41'54	opposition	-8164 Oct 31 j 15:36	12° $\mathbb{H}$ 39'02	2°03'39
			min. Earth dist.	-8164 Nov 03 j 16:15	12° $\mathbb{H}$ 34'59	38.02132 AU

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 18

Attention, astronomical year style is used: The year -8163 in astronomical counting style is the year 8164 BCE in historical counting style.

direct	-8163 Jan 21 j 23:25	11° $\text{H}$ 28'57		retrograde	-8157 Aug 25 j 00:11	24° $\text{H}$ 04'32	
evening set	-8163 Apr 20 j 12:40	12° $\text{H}$ 54'34		opposition	-8157 Nov 11 j 12:46	22° $\text{H}$ 54'44	5°12'56
max. Earth dist.	-8163 May 03 j 01:53	13° $\text{H}$ 15'30	39.89474 AU	min. Earth dist.	-8157 Nov 14 j 18:07	22° $\text{H}$ 50'14	36.23312 AU
				direct	-8156 Feb 01 j 16:16	21° $\text{H}$ 41'52	
conjunction	-8163 May 06 j 11:31	13° $\text{H}$ 21'14	2°10'10	evening set	-8156 May 01 j 19:04	23° $\text{H}$ 14'37	
minimum elong	-8163 May 06 j 11:27	13° $\text{H}$ 21'14	2°09'58	max. Earth dist.	-8156 May 13 j 08:02	23° $\text{H}$ 35'02	38.09673 AU
morning rise	-8163 May 22 j 07:14	13° $\text{H}$ 47'44					
retrograde	-8163 Aug 15 j 10:45	15° $\text{H}$ 11'08		conjunction	-8156 May 16 j 21:27	23° $\text{H}$ 41'25	5°10'01
opposition	-8163 Nov 02 j 06:50	14° $\text{H}$ 03'28	2°29'57	minimum elong	-8156 May 16 j 21:16	23° $\text{H}$ 41'24	5°09'53
min. Earth dist.	-8163 Nov 05 j 08:14	13° $\text{H}$ 59'21	37.77015 AU	morning rise	-8156 May 31 j 20:23	24° $\text{H}$ 07'59	
direct	-8162 Jan 23 j 13:02	12° $\text{H}$ 53'01		retrograde	-8156 Aug 25 j 23:21	25° $\text{H}$ 37'58	
evening set	-8162 Apr 22 j 07:41	14° $\text{H}$ 19'30		opposition	-8156 Nov 12 j 07:38	24° $\text{H}$ 27'48	5°40'48
max. Earth dist.	-8162 May 04 j 18:24	14° $\text{H}$ 40'26	39.64157 AU	min. Earth dist.	-8156 Nov 15 j 12:30	24° $\text{H}$ 23'19	35.97768 AU
				direct	-8155 Feb 02 j 10:30	23° $\text{H}$ 14'33	
conjunction	-8162 May 08 j 04:51	14° $\text{H}$ 46'16	2°35'14	evening set	-8155 May 03 j 19:57	24° $\text{H}$ 48'34	
minimum elong	-8162 May 08 j 04:45	14° $\text{H}$ 46'16	2°35'02	max. Earth dist.	-8155 May 15 j 04:16	25° $\text{H}$ 08'50	37.84014 AU
morning rise	-8162 May 23 j 22:29	15° $\text{H}$ 12'50					
retrograde	-8162 Aug 17 j 05:01	16° $\text{H}$ 37'02		conjunction	-8155 May 18 j 17:59	25° $\text{H}$ 15'16	5°36'22
opposition	-8162 Nov 03 j 22:32	15° $\text{H}$ 29'02	2°56'32	minimum elong	-8155 May 18 j 17:46	25° $\text{H}$ 15'15	5°36'16
min. Earth dist.	-8162 Nov 07 j 01:39	15° $\text{H}$ 24'48	37.51648 AU	morning rise	-8155 Jun 02 j 12:21	25° $\text{H}$ 41'45	
direct	-8161 Jan 25 j 05:09	14° $\text{H}$ 18'12		retrograde	-8155 Aug 27 j 22:04	27° $\text{H}$ 12'55	
evening set	-8161 Apr 24 j 03:37	15° $\text{H}$ 45'38		opposition	-8155 Nov 14 j 03:13	26° $\text{H}$ 02'24	6°08'48
max. Earth dist.	-8161 May 06 j 11:24	16° $\text{H}$ 06'31	39.38621 AU	min. Earth dist.	-8155 Nov 17 j 09:21	25° $\text{H}$ 57'49	35.72307 AU
				direct	-8154 Feb 04 j 05:17	24° $\text{H}$ 48'45	
conjunction	-8161 May 09 j 22:30	16° $\text{H}$ 12'27	3°00'33	evening set	-8154 May 05 j 22:07	26° $\text{H}$ 24'06	
minimum elong	-8161 May 09 j 22:24	16° $\text{H}$ 12'26	3°00'21	max. Earth dist.	-8154 May 17 j 01:50	26° $\text{H}$ 44'13	37.58424 AU
morning rise	-8161 May 25 j 14:00	16° $\text{H}$ 39'04					
retrograde	-8161 Aug 18 j 23:15	18° $\text{H}$ 04'05		conjunction	-8154 May 20 j 15:11	26° $\text{H}$ 50'42	6°02'49
opposition	-8161 Nov 05 j 14:45	16° $\text{H}$ 55'45	3°23'22	minimum elong	-8154 May 20 j 14:58	26° $\text{H}$ 50'41	6°02'43
min. Earth dist.	-8161 Nov 08 j 17:39	16° $\text{H}$ 51'30	37.26094 AU	morning rise	-8154 Jun 04 j 04:40	27° $\text{H}$ 17'03	
direct	-8160 Jan 26 j 22:44	15° $\text{H}$ 44'32		retrograde	-8154 Aug 29 j 18:59	28° $\text{H}$ 49'27	
evening set	-8160 Apr 25 j 00:09	17° $\text{H}$ 12'55		opposition	-8154 Nov 15 j 23:14	27° $\text{H}$ 38'36	6°36'55
max. Earth dist.	-8160 May 07 j 03:57	17° $\text{H}$ 33'41	39.12900 AU	min. Earth dist.	-8154 Nov 19 j 04:45	27° $\text{H}$ 34'00	35.46898 AU
				direct	-8153 Feb 06 j 02:21	26° $\text{H}$ 24'33	
conjunction	-8160 May 10 j 16:29	17° $\text{H}$ 39'47	3°26'04	evening set	-8153 May 08 j 01:24	28° $\text{H}$ 01'18	
minimum elong	-8160 May 10 j 16:21	17° $\text{H}$ 39'46	3°25'53	max. Earth dist.	-8153 May 18 j 22:21	28° $\text{H}$ 21'05	37.32842 AU
morning rise	-8160 May 26 j 05:22	18° $\text{H}$ 06'26					
retrograde	-8160 Aug 19 j 15:54	19° $\text{H}$ 32'21		conjunction	-8153 May 22 j 13:03	28° $\text{H}$ 27'44	6°29'22
opposition	-8160 Nov 06 j 07:31	18° $\text{H}$ 23'39	3°50'26	minimum elong	-8153 May 22 j 12:48	28° $\text{H}$ 27'43	6°29'18
min. Earth dist.	-8160 Nov 09 j 12:01	18° $\text{H}$ 19'16	37.00416 AU	morning rise	-8153 Jun 05 j 21:13	28° $\text{H}$ 53'57	
direct	-8159 Jan 27 j 15:04	17° $\text{H}$ 12'01			-8153 Jul 18 j 08:36	0° $\text{Y}$	
evening set	-8159 Apr 26 j 21:29	18° $\text{H}$ 41'24		retrograde	-8153 Aug 31 j 17:07	0° $\text{Y}$ 27'38	
max. Earth dist.	-8159 May 08 j 23:03	19° $\text{H}$ 02'11	38.87084 AU		-8153 Oct 16 j 00:32	30° $\text{R}$ $\text{H}$	
				opposition	-8153 Nov 17 j 20:11	29° $\text{H}$ 16'25	7°05'09
conjunction	-8159 May 12 j 11:01	19° $\text{H}$ 08'17	3°51'48	min. Earth dist.	-8153 Nov 21 j 02:59	29° $\text{H}$ 11'43	35.21505 AU
minimum elong	-8159 May 12 j 10:52	19° $\text{H}$ 08'16	3°51'38	direct	-8152 Feb 07 j 22:01	28° $\text{H}$ 01'58	
morning rise	-8159 May 27 j 20:54	19° $\text{H}$ 34'57		evening set	-8152 May 09 j 05:35	29° $\text{H}$ 40'09	
retrograde	-8159 Aug 21 j 08:20	21° $\text{H}$ 01'47		max. Earth dist.	-8152 May 19 j 21:37	29° $\text{H}$ 59'45	37.07241 AU
opposition	-8159 Nov 08 j 00:37	19° $\text{H}$ 52'44	4°17'44		-8152 May 20 j 00:45	0° $\text{Y}$	
min. Earth dist.	-8159 Nov 11 j 04:58	19° $\text{H}$ 48'20	36.74682 AU				
direct	-8158 Jan 29 j 08:34	18° $\text{H}$ 40'41		conjunction	-8152 May 23 j 11:29	0° $\text{Y}$ 06'24	6°55'59
evening set	-8158 Apr 28 j 19:49	20° $\text{H}$ 11'07		minimum elong	-8152 May 23 j 11:13	0° $\text{Y}$ 06'23	6°55'55
max. Earth dist.	-8158 May 10 j 16:27	20° $\text{H}$ 31'45	38.61236 AU	morning rise	-8152 Jun 06 j 13:41	0° $\text{Y}$ 32'25	
				retrograde	-8152 Sep 01 j 14:33	2° $\text{Y}$ 07'29	
conjunction	-8158 May 14 j 05:56	20° $\text{H}$ 38'01	4°17'43	opposition	-8152 Nov 18 j 17:50	0° $\text{Y}$ 55'53	7°33'28
minimum elong	-8158 May 14 j 05:47	20° $\text{H}$ 38'00	4°17'33	min. Earth dist.	-8152 Nov 22 j 00:36	0° $\text{Y}$ 51'09	34.96081 AU
morning rise	-8158 May 29 j 12:40	21° $\text{H}$ 04'41			-8151 Jan 01 j 15:05	30° $\text{R}$ $\text{H}$	
retrograde	-8158 Aug 23 j 04:38	22° $\text{H}$ 32'30		direct	-8151 Feb 08 j 18:58	29° $\text{H}$ 41'00	
opposition	-8158 Nov 09 j 18:22	21° $\text{H}$ 23'04	4°45'15		-8151 Mar 18 j 07:13	0° $\text{Y}$	
min. Earth dist.	-8158 Nov 12 j 23:18	21° $\text{H}$ 18'37	36.48969 AU	evening set	-8151 May 11 j 11:09	1° $\text{Y}$ 20'42	
direct	-8157 Jan 30 j 22:56	20° $\text{H}$ 10'36		max. Earth dist.	-8151 May 21 j 19:15	1° $\text{Y}$ 39'53	36.81602 AU
evening set	-8157 Apr 30 j 18:53	21° $\text{H}$ 42'10					
max. Earth dist.	-8157 May 12 j 12:35	22° $\text{H}$ 02'45	38.35410 AU	conjunction	-8151 May 25 j 10:33	1° $\text{Y}$ 46'42	7°22'39
				minimum elong	-8151 May 25 j 10:15	1° $\text{Y}$ 46'41	7°22'36
conjunction	-8157 May 16 j 01:30	22° $\text{H}$ 09'01	4°43'47	morning rise	-8151 Jun 08 j 06:37	2° $\text{Y}$ 12'30	
minimum elong	-8157 May 16 j 01:19	22° $\text{H}$ 09'00	4°43'40	retrograde	-8151 Sep 03 j 15:16	3° $\text{Y}$ 48'58	
morning rise	-8157 May 31 j 04:21	22° $\text{H}$ 35'39		opposition	-8151 Nov 20 j 15:56	2° $\text{Y}$ 36'58	8°01'51

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 19

Attention, astronomical year style is used: The year -8151 in astronomical counting style is the year 8152 BCE in historical counting style.

min. Earth dist.	-8151 Nov 23 j 23:13	2°♂32'11	34.70642 AU	morning rise	-8144 Jun 18 j 06:33	14°♂37'45	
direct	-8150 Feb 10 j 14:29	1°♂21'38		retrograde	-8144 Sep 16 j 09:33	16°♂26'13	
evening set	-8150 May 13 j 17:44	3°♂02'54		opposition	-8144 Dec 03 j 00:14	15°♂11'07	11°18'33
max. Earth dist.	-8150 May 23 j 19:24	3°♂21'46	36.55925 AU	min. Earth dist.	-8144 Dec 06 j 06:25	15°♂06'11	32.95995 AU
				direct	-8143 Feb 22 j 16:10	13°♂52'29	
conjunction	-8150 May 27 j 10:28	3°♂28'38	7°49'20	evening set	-8143 May 29 j 02:21	15°♂46'54	
minimum elong	-8150 May 27 j 10:10	3°♂28'37	7°49'18	max. Earth dist.	-8143 Jun 05 j 14:19	16°♂02'01	34.80261 AU
morning rise	-8150 Jun 09 j 23:34	3°♂54'08					
retrograde	-8150 Sep 05 j 15:12	5°♂32'06		conjunction	-8143 Jun 09 j 02:33	16°♂09'08	10°53'00
opposition	-8150 Nov 22 j 14:59	4°♂19'40	8°30'15	minimum elong	-8143 Jun 09 j 02:07	16°♂09'06	10°53'05
min. Earth dist.	-8150 Nov 25 j 23:03	4°♂14'49	34.45183 AU	morning rise	-8143 Jun 19 j 23:49	16°♂31'09	
direct	-8149 Feb 12 j 12:24	3°♂03'53		retrograde	-8143 Sep 18 j 14:19	18°♂21'44	
evening set	-8149 May 16 j 01:37	4°♂46'46		opposition	-8143 Dec 05 j 04:32	17°♂06'13	11°45'44
max. Earth dist.	-8149 May 25 j 19:17	5°♂05'12	36.30259 AU	min. Earth dist.	-8143 Dec 08 j 10:30	17°♂01'16	32.72339 AU
				direct	-8142 Feb 24 j 17:57	15°♂47'10	
conjunction	-8149 May 29 j 10:47	5°♂12'11	8°16'00	evening set	-8142 May 31 j 19:35	17°♂43'52	
minimum elong	-8149 May 29 j 10:27	5°♂12'09	8°15'59	max. Earth dist.	-8142 Jun 07 j 19:51	17°♂58'09	34.56521 AU
morning rise	-8149 Jun 11 j 16:40	5°♂37'21					
retrograde	-8149 Sep 07 j 18:08	7°♂16'51		conjunction	-8142 Jun 11 j 07:40	18°♂05'19	11°18'11
opposition	-8149 Nov 24 j 14:36	6°♂03'59	8°58'38	minimum elong	-8142 Jun 11 j 07:15	18°♂05'17	11°18'17
min. Earth dist.	-8149 Nov 27 j 22:04	5°♂59'08	34.19775 AU	morning rise	-8142 Jun 21 j 17:16	18°♂26'35	
direct	-8148 Feb 14 j 11:19	4°♂47'43		retrograde	-8142 Sep 20 j 22:21	20°♂19'21	
evening set	-8148 May 17 j 10:32	6°♂32'18		opposition	-8142 Dec 07 j 09:42	19°♂03'27	12°12'31
max. Earth dist.	-8148 May 26 j 20:07	6°♂50'17	36.04646 AU	min. Earth dist.	-8142 Dec 10 j 14:18	18°♂58'34	32.49099 AU
				direct	-8141 Feb 26 j 20:29	17°♂43'59	
conjunction	-8148 May 30 j 11:52	6°♂57'20	8°42'36	evening set	-8141 Jun 03 j 14:13	19°♂43'05	
minimum elong	-8148 May 30 j 11:32	6°♂57'19	8°42'36	max. Earth dist.	-8141 Jun 10 j 02:38	19°♂56'30	34.33156 AU
morning rise	-8148 Jun 12 j 09:49	7°♂22'09					
retrograde	-8148 Sep 08 j 20:06	9°♂03'16		conjunction	-8141 Jun 13 j 13:38	20°♂03'40	11°42'57
opposition	-8148 Nov 25 j 15:02	7°♂49'56	9°26'58	minimum elong	-8141 Jun 13 j 13:12	20°♂03'37	11°43'04
min. Earth dist.	-8148 Nov 28 j 23:36	7°♂44'59	33.94481 AU	morning rise	-8141 Jun 23 j 10:31	20°♂24'04	
direct	-8147 Feb 15 j 10:29	6°♂33'10		retrograde	-8141 Sep 23 j 06:29	22°♂19'09	
evening set	-8147 May 19 j 20:37	8°♂19'33		opposition	-8141 Dec 09 j 16:00	21°♂02'51	12°38'50
max. Earth dist.	-8147 May 28 j 22:34	8°♂37'06	35.79186 AU	min. Earth dist.	-8141 Dec 12 j 20:56	20°♂57'55	32.26235 AU
				direct	-8140 Feb 29 j 01:18	19°♂42'59	
conjunction	-8147 Jun 01 j 13:22	8°♂44'09	9°09'06	evening set	-8140 Jun 05 j 10:48	21°♂44'35	
minimum elong	-8147 Jun 01 j 13:00	8°♂44'07	9°09'07	max. Earth dist.	-8140 Jun 11 j 10:43	21°♂57'04	34.10167 AU
morning rise	-8147 Jun 14 j 02:53	9°♂08'31					
retrograde	-8147 Sep 10 j 22:27	10°♂51'20		conjunction	-8140 Jun 14 j 20:23	22°♂04'11	12°07'14
opposition	-8147 Nov 27 j 16:05	9°♂37'33	9°55'11	minimum elong	-8140 Jun 14 j 19:58	22°♂04'09	12°07'23
min. Earth dist.	-8147 Nov 30 j 23:31	9°♂32'38	33.69375 AU	morning rise	-8140 Jun 24 j 03:43	22°♂23'38	
direct	-8146 Feb 17 j 12:56	8°♂20'18		retrograde	-8140 Sep 24 j 16:51	24°♂21'08	
evening set	-8146 May 22 j 08:03	10°♂08'32		opposition	-8140 Dec 10 j 23:01	23°♂04'26	13°04'39
max. Earth dist.	-8146 May 31 j 00:10	10°♂25'28	35.53935 AU	min. Earth dist.	-8140 Dec 14 j 02:23	22°♂59'34	32.03735 AU
				direct	-8139 Mar 02 j 08:50	21°♂44'10	
conjunction	-8146 Jun 03 j 15:37	10°♂32'39	9°35'27	evening set	-8139 Jun 08 j 08:58	23°♂48'22	
minimum elong	-8146 Jun 03 j 15:16	10°♂32'37	9°35'29	max. Earth dist.	-8139 Jun 13 j 18:15	23°♂59'42	33.87519 AU
morning rise	-8146 Jun 15 j 20:09	10°♂56'32					
retrograde	-8146 Sep 13 j 02:04	12°♂41'07		conjunction	-8139 Jun 17 j 03:56	24°♂06'54	12°31'00
opposition	-8146 Nov 29 j 17:56	11°♂26'53	10°23'13	minimum elong	-8139 Jun 17 j 03:29	24°♂06'51	12°31'09
min. Earth dist.	-8146 Dec 03 j 01:49	11°♂21'55	33.44548 AU	morning rise	-8139 Jun 25 j 20:46	24°♂25'16	
direct	-8145 Feb 19 j 13:22	10°♂09'09		retrograde	-8139 Sep 27 j 02:32	26°♂25'18	
evening set	-8145 May 24 j 20:48	11°♂59'21		opposition	-8139 Dec 13 j 07:05	25°♂08'12	13°29'54
max. Earth dist.	-8145 Jun 02 j 04:56	12°♂15'48	35.28992 AU	min. Earth dist.	-8139 Dec 16 j 10:47	25°♂03'17	31.81583 AU
				direct	-8138 Mar 04 j 14:53	23°♂47'30	
conjunction	-8145 Jun 05 j 18:38	12°♂22'54	10°01'35	evening set	-8138 Jun 11 j 09:23	25°♂54'25	
minimum elong	-8145 Jun 05 j 18:14	12°♂22'52	10°01'38	max. Earth dist.	-8138 Jun 16 j 04:35	26°♂04'38	33.65225 AU
morning rise	-8145 Jun 17 j 13:19	12°♂46'14					
retrograde	-8145 Sep 15 j 04:34	14°♂32'43		conjunction	-8138 Jun 19 j 12:23	26°♂11'44	12°54'10
opposition	-8145 Dec 01 j 20:44	13°♂18'03	10°51'02	minimum elong	-8138 Jun 19 j 11:57	26°♂11'42	12°54'21
min. Earth dist.	-8145 Dec 05 j 03:31	13°♂13'06	33.20063 AU	morning rise	-8138 Jun 27 j 13:24	26°♂28'54	
direct	-8144 Feb 21 j 15:38	11°♂59'51		retrograde	-8138 Sep 29 j 11:39	28°♂31'35	
evening set	-8144 May 26 j 10:50	13°♂52'06		opposition	-8138 Dec 15 j 16:01	27°♂14'04	13°54'30
max. Earth dist.	-8144 Jun 03 j 08:13	14°♂07'50	35.04423 AU	min. Earth dist.	-8138 Dec 18 j 18:15	27°♂09'13	31.59787 AU
				direct	-8137 Mar 06 j 23:51	25°♂52'56	
conjunction	-8144 Jun 06 j 22:03	14°♂15'02	10°27'27	evening set	-8137 Jun 14 j 11:49	28°♂02'43	
minimum elong	-8144 Jun 06 j 21:40	14°♂15'00	10°27'31	max. Earth dist.	-8137 Jun 18 j 13:37	28°♂11'29	33.43314 AU

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Attention, astronomical year style is used: The year -8137 in astronomical counting style is the year 8138 BCE in historical counting style.

