

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

Attention, astronomical year style is used: The year -12400 in astronomical counting style is the year 12401 BCE in historical counting style.

evening set	-12400 Feb 13 j 15:07	7° $\nearrow$ 42'28		morning rise	-12394 Mar 18 j 13:34	14° $\nearrow$ 40'55	
max. Earth dist.	-12400 Feb 24 j 08:54	7° $\nearrow$ 57'35	47.00960 AU	retrograde	-12394 Jun 13 j 02:01	15° $\nearrow$ 54'38	
				opposition	-12394 Sep 01 j 09:40	14° $\nearrow$ 53'19	-7°45'01
conjunction	-12400 Feb 26 j 12:11	8° $\nearrow$ 00'36	-9°08'01	min. Earth dist.	-12394 Sep 03 j 14:49	14° $\nearrow$ 50'39	43.88388 AU
minimum elong	-12400 Feb 26 j 12:20	8° $\nearrow$ 00'37	9°08'43	direct	-12394 Nov 23 j 06:36	13° $\nearrow$ 50'09	
morning rise	-12400 Mar 10 j 08:30	8° $\nearrow$ 18'43		evening set	-12393 Feb 19 j 19:40	15° $\nearrow$ 04'54	
retrograde	-12400 Jun 06 j 04:56	9° $\nearrow$ 32'37		max. Earth dist.	-12393 Mar 03 j 10:55	15° $\nearrow$ 21'40	45.77278 AU
opposition	-12400 Aug 25 j 17:16	8° $\nearrow$ 32'12	-9°24'33				
min. Earth dist.	-12400 Aug 27 j 15:45	8° $\nearrow$ 29'55	44.95402 AU	conjunction	-12393 Mar 05 j 23:36	15° $\nearrow$ 25'20	-7°16'13
direct	-12400 Nov 16 j 10:03	7° $\nearrow$ 30'12		minimum elong	-12393 Mar 05 j 23:45	15° $\nearrow$ 25'21	7°16'57
evening set	-12399 Feb 13 j 18:30	8° $\nearrow$ 44'42		morning rise	-12393 Mar 20 j 02:17	15° $\nearrow$ 45'42	
max. Earth dist.	-12399 Feb 24 j 16:34	9° $\nearrow$ 00'07	46.84582 AU	retrograde	-12393 Jun 14 j 10:51	16° $\nearrow$ 59'26	
				opposition	-12393 Sep 02 j 16:57	15° $\nearrow$ 57'57	-7°27'22
conjunction	-12399 Feb 26 j 20:28	9° $\nearrow$ 03'11	-8°52'53	min. Earth dist.	-12393 Sep 04 j 23:08	15° $\nearrow$ 55'14	43.69455 AU
minimum elong	-12399 Feb 26 j 20:38	9° $\nearrow$ 03'12	8°53'35	direct	-12393 Nov 24 j 14:23	14° $\nearrow$ 54'35	
morning rise	-12399 Mar 11 j 21:23	9° $\nearrow$ 21'38		evening set	-12392 Feb 21 j 00:45	16° $\nearrow$ 09'28	
retrograde	-12399 Jun 07 j 12:46	10° $\nearrow$ 35'28		max. Earth dist.	-12392 Mar 03 j 20:00	16° $\nearrow$ 26'31	45.58357 AU
opposition	-12399 Aug 26 j 23:43	9° $\nearrow$ 34'56	-9°08'41				
min. Earth dist.	-12399 Aug 28 j 23:06	9° $\nearrow$ 32'36	44.78622 AU	conjunction	-12392 Mar 06 j 08:45	16° $\nearrow$ 30'13	-6°59'05
direct	-12399 Nov 17 j 17:35	8° $\nearrow$ 32'47		minimum elong	-12392 Mar 06 j 08:53	16° $\nearrow$ 30'13	6°59'48
evening set	-12398 Feb 14 j 22:07	9° $\nearrow$ 47'18		morning rise	-12392 Mar 20 j 15:02	16° $\nearrow$ 50'54	
max. Earth dist.	-12398 Feb 25 j 22:02	10° $\nearrow$ 02'53	46.67701 AU	retrograde	-12392 Jun 14 j 17:19	18° $\nearrow$ 04'40	
				opposition	-12392 Sep 03 j 00:22	17° $\nearrow$ 03'03	-7°09'23
conjunction	-12398 Feb 28 j 04:36	10° $\nearrow$ 06'07	-8°37'28	min. Earth dist.	-12392 Sep 05 j 07:50	17° $\nearrow$ 00'15	43.50297 AU
minimum elong	-12398 Feb 28 j 04:45	10° $\nearrow$ 06'08	8°38'11	direct	-12392 Nov 25 j 00:18	15° $\nearrow$ 59'29	
morning rise	-12398 Mar 13 j 10:16	10° $\nearrow$ 24'55		evening set	-12391 Feb 21 j 06:24	17° $\nearrow$ 14'31	
retrograde	-12398 Jun 08 j 20:27	11° $\nearrow$ 38'41		max. Earth dist.	-12391 Mar 05 j 03:54	17° $\nearrow$ 31'46	45.39227 AU
opposition	-12398 Aug 28 j 06:14	10° $\nearrow$ 38'01	-8°52'33				
min. Earth dist.	-12398 Aug 30 j 07:03	10° $\nearrow$ 35'36	44.61362 AU	conjunction	-12391 Mar 07 j 17:59	17° $\nearrow$ 35'34	-6°41'39
direct	-12398 Nov 19 j 00:42	9° $\nearrow$ 35'41		minimum elong	-12391 Mar 07 j 18:07	17° $\nearrow$ 35'34	6°42'24
evening set	-12397 Feb 16 j 01:52	10° $\nearrow$ 50'14		morning rise	-12391 Mar 22 j 04:02	17° $\nearrow$ 56'33	
max. Earth dist.	-12397 Feb 27 j 05:42	11° $\nearrow$ 06'04	46.50344 AU	retrograde	-12391 Jun 16 j 01:39	19° $\nearrow$ 10'25	
				opposition	-12391 Sep 04 j 08:01	18° $\nearrow$ 08'39	-6°51'05
conjunction	-12397 Mar 01 j 13:05	11° $\nearrow$ 09'23	-8°21'47	min. Earth dist.	-12391 Sep 06 j 15:33	18° $\nearrow$ 05'50	43.30921 AU
minimum elong	-12397 Mar 01 j 13:15	11° $\nearrow$ 09'23	8°22'30	direct	-12391 Nov 26 j 08:11	17° $\nearrow$ 04'53	
morning rise	-12397 Mar 14 j 23:05	11° $\nearrow$ 28'29		evening set	-12390 Feb 22 j 12:11	18° $\nearrow$ 20'05	
retrograde	-12397 Jun 10 j 00:16	12° $\nearrow$ 42'13		max. Earth dist.	-12390 Mar 06 j 11:59	18° $\nearrow$ 37'34	45.19837 AU
opposition	-12397 Aug 29 j 12:52	11° $\nearrow$ 41'25	-8°36'07				
min. Earth dist.	-12397 Aug 31 j 15:30	11° $\nearrow$ 38'54	44.43645 AU	conjunction	-12390 Mar 09 j 03:23	18° $\nearrow$ 41'27	-6°23'56
direct	-12397 Nov 20 j 10:57	10° $\nearrow$ 38'52		minimum elong	-12390 Mar 09 j 03:31	18° $\nearrow$ 41'28	6°24'40
evening set	-12396 Feb 17 j 05:59	11° $\nearrow$ 53'26		morning rise	-12390 Mar 23 j 16:50	19° $\nearrow$ 02'45	
max. Earth dist.	-12396 Feb 28 j 12:39	12° $\nearrow$ 09'30	46.32573 AU	retrograde	-12390 Jun 17 j 11:54	20° $\nearrow$ 16'44	
				opposition	-12390 Sep 05 j 15:59	19° $\nearrow$ 14'49	-6°32'28
conjunction	-12396 Mar 01 j 21:32	12° $\nearrow$ 12'55	-8°05'49	min. Earth dist.	-12390 Sep 08 j 01:29	19° $\nearrow$ 11'54	43.11273 AU
minimum elong	-12396 Mar 01 j 21:40	12° $\nearrow$ 12'55	8°06'33	direct	-12390 Nov 27 j 14:25	18° $\nearrow$ 10'53	
morning rise	-12396 Mar 15 j 11:59	12° $\nearrow$ 32'21		evening set	-12389 Feb 23 j 18:27	19° $\nearrow$ 26'17	
retrograde	-12396 Jun 10 j 08:08	13° $\nearrow$ 46'03		max. Earth dist.	-12389 Mar 07 j 21:26	19° $\nearrow$ 44'01	45.00156 AU
opposition	-12396 Aug 29 j 19:34	12° $\nearrow$ 45'05	-8°19'24				
min. Earth dist.	-12396 Aug 31 j 22:33	12° $\nearrow$ 42'32	44.25539 AU	conjunction	-12389 Mar 10 j 13:07	19° $\nearrow$ 47'57	-6°05'54
direct	-12396 Nov 20 j 17:54	11° $\nearrow$ 42'19		minimum elong	-12389 Mar 10 j 13:14	19° $\nearrow$ 47'57	6°06'39
evening set	-12395 Feb 17 j 10:20	12° $\nearrow$ 56'56		morning rise	-12389 Mar 25 j 05:51	20° $\nearrow$ 09'32	
max. Earth dist.	-12395 Feb 28 j 19:37	13° $\nearrow$ 13'13	46.14420 AU	retrograde	-12389 Jun 18 j 22:47	21° $\nearrow$ 23'40	
				opposition	-12389 Sep 06 j 24:00	20° $\nearrow$ 21'36	-6°13'33
conjunction	-12395 Mar 03 j 06:12	13° $\nearrow$ 16'44	-7°49'35	min. Earth dist.	-12389 Sep 09 j 09:56	20° $\nearrow$ 18'40	42.91294 AU
minimum elong	-12395 Mar 03 j 06:21	13° $\nearrow$ 16'45	7°50'18	direct	-12389 Nov 28 j 21:32	19° $\nearrow$ 17'29	
morning rise	-12395 Mar 17 j 00:49	13° $\nearrow$ 36'29		evening set	-12388 Feb 25 j 01:14	20° $\nearrow$ 33'06	
retrograde	-12395 Jun 11 j 18:11	14° $\nearrow$ 50'11		max. Earth dist.	-12388 Mar 08 j 04:55	20° $\nearrow$ 50'59	44.80103 AU
opposition	-12395 Aug 31 j 02:32	13° $\nearrow$ 49'02	-8°02'22				
min. Earth dist.	-12395 Sep 02 j 07:35	13° $\nearrow$ 46'23	44.07100 AU	conjunction	-12388 Mar 10 j 23:03	20° $\nearrow$ 55'04	-5°47'34
direct	-12395 Nov 21 j 22:05	12° $\nearrow$ 46'04		minimum elong	-12388 Mar 10 j 23:11	20° $\nearrow$ 55'05	5°48'19
evening set	-12394 Feb 18 j 14:54	14° $\nearrow$ 00'45		morning rise	-12388 Mar 25 j 19:06	21° $\nearrow$ 16'57	
max. Earth dist.	-12394 Mar 02 j 04:16	14° $\nearrow$ 17'19	45.95974 AU	retrograde	-12388 Jun 19 j 10:06	22° $\nearrow$ 31'14	
				opposition	-12388 Sep 07 j 08:24	21° $\nearrow$ 29'01	-5°54'18
conjunction	-12394 Mar 04 j 14:58	14° $\nearrow$ 20'52	-7°33'03	min. Earth dist.	-12388 Sep 09 j 20:02	21° $\nearrow$ 25'59	42.70928 AU
minimum elong	-12394 Mar 04 j 15:07	14° $\nearrow$ 20'52	7°33'46	direct	-12388 Nov 29 j 04:53	20° $\nearrow$ 24'41	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 2

Attention, astronomical year style is used: The year -12387 in astronomical counting style is the year 12388 BCE in historical counting style.

evening set	-12387 Feb 25 j 08:19	21° $\nearrow$ 40'33		retrograde	-12381 Jun 28 j 10:00	0° $\searrow$ 41'04	
max. Earth dist.	-12387 Mar 09 j 14:42	21° $\nearrow$ 58'40	44.59625 AU		-12381 Aug 28 j 16:31	30° $\nearrow$ 41'04	
				opposition	-12381 Sep 16 j 01:44	29° $\nearrow$ 37'24	-3°30'37
conjunction	-12387 Mar 12 j 09:24	22° $\nearrow$ 02'49	-5°28'57	min. Earth dist.	-12381 Sep 18 j 20:08	29° $\nearrow$ 33'56	41.18035 AU
minimum elong	-12387 Mar 12 j 09:32	22° $\nearrow$ 02'49	5°29'42	direct	-12381 Dec 08 j 02:01	28° $\nearrow$ 31'17	
morning rise	-12387 Mar 27 j 08:16	22° $\nearrow$ 24'59		evening set	-12380 Mar 04 j 20:57	29° $\nearrow$ 49'16	
retrograde	-12387 Jun 20 j 17:21	23° $\nearrow$ 39'26			-12380 Mar 11 j 22:12	0° $\searrow$	
opposition	-12387 Sep 08 j 17:06	22° $\nearrow$ 37'03	-5°34'44	max. Earth dist.	-12380 Mar 17 j 12:29	0° $\searrow$ 08'38	43.06354 AU
min. Earth dist.	-12387 Sep 11 j 06:09	22° $\nearrow$ 33'55	42.50120 AU				
direct	-12387 Nov 30 j 16:30	21° $\nearrow$ 32'30		conjunction	-12380 Mar 20 j 15:00	0° $\searrow$ 13'27	-3°10'15
evening set	-12386 Feb 26 j 15:58	22° $\nearrow$ 48'36		minimum elong	-12380 Mar 20 j 15:05	0° $\searrow$ 13'27	3°11'01
max. Earth dist.	-12386 Mar 10 j 23:15	23° $\nearrow$ 06'52	44.38721 AU	morning rise	-12380 Apr 05 j 06:12	0° $\searrow$ 37'29	
				retrograde	-12380 Jun 28 j 19:20	1° $\searrow$ 53'35	
conjunction	-12386 Mar 13 j 19:50	23° $\nearrow$ 11'10	-5°10'03	opposition	-12380 Sep 16 j 12:15	0° $\searrow$ 49'42	-3°08'47
minimum elong	-12386 Mar 13 j 19:57	23° $\nearrow$ 11'10	5°10'47	min. Earth dist.	-12380 Sep 19 j 08:08	0° $\searrow$ 46'08	40.95282 AU
morning rise	-12386 Mar 28 j 21:41	23° $\nearrow$ 33'37			-12380 Oct 31 j 01:41	30° $\nearrow$ 41'04	
retrograde	-12386 Jun 22 j 02:28	24° $\nearrow$ 48'14		direct	-12380 Dec 08 j 13:26	29° $\nearrow$ 43'19	
opposition	-12386 Sep 10 j 01:57	23° $\nearrow$ 45'40	-5°14'52		-12379 Jan 15 j 13:26	0° $\searrow$	
min. Earth dist.	-12386 Sep 12 j 15:35	23° $\nearrow$ 42'30	42.28899 AU	evening set	-12379 Mar 06 j 07:24	1° $\searrow$ 01'43	
direct	-12386 Dec 02 j 02:24	22° $\nearrow$ 40'52		max. Earth dist.	-12379 Mar 19 j 00:21	1° $\searrow$ 21'17	42.83605 AU
evening set	-12385 Feb 27 j 23:40	23° $\nearrow$ 57'14					
max. Earth dist.	-12385 Mar 12 j 08:26	24° $\nearrow$ 15'40	44.17392 AU	conjunction	-12379 Mar 22 j 03:05	1° $\searrow$ 26'09	-2°49'13
				minimum elong	-12379 Mar 22 j 03:09	1° $\searrow$ 26'09	2°49'58
conjunction	-12385 Mar 15 j 06:26	24° $\nearrow$ 20'05	-4°50'50	morning rise	-12379 Apr 06 j 19:54	1° $\searrow$ 50'25	
minimum elong	-12385 Mar 15 j 06:33	24° $\nearrow$ 20'05	4°51'35	retrograde	-12379 Jun 30 j 07:57	3° $\searrow$ 06'53	
morning rise	-12385 Mar 30 j 10:54	24° $\nearrow$ 42'49		opposition	-12379 Sep 17 j 22:55	2° $\searrow$ 02'47	-2°46'36
retrograde	-12385 Jun 23 j 12:59	25° $\nearrow$ 57'38		min. Earth dist.	-12379 Sep 20 j 18:33	1° $\searrow$ 59'13	40.72385 AU
opposition	-12385 Sep 11 j 11:06	24° $\nearrow$ 54'51	-4°54'40	direct	-12379 Dec 09 j 22:37	0° $\searrow$ 56'09	
min. Earth dist.	-12385 Sep 14 j 02:55	24° $\nearrow$ 51'34	42.07280 AU	evening set	-12378 Mar 07 j 18:24	2° $\searrow$ 15'00	
direct	-12385 Dec 03 j 10:03	23° $\nearrow$ 49'49		max. Earth dist.	-12378 Mar 20 j 11:06	2° $\searrow$ 34'41	42.60685 AU
evening set	-12384 Feb 29 j 07:57	25° $\nearrow$ 06'26					
max. Earth dist.	-12384 Mar 12 j 18:47	25° $\nearrow$ 25'06	43.95699 AU	conjunction	-12378 Mar 23 j 15:30	2° $\searrow$ 39'40	-2°27'52
				minimum elong	-12378 Mar 23 j 15:34	2° $\searrow$ 39'40	2°28'38
conjunction	-12384 Mar 15 j 17:21	25° $\nearrow$ 29'33	-4°31'20	morning rise	-12378 Apr 08 j 09:44	3° $\searrow$ 04'11	
minimum elong	-12384 Mar 15 j 17:27	25° $\nearrow$ 29'34	4°32'05	retrograde	-12378 Jul 01 j 22:39	4° $\searrow$ 21'03	
morning rise	-12384 Mar 31 j 00:20	25° $\nearrow$ 52'34		opposition	-12378 Sep 19 j 10:02	3° $\searrow$ 16'44	-2°24'06
retrograde	-12384 Jun 23 j 23:51	27° $\nearrow$ 07'35		min. Earth dist.	-12378 Sep 22 j 07:20	3° $\searrow$ 13'04	40.49319 AU
opposition	-12384 Sep 11 j 20:15	26° $\nearrow$ 04'36	-4°34'09	direct	-12378 Dec 11 j 06:00	2° $\searrow$ 09'50	
min. Earth dist.	-12384 Sep 14 j 12:13	26° $\nearrow$ 01'17	41.85319 AU	evening set	-12377 Mar 09 j 05:41	3° $\searrow$ 29'10	
direct	-12384 Dec 03 j 19:14	24° $\nearrow$ 59'17		max. Earth dist.	-12377 Mar 21 j 23:58	3° $\searrow$ 49'04	42.37555 AU
evening set	-12383 Mar 01 j 16:42	26° $\nearrow$ 16'13					
max. Earth dist.	-12383 Mar 14 j 03:46	26° $\nearrow$ 34'59	43.73684 AU	conjunction	-12377 Mar 25 j 04:12	3° $\searrow$ 54'04	-2°06'13
				minimum elong	-12377 Mar 25 j 04:16	3° $\searrow$ 54'05	2°06'58
conjunction	-12383 Mar 17 j 04:26	26° $\nearrow$ 39'36	-4°11'31	morning rise	-12377 Apr 09 j 23:31	4° $\searrow$ 18'49	
minimum elong	-12383 Mar 17 j 04:32	26° $\nearrow$ 39'36	4°12'16	retrograde	-12377 Jul 03 j 11:33	5° $\searrow$ 36'06	
morning rise	-12383 Apr 01 j 13:50	27° $\nearrow$ 02'52		opposition	-12377 Sep 20 j 21:28	4° $\searrow$ 31'34	-2°01'16
retrograde	-12383 Jun 25 j 13:07	28° $\nearrow$ 18'07		min. Earth dist.	-12377 Sep 23 j 19:18	4° $\searrow$ 27'51	40.26001 AU
opposition	-12383 Sep 13 j 05:52	27° $\nearrow$ 14'54	-4°13'18	direct	-12377 Dec 12 j 18:38	3° $\searrow$ 24'25	
min. Earth dist.	-12383 Sep 15 j 23:22	27° $\nearrow$ 11'31	41.63091 AU	evening set	-12376 Mar 09 j 17:54	4° $\searrow$ 44'16	
direct	-12383 Dec 05 j 03:24	26° $\nearrow$ 09'20		max. Earth dist.	-12376 Mar 22 j 11:00	5° $\searrow$ 04'13	42.14143 AU
evening set	-12382 Mar 03 j 01:33	27° $\nearrow$ 26'35					
max. Earth dist.	-12382 Mar 15 j 15:19	27° $\nearrow$ 45'37	43.51418 AU	conjunction	-12376 Mar 25 j 17:18	5° $\searrow$ 09'23	-1°44'16
				minimum elong	-12376 Mar 25 j 17:20	5° $\searrow$ 09'23	1°45'02
conjunction	-12382 Mar 18 j 15:41	27° $\nearrow$ 50'14	-3°51'24	morning rise	-12376 Apr 10 j 13:43	5° $\searrow$ 34'21	
minimum elong	-12382 Mar 18 j 15:47	27° $\nearrow$ 50'15	3°52'09	retrograde	-12376 Jul 04 j 01:39	6° $\searrow$ 52'04	
morning rise	-12382 Apr 03 j 03:05	28° $\nearrow$ 13'46		opposition	-12376 Sep 21 j 09:09	5° $\searrow$ 47'18	-1°38'06
retrograde	-12382 Jun 26 j 23:13	29° $\nearrow$ 29'16		min. Earth dist.	-12376 Sep 24 j 08:00	5° $\searrow$ 43'31	40.02388 AU
opposition	-12382 Sep 14 j 15:47	28° $\nearrow$ 25'50	-3°52'08	direct	-12376 Dec 13 j 07:06	4° $\searrow$ 39'52	
min. Earth dist.	-12382 Sep 17 j 09:57	28° $\nearrow$ 22'23	41.40638 AU	evening set	-12375 Mar 11 j 06:37	6° $\searrow$ 00'15	
direct	-12382 Dec 06 j 15:31	27° $\nearrow$ 19'59		max. Earth dist.	-12375 Mar 24 j 00:02	6° $\searrow$ 20'21	41.90386 AU
evening set	-12381 Mar 04 j 11:05	28° $\nearrow$ 37'35					
max. Earth dist.	-12381 Mar 17 j 01:14	28° $\nearrow$ 56'45	43.28967 AU	conjunction	-12375 Mar 27 j 06:57	6° $\searrow$ 25'36	-1°22'02
				minimum elong	-12375 Mar 27 j 06:59	6° $\searrow$ 25'36	1°22'46
conjunction	-12381 Mar 20 j 03:06	29° $\nearrow$ 01'30	-3°30'59	morning rise	-12375 Apr 12 j 03:55	6° $\searrow$ 50'46	
minimum elong	-12381 Mar 20 j 03:12	29° $\nearrow$ 01'30	3°31'44	retrograde	-12375 Jul 05 j 14:00	8° $\searrow$ 08'57	
morning rise	-12381 Apr 04 j 16:39	29° $\nearrow$ 25'17		opposition	-12375 Sep 22 j 21:31	7° $\searrow$ 03'56	-1°14'37
	-12381 Apr 29 j 12:40	0° $\searrow$		min. Earth dist.	-12375 Sep 25 j 22:08	7° $\searrow$ 00'02	39.78422 AU