conjunction	-8137 Jun 21 j 21:33	28° $\Upsilon$ 18'40	13°16'41	direct	-8130 Mar 22 j 03:11	11° $\mathcal{B}$ 27'00	
minimum elong	-8137 Jun 21 j 21:06	28° $\Upsilon$ 18'38	13°16'53	max. Earth dist.	-8130 Jul 04 j 15:31	13° $\mathcal{B}$ 56'08	32.06581 AU
morning rise	-8137 Jun 29 j 05:34	28° $\Upsilon$ 34'28					
	-8137 Aug 12 j 23:17	0° $\mathcal{B}$		conjunction	-8130 Jul 07 j 09:46	14° $\mathcal{B}$ 02'28	15°28'41
retrograde	-8137 Oct 01 j 23:14	0° $\mathcal{B}$ 39'57		minimum elong	-8130 Jul 07 j 09:25	14° $\mathcal{B}$ 02'26	15°29'01
	-8137 Nov 22 j 22:20	30° $\mathcal{K}\Upsilon$			-8130 Aug 02 j 00:13	15° $\mathcal{B}$	
opposition	-8137 Dec 18 j 01:56	29° $\Upsilon$ 22'00	14°18'22	retrograde	-8130 Oct 17 j 23:37	16° $\mathcal{B}$ 33'27	
min. Earth dist.	-8137 Dec 21 j 03:34	29° $\Upsilon$ 17'09	31.38411 AU	opposition	-8129 Jan 03 j 00:05	15° $\mathcal{B}$ 12'39	16°37'15
direct	-8136 Mar 08 j 07:27	28° $\Upsilon$ 00'26		min. Earth dist.	-8129 Jan 05 j 14:02	15° $\mathcal{B}$ 08'26	30.06192 AU
	-8136 Jun 10 j 13:02	0° $\mathcal{B}$			-8129 Jan 10 j 18:22	15° $\mathcal{K}\mathcal{B}$	
evening set	-8136 Jun 16 j 16:40	0° $\mathcal{B}$ 13'14		direct	-8129 Mar 24 j 16:32	13° $\mathcal{B}$ 48'27	
max. Earth dist.	-8136 Jun 20 j 01:52	0° $\mathcal{B}$ 20'35	33.21841 AU		-8129 Jun 01 j 01:47	15° $\mathcal{B}$	
				max. Earth dist.	-8129 Jul 07 j 09:53	16° $\mathcal{B}$ 19'08	31.90200 AU
conjunction	-8136 Jun 23 j 07:26	0° $\mathcal{B}$ 27'38	13°38'28				
minimum elong	-8136 Jun 23 j 07:00	0° $\mathcal{B}$ 27'35	13°38'41	conjunction	-8129 Jul 10 j 00:44	16° $\mathcal{B}$ 25'12	15°42'49
morning rise	-8136 Jun 29 j 20:34	0° $\mathcal{B}$ 41'53		minimum elong	-8129 Jul 10 j 00:22	16° $\mathcal{B}$ 25'10	15°43'10
retrograde	-8136 Oct 03 j 09:23	2° $\mathcal{B}$ 50'21		retrograde	-8129 Oct 20 j 17:10	18° $\mathcal{B}$ 57'29	
opposition	-8136 Dec 19 j 12:46	1° $\mathcal{B}$ 31'57	14°41'26	opposition	-8128 Jan 05 j 17:14	17° $\mathcal{B}$ 36'23	16°51'55
min. Earth dist.	-8136 Dec 22 j 13:22	1° $\mathcal{B}$ 27'08	31.17493 AU	min. Earth dist.	-8128 Jan 08 j 04:15	17° $\mathcal{B}$ 32'20	29.90450 AU
direct	-8135 Mar 10 j 16:55	0° $\mathcal{B}$ 09'57		direct	-8128 Mar 26 j 09:15	16° $\mathcal{B}$ 11'56	
evening set	-8135 Jun 20 j 00:30	2° $\mathcal{B}$ 25'59		max. Earth dist.	-8128 Jul 09 j 02:47	18° $\mathcal{B}$ 43'55	31.74645 AU
max. Earth dist.	-8135 Jun 22 j 13:03	2° $\mathcal{B}$ 31'31	33.00882 AU				
				conjunction	-8128 Jul 11 j 16:11	18° $\mathcal{B}$ 49'54	15°55'34
conjunction	-8135 Jun 25 j 18:00	2° $\mathcal{B}$ 38'34	13°59'25	minimum elong	-8128 Jul 11 j 15:53	18° $\mathcal{B}$ 49'52	15°55'56
minimum elong	-8135 Jun 25 j 17:33	2° $\mathcal{B}$ 38'32	13°59'39	retrograde	-8128 Oct 22 j 12:48	21° $\mathcal{B}$ 23'27	
morning rise	-8135 Jul 01 j 10:09	2° $\mathcal{B}$ 51'02		opposition	-8127 Jan 07 j 11:10	20° $\mathcal{B}$ 02'03	17°05'02
retrograde	-8135 Oct 05 j 21:22	5° $\mathcal{B}$ 02'42		min. Earth dist.	-8127 Jan 09 j 20:24	19° $\mathcal{B}$ 58'07	29.75515 AU
opposition	-8135 Dec 22 j 00:11	3° $\mathcal{B}$ 43'51	15°03'36	direct	-8127 Mar 29 j 00:57	18° $\mathcal{B}$ 37'21	
min. Earth dist.	-8135 Dec 24 j 23:10	3° $\mathcal{B}$ 39'08	30.97131 AU	max. Earth dist.	-8127 Jul 11 j 22:41	21° $\mathcal{B}$ 10'48	31.59899 AU
direct	-8134 Mar 13 j 02:18	2° $\mathcal{B}$ 21'25					
evening set	-8134 Jun 23 j 12:30	4° $\mathcal{B}$ 41'01		conjunction	-8127 Jul 14 j 08:35	21° $\mathcal{B}$ 16'29	16°06'50
max. Earth dist.	-8134 Jun 25 j 02:48	4° $\mathcal{B}$ 44'33	32.80506 AU	minimum elong	-8127 Jul 14 j 08:16	21° $\mathcal{B}$ 16'27	16°07'13
				retrograde	-8127 Oct 25 j 06:07	23° $\mathcal{B}$ 51'13	
conjunction	-8134 Jun 28 j 05:28	4° $\mathcal{B}$ 51'28	14°19'28	opposition	-8126 Jan 10 j 05:53	22° $\mathcal{B}$ 29'33	17°16'34
minimum elong	-8134 Jun 28 j 05:02	4° $\mathcal{B}$ 51'26	14°19'43	min. Earth dist.	-8126 Jan 12 j 12:53	22° $\mathcal{B}$ 25'45	29.61346 AU
morning rise	-8134 Jul 02 j 21:12	5° $\mathcal{B}$ 01'48		direct	-8126 Mar 31 j 18:43	21° $\mathcal{B}$ 04'39	
retrograde	-8134 Oct 08 j 09:00	7° $\mathcal{B}$ 16'59		max. Earth dist.	-8126 Jul 14 j 17:07	23° $\mathcal{B}$ 39'16	31.45954 AU
opposition	-8134 Dec 24 j 12:52	5° $\mathcal{B}$ 57'42	15°24'45				
min. Earth dist.	-8134 Dec 27 j 11:00	5° $\mathcal{B}$ 53'00	30.77390 AU	conjunction	-8126 Jul 17 j 01:29	23° $\mathcal{B}$ 44'50	16°16'35
direct	-8133 Mar 15 j 12:21	4° $\mathcal{B}$ 34'51		minimum elong	-8126 Jul 17 j 01:14	23° $\mathcal{B}$ 44'49	16°16'58
evening set	-8133 Jun 27 j 06:56	6° $\mathcal{B}$ 58'35		retrograde	-8126 Oct 28 j 02:01	26° $\mathcal{B}$ 20'42	
max. Earth dist.	-8133 Jun 27 j 16:28	6° $\mathcal{B}$ 59'28	32.60823 AU	opposition	-8125 Jan 13 j 01:29	24° $\mathcal{B}$ 58'46	17°26'25
				min. Earth dist.	-8125 Jan 15 j 05:56	24° $\mathcal{B}$ 55'08	29.47966 AU
conjunction	-8133 Jun 30 j 17:21	7° $\mathcal{B}$ 06'17	14°38'30	direct	-8125 Apr 03 j 11:57	23° $\mathcal{B}$ 33'39	
minimum elong	-8133 Jun 30 j 16:55	7° $\mathcal{B}$ 06'14	14°38'46	max. Earth dist.	-8125 Jul 17 j 14:11	26° $\mathcal{B}$ 09'34	31.32817 AU
morning rise	-8133 Jul 04 j 02:44	7° $\mathcal{B}$ 13'53					
retrograde	-8133 Oct 10 j 23:42	9° $\mathcal{B}$ 33'11		conjunction	-8125 Jul 19 j 19:00	26° $\mathcal{B}$ 14'50	16°24'44
opposition	-8133 Dec 27 j 02:19	8° $\mathcal{B}$ 13'29	15°44'47	minimum elong	-8125 Jul 19 j 18:45	26° $\mathcal{B}$ 14'48	16°25'08
min. Earth dist.	-8133 Dec 29 j 21:35	8° $\mathcal{B}$ 08'57	30.58375 AU	retrograde	-8125 Oct 30 j 20:39	28° $\mathcal{B}$ 51'45	
direct	-8132 Mar 16 j 23:41	6° $\mathcal{B}$ 50'13		opposition	-8124 Jan 15 j 21:56	27° $\mathcal{B}$ 29'32	17°34'32
max. Earth dist.	-8132 Jun 29 j 07:21	9° $\mathcal{B}$ 16'22	32.41900 AU	min. Earth dist.	-8124 Jan 18 j 00:29	27° $\mathcal{B}$ 26'01	29.35373 AU
evening set	-8132 Jun 30 j 21:27	9° $\mathcal{B}$ 19'57		direct	-8124 Apr 05 j 06:08	26° $\mathcal{B}$ 04'14	
				max. Earth dist.	-8124 Jul 19 j 10:11	28° $\mathcal{B}$ 41'11	31.20531 AU
conjunction	-8132 Jul 02 j 06:09	9° $\mathcal{B}$ 23'02	14°56'26				
minimum elong	-8132 Jul 02 j 05:45	9° $\mathcal{B}$ 23'00	14°56'44	conjunction	-8124 Jul 21 j 12:57	28° $\mathcal{B}$ 46'16	16°31'13
morning rise	-8132 Jul 03 j 14:03	9° $\mathcal{B}$ 26'02		minimum elong	-8124 Jul 21 j 12:45	28° $\mathcal{B}$ 46'15	16°31'38
retrograde	-8132 Oct 12 j 14:12	11° $\mathcal{B}$ 51'19			-8124 Aug 22 j 10:39	0° $\mathcal{I}$	
opposition	-8132 Dec 28 j 16:42	10° $\mathcal{B}$ 31'12	16°03'36	retrograde	-8124 Nov 01 j 17:25	1° $\mathcal{I}$ 24'09	
min. Earth dist.	-8132 Dec 31 j 10:59	10° $\mathcal{B}$ 26'44	30.40151 AU	opposition	-8123 Jan 17 j 18:42	0° $\mathcal{I}$ 01'40	17°40'49
direct	-8131 Mar 19 j 12:05	9° $\mathcal{B}$ 07'36			-8123 Jan 18 j 18:38	30° $\mathcal{K}\mathcal{B}$	
max. Earth dist.	-8131 Jul 01 j 23:36	11° $\mathcal{B}$ 35'17	32.23821 AU	min. Earth dist.	-8123 Jan 19 j 17:51	29° $\mathcal{B}$ 58'23	29.23624 AU
				direct	-8123 Apr 08 j 01:04	28° $\mathcal{B}$ 36'10	
conjunction	-8131 Jul 04 j 19:36	11° $\mathcal{B}$ 41'45	15°13'11		-8123 Jun 20 j 01:02	0° $\mathcal{I}$	
minimum elong	-8131 Jul 04 j 19:11	11° $\mathcal{B}$ 41'43	15°13'30	max. Earth dist.	-8123 Jul 22 j 07:56	1° $\mathcal{I}$ 14'12	31.09125 AU
retrograde	-8131 Oct 15 j 06:50	14° $\mathcal{B}$ 11'23					
opposition	-8131 Dec 31 j 07:54	12° $\mathcal{B}$ 50'55	16°21'07	conjunction	-8123 Jul 24 j 07:25	1° $\mathcal{I}$ 18'59	16°35'59
min. Earth dist.	-8130 Jan 02 j 23:03	12° $\mathcal{B}$ 46'38	30.22752 AU	minimum elong	-8123 Jul 24 j 07:14	1° $\mathcal{I}$ 18'58	16°36'26

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Attention, astronomical year style is used: The year -8123 in astronomical counting style is the year 8124 BCE in historical counting style.

retrograde	-8123 Nov 04 j 12:01	3°II57'44		direct	-8114 May 02 j 04:47	22°II01'34	
opposition	-8122 Jan 20 j 16:18	2°II35'00	17°45'13				
min. Earth dist.	-8122 Jan 22 j 13:37	2°II31'50	29.12754 AU	conjunction	-8114 Aug 16 j 14:04	24°II46'25	15°53'32
direct	-8122 Apr 10 j 20:48	1°II09'20		minimum elong	-8114 Aug 16 j 14:17	24°II46'26	15°54'03
max. Earth dist.	-8122 Jul 25 j 05:35	3°II48'18	30.98681 AU	max. Earth dist.	-8114 Aug 15 j 23:50	24°II44'57	30.56036 AU
				retrograde	-8114 Nov 28 j 14:57	27°II28'45	
conjunction	-8122 Jul 27 j 02:02	3°II52'48	16°38'57	opposition	-8113 Feb 14 j 10:10	26°II05'01	16°52'00
minimum elong	-8122 Jul 27 j 01:55	3°II52'47	16°39'24	min. Earth dist.	-8113 Feb 14 j 23:48	26°II04'04	28.63863 AU
retrograde	-8122 Nov 07 j 09:18	6°II32'19		direct	-8113 May 05 j 05:04	24°II39'27	
opposition	-8121 Jan 23 j 14:18	5°II09'20	17°47'40				
min. Earth dist.	-8121 Jan 25 j 07:29	5°II06'28	29.02846 AU	conjunction	-8113 Aug 19 j 09:38	27°II23'56	15°39'14
direct	-8121 Apr 13 j 17:26	3°II43'31		minimum elong	-8113 Aug 19 j 09:52	27°II23'58	15°39'47
max. Earth dist.	-8121 Jul 28 j 03:58	6°II23'22	30.89259 AU	max. Earth dist.	-8113 Aug 18 j 21:58	27°II22'44	30.55818 AU
					-8113 Nov 12 j 22:22	0°☾	
conjunction	-8121 Jul 29 j 21:03	6°II27'32	16°40'04	retrograde	-8113 Dec 01 j 13:22	0°☾06'09	
minimum elong	-8121 Jul 29 j 20:58	6°II27'32	16°40'33		-8113 Dec 20 j 08:59	30°R II	
retrograde	-8121 Nov 10 j 05:33	9°II07'46		opposition	-8112 Feb 17 j 10:03	28°II42'25	16°35'47
opposition	-8120 Jan 26 j 12:55	7°II44'33	17°48'04	min. Earth dist.	-8112 Feb 17 j 19:25	28°II41'46	28.63914 AU
min. Earth dist.	-8120 Jan 28 j 03:52	7°II41'50	28.93984 AU	direct	-8112 May 07 j 04:11	27°II17'00	
direct	-8120 Apr 15 j 13:08	6°II18'37			-8112 Aug 20 j 19:12	0°☾	
max. Earth dist.	-8120 Jul 30 j 03:10	8°II59'18	30.80965 AU				
				conjunction	-8112 Aug 21 j 05:05	0°☾01'01	15°23'09
conjunction	-8120 Jul 31 j 16:11	9°II03'04	16°39'16	minimum elong	-8112 Aug 21 j 05:21	0°☾01'02	15°23'40
minimum elong	-8120 Jul 31 j 16:09	9°II03'04	16°39'45	max. Earth dist.	-8112 Aug 20 j 21:42	0°☾00'15	30.56639 AU
retrograde	-8120 Nov 12 j 03:06	11°II43'53		retrograde	-8112 Dec 03 j 08:32	2°☾42'58	
opposition	-8119 Jan 28 j 11:45	10°II20'29	17°46'24	opposition	-8111 Feb 19 j 09:56	1°☾19'17	16°17'39
min. Earth dist.	-8119 Jan 29 j 22:13	10°II18'04	28.86231 AU	min. Earth dist.	-8111 Feb 19 j 16:43	1°☾18'48	28.64967 AU
direct	-8119 Apr 18 j 12:35	8°II54'29			-8111 Apr 21 j 03:36	30°R II	
max. Earth dist.	-8119 Aug 02 j 01:40	11°II35'49	30.73834 AU	direct	-8111 May 10 j 03:11	29°II54'01	
					-8111 May 28 j 17:33	0°☾	
conjunction	-8119 Aug 03 j 11:36	11°II39'16	16°36'32				
minimum elong	-8119 Aug 03 j 11:36	11°II39'16	16°37'02	conjunction	-8111 Aug 24 j 00:10	2°☾37'25	15°05'18
retrograde	-8119 Nov 15 j 00:45	14°II20'36		minimum elong	-8111 Aug 24 j 00:28	2°☾37'27	15°05'51
opposition	-8118 Jan 31 j 10:54	12°II57'03	17°42'36	max. Earth dist.	-8111 Aug 23 j 19:39	2°☾36'58	30.58499 AU
min. Earth dist.	-8118 Feb 01 j 18:34	12°II54'50	28.79645 AU	retrograde	-8111 Dec 06 j 05:46	5°☾19'01	
direct	-8118 Apr 21 j 09:21	11°II31'01		opposition	-8110 Feb 22 j 09:17	3°☾55'22	15°57'39
max. Earth dist.	-8118 Aug 05 j 01:57	14°II13'03	30.67926 AU	min. Earth dist.	-8110 Feb 22 j 11:35	3°☾55'12	28.67037 AU
				direct	-8110 May 13 j 02:21	2°☾30'15	
conjunction	-8118 Aug 06 j 07:16	14°II16'03	16°31'50	evening set	-8110 Aug 24 j 02:55	5°☾06'27	
minimum elong	-8118 Aug 06 j 07:19	14°II16'04	16°32'19				
retrograde	-8118 Nov 17 j 22:21	16°II57'47		conjunction	-8110 Aug 26 j 18:57	5°☾12'58	14°45'46
opposition	-8117 Feb 03 j 10:27	15°II34'09	17°36'41	minimum elong	-8110 Aug 26 j 19:17	5°☾13'00	14°46'18
min. Earth dist.	-8117 Feb 04 j 13:45	15°II32'14	28.74231 AU	max. Earth dist.	-8110 Aug 26 j 18:28	5°☾12'55	30.61403 AU
direct	-8117 Apr 24 j 08:26	14°II08'09		morning rise	-8110 Aug 29 j 11:39	5°☾19'33	
max. Earth dist.	-8117 Aug 08 j 00:22	16°II50'36	30.63222 AU	retrograde	-8110 Dec 09 j 00:28	7°☾54'07	
				opposition	-8109 Feb 25 j 08:38	6°☾30'30	15°35'51
conjunction	-8117 Aug 09 j 02:47	16°II53'18	16°25'10	min. Earth dist.	-8109 Feb 25 j 08:20	6°☾30'31	28.70156 AU
minimum elong	-8117 Aug 09 j 02:52	16°II53'19	16°25'41	direct	-8109 May 15 j 23:52	5°☾05'35	
retrograde	-8117 Nov 20 j 21:56	19°II35'22		evening set	-8109 Aug 25 j 07:35	7°☾37'10	
opposition	-8116 Feb 06 j 10:15	18°II11'39	17°28'38				
min. Earth dist.	-8116 Feb 07 j 10:12	18°II09'59	28.69993 AU	conjunction	-8109 Aug 29 j 13:08	7°☾47'28	14°24'36
direct	-8116 Apr 26 j 06:51	16°II45'44		minimum elong	-8109 Aug 29 j 13:30	7°☾47'30	14°25'09
				max. Earth dist.	-8109 Aug 29 j 16:21	7°☾47'47	30.65404 AU
conjunction	-8116 Aug 10 j 22:39	19°II30'54	16°16'32	morning rise	-8109 Sep 02 j 19:21	7°☾57'50	
minimum elong	-8116 Aug 10 j 22:47	19°II30'55	16°17'02	retrograde	-8109 Dec 11 j 19:21	10°☾28'03	
max. Earth dist.	-8116 Aug 10 j 01:05	19°II28'41	30.59705 AU	opposition	-8108 Feb 28 j 07:20	9°☾04'30	15°12'18
retrograde	-8116 Nov 22 j 18:54	22°II13'09		min. Earth dist.	-8108 Feb 28 j 02:19	9°☾04'51	28.74366 AU
opposition	-8115 Feb 08 j 10:01	20°II49'25	17°18'28	direct	-8108 May 17 j 23:24	7°☾39'47	
min. Earth dist.	-8115 Feb 09 j 06:27	20°II48'00	28.66873 AU	evening set	-8108 Aug 25 j 21:11	10°☾07'41	
direct	-8115 Apr 29 j 06:41	19°II23'36					
				conjunction	-8108 Aug 31 j 06:56	10°☾20'47	14°01'51
conjunction	-8115 Aug 13 j 18:20	22°II08'40	16°05'58	minimum elong	-8108 Aug 31 j 07:18	10°☾20'49	14°02'23
minimum elong	-8115 Aug 13 j 18:30	22°II08'41	16°06'31	max. Earth dist.	-8108 Aug 31 j 13:47	10°☾21'28	30.70526 AU
max. Earth dist.	-8115 Aug 12 j 23:22	22°II06'43	30.57324 AU	morning rise	-8108 Sep 05 j 17:21	10°☾33'57	
retrograde	-8115 Nov 25 j 17:49	24°II51'01		retrograde	-8108 Dec 13 j 13:35	13°☾00'44	
opposition	-8114 Feb 11 j 10:00	23°II27'17	17°06'15	opposition	-8107 Mar 02 j 05:32	11°☾37'16	14°47'06
min. Earth dist.	-8114 Feb 12 j 02:40	23°II26'07	28.64849 AU	min. Earth dist.	-8107 Mar 01 j 21:29	11°☾37'50	28.79723 AU

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22

Attention, astronomical year style is used: The year -8107 in astronomical counting style is the year 8108 BCE in historical counting style.

direct	-8107 May 20 j 19:25	10° $\mathring{\text{O}}$ 12'47				-8101 Dec 06 j 15:49	0° $\mathring{\text{O}}$	
evening set	-8107 Aug 27 j 14:52	12° $\mathring{\text{O}}$ 37'25		retrograde		-8101 Dec 31 j 11:53	0° $\mathring{\text{O}}$ 10'15	
						-8100 Jan 25 j 20:36	30° $\mathring{\text{R}}$ $\mathring{\text{O}}$	
conjunction	-8107 Sep 03 j 00:16	12° $\mathring{\text{O}}$ 52'49	13°37'37	min. Earth dist.		-8100 Mar 18 j 16:38	28° $\mathring{\text{O}}$ 50'34	29.48723 AU
minimum elong	-8107 Sep 03 j 00:40	12° $\mathring{\text{O}}$ 52'52	13°38'09	opposition		-8100 Mar 20 j 01:21	28° $\mathring{\text{O}}$ 48'23	11°12'26
max. Earth dist.	-8107 Sep 03 j 11:22	12° $\mathring{\text{O}}$ 53'57	30.76834 AU	direct		-8100 Jun 07 j 14:16	27° $\mathring{\text{O}}$ 26'26	
morning rise	-8107 Sep 09 j 10:19	13° $\mathring{\text{O}}$ 08'19		evening set		-8100 Sep 08 j 05:48	29° $\mathring{\text{O}}$ 32'36	
retrograde	-8107 Dec 16 j 07:34	15° $\mathring{\text{O}}$ 32'04						
opposition	-8106 Mar 05 j 03:15	14° $\mathring{\text{O}}$ 08'45	14°20'19	conjunction		-8100 Sep 19 j 09:19	29° $\mathring{\text{O}}$ 58'18	10°13'51
min. Earth dist.	-8106 Mar 04 j 14:40	14° $\mathring{\text{O}}$ 09'37	28.86250 AU	minimum elong		-8100 Sep 19 j 09:42	29° $\mathring{\text{O}}$ 58'20	10°14'20
direct	-8106 May 23 j 17:25	12° $\mathring{\text{O}}$ 44'33				-8100 Sep 20 j 02:56	0° $\mathring{\text{O}}$	
evening set	-8106 Aug 29 j 10:30	15° $\mathring{\text{O}}$ 06'08		max. Earth dist.		-8100 Sep 20 j 19:48	0° $\mathring{\text{O}}$ 01'38	31.52112 AU
				morning rise		-8100 Sep 30 j 13:54	0° $\mathring{\text{O}}$ 24'05	
conjunction	-8106 Sep 05 j 16:51	15° $\mathring{\text{O}}$ 23'33	13°11'57	retrograde		-8099 Jan 02 j 02:08	2° $\mathring{\text{O}}$ 31'06	
minimum elong	-8106 Sep 05 j 17:15	15° $\mathring{\text{O}}$ 23'36	13°12'28	min. Earth dist.		-8099 Mar 21 j 05:48	1° $\mathring{\text{O}}$ 11'57	29.62417 AU
max. Earth dist.	-8106 Sep 06 j 07:09	15° $\mathring{\text{O}}$ 24'59	30.84330 AU	opposition		-8099 Mar 22 j 18:24	1° $\mathring{\text{O}}$ 09'31	10°37'42
morning rise	-8106 Sep 12 j 23:58	15° $\mathring{\text{O}}$ 41'03				-8099 May 13 j 16:44	30° $\mathring{\text{R}}$ $\mathring{\text{O}}$	
retrograde	-8106 Dec 19 j 02:07	18° $\mathring{\text{O}}$ 02'03		direct		-8099 Jun 10 j 08:22	29° $\mathring{\text{O}}$ 47'58	
min. Earth dist.	-8105 Mar 07 j 08:22	16° $\mathring{\text{O}}$ 40'00	28.93975 AU			-8099 Jul 07 j 04:17	0° $\mathring{\text{O}}$	
opposition	-8105 Mar 08 j 00:34	16° $\mathring{\text{O}}$ 38'54	13°52'02	evening set		-8099 Sep 10 j 06:44	1° $\mathring{\text{O}}$ 51'53	
direct	-8105 May 26 j 13:24	15° $\mathring{\text{O}}$ 15'01						
evening set	-8105 Aug 31 j 07:48	17° $\mathring{\text{O}}$ 33'45		conjunction		-8099 Sep 21 j 21:58	2° $\mathring{\text{O}}$ 18'29	9°41'10
				minimum elong		-8099 Sep 21 j 22:21	2° $\mathring{\text{O}}$ 18'32	9°41'39
conjunction	-8105 Sep 08 j 09:09	17° $\mathring{\text{O}}$ 52'57	12°44'57	max. Earth dist.		-8099 Sep 23 j 11:38	2° $\mathring{\text{O}}$ 22'06	31.66547 AU
minimum elong	-8105 Sep 08 j 09:34	17° $\mathring{\text{O}}$ 53'00	12°45'30	morning rise		-8099 Oct 03 j 14:20	2° $\mathring{\text{O}}$ 45'12	
max. Earth dist.	-8105 Sep 09 j 04:09	17° $\mathring{\text{O}}$ 54'51	30.93023 AU	retrograde		-8098 Jan 04 j 14:56	4° $\mathring{\text{O}}$ 50'10	
morning rise	-8105 Sep 16 j 11:09	18° $\mathring{\text{O}}$ 12'14		min. Earth dist.		-8098 Mar 23 j 20:40	3° $\mathring{\text{O}}$ 31'24	29.76890 AU
retrograde	-8105 Dec 21 j 19:15	20° $\mathring{\text{O}}$ 30'38		opposition		-8098 Mar 25 j 11:03	3° $\mathring{\text{O}}$ 28'51	10°02'18
opposition	-8104 Mar 09 j 21:08	19° $\mathring{\text{O}}$ 07'42	13°22'23	direct		-8098 Jun 13 j 00:34	2° $\mathring{\text{O}}$ 07'41	
min. Earth dist.	-8104 Mar 09 j 01:13	19° $\mathring{\text{O}}$ 09'03	29.02853 AU	evening set		-8098 Sep 12 j 07:47	4° $\mathring{\text{O}}$ 09'24	
direct	-8104 May 28 j 10:34	17° $\mathring{\text{O}}$ 44'10						
evening set	-8104 Sep 01 j 06:04	20° $\mathring{\text{O}}$ 00'11		conjunction		-8098 Sep 24 j 09:45	4° $\mathring{\text{O}}$ 36'48	9°07'52
				minimum elong		-8098 Sep 24 j 10:07	4° $\mathring{\text{O}}$ 36'51	9°08'21
conjunction	-8104 Sep 10 j 00:40	20° $\mathring{\text{O}}$ 20'59	12°16'44	max. Earth dist.		-8098 Sep 26 j 02:00	4° $\mathring{\text{O}}$ 40'38	31.81744 AU
minimum elong	-8104 Sep 10 j 01:05	20° $\mathring{\text{O}}$ 21'01	12°17'16	morning rise		-8098 Oct 06 j 12:53	5° $\mathring{\text{O}}$ 04'19	
max. Earth dist.	-8104 Sep 10 j 22:19	20° $\mathring{\text{O}}$ 23'08	31.02852 AU	retrograde		-8097 Jan 07 j 01:55	7° $\mathring{\text{O}}$ 07'19	
morning rise	-8104 Sep 18 j 20:09	20° $\mathring{\text{O}}$ 41'52		min. Earth dist.		-8097 Mar 26 j 08:44	5° $\mathring{\text{O}}$ 49'03	29.92115 AU
retrograde	-8104 Dec 23 j 13:01	22° $\mathring{\text{O}}$ 57'48		opposition		-8097 Mar 28 j 02:45	5° $\mathring{\text{O}}$ 46'16	9°26'20
opposition	-8103 Mar 12 j 17:08	21° $\mathring{\text{O}}$ 35'06	12°51'29	direct		-8097 Jun 15 j 17:26	4° $\mathring{\text{O}}$ 25'29	
min. Earth dist.	-8103 Mar 11 j 17:15	21° $\mathring{\text{O}}$ 36'43	29.12846 AU	evening set		-8097 Sep 14 j 09:01	6° $\mathring{\text{O}}$ 25'04	
direct	-8103 May 31 j 04:40	20° $\mathring{\text{O}}$ 11'57						
evening set	-8103 Sep 03 j 05:06	22° $\mathring{\text{O}}$ 25'22		conjunction		-8097 Sep 26 j 20:51	6° $\mathring{\text{O}}$ 53'11	8°34'05
				minimum elong		-8097 Sep 26 j 21:13	6° $\mathring{\text{O}}$ 53'13	8°34'34
conjunction	-8103 Sep 12 j 15:45	22° $\mathring{\text{O}}$ 47'37	11°47'25	max. Earth dist.		-8097 Sep 28 j 15:32	6° $\mathring{\text{O}}$ 57'12	31.97674 AU
minimum elong	-8103 Sep 12 j 16:11	22° $\mathring{\text{O}}$ 47'39	11°47'57	morning rise		-8097 Oct 09 j 10:08	7° $\mathring{\text{O}}$ 21'25	
max. Earth dist.	-8103 Sep 13 j 17:56	22° $\mathring{\text{O}}$ 50'11	31.13749 AU	retrograde		-8096 Jan 09 j 12:24	9° $\mathring{\text{O}}$ 22'30	
morning rise	-8103 Sep 22 j 03:08	23° $\mathring{\text{O}}$ 09'56		min. Earth dist.		-8096 Mar 27 j 21:31	8° $\mathring{\text{O}}$ 04'36	30.08115 AU
retrograde	-8103 Dec 26 j 05:03	25° $\mathring{\text{O}}$ 23'30		opposition		-8096 Mar 29 j 17:38	8° $\mathring{\text{O}}$ 01'42	8°49'53
min. Earth dist.	-8102 Mar 14 j 09:51	24° $\mathring{\text{O}}$ 02'52	29.23861 AU	direct		-8096 Jun 17 j 07:03	6° $\mathring{\text{O}}$ 41'17	
opposition	-8102 Mar 15 j 12:30	24° $\mathring{\text{O}}$ 01'05	12°19'26	evening set		-8096 Sep 15 j 10:13	8° $\mathring{\text{O}}$ 38'50	
direct	-8102 Jun 03 j 01:28	22° $\mathring{\text{O}}$ 38'20						
evening set	-8102 Sep 05 j 04:55	24° $\mathring{\text{O}}$ 49'14		conjunction		-8096 Sep 28 j 07:15	9° $\mathring{\text{O}}$ 07'33	7°59'53
				minimum elong		-8096 Sep 28 j 07:35	9° $\mathring{\text{O}}$ 07'34	8°00'21
conjunction	-8102 Sep 15 j 06:09	25° $\mathring{\text{O}}$ 12'46	11°17'05	max. Earth dist.		-8096 Sep 30 j 05:10	9° $\mathring{\text{O}}$ 11'51	32.14372 AU
minimum elong	-8102 Sep 15 j 06:34	25° $\mathring{\text{O}}$ 12'48	11°17'36	morning rise		-8096 Oct 11 j 05:34	9° $\mathring{\text{O}}$ 36'23	
max. Earth dist.	-8102 Sep 16 j 10:32	25° $\mathring{\text{O}}$ 15'32	31.25644 AU	retrograde		-8095 Jan 10 j 21:51	11° $\mathring{\text{O}}$ 35'38	
morning rise	-8102 Sep 25 j 08:23	25° $\mathring{\text{O}}$ 36'22		min. Earth dist.		-8095 Mar 30 j 08:33	10° $\mathring{\text{O}}$ 18'11	30.24892 AU
retrograde	-8102 Dec 28 j 22:35	27° $\mathring{\text{O}}$ 47'41		opposition		-8095 Apr 01 j 07:36	10° $\mathring{\text{O}}$ 15'07	8°13'03
min. Earth dist.	-8101 Mar 17 j 00:27	26° $\mathring{\text{O}}$ 27'36	29.35851 AU	direct		-8095 Jun 19 j 21:22	8° $\mathring{\text{O}}$ 55'03	
opposition	-8101 Mar 18 j 07:14	26° $\mathring{\text{O}}$ 25'32	11°46'23	evening set		-8095 Sep 17 j 11:31	10° $\mathring{\text{O}}$ 50'39	
direct	-8101 Jun 05 j 20:14	25° $\mathring{\text{O}}$ 03'11						
evening set	-8101 Sep 07 j 05:01	27° $\mathring{\text{O}}$ 11'41		conjunction		-8095 Sep 30 j 16:40	11° $\mathring{\text{O}}$ 19'53	7°25'21
				minimum elong		-8095 Sep 30 j 16:59	11° $\mathring{\text{O}}$ 19'55	7°25'48
conjunction	-8101 Sep 17 j 20:02	27° $\mathring{\text{O}}$ 36'21	10°45'52	max. Earth dist.		-8095 Oct 02 j 16:35	11° $\mathring{\text{O}}$ 24'20	32.31840 AU
minimum elong	-8101 Sep 17 j 20:27	27° $\mathring{\text{O}}$ 36'24	10°46'22	morning rise		-8095 Oct 13 j 23:32	11° $\mathring{\text{O}}$ 49'15	
max. Earth dist.	-8101 Sep 19 j 04:25	27° $\mathring{\text{O}}$ 39'30	31.38453 AU	retrograde		-8094 Jan 13 j 08:30	13° $\mathring{\text{O}}$ 46'46	
morning rise	-8101 Sep 28 j 11:57	28° $\mathring{\text{O}}$ 01'07		min. Earth dist.		-8094 Apr 01 j 18:47	12° $\mathring{\text{O}}$ 29'45	30.42493 AU

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 23

Attention, astronomical year style is used: The year -8094 in astronomical counting style is the year 8095 BCE in historical counting style.

opposition	-8094 Apr 03 j 20:50	12°Ω26'31	7°35'55	conjunction	-8088 Oct 14 j 16:30	25°Ω54'43	3°20'40
direct	-8094 Jun 22 j 09:41	11°Ω06'50		minimum elong	-8088 Oct 14 j 16:38	25°Ω54'44	3°21'00
evening set	-8094 Sep 19 j 12:46	13°Ω00'35		max. Earth dist.	-8088 Oct 17 j 08:25	26°Ω00'19	33.74397 AU
				morning rise	-8088 Oct 29 j 14:32	26°Ω25'46	
conjunction	-8094 Oct 03 j 01:37	13°Ω30'15	6°50'33	retrograde	-8087 Jan 27 j 10:25	28°Ω13'17	
minimum elong	-8094 Oct 03 j 01:54	13°Ω30'16	6°50'59	min. Earth dist.	-8087 Apr 16 j 01:44	26°Ω59'35	31.85844 AU
max. Earth dist.	-8094 Oct 05 j 05:17	13°Ω35'00	32.50122 AU	opposition	-8087 Apr 18 j 18:57	26°Ω55'30	3°14'38
morning rise	-8094 Oct 16 j 15:58	14°Ω00'04		direct	-8087 Jul 07 j 09:24	25°Ω38'55	
	-8094 Nov 15 j 22:41	15°Ω		evening set	-8087 Oct 01 j 22:05	27°Ω22'06	
retrograde	-8093 Jan 15 j 17:22	15°Ω55'54					
	-8093 Mar 21 j 14:59	15°κΩ		conjunction	-8087 Oct 16 j 20:49	27°Ω52'56	2°46'07
min. Earth dist.	-8093 Apr 04 j 04:54	14°Ω39'20	30.60913 AU	minimum elong	-8087 Oct 16 j 20:56	27°Ω52'57	2°46'28
opposition	-8093 Apr 06 j 09:14	14°Ω35'57	6°58'34	max. Earth dist.	-8087 Oct 19 j 14:57	27°Ω58'40	33.96830 AU
direct	-8093 Jun 24 j 22:58	13°Ω16'41		morning rise	-8087 Oct 31 j 21:45	28°Ω23'58	
	-8093 Sep 17 j 12:06	15°Ω			-8086 Jan 03 j 06:19	0°൬	
evening set	-8093 Sep 21 j 14:07	15°Ω08'40		retrograde	-8086 Jan 29 j 13:42	0°൬10'20	
					-8086 Feb 25 j 14:25	30°κΩ	
conjunction	-8093 Oct 05 j 09:39	15°Ω38'42	6°15'35	min. Earth dist.	-8086 Apr 18 j 07:26	28°Ω57'03	32.08322 AU
minimum elong	-8093 Oct 05 j 09:56	15°Ω38'43	6°16'00	opposition	-8086 Apr 21 j 01:58	28°Ω52'55	2°37'59
max. Earth dist.	-8093 Oct 07 j 14:54	15°Ω43'33	32.69201 AU	direct	-8086 Jul 09 j 16:29	27°Ω36'44	
morning rise	-8093 Oct 19 j 07:05	16°Ω08'53		evening set	-8086 Oct 03 j 23:27	29°Ω18'41	
retrograde	-8092 Jan 18 j 03:39	18°Ω03'08					
min. Earth dist.	-8092 Apr 05 j 12:57	16°Ω47'06	30.80139 AU	conjunction	-8086 Oct 19 j 00:28	29°Ω49'28	2°11'51
opposition	-8092 Apr 07 j 20:46	16°Ω43'31	6°21'06	minimum elong	-8086 Oct 19 j 00:33	29°Ω49'28	2°12'10
direct	-8092 Jun 26 j 09:39	15°Ω24'41		max. Earth dist.	-8086 Oct 21 j 19:03	29°Ω55'11	34.19561 AU
evening set	-8092 Sep 22 j 15:25	17°Ω15'00			-8086 Oct 24 j 03:06	0°൬	
				morning rise	-8086 Nov 03 j 04:04	0°൬20'26	
conjunction	-8092 Oct 06 j 17:12	17°Ω45'19	5°40'31	retrograde	-8085 Jan 31 j 18:47	2°൬05'43	
minimum elong	-8092 Oct 06 j 17:26	17°Ω45'21	5°40'55	min. Earth dist.	-8085 Apr 20 j 11:48	0°൬52'50	32.31122 AU
max. Earth dist.	-8092 Oct 09 j 01:50	17°Ω50'26	32.89028 AU	opposition	-8085 Apr 23 j 08:16	0°൬48'37	2°01'41
morning rise	-8092 Oct 20 j 20:45	18°Ω15'48			-8085 May 28 j 21:37	30°κΩ	
retrograde	-8091 Jan 19 j 10:36	20°Ω08'34		direct	-8085 Jul 11 j 21:35	29°Ω32'50	
min. Earth dist.	-8091 Apr 07 j 22:17	18°Ω52'57	31.00103 AU		-8085 Aug 23 j 07:39	0°൬	
opposition	-8091 Apr 10 j 07:27	18°Ω49'18	5°43'35	evening set	-8085 Oct 06 j 00:29	1°൬13'37	
direct	-8091 Jun 28 j 20:53	17°Ω30'55					
evening set	-8091 Sep 24 j 16:47	19°Ω19'39		conjunction	-8085 Oct 21 j 03:32	1°൬44'17	1°37'54
				minimum elong	-8085 Oct 21 j 03:36	1°൬44'17	1°38'13
conjunction	-8091 Oct 08 j 23:57	19°Ω50'11	5°05'25	max. Earth dist.	-8085 Oct 24 j 00:33	1°൬50'10	34.42571 AU
minimum elong	-8091 Oct 09 j 00:11	19°Ω50'13	5°05'49	morning rise	-8085 Nov 05 j 09:00	2°൬15'10	
max. Earth dist.	-8091 Oct 11 j 10:10	19°Ω55'25	33.09551 AU	retrograde	-8084 Feb 02 j 21:55	3°൬59'23	
morning rise	-8091 Oct 23 j 09:06	20°Ω20'54		min. Earth dist.	-8084 Apr 21 j 16:51	2°൬46'49	32.54206 AU
retrograde	-8090 Jan 21 j 18:41	22°Ω12'14		opposition	-8084 Apr 24 j 13:46	2°൬42'36	1°25'46
min. Earth dist.	-8090 Apr 10 j 04:57	20°Ω57'11	31.20742 AU	direct	-8084 Jul 13 j 04:01	1°൬27'11	
opposition	-8090 Apr 12 j 17:25	20°Ω53'21	5°06'07	evening set	-8084 Oct 07 j 01:31	3°൬06'51	
direct	-8090 Jul 01 j 08:06	19°Ω35'25					
evening set	-8090 Sep 26 j 18:03	21°Ω22'39		conjunction	-8084 Oct 22 j 05:52	3°൬37'22	1°04'18
				minimum elong	-8084 Oct 22 j 05:54	3°൬37'22	1°04'35
conjunction	-8090 Oct 11 j 05:59	21°Ω53'21	4°30'22	max. Earth dist.	-8084 Oct 25 j 03:11	3°൬43'13	34.65862 AU
minimum elong	-8090 Oct 11 j 06:10	21°Ω53'22	4°30'45	morning rise	-8084 Nov 06 j 12:50	4°൬08'06	
max. Earth dist.	-8090 Oct 13 j 18:52	21°Ω58'46	33.30673 AU	retrograde	-8083 Feb 04 j 02:16	5°൬51'18	
morning rise	-8090 Oct 25 j 20:03	22°Ω24'14		min. Earth dist.	-8083 Apr 23 j 19:02	4°൬39'10	32.77612 AU
retrograde	-8089 Jan 24 j 01:08	24°Ω14'14		opposition	-8083 Apr 26 j 18:18	4°൬34'49	0°50'17
min. Earth dist.	-8089 Apr 12 j 13:16	22°Ω59'36	31.41974 AU	direct	-8083 Jul 15 j 08:27	3°൬19'46	
opposition	-8089 Apr 15 j 02:50	22°Ω55'43	4°28'45	evening set	-8083 Oct 09 j 02:19	4°൬58'23	
direct	-8089 Jul 03 j 17:29	21°Ω38'15					
evening set	-8089 Sep 28 j 19:25	23°Ω24'04		conjunction	-8083 Oct 24 j 07:31	5°൬28'43	0°31'06
				minimum elong	-8083 Oct 24 j 07:33	5°൬28'44	0°31'23
conjunction	-8089 Oct 13 j 11:36	23°Ω54'52	3°55'26	max. Earth dist.	-8083 Oct 27 j 07:03	5°൬34'43	34.89462 AU
minimum elong	-8089 Oct 13 j 11:47	23°Ω54'53	3°55'48	morning rise	-8083 Nov 08 j 15:25	5°൬59'16	
max. Earth dist.	-8089 Oct 16 j 02:18	24°Ω00'24	33.52325 AU	retrograde	-8082 Feb 06 j 02:46	7°൬41'31	
morning rise	-8089 Oct 28 j 05:52	24°Ω25'51		min. Earth dist.	-8082 Apr 25 j 22:44	6°൬29'42	33.01374 AU
retrograde	-8088 Jan 26 j 05:39	26°Ω14'34		opposition	-8082 Apr 28 j 22:22	6°൬25'21	0°15'15
min. Earth dist.	-8088 Apr 13 j 19:08	25°Ω00'27	31.63698 AU	direct	-8082 Jul 17 j 13:10	5°൬10'40	
opposition	-8088 Apr 16 j 11:08	24°Ω56'26	3°51'34	desc. node	-8082 Oct 07 j 04:23	6°൬40'42	
direct	-8088 Jul 05 j 02:54	23°Ω39'25		evening set	-8082 Oct 11 j 02:52	6°൬48'17	
evening set	-8088 Sep 29 j 20:53	25°Ω23'53					
				conjunction	-8082 Oct 26 j 08:33	7°൬18'24	-0°01'45

# Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24

Attention, astronomical year style is used: The year -8082 in astronomical counting style is the year 8083 BCE in historical counting style.

minimum elong	-8082 Oct 26 j 08:33	7° $\mathring{M}$ 18'24	0°01'30	opposition	-8075 May 11 j 07:38	18° $\mathring{M}$ 37'05	-3°34'39
behind sun begin	-8082 Oct 26 j 02:10	7° $\mathring{M}$ 17'54		direct	-8075 Jul 29 j 23:56	17° $\mathring{M}$ 25'04	
behind sun end	-8082 Oct 26 j 14:55	7° $\mathring{M}$ 18'54		evening set	-8075 Oct 23 j 04:20	18° $\mathring{M}$ 57'23	
max. Earth dist.	-8082 Oct 29 j 09:17	7° $\mathring{M}$ 24'26	35.13425 AU				
morning rise	-8082 Nov 10 j 16:50	7° $\mathring{M}$ 48'44		conjunction	-8075 Nov 07 j 00:54	19° $\mathring{M}$ 25'10	-3°37'13
retrograde	-8081 Feb 08 j 02:38	9° $\mathring{M}$ 30'05		minimum elong	-8075 Nov 07 j 00:46	19° $\mathring{M}$ 25'09	3°37'03
min. Earth dist.	-8081 Apr 27 j 23:39	8° $\mathring{M}$ 18'41	33.25513 AU	max. Earth dist.	-8075 Nov 10 j 08:51	19° $\mathring{M}$ 31'27	36.89042 AU
opposition	-8081 May 01 j 01:36	8° $\mathring{M}$ 14'13	-0°19'17	morning rise	-8075 Nov 22 j 00:10	19° $\mathring{M}$ 53'10	
direct	-8081 Jul 19 j 18:57	6° $\mathring{M}$ 59'54		retrograde	-8074 Feb 19 j 19:01	21° $\mathring{M}$ 29'47	
evening set	-8081 Oct 13 j 03:30	8° $\mathring{M}$ 36'36		min. Earth dist.	-8074 May 09 j 22:25	20° $\mathring{M}$ 20'57	35.02265 AU
				opposition	-8074 May 13 j 06:35	20° $\mathring{M}$ 16'16	-4°05'06
conjunction	-8081 Oct 28 j 09:00	9° $\mathring{M}$ 06'28	-0°34'02	direct	-8074 Aug 01 j 00:34	19° $\mathring{M}$ 04'35	
minimum elong	-8081 Oct 28 j 08:59	9° $\mathring{M}$ 06'27	0°33'47	evening set	-8074 Oct 25 j 04:10	20° $\mathring{M}$ 36'20	
max. Earth dist.	-8081 Oct 31 j 11:05	9° $\mathring{M}$ 12'34	35.37738 AU				
morning rise	-8081 Nov 12 j 17:24	9° $\mathring{M}$ 36'32		conjunction	-8074 Nov 08 j 21:49	21° $\mathring{M}$ 03'42	-4°05'48
retrograde	-8080 Feb 10 j 02:25	11° $\mathring{M}$ 17'04		minimum elong	-8074 Nov 08 j 21:41	21° $\mathring{M}$ 03'41	4°05'40
min. Earth dist.	-8080 Apr 29 j 01:17	10° $\mathring{M}$ 06'02	33.50038 AU	max. Earth dist.	-8074 Nov 12 j 06:04	21° $\mathring{M}$ 09'57	37.14530 AU
opposition	-8080 May 02 j 04:07	10° $\mathring{M}$ 01'31	-0°53'17	morning rise	-8074 Nov 23 j 18:25	21° $\mathring{M}$ 31'16	
direct	-8080 Jul 20 j 21:46	8° $\mathring{M}$ 47'36		retrograde	-8073 Feb 21 j 15:28	23° $\mathring{M}$ 07'23	
evening set	-8080 Oct 14 j 03:50	10° $\mathring{M}$ 23'25		min. Earth dist.	-8073 May 11 j 21:07	21° $\mathring{M}$ 58'48	35.27861 AU
				opposition	-8073 May 15 j 05:09	21° $\mathring{M}$ 54'10	-4°34'54
conjunction	-8080 Oct 29 j 09:01	10° $\mathring{M}$ 53'00	-1°05'53	direct	-8073 Aug 02 j 23:23	20° $\mathring{M}$ 42'49	
minimum elong	-8080 Oct 29 j 08:58	10° $\mathring{M}$ 53'00	1°05'39	evening set	-8073 Oct 27 j 03:50	22° $\mathring{M}$ 14'01	
max. Earth dist.	-8080 Nov 01 j 12:55	10° $\mathring{M}$ 59'12	35.62413 AU				
morning rise	-8080 Nov 13 j 16:47	11° $\mathring{M}$ 22'48		conjunction	-8073 Nov 10 j 18:32	22° $\mathring{M}$ 40'55	-4°33'49
retrograde	-8079 Feb 11 j 00:32	13° $\mathring{M}$ 02'33		minimum elong	-8073 Nov 10 j 18:22	22° $\mathring{M}$ 40'55	4°33'41
min. Earth dist.	-8079 May 01 j 01:50	11° $\mathring{M}$ 51'55	33.74900 AU	max. Earth dist.	-8073 Nov 14 j 03:43	22° $\mathring{M}$ 47'13	37.39966 AU
opposition	-8079 May 04 j 05:59	11° $\mathring{M}$ 47'21	-1°26'44	morning rise	-8073 Nov 25 j 11:48	23° $\mathring{M}$ 08'03	
direct	-8079 Jul 23 j 00:55	10° $\mathring{M}$ 33'49		retrograde	-8072 Feb 23 j 09:06	24° $\mathring{M}$ 43'40	
evening set	-8079 Oct 16 j 04:05	12° $\mathring{M}$ 08'49		min. Earth dist.	-8072 May 12 j 18:34	23° $\mathring{M}$ 35'22	35.53394 AU
				opposition	-8072 May 16 j 02:48	23° $\mathring{M}$ 30'44	-5°04'05
conjunction	-8079 Oct 31 j 08:09	12° $\mathring{M}$ 38'05	-1°37'13	direct	-8072 Aug 03 j 23:13	22° $\mathring{M}$ 19'41	
minimum elong	-8079 Oct 31 j 08:05	12° $\mathring{M}$ 38'05	1°36'59	evening set	-8072 Oct 28 j 03:25	23° $\mathring{M}$ 50'23	
max. Earth dist.	-8079 Nov 03 j 12:28	12° $\mathring{M}$ 44'17	35.87387 AU				
morning rise	-8079 Nov 15 j 15:11	13° $\mathring{M}$ 07'35		conjunction	-8072 Nov 11 j 14:31	24° $\mathring{M}$ 16'50	-5°01'15
retrograde	-8078 Feb 13 j 00:35	14° $\mathring{M}$ 46'38		minimum elong	-8072 Nov 11 j 14:20	24° $\mathring{M}$ 16'49	5°01'09
min. Earth dist.	-8078 May 03 j 01:40	13° $\mathring{M}$ 36'24	34.00071 AU	max. Earth dist.	-8072 Nov 14 j 23:04	24° $\mathring{M}$ 23'01	37.65343 AU
opposition	-8078 May 06 j 07:22	13° $\mathring{M}$ 31'46	-1°59'37	morning rise	-8072 Nov 26 j 04:27	24° $\mathring{M}$ 43'29	
direct	-8078 Jul 25 j 00:34	12° $\mathring{M}$ 18'37		retrograde	-8071 Feb 24 j 05:40	26° $\mathring{M}$ 18'39	
evening set	-8078 Oct 18 j 04:12	13° $\mathring{M}$ 52'53		min. Earth dist.	-8071 May 14 j 15:01	25° $\mathring{M}$ 10'39	35.78913 AU
				opposition	-8071 May 18 j 00:06	25° $\mathring{M}$ 05'59	-5°32'36
conjunction	-8078 Nov 02 j 07:04	14° $\mathring{M}$ 21'49	-2°08'03	direct	-8071 Aug 05 j 19:16	23° $\mathring{M}$ 55'14	
minimum elong	-8078 Nov 02 j 07:00	14° $\mathring{M}$ 21'49	2°07'50	evening set	-8071 Oct 30 j 02:32	25° $\mathring{M}$ 25'27	
max. Earth dist.	-8078 Nov 05 j 13:36	14° $\mathring{M}$ 28'08	36.12616 AU				
morning rise	-8078 Nov 17 j 12:40	14° $\mathring{M}$ 50'58		conjunction	-8071 Nov 13 j 09:57	25° $\mathring{M}$ 51'26	-5°28'05
retrograde	-8077 Feb 14 j 23:25	16° $\mathring{M}$ 29'21		minimum elong	-8071 Nov 13 j 09:46	25° $\mathring{M}$ 51'25	5°27'59
min. Earth dist.	-8077 May 05 j 02:17	15° $\mathring{M}$ 19'27	34.25467 AU	max. Earth dist.	-8071 Nov 16 j 20:10	25° $\mathring{M}$ 57'42	37.90707 AU
opposition	-8077 May 08 j 08:03	15° $\mathring{M}$ 14'51	-2°31'54	morning rise	-8071 Nov 27 j 19:58	26° $\mathring{M}$ 17'36	
direct	-8077 Jul 27 j 00:36	14° $\mathring{M}$ 02'05		retrograde	-8070 Feb 26 j 00:15	27° $\mathring{M}$ 52'21	
evening set	-8077 Oct 20 j 04:19	15° $\mathring{M}$ 35'39		min. Earth dist.	-8070 May 16 j 12:16	26° $\mathring{M}$ 44'34	36.04444 AU
				opposition	-8070 May 19 j 20:52	26° $\mathring{M}$ 39'57	-6°00'29
conjunction	-8077 Nov 04 j 05:25	16° $\mathring{M}$ 04'13	-2°38'19	direct	-8070 Aug 07 j 16:05	25° $\mathring{M}$ 29'30	
minimum elong	-8077 Nov 04 j 05:19	16° $\mathring{M}$ 04'13	2°38'07	evening set	-8070 Nov 01 j 01:43	26° $\mathring{M}$ 59'17	
max. Earth dist.	-8077 Nov 07 j 11:51	16° $\mathring{M}$ 10'29	36.38023 AU				
morning rise	-8077 Nov 19 j 09:23	16° $\mathring{M}$ 33'01		conjunction	-8070 Nov 15 j 05:01	27° $\mathring{M}$ 24'46	-5°54'19
retrograde	-8076 Feb 16 j 23:34	18° $\mathring{M}$ 10'46		minimum elong	-8070 Nov 15 j 04:49	27° $\mathring{M}$ 24'45	5°54'14
min. Earth dist.	-8076 May 06 j 00:35	17° $\mathring{M}$ 01'17	34.51018 AU	max. Earth dist.	-8070 Nov 18 j 14:56	27° $\mathring{M}$ 30'58	38.16110 AU
opposition	-8076 May 09 j 08:07	16° $\mathring{M}$ 56'37	-3°03'35	morning rise	-8070 Nov 29 j 10:56	27° $\mathring{M}$ 50'27	
direct	-8076 Jul 27 j 23:18	15° $\mathring{M}$ 44'13		retrograde	-8069 Feb 27 j 20:34	29° $\mathring{M}$ 24'49	
evening set	-8076 Oct 21 j 04:23	17° $\mathring{M}$ 17'09		min. Earth dist.	-8069 May 18 j 06:47	28° $\mathring{M}$ 17'22	36.30046 AU
				opposition	-8069 May 21 j 16:56	28° $\mathring{M}$ 12'41	-6°27'41
conjunction	-8076 Nov 05 j 03:21	17° $\mathring{M}$ 45'20	-3°08'03	direct	-8069 Aug 09 j 11:41	27° $\mathring{M}$ 02'31	
minimum elong	-8076 Nov 05 j 03:14	17° $\mathring{M}$ 45'19	3°07'53	evening set	-8069 Nov 03 j 00:43	28° $\mathring{M}$ 31'56	
max. Earth dist.	-8076 Nov 08 j 11:10	17° $\mathring{M}$ 51'39	36.63514 AU				
morning rise	-8076 Nov 20 j 05:10	18° $\mathring{M}$ 13'44		conjunction	-8069 Nov 16 j 23:38	28° $\mathring{M}$ 56'55	-6°19'56
retrograde	-8075 Feb 17 j 21:27	19° $\mathring{M}$ 50'55		minimum elong	-8069 Nov 16 j 23:26	28° $\mathring{M}$ 56'54	6°19'52
min. Earth dist.	-8075 May 08 j 00:40	18° $\mathring{M}$ 41'42	34.76638 AU	max. Earth dist.	-8069 Nov 20 j 10:42	29° $\mathring{M}$ 03'09	38.41576 AU



## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 25

Attention, astronomical year style is used: The year -8069 in astronomical counting style is the year 8070 BCE in historical counting style.