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 3

Attention, astronomical year style is used: The year -12375 in astronomical counting style is the year 12376 BCE in historical counting style.

direct	-12375 Dec 14 j 20:36	5°35'12		max. Earth dist.	-12368 Apr 02 j 02:12	15°37'40	40.16154 AU
evening set	-12374 Mar 12 j 19:50	7°31'08					
max. Earth dist.	-12374 Mar 25 j 12:40	7°33'19	41.66282 AU	conjunction	-12368 Apr 05 j 15:05	15°34'37	1°21'52
				minimum elong	-12368 Apr 05 j 15:03	15°34'37	1°21'09
conjunction	-12374 Mar 28 j 20:40	7°34'24	-0°59'29	morning rise	-12368 Apr 21 j 10:23	16°30'57	
minimum elong	-12374 Mar 28 j 20:41	7°34'24	1°00'14	retrograde	-12368 Jul 14 j 21:31	17°33'10	
morning rise	-12374 Apr 13 j 18:15	8°30'08	04	opposition	-12368 Oct 01 j 21:33	16°32'50	1°38'42
retrograde	-12374 Jul 07 j 02:29	9°32'6	43	min. Earth dist.	-12368 Oct 05 j 03:27	16°32'04	38.03545 AU
opposition	-12374 Sep 24 j 10:05	8°32'16	-0°50'48	direct	-12368 Dec 23 j 18:33	15°31'45	0
min. Earth dist.	-12374 Sep 27 j 10:47	8°31'7	39.54113 AU	evening set	-12367 Mar 22 j 09:43	16°34'03	4
direct	-12374 Dec 16 j 09:32	7°31'22		max. Earth dist.	-12367 Apr 03 j 19:01	17°30'17	39.90757 AU
evening set	-12373 Mar 14 j 09:43	8°34'53					
max. Earth dist.	-12373 Mar 27 j 01:05	8°35'06	41.41821 AU	conjunction	-12367 Apr 07 j 07:32	17°30'15	1°46'22
				minimum elong	-12367 Apr 07 j 07:28	17°30'15	1°45'39
conjunction	-12373 Mar 30 j 10:55	9°30'38	-0°36'38	morning rise	-12367 Apr 23 j 01:32	17°33'42	
minimum elong	-12373 Mar 30 j 10:56	9°30'38	0°37'23	retrograde	-12367 Jul 16 j 14:14	18°35'40	
morning rise	-12373 Apr 15 j 08:44	9°32'6	12	opposition	-12367 Oct 03 j 13:02	17°34'9	2°04'40
retrograde	-12373 Jul 08 j 17:17	10°34'52		min. Earth dist.	-12367 Oct 06 j 18:18	17°34'55	37.78177 AU
opposition	-12373 Sep 25 j 22:57	9°33'47	-0°26'40	direct	-12367 Dec 25 j 09:11	16°38'43	
min. Earth dist.	-12373 Sep 29 j 01:40	9°35'44	39.29484 AU	evening set	-12366 Mar 24 j 04:06	18°30'51	9
direct	-12373 Dec 17 j 20:22	8°31'23		max. Earth dist.	-12366 Apr 05 j 10:20	18°32'59	39.65326 AU
evening set	-12372 Mar 15 j 00:09	9°35'29					
max. Earth dist.	-12372 Mar 27 j 15:46	10°31'52	41.17060 AU	conjunction	-12366 Apr 09 j 00:14	18°32'06	2°11'07
				minimum elong	-12366 Apr 09 j 00:10	18°32'06	2°10'24
conjunction	-12372 Mar 31 j 01:33	10°31'25	-0°13'31	morning rise	-12366 Apr 24 j 16:40	18°35'39	
minimum elong	-12372 Mar 31 j 01:33	10°31'25	0°14'17	retrograde	-12366 Jul 18 j 10:32	20°32'27	
behind sun begin	-12372 Mar 30 j 22:39	10°31'14		opposition	-12366 Oct 05 j 05:01	19°31'43	2°30'54
behind sun end	-12372 Mar 31 j 04:28	10°31'37		min. Earth dist.	-12366 Oct 08 j 11:24	19°31'01	37.52786 AU
morning rise	-12372 Apr 15 j 23:22	10°34'51	10	direct	-12366 Dec 26 j 21:29	18°30'31	
retrograde	-12372 Jul 09 j 08:31	12°30'45		evening set	-12365 Mar 25 j 23:17	19°31'23	
opposition	-12372 Sep 26 j 12:16	10°35'8	-0°02'12	max. Earth dist.	-12365 Apr 07 j 04:27	19°32'09	39.39834 AU
min. Earth dist.	-12372 Sep 29 j 15:11	10°35'45	39.04574 AU				
asc. node	-12372 Oct 29 j 07:12	10°31'8	50	conjunction	-12365 Apr 10 j 17:40	19°35'8	2°36'07
direct	-12372 Dec 18 j 09:02	9°35'01	13	minimum elong	-12365 Apr 10 j 17:35	19°35'8	2°35'24
evening set	-12371 Mar 16 j 15:16	11°31'25	58	morning rise	-12365 Apr 26 j 08:03	20°32'45	
max. Earth dist.	-12371 Mar 29 j 04:42	11°33'21	40.92042 AU	retrograde	-12365 Jul 20 j 04:37	21°34'33	
				opposition	-12365 Oct 06 j 21:24	20°34'13	2°57'24
conjunction	-12371 Apr 01 j 16:21	11°33'04	0°09'59	min. Earth dist.	-12365 Oct 10 j 04:10	20°37'04	37.27310 AU
minimum elong	-12371 Apr 01 j 16:21	11°33'04	0°09'14	direct	-12365 Dec 28 j 13:28	19°33'01	8
behind sun begin	-12371 Apr 01 j 10:54	11°33'8	43	evening set	-12364 Mar 26 j 19:32	20°35'8	50
behind sun end	-12371 Apr 01 j 21:48	11°33'25		max. Earth dist.	-12364 Apr 07 j 20:52	21°31'9	39.14232 AU
morning rise	-12371 Apr 17 j 14:03	12°30'45	59				
retrograde	-12371 Jul 11 j 00:52	13°32'51	4	conjunction	-12364 Apr 11 j 11:31	21°32'54	3°01'21
opposition	-12371 Sep 28 j 01:56	12°31'02	0°22'34	minimum elong	-12364 Apr 11 j 11:25	21°32'54	3°00'39
min. Earth dist.	-12371 Oct 01 j 05:55	12°31'45	38.79467 AU	morning rise	-12364 Apr 26 j 23:47	21°32'28	
direct	-12371 Dec 19 j 21:24	11°30'9	55	retrograde	-12364 Jul 21 j 00:20	23°31'8	01
evening set	-12370 Mar 18 j 06:49	12°33'21		opposition	-12364 Oct 07 j 14:24	22°30'9	40
max. Earth dist.	-12370 Mar 30 j 20:11	12°35'32	40.66839 AU	min. Earth dist.	-12364 Oct 10 j 21:39	22°30'51	37.01717 AU
				direct	-12364 Dec 29 j 06:08	20°35'8	07
conjunction	-12370 Apr 03 j 07:39	12°35'37	0°33'39	evening set	-12363 Mar 28 j 16:27	22°32'7	39
minimum elong	-12370 Apr 03 j 07:38	12°35'37	0°32'55	max. Earth dist.	-12363 Apr 09 j 15:02	22°34'8	38.88456 AU
morning rise	-12370 Apr 19 j 04:42	13°32'5	40				
retrograde	-12370 Jul 12 j 14:47	14°34'6	32	conjunction	-12363 Apr 13 j 05:59	22°35'4	3°26'48
opposition	-12370 Sep 29 j 16:07	13°34'0	01	minimum elong	-12363 Apr 13 j 05:52	22°35'4	3°26'06
min. Earth dist.	-12370 Oct 02 j 20:51	13°35'48	38.54217 AU	morning rise	-12363 Apr 28 j 15:28	23°32'1	23
direct	-12370 Dec 21 j 13:44	12°33'0	32	retrograde	-12363 Jul 22 j 17:47	24°34'7	52
evening set	-12369 Mar 19 j 23:02	13°35'4	41	opposition	-12363 Oct 09 j 08:10	23°33'9	12
max. Earth dist.	-12369 Apr 01 j 10:45	14°31'5	15	min. Earth dist.	-12363 Oct 12 j 16:45	23°34'3	36.75950 AU
				direct	-12363 Dec 31 j 01:11	22°32'7	16
conjunction	-12369 Apr 04 j 23:02	14°32'1	06	evening set	-12362 Mar 30 j 14:23	23°35'7	52
minimum elong	-12369 Apr 04 j 23:00	14°32'1	06	max. Earth dist.	-12362 Apr 11 j 09:25	24°31'8	26
morning rise	-12369 Apr 20 j 19:30	14°34'7	18				
retrograde	-12369 Jul 14 j 06:11	16°30'8	49	conjunction	-12362 Apr 15 j 00:52	24°32'4	52
opposition	-12369 Oct 01 j 06:34	15°30'1	59	minimum elong	-12362 Apr 15 j 00:44	24°32'4	52
min. Earth dist.	-12369 Oct 04 j 11:02	14°35'7	45	morning rise	-12362 Apr 30 j 07:31	24°35'1	38
direct	-12369 Dec 23 j 04:55	13°35'2	08	retrograde	-12362 Jul 24 j 12:45	26°31'9	06
evening set	-12368 Mar 20 j 15:59	15°31'7	03	opposition	-12362 Oct 11 j 02:16	25°31'0	05

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 4

Attention, astronomical year style is used: The year -12362 in astronomical counting style is the year 12363 BCE in historical counting style.

min. Earth dist.	-12362 Oct 14 j 10:30	25° $\text{Z}$ 05'28	36.50025 AU	conjunction	-12355 Apr 26 j 03:34	5° $\text{Z}$ 34'06	6°56'26
direct	-12361 Jan 01 j 19:14	23° $\text{Z}$ 57'44		minimum elong	-12355 Apr 26 j 03:19	5° $\text{Z}$ 34'05	6°55'48
evening set	-12361 Apr 01 j 13:01	25° $\text{Z}$ 29'25		morning rise	-12355 May 10 j 02:42	6° $\text{Z}$ 00'13	
max. Earth dist.	-12361 Apr 13 j 03:34	25° $\text{Z}$ 49'51	38.36392 AU	retrograde	-12355 Aug 04 j 21:51	7° $\text{Z}$ 35'56	
				opposition	-12355 Oct 22 j 02:12	6° $\text{Z}$ 24'05	7°34'03
conjunction	-12361 Apr 16 j 20:16	25° $\text{Z}$ 56'26	4°18'20	min. Earth dist.	-12355 Oct 25 j 11:12	6° $\text{Z}$ 19'13	34.68052 AU
minimum elong	-12361 Apr 16 j 20:07	25° $\text{Z}$ 56'25	4°17'39	direct	-12354 Jan 12 j 12:59	5° $\text{Z}$ 08'39	
morning rise	-12361 May 01 j 23:36	26° $\text{Z}$ 23'12		evening set	-12354 Apr 14 j 06:18	6° $\text{Z}$ 49'31	
retrograde	-12361 Jul 26 j 08:19	27° $\text{Z}$ 51'41		max. Earth dist.	-12354 Apr 24 j 10:32	7° $\text{Z}$ 08'39	36.53575 AU
opposition	-12361 Oct 12 j 21:03	26° $\text{Z}$ 42'17	4°45'56				
min. Earth dist.	-12361 Oct 16 j 06:55	26° $\text{Z}$ 37'33	36.23953 AU	conjunction	-12354 Apr 28 j 02:51	7° $\text{Z}$ 15'38	7°23'00
direct	-12360 Jan 03 j 11:40	25° $\text{Z}$ 29'31		minimum elong	-12354 Apr 28 j 02:35	7° $\text{Z}$ 15'37	7°22'24
evening set	-12360 Apr 02 j 12:38	27° $\text{Z}$ 02'20		morning rise	-12354 May 11 j 19:47	7° $\text{Z}$ 41'31	
max. Earth dist.	-12360 Apr 14 j 00:04	27° $\text{Z}$ 22'42	38.10140 AU	retrograde	-12354 Aug 06 j 22:06	9° $\text{Z}$ 18'43	
				opposition	-12354 Oct 24 j 01:25	8° $\text{Z}$ 06'27	8°02'19
conjunction	-12360 Apr 17 j 16:15	27° $\text{Z}$ 29'18	4°44'23	min. Earth dist.	-12354 Oct 27 j 11:06	8° $\text{Z}$ 01'32	34.42716 AU
minimum elong	-12360 Apr 17 j 16:05	27° $\text{Z}$ 29'18	4°43'43	direct	-12353 Jan 14 j 08:54	6° $\text{Z}$ 50'37	
morning rise	-12360 May 02 j 15:51	27° $\text{Z}$ 56'02		evening set	-12353 Apr 16 j 12:57	8° $\text{Z}$ 33'05	
retrograde	-12360 Jul 27 j 04:39	29° $\text{Z}$ 25'35		max. Earth dist.	-12353 Apr 26 j 12:00	8° $\text{Z}$ 51'59	36.28131 AU
opposition	-12360 Oct 13 j 16:17	28° $\text{Z}$ 15'47	5°13'37				
min. Earth dist.	-12360 Oct 17 j 01:52	28° $\text{Z}$ 11'02	35.97779 AU	conjunction	-12353 Apr 30 j 02:47	8° $\text{Z}$ 58'56	7°49'33
direct	-12359 Jan 04 j 06:04	27° $\text{Z}$ 02'35		minimum elong	-12353 Apr 30 j 02:29	8° $\text{Z}$ 58'54	7°48'56
evening set	-12359 Apr 04 j 13:14	28° $\text{Z}$ 36'34		morning rise	-12353 May 13 j 12:55	9° $\text{Z}$ 24'32	
max. Earth dist.	-12359 Apr 15 j 19:04	28° $\text{Z}$ 56'44	37.83811 AU	retrograde	-12353 Aug 08 j 23:12	11° $\text{Z}$ 03'16	
				opposition	-12353 Oct 26 j 01:24	9° $\text{Z}$ 50'38	8°30'34
conjunction	-12359 Apr 19 j 12:39	29° $\text{Z}$ 03'30	5°10'36	min. Earth dist.	-12353 Oct 29 j 10:16	9° $\text{Z}$ 45'44	34.17582 AU
minimum elong	-12359 Apr 19 j 12:27	29° $\text{Z}$ 03'29	5°09'55	direct	-12352 Jan 16 j 06:58	8° $\text{Z}$ 34'24	
morning rise	-12359 May 04 j 08:18	29° $\text{Z}$ 30'10		evening set	-12352 Apr 17 j 20:59	10° $\text{Z}$ 18'32	
	-12359 May 21 j 22:20	0° $\text{Z}$		max. Earth dist.	-12352 Apr 27 j 11:48	10° $\text{Z}$ 37'00	36.02862 AU
retrograde	-12359 Jul 29 j 04:09	1° $\text{Z}$ 00'49					
	-12359 Oct 08 j 19:04	30° $\text{R}$ 3		conjunction	-12352 May 01 j 03:21	10° $\text{Z}$ 44'04	8°16'02
opposition	-12359 Oct 15 j 12:13	29° $\text{Z}$ 50'36	5°41'28	minimum elong	-12352 May 01 j 03:03	10° $\text{Z}$ 44'02	8°15'29
min. Earth dist.	-12359 Oct 18 j 22:24	29° $\text{Z}$ 45'48	35.71594 AU	morning rise	-12352 May 14 j 06:24	11° $\text{Z}$ 09'21	
direct	-12358 Jan 05 j 23:04	28° $\text{Z}$ 36'57		retrograde	-12352 Aug 10 j 03:00	12° $\text{Z}$ 49'43	
	-12358 Mar 30 j 16:06	0° $\text{Z}$		opposition	-12352 Oct 27 j 02:07	11° $\text{Z}$ 36'42	8°58'47
evening set	-12358 Apr 06 j 14:26	0° $\text{Z}$ 12'11		min. Earth dist.	-12352 Oct 30 j 11:09	11° $\text{Z}$ 31'45	33.92630 AU
max. Earth dist.	-12358 Apr 17 j 16:52	0° $\text{Z}$ 32'16	37.57482 AU	direct	-12351 Jan 17 j 04:15	10° $\text{Z}$ 20'03	
				evening set	-12351 Apr 20 j 06:12	12° $\text{Z}$ 05'57	
conjunction	-12358 Apr 21 j 09:31	0° $\text{Z}$ 39'00	5°36'56	max. Earth dist.	-12351 Apr 29 j 14:27	12° $\text{Z}$ 24'04	35.77734 AU
minimum elong	-12358 Apr 21 j 09:19	0° $\text{Z}$ 39'00	5°36'17				
morning rise	-12358 May 06 j 00:33	1° $\text{Z}$ 05'35		conjunction	-12351 May 03 j 04:51	12° $\text{Z}$ 31'06	8°42'28
retrograde	-12358 Jul 31 j 01:11	2° $\text{Z}$ 37'25		minimum elong	-12351 May 03 j 04:32	12° $\text{Z}$ 31'05	8°41'53
opposition	-12358 Oct 17 j 08:49	1° $\text{Z}$ 26'47	6°09'28	morning rise	-12351 May 15 j 23:57	12° $\text{Z}$ 56'02	
min. Earth dist.	-12358 Oct 20 j 19:09	1° $\text{Z}$ 21'56	35.45453 AU	retrograde	-12351 Aug 12 j 06:11	14° $\text{Z}$ 38'06	
direct	-12357 Jan 07 j 19:28	0° $\text{Z}$ 12'40		opposition	-12351 Oct 29 j 03:54	13° $\text{Z}$ 24'40	9°26'55
evening set	-12357 Apr 08 j 16:54	1° $\text{Z}$ 49'12		min. Earth dist.	-12351 Nov 01 j 12:55	13° $\text{Z}$ 19'42	33.67814 AU
max. Earth dist.	-12357 Apr 19 j 13:51	2° $\text{Z}$ 09'03	37.31238 AU	direct	-12350 Jan 19 j 05:37	12° $\text{Z}$ 07'37	
				evening set	-12350 Apr 22 j 16:41	13° $\text{Z}$ 55'20	
conjunction	-12357 Apr 23 j 06:53	2° $\text{Z}$ 15'54	6°03'22	max. Earth dist.	-12350 May 01 j 16:08	14° $\text{Z}$ 12'56	35.52743 AU
minimum elong	-12357 Apr 23 j 06:40	2° $\text{Z}$ 15'53	6°02'43				
morning rise	-12357 May 07 j 17:12	2° $\text{Z}$ 42'21		conjunction	-12350 May 05 j 06:45	14° $\text{Z}$ 20'04	9°08'46
retrograde	-12357 Aug 02 j 00:29	4° $\text{Z}$ 15'24		minimum elong	-12350 May 05 j 06:25	14° $\text{Z}$ 20'02	9°08'14
opposition	-12357 Oct 19 j 05:45	3° $\text{Z}$ 04'21	6°37'36	morning rise	-12350 May 17 j 17:43	14° $\text{Z}$ 44'34	
min. Earth dist.	-12357 Oct 22 j 15:30	2° $\text{Z}$ 59'30	35.19452 AU		-12350 May 25 j 18:51	15° $\text{Z}$	
direct	-12356 Jan 09 j 17:20	1° $\text{Z}$ 49'47		retrograde	-12350 Aug 14 j 11:55	16° $\text{Z}$ 28'24	
evening set	-12356 Apr 09 j 20:16	3° $\text{Z}$ 27'41		opposition	-12350 Oct 31 j 06:17	15° $\text{Z}$ 14'34	9°54'56
max. Earth dist.	-12356 Apr 20 j 12:18	3° $\text{Z}$ 47'21	37.05133 AU	min. Earth dist.	-12350 Nov 03 j 14:30	15° $\text{Z}$ 09'36	33.43144 AU
					-12350 Nov 10 j 03:11	15° $\text{R}$	
conjunction	-12356 Apr 24 j 05:02	3° $\text{Z}$ 54'14	6°29'53	direct	-12349 Jan 21 j 07:42	13° $\text{Z}$ 57'04	
minimum elong	-12356 Apr 24 j 04:48	3° $\text{Z}$ 54'13	6°29'16		-12349 Mar 30 j 21:09	15° $\text{Z}$	
morning rise	-12356 May 08 j 09:53	4° $\text{Z}$ 20'32		evening set	-12349 Apr 25 j 04:28	15° $\text{Z}$ 46'41	
retrograde	-12356 Aug 02 j 23:07	5° $\text{Z}$ 54'53		max. Earth dist.	-12349 May 03 j 19:30	16° $\text{Z}$ 03'47	35.27871 AU
opposition	-12356 Oct 20 j 03:41	4° $\text{Z}$ 43'25	7°05'48				
min. Earth dist.	-12356 Oct 23 j 14:07	4° $\text{Z}$ 38'30	34.93635 AU	conjunction	-12349 May 07 j 09:42	16° $\text{Z}$ 10'56	9°34'55
direct	-12355 Jan 10 j 14:56	3° $\text{Z}$ 28'25		minimum elong	-12349 May 07 j 09:20	16° $\text{Z}$ 10'55	9°34'22
evening set	-12355 Apr 12 j 00:45	5° $\text{Z}$ 07'45		morning rise	-12349 May 19 j 11:39	16° $\text{Z}$ 34'58	
max. Earth dist.	-12355 Apr 22 j 11:40	5° $\text{Z}$ 27'13	36.79244 AU	retrograde	-12349 Aug 16 j 15:55	18° $\text{Z}$ 20'38	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -12349 in astronomical counting style is the year 12350 BCE in historical counting style.