morning rise	-8069 Dec 01 j 01:12	29° <u>00</u> 22'06	direct	-8062 Aug 19 j 20:58	7° <u>02</u> 25'54		
	-8069 Dec 23 j 21:07	0° <u>00</u>	evening set	-8062 Nov 14 j 14:40	8° <u>00</u> 53'41		
retrograde	-8068 Feb 29 j 15:25	0° <u>00</u> 56'07					
	-8068 May 10 j 21:12	30° <u>00</u> 00	conjunction	-8062 Nov 26 j 23:43	9° <u>00</u> 14'53	-9°02'15	
min. Earth dist.	-8068 May 19 j 02:55	29° <u>00</u> 48'54	36.55732 AU	minimum elong	-8062 Nov 26 j 23:28	9° <u>00</u> 14'52	9°02'16
opposition	-8068 May 22 j 12:39	29° <u>00</u> 44'16	-6°54'14	max. Earth dist.	-8062 Nov 30 j 11:38	9° <u>00</u> 20'55	40.19815 AU
direct	-8068 Aug 10 j 08:00	28° <u>00</u> 34'25		morning rise	-8062 Dec 09 j 10:55	9° <u>00</u> 36'14	
	-8068 Nov 01 j 23:29	0° <u>00</u>		retrograde	-8061 Mar 11 j 15:25	11° <u>00</u> 08'50	
evening set	-8068 Nov 03 j 23:29	0° <u>00</u> 03'30		min. Earth dist.	-8061 May 30 j 08:06	10° <u>00</u> 03'34	38.34990 AU
				opposition	-8061 Jun 02 j 17:51	9° <u>00</u> 59'04	-9°41'43
conjunction	-8068 Nov 17 j 17:51	0° <u>00</u> 27'58	-6°44'56	direct	-8061 Aug 21 j 13:52	8° <u>00</u> 51'22	
minimum elong	-8068 Nov 17 j 17:38	0° <u>00</u> 27'57	6°44'53	evening set	-8061 Nov 16 j 12:56	10° <u>00</u> 19'01	
max. Earth dist.	-8068 Nov 21 j 05:21	0° <u>00</u> 34'12	38.67129 AU				
morning rise	-8068 Dec 01 j 14:34	0° <u>00</u> 52'38		conjunction	-8061 Nov 28 j 15:45	10° <u>00</u> 39'39	-9°23'07
retrograde	-8067 Mar 02 j 08:28	2° <u>00</u> 26'21		minimum elong	-8061 Nov 28 j 15:31	10° <u>00</u> 39'38	9°23'09
min. Earth dist.	-8067 May 20 j 20:53	1° <u>00</u> 19'29	36.81488 AU	max. Earth dist.	-8061 Dec 02 j 03:38	10° <u>00</u> 45'38	40.44601 AU
opposition	-8067 May 24 j 07:40	1° <u>00</u> 14'48	-7°20'06	morning rise	-8061 Dec 10 j 20:21	11° <u>00</u> 00'24	
direct	-8067 Aug 12 j 04:50	0° <u>00</u> 05'16		retrograde	-8060 Mar 12 j 04:33	12° <u>00</u> 32'52	
evening set	-8067 Nov 05 j 22:17	1° <u>00</u> 34'03		min. Earth dist.	-8060 May 31 j 00:36	11° <u>00</u> 27'49	38.59829 AU
				opposition	-8060 Jun 03 j 10:06	11° <u>00</u> 23'21	-10°03'08
conjunction	-8067 Nov 19 j 11:35	1° <u>00</u> 58'00	-7°09'20	direct	-8060 Aug 22 j 08:44	10° <u>00</u> 15'53	
minimum elong	-8067 Nov 19 j 11:22	1° <u>00</u> 57'59	7°09'16	evening set	-8060 Nov 17 j 11:07	11° <u>00</u> 43'25	
max. Earth dist.	-8067 Nov 22 j 23:08	2° <u>00</u> 04'12	38.92737 AU				
morning rise	-8067 Dec 03 j 03:30	2° <u>00</u> 22'08		conjunction	-8060 Nov 29 j 07:09	12° <u>00</u> 03'26	-9°43'24
retrograde	-8066 Mar 04 j 01:31	3° <u>00</u> 55'37		minimum elong	-8060 Nov 29 j 06:54	12° <u>00</u> 03'25	9°43'27
min. Earth dist.	-8066 May 22 j 15:30	2° <u>00</u> 49'02	37.07310 AU	max. Earth dist.	-8060 Dec 02 j 17:49	12° <u>00</u> 09'18	40.69098 AU
opposition	-8066 May 26 j 02:29	2° <u>00</u> 44'22	-7°45'19	morning rise	-8060 Dec 11 j 05:08	12° <u>00</u> 23'36	
direct	-8066 Aug 13 j 23:32	1° <u>00</u> 35'10		retrograde	-8059 Mar 13 j 18:23	13° <u>00</u> 55'58	
evening set	-8066 Nov 07 j 20:43	3° <u>00</u> 03'41		min. Earth dist.	-8059 Jun 01 j 16:39	12° <u>00</u> 51'06	38.84415 AU
				opposition	-8059 Jun 05 j 02:01	12° <u>00</u> 46'39	-10°23'58
conjunction	-8066 Nov 21 j 05:03	3° <u>00</u> 27'06	-7°33'06	direct	-8059 Aug 24 j 01:29	11° <u>00</u> 39'26	
minimum elong	-8066 Nov 21 j 04:49	3° <u>00</u> 27'05	7°33'04	evening set	-8059 Nov 19 j 09:02	13° <u>00</u> 06'50	
max. Earth dist.	-8066 Nov 24 j 17:55	3° <u>00</u> 33'22	39.18378 AU				
morning rise	-8066 Dec 04 j 15:36	3° <u>00</u> 50'42		conjunction	-8059 Nov 30 j 22:22	13° <u>00</u> 26'16	-10°03'07
retrograde	-8065 Mar 05 j 16:42	5° <u>00</u> 23'57		minimum elong	-8059 Nov 30 j 22:08	13° <u>00</u> 26'15	10°03'12
min. Earth dist.	-8065 May 24 j 09:58	4° <u>00</u> 17'40	37.33119 AU	max. Earth dist.	-8059 Dec 04 j 09:58	13° <u>00</u> 32'10	40.93361 AU
opposition	-8065 May 27 j 20:46	4° <u>00</u> 13'02	-8°09'52	morning rise	-8059 Dec 12 j 13:20	13° <u>00</u> 45'50	
direct	-8065 Aug 15 j 19:24	3° <u>00</u> 04'09		retrograde	-8058 Mar 15 j 07:44	15° <u>00</u> 18'05	
evening set	-8065 Nov 09 j 19:24	4° <u>00</u> 32'27		min. Earth dist.	-8058 Jun 03 j 09:11	14° <u>00</u> 13'22	39.08784 AU
				opposition	-8058 Jun 06 j 17:30	14° <u>00</u> 09'00	-10°44'12
conjunction	-8065 Nov 22 j 22:11	4° <u>00</u> 55'20	-7°56'16	direct	-8058 Aug 25 j 18:11	13° <u>00</u> 01'59	
minimum elong	-8065 Nov 22 j 21:58	4° <u>00</u> 55'19	7°56'15	evening set	-8058 Nov 21 j 06:58	14° <u>00</u> 29'18	
max. Earth dist.	-8065 Nov 26 j 10:06	5° <u>00</u> 01'28	39.43973 AU				
morning rise	-8065 Dec 06 j 03:20	5° <u>00</u> 18'23		conjunction	-8058 Dec 02 j 13:08	14° <u>00</u> 48'08	-10°22'17
retrograde	-8064 Mar 06 j 11:30	6° <u>00</u> 51'26		minimum elong	-8058 Dec 02 j 12:53	14° <u>00</u> 48'07	10°22'21
min. Earth dist.	-8064 May 25 j 02:58	5° <u>00</u> 45'28	37.58867 AU	max. Earth dist.	-8058 Dec 05 j 23:37	14° <u>00</u> 53'55	41.17442 AU
opposition	-8064 May 28 j 14:29	5° <u>00</u> 40'49	-8°33'46	morning rise	-8058 Dec 13 j 20:54	15° <u>00</u> 07'05	
direct	-8064 Aug 16 j 10:59	4° <u>00</u> 32'16		retrograde	-8057 Mar 16 j 23:42	16° <u>00</u> 39'16	
evening set	-8064 Nov 10 j 17:52	6° <u>00</u> 00'22		min. Earth dist.	-8057 Jun 04 j 23:25	15° <u>00</u> 34'47	39.32997 AU
				opposition	-8057 Jun 08 j 08:34	15° <u>00</u> 30'24	-11°03'49
conjunction	-8064 Nov 23 j 15:03	6° <u>00</u> 22'42	-8°18'51	direct	-8057 Aug 27 j 07:55	14° <u>00</u> 23'35	
minimum elong	-8064 Nov 23 j 14:49	6° <u>00</u> 22'41	8°18'51	evening set	-8057 Nov 23 j 04:48	15° <u>00</u> 50'52	
max. Earth dist.	-8064 Nov 27 j 03:55	6° <u>00</u> 28'52	39.69454 AU				
morning rise	-8064 Dec 06 j 14:25	6° <u>00</u> 45'12		conjunction	-8057 Dec 04 j 03:40	16° <u>00</u> 09'05	-10°40'52
retrograde	-8063 Mar 08 j 04:37	8° <u>00</u> 18'06		minimum elong	-8057 Dec 04 j 03:26	16° <u>00</u> 09'04	10°40'58
min. Earth dist.	-8063 May 26 j 21:47	7° <u>00</u> 12'20	37.84467 AU	max. Earth dist.	-8057 Dec 07 j 14:38	16° <u>00</u> 14'51	41.41373 AU
opposition	-8063 May 30 j 08:01	7° <u>00</u> 07'47	-8°57'02	morning rise	-8057 Dec 15 j 04:08	16° <u>00</u> 27'24	
direct	-8063 Aug 18 j 03:53	5° <u>00</u> 59'31		retrograde	-8056 Mar 17 j 14:18	17° <u>00</u> 59'33	
evening set	-8063 Nov 12 j 16:13	7° <u>00</u> 27'27		min. Earth dist.	-8056 Jun 05 j 15:19	16° <u>00</u> 55'12	39.57086 AU
				opposition	-8056 Jun 08 j 23:14	16° <u>00</u> 50'54	-11°22'50
conjunction	-8063 Nov 25 j 07:29	7° <u>00</u> 49'14	-8°40'50	direct	-8056 Aug 27 j 22:25	15° <u>00</u> 44'19	
minimum elong	-8063 Nov 25 j 07:15	7° <u>00</u> 49'13	8°40'51	evening set	-8056 Nov 24 j 02:32	17° <u>00</u> 11'35	
max. Earth dist.	-8063 Nov 28 j 19:37	7° <u>00</u> 55'18	39.94761 AU				
morning rise	-8063 Dec 08 j 00:47	8° <u>00</u> 11'09		conjunction	-8056 Dec 04 j 17:56	17° <u>00</u> 29'10	-10°58'53
retrograde	-8062 Mar 09 j 22:25	9° <u>00</u> 43'54		minimum elong	-8056 Dec 04 j 17:41	17° <u>00</u> 29'09	10°58'59
min. Earth dist.	-8062 May 28 j 14:12	8° <u>00</u> 38'26	38.09857 AU	max. Earth dist.	-8056 Dec 08 j 04:47	17° <u>00</u> 34'54	41.65204 AU
opposition	-8062 Jun 01 j 01:06	8° <u>00</u> 33'52	-9°19'40	morning rise	-8056 Dec 15 j 10:35	17° <u>00</u> 46'52	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26

Attention, astronomical year style is used: The year -8055 in astronomical counting style is the year 8056 BCE in historical counting style.

retrograde	-8055 Mar 19 j 03:55	19° <u>♁</u> 18'59		minimum elong	-8049 Dec 14 j 14:15	26° <u>♁</u> 31'10	12°50'15
min. Earth dist.	-8055 Jun 07 j 05:04	18° <u>♁</u> 14'54	39.81061 AU	max. Earth dist.	-8049 Dec 17 j 22:05	26° <u>♁</u> 36'29	43.26440 AU
opposition	-8055 Jun 10 j 13:33	18° <u>♁</u> 10'34	-11°41'15	morning rise	-8049 Dec 22 j 18:39	26° <u>♁</u> 44'14	
direct	-8055 Aug 29 j 13:53	17° <u>♁</u> 04'14		retrograde	-8048 Mar 27 j 20:05	28° <u>♁</u> 17'05	
evening set	-8055 Nov 26 j 00:05	18° <u>♁</u> 31'31		min. Earth dist.	-8048 Jun 16 j 06:10	27° <u>♁</u> 14'20	41.42692 AU
				opposition	-8048 Jun 19 j 09:41	27° <u>♁</u> 10'22	-13°34'27
conjunction	-8055 Dec 06 j 07:37	18° <u>♁</u> 48'29	-11°16'21	direct	-8048 Sep 07 j 13:46	26° <u>♁</u> 05'39	
minimum elong	-8055 Dec 06 j 07:22	18° <u>♁</u> 48'28	11°16'28	evening set	-8048 Dec 07 j 09:04	27° <u>♁</u> 33'53	
max. Earth dist.	-8055 Dec 09 j 17:57	18° <u>♁</u> 54'09	41.88917 AU				
morning rise	-8055 Dec 16 j 16:34	19° <u>♁</u> 05'32		conjunction	-8048 Dec 15 j 02:45	27° <u>♁</u> 46'10	-13°03'58
retrograde	-8054 Mar 20 j 17:33	20° <u>♁</u> 37'42		minimum elong	-8048 Dec 15 j 02:33	27° <u>♁</u> 46'10	13°04'10
min. Earth dist.	-8054 Jun 08 j 19:37	19° <u>♁</u> 33'49	40.04926 AU	max. Earth dist.	-8048 Dec 18 j 08:29	27° <u>♁</u> 51'20	43.48084 AU
opposition	-8054 Jun 12 j 03:44	19° <u>♁</u> 29'31	-11°59'04	morning rise	-8048 Dec 22 j 21:05	27° <u>♁</u> 58'31	
direct	-8054 Aug 31 j 04:22	18° <u>♁</u> 23'26		retrograde	-8047 Mar 29 j 08:01	29° <u>♁</u> 31'33	
evening set	-8054 Nov 27 j 21:41	19° <u>♁</u> 50'46		min. Earth dist.	-8047 Jun 17 j 18:36	28° <u>♁</u> 28'57	41.64335 AU
				opposition	-8047 Jun 20 j 21:47	28° <u>♁</u> 25'01	-13°48'34
conjunction	-8054 Dec 07 j 21:22	20° <u>♁</u> 07'05	-11°33'16	direct	-8047 Sep 09 j 02:07	27° <u>♁</u> 20'29	
minimum elong	-8054 Dec 07 j 21:07	20° <u>♁</u> 07'04	11°33'22	evening set	-8047 Dec 09 j 07:06	28° <u>♁</u> 48'55	
max. Earth dist.	-8054 Dec 11 j 08:24	20° <u>♁</u> 12'47	42.12503 AU				
morning rise	-8054 Dec 17 j 22:07	20° <u>♁</u> 23'31		conjunction	-8047 Dec 16 j 14:43	29° <u>♁</u> 00'29	-13°17'25
retrograde	-8053 Mar 22 j 04:25	21° <u>♁</u> 55'43		minimum elong	-8047 Dec 16 j 14:29	29° <u>♁</u> 00'28	13°17'37
min. Earth dist.	-8053 Jun 10 j 09:59	20° <u>♁</u> 52'03	40.28623 AU	max. Earth dist.	-8047 Dec 19 j 20:44	29° <u>♁</u> 05'38	43.69352 AU
opposition	-8053 Jun 13 j 17:21	20° <u>♁</u> 47'48	-12°16'18	morning rise	-8047 Dec 23 j 22:45	29° <u>♁</u> 12'06	
direct	-8053 Sep 01 j 20:06	19° <u>♁</u> 41'57			-8046 Jan 25 j 13:22	0° <u>♁</u>	
evening set	-8053 Nov 29 j 19:27	21° <u>♁</u> 09'22		retrograde	-8046 Mar 30 j 18:26	0° <u>♁</u> 45'21	
					-8046 Jun 05 j 07:47	30° <u>♁</u>	
conjunction	-8053 Dec 09 j 10:45	21° <u>♁</u> 25'04	-11°49'38	min. Earth dist.	-8046 Jun 19 j 08:04	29° <u>♁</u> 42'49	41.85618 AU
minimum elong	-8053 Dec 09 j 10:31	21° <u>♁</u> 25'03	11°49'46	opposition	-8046 Jun 22 j 09:34	29° <u>♁</u> 38'59	-14°02'11
max. Earth dist.	-8053 Dec 12 j 20:21	21° <u>♁</u> 30'37	42.35905 AU	direct	-8046 Sep 10 j 15:15	28° <u>♁</u> 34'37	
morning rise	-8053 Dec 19 j 03:12	21° <u>♁</u> 40'50			-8046 Dec 09 j 03:17	0° <u>♁</u>	
retrograde	-8052 Mar 22 j 18:34	23° <u>♁</u> 13'08		evening set	-8046 Dec 11 j 05:42	0° <u>♁</u> 03'17	
min. Earth dist.	-8052 Jun 10 j 23:13	22° <u>♁</u> 09'43	40.52116 AU				
opposition	-8052 Jun 14 j 06:48	22° <u>♁</u> 05'28	-12°32'59	conjunction	-8046 Dec 18 j 02:33	0° <u>♁</u> 14'06	-13°30'22
direct	-8052 Sep 02 j 08:41	20° <u>♁</u> 59'53		minimum elong	-8046 Dec 18 j 02:21	0° <u>♁</u> 14'06	13°30'35
evening set	-8052 Nov 30 j 17:02	22° <u>♁</u> 27'24		max. Earth dist.	-8046 Dec 21 j 07:13	0° <u>♁</u> 19'09	43.90307 AU
				morning rise	-8046 Dec 24 j 23:45	0° <u>♁</u> 24'57	
conjunction	-8052 Dec 09 j 23:54	22° <u>♁</u> 42'27	-12°05'29	retrograde	-8045 Apr 01 j 07:55	1° <u>♁</u> 58'26	
minimum elong	-8052 Dec 09 j 23:40	22° <u>♁</u> 42'26	12°05'38	min. Earth dist.	-8045 Jun 20 j 19:05	0° <u>♁</u> 56'05	42.06614 AU
max. Earth dist.	-8052 Dec 13 j 09:59	22° <u>♁</u> 48'01	42.59056 AU	opposition	-8045 Jun 23 j 20:50	0° <u>♁</u> 52'15	-14°15'18
morning rise	-8052 Dec 19 j 07:45	22° <u>♁</u> 57'34			-8045 Aug 11 j 12:45	30° <u>♁</u>	
retrograde	-8051 Mar 24 j 08:45	24° <u>♁</u> 29'59		direct	-8045 Sep 12 j 00:55	29° <u>♁</u> 48'02	
min. Earth dist.	-8051 Jun 12 j 14:03	23° <u>♁</u> 26'42	40.75323 AU		-8045 Oct 13 j 03:06	0° <u>♁</u>	
opposition	-8051 Jun 15 j 19:59	23° <u>♁</u> 22'34	-12°49'07	evening set	-8045 Dec 13 j 04:23	1° <u>♁</u> 17'01	
direct	-8051 Sep 03 j 20:36	22° <u>♁</u> 17'14					
evening set	-8051 Dec 02 j 14:53	23° <u>♁</u> 44'54		conjunction	-8045 Dec 19 j 14:05	1° <u>♁</u> 27'03	-13°42'51
				minimum elong	-8045 Dec 19 j 13:51	1° <u>♁</u> 27'02	13°43'05
conjunction	-8051 Dec 11 j 12:56	23° <u>♁</u> 59'17	-12°20'50	max. Earth dist.	-8045 Dec 22 j 18:26	1° <u>♁</u> 32'02	44.10991 AU
minimum elong	-8051 Dec 11 j 12:42	23° <u>♁</u> 59'16	12°21'00	morning rise	-8045 Dec 26 j 00:04	1° <u>♁</u> 37'06	
max. Earth dist.	-8051 Dec 14 j 21:51	24° <u>♁</u> 04'44	42.81907 AU	retrograde	-8044 Apr 01 j 21:12	3° <u>♁</u> 10'52	
morning rise	-8051 Dec 20 j 11:48	24° <u>♁</u> 13'43		min. Earth dist.	-8044 Jun 21 j 07:43	2° <u>♁</u> 08'37	42.27371 AU
retrograde	-8050 Mar 25 j 22:28	25° <u>♁</u> 46'16		opposition	-8044 Jun 24 j 08:04	2° <u>♁</u> 04'52	-14°27'54
min. Earth dist.	-8050 Jun 14 j 02:44	24° <u>♁</u> 43'14	40.98188 AU	direct	-8044 Sep 12 j 10:00	1° <u>♁</u> 00'49	
opposition	-8050 Jun 17 j 08:46	24° <u>♁</u> 39'06	-13°04'44	evening set	-8044 Dec 14 j 03:30	2° <u>♁</u> 30'08	
direct	-8050 Sep 05 j 08:36	23° <u>♁</u> 33'59					
evening set	-8050 Dec 04 j 12:48	25° <u>♁</u> 01'49		conjunction	-8044 Dec 20 j 01:20	2° <u>♁</u> 39'22	-13°54'52
				minimum elong	-8044 Dec 20 j 01:08	2° <u>♁</u> 39'21	13°55'06
conjunction	-8050 Dec 13 j 01:44	25° <u>♁</u> 15'32	-12°35'41	max. Earth dist.	-8044 Dec 23 j 05:38	2° <u>♁</u> 44'20	44.31466 AU
minimum elong	-8050 Dec 13 j 01:31	25° <u>♁</u> 15'31	12°35'51	morning rise	-8044 Dec 25 j 23:18	2° <u>♁</u> 48'35	
max. Earth dist.	-8050 Dec 16 j 09:36	25° <u>♁</u> 20'53	43.04377 AU	retrograde	-8043 Apr 03 j 05:34	4° <u>♁</u> 22'41	
morning rise	-8050 Dec 21 j 15:33	25° <u>♁</u> 29'17		min. Earth dist.	-8043 Jun 22 j 18:33	3° <u>♁</u> 20'36	42.47909 AU
retrograde	-8049 Mar 27 j 10:58	27° <u>♁</u> 01'59		opposition	-8043 Jun 25 j 18:53	3° <u>♁</u> 16'51	-14°40'01
min. Earth dist.	-8049 Jun 15 j 17:03	25° <u>♁</u> 59'04	41.20658 AU	direct	-8043 Sep 13 j 23:31	2° <u>♁</u> 12'59	
opposition	-8049 Jun 18 j 21:31	25° <u>♁</u> 55'03	-13°19'50	evening set	-8043 Dec 16 j 03:09	3° <u>♁</u> 42'43	
direct	-8049 Sep 06 j 22:14	24° <u>♁</u> 50'09					
evening set	-8049 Dec 06 j 10:53	26° <u>♁</u> 18'10		conjunction	-8043 Dec 21 j 12:19	3° <u>♁</u> 51'05	-14°06'23
				minimum elong	-8043 Dec 21 j 12:06	3° <u>♁</u> 51'04	14°06'37
conjunction	-8049 Dec 14 j 14:29	26° <u>♁</u> 31'11	-12°50'04	max. Earth dist.	-8043 Dec 24 j 15:13	3° <u>♁</u> 55'56	44.51740 AU

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Attention, astronomical year style is used: The year -8043 in astronomical counting style is the year 8044 BCE in historical counting style.

morning rise	-8043 Dec 26 j 21:36	3°M.59'27		retrograde	-8035 Apr 12 j 10:54	13°M.39'42	
retrograde	-8042 Apr 04 j 14:44	5°M.33'56		min. Earth dist.	-8035 Jul 02 j 08:59	12°M.38'40	44.01670 AU
min. Earth dist.	-8042 Jun 24 j 05:40	4°M.32'00	42.68260 AU	opposition	-8035 Jul 05 j 02:11	12°M.35'21	-16°00'16
opposition	-8042 Jun 27 j 05:34	4°M.28'18	-14°51'37	direct	-8035 Sep 23 j 12:32	11°M.32'48	
direct	-8042 Sep 15 j 11:42	3°M.24'36					
evening set	-8042 Dec 18 j 03:41	4°M.54'49		conjunction	-8035 Dec 30 j 23:02	13°M.07'45	-15°22'57
				minimum elong	-8035 Dec 30 j 22:54	13°M.07'44	15°23'16
conjunction	-8042 Dec 22 j 23:15	5°M.02'16	-14°17'27	max. Earth dist.	-8034 Jan 02 j 19:18	13°M.12'02	46.02856 AU
minimum elong	-8042 Dec 22 j 23:04	5°M.02'16	14°17'42	retrograde	-8034 Apr 13 j 21:10	14°M.47'12	
max. Earth dist.	-8042 Dec 26 j 02:48	5°M.07'09	44.71816 AU	min. Earth dist.	-8034 Jul 03 j 20:03	13°M.46'11	44.19044 AU
morning rise	-8042 Dec 27 j 18:50	5°M.09'44		opposition	-8034 Jul 06 j 11:10	13°M.42'59	-16°08'26
retrograde	-8041 Apr 05 j 23:06	6°M.44'41		direct	-8034 Sep 24 j 20:54	12°M.40'33	
min. Earth dist.	-8041 Jun 25 j 17:28	5°M.42'52	42.88378 AU				
opposition	-8041 Jun 28 j 16:01	5°M.39'14	-15°02'45	conjunction	-8033 Jan 01 j 08:39	14°M.15'08	-15°30'44
direct	-8041 Sep 17 j 00:31	4°M.35'43		minimum elong	-8033 Jan 01 j 08:30	14°M.15'07	15°31'04
evening set	-8041 Dec 20 j 05:34	6°M.06'32		max. Earth dist.	-8033 Jan 04 j 03:51	14°M.19'20	46.19927 AU
					-8033 Feb 01 j 10:11	15°M.	
conjunction	-8041 Dec 24 j 09:58	6°M.12'59	-14°28'03	retrograde	-8033 Apr 15 j 06:17	15°M.54'11	
minimum elong	-8041 Dec 24 j 09:47	6°M.12'58	14°28'18		-8033 Jun 29 j 14:58	15°R.M.	
max. Earth dist.	-8041 Dec 27 j 11:54	6°M.17'44	44.91655 AU	min. Earth dist.	-8033 Jul 05 j 04:47	14°M.53'17	44.36060 AU
morning rise	-8041 Dec 28 j 14:18	6°M.19'26		opposition	-8033 Jul 07 j 19:50	14°M.50'06	-16°16'10
retrograde	-8040 Apr 06 j 10:29	7°M.54'57		direct	-8033 Sep 26 j 05:40	13°M.47'47	
min. Earth dist.	-8040 Jun 26 j 03:17	6°M.53'21	43.08236 AU		-8033 Dec 18 j 20:58	15°M.	
opposition	-8040 Jun 29 j 02:05	6°M.49'42	-15°13'25				
direct	-8040 Sep 17 j 09:57	5°M.46'23		conjunction	-8032 Jan 02 j 17:58	15°M.22'01	-15°38'07
evening set	-8040 Dec 21 j 09:23	7°M.17'56		minimum elong	-8032 Jan 02 j 17:51	15°M.22'00	15°38'27
				max. Earth dist.	-8032 Jan 05 j 11:46	15°M.26'06	46.36663 AU
conjunction	-8040 Dec 24 j 20:29	7°M.23'14	-14°38'13	retrograde	-8032 Apr 15 j 15:16	17°M.00'40	
minimum elong	-8040 Dec 24 j 20:19	7°M.23'14	14°38'30	min. Earth dist.	-8032 Jul 05 j 14:34	15°M.59'51	44.52783 AU
morning rise	-8040 Dec 28 j 07:28	7°M.28'33		opposition	-8032 Jul 08 j 04:22	15°M.56'44	-16°23'30
max. Earth dist.	-8040 Dec 27 j 22:08	7°M.27'57	45.11202 AU		-8032 Sep 05 j 03:02	15°R.M.	
retrograde	-8039 Apr 07 j 22:19	9°M.04'47		direct	-8032 Sep 26 j 14:29	14°M.54'32	
min. Earth dist.	-8039 Jun 27 j 15:17	8°M.03'16	43.27777 AU		-8032 Oct 18 j 01:02	15°M.	
opposition	-8039 Jun 30 j 12:11	7°M.59'45	-15°23'37				
direct	-8039 Sep 18 j 18:40	6°M.56'36		conjunction	-8031 Jan 03 j 03:13	16°M.28'26	-15°45'05
evening set	-8039 Dec 23 j 17:08	8°M.29'09		minimum elong	-8031 Jan 03 j 03:05	16°M.28'26	15°45'26
				max. Earth dist.	-8031 Jan 05 j 21:16	16°M.32'32	46.53137 AU
conjunction	-8039 Dec 26 j 06:52	8°M.33'05	-14°47'57	retrograde	-8031 Apr 16 j 20:54	18°M.06'43	
minimum elong	-8039 Dec 26 j 06:42	8°M.33'04	14°48'14	min. Earth dist.	-8031 Jul 06 j 23:48	17°M.06'00	44.69238 AU
morning rise	-8039 Dec 28 j 20:24	8°M.37'00		opposition	-8031 Jul 09 j 12:42	17°M.02'57	-16°30'25
max. Earth dist.	-8039 Dec 29 j 07:45	8°M.37'43	45.30414 AU	direct	-8031 Sep 28 j 01:57	16°M.00'53	
retrograde	-8038 Apr 09 j 09:19	10°M.14'12					
min. Earth dist.	-8038 Jun 29 j 01:29	9°M.12'51	43.46929 AU	conjunction	-8030 Jan 04 j 12:05	17°M.34'28	-15°51'40
opposition	-8038 Jul 01 j 21:57	9°M.09'21	-15°33'23	minimum elong	-8030 Jan 04 j 11:59	17°M.34'27	15°52'01
direct	-8038 Sep 20 j 04:10	8°M.06'23		max. Earth dist.	-8030 Jan 07 j 04:25	17°M.38'26	46.69368 AU
evening set	-8038 Dec 26 j 13:00	9°M.40'41		retrograde	-8030 Apr 18 j 05:26	19°M.12'24	
				min. Earth dist.	-8030 Jul 08 j 08:03	18°M.11'50	44.85454 AU
conjunction	-8038 Dec 27 j 17:11	9°M.42'29	-14°57'17	opposition	-8030 Jul 10 j 20:56	18°M.08'47	-16°36'55
minimum elong	-8038 Dec 27 j 17:00	9°M.42'28	14°57'35	direct	-8030 Sep 29 j 10:24	17°M.06'52	
morning rise	-8038 Dec 28 j 21:04	9°M.44'15					
max. Earth dist.	-8038 Dec 30 j 16:15	9°M.46'59	45.49204 AU	conjunction	-8029 Jan 05 j 21:03	18°M.40'09	-15°57'51
retrograde	-8037 Apr 10 j 19:31	11°M.23'11		minimum elong	-8029 Jan 05 j 20:55	18°M.40'08	15°58'12
min. Earth dist.	-8037 Jun 30 j 12:29	10°M.21'55	43.65649 AU	max. Earth dist.	-8029 Jan 08 j 13:20	18°M.44'06	46.85350 AU
opposition	-8037 Jul 03 j 07:34	10°M.18'31	-15°42'45	retrograde	-8029 Apr 19 j 14:03	20°M.17'46	
direct	-8037 Sep 21 j 13:56	9°M.15'41		min. Earth dist.	-8029 Jul 09 j 17:52	19°M.17'17	45.01406 AU
				opposition	-8029 Jul 12 j 04:56	19°M.14'19	-16°43'01
conjunction	-8037 Dec 29 j 03:29	10°M.51'24	-15°06'14	direct	-8029 Sep 30 j 18:52	18°M.12'33	
minimum elong	-8037 Dec 29 j 03:19	10°M.51'24	15°06'31				
max. Earth dist.	-8036 Jan 01 j 02:16	10°M.55'53	45.67543 AU	conjunction	-8028 Jan 07 j 05:53	19°M.45'33	-16°03'40
retrograde	-8036 Apr 11 j 01:37	12°M.31'42		minimum elong	-8028 Jan 07 j 05:48	19°M.45'33	16°04'02
min. Earth dist.	-8036 Jun 30 j 23:26	11°M.30'31	43.83885 AU	max. Earth dist.	-8028 Jan 09 j 21:04	19°M.49'26	47.01072 AU
opposition	-8036 Jul 03 j 16:59	11°M.27'11	-15°51'43	retrograde	-8028 Apr 20 j 01:00	21°M.22'50	
direct	-8036 Sep 22 j 02:42	10°M.24'31		min. Earth dist.	-8028 Jul 10 j 01:46	20°M.22'31	45.17062 AU
				opposition	-8028 Jul 12 j 12:46	20°M.19'35	-16°48'43
conjunction	-8036 Dec 29 j 13:16	11°M.59'50	-15°14'47	direct	-8028 Oct 01 j 00:35	19°M.17'58	
minimum elong	-8036 Dec 29 j 13:06	11°M.59'50	15°15'06				
max. Earth dist.	-8035 Jan 01 j 09:51	12°M.04'10	45.85418 AU	conjunction	-8027 Jan 07 j 14:21	20°M.50'42	-16°09'06

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Attention, astronomical year style is used: The year -8027 in astronomical counting style is the year 8028 BCE in historical counting style.

minimum elong	-8027 Jan 07 j 14:14	20° <u>M</u> .50'42	16°09'28	retrograde	-8019 Apr 29 j 17:00	0° <u>♂</u> .55'23	
max. Earth dist.	-8027 Jan 10 j 04:15	20° <u>M</u> .54'29	47.16468 AU		-8019 Jul 16 j 12:09	30° <u>R</u> . <u>M</u> .	
retrograde	-8027 Apr 21 j 11:19	22° <u>M</u> .27'41		min. Earth dist.	-8019 Jul 20 j 06:09	29° <u>M</u> .55'36	46.38393 AU
min. Earth dist.	-8027 Jul 11 j 11:14	21° <u>M</u> .27'28	45.32376 AU	opposition	-8019 Jul 22 j 05:27	29° <u>M</u> .53'16	-17°24'37
opposition	-8027 Jul 13 j 20:37	21° <u>M</u> .24'37	-16°54'03	direct	-8019 Oct 11 j 01:33	28° <u>M</u> .52'33	
direct	-8027 Oct 02 j 06:14	20° <u>M</u> .23'09			-8018 Jan 01 j 09:55	0° <u>♂</u> .	
conjunction	-8026 Jan 08 j 23:03	21° <u>M</u> .55'37	-16°14'11	conjunction	-8018 Jan 17 j 15:36	0° <u>♂</u> .22'56	-16°43'11
minimum elong	-8026 Jan 08 j 22:58	21° <u>M</u> .55'37	16°14'34	minimum elong	-8018 Jan 17 j 15:33	0° <u>♂</u> .22'56	16°43'37
max. Earth dist.	-8026 Jan 11 j 12:39	21° <u>M</u> .59'23	47.31499 AU	max. Earth dist.	-8018 Jan 19 j 18:38	0° <u>♂</u> .25'59	48.35334 AU
retrograde	-8026 Apr 22 j 16:37	23° <u>M</u> .32'18		retrograde	-8018 May 01 j 00:54	1° <u>♂</u> .57'10	
min. Earth dist.	-8026 Jul 12 j 19:58	22° <u>M</u> .32'11	45.47269 AU	min. Earth dist.	-8018 Jul 21 j 12:31	0° <u>♂</u> .57'30	46.49934 AU
opposition	-8026 Jul 15 j 04:07	22° <u>M</u> .29'24	-16°59'02	opposition	-8018 Jul 23 j 11:47	0° <u>♂</u> .55'11	-17°26'55
direct	-8026 Oct 03 j 16:53	21° <u>M</u> .28'04			-8018 Sep 20 j 08:14	30° <u>R</u> . <u>M</u> .	
conjunction	-8025 Jan 10 j 07:36	23° <u>M</u> .00'18	-16°18'56	direct	-8018 Oct 12 j 07:43	29° <u>M</u> .54'33	
minimum elong	-8025 Jan 10 j 07:31	23° <u>M</u> .00'17	16°19'19		-8018 Nov 03 j 02:21	0° <u>♂</u> .	
max. Earth dist.	-8025 Jan 12 j 18:41	23° <u>M</u> .03'53	47.46085 AU	conjunction	-8017 Jan 18 j 23:08	1° <u>♂</u> .24'44	-16°45'20
retrograde	-8025 Apr 23 j 23:01	24° <u>M</u> .36'40		minimum elong	-8017 Jan 18 j 23:07	1° <u>♂</u> .24'44	16°45'46
min. Earth dist.	-8025 Jul 14 j 04:23	23° <u>M</u> .36'39	45.61693 AU	max. Earth dist.	-8017 Jan 21 j 01:05	1° <u>♂</u> .27'41	48.46689 AU
opposition	-8025 Jul 16 j 11:39	23° <u>M</u> .33'55	-17°03'40	retrograde	-8017 May 02 j 10:36	2° <u>♂</u> .58'42	
direct	-8025 Oct 05 j 02:27	22° <u>M</u> .32'43		min. Earth dist.	-8017 Jul 22 j 20:45	1° <u>♂</u> .59'04	46.61180 AU
conjunction	-8024 Jan 11 j 16:06	24° <u>M</u> .04'41	-16°23'21	opposition	-8017 Jul 24 j 18:15	1° <u>♂</u> .56'50	-17°28'52
minimum elong	-8024 Jan 11 j 16:02	24° <u>M</u> .04'40	16°23'46	direct	-8017 Oct 13 j 11:37	0° <u>♂</u> .56'18	
max. Earth dist.	-8024 Jan 14 j 02:40	24° <u>M</u> .08'14	47.60167 AU	conjunction	-8016 Jan 20 j 06:36	2° <u>♂</u> .26'17	-16°47'09
retrograde	-8024 Apr 24 j 05:56	25° <u>M</u> .40'45		minimum elong	-8016 Jan 20 j 06:35	2° <u>♂</u> .26'17	16°47'35
min. Earth dist.	-8024 Jul 14 j 14:06	24° <u>M</u> .40'45	45.75592 AU	max. Earth dist.	-8016 Jan 22 j 08:10	2° <u>♂</u> .29'13	48.57749 AU
opposition	-8024 Jul 16 j 19:02	24° <u>M</u> .38'08	-17°07'59	retrograde	-8016 May 02 j 16:09	4° <u>♂</u> .00'01	
direct	-8024 Oct 05 j 11:28	23° <u>M</u> .37'02		min. Earth dist.	-8016 Jul 23 j 03:30	3° <u>♂</u> .00'28	46.72096 AU
conjunction	-8023 Jan 12 j 00:26	25° <u>M</u> .08'43	-16°27'28	opposition	-8016 Jul 25 j 00:23	2° <u>♂</u> .58'17	-17°30'30
minimum elong	-8023 Jan 12 j 00:22	25° <u>M</u> .08'43	16°27'52	direct	-8016 Oct 13 j 19:22	1° <u>♂</u> .57'51	
max. Earth dist.	-8023 Jan 14 j 09:06	25° <u>M</u> .12'09	47.73750 AU	conjunction	-8015 Jan 20 j 13:52	3° <u>♂</u> .27'39	-16°48'39
retrograde	-8023 Apr 25 j 14:46	26° <u>M</u> .44'29		minimum elong	-8015 Jan 20 j 13:52	3° <u>♂</u> .27'39	16°49'07
min. Earth dist.	-8023 Jul 15 j 21:32	25° <u>M</u> .44'35	45.88987 AU	max. Earth dist.	-8015 Jan 22 j 13:17	3° <u>♂</u> .30'27	48.68471 AU
opposition	-8023 Jul 18 j 02:11	25° <u>M</u> .41'59	-17°11'59	retrograde	-8015 May 03 j 22:18	5° <u>♂</u> .01'09	
direct	-8023 Oct 06 j 18:00	24° <u>M</u> .40'58		min. Earth dist.	-8015 Jul 24 j 10:42	4° <u>♂</u> .01'42	46.82659 AU
conjunction	-8022 Jan 13 j 08:27	26° <u>M</u> .12'23	-16°31'16	opposition	-8015 Jul 26 j 06:33	3° <u>♂</u> .59'34	-17°31'48
minimum elong	-8022 Jan 13 j 08:22	26° <u>M</u> .12'23	16°31'41	direct	-8015 Oct 15 j 02:23	2° <u>♂</u> .59'14	
max. Earth dist.	-8022 Jan 15 j 15:31	26° <u>M</u> .15'41	47.86836 AU	conjunction	-8014 Jan 21 j 21:12	4° <u>♂</u> .28'52	-16°49'51
retrograde	-8022 Apr 27 j 00:15	27° <u>M</u> .47'49		minimum elong	-8014 Jan 21 j 21:11	4° <u>♂</u> .28'52	16°50'18
min. Earth dist.	-8022 Jul 17 j 06:46	26° <u>M</u> .47'54	46.01913 AU	max. Earth dist.	-8014 Jan 23 j 20:20	4° <u>♂</u> .31'39	48.78802 AU
opposition	-8022 Jul 19 j 09:21	26° <u>M</u> .45'25	-17°15'39	retrograde	-8014 May 05 j 03:07	6° <u>♂</u> .02'10	
direct	-8022 Oct 07 j 23:52	25° <u>M</u> .44'29		min. Earth dist.	-8014 Jul 25 j 18:54	5° <u>♂</u> .02'44	46.92783 AU
conjunction	-8021 Jan 14 j 16:35	27° <u>M</u> .15'37	-16°34'45	opposition	-8014 Jul 27 j 12:39	5° <u>♂</u> .00'42	-17°32'48
minimum elong	-8021 Jan 14 j 16:33	27° <u>M</u> .15'37	16°35'09	direct	-8014 Oct 16 j 11:02	4° <u>♂</u> .00'29	
max. Earth dist.	-8021 Jan 16 j 23:16	27° <u>M</u> .18'54	47.99489 AU	conjunction	-8013 Jan 23 j 04:34	5° <u>♂</u> .29'57	-16°50'46
retrograde	-8021 Apr 28 j 06:15	28° <u>M</u> .50'44		minimum elong	-8013 Jan 23 j 04:34	5° <u>♂</u> .29'57	16°51'14
min. Earth dist.	-8021 Jul 18 j 14:26	27° <u>M</u> .50'52	46.14413 AU	max. Earth dist.	-8013 Jan 25 j 01:34	5° <u>♂</u> .32'36	48.88678 AU
opposition	-8021 Jul 20 j 16:03	27° <u>M</u> .48'26	-17°18'59	retrograde	-8013 May 06 j 10:34	7° <u>♂</u> .03'02	
direct	-8021 Oct 09 j 08:16	26° <u>M</u> .47'33		min. Earth dist.	-8013 Jul 27 j 01:15	6° <u>♂</u> .03'43	47.02418 AU
conjunction	-8020 Jan 16 j 00:24	28° <u>M</u> .18'27	-16°37'54	opposition	-8013 Jul 28 j 18:29	6° <u>♂</u> .01'42	-17°33'31
minimum elong	-8020 Jan 16 j 00:20	28° <u>M</u> .18'26	16°38'19	direct	-8013 Oct 17 j 16:53	5° <u>♂</u> .01'34	
max. Earth dist.	-8020 Jan 18 j 04:54	28° <u>M</u> .21'35	48.11753 AU	conjunction	-8012 Jan 24 j 11:49	6° <u>♂</u> .30'52	-16°51'24
retrograde	-8020 Apr 28 j 13:06	29° <u>M</u> .53'14		minimum elong	-8012 Jan 24 j 11:49	6° <u>♂</u> .30'53	16°51'51
min. Earth dist.	-8020 Jul 18 j 21:51	28° <u>M</u> .53'26	46.26565 AU	max. Earth dist.	-8012 Jan 26 j 07:05	6° <u>♂</u> .33'25	48.98034 AU
opposition	-8020 Jul 20 j 22:49	28° <u>M</u> .51'02	-17°21'58	retrograde	-8012 May 06 j 19:10	8° <u>♂</u> .03'45	
direct	-8020 Oct 09 j 15:44	27° <u>M</u> .50'14		min. Earth dist.	-8012 Jul 27 j 09:38	7° <u>♂</u> .04'25	47.11525 AU
conjunction	-8019 Jan 16 j 08:00	29° <u>M</u> .20'52	-16°40'42	opposition	-8012 Jul 29 j 00:31	7° <u>♂</u> .02'32	-17°33'58
minimum elong	-8019 Jan 16 j 07:58	29° <u>M</u> .20'52	16°41'08	direct	-8012 Oct 17 j 21:24	6° <u>♂</u> .02'28	
max. Earth dist.	-8019 Jan 18 j 12:30	29° <u>M</u> .24'00	48.23686 AU	conjunction	-8011 Jan 24 j 18:54	7° <u>♂</u> .31'36	-16°51'47
	-8019 Feb 13 j 11:48	0° <u>♂</u> .		minimum elong	-8011 Jan 24 j 18:54	7° <u>♂</u> .31'36	16°52'15

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 29

Attention, astronomical year style is used: The year -8011 in astronomical counting style is the year 8012 BCE in historical counting style.

max. Earth dist.	-8011 Jan 26 j 13:20	7°♂34'05	49.06872 AU	opposition	-8003 Aug 07 j 00:39	15°♂59'13	-17°24'55
retrograde	-8011 May 08 j 01:53	9°♂04'15		direct	-8003 Oct 27 j 05:42	14°♂59'36	
min. Earth dist.	-8011 Jul 28 j 16:24	8°♂04'57	47.20097 AU				
opposition	-8011 Jul 30 j 06:18	8°♂03'07	-17°34'08	conjunction	-8002 Feb 03 j 06:37	16°♂27'29	-16°42'21
direct	-8011 Oct 19 j 03:19	7°♂03'07		minimum elong	-8002 Feb 03 j 06:41	16°♂27'29	16°42'51
				max. Earth dist.	-8002 Feb 04 j 13:35	16°♂29'16	49.68849 AU
conjunction	-8010 Jan 26 j 01:52	8°♂32'05	-16°51'53	retrograde	-8002 May 17 j 04:15	17°♂58'27	
minimum elong	-8010 Jan 26 j 01:54	8°♂32'05	16°52'21	min. Earth dist.	-8002 Aug 07 j 02:32	16°♂59'22	47.80285 AU
max. Earth dist.	-8010 Jan 27 j 17:45	8°♂34'25	49.15198 AU	opposition	-8002 Aug 08 j 05:38	16°♂58'04	-17°22'26
retrograde	-8010 May 09 j 08:34	10°♂04'30		direct	-8002 Oct 28 j 10:15	15°♂58'31	
min. Earth dist.	-8010 Jul 29 j 23:17	9°♂05'13	47.28189 AU				
opposition	-8010 Jul 31 j 11:54	9°♂03'27	-17°34'02	conjunction	-8001 Feb 04 j 13:13	17°♂26'18	-16°39'53
direct	-8010 Oct 20 j 09:22	8°♂03'29		minimum elong	-8001 Feb 04 j 13:17	17°♂26'18	16°40'23
				max. Earth dist.	-8001 Feb 05 j 19:14	17°♂28'01	49.73997 AU
conjunction	-8009 Jan 27 j 08:55	9°♂32'18	-16°51'43	retrograde	-8001 May 18 j 11:38	18°♂57'06	
minimum elong	-8009 Jan 27 j 08:56	9°♂32'18	16°52'12	min. Earth dist.	-8001 Aug 08 j 08:18	17°♂58'04	47.85135 AU
max. Earth dist.	-8009 Jan 29 j 00:22	9°♂34'36	49.23063 AU	opposition	-8001 Aug 09 j 10:33	17°♂56'48	-17°19'43
retrograde	-8009 May 10 j 10:49	11°♂04'30		direct	-8001 Oct 29 j 14:19	16°♂57'18	
min. Earth dist.	-8009 Jul 31 j 06:44	10°♂05'12	47.35837 AU				
opposition	-8009 Aug 01 j 17:28	10°♂03'31	-17°33'38	conjunction	-8000 Feb 05 j 19:33	18°♂25'00	-16°37'11
direct	-8009 Oct 21 j 18:39	9°♂03'35		minimum elong	-8000 Feb 05 j 19:38	18°♂25'01	16°37'42
				max. Earth dist.	-8000 Feb 06 j 22:53	18°♂26'34	49.78636 AU
conjunction	-8008 Jan 28 j 15:39	10°♂32'13	-16°51'15	retrograde	-8000 May 18 j 18:58	19°♂55'40	
minimum elong	-8008 Jan 28 j 15:41	10°♂32'13	16°51'44	opposition	-8000 Aug 09 j 15:30	18°♂55'26	-17°16'44
max. Earth dist.	-8008 Jan 30 j 05:18	10°♂34'25	49.30533 AU	min. Earth dist.	-8000 Aug 08 j 14:51	18°♂56'37	47.89470 AU
retrograde	-8008 May 10 j 16:27	12°♂04'12		direct	-8000 Oct 29 j 18:17	17°♂55'58	
opposition	-8008 Aug 01 j 22:47	11°♂03'18	-17°32'56				
min. Earth dist.	-8008 Jul 31 j 12:14	11°♂04'58	47.43117 AU	conjunction	-7999 Feb 06 j 02:02	19°♂23'34	-16°34'14
direct	-8008 Oct 22 j 01:23	10°♂03'25		minimum elong	-7999 Feb 06 j 02:07	19°♂23'35	16°34'44
				max. Earth dist.	-7999 Feb 07 j 04:40	19°♂25'06	49.82754 AU
conjunction	-8007 Jan 28 j 22:16	11°♂31'53	-16°50'30	retrograde	-7999 May 19 j 21:42	20°♂54'05	
minimum elong	-8007 Jan 28 j 22:18	11°♂31'53	16°51'00	opposition	-7999 Aug 10 j 20:22	19°♂53'54	-17°13'31
max. Earth dist.	-8007 Jan 30 j 10:51	11°♂34'00	49.37656 AU	min. Earth dist.	-7999 Aug 09 j 21:38	19°♂55'00	47.93270 AU
retrograde	-8007 May 12 j 01:25	13°♂03'40		direct	-7999 Oct 31 j 02:02	18°♂54'27	
min. Earth dist.	-8007 Aug 01 j 19:31	12°♂04'24	47.50081 AU				
opposition	-8007 Aug 03 j 04:11	12°♂02'50	-17°31'56	conjunction	-7998 Feb 07 j 08:19	20°♂21'57	-16°31'03
direct	-8007 Oct 23 j 04:27	11°♂02'59		minimum elong	-7998 Feb 07 j 08:24	20°♂21'58	16°31'35
				max. Earth dist.	-7998 Feb 08 j 08:42	20°♂23'21	49.86365 AU
conjunction	-8006 Jan 30 j 04:53	12°♂31'19	-16°49'27	retrograde	-7998 May 21 j 01:39	21°♂52'19	
minimum elong	-8006 Jan 30 j 04:56	12°♂31'19	16°49'57	min. Earth dist.	-7998 Aug 11 j 03:03	20°♂53'15	47.96572 AU
max. Earth dist.	-8006 Jan 31 j 17:02	12°♂33'24	49.44496 AU	opposition	-7998 Aug 12 j 01:07	20°♂52'11	-17°10'03
retrograde	-8006 May 13 j 07:08	14°♂02'54		direct	-7998 Nov 01 j 09:06	19°♂52'44	
min. Earth dist.	-8006 Aug 03 j 01:02	13°♂03'42	47.56747 AU				
opposition	-8006 Aug 04 j 09:23	13°♂02'09	-17°30'38	conjunction	-7997 Feb 08 j 14:37	21°♂20'09	-16°27'37
direct	-8006 Oct 24 j 09:50	12°♂02'21		minimum elong	-7997 Feb 08 j 14:44	21°♂20'09	16°28'08
				max. Earth dist.	-7997 Feb 09 j 13:33	21°♂21'28	49.89488 AU
conjunction	-8005 Jan 31 j 11:23	13°♂30'33	-16°48'07	retrograde	-7997 May 22 j 08:24	22°♂50'22	
minimum elong	-8005 Jan 31 j 11:25	13°♂30'33	16°48'36	min. Earth dist.	-7997 Aug 12 j 09:58	21°♂51'13	47.99422 AU
max. Earth dist.	-8005 Feb 01 j 21:26	13°♂32'31	49.51047 AU	opposition	-7997 Aug 13 j 05:48	21°♂50'16	-17°06'19
retrograde	-8005 May 14 j 13:10	15°♂01'57		direct	-7997 Nov 02 j 13:28	20°♂50'50	
min. Earth dist.	-8005 Aug 04 j 07:15	14°♂02'47	47.63136 AU				
opposition	-8005 Aug 05 j 14:31	14°♂01'17	-17°29'01	conjunction	-7996 Feb 09 j 20:52	22°♂18'09	-16°23'56
direct	-8005 Oct 25 j 15:11	13°♂01'33		minimum elong	-7996 Feb 09 j 20:58	22°♂18'10	16°24'28
				max. Earth dist.	-7996 Feb 10 j 19:00	22°♂19'25	49.92204 AU
conjunction	-8004 Feb 01 j 17:55	14°♂29'38	-16°46'28	retrograde	-7996 May 22 j 14:14	23°♂48'13	
minimum elong	-8004 Feb 01 j 18:00	14°♂29'38	16°46'58	opposition	-7996 Aug 13 j 10:22	22°♂48'11	-17°02'20
max. Earth dist.	-8004 Feb 03 j 04:01	14°♂31'36	49.57314 AU	min. Earth dist.	-7996 Aug 12 j 14:59	22°♂49'06	48.01879 AU
retrograde	-8004 May 14 j 15:47	16°♂00'52		direct	-7996 Nov 02 j 17:35	21°♂48'44	
opposition	-8004 Aug 05 j 19:39	15°♂00'18	-17°27'06				
min. Earth dist.	-8004 Aug 04 j 13:56	15°♂01'43	47.69214 AU	conjunction	-7995 Feb 10 j 02:43	23°♂16'00	-16°19'59
direct	-8004 Oct 25 j 23:44	14°♂00'38		minimum elong	-7995 Feb 10 j 02:51	23°♂16'00	16°20'30
				max. Earth dist.	-7995 Feb 10 j 22:47	23°♂17'08	49.94556 AU
conjunction	-8003 Feb 02 j 00:09	15°♂28'36	-16°44'33	retrograde	-7995 May 23 j 20:29	24°♂45'56	
minimum elong	-8003 Feb 02 j 00:12	15°♂28'36	16°45'02	opposition	-7995 Aug 14 j 15:01	23°♂45'56	-16°58'04
max. Earth dist.	-8003 Feb 03 j 08:24	15°♂30'28	49.63272 AU	min. Earth dist.	-7995 Aug 13 j 20:54	23°♂46'48	48.04007 AU
retrograde	-8003 May 15 j 21:06	16°♂59'42		direct	-7995 Nov 03 j 21:52	22°♂46'31	
min. Earth dist.	-8003 Aug 05 j 19:10	16°♂00'38	47.74954 AU				

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 30

Attention, astronomical year style is used: The year -7994 in astronomical counting style is the year 7995 BCE in historical counting style.