opposition	-12349 Nov 02 j 09:29	17°06'22	10°22'47			-12342 May 20 j 15:44	0°00'	
min. Earth dist.	-12349 Nov 05 j 18:28	17°01'20	33.18619 AU					
direct	-12348 Jan 23 j 09:40	15°48'26		conjunction	-12342 May 21 j 00:57	0°00'49	12°28'50	
evening set	-12348 Apr 26 j 17:48	17°40'01		minimum elong	-12342 May 21 j 00:30	0°00'47	12°28'27	
max. Earth dist.	-12348 May 04 j 23:52	17°56'32	35.03172 AU	morning rise	-12342 May 29 j 17:25	0°19'24		
				retrograde	-12342 Aug 30 j 20:20	2°20'28		
conjunction	-12348 May 08 j 13:16	18°03'43	10°00'52	opposition	-12342 Nov 16 j 08:07	1°03'04	13°27'44	
minimum elong	-12348 May 08 j 12:53	18°03'41	10°00'21	min. Earth dist.	-12342 Nov 19 j 09:59	0°58'16	31.56610 AU	
morning rise	-12348 May 20 j 05:45	18°27'12			-12341 Jan 01 j 15:51	30°00'		
retrograde	-12348 Aug 17 j 19:59	20°14'46		direct	-12341 Feb 05 j 17:52	29°42'04		
opposition	-12348 Nov 03 j 13:31	19°00'05	10°50'25		-12341 Mar 12 j 03:12	0°00'		
min. Earth dist.	-12348 Nov 06 j 21:06	18°55'05	32.94294 AU	evening set	-12341 May 15 j 06:16	1°49'56		
direct	-12347 Jan 24 j 13:18	17°41'41		max. Earth dist.	-12341 May 20 j 04:56	2°00'36	33.40664 AU	
evening set	-12347 Apr 29 j 08:11	19°35'19						
max. Earth dist.	-12347 May 07 j 03:56	19°51'08	34.78683 AU	conjunction	-12341 May 23 j 09:32	2°07'30	12°51'33	
				minimum elong	-12341 May 23 j 09:06	2°07'28	12°51'10	
conjunction	-12347 May 10 j 17:25	19°58'24	10°26'33	morning rise	-12341 May 31 j 10:58	2°24'55		
minimum elong	-12347 May 10 j 17:03	19°58'22	10°26'03	retrograde	-12341 Sep 02 j 09:14	4°28'37		
morning rise	-12347 May 21 j 23:47	20°21'15		opposition	-12341 Nov 18 j 18:10	3°10'50	13°51'49	
retrograde	-12347 Aug 20 j 01:16	22°10'50		min. Earth dist.	-12341 Nov 21 j 17:42	3°06'09	31.35586 AU	
opposition	-12347 Nov 05 j 18:31	20°55'41	11°17'47	direct	-12340 Feb 08 j 03:44	1°49'27		
min. Earth dist.	-12347 Nov 09 j 02:25	20°50'39	32.70235 AU	evening set	-12340 May 17 j 08:05	4°00'08		
direct	-12346 Jan 26 j 14:56	19°36'50		max. Earth dist.	-12340 May 21 j 15:50	4°09'32	33.19614 AU	
evening set	-12346 May 02 j 00:05	21°32'35						
max. Earth dist.	-12346 May 09 j 10:48	21°47'48	34.54497 AU	conjunction	-12340 May 24 j 19:03	4°16'23	13°13'33	
				minimum elong	-12340 May 24 j 18:36	4°16'20	13°13'13	
conjunction	-12346 May 12 j 22:22	21°54'58	10°51'56	morning rise	-12340 Jun 01 j 04:15	4°32'29		
minimum elong	-12346 May 12 j 21:57	21°54'56	10°51'27	retrograde	-12340 Sep 03 j 21:20	6°38'59		
morning rise	-12346 May 23 j 17:49	22°17'08		opposition	-12340 Nov 20 j 05:34	5°20'48	14°15'07	
retrograde	-12346 Aug 22 j 06:57	24°08'48		min. Earth dist.	-12340 Nov 23 j 04:45	5°16'08	31.15135 AU	
opposition	-12346 Nov 08 j 00:10	22°53'11	11°44'47	direct	-12339 Feb 09 j 12:22	3°59'05		
min. Earth dist.	-12346 Nov 11 j 06:31	22°48'13	32.46518 AU	evening set	-12339 May 20 j 12:13	6°12'41		
direct	-12345 Jan 28 j 18:48	21°33'52		max. Earth dist.	-12339 May 24 j 04:25	6°20'46	32.99137 AU	
evening set	-12345 May 04 j 17:19	23°31'50						
max. Earth dist.	-12345 May 11 j 16:22	23°46'13	34.30686 AU	conjunction	-12339 May 27 j 05:12	6°27'27	13°34'44	
				minimum elong	-12339 May 27 j 04:46	6°27'25	13°34'25	
conjunction	-12345 May 15 j 03:50	23°53'26	11°16'55	morning rise	-12339 Jun 02 j 20:39	6°42'05		
minimum elong	-12345 May 15 j 03:26	23°53'24	11°16'27	retrograde	-12339 Sep 06 j 09:17	8°51'32		
morning rise	-12345 May 25 j 11:55	24°14'51		opposition	-12339 Nov 22 j 17:50	7°32'59	14°37'32	
retrograde	-12345 Aug 24 j 15:17	26°08'42		min. Earth dist.	-12339 Nov 25 j 14:30	7°28'26	30.95231 AU	
opposition	-12345 Nov 10 j 06:43	24°52'37	12°11'21	direct	-12338 Feb 11 j 23:30	6°10'53		
min. Earth dist.	-12345 Nov 13 j 12:29	24°47'40	32.23234 AU	evening set	-12338 May 23 j 18:55	8°27'36		
direct	-12344 Jan 30 j 22:18	23°32'51		max. Earth dist.	-12338 May 26 j 16:13	8°34'01	32.79199 AU	
evening set	-12344 May 06 j 12:03	25°33'07						
max. Earth dist.	-12344 May 13 j 01:06	25°46'47	34.07330 AU	conjunction	-12338 May 29 j 16:17	8°40'42	13°55'05	
				minimum elong	-12338 May 29 j 15:50	8°40'40	13°54'48	
conjunction	-12344 May 16 j 10:11	25°53'52	11°41'26	morning rise	-12338 Jun 04 j 12:17	8°53'40		
minimum elong	-12344 May 16 j 09:45	25°53'50	11°41'01	retrograde	-12338 Sep 08 j 23:04	11°06'15		
morning rise	-12344 May 26 j 05:46	26°14'26		opposition	-12338 Nov 25 j 06:57	9°47'17	14°59'01	
retrograde	-12344 Aug 25 j 23:27	28°10'34		min. Earth dist.	-12338 Nov 28 j 02:56	9°42'46	30.75874 AU	
opposition	-12344 Nov 11 j 14:18	26°54'02	12°37'25	direct	-12337 Feb 14 j 08:49	8°24'50		
min. Earth dist.	-12344 Nov 14 j 18:50	26°49'07	32.00442 AU	evening set	-12337 May 27 j 05:12	10°44'55		
direct	-12343 Feb 01 j 04:25	25°33'49		max. Earth dist.	-12337 May 29 j 06:58	10°49'34	32.59815 AU	
evening set	-12343 May 09 j 08:28	27°36'31						
max. Earth dist.	-12343 May 15 j 08:48	27°49'12	33.84518 AU	conjunction	-12337 Jun 01 j 04:13	10°56'03	14°14'29	
				minimum elong	-12337 Jun 01 j 03:47	10°56'00	14°14'13	
conjunction	-12343 May 18 j 17:09	27°56'18	12°05'26	morning rise	-12337 Jun 06 j 01:59	11°07'04		
minimum elong	-12343 May 18 j 16:44	27°56'16	12°05'01	retrograde	-12337 Sep 11 j 12:32	13°23'01		
morning rise	-12343 May 27 j 23:43	28°15'55		opposition	-12337 Nov 27 j 21:07	12°03'40	15°19'29	
	-12343 Jul 29 j 12:34	0°00'		min. Earth dist.	-12337 Nov 30 j 14:55	11°59'16	30.57052 AU	
retrograde	-12343 Aug 28 j 10:11	0°14'28		direct	-12336 Feb 16 j 21:07	10°40'52		
	-12343 Sep 27 j 23:20	30°00'		evening set	-12336 May 29 j 20:16	13°04'40		
opposition	-12343 Nov 13 j 22:41	28°57'29	13°02'54	max. Earth dist.	-12336 May 30 j 20:18	13°06'57	32.40998 AU	
min. Earth dist.	-12343 Nov 17 j 01:17	28°52'41	31.78233 AU					
direct	-12342 Feb 03 j 09:55	27°36'52		conjunction	-12336 Jun 02 j 16:43	13°13'25	14°32'53	
evening set	-12342 May 12 j 06:18	29°42'05		minimum elong	-12336 Jun 02 j 16:17	13°13'22	14°32'40	
max. Earth dist.	-12342 May 17 j 18:42	29°53'51	33.62287 AU	morning rise	-12336 Jun 06 j 12:09	13°22'03		

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6

Attention, astronomical year style is used: The year -12336 in astronomical counting style is the year 12337 BCE in historical counting style.

retrograde	-12336 Sep 13 j 03:56	15° $\text{H}$ 41'48		max. Earth dist.	-12328 Jun 19 j 23:27	2° $\text{P}$ 31'35	31.19162 AU
opposition	-12336 Nov 29 j 12:10	14° $\text{H}$ 22'01	15°38'51				
min. Earth dist.	-12336 Dec 02 j 04:26	14° $\text{H}$ 17'42	30.38821 AU	conjunction	-12328 Jun 21 j 19:58	2° $\text{P}$ 36'02	16°13'00
direct	-12335 Feb 18 j 09:00	12° $\text{H}$ 58'52		minimum elong	-12328 Jun 21 j 19:43	2° $\text{P}$ 36'01	16°13'02
evening set	-12335 Jun 02 j 21:48	15° $\text{H}$ 27'20		retrograde	-12328 Oct 03 j 06:58	5° $\text{P}$ 14'06	
max. Earth dist.	-12335 Jun 02 j 12:53	15° $\text{H}$ 26'29	32.22800 AU	opposition	-12328 Dec 19 j 17:33	3° $\text{P}$ 51'35	17°21'47
				min. Earth dist.	-12328 Dec 21 j 11:31	3° $\text{P}$ 48'41	29.22212 AU
conjunction	-12335 Jun 05 j 06:09	15° $\text{H}$ 32'43	14°50'11	direct	-12327 Mar 09 j 23:30	2° $\text{P}$ 26'28	
minimum elong	-12335 Jun 05 j 05:44	15° $\text{H}$ 32'40	14°49'58	max. Earth dist.	-12327 Jun 22 j 19:43	5° $\text{P}$ 04'19	31.08386 AU
morning rise	-12335 Jun 07 j 13:36	15° $\text{H}$ 38'00					
retrograde	-12335 Sep 15 j 18:37	18° $\text{H}$ 02'27		conjunction	-12327 Jun 24 j 13:48	5° $\text{P}$ 08'34	16°18'25
opposition	-12335 Dec 02 j 04:11	16° $\text{H}$ 42'16	15°57'00	minimum elong	-12327 Jun 24 j 13:35	5° $\text{P}$ 08'32	16°18'28
min. Earth dist.	-12335 Dec 04 j 18:34	16° $\text{H}$ 38'03	30.21223 AU	retrograde	-12327 Oct 06 j 04:05	7° $\text{P}$ 47'34	
direct	-12334 Feb 20 j 22:56	15° $\text{H}$ 18'46		opposition	-12327 Dec 22 j 15:29	6° $\text{P}$ 24'51	17°26'52
max. Earth dist.	-12334 Jun 05 j 04:08	17° $\text{H}$ 47'43	32.05299 AU	min. Earth dist.	-12327 Dec 24 j 06:47	6° $\text{P}$ 22'07	29.12033 AU
				direct	-12326 Mar 12 j 17:44	4° $\text{P}$ 59'39	
conjunction	-12334 Jun 07 j 19:56	17° $\text{H}$ 53'50	15°06'18	max. Earth dist.	-12326 Jun 25 j 18:30	7° $\text{P}$ 38'36	30.98622 AU
minimum elong	-12334 Jun 07 j 19:32	17° $\text{H}$ 53'48	15°06'09				
retrograde	-12334 Sep 18 j 12:19	20° $\text{H}$ 24'55		conjunction	-12326 Jun 27 j 08:09	7° $\text{P}$ 42'25	16°22'04
opposition	-12334 Dec 04 j 20:50	19° $\text{H}$ 04'19	16°13'50	minimum elong	-12326 Jun 27 j 07:59	7° $\text{P}$ 42'24	16°22'10
min. Earth dist.	-12334 Dec 07 j 08:32	19° $\text{H}$ 00'16	30.04346 AU	retrograde	-12326 Oct 09 j 00:40	10° $\text{P}$ 22'16	
direct	-12333 Feb 23 j 12:46	17° $\text{H}$ 40'28		opposition	-12326 Dec 25 j 13:58	8° $\text{P}$ 59'22	17°30'02
max. Earth dist.	-12333 Jun 07 j 21:55	20° $\text{H}$ 10'52	31.88554 AU	min. Earth dist.	-12326 Dec 27 j 01:57	8° $\text{P}$ 56'52	29.02805 AU
				direct	-12325 Mar 15 j 14:15	7° $\text{P}$ 34'06	
conjunction	-12333 Jun 10 j 10:36	20° $\text{H}$ 16'44	15°21'09	max. Earth dist.	-12325 Jun 28 j 15:24	10° $\text{P}$ 13'49	30.89840 AU
minimum elong	-12333 Jun 10 j 10:13	20° $\text{H}$ 16'42	15°21'00				
retrograde	-12333 Sep 21 j 04:54	22° $\text{H}$ 49'06		conjunction	-12325 Jun 30 j 02:48	10° $\text{P}$ 17'24	16°23'56
opposition	-12333 Dec 07 j 14:23	21° $\text{H}$ 28'06	16°29'15	minimum elong	-12325 Jun 30 j 02:40	10° $\text{P}$ 17'24	16°24'02
min. Earth dist.	-12333 Dec 10 j 00:21	21° $\text{H}$ 24'09	29.88254 AU	retrograde	-12325 Oct 11 j 22:43	12° $\text{P}$ 58'02	
direct	-12332 Feb 26 j 04:45	20° $\text{H}$ 03'57		opposition	-12325 Dec 28 j 12:52	11° $\text{P}$ 34'56	17°31'15
max. Earth dist.	-12332 Jun 09 j 15:37	22° $\text{H}$ 35'41	31.72680 AU	min. Earth dist.	-12325 Dec 29 j 21:33	11° $\text{P}$ 32'39	28.94535 AU
				direct	-12324 Mar 17 j 10:15	10° $\text{P}$ 09'36	
conjunction	-12332 Jun 12 j 01:42	22° $\text{H}$ 41'20	15°34'36				
minimum elong	-12332 Jun 12 j 01:20	22° $\text{H}$ 41'18	15°34'30	conjunction	-12324 Jul 01 j 22:00	12° $\text{P}$ 53'21	16°23'57
retrograde	-12332 Sep 23 j 00:25	25° $\text{H}$ 14'56		minimum elong	-12324 Jul 01 j 21:54	12° $\text{P}$ 53'20	16°24'07
opposition	-12332 Dec 09 j 08:44	23° $\text{H}$ 53'33	16°43'09	max. Earth dist.	-12324 Jun 30 j 14:57	12° $\text{P}$ 50'11	30.82040 AU
min. Earth dist.	-12332 Dec 11 j 15:00	23° $\text{H}$ 49'51	29.73056 AU	retrograde	-12324 Oct 13 j 18:29	15° $\text{P}$ 34'36	
direct	-12331 Feb 27 j 22:24	22° $\text{H}$ 29'07		opposition	-12324 Dec 30 j 12:24	14° $\text{P}$ 11'20	17°30'29
max. Earth dist.	-12331 Jun 12 j 10:29	25° $\text{H}$ 02'12	31.57743 AU	min. Earth dist.	-12324 Dec 31 j 18:07	14° $\text{P}$ 09'15	28.87211 AU
				direct	-12323 Mar 20 j 08:04	12° $\text{P}$ 45'57	
conjunction	-12331 Jun 14 j 17:25	25° $\text{H}$ 07'36	15°46'36				
minimum elong	-12331 Jun 14 j 17:05	25° $\text{H}$ 07'34	15°46'31	conjunction	-12323 Jul 04 j 17:09	15° $\text{P}$ 30'00	16°22'08
retrograde	-12331 Sep 25 j 18:30	27° $\text{H}$ 42'24		minimum elong	-12323 Jul 04 j 17:05	15° $\text{P}$ 30'00	16°22'18
opposition	-12331 Dec 12 j 04:00	26° $\text{H}$ 20'40	16°55'26	max. Earth dist.	-12323 Jul 03 j 12:38	15° $\text{P}$ 27'05	30.75241 AU
min. Earth dist.	-12331 Dec 14 j 08:19	26° $\text{H}$ 17'05	29.58818 AU	retrograde	-12323 Oct 16 j 17:32	18° $\text{P}$ 11'47	
direct	-12330 Mar 02 j 14:50	24° $\text{H}$ 56'00		opposition	-12322 Jan 02 j 12:06	16° $\text{P}$ 48'19	17°27'41
max. Earth dist.	-12330 Jun 15 j 06:21	27° $\text{H}$ 30'24	31.43835 AU	min. Earth dist.	-12322 Jan 03 j 13:43	16° $\text{P}$ 46'32	28.80871 AU
				direct	-12322 Mar 23 j 05:05	15° $\text{P}$ 22'55	
conjunction	-12330 Jun 17 j 09:44	27° $\text{H}$ 35'29	15°57'03				
minimum elong	-12330 Jun 17 j 09:26	27° $\text{H}$ 35'27	15°57'00	conjunction	-12322 Jul 07 j 12:43	18° $\text{P}$ 07'08	16°18'25
	-12330 Sep 03 j 02:25	0° $\text{P}$		minimum elong	-12322 Jul 07 j 12:42	18° $\text{P}$ 07'08	16°18'38
retrograde	-12330 Sep 28 j 14:23	0° $\text{P}$ 11'25		max. Earth dist.	-12322 Jul 06 j 12:28	18° $\text{P}$ 04'39	30.69459 AU
	-12330 Oct 24 j 15:11	30° $\text{R}$ $\text{H}$		retrograde	-12322 Oct 19 j 13:43	20° $\text{P}$ 49'19	
opposition	-12330 Dec 14 j 23:39	28° $\text{H}$ 49'24	17°06'01	opposition	-12321 Jan 05 j 11:58	19° $\text{P}$ 25'42	17°22'51
min. Earth dist.	-12330 Dec 16 j 23:51	28° $\text{H}$ 46'05	29.45593 AU	min. Earth dist.	-12321 Jan 06 j 11:01	19° $\text{P}$ 24'05	28.75533 AU
direct	-12329 Mar 05 j 09:42	27° $\text{H}$ 24'32		direct	-12321 Mar 26 j 02:52	18° $\text{P}$ 00'16	
max. Earth dist.	-12329 Jun 18 j 01:55	0° $\text{P}$ 00'08	31.30969 AU	max. Earth dist.	-12321 Jul 09 j 11:05	20° $\text{P}$ 42'22	30.64754 AU
	-12329 Jun 18 j 00:30	0° $\text{P}$					
conjunction	-12329 Jun 20 j 02:38	0° $\text{P}$ 04'59	16°05'52	conjunction	-12321 Jul 10 j 08:09	20° $\text{P}$ 44'32	16°12'48
minimum elong	-12329 Jun 20 j 02:22	0° $\text{P}$ 04'57	16°05'50	minimum elong	-12321 Jul 10 j 08:10	20° $\text{P}$ 44'32	16°13'02
retrograde	-12329 Oct 01 j 11:22	2° $\text{P}$ 42'01		retrograde	-12321 Oct 22 j 12:16	23° $\text{P}$ 27'00	
opposition	-12329 Dec 17 j 20:16	1° $\text{P}$ 19'44	17°14'49	opposition	-12320 Jan 08 j 11:58	22° $\text{P}$ 03'13	17°15'57
min. Earth dist.	-12329 Dec 19 j 18:12	1° $\text{P}$ 16'34	29.33398 AU	min. Earth dist.	-12320 Jan 09 j 06:20	22° $\text{P}$ 01'56	28.71267 AU
	-12328 Feb 18 j 04:03	30° $\text{R}$ $\text{H}$		direct	-12320 Mar 28 j 02:40	20° $\text{P}$ 37'47	
direct	-12328 Mar 07 j 03:18	29° $\text{H}$ 54'44		max. Earth dist.	-12320 Jul 11 j 10:45	23° $\text{P}$ 20'15	30.61170 AU
	-12328 Mar 24 j 19:35	0° $\text{P}$					
				conjunction	-12320 Jul 12 j 03:32	23° $\text{P}$ 21'59	16°05'16

# Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -12320 in astronomical counting style is the year 12321 BCE in historical counting style.

minimum elong	-12320 Jul 12 j 03:37	23° $\Upsilon$ 21'59	16°05'34	opposition	-12312 Jan 30 j 09:34	12° $\mathcal{S}$ 52'29	15°08'21
retrograde	-12320 Oct 24 j 09:00	26° $\Upsilon$ 04'37		min. Earth dist.	-12312 Jan 29 j 20:59	12° $\mathcal{S}$ 53'21	28.80144 AU
opposition	-12319 Jan 10 j 12:16	24° $\Upsilon$ 40'42	17°06'59	direct	-12312 Apr 18 j 16:24	11° $\mathcal{S}$ 28'29	
min. Earth dist.	-12319 Jan 11 j 03:48	24° $\Upsilon$ 39'38	28.68133 AU	evening set	-12312 Jul 26 j 20:27	13° $\mathcal{S}$ 55'06	
direct	-12319 Mar 31 j 00:27	23° $\Upsilon$ 15'18					
				conjunction	-12312 Aug 01 j 09:10	14° $\mathcal{S}$ 08'29	13°58'51
conjunction	-12319 Jul 14 j 22:55	25° $\Upsilon$ 59'18	15°55'49	minimum elong	-12312 Aug 01 j 09:30	14° $\mathcal{S}$ 08'31	13°59'21
minimum elong	-12319 Jul 14 j 23:00	25° $\Upsilon$ 59'19	15°56'08	max. Earth dist.	-12312 Aug 01 j 23:27	14° $\mathcal{S}$ 09'56	30.76797 AU
max. Earth dist.	-12319 Jul 14 j 10:10	25° $\Upsilon$ 58'00	30.58797 AU	morning rise	-12312 Aug 06 j 22:36	14° $\mathcal{S}$ 21'56	
retrograde	-12319 Oct 27 j 07:22	28° $\Upsilon$ 42'01			-12312 Aug 23 j 00:44	15° $\mathcal{S}$	
opposition	-12318 Jan 13 j 12:16	27° $\Upsilon$ 18'01	16°55'55	retrograde	-12312 Nov 14 j 08:59	16° $\mathcal{S}$ 49'03	
min. Earth dist.	-12318 Jan 13 j 22:38	27° $\Upsilon$ 17'17	28.66201 AU	opposition	-12311 Feb 01 j 08:02	15° $\mathcal{S}$ 25'35	14°44'16
direct	-12318 Apr 03 j 00:26	25° $\Upsilon$ 52'40		min. Earth dist.	-12311 Jan 31 j 15:20	15° $\mathcal{S}$ 26'44	28.86351 AU
					-12311 Feb 17 j 02:37	15° $\mathcal{R}$ $\mathcal{S}$	
conjunction	-12318 Jul 17 j 18:10	28° $\Upsilon$ 36'23	15°44'28	direct	-12311 Apr 21 j 13:06	14° $\mathcal{S}$ 01'52	
minimum elong	-12318 Jul 17 j 18:19	28° $\Upsilon$ 36'24	15°44'49		-12311 Jun 19 j 16:37	15° $\mathcal{S}$	
max. Earth dist.	-12318 Jul 17 j 09:17	28° $\Upsilon$ 35'29	30.57669 AU	evening set	-12311 Jul 28 j 15:41	16° $\mathcal{S}$ 25'24	
	-12318 Aug 22 j 10:30	0° $\mathcal{S}$					
retrograde	-12318 Oct 30 j 05:14	1° $\mathcal{S}$ 19'04		conjunction	-12311 Aug 04 j 02:40	16° $\mathcal{S}$ 40'56	13°35'42
	-12317 Jan 13 j 12:52	30° $\mathcal{R}$ $\Upsilon$		minimum elong	-12311 Aug 04 j 02:59	16° $\mathcal{S}$ 40'58	13°36'13
opposition	-12317 Jan 16 j 12:23	29° $\Upsilon$ 55'01	16°42'49	max. Earth dist.	-12311 Aug 04 j 21:19	16° $\mathcal{S}$ 42'49	30.83835 AU
min. Earth dist.	-12317 Jan 16 j 19:33	29° $\Upsilon$ 54'31	28.65511 AU	morning rise	-12311 Aug 10 j 14:19	16° $\mathcal{S}$ 56'33	
direct	-12317 Apr 05 j 23:01	28° $\Upsilon$ 29'48		retrograde	-12311 Nov 17 j 02:22	19° $\mathcal{S}$ 20'49	
	-12317 Jun 19 j 15:29	0° $\mathcal{S}$		min. Earth dist.	-12310 Feb 03 j 10:42	17° $\mathcal{S}$ 58'50	28.93531 AU
				opposition	-12310 Feb 04 j 05:56	17° $\mathcal{S}$ 57'30	14°18'40
conjunction	-12317 Jul 20 j 13:17	1° $\mathcal{S}$ 13'08	15°31'13	direct	-12310 Apr 24 j 10:10	16° $\mathcal{S}$ 34'06	
minimum elong	-12317 Jul 20 j 13:27	1° $\mathcal{S}$ 13'09	15°31'35	evening set	-12310 Jul 30 j 12:48	18° $\mathcal{S}$ 54'42	
max. Earth dist.	-12317 Jul 20 j 09:01	1° $\mathcal{S}$ 12'42	30.57832 AU				
retrograde	-12317 Nov 02 j 02:35	3° $\mathcal{S}$ 55'42		conjunction	-12310 Aug 06 j 19:31	19° $\mathcal{S}$ 12'08	13°11'11
opposition	-12316 Jan 19 j 12:14	2° $\mathcal{S}$ 31'40	16°27'41	minimum elong	-12310 Aug 06 j 19:52	19° $\mathcal{S}$ 12'10	13°11'44
min. Earth dist.	-12316 Jan 19 j 14:25	2° $\mathcal{S}$ 31'30	28.66066 AU	max. Earth dist.	-12310 Aug 07 j 16:42	19° $\mathcal{S}$ 14'15	30.91857 AU
direct	-12316 Apr 07 j 23:11	1° $\mathcal{S}$ 06'37		morning rise	-12310 Aug 14 j 03:03	19° $\mathcal{S}$ 29'39	
				retrograde	-12310 Nov 19 j 20:26	21° $\mathcal{S}$ 51'14	
conjunction	-12316 Jul 22 j 08:11	3° $\mathcal{S}$ 49'29	15°16'09	min. Earth dist.	-12309 Feb 06 j 03:37	20° $\mathcal{S}$ 29'41	29.01672 AU
minimum elong	-12316 Jul 22 j 08:24	3° $\mathcal{S}$ 49'30	15°16'33	opposition	-12309 Feb 07 j 03:12	20° $\mathcal{S}$ 28'05	13°51'39
max. Earth dist.	-12316 Jul 22 j 07:24	3° $\mathcal{S}$ 49'24	30.59264 AU	direct	-12309 Apr 27 j 06:55	19° $\mathcal{S}$ 04'58	
retrograde	-12316 Nov 04 j 00:07	6° $\mathcal{S}$ 31'50		evening set	-12309 Aug 01 j 10:52	21° $\mathcal{S}$ 22'46	
opposition	-12315 Jan 21 j 12:06	5° $\mathcal{S}$ 07'50	16°10'35				
min. Earth dist.	-12315 Jan 21 j 10:48	5° $\mathcal{S}$ 07'56	28.67869 AU	conjunction	-12309 Aug 09 j 11:47	21° $\mathcal{S}$ 41'53	12°45'24
direct	-12315 Apr 10 j 20:29	3° $\mathcal{S}$ 43'01		minimum elong	-12309 Aug 09 j 12:07	21° $\mathcal{S}$ 41'56	12°45'59
evening set	-12315 Jul 24 j 17:50	6° $\mathcal{S}$ 24'23		max. Earth dist.	-12309 Aug 10 j 12:57	21° $\mathcal{S}$ 44'24	31.00830 AU
				morning rise	-12309 Aug 17 j 13:32	22° $\mathcal{S}$ 01'07	
conjunction	-12315 Jul 25 j 02:54	6° $\mathcal{S}$ 25'18	14°59'17	retrograde	-12309 Nov 22 j 12:25	24° $\mathcal{S}$ 20'08	
minimum elong	-12315 Jul 25 j 03:07	6° $\mathcal{S}$ 25'20	14°59'43	min. Earth dist.	-12308 Feb 08 j 22:04	22° $\mathcal{S}$ 58'55	29.10770 AU
evening rise	-12315 Jul 25 j 12:26	6° $\mathcal{S}$ 26'17		opposition	-12308 Feb 10 j 00:01	22° $\mathcal{S}$ 57'09	13°23'18
max. Earth dist.	-12315 Jul 25 j 07:03	6° $\mathcal{S}$ 25'44	30.61945 AU	direct	-12308 Apr 29 j 02:04	21° $\mathcal{S}$ 34'20	
retrograde	-12315 Nov 06 j 21:07	9° $\mathcal{S}$ 07'21		evening set	-12308 Aug 02 j 09:57	23° $\mathcal{S}$ 49'26	
opposition	-12314 Jan 24 j 11:37	7° $\mathcal{S}$ 43'27	15°51'36				
min. Earth dist.	-12314 Jan 24 j 06:06	7° $\mathcal{S}$ 43'50	28.70850 AU	conjunction	-12308 Aug 11 j 03:27	24° $\mathcal{S}$ 10'04	12°18'26
direct	-12314 Apr 13 j 20:31	6° $\mathcal{S}$ 18'53		minimum elong	-12308 Aug 11 j 03:50	24° $\mathcal{S}$ 10'07	12°19'01
evening set	-12314 Jul 24 j 18:29	8° $\mathcal{S}$ 52'54		max. Earth dist.	-12308 Aug 12 j 07:40	24° $\mathcal{S}$ 12'52	31.10793 AU
				morning rise	-12308 Aug 19 j 21:54	24° $\mathcal{S}$ 30'49	
conjunction	-12314 Jul 27 j 21:19	9° $\mathcal{S}$ 00'31	14°40'44	retrograde	-12308 Nov 24 j 05:30	26° $\mathcal{S}$ 47'23	
minimum elong	-12314 Jul 27 j 21:36	9° $\mathcal{S}$ 00'32	14°41'11	opposition	-12307 Feb 11 j 19:57	25° $\mathcal{S}$ 24'34	12°53'44
max. Earth dist.	-12314 Jul 28 j 04:20	9° $\mathcal{S}$ 01'13	30.65796 AU	min. Earth dist.	-12307 Feb 10 j 13:30	25° $\mathcal{S}$ 26'38	29.20858 AU
morning rise	-12314 Jul 31 j 00:43	9° $\mathcal{S}$ 08'10		direct	-12307 May 01 j 21:42	24° $\mathcal{S}$ 02'03	
retrograde	-12314 Nov 09 j 18:09	11° $\mathcal{S}$ 42'09		evening set	-12307 Aug 04 j 09:22	26° $\mathcal{S}$ 14'33	
opposition	-12313 Jan 27 j 10:40	10° $\mathcal{S}$ 18'23	15°30'50				
min. Earth dist.	-12313 Jan 27 j 01:27	10° $\mathcal{S}$ 19'01	28.74968 AU	conjunction	-12307 Aug 13 j 18:24	26° $\mathcal{S}$ 36'33	11°50'21
direct	-12313 Apr 16 j 17:41	8° $\mathcal{S}$ 54'05		minimum elong	-12307 Aug 13 j 18:45	26° $\mathcal{S}$ 36'35	11°50'58
evening set	-12313 Jul 26 j 04:23	11° $\mathcal{S}$ 24'06		max. Earth dist.	-12307 Aug 15 j 02:06	26° $\mathcal{S}$ 39'40	31.21749 AU
				morning rise	-12307 Aug 23 j 04:32	26° $\mathcal{S}$ 58'42	
conjunction	-12313 Jul 30 j 15:33	11° $\mathcal{S}$ 34'57	14°20'34	retrograde	-12307 Nov 26 j 21:13	29° $\mathcal{S}$ 12'53	
minimum elong	-12313 Jul 30 j 15:49	11° $\mathcal{S}$ 34'59	14°21'02	min. Earth dist.	-12306 Feb 13 j 06:21	27° $\mathcal{S}$ 52'28	29.31970 AU
max. Earth dist.	-12313 Jul 31 j 03:16	11° $\mathcal{S}$ 36'09	30.70766 AU	opposition	-12306 Feb 14 j 15:18	27° $\mathcal{S}$ 50'15	12°23'01
morning rise	-12313 Aug 04 j 03:14	11° $\mathcal{S}$ 45'52		direct	-12306 May 04 j 16:40	26° $\mathcal{S}$ 28'04	
retrograde	-12313 Nov 12 j 12:35	14° $\mathcal{S}$ 16'06		evening set	-12306 Aug 06 j 09:26	28° $\mathcal{S}$ 38'02	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8