conjunction	-7994 Feb 11 j 08:53	24° $\nearrow$ 13'42	-16°15'46	direct	-7987 Nov 11 j 16:21	0° $\searrow$ 28'19	
minimum elong	-7994 Feb 11 j 08:59	24° $\nearrow$ 13'43	16°16'17				
max. Earth dist.	-7994 Feb 12 j 04:51	24° $\nearrow$ 14'51	49.96594 AU	conjunction	-7986 Feb 19 j 09:15	1° $\searrow$ 55'25	-15°32'44
retrograde	-7994 May 24 j 22:46	25° $\nearrow$ 43'32		minimum elong	-7986 Feb 19 j 09:25	1° $\searrow$ 55'25	15°33'16
opposition	-7994 Aug 15 j 19:29	24° $\nearrow$ 43'35	-16°53'31	max. Earth dist.	-7986 Feb 19 j 17:19	1° $\searrow$ 55'52	49.99763 AU
min. Earth dist.	-7994 Aug 15 j 02:48	24° $\nearrow$ 44'23	48.05819 AU	retrograde	-7986 Jun 01 j 19:21	3° $\searrow$ 24'44	
direct	-7994 Nov 05 j 05:42	23° $\nearrow$ 44'11		opposition	-7986 Aug 23 j 06:58	2° $\searrow$ 25'13	-16°07'45
				min. Earth dist.	-7986 Aug 23 j 00:29	2° $\searrow$ 25'31	48.06493 AU
conjunction	-7993 Feb 12 j 14:56	25° $\nearrow$ 11'21	-16°11'16	direct	-7986 Nov 12 j 19:39	1° $\searrow$ 25'56	
minimum elong	-7993 Feb 12 j 15:04	25° $\nearrow$ 11'21	16°11'48				
max. Earth dist.	-7993 Feb 13 j 09:00	25° $\nearrow$ 12'23	49.98346 AU	conjunction	-7985 Feb 20 j 15:18	2° $\searrow$ 53'01	-15°26'19
retrograde	-7993 May 26 j 03:23	26° $\nearrow$ 41'05		minimum elong	-7985 Feb 20 j 15:27	2° $\searrow$ 53'01	15°26'51
opposition	-7993 Aug 16 j 23:58	25° $\nearrow$ 41'12	-16°48'41	max. Earth dist.	-7985 Feb 20 j 20:47	2° $\searrow$ 53'20	49.97967 AU
min. Earth dist.	-7993 Aug 16 j 07:25	25° $\nearrow$ 42'00	48.07344 AU	retrograde	-7985 Jun 03 j 02:11	4° $\searrow$ 22'15	
direct	-7993 Nov 06 j 11:23	24° $\nearrow$ 41'50		opposition	-7985 Aug 24 j 11:22	3° $\searrow$ 22'44	-16°00'57
				min. Earth dist.	-7985 Aug 24 j 06:42	3° $\searrow$ 22'57	48.04364 AU
conjunction	-7992 Feb 13 j 20:50	26° $\nearrow$ 08'58	-16°06'30	direct	-7985 Nov 13 j 23:10	2° $\searrow$ 23'25	
minimum elong	-7992 Feb 13 j 20:57	26° $\nearrow$ 08'58	16°07'02				
max. Earth dist.	-7992 Feb 14 j 13:52	26° $\nearrow$ 09'56	49.99793 AU	conjunction	-7984 Feb 21 j 21:16	3° $\searrow$ 50'29	-15°19'38
retrograde	-7992 May 26 j 09:32	27° $\nearrow$ 38'39		minimum elong	-7984 Feb 21 j 21:26	3° $\searrow$ 50'30	15°20'11
opposition	-7992 Aug 17 j 04:32	26° $\nearrow$ 38'50	-16°43'35	max. Earth dist.	-7984 Feb 22 j 02:24	3° $\searrow$ 50'47	49.95721 AU
min. Earth dist.	-7992 Aug 16 j 14:01	26° $\nearrow$ 39'32	48.08557 AU	retrograde	-7984 Jun 03 j 04:56	5° $\searrow$ 19'39	
direct	-7992 Nov 06 j 15:48	25° $\nearrow$ 39'30		opposition	-7984 Aug 24 j 15:41	4° $\searrow$ 20'07	-15°53'55
				min. Earth dist.	-7984 Aug 24 j 12:25	4° $\searrow$ 20'16	48.01806 AU
conjunction	-7991 Feb 14 j 02:53	27° $\nearrow$ 06'37	-16°01'29	direct	-7984 Nov 14 j 06:17	3° $\searrow$ 20'45	
minimum elong	-7991 Feb 14 j 03:01	27° $\nearrow$ 06'37	16°02'01				
max. Earth dist.	-7991 Feb 14 j 19:19	27° $\nearrow$ 07'33	50.00932 AU	conjunction	-7983 Feb 22 j 03:09	4° $\searrow$ 47'49	-15°12'43
retrograde	-7991 May 27 j 16:42	28° $\nearrow$ 36'14		minimum elong	-7983 Feb 22 j 03:18	4° $\searrow$ 47'50	15°13'16
opposition	-7991 Aug 18 j 08:51	27° $\nearrow$ 36'30	-16°38'13	max. Earth dist.	-7983 Feb 22 j 06:13	4° $\searrow$ 48'00	49.93098 AU
min. Earth dist.	-7991 Aug 17 j 18:51	27° $\nearrow$ 37'10	48.09421 AU	retrograde	-7983 Jun 04 j 08:31	6° $\searrow$ 16'55	
direct	-7991 Nov 07 j 18:55	26° $\nearrow$ 37'13		opposition	-7983 Aug 25 j 19:50	5° $\searrow$ 17'23	-15°46'36
				min. Earth dist.	-7983 Aug 25 j 16:58	5° $\searrow$ 17'31	47.98899 AU
conjunction	-7990 Feb 15 j 08:50	28° $\nearrow$ 04'20	-15°56'12	direct	-7983 Nov 15 j 12:30	4° $\searrow$ 17'58	
minimum elong	-7990 Feb 15 j 08:57	28° $\nearrow$ 04'20	15°56'44				
max. Earth dist.	-7990 Feb 15 j 22:47	28° $\nearrow$ 05'07	50.01690 AU	conjunction	-7982 Feb 23 j 09:05	5° $\searrow$ 45'03	-15°05'33
retrograde	-7990 May 29 j 00:55	29° $\nearrow$ 33'53		minimum elong	-7982 Feb 23 j 09:16	5° $\searrow$ 45'04	15°06'05
opposition	-7990 Aug 19 j 13:21	28° $\nearrow$ 34'14	-16°32'35	max. Earth dist.	-7982 Feb 23 j 11:06	5° $\searrow$ 45'10	49.90132 AU
min. Earth dist.	-7990 Aug 19 j 00:58	28° $\nearrow$ 34'49	48.09879 AU	retrograde	-7982 Jun 05 j 12:55	7° $\searrow$ 14'06	
direct	-7990 Nov 08 j 21:11	27° $\nearrow$ 34'58		opposition	-7982 Aug 27 j 00:13	6° $\searrow$ 14'34	-15°39'02
				min. Earth dist.	-7982 Aug 26 j 23:23	6° $\searrow$ 14'36	47.95667 AU
conjunction	-7989 Feb 16 j 15:03	29° $\nearrow$ 02'06	-15°50'40	direct	-7982 Nov 16 j 18:12	5° $\searrow$ 15'07	
minimum elong	-7989 Feb 16 j 15:12	29° $\nearrow$ 02'07	15°51'13	evening set	-7981 Feb 23 j 17:45	6° $\searrow$ 41'00	
max. Earth dist.	-7989 Feb 17 j 04:26	29° $\nearrow$ 02'52	50.01996 AU				
	-7989 Apr 03 j 17:36	0° $\searrow$		conjunction	-7981 Feb 24 j 15:06	6° $\searrow$ 42'13	-14°58'07
retrograde	-7989 May 30 j 04:32	0° $\searrow$ 31'36		minimum elong	-7981 Feb 24 j 15:15	6° $\searrow$ 42'13	14°58'39
	-7989 Jul 26 j 04:40	30° $\nearrow$		morning rise	-7981 Feb 25 j 12:48	6° $\searrow$ 43'26	
opposition	-7989 Aug 20 j 17:44	29° $\nearrow$ 32'01	-16°26'43	max. Earth dist.	-7981 Feb 24 j 16:27	6° $\searrow$ 42'17	49.86872 AU
min. Earth dist.	-7989 Aug 20 j 07:15	29° $\nearrow$ 32'30	48.09839 AU	retrograde	-7981 Jun 06 j 18:36	8° $\searrow$ 11'15	
direct	-7989 Nov 10 j 03:39	28° $\nearrow$ 32'46		opposition	-7981 Aug 28 j 04:22	7° $\searrow$ 11'43	-15°31'11
				min. Earth dist.	-7981 Aug 28 j 03:44	7° $\searrow$ 11'45	47.92135 AU
conjunction	-7988 Feb 17 j 21:07	29° $\nearrow$ 59'54	-15°44'55	direct	-7981 Nov 17 j 22:29	6° $\searrow$ 12'14	
minimum elong	-7988 Feb 17 j 21:16	29° $\nearrow$ 59'55	15°45'26	evening set	-7980 Feb 23 j 13:40	7° $\searrow$ 36'15	
	-7988 Feb 17 j 22:44	0° $\searrow$					
max. Earth dist.	-7988 Feb 18 j 08:05	0° $\searrow$ 00'32	50.01798 AU	conjunction	-7980 Feb 25 j 20:56	7° $\searrow$ 39'23	-14°50'25
retrograde	-7988 May 30 j 07:18	1° $\searrow$ 29'21		minimum elong	-7980 Feb 25 j 21:07	7° $\searrow$ 39'23	14°50'57
opposition	-7988 Aug 20 j 22:11	0° $\searrow$ 29'48	-16°20'38	max. Earth dist.	-7980 Feb 25 j 20:07	7° $\searrow$ 39'20	49.83316 AU
min. Earth dist.	-7988 Aug 20 j 12:28	0° $\searrow$ 30'16	48.09273 AU	morning rise	-7980 Feb 28 j 04:39	7° $\searrow$ 42'32	
	-7988 Sep 17 j 05:51	30° $\nearrow$		retrograde	-7980 Jun 07 j 02:50	9° $\searrow$ 08'24	
direct	-7988 Nov 10 j 10:56	29° $\nearrow$ 30'34		opposition	-7980 Aug 28 j 08:42	8° $\searrow$ 08'53	-15°23'04
	-7987 Jan 02 j 21:52	0° $\searrow$		min. Earth dist.	-7980 Aug 28 j 09:26	8° $\searrow$ 08'51	47.88315 AU
				direct	-7980 Nov 18 j 00:08	7° $\searrow$ 09'24	
conjunction	-7987 Feb 18 j 03:05	0° $\searrow$ 57'42	-15°38'56	evening set	-7979 Feb 22 j 23:04	8° $\searrow$ 32'19	
minimum elong	-7987 Feb 18 j 03:14	0° $\searrow$ 57'42	15°39'29				
max. Earth dist.	-7987 Feb 18 j 12:21	0° $\searrow$ 58'13	50.01047 AU	conjunction	-7979 Feb 26 j 02:49	8° $\searrow$ 36'36	-14°42'27
retrograde	-7987 May 31 j 12:48	2° $\searrow$ 27'05		minimum elong	-7979 Feb 26 j 02:59	8° $\searrow$ 36'37	14°42'59
opposition	-7987 Aug 22 j 02:45	1° $\searrow$ 27'33	-16°14'18	max. Earth dist.	-7979 Feb 26 j 01:53	8° $\searrow$ 36'33	49.79457 AU
min. Earth dist.	-7987 Aug 21 j 19:31	1° $\searrow$ 27'54	48.08150 AU	morning rise	-7979 Mar 01 j 06:57	8° $\searrow$ 40'54	

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Attention, astronomical year style is used: The year -7979 in astronomical counting style is the year 7980 BCE in historical counting style.

retrograde	-7979 Jun 08 j 07:24	10° $\overline{3}$ 05'37		minimum elong	-7972 Mar 04 j 22:01	15° $\overline{3}$ 20'02	13°40'38
opposition	-7979 Aug 29 j 13:01	9° $\overline{3}$ 06'08	-15°14'42	max. Earth dist.	-7972 Mar 04 j 09:06	15° $\overline{3}$ 19'18	49.39899 AU
min. Earth dist.	-7979 Aug 29 j 15:10	9° $\overline{3}$ 06'02	47.84154 AU	morning rise	-7972 Mar 11 j 15:12	15° $\overline{3}$ 29'10	
direct	-7979 Nov 19 j 05:43	8° $\overline{3}$ 06'38		retrograde	-7972 Jun 14 j 17:56	16° $\overline{3}$ 49'15	
evening set	-7978 Feb 23 j 12:52	9° $\overline{3}$ 28'43		opposition	-7972 Sep 04 j 19:36	15° $\overline{3}$ 49'44	-14°09'15
				min. Earth dist.	-7972 Sep 05 j 07:59	15° $\overline{3}$ 49'09	47.42025 AU
conjunction	-7978 Feb 27 j 08:49	9° $\overline{3}$ 33'55	-14°34'15	direct	-7972 Nov 25 j 19:02	14° $\overline{3}$ 49'56	
minimum elong	-7978 Feb 27 j 09:01	9° $\overline{3}$ 33'56	14°34'47	evening set	-7971 Feb 27 j 01:53	16° $\overline{3}$ 08'12	
max. Earth dist.	-7978 Feb 27 j 05:50	9° $\overline{3}$ 33'45	49.75246 AU				
morning rise	-7978 Mar 03 j 05:15	9° $\overline{3}$ 39'09		conjunction	-7971 Mar 06 j 03:53	16° $\overline{3}$ 17'50	-13°30'14
retrograde	-7978 Jun 09 j 11:08	11° $\overline{3}$ 02'58		minimum elong	-7971 Mar 06 j 04:05	16° $\overline{3}$ 17'51	13°30'45
opposition	-7978 Aug 30 j 17:10	10° $\overline{3}$ 03'31	-15°06'04	max. Earth dist.	-7971 Mar 05 j 14:28	16° $\overline{3}$ 17'04	49.32432 AU
min. Earth dist.	-7978 Aug 30 j 20:01	10° $\overline{3}$ 03'23	47.79611 AU	morning rise	-7971 Mar 13 j 06:22	16° $\overline{3}$ 27'31	
direct	-7978 Nov 20 j 11:38	9° $\overline{3}$ 04'00		retrograde	-7971 Jun 15 j 23:24	17° $\overline{3}$ 47'07	
evening set	-7977 Feb 24 j 04:52	10° $\overline{3}$ 25'22		opposition	-7971 Sep 05 j 23:57	16° $\overline{3}$ 47'34	-13°58'54
				min. Earth dist.	-7971 Sep 06 j 12:32	16° $\overline{3}$ 46'58	47.34240 AU
conjunction	-7977 Feb 28 j 15:00	10° $\overline{3}$ 31'23	-14°25'48	direct	-7971 Nov 26 j 23:53	15° $\overline{3}$ 47'41	
minimum elong	-7977 Feb 28 j 15:10	10° $\overline{3}$ 31'23	14°26'19	evening set	-7970 Feb 27 j 23:12	17° $\overline{3}$ 05'33	
max. Earth dist.	-7977 Feb 28 j 10:26	10° $\overline{3}$ 31'07	49.70601 AU				
morning rise	-7977 Mar 05 j 01:35	10° $\overline{3}$ 37'25		conjunction	-7970 Mar 07 j 10:02	17° $\overline{3}$ 15'42	-13°20'06
retrograde	-7977 Jun 10 j 15:55	12° $\overline{3}$ 00'28		minimum elong	-7970 Mar 07 j 10:13	17° $\overline{3}$ 15'42	13°20'38
opposition	-7977 Aug 31 j 21:38	11° $\overline{3}$ 01'02	-14°57'11	max. Earth dist.	-7970 Mar 06 j 18:22	17° $\overline{3}$ 14'48	49.24632 AU
min. Earth dist.	-7977 Sep 01 j 02:51	11° $\overline{3}$ 00'47	47.74606 AU	morning rise	-7970 Mar 14 j 21:29	17° $\overline{3}$ 25'54	
direct	-7977 Nov 21 j 17:24	10° $\overline{3}$ 01'31		retrograde	-7970 Jun 17 j 08:23	18° $\overline{3}$ 45'01	
evening set	-7976 Feb 24 j 22:24	11° $\overline{3}$ 22'15		opposition	-7970 Sep 07 j 04:21	17° $\overline{3}$ 45'26	-13°48'18
				min. Earth dist.	-7970 Sep 07 j 18:28	17° $\overline{3}$ 44'46	47.26157 AU
conjunction	-7976 Feb 29 j 21:04	11° $\overline{3}$ 28'58	-14°17'07	direct	-7970 Nov 28 j 01:15	16° $\overline{3}$ 45'29	
minimum elong	-7976 Feb 29 j 21:16	11° $\overline{3}$ 28'59	14°17'39	evening set	-7969 Feb 28 j 20:58	18° $\overline{3}$ 02'59	
max. Earth dist.	-7976 Feb 29 j 15:26	11° $\overline{3}$ 28'39	49.65480 AU				
morning rise	-7976 Mar 05 j 20:12	11° $\overline{3}$ 35'43		conjunction	-7969 Mar 08 j 16:24	18° $\overline{3}$ 13'38	-13°09'44
retrograde	-7976 Jun 10 j 22:44	12° $\overline{3}$ 58'05		minimum elong	-7969 Mar 08 j 16:37	18° $\overline{3}$ 13'38	13°10'15
opposition	-7976 Sep 01 j 01:59	11° $\overline{3}$ 58'40	-14°48'04	max. Earth dist.	-7969 Mar 08 j 00:42	18° $\overline{3}$ 12'44	49.16546 AU
min. Earth dist.	-7976 Sep 01 j 07:53	11° $\overline{3}$ 58'23	47.69087 AU	morning rise	-7969 Mar 16 j 12:18	18° $\overline{3}$ 24'18	
direct	-7976 Nov 21 j 20:42	10° $\overline{3}$ 59'07		retrograde	-7969 Jun 18 j 14:09	19° $\overline{3}$ 43'01	
evening set	-7975 Feb 24 j 16:57	12° $\overline{3}$ 19'17		opposition	-7969 Sep 08 j 08:55	18° $\overline{3}$ 43'24	-13°37'24
				min. Earth dist.	-7969 Sep 09 j 00:06	18° $\overline{3}$ 42'40	47.17787 AU
conjunction	-7975 Mar 02 j 03:11	12° $\overline{3}$ 26'40	-14°08'12	direct	-7969 Nov 29 j 06:18	17° $\overline{3}$ 43'23	
minimum elong	-7975 Mar 02 j 03:22	12° $\overline{3}$ 26'40	14°08'43	evening set	-7968 Feb 29 j 18:55	19° $\overline{3}$ 00'32	
max. Earth dist.	-7975 Mar 01 j 18:49	12° $\overline{3}$ 26'11	49.59832 AU				
morning rise	-7975 Mar 07 j 13:59	12° $\overline{3}$ 34'04		conjunction	-7968 Mar 08 j 22:28	19° $\overline{3}$ 11'40	-12°59'05
retrograde	-7975 Jun 12 j 06:13	13° $\overline{3}$ 55'49		minimum elong	-7968 Mar 08 j 22:39	19° $\overline{3}$ 11'41	12°59'36
opposition	-7975 Sep 02 j 06:23	12° $\overline{3}$ 56'23	-14°38'44	max. Earth dist.	-7968 Mar 08 j 04:56	19° $\overline{3}$ 10'40	49.08196 AU
min. Earth dist.	-7975 Sep 02 j 14:17	12° $\overline{3}$ 56'01	47.63049 AU	morning rise	-7968 Mar 17 j 02:36	19° $\overline{3}$ 22'49	
direct	-7975 Nov 22 j 23:20	11° $\overline{3}$ 56'47		retrograde	-7968 Jun 18 j 18:31	20° $\overline{3}$ 41'08	
evening set	-7974 Feb 25 j 12:25	13° $\overline{3}$ 16'26		opposition	-7968 Sep 08 j 13:27	19° $\overline{3}$ 41'30	-13°26'14
				min. Earth dist.	-7968 Sep 09 j 04:57	19° $\overline{3}$ 40'46	47.09153 AU
conjunction	-7974 Mar 03 j 09:30	13° $\overline{3}$ 24'25	-13°59'04	direct	-7968 Nov 29 j 11:55	18° $\overline{3}$ 41'25	
minimum elong	-7974 Mar 03 j 09:41	13° $\overline{3}$ 24'26	13°59'37	evening set	-7967 Mar 01 j 17:11	19° $\overline{3}$ 58'16	
max. Earth dist.	-7974 Mar 03 j 00:23	13° $\overline{3}$ 23'55	49.53663 AU	max. Earth dist.	-7967 Mar 09 j 10:13	20° $\overline{3}$ 08'48	48.99557 AU
morning rise	-7974 Mar 09 j 07:02	13° $\overline{3}$ 32'27					
retrograde	-7974 Jun 13 j 10:08	14° $\overline{3}$ 53'36		conjunction	-7967 Mar 10 j 04:49	20° $\overline{3}$ 09'52	-12°48'10
opposition	-7974 Sep 03 j 10:50	13° $\overline{3}$ 54'09	-14°29'09	minimum elong	-7967 Mar 10 j 05:02	20° $\overline{3}$ 09'53	12°48'42
min. Earth dist.	-7974 Sep 03 j 20:19	13° $\overline{3}$ 53'42	47.56483 AU	morning rise	-7967 Mar 18 j 17:01	20° $\overline{3}$ 21'29	
direct	-7974 Nov 24 j 06:10	12° $\overline{3}$ 54'29		retrograde	-7967 Jun 19 j 21:32	21° $\overline{3}$ 39'26	
evening set	-7973 Feb 26 j 08:33	14° $\overline{3}$ 13'38		opposition	-7967 Sep 09 j 18:02	20° $\overline{3}$ 39'47	-13°14'48
				min. Earth dist.	-7967 Sep 10 j 11:35	20° $\overline{3}$ 38'57	47.00212 AU
conjunction	-7973 Mar 04 j 15:39	14° $\overline{3}$ 22'13	-13°49'42	direct	-7967 Nov 30 j 19:29	19° $\overline{3}$ 39'40	
minimum elong	-7973 Mar 04 j 15:51	14° $\overline{3}$ 22'14	13°50'13	evening set	-7966 Mar 02 j 15:58	20° $\overline{3}$ 56'13	
max. Earth dist.	-7973 Mar 04 j 04:12	14° $\overline{3}$ 21'34	49.47004 AU				
morning rise	-7973 Mar 10 j 23:19	14° $\overline{3}$ 30'49		conjunction	-7966 Mar 11 j 11:20	21° $\overline{3}$ 08'16	-12°36'59
retrograde	-7973 Jun 14 j 13:53	15° $\overline{3}$ 51'24		minimum elong	-7966 Mar 11 j 11:32	21° $\overline{3}$ 08'17	12°37'31
opposition	-7973 Sep 04 j 15:07	14° $\overline{3}$ 51'56	-14°19'19	max. Earth dist.	-7966 Mar 10 j 15:56	21° $\overline{3}$ 07'09	48.90602 AU
min. Earth dist.	-7973 Sep 05 j 01:19	14° $\overline{3}$ 51'27	47.49458 AU	morning rise	-7966 Mar 20 j 07:10	21° $\overline{3}$ 20'21	
direct	-7973 Nov 25 j 12:54	13° $\overline{3}$ 52'12		retrograde	-7966 Jun 21 j 03:42	22° $\overline{3}$ 37'57	
evening set	-7972 Feb 27 j 04:59	15° $\overline{3}$ 10'54		opposition	-7966 Sep 10 j 22:39	21° $\overline{3}$ 38'18	-13°03'06
				min. Earth dist.	-7966 Sep 11 j 16:37	21° $\overline{3}$ 37'26	46.90907 AU
conjunction	-7972 Mar 04 j 21:49	15° $\overline{3}$ 20'01	-13°40'05	direct	-7966 Dec 02 j 00:20	20° $\overline{3}$ 38'06	

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Attention, astronomical year style is used: The year -7965 in astronomical counting style is the year 7966 BCE in historical counting style.