Attention, astronomical year style is used: The year -12306 in astronomical counting style is the year 12307 BCE in historical counting style.

conjunction	-12306 Aug 16 j 08:50	29° <b>8</b> 01'17	11°21'15	retrograde	-12300 Dec 12 j 16:58	15° <b>II</b> 20'59	
minimum elong	-12306 Aug 16 j 09:12	29° <b>8</b> 01'19	11°21'52	min. Earth dist.	-12299 Mar 01 j 02:27	14° <b>II</b> 03'56	30.37382 AU
max. Earth dist.	-12306 Aug 17 j 20:13	29° <b>8</b> 04'44	31.33748 AU	opposition	-12299 Mar 03 j 08:19	14° <b>II</b> 00'25	8°25'03
morning rise	-12306 Aug 26 j 09:18	29° <b>8</b> 24'40		direct	-12299 May 21 j 11:05	12° <b>II</b> 41'05	
	-12306 Sep 11 j 02:19	0° <b>II</b>		evening set	-12299 Aug 18 j 15:38	14° <b>II</b> 35'57	
retrograde	-12306 Nov 29 j 12:47	1° <b>II</b> 36'33					
min. Earth dist.	-12305 Feb 15 j 20:30	0° <b>II</b> 16'38	29.44122 AU	conjunction	-12299 Aug 31 j 18:43	15° <b>II</b> 04'52	7°37'20
opposition	-12305 Feb 17 j 09:35	0° <b>II</b> 14'09	11°51'16	minimum elong	-12299 Aug 31 j 19:00	15° <b>II</b> 04'53	7°38'03
	-12305 Feb 26 j 05:22	30° <b>κ</b> 8		max. Earth dist.	-12299 Sep 03 j 02:05	15° <b>II</b> 09'59	32.44565 AU
direct	-12305 May 07 j 11:48	28° <b>8</b> 52'18		morning rise	-12299 Sep 13 j 23:50	15° <b>II</b> 33'58	
	-12305 Jul 11 j 12:09	0° <b>II</b>		retrograde	-12299 Dec 15 j 02:55	17° <b>II</b> 32'04	
evening set	-12305 Aug 08 j 09:44	0° <b>II</b> 59'51		min. Earth dist.	-12298 Mar 03 j 12:05	16° <b>II</b> 15'33	30.55638 AU
				opposition	-12298 Mar 05 j 21:14	16° <b>II</b> 11'51	7°49'03
conjunction	-12305 Aug 18 j 22:27	1° <b>II</b> 24'14	10°51'14	direct	-12298 May 24 j 00:11	14° <b>II</b> 52'55	
minimum elong	-12305 Aug 18 j 22:48	1° <b>II</b> 24'16	10°51'53	evening set	-12298 Aug 20 j 17:04	16° <b>II</b> 45'56	
max. Earth dist.	-12305 Aug 20 j 12:44	1° <b>II</b> 27'56	31.46789 AU				
morning rise	-12305 Aug 29 j 12:34	1° <b>II</b> 48'45		conjunction	-12298 Sep 03 j 03:48	17° <b>II</b> 15'18	7°03'37
retrograde	-12305 Dec 02 j 03:36	3° <b>II</b> 58'26		minimum elong	-12298 Sep 03 j 04:05	17° <b>II</b> 15'20	7°04'19
min. Earth dist.	-12304 Feb 18 j 11:17	2° <b>II</b> 38'57	29.57339 AU	max. Earth dist.	-12298 Sep 05 j 13:34	17° <b>II</b> 20'36	32.63376 AU
opposition	-12304 Feb 20 j 03:24	2° <b>II</b> 36'17	11°18'35	morning rise	-12298 Sep 16 j 16:49	17° <b>II</b> 44'52	
direct	-12304 May 09 j 03:59	1° <b>II</b> 14'48		retrograde	-12298 Dec 17 j 11:04	19° <b>II</b> 41'16	
evening set	-12304 Aug 09 j 10:10	3° <b>II</b> 20'02		min. Earth dist.	-12297 Mar 05 j 23:09	18° <b>II</b> 25'08	30.74476 AU
				opposition	-12297 Mar 08 j 09:23	18° <b>II</b> 21'23	7°12'52
conjunction	-12304 Aug 20 j 11:28	3° <b>II</b> 45'25	10°20'24	direct	-12297 May 26 j 11:30	17° <b>II</b> 02'51	
minimum elong	-12304 Aug 20 j 11:50	3° <b>II</b> 45'27	10°21'03	evening set	-12297 Aug 22 j 18:27	18° <b>II</b> 54'06	
max. Earth dist.	-12304 Aug 22 j 05:56	3° <b>II</b> 49'30	31.60878 AU				
morning rise	-12304 Aug 31 j 14:01	4° <b>II</b> 10'56		conjunction	-12297 Sep 05 j 12:16	19° <b>II</b> 23'50	6°29'43
retrograde	-12304 Dec 03 j 17:40	6° <b>II</b> 18'30		minimum elong	-12297 Sep 05 j 12:31	19° <b>II</b> 23'51	6°30'27
min. Earth dist.	-12303 Feb 20 j 00:50	4° <b>II</b> 59'31	29.71572 AU	max. Earth dist.	-12297 Sep 08 j 00:02	19° <b>II</b> 29'16	32.82747 AU
opposition	-12303 Feb 21 j 20:22	4° <b>II</b> 56'38	10°45'05	morning rise	-12297 Sep 19 j 08:18	19° <b>II</b> 53'47	
direct	-12303 May 11 j 22:52	3° <b>II</b> 35'34		retrograde	-12297 Dec 19 j 19:32	21° <b>II</b> 48'32	
evening set	-12303 Aug 11 j 11:02	5° <b>II</b> 38'33		min. Earth dist.	-12296 Mar 07 j 07:44	20° <b>II</b> 32'52	30.93863 AU
				opposition	-12296 Mar 09 j 20:40	20° <b>II</b> 28'58	6°36'33
conjunction	-12303 Aug 22 j 23:46	6° <b>II</b> 04'50	9°48'50	direct	-12296 May 27 j 22:54	19° <b>II</b> 10'49	
minimum elong	-12303 Aug 23 j 00:07	6° <b>II</b> 04'52	9°49'30	evening set	-12296 Aug 23 j 19:42	21° <b>II</b> 00'22	
max. Earth dist.	-12303 Aug 24 j 20:24	6° <b>II</b> 09'06	31.75952 AU				
morning rise	-12303 Sep 03 j 14:12	6° <b>II</b> 31'16		conjunction	-12296 Sep 06 j 19:45	21° <b>II</b> 30'24	5°55'43
retrograde	-12303 Dec 06 j 08:33	8° <b>II</b> 36'47		minimum elong	-12296 Sep 06 j 19:59	21° <b>II</b> 30'25	5°56'27
min. Earth dist.	-12302 Feb 22 j 13:34	7° <b>II</b> 18'19	29.86783 AU	max. Earth dist.	-12296 Sep 09 j 09:11	21° <b>II</b> 35'55	33.02637 AU
opposition	-12302 Feb 24 j 12:26	7° <b>II</b> 15'14	10°10'52	morning rise	-12296 Sep 20 j 22:26	22° <b>II</b> 00'39	
direct	-12302 May 14 j 14:40	5° <b>II</b> 54'35		retrograde	-12296 Dec 21 j 03:47	23° <b>II</b> 53'50	
evening set	-12302 Aug 13 j 11:55	7° <b>II</b> 55'26		min. Earth dist.	-12295 Mar 09 j 16:46	22° <b>II</b> 38'32	31.13811 AU
				opposition	-12295 Mar 12 j 07:14	22° <b>II</b> 34'34	6°00'11
conjunction	-12302 Aug 25 j 11:34	8° <b>II</b> 22'31	9°16'39	direct	-12295 May 30 j 08:39	21° <b>II</b> 16'48	
minimum elong	-12302 Aug 25 j 11:55	8° <b>II</b> 22'33	9°17'20	evening set	-12295 Aug 25 j 20:51	23° <b>II</b> 04'43	
max. Earth dist.	-12302 Aug 27 j 12:09	8° <b>II</b> 27'07	31.91945 AU				
morning rise	-12302 Sep 06 j 12:45	8° <b>II</b> 49'45		conjunction	-12295 Sep 09 j 02:46	23° <b>II</b> 34'59	5°21'41
retrograde	-12302 Dec 08 j 19:11	10° <b>II</b> 53'18		minimum elong	-12295 Sep 09 j 02:59	23° <b>II</b> 35'00	5°22'25
min. Earth dist.	-12301 Feb 25 j 02:46	9° <b>II</b> 35'18	30.02869 AU	max. Earth dist.	-12295 Sep 11 j 18:59	23° <b>II</b> 40'42	33.23073 AU
opposition	-12301 Feb 27 j 03:49	9° <b>II</b> 32'05	9°36'03	morning rise	-12295 Sep 23 j 11:07	24° <b>II</b> 05'29	
direct	-12301 May 17 j 06:38	8° <b>II</b> 11'52		retrograde	-12295 Dec 23 j 10:40	25° <b>II</b> 57'08	
evening set	-12301 Aug 15 j 13:01	10° <b>II</b> 10'39		min. Earth dist.	-12294 Mar 12 j 00:14	24° <b>II</b> 42'16	31.34321 AU
				opposition	-12294 Mar 14 j 16:37	24° <b>II</b> 38'11	5°23'50
conjunction	-12301 Aug 27 j 22:27	10° <b>II</b> 38'25	8°43'56	direct	-12294 Jun 01 j 20:20	23° <b>II</b> 20'47	
minimum elong	-12301 Aug 27 j 22:45	10° <b>II</b> 38'27	8°44'38	evening set	-12294 Aug 27 j 22:02	25° <b>II</b> 07'09	
max. Earth dist.	-12301 Aug 30 j 00:46	10° <b>II</b> 43'09	32.08767 AU				
morning rise	-12301 Sep 09 j 09:47	11° <b>II</b> 06'22		conjunction	-12294 Sep 11 j 08:51	25° <b>II</b> 37'36	4°47'40
retrograde	-12301 Dec 11 j 07:11	13° <b>II</b> 08'02		minimum elong	-12294 Sep 11 j 09:02	25° <b>II</b> 37'37	4°48'23
min. Earth dist.	-12300 Feb 27 j 13:55	11° <b>II</b> 50'35	30.19766 AU	max. Earth dist.	-12294 Sep 14 j 02:07	25° <b>II</b> 43'22	33.44068 AU
opposition	-12300 Feb 29 j 18:26	11° <b>II</b> 47'09	9°00'44	morning rise	-12294 Sep 25 j 22:31	26° <b>II</b> 08'17	
direct	-12300 May 18 j 21:16	10° <b>II</b> 27'23		retrograde	-12294 Dec 25 j 18:32	27° <b>II</b> 58'30	
evening set	-12300 Aug 16 j 14:14	12° <b>II</b> 24'10		min. Earth dist.	-12293 Mar 14 j 06:30	26° <b>II</b> 44'04	31.55442 AU
				opposition	-12293 Mar 17 j 01:22	26° <b>II</b> 39'51	4°47'33
conjunction	-12300 Aug 29 j 08:56	12° <b>II</b> 52'33	8°10'48	direct	-12293 Jun 04 j 05:09	25° <b>II</b> 22'51	
minimum elong	-12300 Aug 29 j 09:15	12° <b>II</b> 52'35	8°11'30	evening set	-12293 Aug 29 j 22:50	27° <b>II</b> 07'45	
max. Earth dist.	-12300 Aug 31 j 14:44	12° <b>II</b> 57'34	32.26331 AU				
morning rise	-12300 Sep 11 j 05:31	13° <b>II</b> 21'08		conjunction	-12293 Sep 13 j 14:13	27° <b>II</b> 38'19	4°13'43



## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 9

Attention, astronomical year style is used: The year -12293 in astronomical counting style is the year 12294 BCE in historical counting style.

minimum elong	-12293 Sep 13 j 14:23	27° $\Pi$ 38'19	4°14'28	min. Earth dist.	-12286 Mar 27 j 11:28	10° $\mathfrak{D}$ 08'17	33.18277 AU
max. Earth dist.	-12293 Sep 16 j 10:38	27° $\Pi$ 44'18	33.65655 AU	opposition	-12286 Mar 30 j 16:47	10° $\mathfrak{D}$ 03'37	0°40'38
morning rise	-12293 Sep 28 j 08:19	28° $\Pi$ 09'06		direct	-12286 Jun 17 j 20:19	8° $\mathfrak{D}$ 49'30	
retrograde	-12293 Dec 27 j 22:07	29° $\Pi$ 57'58		evening set	-12286 Sep 11 j 03:13	10° $\mathfrak{D}$ 26'13	
min. Earth dist.	-12292 Mar 15 j 13:14	28° $\Pi$ 43'56	31.77173 AU				
opposition	-12292 Mar 18 j 09:21	28° $\Pi$ 39'40	4°11'25	conjunction	-12286 Sep 26 j 10:42	10° $\mathfrak{D}$ 56'17	0°22'41
direct	-12292 Jun 05 j 14:25	27° $\Pi$ 23'03		minimum elong	-12286 Sep 26 j 10:43	10° $\mathfrak{D}$ 56'17	0°23'24
evening set	-12292 Aug 30 j 23:47	29° $\Pi$ 06'35		max. Earth dist.	-12286 Sep 29 j 17:39	11° $\mathfrak{D}$ 02'47	35.30555 AU
				morning rise	-12286 Oct 11 j 21:22	11° $\mathfrak{D}$ 26'36	
conjunction	-12292 Sep 14 j 18:58	29° $\Pi$ 37'12	3°39'55	retrograde	-12285 Jan 09 j 17:52	13° $\mathfrak{D}$ 07'49	
minimum elong	-12292 Sep 14 j 19:07	29° $\Pi$ 37'12	3°40'39	min. Earth dist.	-12285 Mar 29 j 14:03	11° $\mathfrak{D}$ 56'48	33.42892 AU
max. Earth dist.	-12292 Sep 17 j 16:23	29° $\Pi$ 43'14	33.87845 AU	opposition	-12285 Apr 01 j 19:36	11° $\mathfrak{D}$ 52'08	0°06'54
	-12292 Sep 25 j 18:33	0° $\mathfrak{D}$		desc. node	-12285 Jun 16 j 10:21	10° $\mathfrak{D}$ 38'37	
morning rise	-12292 Sep 29 j 17:08	0° $\mathfrak{D}$ 08'04		direct	-12285 Jun 20 j 01:28	10° $\mathfrak{D}$ 38'25	
retrograde	-12292 Dec 29 j 02:40	1° $\mathfrak{D}$ 55'38		evening set	-12285 Sep 13 j 03:25	12° $\mathfrak{D}$ 14'11	
min. Earth dist.	-12291 Mar 17 j 17:24	0° $\mathfrak{D}$ 42'07	31.99521 AU				
opposition	-12291 Mar 20 j 16:24	0° $\mathfrak{D}$ 37'42	3°35'29	conjunction	-12285 Sep 28 j 11:10	12° $\mathfrak{D}$ 44'01	-0°08'59
	-12291 Apr 15 j 23:41	30° $\mathfrak{K}$ $\Pi$		minimum elong	-12285 Sep 28 j 11:10	12° $\mathfrak{D}$ 44'01	0°08'15
direct	-12291 Jun 07 j 22:22	29° $\Pi$ 21'30		behind sun begin	-12285 Sep 28 j 05:30	12° $\mathfrak{D}$ 43'34	
	-12291 Jul 28 j 06:58	0° $\mathfrak{D}$		behind sun end	-12285 Sep 28 j 16:50	12° $\mathfrak{D}$ 44'27	
evening set	-12291 Sep 02 j 00:32	1° $\mathfrak{D}$ 03'42		max. Earth dist.	-12285 Oct 01 j 17:51	12° $\mathfrak{D}$ 50'27	35.55255 AU
				morning rise	-12285 Oct 13 j 22:21	13° $\mathfrak{D}$ 14'07	
conjunction	-12291 Sep 16 j 23:05	1° $\mathfrak{D}$ 34'21	3°06'18	retrograde	-12284 Jan 11 j 19:46	14° $\mathfrak{D}$ 54'26	
minimum elong	-12291 Sep 16 j 23:12	1° $\mathfrak{D}$ 34'21	3°07'03	min. Earth dist.	-12284 Mar 30 j 14:35	13° $\mathfrak{D}$ 43'49	33.67662 AU
max. Earth dist.	-12291 Sep 19 j 23:13	1° $\mathfrak{D}$ 40'34	34.10599 AU	opposition	-12284 Apr 02 j 21:47	13° $\mathfrak{D}$ 39'05	-0°26'20
morning rise	-12291 Oct 02 j 00:40	2° $\mathfrak{D}$ 05'14		direct	-12284 Jun 21 j 04:42	12° $\mathfrak{D}$ 25'43	
retrograde	-12291 Dec 31 j 05:29	3° $\mathfrak{D}$ 51'36		evening set	-12284 Sep 14 j 03:33	14° $\mathfrak{D}$ 00'34	
min. Earth dist.	-12290 Mar 19 j 23:06	2° $\mathfrak{D}$ 38'29	32.22430 AU				
opposition	-12290 Mar 22 j 22:49	2° $\mathfrak{D}$ 34'02	2°59'49	conjunction	-12284 Sep 29 j 11:17	14° $\mathfrak{D}$ 30'10	-0°40'05
direct	-12290 Jun 10 j 05:02	1° $\mathfrak{D}$ 18'16		minimum elong	-12284 Sep 29 j 11:15	14° $\mathfrak{D}$ 30'09	0°39'21
evening set	-12290 Sep 04 j 01:10	2° $\mathfrak{D}$ 59'15		max. Earth dist.	-12284 Oct 02 j 19:39	14° $\mathfrak{D}$ 36'41	35.80074 AU
				morning rise	-12284 Oct 14 j 22:24	15° $\mathfrak{D}$ 00'01	
conjunction	-12290 Sep 19 j 02:32	3° $\mathfrak{D}$ 29'51	2°32'56	retrograde	-12283 Jan 12 j 17:34	16° $\mathfrak{D}$ 39'27	
minimum elong	-12290 Sep 19 j 02:38	3° $\mathfrak{D}$ 29'51	2°33'40	min. Earth dist.	-12283 Apr 01 j 16:28	15° $\mathfrak{D}$ 29'07	33.92569 AU
max. Earth dist.	-12290 Sep 22 j 03:56	3° $\mathfrak{D}$ 36'07	34.33871 AU	opposition	-12283 Apr 04 j 23:11	15° $\mathfrak{D}$ 24'25	-0°59'03
morning rise	-12290 Oct 04 j 06:55	4° $\mathfrak{D}$ 00'42		direct	-12283 Jun 23 j 07:31	14° $\mathfrak{D}$ 11'24	
retrograde	-12289 Jan 02 j 08:22	5° $\mathfrak{D}$ 45'56		evening set	-12283 Sep 16 j 03:26	15° $\mathfrak{D}$ 45'23	
min. Earth dist.	-12289 Mar 22 j 02:01	4° $\mathfrak{D}$ 33'20	32.45834 AU				
opposition	-12289 Mar 25 j 04:16	4° $\mathfrak{D}$ 28'45	2°24'27	conjunction	-12283 Oct 01 j 10:46	16° $\mathfrak{D}$ 14'41	-1°10'45
direct	-12289 Jun 12 j 10:49	3° $\mathfrak{D}$ 13'25		minimum elong	-12283 Oct 01 j 10:43	16° $\mathfrak{D}$ 14'41	1°10'02
evening set	-12289 Sep 06 j 01:49	4° $\mathfrak{D}$ 53'14		max. Earth dist.	-12283 Oct 04 j 19:23	16° $\mathfrak{D}$ 21'11	36.05030 AU
				morning rise	-12283 Oct 16 j 21:25	16° $\mathfrak{D}$ 44'15	
conjunction	-12289 Sep 21 j 05:19	5° $\mathfrak{D}$ 23'46	1°59'50	retrograde	-12282 Jan 14 j 14:40	18° $\mathfrak{D}$ 22'53	
minimum elong	-12289 Sep 21 j 05:24	5° $\mathfrak{D}$ 23'46	2°00'35	min. Earth dist.	-12282 Apr 03 j 15:24	17° $\mathfrak{D}$ 12'56	34.17631 AU
max. Earth dist.	-12289 Sep 24 j 08:16	5° $\mathfrak{D}$ 30'06	34.57578 AU	opposition	-12282 Apr 06 j 23:50	17° $\mathfrak{D}$ 08'09	-1°31'14
morning rise	-12289 Oct 06 j 12:08	5° $\mathfrak{D}$ 54'33		direct	-12282 Jun 25 j 09:56	15° $\mathfrak{D}$ 55'27	
retrograde	-12288 Jan 04 j 11:22	7° $\mathfrak{D}$ 38'42		evening set	-12282 Sep 18 j 03:11	17° $\mathfrak{D}$ 28'38	
min. Earth dist.	-12288 Mar 23 j 06:21	6° $\mathfrak{D}$ 26'30	32.69673 AU				
opposition	-12288 Mar 26 j 09:16	6° $\mathfrak{D}$ 21'55	1°49'26	conjunction	-12282 Oct 03 j 09:29	17° $\mathfrak{D}$ 57'37	-1°40'56
direct	-12288 Jun 13 j 14:16	5° $\mathfrak{D}$ 07'00		minimum elong	-12282 Oct 03 j 09:26	17° $\mathfrak{D}$ 57'37	1°40'14
evening set	-12288 Sep 07 j 02:13	6° $\mathfrak{D}$ 45'43		max. Earth dist.	-12282 Oct 06 j 19:07	18° $\mathfrak{D}$ 04'08	36.30130 AU
				morning rise	-12282 Oct 18 j 19:21	18° $\mathfrak{D}$ 26'52	
conjunction	-12288 Sep 22 j 07:38	7° $\mathfrak{D}$ 16'08	1°27'05	retrograde	-12281 Jan 16 j 12:13	20° $\mathfrak{D}$ 04'44	
minimum elong	-12288 Sep 22 j 07:42	7° $\mathfrak{D}$ 16'08	1°27'49	min. Earth dist.	-12281 Apr 05 j 15:21	18° $\mathfrak{D}$ 55'03	34.42894 AU
max. Earth dist.	-12288 Sep 25 j 12:22	7° $\mathfrak{D}$ 22'35	34.81658 AU	opposition	-12281 Apr 08 j 23:54	18° $\mathfrak{D}$ 50'18	-2°02'52
morning rise	-12288 Oct 07 j 16:09	7° $\mathfrak{D}$ 46'48		direct	-12281 Jun 27 j 09:31	17° $\mathfrak{D}$ 37'55	
retrograde	-12287 Jan 05 j 14:09	9° $\mathfrak{D}$ 29'56		evening set	-12281 Sep 20 j 02:37	19° $\mathfrak{D}$ 10'21	
min. Earth dist.	-12287 Mar 25 j 09:09	8° $\mathfrak{D}$ 18'10	32.93841 AU				
opposition	-12287 Mar 28 j 13:24	8° $\mathfrak{D}$ 13'32	1°14'49	conjunction	-12281 Oct 05 j 07:49	19° $\mathfrak{D}$ 39'00	-2°10'36
direct	-12287 Jun 15 j 18:03	6° $\mathfrak{D}$ 59'02		minimum elong	-12281 Oct 05 j 07:45	19° $\mathfrak{D}$ 38'59	2°09'55
evening set	-12287 Sep 09 j 02:51	8° $\mathfrak{D}$ 36'43		max. Earth dist.	-12281 Oct 08 j 18:45	19° $\mathfrak{D}$ 45'33	36.55447 AU
				morning rise	-12281 Oct 20 j 16:15	20° $\mathfrak{D}$ 07'54	
conjunction	-12287 Sep 24 j 09:23	9° $\mathfrak{D}$ 06'58	0°54'41	retrograde	-12280 Jan 18 j 09:19	21° $\mathfrak{D}$ 45'03	
minimum elong	-12287 Sep 24 j 09:25	9° $\mathfrak{D}$ 06'59	0°55'24	min. Earth dist.	-12280 Apr 06 j 13:33	20° $\mathfrak{D}$ 35'44	34.68385 AU
max. Earth dist.	-12287 Sep 27 j 14:26	9° $\mathfrak{D}$ 13'23	35.06003 AU	opposition	-12280 Apr 09 j 23:13	20° $\mathfrak{D}$ 30'56	-2°33'55
morning rise	-12287 Oct 09 j 19:23	9° $\mathfrak{D}$ 37'30		direct	-12280 Jun 28 j 09:30	19° $\mathfrak{D}$ 18'52	
retrograde	-12286 Jan 07 j 17:02	11° $\mathfrak{D}$ 19'39		evening set	-12280 Sep 21 j 02:02	20° $\mathfrak{D}$ 50'36	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10

Attention, astronomical year style is used: The year -12280 in astronomical counting style is the year 12281 BCE in historical counting style.

conjunction	-12280 Oct 06 j 05:28	21°☿18'54	-2°39'45	retrograde	-12273 Jan 29 j 05:49	2°♂52'05	
minimum elong	-12280 Oct 06 j 05:23	21°☿18'53	2°39'03	min. Earth dist.	-12273 Apr 18 j 15:16	1°♂45'09	36.51194 AU
max. Earth dist.	-12280 Oct 09 j 16:33	21°☿25'25	36.80985 AU	opposition	-12273 Apr 22 j 03:18	1°♂40'22	-5°54'15
morning rise	-12280 Oct 21 j 12:28	21°☿47'27		direct	-12273 Jul 10 j 15:56	0°♂30'46	
retrograde	-12279 Jan 19 j 08:32	23°☿23'56		evening set	-12273 Oct 03 j 18:12	1°♂59'00	
min. Earth dist.	-12279 Apr 08 j 11:26	22°☿14'58	34.94130 AU				
opposition	-12279 Apr 11 j 22:05	22°☿10'08	-3°04'23	conjunction	-12273 Oct 18 j 01:12	2°♂24'21	-5°48'10
direct	-12279 Jun 30 j 07:17	20°☿58'25		minimum elong	-12273 Oct 18 j 01:02	2°♂24'20	5°47'32
evening set	-12279 Sep 23 j 01:14	22°☿29'31		max. Earth dist.	-12273 Oct 21 j 15:01	2°♂30'44	38.63113 AU
				morning rise	-12273 Nov 01 j 11:23	2°♂49'56	
conjunction	-12279 Oct 08 j 02:51	22°☿57'26	-3°08'21	retrograde	-12272 Jan 31 j 03:03	4°♂23'02	
minimum elong	-12279 Oct 08 j 02:45	22°☿57'26	3°07'40	min. Earth dist.	-12272 Apr 19 j 10:18	3°♂16'23	36.77199 AU
max. Earth dist.	-12279 Oct 11 j 15:50	23°☿04'03	37.06750 AU	opposition	-12272 Apr 22 j 22:31	3°♂11'38	-6°20'25
morning rise	-12279 Oct 23 j 07:41	23°☿25'36		direct	-12272 Jul 11 j 09:23	2°♂02'20	
retrograde	-12278 Jan 21 j 05:31	25°☿01'28		evening set	-12272 Oct 04 j 16:33	3°♂30'12	
min. Earth dist.	-12278 Apr 10 j 09:27	23°☿52'50	35.20084 AU				
opposition	-12278 Apr 13 j 20:08	23°☿48'01	-3°34'14	conjunction	-12272 Oct 18 j 19:38	3°♂55'05	-6°12'50
direct	-12278 Jul 02 j 06:34	22°☿36'39		minimum elong	-12272 Oct 18 j 19:27	3°♂55'04	6°12'12
evening set	-12278 Sep 25 j 00:21	24°☿07'10		max. Earth dist.	-12272 Oct 22 j 10:24	4°♂01'30	38.88868 AU
				morning rise	-12272 Nov 02 j 01:35	4°♂20'11	
conjunction	-12278 Oct 09 j 23:34	24°☿34'42	-3°36'23	retrograde	-12271 Jan 31 j 21:11	5°♂52'54	
minimum elong	-12278 Oct 09 j 23:27	24°☿34'42	3°35'42	min. Earth dist.	-12271 Apr 21 j 06:08	4°♂46'28	37.03022 AU
max. Earth dist.	-12278 Oct 13 j 12:15	24°☿41'15	37.32707 AU	opposition	-12271 Apr 24 j 17:14	4°♂41'48	-6°45'59
morning rise	-12278 Oct 25 j 02:10	25°☿02'29		direct	-12271 Jul 13 j 05:09	3°♂32'46	
retrograde	-12277 Jan 23 j 03:34	26°☿37'47		evening set	-12271 Oct 06 j 14:53	5°♂00'17	
min. Earth dist.	-12277 Apr 12 j 05:30	25°☿29'33	35.46227 AU				
opposition	-12277 Apr 15 j 17:47	25°☿24'41	-4°03'28	conjunction	-12271 Oct 20 j 13:35	5°♂24'41	-6°36'57
direct	-12277 Jul 04 j 03:52	24°☿13'40		minimum elong	-12271 Oct 20 j 13:24	5°♂24'41	6°36'20
evening set	-12277 Sep 26 j 23:10	25°☿43'39		max. Earth dist.	-12271 Oct 24 j 03:16	5°♂30'59	39.14450 AU
				morning rise	-12271 Nov 03 j 15:08	5°♂49'18	
conjunction	-12277 Oct 11 j 19:46	26°☿10'47	-4°03'52	retrograde	-12270 Feb 02 j 14:15	7°♂21'39	
minimum elong	-12277 Oct 11 j 19:38	26°☿10'46	4°03'12	min. Earth dist.	-12270 Apr 22 j 23:19	6°♂15'31	37.28696 AU
max. Earth dist.	-12277 Oct 15 j 09:57	26°☿17'23	37.58799 AU	opposition	-12270 Apr 26 j 11:15	6°♂10'50	-7°10'55
morning rise	-12277 Oct 26 j 19:41	26°☿38'10		direct	-12270 Jul 15 j 00:15	5°♂02'04	
retrograde	-12276 Jan 24 j 21:26	28°☿12'57		evening set	-12270 Oct 08 j 12:57	6°♂29'16	
min. Earth dist.	-12276 Apr 13 j 03:26	27°☿05'01	35.72485 AU				
opposition	-12276 Apr 16 j 15:03	27°☿00'12	-4°32'05	conjunction	-12270 Oct 22 j 07:02	6°♂53'10	-7°00'29
direct	-12276 Jul 05 j 02:47	25°☿49'34		minimum elong	-12270 Oct 22 j 06:50	6°♂53'09	6°59'53
evening set	-12276 Sep 27 j 22:02	27°☿19'03		max. Earth dist.	-12270 Oct 25 j 21:15	6°♂59'27	39.39888 AU
				morning rise	-12270 Nov 05 j 03:57	7°♂17'16	
conjunction	-12276 Oct 12 j 15:46	27°☿45'46	-4°30'47	retrograde	-12269 Feb 04 j 04:26	8°♂49'18	
minimum elong	-12276 Oct 12 j 15:37	27°☿45'45	4°30'07	min. Earth dist.	-12269 Apr 24 j 18:07	7°♂43'21	37.54267 AU
max. Earth dist.	-12276 Oct 16 j 05:56	27°☿52'20	37.84969 AU	opposition	-12269 Apr 28 j 05:01	7°♂38'44	-7°35'15
morning rise	-12276 Oct 27 j 12:38	28°☿12'43		direct	-12269 Jul 16 j 20:38	6°♂30'14	
retrograde	-12275 Jan 25 j 15:53	29°☿47'02		evening set	-12269 Oct 10 j 10:40	7°♂57'07	
min. Earth dist.	-12275 Apr 14 j 22:54	28°☿39'30	35.98782 AU				
opposition	-12275 Apr 18 j 11:30	28°☿34'38	-5°00'06	conjunction	-12269 Oct 24 j 00:01	8°♂20'31	-7°23'27
direct	-12275 Jul 07 j 00:34	27°☿24'22		minimum elong	-12269 Oct 23 j 23:48	8°♂20'30	7°22'52
evening set	-12275 Sep 29 j 20:56	28°☿53'24		max. Earth dist.	-12269 Oct 27 j 14:19	8°♂26'47	39.65253 AU
				morning rise	-12269 Nov 06 j 15:53	8°♂44'06	
conjunction	-12275 Oct 14 j 11:18	29°☿19'40	-4°57'09	retrograde	-12268 Feb 05 j 18:57	10°♂15'51	
minimum elong	-12275 Oct 14 j 11:09	29°☿19'40	4°56'30	min. Earth dist.	-12268 Apr 25 j 10:42	9°♂10'11	37.79776 AU
max. Earth dist.	-12275 Oct 18 j 01:38	29°☿26'12	38.11117 AU	opposition	-12268 Apr 28 j 22:11	9°♂05'32	-7°58'58
morning rise	-12275 Oct 29 j 05:00	29°☿46'11		direct	-12268 Jul 17 j 15:37	7°♂57'18	
	-12275 Nov 06 j 03:32	0°♂		evening set	-12268 Oct 11 j 08:32	9°♂23'56	
retrograde	-12274 Jan 27 j 11:29	1°♂20'04					
min. Earth dist.	-12274 Apr 16 j 19:39	0°♂12'50	36.25048 AU	conjunction	-12268 Oct 24 j 16:40	9°♂46'49	-7°45'50
opposition	-12274 Apr 20 j 07:43	0°♂08'02	-5°27'29	minimum elong	-12268 Oct 24 j 16:27	9°♂46'48	7°45'15
	-12274 Apr 26 j 04:41	30°♂		max. Earth dist.	-12268 Oct 28 j 06:37	9°♂53'00	39.90563 AU
direct	-12274 Jul 08 j 19:20	28°☿58'06		morning rise	-12268 Nov 07 j 03:32	10°♂09'52	
	-12274 Sep 16 j 00:07	0°♂		retrograde	-12267 Feb 06 j 11:54	11°♂41'21	
evening set	-12274 Oct 01 j 19:31	0°♂26'43		min. Earth dist.	-12267 Apr 27 j 03:38	10°♂35'56	38.05267 AU
				opposition	-12267 Apr 30 j 14:57	10°♂31'19	-8°22'02
conjunction	-12274 Oct 16 j 06:29	0°♂52'32	-5°22'56	direct	-12267 Jul 19 j 07:14	9°♂23'21	
minimum elong	-12274 Oct 16 j 06:19	0°♂52'32	5°22'17	evening set	-12267 Oct 13 j 06:05	10°♂49'44	
max. Earth dist.	-12274 Oct 19 j 21:23	0°♂59'04	38.37187 AU				
morning rise	-12274 Oct 30 j 20:23	1°♂18'35		conjunction	-12267 Oct 26 j 09:05	11°♂12'06	-8°07'39

Attention, astronomical year style is used: The year -12267 in astronomical counting style is the year 12268 BCE in historical counting style.