evening set	-7965 Mar 03 j 15:01	21° $\overline{3}$ 54'24		opposition	-7959 Sep 17 j 09:22	28° $\overline{3}$ 32'34	-11°34'05
				min. Earth dist.	-7959 Sep 18 j 13:37	28° $\overline{3}$ 31'11	46.12548 AU
conjunction	-7965 Mar 12 j 17:51	22° $\overline{3}$ 06'53	-12°25'34	direct	-7959 Dec 08 j 12:20	27° $\overline{3}$ 31'39	
minimum elong	-7965 Mar 12 j 18:04	22° $\overline{3}$ 06'54	12°26'06	evening set	-7958 Mar 08 j 15:44	28° $\overline{3}$ 46'26	
max. Earth dist.	-7965 Mar 11 j 19:59	22° $\overline{3}$ 05'38	48.81237 AU	max. Earth dist.	-7958 Mar 18 j 09:29	28° $\overline{3}$ 59'54	48.02389 AU
morning rise	-7965 Mar 21 j 21:20	22° $\overline{3}$ 19'25					
retrograde	-7965 Jun 22 j 12:09	23° $\overline{3}$ 36'42		conjunction	-7958 Mar 19 j 17:53	29° $\overline{3}$ 01'46	-10°58'47
opposition	-7965 Sep 12 j 03:23	22° $\overline{3}$ 37'01	-12°51'08	minimum elong	-7958 Mar 19 j 18:06	29° $\overline{3}$ 01'47	10°59'16
min. Earth dist.	-7965 Sep 12 j 23:24	22° $\overline{3}$ 36'03	46.81177 AU	morning rise	-7958 Mar 30 j 20:27	29° $\overline{3}$ 17'09	
direct	-7965 Dec 03 j 02:21	21° $\overline{3}$ 36'46			-7958 May 04 j 02:04	0° $\approx$	
evening set	-7964 Mar 03 j 14:22	22° $\overline{3}$ 52'48		retrograde	-7958 Jun 29 j 07:32	0° $\approx$ 32'28	
max. Earth dist.	-7964 Mar 12 j 02:05	23° $\overline{3}$ 04'26	48.71414 AU		-7958 Aug 24 j 23:17	30° $\overline{R}$ $\overline{3}$	
				opposition	-7958 Sep 18 j 14:35	29° $\overline{3}$ 32'19	-11°20'19
conjunction	-7964 Mar 13 j 00:37	23° $\overline{3}$ 05'43	-12°13'54	min. Earth dist.	-7958 Sep 19 j 19:22	29° $\overline{3}$ 30'55	45.99724 AU
minimum elong	-7964 Mar 13 j 00:50	23° $\overline{3}$ 05'44	12°14'24	direct	-7958 Dec 09 j 17:35	28° $\overline{3}$ 31'17	
morning rise	-7964 Mar 22 j 11:16	23° $\overline{3}$ 18'41		evening set	-7957 Mar 09 j 16:38	29° $\overline{3}$ 45'55	
retrograde	-7964 Jun 22 j 18:15	24° $\overline{3}$ 35'39			-7957 Mar 19 j 20:37	0° $\approx$	
opposition	-7964 Sep 12 j 08:17	23° $\overline{3}$ 35'56	-12°38'56	max. Earth dist.	-7957 Mar 19 j 15:36	29° $\overline{3}$ 59'43	47.89560 AU
min. Earth dist.	-7964 Sep 13 j 05:41	23° $\overline{3}$ 34'54	46.70949 AU				
direct	-7964 Dec 03 j 08:09	22° $\overline{3}$ 35'36		conjunction	-7957 Mar 21 j 01:00	0° $\approx$ 01'39	-10°45'21
evening set	-7963 Mar 04 j 13:58	23° $\overline{3}$ 51'24		minimum elong	-7957 Mar 21 j 01:12	0° $\approx$ 01'40	10°45'50
max. Earth dist.	-7963 Mar 13 j 06:13	24° $\overline{3}$ 03'19	48.61090 AU	morning rise	-7957 Apr 01 j 09:36	0° $\approx$ 17'24	
				retrograde	-7957 Jun 30 j 10:57	1° $\approx$ 32'32	
conjunction	-7963 Mar 14 j 07:13	24° $\overline{3}$ 04'45	-12°02'00	opposition	-7957 Sep 19 j 19:58	0° $\approx$ 32'18	-11°06'15
minimum elong	-7963 Mar 14 j 07:26	24° $\overline{3}$ 04'45	12°02'31	min. Earth dist.	-7957 Sep 21 j 02:33	0° $\approx$ 30'48	45.86608 AU
morning rise	-7963 Mar 24 j 01:02	24° $\overline{3}$ 18'08			-7957 Oct 18 j 20:47	30° $\overline{R}$ $\overline{3}$	
retrograde	-7963 Jun 24 j 00:01	25° $\overline{3}$ 34'47		direct	-7957 Dec 11 j 01:58	29° $\overline{3}$ 31'10	
opposition	-7963 Sep 13 j 13:11	24° $\overline{3}$ 35'00	-12°26'28		-7956 Feb 01 j 17:15	0° $\approx$	
min. Earth dist.	-7963 Sep 14 j 11:35	24° $\overline{3}$ 33'56	46.60208 AU	evening set	-7956 Mar 09 j 17:54	0° $\approx$ 45'41	
direct	-7963 Dec 04 j 14:27	23° $\overline{3}$ 34'34		max. Earth dist.	-7956 Mar 19 j 22:10	0° $\approx$ 59'48	47.76471 AU
evening set	-7962 Mar 05 j 13:52	24° $\overline{3}$ 50'09					
max. Earth dist.	-7962 Mar 14 j 11:35	25° $\overline{3}$ 02'23	48.50234 AU	conjunction	-7956 Mar 21 j 08:10	1° $\approx$ 01'47	-10°31'38
				minimum elong	-7956 Mar 21 j 08:24	1° $\approx$ 01'48	10°32'08
conjunction	-7962 Mar 15 j 14:10	25° $\overline{3}$ 03'55	-11°49'51	morning rise	-7956 Apr 01 j 22:37	1° $\approx$ 17'54	
minimum elong	-7962 Mar 15 j 14:23	25° $\overline{3}$ 03'55	11°50'21	retrograde	-7956 Jun 30 j 16:49	2° $\approx$ 32'52	
morning rise	-7962 Mar 25 j 14:54	25° $\overline{3}$ 17'42		opposition	-7956 Sep 20 j 01:20	1° $\approx$ 32'35	-10°51'53
retrograde	-7962 Jun 25 j 04:18	26° $\overline{3}$ 34'04		min. Earth dist.	-7956 Sep 21 j 07:58	1° $\approx$ 31'05	45.73224 AU
opposition	-7962 Sep 14 j 18:10	25° $\overline{3}$ 34'13	-12°13'46	direct	-7956 Dec 11 j 08:13	0° $\approx$ 31'20	
min. Earth dist.	-7962 Sep 15 j 19:01	25° $\overline{3}$ 33'01	46.48947 AU	evening set	-7955 Mar 10 j 19:17	1° $\approx$ 45'46	
direct	-7962 Dec 05 j 21:32	24° $\overline{3}$ 33'41		max. Earth dist.	-7955 Mar 21 j 03:14	2° $\approx$ 00'08	47.63098 AU
evening set	-7961 Mar 06 j 14:08	25° $\overline{3}$ 49'02					
				conjunction	-7955 Mar 22 j 15:20	2° $\approx$ 02'14	-10°17'39
conjunction	-7961 Mar 16 j 21:08	26° $\overline{3}$ 03'11	-11°37'28	minimum elong	-7955 Mar 22 j 15:32	2° $\approx$ 02'15	10°18'08
minimum elong	-7961 Mar 16 j 21:20	26° $\overline{3}$ 03'12	11°37'59	morning rise	-7955 Apr 03 j 11:43	2° $\approx$ 18'44	
max. Earth dist.	-7961 Mar 15 j 17:22	26° $\overline{3}$ 01'35	48.38892 AU	retrograde	-7955 Jul 02 j 02:13	3° $\approx$ 33'34	
morning rise	-7961 Mar 27 j 04:28	26° $\overline{3}$ 17'23		opposition	-7955 Sep 21 j 06:55	2° $\approx$ 33'12	-10°37'14
retrograde	-7961 Jun 26 j 09:22	27° $\overline{3}$ 33'28		min. Earth dist.	-7955 Sep 22 j 15:21	2° $\approx$ 31'37	45.59547 AU
opposition	-7961 Sep 15 j 23:10	26° $\overline{3}$ 33'33	-12°00'49	direct	-7955 Dec 12 j 10:25	1° $\approx$ 31'52	
min. Earth dist.	-7961 Sep 17 j 00:27	26° $\overline{3}$ 32'19	46.37213 AU	evening set	-7954 Mar 11 j 21:04	2° $\approx$ 46'13	
direct	-7961 Dec 07 j 03:55	25° $\overline{3}$ 32'53		max. Earth dist.	-7954 Mar 22 j 10:32	3° $\approx$ 00'56	47.49405 AU
evening set	-7960 Mar 06 j 14:22	26° $\overline{3}$ 48'01					
max. Earth dist.	-7960 Mar 15 j 21:43	27° $\overline{3}$ 00'50	48.27094 AU	conjunction	-7954 Mar 23 j 22:56	3° $\approx$ 03'04	-10°03'24
				minimum elong	-7954 Mar 23 j 23:09	3° $\approx$ 03'05	10°03'53
conjunction	-7960 Mar 17 j 03:51	27° $\overline{3}$ 02'35	-11°24'50	morning rise	-7954 Apr 05 j 00:46	3° $\approx$ 19'56	
minimum elong	-7960 Mar 17 j 04:04	27° $\overline{3}$ 02'35	11°25'20	retrograde	-7954 Jul 03 j 09:38	4° $\approx$ 34'38	
morning rise	-7960 Mar 27 j 17:52	27° $\overline{3}$ 17'11		opposition	-7954 Sep 22 j 12:29	3° $\approx$ 34'13	-10°22'19
retrograde	-7960 Jun 26 j 17:52	28° $\overline{3}$ 32'59		min. Earth dist.	-7954 Sep 23 j 21:59	3° $\approx$ 32'34	45.45512 AU
opposition	-7960 Sep 16 j 04:18	27° $\overline{3}$ 32'59	-11°47'35	direct	-7954 Dec 13 j 16:24	2° $\approx$ 32'47	
min. Earth dist.	-7960 Sep 17 j 07:25	27° $\overline{3}$ 31'40	46.25066 AU	evening set	-7953 Mar 12 j 23:20	3° $\approx$ 47'05	
direct	-7960 Dec 07 j 07:01	26° $\overline{3}$ 32'12		max. Earth dist.	-7953 Mar 23 j 15:52	4° $\approx$ 02'02	47.35333 AU
evening set	-7959 Mar 07 j 14:51	27° $\overline{3}$ 47'08					
max. Earth dist.	-7959 Mar 17 j 04:32	28° $\overline{3}$ 00'21	48.14908 AU	conjunction	-7953 Mar 25 j 06:33	4° $\approx$ 04'18	-9°48'52
				minimum elong	-7953 Mar 25 j 06:45	4° $\approx$ 04'18	9°49'20
conjunction	-7959 Mar 18 j 10:53	28° $\overline{3}$ 02'06	-11°11'56	morning rise	-7953 Apr 06 j 13:59	4° $\approx$ 21'32	
minimum elong	-7959 Mar 18 j 11:05	28° $\overline{3}$ 02'07	11°12'27	retrograde	-7953 Jul 04 j 17:50	5° $\approx$ 36'06	
morning rise	-7959 Mar 29 j 07:08	28° $\overline{3}$ 17'05		opposition	-7953 Sep 23 j 18:16	4° $\approx$ 35'37	-10°07'06
retrograde	-7959 Jun 28 j 00:36	29° $\overline{3}$ 32'39		min. Earth dist.	-7953 Sep 25 j 04:48	4° $\approx$ 33'56	45.31074 AU



## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 33

Attention, astronomical year style is used: The year -7953 in astronomical counting style is the year 7954 BCE in historical counting style.

direct	-7953 Dec 14 j 22:28	3°34'05		retrograde	-7946 Jul 11 j 18:30	12°55'27	
evening set	-7952 Mar 13 j 01:32	4°48'21		opposition	-7946 Sep 30 j 14:15	11°54'06	-8°12'51
max. Earth dist.	-7952 Mar 23 j 22:20	5°03'34	47.20803 AU	min. Earth dist.	-7946 Oct 02 j 09:46	11°51'55	44.17074 AU
				direct	-7946 Dec 22 j 01:08	10°51'20	
conjunction	-7952 Mar 25 j 14:16	5°05'55	-9°34'05	evening set	-7945 Mar 20 j 01:58	12°05'32	
minimum elong	-7952 Mar 25 j 14:29	5°05'56	9°34'34	max. Earth dist.	-7945 Mar 31 j 21:49	12°22'26	46.06417 AU
morning rise	-7952 Apr 07 j 02:57	5°23'30					
retrograde	-7952 Jul 04 j 23:32	6°37'58		conjunction	-7945 Apr 03 j 00:18	12°25'28	-7°43'07
opposition	-7952 Sep 24 j 00:20	5°37'25	-9°51'37	minimum elong	-7945 Apr 03 j 00:29	12°25'29	7°43'32
min. Earth dist.	-7952 Sep 25 j 13:09	5°35'36	45.16154 AU	morning rise	-7945 Apr 16 j 22:14	12°45'23	
direct	-7952 Dec 15 j 06:39	4°35'45		retrograde	-7945 Jul 13 j 03:00	13°59'21	
evening set	-7951 Mar 14 j 04:19	5°49'59		opposition	-7945 Oct 01 j 21:11	12°57'50	-7°55'21
max. Earth dist.	-7951 Mar 25 j 04:54	6°05'27	47.05791 AU	min. Earth dist.	-7945 Oct 03 j 18:25	12°55'34	43.99414 AU
				direct	-7945 Dec 23 j 06:54	11°54'53	
conjunction	-7951 Mar 26 j 22:14	6°07'54	-9°19'02	evening set	-7944 Mar 20 j 06:16	13°09'08	
minimum elong	-7951 Mar 26 j 22:26	6°07'55	9°19'30	max. Earth dist.	-7944 Apr 01 j 06:34	13°26'21	45.88779 AU
morning rise	-7951 Apr 08 j 16:04	6°25'50					
retrograde	-7951 Jul 06 j 04:51	7°40'12		conjunction	-7944 Apr 03 j 08:58	13°29'23	-7°26'08
opposition	-7951 Sep 25 j 06:15	6°39'33	-9°35'52	minimum elong	-7944 Apr 03 j 09:09	13°29'24	7°26'33
min. Earth dist.	-7951 Sep 26 j 19:35	6°37'42	45.00731 AU	morning rise	-7944 Apr 17 j 10:55	13°49'38	
direct	-7951 Dec 16 j 14:38	5°37'43			-7944 Jun 25 j 20:23	15°	
evening set	-7950 Mar 15 j 07:22	6°51'55		retrograde	-7944 Jul 13 j 11:03	15°03'36	
max. Earth dist.	-7950 Mar 26 j 10:22	7°07'35	46.90262 AU		-7944 Jul 31 j 05:10	15°	
				opposition	-7944 Oct 02 j 04:12	14°01'57	-7°37'32
conjunction	-7950 Mar 28 j 06:21	7°10'11	-9°03'44	min. Earth dist.	-7944 Oct 04 j 01:46	13°59'39	43.81524 AU
minimum elong	-7950 Mar 28 j 06:33	7°10'12	9°04'12	direct	-7944 Dec 23 j 14:07	12°58'50	
morning rise	-7950 Apr 10 j 05:21	7°28'28		evening set	-7943 Mar 21 j 11:12	14°13'10	
retrograde	-7950 Jul 07 j 13:27	8°42'44		max. Earth dist.	-7943 Apr 02 j 13:29	14°30'34	45.70918 AU
opposition	-7950 Sep 26 j 12:32	7°41'58	-9°19'51				
min. Earth dist.	-7950 Sep 28 j 04:07	7°40'00	44.84809 AU	conjunction	-7943 Apr 04 j 17:50	14°33'44	-7°08'51
direct	-7950 Dec 17 j 19:38	6°39'59		minimum elong	-7943 Apr 04 j 18:02	14°33'45	7°09'16
evening set	-7949 Mar 16 j 10:34	7°54'08		morning rise	-7943 Apr 18 j 23:59	14°54'17	
max. Earth dist.	-7949 Mar 27 j 18:11	8°10'07	46.74246 AU		-7943 Apr 23 j 01:07	15°	
				retrograde	-7943 Jul 14 j 22:17	16°08'18	
conjunction	-7949 Mar 29 j 14:37	8°12'45	-8°48'10	opposition	-7943 Oct 03 j 11:13	15°06'31	-7°19'24
minimum elong	-7949 Mar 29 j 14:49	8°12'45	8°48'37	min. Earth dist.	-7943 Oct 05 j 09:43	15°04'11	43.63412 AU
morning rise	-7949 Apr 11 j 18:18	8°31'22			-7943 Oct 08 j 20:42	15°	
retrograde	-7949 Jul 08 j 22:17	9°45'33		direct	-7943 Dec 24 j 19:13	14°03'14	
opposition	-7949 Sep 27 j 18:48	8°44'38	-9°03'32		-7942 Mar 09 j 21:05	15°	
min. Earth dist.	-7949 Sep 29 j 11:27	8°42'37	44.68415 AU	evening set	-7942 Mar 22 j 16:24	15°17'42	
direct	-7949 Dec 19 j 00:57	7°42'28		max. Earth dist.	-7942 Apr 03 j 22:08	15°35'22	45.52794 AU
evening set	-7948 Mar 16 j 14:06	8°56'36					
max. Earth dist.	-7948 Mar 27 j 23:59	9°12'46	46.57799 AU	conjunction	-7942 Apr 06 j 03:08	15°38'35	-6°51'16
				minimum elong	-7942 Apr 06 j 03:18	15°38'36	6°51'42
conjunction	-7948 Mar 29 j 22:48	9°15'33	-8°32'19	morning rise	-7942 Apr 20 j 12:59	15°59'27	
minimum elong	-7948 Mar 29 j 22:59	9°15'34	8°32'47	retrograde	-7942 Jul 16 j 07:10	17°13'31	
morning rise	-7948 Apr 12 j 07:24	9°34'30		opposition	-7942 Oct 04 j 18:39	16°11'37	-7°00'57
retrograde	-7948 Jul 09 j 08:00	10°48'36		min. Earth dist.	-7942 Oct 06 j 18:55	16°09'10	43.45009 AU
opposition	-7948 Sep 28 j 01:07	9°47'32	-8°46'56	direct	-7942 Dec 26 j 03:41	15°08'09	
min. Earth dist.	-7948 Sep 29 j 18:44	9°45'28	44.51633 AU	evening set	-7941 Mar 23 j 22:00	16°22'47	
direct	-7948 Dec 19 j 05:55	8°45'10		max. Earth dist.	-7941 Apr 05 j 06:14	16°40'41	45.34362 AU
evening set	-7947 Mar 17 j 17:37	9°59'19					
max. Earth dist.	-7947 Mar 29 j 07:27	10°15'45	46.40970 AU	conjunction	-7941 Apr 07 j 12:26	16°43'59	-6°33'24
				minimum elong	-7941 Apr 07 j 12:36	16°44'00	6°33'49
conjunction	-7947 Mar 31 j 07:10	10°18'36	-8°16'12	morning rise	-7941 Apr 22 j 02:01	17°05'09	
minimum elong	-7947 Mar 31 j 07:21	10°18'36	8°16'38	retrograde	-7941 Jul 17 j 14:53	18°19'18	
morning rise	-7947 Apr 13 j 20:16	10°37'52		opposition	-7941 Oct 06 j 02:09	17°17'17	-6°42'12
retrograde	-7947 Jul 10 j 13:11	11°51'54		min. Earth dist.	-7941 Oct 08 j 02:41	17°14'49	43.26268 AU
opposition	-7947 Sep 29 j 07:43	10°50'41	-8°30'03	direct	-7941 Dec 27 j 12:47	16°13'39	
min. Earth dist.	-7947 Oct 01 j 03:08	10°48'31	44.34495 AU	evening set	-7940 Mar 24 j 04:00	17°28'27	
direct	-7947 Dec 20 j 15:36	9°48'07		max. Earth dist.	-7940 Apr 05 j 13:42	17°46'30	45.15544 AU
evening set	-7946 Mar 18 j 21:40	11°02'17					
max. Earth dist.	-7946 Mar 30 j 15:05	11°18'58	46.23831 AU	conjunction	-7940 Apr 07 j 22:02	17°49'57	-6°15'15
				minimum elong	-7940 Apr 07 j 22:11	17°49'58	6°15'39
conjunction	-7946 Apr 01 j 15:40	11°21'53	-7°59'48	morning rise	-7940 Apr 22 j 15:10	18°11'25	
minimum elong	-7946 Apr 01 j 15:51	11°21'54	8°00'14	retrograde	-7940 Jul 17 j 23:23	19°25'41	
morning rise	-7946 Apr 15 j 09:15	11°41'29		opposition	-7940 Oct 06 j 09:58	18°23'31	-6°23'09

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Attention, astronomical year style is used: The year -7940 in astronomical counting style is the year 7941 BCE in historical counting style.

min. Earth dist.	-7940 Oct 08 j 12:45	18°20'56	43.07128 AU	morning rise	-7933 May 02 j 12:21	26°10'13	
direct	-7940 Dec 27 j 20:21	17°19'42		retrograde	-7933 Jul 26 j 22:29	27°25'38	
evening set	-7939 Mar 25 j 10:15	18°34'41		opposition	-7933 Oct 14 j 22:23	26°22'07	-4°01'04
max. Earth dist.	-7939 Apr 06 j 23:06	18°52'59	44.96304 AU	min. Earth dist.	-7933 Oct 17 j 08:38	26°19'05	41.62306 AU
				direct	-7932 Jan 05 j 08:18	25°16'38	
conjunction	-7939 Apr 09 j 07:54	18°56'29	-5°56'49	evening set	-7932 Apr 01 j 17:24	26°33'21	
minimum elong	-7939 Apr 09 j 08:03	18°56'30	5°57'13	max. Earth dist.	-7932 Apr 14 j 17:08	26°52'58	43.51088 AU
morning rise	-7939 Apr 24 j 04:20	19°18'15					
retrograde	-7939 Jul 19 j 09:09	20°32'38		conjunction	-7932 Apr 17 j 10:32	26°57'07	-3°39'36
opposition	-7939 Oct 07 j 18:00	19°30'19	-6°03'47	minimum elong	-7932 Apr 17 j 10:38	26°57'07	3°39'56
min. Earth dist.	-7939 Oct 09 j 21:35	19°27'41	42.87536 AU	morning rise	-7932 May 03 j 01:42	27°20'47	
direct	-7939 Dec 29 j 03:43	18°26'18		retrograde	-7932 Jul 27 j 10:55	28°36'28	
evening set	-7938 Mar 26 j 17:11	19°41'28		opposition	-7932 Oct 15 j 07:59	27°32'45	-3°39'29
max. Earth dist.	-7938 Apr 08 j 06:28	19°59'54	44.76608 AU	min. Earth dist.	-7932 Oct 17 j 19:13	27°29'39	41.40620 AU
				direct	-7931 Jan 05 j 17:03	26°27'02	
conjunction	-7938 Apr 10 j 17:58	20°03'34	-5°38'06	evening set	-7931 Apr 03 j 02:55	27°44'07	
minimum elong	-7938 Apr 10 j 18:07	20°03'35	5°38'28	max. Earth dist.	-7931 Apr 16 j 03:19	28°03'52	43.29412 AU
morning rise	-7938 Apr 25 j 17:45	20°25'38					
retrograde	-7938 Jul 20 j 21:21	21°40'09		conjunction	-7931 Apr 18 j 22:01	28°08'08	-3°18'48
opposition	-7938 Oct 09 j 02:09	20°37'39	-5°44'07	minimum elong	-7931 Apr 18 j 22:06	28°08'08	3°19'09
min. Earth dist.	-7938 Oct 11 j 07:11	20°34'56	42.67509 AU	morning rise	-7931 May 04 j 15:18	28°32'03	
direct	-7938 Dec 30 j 09:12	19°33'25		retrograde	-7931 Jul 28 j 23:50	29°48'01	
evening set	-7937 Mar 28 j 00:17	20°48'48		opposition	-7931 Oct 16 j 17:46	28°44'06	-3°17'35
max. Earth dist.	-7937 Apr 09 j 16:04	21°07'27	44.56473 AU	min. Earth dist.	-7931 Oct 19 j 05:05	28°41'00	41.18777 AU
				direct	-7930 Jan 07 j 02:29	27°38'08	
conjunction	-7937 Apr 12 j 04:22	21°11'11	-5°19'05	evening set	-7930 Apr 04 j 13:00	28°55'38	
minimum elong	-7937 Apr 12 j 04:30	21°11'12	5°19'28	max. Earth dist.	-7930 Apr 17 j 14:03	29°15'32	43.07534 AU
morning rise	-7937 Apr 27 j 07:01	21°33'32					
retrograde	-7937 Jul 22 j 06:45	22°48'11		conjunction	-7930 Apr 20 j 09:59	29°19'54	-2°57'42
opposition	-7937 Oct 10 j 10:41	21°45'30	-5°24'09	minimum elong	-7930 Apr 20 j 10:04	29°19'54	2°58'01
min. Earth dist.	-7937 Oct 12 j 17:22	21°42'41	42.47061 AU	morning rise	-7930 May 06 j 04:55	29°44'04	
direct	-7937 Dec 31 j 19:00	20°41'02			-7930 May 17 j 01:47	0°	✠
evening set	-7936 Mar 28 j 07:41	21°56'38		retrograde	-7930 Jul 30 j 09:25	1°00'21	
max. Earth dist.	-7936 Apr 10 j 01:01	22°15'28	44.35957 AU		-7930 Oct 15 j 04:52	30°	✠
				opposition	-7930 Oct 18 j 03:57	29°56'15	-2°55'21
conjunction	-7936 Apr 12 j 14:37	22°19'19	-4°59'47	min. Earth dist.	-7930 Oct 20 j 17:12	29°53'01	40.96725 AU
minimum elong	-7936 Apr 12 j 14:45	22°19'19	5°00'09	direct	-7929 Jan 08 j 14:35	28°50'02	
morning rise	-7936 Apr 27 j 20:16	22°41'55			-7929 Mar 31 j 15:41	0°	✠
retrograde	-7936 Jul 22 j 15:35	23°56'43		evening set	-7929 Apr 05 j 23:35	0°	✠07'57
opposition	-7936 Oct 10 j 19:13	22°53'51	-5°03'51	max. Earth dist.	-7929 Apr 19 j 02:05	0°	✠28'03 42.85430 AU
min. Earth dist.	-7936 Oct 13 j 02:15	22°51'00	42.26264 AU				
direct	-7935 Jan 01 j 06:23	21°49'08		conjunction	-7929 Apr 21 j 22:15	0°	✠32'28 -2°36'18
evening set	-7935 Mar 29 j 15:32	23°04'59		minimum elong	-7929 Apr 21 j 22:19	0°	✠32'28 2°36'37
max. Earth dist.	-7935 Apr 11 j 09:56	23°23'58	44.15095 AU	morning rise	-7929 May 07 j 18:42	0°	✠56'52
				retrograde	-7929 Jul 31 j 19:19	2°	✠13'30
conjunction	-7935 Apr 14 j 01:18	23°27'56	-4°40'11	opposition	-7929 Oct 19 j 14:27	1°	✠09'13 -2°32'48
minimum elong	-7935 Apr 14 j 01:25	23°27'57	4°40'34	min. Earth dist.	-7929 Oct 20 j 03:53	1°	✠05'57 40.74414 AU
morning rise	-7935 Apr 29 j 09:37	23°50'50		direct	-7928 Jan 10 j 02:40	0°	✠02'45
retrograde	-7935 Jul 24 j 00:20	25°05'48		evening set	-7928 Apr 06 j 10:40	1°	✠21'06
opposition	-7935 Oct 12 j 03:59	24°02'43	-4°43'15	max. Earth dist.	-7928 Apr 19 j 12:10	1°	✠41'16 42.63017 AU
min. Earth dist.	-7935 Oct 14 j 13:04	23°59'46	42.05167 AU				
direct	-7934 Jan 02 j 16:05	22°57'44		conjunction	-7928 Apr 22 j 10:37	1°	✠45'51 -2°14'37
evening set	-7934 Mar 30 j 23:46	24°13'51		minimum elong	-7928 Apr 22 j 10:42	1°	✠45'52 2°14'55
max. Earth dist.	-7934 Apr 12 j 20:45	24°33'05	43.93967 AU	morning rise	-7928 May 08 j 08:30	2°	✠10'30
				retrograde	-7928 Aug 01 j 08:48	3°	✠27'31
conjunction	-7934 Apr 15 j 12:14	24°37'05	-4°20'17	opposition	-7928 Oct 20 j 01:18	2°	✠23'00 -2°09'56
minimum elong	-7934 Apr 15 j 12:22	24°37'06	4°20'38	min. Earth dist.	-7928 Oct 22 j 16:33	2°	✠19'38 40.51783 AU
morning rise	-7934 Apr 30 j 23:00	25°00'15		direct	-7927 Jan 10 j 10:51	1°	✠16'16
retrograde	-7934 Jul 25 j 09:26	26°15'25		evening set	-7927 Apr 07 j 22:19	2°	✠35'06
opposition	-7934 Oct 13 j 13:03	25°12'08	-4°22'19	max. Earth dist.	-7927 Apr 21 j 00:47	2°	✠55'26 42.40245 AU
min. Earth dist.	-7934 Oct 15 j 22:11	25°09'09	41.83826 AU				
direct	-7933 Jan 04 j 01:56	24°06'54		conjunction	-7927 Apr 23 j 23:39	3°	✠00'04 -1°52'37
evening set	-7933 Apr 01 j 08:26	25°23'18		minimum elong	-7927 Apr 23 j 23:43	3°	✠00'04 1°52'55
max. Earth dist.	-7933 Apr 14 j 05:43	25°42'39	43.72616 AU	morning rise	-7927 May 09 j 22:29	3°	✠24'56
				retrograde	-7927 Aug 02 j 21:25	4°	✠42'21
conjunction	-7933 Apr 16 j 23:09	25°46'47	-4°00'06	opposition	-7927 Oct 21 j 12:26	3°	✠37'36 -1°46'44
minimum elong	-7933 Apr 16 j 23:16	25°46'48	4°00'27	min. Earth dist.	-7927 Oct 24 j 04:50	3°	✠34'10 40.28771 AU

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 35

Attention, astronomical year style is used: The year -7926 in astronomical counting style is the year 7927 BCE in historical counting style.