minimum elong	-12267 Oct 26 j 08:52	11° $\Omega$ 12'05	8°07'05	morning rise	-12261 Nov 15 j 20:52	19° $\Omega$ 45'14	
max. Earth dist.	-12267 Oct 30 j 00:01	11° $\Omega$ 18'18	40.15855 AU	retrograde	-12260 Feb 16 j 20:45	21° $\Omega$ 15'40	
morning rise	-12267 Nov 08 j 14:25	11° $\Omega$ 34'38		min. Earth dist.	-12260 May 06 j 17:00	20° $\Omega$ 11'54	39.80550 AU
retrograde	-12266 Feb 08 j 03:52	13° $\Omega$ 05'53		opposition	-12260 May 10 j 01:37	20° $\Omega$ 07'34	-10°46'53
min. Earth dist.	-12266 Apr 28 j 20:17	12° $\Omega$ 00'42	38.30722 AU	direct	-12260 Jul 28 j 20:13	19° $\Omega$ 01'26	
opposition	-12266 May 02 j 07:15	11° $\Omega$ 56'07	-8°44'30	evening set	-12260 Oct 24 j 10:43	20° $\Omega$ 27'02	
direct	-12266 Jul 20 j 23:55	10° $\Omega$ 48'25					
evening set	-12266 Oct 15 j 03:31	12° $\Omega$ 14'38		conjunction	-12260 Nov 04 j 18:45	20° $\Omega$ 45'34	-10°24'52
				minimum elong	-12260 Nov 04 j 18:31	20° $\Omega$ 45'34	10°24'23
conjunction	-12266 Oct 28 j 00:51	12° $\Omega$ 36'28	-8°28'53	max. Earth dist.	-12260 Nov 08 j 06:55	20° $\Omega$ 51'20	41.89077 AU
minimum elong	-12266 Oct 28 j 00:38	12° $\Omega$ 36'27	8°28'19	morning rise	-12260 Nov 16 j 04:23	21° $\Omega$ 04'13	
max. Earth dist.	-12266 Oct 31 j 14:43	12° $\Omega$ 42'33	40.41107 AU	retrograde	-12259 Feb 17 j 10:45	22° $\Omega$ 34'34	
morning rise	-12266 Nov 10 j 00:38	12° $\Omega$ 58'27		min. Earth dist.	-12259 May 08 j 08:27	21° $\Omega$ 30'56	40.04508 AU
retrograde	-12265 Feb 09 j 22:11	14° $\Omega$ 29'30		opposition	-12259 May 11 j 15:24	21° $\Omega$ 26'42	-11°05'21
min. Earth dist.	-12265 Apr 30 j 11:31	13° $\Omega$ 24'37	38.56137 AU	direct	-12259 Jul 30 j 10:40	20° $\Omega$ 20'46	
opposition	-12265 May 03 j 23:13	13° $\Omega$ 20'02	-9°06'21	evening set	-12259 Oct 26 j 07:46	21° $\Omega$ 46'21	
direct	-12265 Jul 22 j 14:16	12° $\Omega$ 12'36					
evening set	-12265 Oct 17 j 00:49	13° $\Omega$ 38'39		conjunction	-12259 Nov 06 j 08:45	22° $\Omega$ 04'18	-10°42'23
				minimum elong	-12259 Nov 06 j 08:30	22° $\Omega$ 04'17	10°41'54
conjunction	-12265 Oct 29 j 16:31	13° $\Omega$ 59'57	-8°49'34	max. Earth dist.	-12259 Nov 09 j 19:09	22° $\Omega$ 09'55	42.12674 AU
minimum elong	-12265 Oct 29 j 16:17	13° $\Omega$ 59'56	8°49'01	morning rise	-12259 Nov 17 j 11:16	22° $\Omega$ 22'22	
max. Earth dist.	-12265 Nov 02 j 07:19	14° $\Omega$ 06'04	40.66291 AU	retrograde	-12258 Feb 19 j 01:19	23° $\Omega$ 52'38	
morning rise	-12265 Nov 11 j 10:29	14° $\Omega$ 21'24		min. Earth dist.	-12258 May 09 j 21:42	22° $\Omega$ 49'13	40.28135 AU
	-12265 Dec 06 j 03:30	15° $\Omega$		opposition	-12258 May 13 j 04:52	22° $\Omega$ 45'00	-11°23'16
retrograde	-12264 Feb 11 j 13:17	15° $\Omega$ 52'17		direct	-12258 Aug 01 j 00:32	21° $\Omega$ 39'16	
	-12264 Apr 21 j 14:30	15° $\Omega$		evening set	-12258 Oct 28 j 04:25	23° $\Omega$ 04'49	
min. Earth dist.	-12264 May 01 j 04:27	14° $\Omega$ 47'36	38.81460 AU				
opposition	-12264 May 04 j 14:49	14° $\Omega$ 43'06	-9°27'36	conjunction	-12258 Nov 07 j 22:13	23° $\Omega$ 22'11	-10°59'24
direct	-12264 Jul 23 j 06:15	13° $\Omega$ 35'57		minimum elong	-12258 Nov 07 j 21:59	23° $\Omega$ 22'11	10°58'57
	-12264 Oct 16 j 18:49	15° $\Omega$		max. Earth dist.	-12258 Nov 11 j 08:34	23° $\Omega$ 27'46	42.35950 AU
evening set	-12264 Oct 17 j 22:06	15° $\Omega$ 01'53		morning rise	-12258 Nov 18 j 17:33	23° $\Omega$ 39'39	
				retrograde	-12257 Feb 20 j 12:08	25° $\Omega$ 09'54	
conjunction	-12264 Oct 30 j 07:54	15° $\Omega$ 22'38	-9°09'41	min. Earth dist.	-12257 May 11 j 12:32	24° $\Omega$ 06'35	40.51480 AU
minimum elong	-12264 Oct 30 j 07:41	15° $\Omega$ 22'37	9°09'08	opposition	-12257 May 14 j 18:06	24° $\Omega$ 02'27	-11°40'39
max. Earth dist.	-12264 Nov 02 j 21:55	15° $\Omega$ 28'40	40.91360 AU	direct	-12257 Aug 02 j 15:34	22° $\Omega$ 56'55	
morning rise	-12264 Nov 11 j 19:45	15° $\Omega$ 43'32		evening set	-12257 Oct 30 j 01:06	24° $\Omega$ 22'28	
retrograde	-12263 Feb 12 j 02:23	17° $\Omega$ 14'16					
min. Earth dist.	-12263 May 02 j 19:02	16° $\Omega$ 09'53	39.06627 AU	conjunction	-12257 Nov 09 j 11:35	24° $\Omega$ 39'15	-11°15'55
opposition	-12263 May 06 j 05:58	16° $\Omega$ 05'22	-9°48'16	minimum elong	-12257 Nov 09 j 11:20	24° $\Omega$ 39'14	11°15'28
	-12263 Jul 14 j 07:18	15° $\Omega$		max. Earth dist.	-12257 Nov 12 j 21:36	24° $\Omega$ 44'46	42.58989 AU
direct	-12263 Jul 24 j 23:53	14° $\Omega$ 58'29		morning rise	-12257 Nov 19 j 23:15	24° $\Omega$ 56'07	
	-12263 Aug 04 j 14:28	15° $\Omega$		retrograde	-12256 Feb 21 j 22:04	26° $\Omega$ 26'20	
evening set	-12263 Oct 19 j 19:26	16° $\Omega$ 24'19		min. Earth dist.	-12256 May 12 j 01:06	25° $\Omega$ 23'14	40.74601 AU
				opposition	-12256 May 15 j 06:45	25° $\Omega$ 19'06	-11°57'30
conjunction	-12263 Oct 31 j 22:59	16° $\Omega$ 44'31	-9°29'15	direct	-12256 Aug 03 j 06:58	24° $\Omega$ 13'45	
minimum elong	-12263 Oct 31 j 22:44	16° $\Omega$ 44'30	9°28'44	evening set	-12256 Oct 30 j 21:46	25° $\Omega$ 39'20	
max. Earth dist.	-12263 Nov 04 j 12:33	16° $\Omega$ 50'29	41.16223 AU				
morning rise	-12263 Nov 13 j 04:41	17° $\Omega$ 04'52		conjunction	-12256 Nov 10 j 00:32	25° $\Omega$ 55'31	-11°31'55
retrograde	-12262 Feb 13 j 15:44	18° $\Omega$ 35'30		minimum elong	-12256 Nov 10 j 00:18	25° $\Omega$ 55'30	11°31'30
min. Earth dist.	-12262 May 04 j 11:11	17° $\Omega$ 31'18	39.31574 AU	max. Earth dist.	-12256 Nov 13 j 09:28	26° $\Omega$ 00'57	42.81824 AU
opposition	-12262 May 07 j 20:48	17° $\Omega$ 26'52	-10°08'22	morning rise	-12256 Nov 20 j 04:41	26° $\Omega$ 11'48	
direct	-12262 Jul 26 j 15:47	16° $\Omega$ 20'16		retrograde	-12255 Feb 22 j 11:39	27° $\Omega$ 42'01	
evening set	-12262 Oct 21 j 16:34	17° $\Omega$ 46'00		min. Earth dist.	-12255 May 13 j 14:09	26° $\Omega$ 39'05	40.97555 AU
				opposition	-12255 May 16 j 19:16	26° $\Omega$ 35'00	-12°13'48
conjunction	-12262 Nov 02 j 13:54	18° $\Omega$ 05'39	-9°48'18	direct	-12255 Aug 04 j 18:13	25° $\Omega$ 29'51	
minimum elong	-12262 Nov 02 j 13:41	18° $\Omega$ 05'38	9°47'48	evening set	-12255 Nov 01 j 18:15	26° $\Omega$ 55'29	
max. Earth dist.	-12262 Nov 06 j 03:23	18° $\Omega$ 11'35	41.40839 AU				
morning rise	-12262 Nov 14 j 12:59	18° $\Omega$ 25'27		conjunction	-12255 Nov 11 j 13:22	27° $\Omega$ 11'05	-11°47'24
retrograde	-12261 Feb 15 j 04:53	19° $\Omega$ 55'58		minimum elong	-12255 Nov 11 j 13:07	27° $\Omega$ 11'04	11°46'59
min. Earth dist.	-12261 May 06 j 02:15	18° $\Omega$ 52'00	39.56226 AU	max. Earth dist.	-12255 Nov 14 j 22:51	27° $\Omega$ 16'30	43.04504 AU
opposition	-12261 May 09 j 11:18	18° $\Omega$ 47'37	-10°27'54	morning rise	-12255 Nov 21 j 09:29	27° $\Omega$ 26'45	
direct	-12261 Jul 28 j 07:13	17° $\Omega$ 41'15		retrograde	-12254 Feb 23 j 23:19	28° $\Omega$ 57'00	
evening set	-12261 Oct 23 j 13:41	19° $\Omega$ 06'55		min. Earth dist.	-12254 May 15 j 03:08	27° $\Omega$ 54'14	41.20344 AU
				opposition	-12254 May 18 j 07:19	27° $\Omega$ 50'13	-12°29'34
conjunction	-12261 Nov 04 j 04:19	19° $\Omega$ 26'01	-10°06'50	direct	-12254 Aug 06 j 06:40	26° $\Omega$ 45'17	
minimum elong	-12261 Nov 04 j 04:04	19° $\Omega$ 26'00	10°06'20	evening set	-12254 Nov 03 j 14:46	28° $\Omega$ 11'00	
max. Earth dist.	-12261 Nov 07 j 16:12	19° $\Omega$ 31'47	41.65133 AU				

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 12

Attention, astronomical year style is used: The year -12254 in astronomical counting style is the year 12255 BCE in historical counting style.

conjunction	-12254 Nov 13 j 01:46	28°025'59	-12°02'23	max. Earth dist.	-12248 Nov 23 j 04:23	5°04'49"00	44.57083 AU
minimum elong	-12254 Nov 13 j 01:31	28°025'58	12°01'59	morning rise	-12248 Nov 27 j 06:30	5°05'55"17	
max. Earth dist.	-12254 Nov 16 j 09:52	28°031'17	43.27040 AU	retrograde	-12247 Mar 04 j 08:14	7°06'26"29	
morning rise	-12254 Nov 22 j 13:47	28°041'03		min. Earth dist.	-12247 May 23 j 15:08	6°06'24"53	42.73112 AU
	-12253 Jan 25 j 06:24	0°00'00"		opposition	-12247 May 26 j 13:08	6°06'21"16	-14°05'55
retrograde	-12253 Feb 25 j 13:27	0°00'11"21		direct	-12247 Aug 14 j 13:52	5°05'17"45	
	-12253 Mar 29 j 01:09	30°00'00"		evening set	-12247 Nov 14 j 15:52	6°06'44"46	
min. Earth dist.	-12253 May 16 j 14:34	29°008'50	41.42992 AU				
opposition	-12253 May 19 j 19:11	29°004'48	-12°44'48	conjunction	-12247 Nov 21 j 11:29	6°05'55"14	-13°34'10
direct	-12253 Aug 07 j 17:14	28°000'05		minimum elong	-12247 Nov 21 j 11:16	6°05'55"13	13°33'52
evening set	-12253 Nov 05 j 11:02	29°025'55		max. Earth dist.	-12247 Nov 24 j 13:51	6°05'59"59	44.77439 AU
				morning rise	-12247 Nov 28 j 07:22	7°05'05"42	
conjunction	-12253 Nov 14 j 13:53	29°040'18	-12°16'52	retrograde	-12246 Mar 05 j 17:30	8°05'37"05	
minimum elong	-12253 Nov 14 j 13:39	29°040'17	12°16'28	min. Earth dist.	-12246 May 25 j 01:15	7°05'35"39	42.93420 AU
max. Earth dist.	-12253 Nov 17 j 22:23	29°045'36	43.49412 AU	opposition	-12246 May 27 j 23:08	7°05'32"03	-14°17'52
morning rise	-12253 Nov 23 j 17:40	29°054'44		direct	-12246 Aug 16 j 02:23	6°06'28"40	
	-12253 Nov 27 j 02:32	0°00'00"		evening set	-12246 Nov 16 j 13:09	7°05'55"57	
retrograde	-12252 Feb 27 j 01:02	1°00'25"09					
min. Earth dist.	-12252 May 17 j 03:49	0°00'22"46	41.65454 AU	conjunction	-12246 Nov 22 j 22:15	8°05'05"42	-13°45'34
opposition	-12252 May 20 j 06:54	0°00'18"50	-12°59'31	minimum elong	-12246 Nov 22 j 22:01	8°05'05"41	13°45'16
	-12252 Jun 04 j 11:00	30°00'00"		max. Earth dist.	-12246 Nov 25 j 23:32	8°05'10"23	44.97389 AU
direct	-12252 Aug 08 j 06:13	29°014'20		morning rise	-12246 Nov 29 j 07:36	8°05'15"28	
	-12252 Oct 09 j 20:21	0°00'00"		retrograde	-12245 Mar 07 j 01:59	9°05'47"04	
evening set	-12252 Nov 06 j 07:36	0°00'40"19		min. Earth dist.	-12245 May 26 j 12:50	8°05'45"41	43.13363 AU
				opposition	-12245 May 29 j 09:05	8°05'42"11	-14°29'22
conjunction	-12252 Nov 15 j 02:00	0°00'54"05	-12°30'52	direct	-12245 Aug 17 j 14:15	7°05'38"57	
minimum elong	-12252 Nov 15 j 01:46	0°00'54"04	12°30'30	evening set	-12245 Nov 18 j 10:49	9°05'06"32	
max. Earth dist.	-12252 Nov 18 j 09:35	0°00'59"18	43.71591 AU				
morning rise	-12252 Nov 23 j 21:07	1°00'07"53		conjunction	-12245 Nov 24 j 08:52	9°05'15"32	-13°56'31
retrograde	-12251 Feb 27 j 10:58	2°00'38"24		minimum elong	-12245 Nov 24 j 08:40	9°05'15"31	13°56'15
min. Earth dist.	-12251 May 18 j 14:56	1°00'36"16	41.87682 AU	max. Earth dist.	-12245 Nov 27 j 09:56	9°05'20"10	45.17010 AU
opposition	-12251 May 21 j 18:03	1°00'32"20	-13°13'44	morning rise	-12245 Nov 30 j 07:00	9°05'24"33	
direct	-12251 Aug 09 j 19:29	0°00'28"04		retrograde	-12244 Mar 07 j 09:28	10°05'56"25	
evening set	-12251 Nov 08 j 04:11	1°00'54"14		min. Earth dist.	-12244 May 26 j 23:08	9°05'55"09	43.32981 AU
				opposition	-12244 May 29 j 18:40	9°05'51"41	-14°40'25
conjunction	-12251 Nov 16 j 13:49	2°00'07"21	-12°44'24	direct	-12244 Aug 18 j 02:26	8°05'48"35	
minimum elong	-12251 Nov 16 j 13:35	2°00'07"20	12°44'02	evening set	-12244 Nov 19 j 09:00	10°05'16"31	
max. Earth dist.	-12251 Nov 19 j 20:18	2°00'12"28	43.93499 AU				
morning rise	-12251 Nov 25 j 00:13	2°00'20"31		conjunction	-12244 Nov 24 j 19:15	10°05'24"44	-14°07'04
retrograde	-12250 Feb 28 j 21:18	3°00'51"11		minimum elong	-12244 Nov 24 j 19:01	10°05'24"43	14°06'48
min. Earth dist.	-12250 May 20 j 03:27	2°00'49"12	42.09625 AU	max. Earth dist.	-12244 Nov 27 j 18:31	10°05'29"14	45.36339 AU
opposition	-12250 May 23 j 05:14	2°00'45"21	-13°27'28	morning rise	-12244 Nov 30 j 05:33	10°05'32"58	
direct	-12250 Aug 11 j 07:17	1°00'41"18		retrograde	-12243 Mar 08 j 20:19	12°05'05"09	
evening set	-12250 Nov 10 j 00:42	3°00'07"39		min. Earth dist.	-12243 May 28 j 08:53	11°05'04"01	43.52346 AU
				opposition	-12243 May 31 j 03:58	11°05'00"35	-14°51'02
conjunction	-12250 Nov 18 j 01:27	3°00'20"07	-12°57'29	direct	-12243 Aug 19 j 10:54	9°05'57"37	
minimum elong	-12250 Nov 18 j 01:13	3°00'20"07	12°57'09	evening set	-12243 Nov 21 j 07:46	11°05'25"58	
max. Earth dist.	-12250 Nov 21 j 07:57	3°00'25"14	44.15091 AU				
morning rise	-12250 Nov 26 j 02:40	3°00'32"40		conjunction	-12243 Nov 26 j 05:30	11°05'33"22	-14°17'10
retrograde	-12249 Mar 02 j 07:35	5°00'03"29		minimum elong	-12243 Nov 26 j 05:19	11°05'33"21	14°16'56
min. Earth dist.	-12249 May 21 j 15:25	4°00'01"39	42.31202 AU	max. Earth dist.	-12243 Nov 29 j 05:11	11°05'37"52	45.55428 AU
opposition	-12249 May 24 j 16:04	3°00'57"52	-13°40'43	morning rise	-12243 Dec 01 j 03:13	11°05'40"46	
direct	-12249 Aug 12 j 19:03	2°00'54"01		retrograde	-12242 Mar 10 j 06:44	13°05'13"20	
evening set	-12249 Nov 11 j 21:37	4°00'20"34		min. Earth dist.	-12242 May 29 j 19:36	12°05'12"17	43.71471 AU
				opposition	-12242 Jun 01 j 13:12	12°05'08"56	-15°01'11
conjunction	-12249 Nov 19 j 12:55	4°00'32"24	-13°10'08	direct	-12242 Aug 20 j 19:39	11°05'06"07	
minimum elong	-12249 Nov 19 j 12:42	4°00'32"23	13°09'47	evening set	-12242 Nov 23 j 07:18	12°05'34"58	
max. Earth dist.	-12249 Nov 22 j 17:13	4°00'37"20	44.36299 AU				
morning rise	-12249 Nov 27 j 04:46	4°00'44"16		conjunction	-12242 Nov 27 j 15:19	12°05'41"29	-14°26'51
retrograde	-12248 Mar 02 j 21:23	6°00'15"15		minimum elong	-12242 Nov 27 j 15:07	12°05'41"28	14°26'36
min. Earth dist.	-12248 May 22 j 02:28	5°00'13"35	42.52380 AU	morning rise	-12242 Dec 01 j 23:12	12°05'47"59	
opposition	-12248 May 25 j 02:40	5°00'09"52	-13°53'32	max. Earth dist.	-12242 Nov 30 j 13:31	12°05'45"53	45.74305 AU
direct	-12248 Aug 13 j 03:03	4°00'06"10		retrograde	-12241 Mar 11 j 17:35	14°05'21"01	
evening set	-12248 Nov 12 j 18:35	5°00'32"57		min. Earth dist.	-12241 May 31 j 04:12	13°05'20"10	43.90377 AU
				opposition	-12241 Jun 02 j 22:10	13°05'16"49	-15°10'54
conjunction	-12248 Nov 20 j 00:22	5°00'44"07	-13°22'22	direct	-12241 Aug 22 j 03:50	12°05'14"09	
minimum elong	-12248 Nov 20 j 00:07	5°00'44"06	13°22'03	evening set	-12241 Nov 25 j 08:21	13°05'43"37	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 13

Attention, astronomical year style is used: The year -12241 in astronomical counting style is the year 12242 BCE in historical counting style.