direct	-7926 Jan 11 j 21:53	2° $\mathbf{\text{H}}$ 30'35		conjunction	-7920 May 03 j 02:56	12° $\mathbf{\text{H}}$ 01'58	0°49'21
evening set	-7926 Apr 09 j 10:45	3° $\mathbf{\text{H}}$ 49'54		minimum elong	-7920 May 03 j 02:55	12° $\mathbf{\text{H}}$ 01'58	0°49'08
max. Earth dist.	-7926 Apr 22 j 12:00	4° $\mathbf{\text{H}}$ 10'17	42.17092 AU	morning rise	-7920 May 19 j 02:48	12° $\mathbf{\text{H}}$ 28'04	
				retrograde	-7920 Aug 12 j 01:26	13° $\mathbf{\text{H}}$ 49'03	
conjunction	-7926 Apr 25 j 12:55	4° $\mathbf{\text{H}}$ 15'06	-1°30'20	opposition	-7920 Oct 30 j 04:22	12° $\mathbf{\text{H}}$ 42'17	1°04'23
minimum elong	-7926 Apr 25 j 12:58	4° $\mathbf{\text{H}}$ 15'06	1°30'38	min. Earth dist.	-7920 Nov 02 j 03:17	12° $\mathbf{\text{H}}$ 38'22	38.59652 AU
morning rise	-7926 May 11 j 12:47	4° $\mathbf{\text{H}}$ 40'10		direct	-7919 Jan 20 j 12:08	11° $\mathbf{\text{H}}$ 32'56	
retrograde	-7926 Aug 04 j 13:04	5° $\mathbf{\text{H}}$ 58'00		evening set	-7919 Apr 18 j 16:25	12° $\mathbf{\text{H}}$ 56'34	
opposition	-7926 Oct 22 j 23:57	4° $\mathbf{\text{H}}$ 52'59	-1°23'14	max. Earth dist.	-7919 May 01 j 11:39	13° $\mathbf{\text{H}}$ 17'31	40.47294 AU
min. Earth dist.	-7926 Oct 25 j 17:10	4° $\mathbf{\text{H}}$ 49'30	40.05390 AU				
direct	-7925 Jan 13 j 08:30	3° $\mathbf{\text{H}}$ 45'40		conjunction	-7919 May 04 j 18:31	13° $\mathbf{\text{H}}$ 22'58	1°13'35
evening set	-7925 Apr 10 j 23:28	5° $\mathbf{\text{H}}$ 05'30		minimum elong	-7919 May 04 j 18:29	13° $\mathbf{\text{H}}$ 22'58	1°13'23
max. Earth dist.	-7925 Apr 24 j 00:21	5° $\mathbf{\text{H}}$ 25'59	41.93550 AU	morning rise	-7919 May 20 j 17:36	13° $\mathbf{\text{H}}$ 49'12	
				retrograde	-7919 Aug 13 j 18:14	15° $\mathbf{\text{H}}$ 10'50	
conjunction	-7925 Apr 27 j 02:29	5° $\mathbf{\text{H}}$ 30'54	-1°07'46	opposition	-7919 Oct 31 j 18:17	14° $\mathbf{\text{H}}$ 03'48	1°30'02
minimum elong	-7925 Apr 27 j 02:31	5° $\mathbf{\text{H}}$ 30'54	1°08'03	min. Earth dist.	-7919 Nov 03 j 16:57	13° $\mathbf{\text{H}}$ 59'53	38.34965 AU
morning rise	-7925 May 13 j 02:50	5° $\mathbf{\text{H}}$ 56'10		direct	-7918 Jan 22 j 03:32	12° $\mathbf{\text{H}}$ 54'07	
retrograde	-7925 Aug 06 j 02:59	7° $\mathbf{\text{H}}$ 14'26		evening set	-7918 Apr 20 j 09:40	14° $\mathbf{\text{H}}$ 18'34	
opposition	-7925 Oct 24 j 11:53	6° $\mathbf{\text{H}}$ 09'09	-0°59'24	max. Earth dist.	-7918 May 03 j 02:32	14° $\mathbf{\text{H}}$ 39'31	40.22531 AU
min. Earth dist.	-7925 Oct 27 j 07:06	6° $\mathbf{\text{H}}$ 05'32	39.81648 AU				
direct	-7924 Jan 14 j 21:04	5° $\mathbf{\text{H}}$ 01'31		conjunction	-7918 May 06 j 10:39	14° $\mathbf{\text{H}}$ 45'06	1°38'05
evening set	-7924 Apr 11 j 12:49	6° $\mathbf{\text{H}}$ 21'53		minimum elong	-7918 May 06 j 10:36	14° $\mathbf{\text{H}}$ 45'05	1°37'52
max. Earth dist.	-7924 Apr 24 j 13:28	6° $\mathbf{\text{H}}$ 42'29	41.69681 AU	morning rise	-7918 May 22 j 08:28	15° $\mathbf{\text{H}}$ 11'27	
				retrograde	-7918 Aug 15 j 10:14	16° $\mathbf{\text{H}}$ 33'49	
conjunction	-7924 Apr 27 j 16:19	6° $\mathbf{\text{H}}$ 47'28	-0°44'55	opposition	-7918 Nov 02 j 08:55	15° $\mathbf{\text{H}}$ 26'30	1°55'58
minimum elong	-7924 Apr 27 j 16:20	6° $\mathbf{\text{H}}$ 47'28	0°45'12	min. Earth dist.	-7918 Nov 05 j 09:17	15° $\mathbf{\text{H}}$ 22'27	38.10206 AU
morning rise	-7924 May 13 j 17:10	7° $\mathbf{\text{H}}$ 12'55		direct	-7917 Jan 23 j 17:50	14° $\mathbf{\text{H}}$ 16'30	
retrograde	-7924 Aug 06 j 14:47	8° $\mathbf{\text{H}}$ 31'39		evening set	-7917 Apr 22 j 03:29	15° $\mathbf{\text{H}}$ 41'47	
opposition	-7924 Oct 24 j 23:55	7° $\mathbf{\text{H}}$ 26'06	-0°35'16	max. Earth dist.	-7917 May 04 j 19:16	16° $\mathbf{\text{H}}$ 02'49	39.97673 AU
min. Earth dist.	-7924 Oct 27 j 19:09	7° $\mathbf{\text{H}}$ 22'27	39.57608 AU				
direct	-7923 Jan 15 j 11:08	6° $\mathbf{\text{H}}$ 18'06		conjunction	-7917 May 08 j 03:05	16° $\mathbf{\text{H}}$ 08'25	2°02'50
evening set	-7923 Apr 13 j 02:44	7° $\mathbf{\text{H}}$ 39'03		minimum elong	-7917 May 08 j 03:01	16° $\mathbf{\text{H}}$ 08'25	2°02'39
max. Earth dist.	-7923 Apr 26 j 01:37	7° $\mathbf{\text{H}}$ 59'40	41.45522 AU	morning rise	-7917 May 23 j 23:21	16° $\mathbf{\text{H}}$ 34'53	
				retrograde	-7917 Aug 17 j 00:43	17° $\mathbf{\text{H}}$ 58'01	
conjunction	-7923 Apr 29 j 06:28	8° $\mathbf{\text{H}}$ 04'49	-0°21'47	opposition	-7917 Nov 03 j 23:57	16° $\mathbf{\text{H}}$ 50'26	2°22'11
minimum elong	-7923 Apr 29 j 06:29	8° $\mathbf{\text{H}}$ 04'49	0°22'02	min. Earth dist.	-7917 Nov 07 j 00:13	16° $\mathbf{\text{H}}$ 46'22	37.85329 AU
morning rise	-7923 May 15 j 07:32	8° $\mathbf{\text{H}}$ 30'28		direct	-7916 Jan 25 j 09:25	15° $\mathbf{\text{H}}$ 40'06	
retrograde	-7923 Aug 08 j 03:47	9° $\mathbf{\text{H}}$ 49'41		evening set	-7916 Apr 22 j 22:18	17° $\mathbf{\text{H}}$ 06'16	
opposition	-7923 Oct 26 j 12:27	8° $\mathbf{\text{H}}$ 43'49	-0°10'48	max. Earth dist.	-7916 May 05 j 10:16	17° $\mathbf{\text{H}}$ 27'13	39.72659 AU
min. Earth dist.	-7923 Oct 29 j 09:28	8° $\mathbf{\text{H}}$ 40'04	39.33326 AU				
direct	-7922 Jan 16 j 23:09	7° $\mathbf{\text{H}}$ 35'30		conjunction	-7916 May 08 j 20:01	17° $\mathbf{\text{H}}$ 33'00	2°27'49
asc. node	-7922 Apr 04 j 19:28	8° $\mathbf{\text{H}}$ 41'47		minimum elong	-7916 May 08 j 19:56	17° $\mathbf{\text{H}}$ 33'00	2°27'38
evening set	-7922 Apr 14 j 17:11	8° $\mathbf{\text{H}}$ 57'02		morning rise	-7916 May 24 j 14:34	17° $\mathbf{\text{H}}$ 59'33	
max. Earth dist.	-7922 Apr 27 j 16:28	9° $\mathbf{\text{H}}$ 17'48	41.21141 AU	retrograde	-7916 Aug 17 j 18:46	19° $\mathbf{\text{H}}$ 23'30	
				opposition	-7916 Nov 04 j 15:22	18° $\mathbf{\text{H}}$ 15'37	2°48'39
conjunction	-7922 Apr 30 j 21:01	9° $\mathbf{\text{H}}$ 22'59	0°01'43	min. Earth dist.	-7916 Nov 07 j 16:56	18° $\mathbf{\text{H}}$ 11'28	37.60295 AU
minimum elong	-7922 Apr 30 j 21:02	9° $\mathbf{\text{H}}$ 22'59	0°01'28	direct	-7915 Jan 25 j 21:37	17° $\mathbf{\text{H}}$ 04'57	
behind sun begin	-7922 Apr 30 j 14:31	9° $\mathbf{\text{H}}$ 22'34		evening set	-7915 Apr 24 j 17:49	18° $\mathbf{\text{H}}$ 32'02	
behind sun end	-7922 May 01 j 03:33	9° $\mathbf{\text{H}}$ 23'24		max. Earth dist.	-7915 May 07 j 03:50	18° $\mathbf{\text{H}}$ 53'01	39.47440 AU
morning rise	-7922 May 16 j 21:54	9° $\mathbf{\text{H}}$ 48'47					
retrograde	-7922 Aug 09 j 17:10	11° $\mathbf{\text{H}}$ 08'33		conjunction	-7915 May 10 j 13:38	18° $\mathbf{\text{H}}$ 58'51	2°53'02
opposition	-7922 Oct 28 j 01:19	10° $\mathbf{\text{H}}$ 02'23	0°13'57	minimum elong	-7915 May 10 j 13:31	18° $\mathbf{\text{H}}$ 58'51	2°52'53
min. Earth dist.	-7922 Oct 30 j 22:41	9° $\mathbf{\text{H}}$ 58'35	39.08858 AU	morning rise	-7915 May 26 j 05:53	19° $\mathbf{\text{H}}$ 25'28	
direct	-7921 Jan 18 j 11:28	8° $\mathbf{\text{H}}$ 53'43		retrograde	-7915 Aug 19 j 12:24	20° $\mathbf{\text{H}}$ 50'16	
evening set	-7921 Apr 16 j 08:24	10° $\mathbf{\text{H}}$ 15'53		opposition	-7915 Nov 06 j 07:30	19° $\mathbf{\text{H}}$ 42'04	3°15'24
max. Earth dist.	-7921 Apr 29 j 05:33	10° $\mathbf{\text{H}}$ 36'41	40.96610 AU	min. Earth dist.	-7915 Nov 09 j 10:09	19° $\mathbf{\text{H}}$ 37'50	37.35037 AU
				direct	-7914 Jan 27 j 11:44	18° $\mathbf{\text{H}}$ 31'02	
conjunction	-7921 May 02 j 11:48	10° $\mathbf{\text{H}}$ 42'00	0°25'23	evening set	-7914 Apr 26 j 14:21	19° $\mathbf{\text{H}}$ 59'06	
minimum elong	-7921 May 02 j 11:47	10° $\mathbf{\text{H}}$ 42'00	0°25'10	max. Earth dist.	-7914 May 08 j 20:17	20° $\mathbf{\text{H}}$ 19'58	39.21995 AU
morning rise	-7921 May 18 j 12:27	11° $\mathbf{\text{H}}$ 07'58					
retrograde	-7921 Aug 11 j 09:45	12° $\mathbf{\text{H}}$ 28'19		conjunction	-7914 May 12 j 07:33	20° $\mathbf{\text{H}}$ 25'57	3°18'30
opposition	-7921 Oct 29 j 14:36	11° $\mathbf{\text{H}}$ 21'51	0°39'01	minimum elong	-7914 May 12 j 07:26	20° $\mathbf{\text{H}}$ 25'57	3°18'20
min. Earth dist.	-7921 Nov 01 j 12:28	11° $\mathbf{\text{H}}$ 18'00	38.84294 AU	morning rise	-7914 May 27 j 21:28	20° $\mathbf{\text{H}}$ 52'37	
direct	-7920 Jan 19 j 21:59	10° $\mathbf{\text{H}}$ 12'50		retrograde	-7914 Aug 21 j 08:41	22° $\mathbf{\text{H}}$ 18'18	
evening set	-7920 Apr 16 j 23:55	11° $\mathbf{\text{H}}$ 35'42		opposition	-7914 Nov 08 j 00:00	21° $\mathbf{\text{H}}$ 09'45	3°42'24
max. Earth dist.	-7920 Apr 29 j 20:35	11° $\mathbf{\text{H}}$ 56'36	40.71979 AU	min. Earth dist.	-7914 Nov 11 j 02:59	21° $\mathbf{\text{H}}$ 05'29	37.09572 AU
				direct	-7913 Jan 29 j 03:10	19° $\mathbf{\text{H}}$ 58'20	

## Planetary Phenomena of Pluto from -8400 through -7898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36

Attention, astronomical year style is used: The year -7913 in astronomical counting style is the year 7914 BCE in historical counting style.

evening set	-7913 Apr 28 j 11:36	21° $\mathbf{\text{H}}$ 27'24		minimum elong	-7907 May 23 j 02:39	1° $\mathbf{\text{P}}$ 10'23	6°21'34
max. Earth dist.	-7913 May 10 j 13:49	21° $\mathbf{\text{H}}$ 48'11	38.96322 AU	morning rise	-7907 Jun 06 j 12:53	1° $\mathbf{\text{P}}$ 36'39	
				retrograde	-7907 Sep 01 j 06:11	3° $\mathbf{\text{P}}$ 09'50	
conjunction	-7913 May 14 j 02:07	21° $\mathbf{\text{H}}$ 54'17	3°44'10	opposition	-7907 Nov 18 j 11:01	1° $\mathbf{\text{P}}$ 58'35	6°56'55
minimum elong	-7913 May 14 j 01:59	21° $\mathbf{\text{H}}$ 54'17	3°44'02	min. Earth dist.	-7907 Nov 21 j 16:41	1° $\mathbf{\text{P}}$ 53'57	35.29286 AU
morning rise	-7913 May 29 j 13:04	22° $\mathbf{\text{H}}$ 20'58		direct	-7906 Feb 08 j 12:05	0° $\mathbf{\text{P}}$ 44'07	
retrograde	-7913 Aug 23 j 04:05	23° $\mathbf{\text{H}}$ 47'34		evening set	-7906 May 10 j 17:14	2° $\mathbf{\text{P}}$ 21'41	
opposition	-7913 Nov 09 j 17:12	22° $\mathbf{\text{H}}$ 38'40	4°09'38	max. Earth dist.	-7906 May 21 j 10:34	2° $\mathbf{\text{P}}$ 41'19	37.15089 AU
min. Earth dist.	-7913 Nov 12 j 21:49	22° $\mathbf{\text{H}}$ 34'17	36.83910 AU				
direct	-7912 Jan 30 j 21:27	21° $\mathbf{\text{H}}$ 26'50		conjunction	-7906 May 25 j 01:02	2° $\mathbf{\text{P}}$ 47'59	6°48'13
evening set	-7912 Apr 29 j 09:34	22° $\mathbf{\text{H}}$ 56'57		minimum elong	-7906 May 25 j 00:46	2° $\mathbf{\text{P}}$ 47'58	6°48'11
max. Earth dist.	-7912 May 11 j 08:31	23° $\mathbf{\text{H}}$ 17'40	38.70478 AU	morning rise	-7906 Jun 08 j 05:14	3° $\mathbf{\text{P}}$ 14'02	
				retrograde	-7906 Sep 03 j 06:20	4° $\mathbf{\text{P}}$ 48'34	
conjunction	-7912 May 14 j 20:55	23° $\mathbf{\text{H}}$ 23'50	4°10'01	opposition	-7906 Nov 20 j 08:16	3° $\mathbf{\text{P}}$ 36'56	7°25'12
minimum elong	-7912 May 14 j 20:46	23° $\mathbf{\text{H}}$ 23'50	4°09'54	min. Earth dist.	-7906 Nov 23 j 15:00	3° $\mathbf{\text{P}}$ 32'13	35.03931 AU
morning rise	-7912 May 30 j 04:46	23° $\mathbf{\text{H}}$ 50'30		direct	-7905 Feb 10 j 08:43	2° $\mathbf{\text{P}}$ 22'04	
retrograde	-7912 Aug 23 j 23:33	25° $\mathbf{\text{H}}$ 18'04		evening set	-7905 May 12 j 22:11	4° $\mathbf{\text{P}}$ 01'08	
opposition	-7912 Nov 10 j 10:43	24° $\mathbf{\text{H}}$ 08'47	4°37'06	max. Earth dist.	-7905 May 23 j 10:09	4° $\mathbf{\text{P}}$ 20'33	36.89614 AU
min. Earth dist.	-7912 Nov 13 j 15:03	24° $\mathbf{\text{H}}$ 04'23	36.58102 AU				
direct	-7911 Jan 31 j 17:09	22° $\mathbf{\text{H}}$ 56'32		conjunction	-7905 May 26 j 23:46	4° $\mathbf{\text{P}}$ 27'12	7°14'50
evening set	-7911 May 01 j 08:35	24° $\mathbf{\text{H}}$ 27'44		minimum elong	-7905 May 26 j 23:29	4° $\mathbf{\text{P}}$ 27'11	7°14'49
max. Earth dist.	-7911 May 13 j 02:20	24° $\mathbf{\text{H}}$ 48'16	38.44495 AU	morning rise	-7905 Jun 09 j 21:49	4° $\mathbf{\text{P}}$ 53'03	
				retrograde	-7905 Sep 05 j 05:29	6° $\mathbf{\text{P}}$ 28'59	
conjunction	-7911 May 16 j 16:21	24° $\mathbf{\text{H}}$ 54'36	4°36'04	opposition	-7905 Nov 22 j 06:07	5° $\mathbf{\text{P}}$ 16'59	7°53'31
minimum elong	-7911 May 16 j 16:11	24° $\mathbf{\text{H}}$ 54'35	4°35'58	min. Earth dist.	-7905 Nov 25 j 11:58	5° $\mathbf{\text{P}}$ 12'18	34.78722 AU
morning rise	-7911 May 31 j 20:40	25° $\mathbf{\text{H}}$ 21'14		direct	-7904 Feb 12 j 07:14	4° $\mathbf{\text{P}}$ 01'43	
retrograde	-7911 Aug 25 j 18:06	26° $\mathbf{\text{H}}$ 49'48		evening set	-7904 May 14 j 04:12	5° $\mathbf{\text{P}}$ 42'22	
opposition	-7911 Nov 12 j 04:45	25° $\mathbf{\text{H}}$ 40'08	5°04'45	max. Earth dist.	-7904 May 24 j 08:21	6° $\mathbf{\text{P}}$ 01'22	36.64245 AU
min. Earth dist.	-7911 Nov 15 j 10:37	25° $\mathbf{\text{H}}$ 35'36	36.32217 AU				
direct	-7910 Feb 02 j 10:13	24° $\mathbf{\text{H}}$ 27'25		conjunction	-7904 May 27 j 23:03	6° $\mathbf{\text{P}}$ 08'10	7°41'29
evening set	-7910 May 03 j 08:24	25° $\mathbf{\text{H}}$ 59'46		minimum elong	-7904 May 27 j 22:45	6° $\mathbf{\text{P}}$ 08'09	7°41'29
max. Earth dist.	-7910 May 14 j 22:59	26° $\mathbf{\text{H}}$ 20'14	38.18455 AU	morning rise	-7904 Jun 10 j 14:33	6° $\mathbf{\text{P}}$ 33'46	
				retrograde	-7904 Sep 06 j 05:28	8° $\mathbf{\text{P}}$ 11'11	
conjunction	-7910 May 18 j 12:20	26° $\mathbf{\text{H}}$ 26'35	5°02'17	opposition	-7904 Nov 23 j 04:44	6° $\mathbf{\text{P}}$ 58'49	8°21'52
minimum elong	-7910 May 18 j 12:09	26° $\mathbf{\text{H}}$ 26'34	5°02'11	min. Earth dist.	-7904 Nov 26 j 11:36	6° $\mathbf{\text{P}}$ 54'02	34.53619 AU
morning rise	-7910 Jun 02 j 12:34	26° $\mathbf{\text{H}}$ 53'10		direct	-7903 Feb 13 j 03:39	5° $\mathbf{\text{P}}$ 43'08	
retrograde	-7910 Aug 27 j 11:40	28° $\mathbf{\text{H}}$ 22'46		evening set	-7903 May 16 j 11:32	7° $\mathbf{\text{P}}$ 25'26	
opposition	-7910 Nov 13 j 23:29	27° $\mathbf{\text{H}}$ 12'43	5°32'36	max. Earth dist.	-7903 May 26 j 09:29	7° $\mathbf{\text{P}}$ 44'08	36.38940 AU
min. Earth dist.	-7910 Nov 17 j 05:12	27° $\mathbf{\text{H}}$ 08'10	36.06318 AU				
direct	-7909 Feb 04 j 05:18	25° $\mathbf{\text{H}}$ 59'33		conjunction	-7903 May 29 j 23:16	7° $\mathbf{\text{P}}$ 50'57	8°08'06
evening set	-7909 May 05 j 09:05	27° $\mathbf{\text{H}}$ 33'06		minimum elong	-7903 May 29 j 22:57	7° $\mathbf{\text{P}}$ 50'55	8°08'07
max. Earth dist.	-7909 May 16 j 17:58	27° $\mathbf{\text{H}}$ 53'20	37.92437 AU	morning rise	-7903 Jun 12 j 07:27	8° $\mathbf{\text{P}}$ 16'13	
				retrograde	-7903 Sep 08 j 04:42	9° $\mathbf{\text{P}}$ 55'12	
conjunction	-7909 May 20 j 08:29	27° $\mathbf{\text{H}}$ 59'49	5°28'38	opposition	-7903 Nov 25 j 04:05	8° $\mathbf{\text{P}}$ 42'28	8°50'12
minimum elong	-7909 May 20 j 08:17	27° $\mathbf{\text{H}}$ 59'48	5°28'33	min. Earth dist.	-7903 Nov 28 j 10:58	8° $\mathbf{\text{P}}$ 37'39	34.28568 AU
morning rise	-7909 Jun 04 j 04:30	28° $\mathbf{\text{H}}$ 26'19		direct	-7902 Feb 15 j 01:56	7° $\mathbf{\text{P}}$ 26'22	
retrograde	-7909 Aug 29 j 09:20	29° $\mathbf{\text{H}}$ 57'03		evening set	-7902 May 18 j 20:17	9° $\mathbf{\text{P}}$ 10'23	
opposition	-7909 Nov 15 j 18:44	28° $\mathbf{\text{H}}$ 46'35	6°00'35	max. Earth dist.	-7902 May 28 j 09:09	9° $\mathbf{\text{P}}$ 28'33	36.13683 AU
min. Earth dist.	-7909 Nov 19 j 00:35	28° $\mathbf{\text{H}}$ 42'00	35.80501 AU				
direct	-7908 Feb 05 j 21:29	27° $\mathbf{\text{H}}$ 32'59		conjunction	-7902 Jun 01 j 00:04	9° $\mathbf{\text{P}}$ 35'32	8°34'40
evening set	-7908 May 06 j 10:40	29° $\mathbf{\text{H}}$ 07'47		minimum elong	-7902 May 31 j 23:44	9° $\mathbf{\text{P}}$ 35'30	8°34'42
max. Earth dist.	-7908 May 17 j 15:32	29° $\mathbf{\text{H}}$ 27'54	37.66503 AU	morning rise	-7902 Jun 14 j 00:41	10° $\mathbf{\text{P}}$ 00'27	
				retrograde	-7902 Sep 10 j 07:39	11° $\mathbf{\text{P}}$ 41'04	
conjunction	-7908 May 21 j 05:28	29° $\mathbf{\text{H}}$ 34'24	5°55'05	opposition	-7902 Nov 27 j 04:15	10° $\mathbf{\text{P}}$ 27'55	9°18'29
minimum elong	-7908 May 21 j 05:14	29° $\mathbf{\text{H}}$ 34'23	5°55'01	min. Earth dist.	-7902 Nov 30 j 11:10	10° $\mathbf{\text{P}}$ 23'05	34.03585 AU
morning rise	-7908 Jun 04 j 20:31	0° $\mathbf{\text{P}}$ 00'47		direct	-7901 Feb 16 j 22:46	9° $\mathbf{\text{P}}$ 11'23	
	-7908 Jun 04 j 09:53	0° $\mathbf{\text{P}}$		evening set	-7901 May 21 j 05:58	10° $\mathbf{\text{P}}$ 57'12	
retrograde	-7908 Aug 30 j 06:12	1° $\mathbf{\text{P}}$ 32'43		max. Earth dist.	-7901 May 30 j 11:06	11° $\mathbf{\text{P}}$ 14'56	35.88470 AU
opposition	-7908 Nov 16 j 14:34	0° $\mathbf{\text{P}}$ 21'50	6°28'42				
min. Earth dist.	-7908 Nov 19 j 21:00	0° $\mathbf{\text{P}}$ 17'12	35.54807 AU	conjunction	-7901 Jun 03 j 01:33	11° $\mathbf{\text{P}}$ 21'55	9°01'10
	-7908 Dec 02 j 04:46	30° $\mathbf{\text{H}}$		minimum elong	-7901 Jun 03 j 01:12	11° $\mathbf{\text{P}}$ 21'54	9°01'12
direct	-7907 Feb 06 j 15:23	29° $\mathbf{\text{H}}$ 07'48		morning rise	-7901 Jun 15 j 17:45	11° $\mathbf{\text{P}}$ 46'26	
	-7907 Apr 12 j 03:13	0° $\mathbf{\text{P}}$		retrograde	-7901 Sep 12 j 09:42	13° $\mathbf{\text{P}}$ 28'46	
evening set	-7907 May 08 j 13:29	0° $\mathbf{\text{P}}$ 43'57		opposition	-7901 Nov 29 j 05:17	12° $\mathbf{\text{P}}$ 15'12	9°46'42
max. Earth dist.	-7907 May 19 j 12:49	1° $\mathbf{\text{P}}$ 03'50	37.40722 AU	min. Earth dist.	-7901 Dec 02 j 12:53	12° $\mathbf{\text{P}}$ 10'17	33.78665 AU
				direct	-7900 Feb 18 j 22:21	10° $\mathbf{\text{P}}$ 58'13	
conjunction	-7907 May 23 j 02:54	1° $\mathbf{\text{P}}$ 10'25	6°21'37	evening set	-7900 May 22 j 17:14	12° $\mathbf{\text{P}}$ 45'53	

Attention, astronomical year style is used: The year -7900 in astronomical counting style is the year 7901 BCE in historical counting style.

max. Earth dist. -7900 May 31 j 13:12 13°V03'04 35.63349 AU

conjunction -7900 Jun 04 j 03:43 13°V10'09 9°27'32  
 minimum elong -7900 Jun 04 j 03:21 13°V10'07 9°27'36  
 morning rise -7900 Jun 16 j 11:09 13°V34'11  
 retrograde -7900 Sep 13 j 14:49 15°V18'17  
 opposition -7900 Nov 30 j 06:43 14°V04'17 10°14'47  
 min. Earth dist. -7900 Dec 03 j 13:35 13°V59'24 33.53868 AU  
 direct -7899 Feb 20 j 00:00 12°V46'50  
 evening set -7899 May 25 j 05:41 14°V36'27  
 max. Earth dist. -7899 Jun 02 j 15:54 14°V53'01 35.38348 AU

conjunction -7899 Jun 06 j 06:41 15°V00'11 9°53'44  
 minimum elong -7899 Jun 06 j 06:18 15°V00'09 9°53'48  
 morning rise -7899 Jun 18 j 04:35 15°V23'42  
 retrograde -7899 Sep 15 j 19:34 17°V09'38  
 opposition -7899 Dec 02 j 09:14 15°V55'12 10°42'41  
 min. Earth dist. -7899 Dec 05 j 17:03 15°V50'13 33.29243 AU