conjunction	-12241 Nov 29 j 01:06	13° $\mathring{M}$ 49'10	-14°36'07	direct	-12233 Aug 31 j 05:14	21° $\mathring{M}$ 05'41	
minimum elong	-12241 Nov 29 j 00:55	13° $\mathring{M}$ 49'09	14°35'54				
morning rise	-12241 Dec 02 j 17:43	13° $\mathring{M}$ 54'41		conjunction	-12233 Dec 08 j 03:05	22° $\mathring{M}$ 38'09	-15°36'50
max. Earth dist.	-12241 Dec 01 j 22:46	13° $\mathring{M}$ 53'30	45.92952 AU	minimum elong	-12233 Dec 08 j 02:55	22° $\mathring{M}$ 38'08	15°36'44
retrograde	-12240 Mar 12 j 01:07	15° $\mathring{M}$ 28'18		max. Earth dist.	-12233 Dec 10 j 15:33	22° $\mathring{M}$ 41'49	47.28804 AU
min. Earth dist.	-12240 May 31 j 14:46	14° $\mathring{M}$ 27'32	44.09046 AU	retrograde	-12232 Mar 20 j 18:37	24° $\mathring{M}$ 14'23	
opposition	-12240 Jun 03 j 06:59	14° $\mathring{M}$ 24'17	-15°20'12	min. Earth dist.	-12232 Jun 09 j 16:40	23° $\mathring{M}$ 14'25	45.44158 AU
direct	-12240 Aug 22 j 14:23	13° $\mathring{M}$ 21'47		opposition	-12232 Jun 11 j 23:04	23° $\mathring{M}$ 11'43	-16°20'48
evening set	-12240 Nov 26 j 12:04	14° $\mathring{M}$ 52'03		direct	-12232 Aug 31 j 13:11	22° $\mathring{M}$ 10'20	
conjunction	-12240 Nov 29 j 10:55	14° $\mathring{M}$ 56'27	-14°44'59	conjunction	-12232 Dec 08 j 11:38	23° $\mathring{M}$ 42'30	-15°42'52
minimum elong	-12240 Nov 29 j 10:43	14° $\mathring{M}$ 56'26	14°44'46	minimum elong	-12232 Dec 08 j 11:30	23° $\mathring{M}$ 42'29	15°42'46
morning rise	-12240 Dec 02 j 09:31	15° $\mathring{M}$ 00'51		max. Earth dist.	-12232 Dec 10 j 22:00	23° $\mathring{M}$ 46'01	47.43862 AU
max. Earth dist.	-12240 Dec 02 j 08:10	15° $\mathring{M}$ 00'46	46.11355 AU	retrograde	-12231 Mar 22 j 05:19	25° $\mathring{M}$ 18'22	
retrograde	-12239 Mar 13 j 07:31	16° $\mathring{M}$ 35'12		min. Earth dist.	-12231 Jun 10 j 23:57	24° $\mathring{M}$ 18'31	45.59151 AU
min. Earth dist.	-12239 Jun 01 j 23:49	15° $\mathring{M}$ 34'37	44.27423 AU	opposition	-12231 Jun 13 j 06:15	24° $\mathring{M}$ 15'49	-16°26'45
opposition	-12239 Jun 04 j 15:31	15° $\mathring{M}$ 31'23	-15°29'04	direct	-12231 Sep 01 j 18:00	23° $\mathring{M}$ 14'32	
direct	-12239 Aug 24 j 01:52	14° $\mathring{M}$ 29'05					
evening set	-12239 Nov 28 j 21:04	16° $\mathring{M}$ 00'29		conjunction	-12231 Dec 09 j 19:58	24° $\mathring{M}$ 46'24	-15°48'32
conjunction	-12239 Nov 30 j 20:22	16° $\mathring{M}$ 03'25	-14°53'27	minimum elong	-12231 Dec 09 j 19:48	24° $\mathring{M}$ 46'24	15°48'27
minimum elong	-12239 Nov 30 j 20:10	16° $\mathring{M}$ 03'24	14°53'16	max. Earth dist.	-12231 Dec 12 j 05:50	24° $\mathring{M}$ 49'53	47.58600 AU
morning rise	-12239 Dec 02 j 19:21	16° $\mathring{M}$ 06'20		retrograde	-12230 Mar 23 j 12:33	26° $\mathring{M}$ 21'56	
max. Earth dist.	-12239 Dec 03 j 15:41	16° $\mathring{M}$ 07'35	46.29439 AU	min. Earth dist.	-12230 Jun 12 j 09:00	25° $\mathring{M}$ 22'07	45.73845 AU
retrograde	-12238 Mar 14 j 17:48	17° $\mathring{M}$ 41'49		opposition	-12230 Jun 14 j 13:22	25° $\mathring{M}$ 19'32	-16°32'20
min. Earth dist.	-12238 Jun 03 j 09:10	16° $\mathring{M}$ 41'22	44.45468 AU	direct	-12230 Sep 03 j 01:36	24° $\mathring{M}$ 18'20	
opposition	-12238 Jun 05 j 23:56	16° $\mathring{M}$ 38'12	-15°37'32				
direct	-12238 Aug 25 j 09:05	15° $\mathring{M}$ 36'03		conjunction	-12230 Dec 11 j 04:13	25° $\mathring{M}$ 49'56	-15°53'50
conjunction	-12238 Dec 02 j 05:52	17° $\mathring{M}$ 10'05	-15°01'33	minimum elong	-12230 Dec 11 j 04:06	25° $\mathring{M}$ 49'56	15°53'46
minimum elong	-12238 Dec 02 j 05:42	17° $\mathring{M}$ 10'04	15°01'22	max. Earth dist.	-12230 Dec 13 j 13:21	25° $\mathring{M}$ 53'22	47.73076 AU
max. Earth dist.	-12238 Dec 05 j 01:03	17° $\mathring{M}$ 14'14	46.47159 AU	retrograde	-12229 Mar 24 j 17:21	27° $\mathring{M}$ 25'08	
retrograde	-12237 Mar 16 j 02:51	18° $\mathring{M}$ 48'08		min. Earth dist.	-12229 Jun 13 j 15:58	26° $\mathring{M}$ 25'26	45.88264 AU
min. Earth dist.	-12237 Jun 04 j 19:22	17° $\mathring{M}$ 47'46	44.63101 AU	opposition	-12229 Jun 15 j 20:12	26° $\mathring{M}$ 22'51	-16°37'33
opposition	-12237 Jun 07 j 08:13	17° $\mathring{M}$ 44'42	-15°45'38	direct	-12229 Sep 04 j 11:52	25° $\mathring{M}$ 21'47	
direct	-12237 Aug 26 j 17:30	16° $\mathring{M}$ 42'44					
conjunction	-12237 Dec 03 j 15:10	18° $\mathring{M}$ 16'27	-15°09'17	conjunction	-12229 Dec 12 j 12:13	26° $\mathring{M}$ 53'07	-15°58'48
minimum elong	-12237 Dec 03 j 14:59	18° $\mathring{M}$ 16'26	15°09'08	minimum elong	-12229 Dec 12 j 12:04	26° $\mathring{M}$ 53'06	15°58'44
max. Earth dist.	-12237 Dec 06 j 08:10	18° $\mathring{M}$ 20'27	46.64451 AU	max. Earth dist.	-12229 Dec 14 j 19:36	26° $\mathring{M}$ 56'26	47.87278 AU
retrograde	-12236 Mar 16 j 13:33	19° $\mathring{M}$ 54'08		retrograde	-12228 Mar 24 j 23:42	28° $\mathring{M}$ 28'01	
min. Earth dist.	-12236 Jun 05 j 03:57	18° $\mathring{M}$ 53'55	44.80273 AU	min. Earth dist.	-12228 Jun 13 j 24:00	27° $\mathring{M}$ 28'24	46.02409 AU
opposition	-12236 Jun 07 j 16:21	18° $\mathring{M}$ 50'54	-15°53'22	opposition	-12228 Jun 16 j 03:04	27° $\mathring{M}$ 25'53	-16°42'24
direct	-12236 Aug 27 j 00:37	17° $\mathring{M}$ 49'04		direct	-12228 Sep 04 j 20:11	26° $\mathring{M}$ 24'55	
conjunction	-12236 Dec 04 j 00:28	19° $\mathring{M}$ 22'29	-15°16'41	conjunction	-12228 Dec 12 j 20:22	27° $\mathring{M}$ 56'00	-16°03'25
minimum elong	-12236 Dec 04 j 00:18	19° $\mathring{M}$ 22'29	15°16'31	minimum elong	-12228 Dec 12 j 20:14	27° $\mathring{M}$ 56'00	16°03'22
max. Earth dist.	-12236 Dec 06 j 16:19	19° $\mathring{M}$ 26'24	46.81248 AU	max. Earth dist.	-12228 Dec 15 j 03:43	27° $\mathring{M}$ 59'18	48.01192 AU
retrograde	-12235 Mar 17 j 22:03	20° $\mathring{M}$ 59'48		retrograde	-12227 Mar 26 j 05:37	29° $\mathring{M}$ 30'37	
min. Earth dist.	-12235 Jun 06 j 14:14	19° $\mathring{M}$ 59'38	44.96941 AU	min. Earth dist.	-12227 Jun 15 j 08:03	28° $\mathring{M}$ 31'04	46.16229 AU
opposition	-12235 Jun 09 j 00:21	19° $\mathring{M}$ 56'44	-16°00'45	opposition	-12227 Jun 17 j 09:38	28° $\mathring{M}$ 28'37	-16°46'55
direct	-12235 Aug 28 j 09:45	18° $\mathring{M}$ 55'02		direct	-12227 Sep 06 j 04:28	27° $\mathring{M}$ 27'47	
conjunction	-12235 Dec 05 j 09:38	20° $\mathring{M}$ 28'09	-15°23'45	conjunction	-12227 Dec 14 j 04:15	28° $\mathring{M}$ 58'38	-16°07'42
minimum elong	-12235 Dec 05 j 09:28	20° $\mathring{M}$ 28'08	15°23'36	minimum elong	-12227 Dec 14 j 04:07	28° $\mathring{M}$ 58'37	16°07'39
max. Earth dist.	-12235 Dec 08 j 00:15	20° $\mathring{M}$ 31'58	46.97559 AU	max. Earth dist.	-12227 Dec 16 j 09:27	29° $\mathring{M}$ 01'48	48.14779 AU
retrograde	-12234 Mar 19 j 03:32	22° $\mathring{M}$ 05'05		-12226 Jan 29 j 22:26	0° $\mathring{A}$		
min. Earth dist.	-12234 Jun 07 j 22:43	21° $\mathring{M}$ 05'02	45.13109 AU	retrograde	-12226 Mar 27 j 15:18	0° $\mathring{A}$ 32'58	
opposition	-12234 Jun 10 j 08:05	21° $\mathring{M}$ 02'10	-16°07'48	-12226 May 24 j 03:36	30° $\mathring{R}$ $\mathring{M}$		
direct	-12234 Aug 29 j 20:40	20° $\mathring{M}$ 00'35		min. Earth dist.	-12226 Jun 16 j 14:58	29° $\mathring{M}$ 33'32	46.29700 AU
conjunction	-12234 Dec 06 j 18:16	21° $\mathring{M}$ 33'22	-15°30'28	opposition	-12226 Jun 18 j 16:10	29° $\mathring{M}$ 31'07	-16°51'05
minimum elong	-12234 Dec 06 j 18:07	21° $\mathring{M}$ 33'21	15°30'20	direct	-12226 Sep 07 j 09:07	28° $\mathring{M}$ 30'23	
max. Earth dist.	-12234 Dec 09 j 06:49	21° $\mathring{M}$ 37'03	47.13389 AU	-12226 Dec 14 j 18:47	0° $\mathring{A}$		
retrograde	-12233 Mar 20 j 10:48	23° $\mathring{M}$ 09'58					
min. Earth dist.	-12233 Jun 09 j 07:43	22° $\mathring{M}$ 09'58	45.28835 AU	conjunction	-12226 Dec 15 j 11:57	0° $\mathring{A}$ 01'01	-16°11'40
opposition	-12233 Jun 11 j 15:45	22° $\mathring{M}$ 07'10	-16°14'28	minimum elong	-12226 Dec 15 j 11:50	0° $\mathring{A}$ 01'01	16°11'39
conjunction	-12233 Jun 11 j 15:45	22° $\mathring{M}$ 07'10	-16°14'28	max. Earth dist.	-12226 Dec 17 j 16:32	0° $\mathring{A}$ 04'08	48.27972 AU
minimum elong	-12233 Jun 11 j 15:45	22° $\mathring{M}$ 07'10	-16°14'28	retrograde	-12225 Mar 29 j 00:13	1° $\mathring{A}$ 35'05	
max. Earth dist.	-12233 Jun 11 j 15:45	22° $\mathring{M}$ 07'10	-16°14'28	min. Earth dist.	-12225 Jun 17 j 23:48	0° $\mathring{A}$ 35'40	46.42746 AU
retrograde	-12233 Jun 11 j 15:45	22° $\mathring{M}$ 07'10	-16°14'28	opposition	-12225 Jun 19 j 22:42	0° $\mathring{A}$ 33'22	-16°54'56

Attention, astronomical year style is used: The year -12225 in astronomical counting style is the year 12226 BCE in historical counting style.

direct	-12225 Jul 19 j 22:26	30° <u>8</u> ′ <u>19</u> ″	conjunction	-12217 Dec 25 j 05:48	9° <u>0</u> ′ <u>09</u> ′ <u>26</u> ″	-16°34′07″
	-12225 Sep 08 j 14:46	29° <u>19</u> ′ <u>32</u> ′ <u>45</u> ″		minimum elong	-12217 Dec 25 j 05:45	9° <u>0</u> ′ <u>09</u> ′ <u>26</u> ″ 16°34′12″
	-12225 Oct 28 j 17:31	0° <u>0</u> ″		max. Earth dist.	-12217 Dec 26 j 21:47	9° <u>0</u> ′ <u>11</u> ′ <u>46</u> ″ 49.26687 AU
conjunction	-12225 Dec 16 j 19:50	1° <u>0</u> ′ <u>03</u> ′ <u>10</u> ″ -16°15′20″	retrograde	-12216 Apr 06 j 05:46	10° <u>0</u> ′ <u>41</u> ′ <u>12</u> ″	
	minimum elong	-12225 Dec 16 j 19:43		min. Earth dist.	-12216 Jun 26 j 14:07	9° <u>0</u> ′ <u>42</u> ′ <u>13</u> ″ 47.40045 AU
	max. Earth dist.	-12225 Dec 18 j 22:51		opposition	-12216 Jun 28 j 02:55	9° <u>0</u> ′ <u>40</u> ′ <u>26</u> ″ -17°16′02″
retrograde	-12224 Mar 29 j 06:30	2° <u>0</u> ′ <u>36</u> ′ <u>56</u> ″	direct	-12216 Sep 17 j 04:39	8° <u>0</u> ′ <u>40</u> ′ <u>29</u> ″	
	min. Earth dist.	-12224 Jun 18 j 06:37		conjunction	-12216 Dec 25 j 12:42	10° <u>0</u> ′ <u>09</u> ′ <u>07</u> ″ -16°35′05″
	opposition	-12224 Jun 20 j 04:52		minimum elong	-12216 Dec 25 j 12:37	10° <u>0</u> ′ <u>09</u> ′ <u>06</u> ″ 16°35′11″
direct	-12224 Sep 08 j 22:28	0° <u>0</u> ′ <u>34</u> ′ <u>51</u> ″	retrograde	max. Earth dist.	-12216 Dec 27 j 04:13	10° <u>0</u> ′ <u>11</u> ′ <u>24</u> ″ 49.35958 AU
	conjunction	-12224 Dec 17 j 03:34		-12215 Apr 07 j 14:00	11° <u>0</u> ′ <u>40</u> ′ <u>41</u> ″	
	minimum elong	-12224 Dec 17 j 03:27		min. Earth dist.	-12215 Jun 27 j 21:27	10° <u>0</u> ′ <u>41</u> ′ <u>43</u> ″ 47.49177 AU
max. Earth dist.	-12224 Dec 19 j 04:19	2° <u>0</u> ′ <u>07</u> ′ <u>55</u> ″ 48.52977 AU	opposition	-12215 Jun 29 j 08:17	10° <u>0</u> ′ <u>40</u> ′ <u>02</u> ″ -17°16′49″	
	retrograde	-12223 Mar 30 j 11:58		direct	-12215 Sep 18 j 08:24	9° <u>0</u> ′ <u>40</u> ′ <u>11</u> ″
	min. Earth dist.	-12223 Jun 19 j 14:54		conjunction	-12215 Dec 26 j 19:22	11° <u>0</u> ′ <u>08</u> ′ <u>40</u> ″ -16°35′47″
opposition	-12223 Jun 21 j 11:13	2° <u>0</u> ′ <u>37</u> ′ <u>06</u> ″ -17°01′45″	minimum elong	-12215 Dec 26 j 19:19	11° <u>0</u> ′ <u>08</u> ′ <u>40</u> ″ 16°35′54″	
	direct	-12223 Sep 10 j 06:32		max. Earth dist.	-12215 Dec 28 j 09:34	11° <u>0</u> ′ <u>10</u> ′ <u>53</u> ″ 49.44918 AU
	conjunction	-12223 Dec 18 j 11:12		retrograde	-12214 Apr 08 j 21:17	12° <u>0</u> ′ <u>40</u> ′ <u>02</u> ″
minimum elong	-12223 Dec 18 j 11:06	3° <u>0</u> ′ <u>06</u> ′ <u>37</u> ″ -16°21′48″	min. Earth dist.	-12214 Jun 29 j 02:52	11° <u>0</u> ′ <u>41</u> ′ <u>12</u> ″ 47.57958 AU	
	max. Earth dist.	-12223 Dec 20 j 11:24		opposition	-12214 Jun 30 j 13:23	11° <u>0</u> ′ <u>39</u> ′ <u>32</u> ″ -17°17′18″
	retrograde	-12222 Mar 31 j 16:17		direct	-12214 Sep 19 j 12:59	10° <u>0</u> ′ <u>39</u> ′ <u>46</u> ″
min. Earth dist.	-12222 Jun 20 j 22:31	3° <u>0</u> ′ <u>40</u> ′ <u>35</u> ″ 46.78891 AU	conjunction	-12214 Dec 28 j 02:01	12° <u>0</u> ′ <u>08</u> ′ <u>08</u> ″ -16°36′11″	
	opposition	-12222 Jun 22 j 17:17		minimum elong	-12214 Dec 28 j 01:57	12° <u>0</u> ′ <u>08</u> ′ <u>08</u> ″ 16°36′19″
	direct	-12222 Sep 11 j 15:25		max. Earth dist.	-12214 Dec 29 j 14:21	12° <u>0</u> ′ <u>10</u> ′ <u>14</u> ″ 49.53496 AU
conjunction	-12222 Dec 19 j 18:34	4° <u>0</u> ′ <u>07</u> ′ <u>52</u> ″ -16°24′36″	retrograde	-12213 Apr 10 j 01:56	13° <u>0</u> ′ <u>39</u> ′ <u>20</u> ″	
	minimum elong	-12222 Dec 19 j 18:27		min. Earth dist.	-12213 Jun 30 j 10:00	12° <u>0</u> ′ <u>40</u> ′ <u>30</u> ″ 47.66340 AU
	max. Earth dist.	-12222 Dec 21 j 16:11		opposition	-12213 Jul 01 j 18:32	12° <u>0</u> ′ <u>38</u> ′ <u>57</u> ″ -17°17′31″
retrograde	-12221 Apr 02 j 00:55	5° <u>0</u> ′ <u>40</u> ′ <u>50</u> ″	direct	-12213 Sep 20 j 19:44	11° <u>0</u> ′ <u>39</u> ′ <u>16</u> ″	
	min. Earth dist.	-12221 Jun 22 j 05:03		conjunction	-12213 Dec 29 j 08:51	13° <u>0</u> ′ <u>07</u> ′ <u>30</u> ″ -16°36′20″
	opposition	-12221 Jun 23 j 23:09		minimum elong	-12213 Dec 29 j 08:48	13° <u>0</u> ′ <u>07</u> ′ <u>30</u> ″ 16°36′29″
direct	-12221 Sep 12 j 19:46	3° <u>0</u> ′ <u>39</u> ′ <u>15</u> ″	max. Earth dist.	-12213 Dec 30 j 20:35	13° <u>0</u> ′ <u>09</u> ′ <u>34</u> ″ 49.61643 AU	
	conjunction	-12221 Dec 21 j 01:54		retrograde	-12212 Apr 10 j 04:12	14° <u>0</u> ′ <u>38</u> ′ <u>32</u> ″
	minimum elong	-12221 Dec 21 j 01:49		opposition	-12212 Jul 01 j 23:38	13° <u>0</u> ′ <u>38</u> ′ <u>15</u> ″ -17°17′28″
max. Earth dist.	-12221 Dec 22 j 22:52	5° <u>0</u> ′ <u>11</u> ′ <u>24</u> ″ 48.86768 AU	min. Earth dist.	-12212 Jun 30 j 16:34	13° <u>0</u> ′ <u>39</u> ′ <u>45</u> ″ 47.74235 AU	
	retrograde	-12220 Apr 02 j 08:09		direct	-12212 Sep 21 j 04:52	12° <u>0</u> ′ <u>38</u> ′ <u>38</u> ″
	min. Earth dist.	-12220 Jun 22 j 13:09		conjunction	-12212 Dec 29 j 15:32	14° <u>0</u> ′ <u>06</u> ′ <u>45</u> ″ -16°36′13″
opposition	-12220 Jun 24 j 05:02	5° <u>0</u> ′ <u>40</u> ′ <u>17</u> ″ -17°09′45″	minimum elong	-12212 Dec 29 j 15:29	14° <u>0</u> ′ <u>06</u> ′ <u>45</u> ″ 16°36′22″	
	direct	-12220 Sep 13 j 01:13		max. Earth dist.	-12212 Dec 31 j 00:24	14° <u>0</u> ′ <u>08</u> ′ <u>39</u> ″ 49.69287 AU
	conjunction	-12220 Dec 21 j 09:09		retrograde	-12211 Apr 11 j 11:25	15° <u>0</u> ′ <u>37</u> ′ <u>35</u> ″
minimum elong	-12220 Dec 21 j 09:03	6° <u>0</u> ′ <u>09</u> ′ <u>21</u> ″ -16°29′20″	min. Earth dist.	-12211 Jul 01 j 22:31	14° <u>0</u> ′ <u>38</u> ′ <u>51</u> ″ 47.81617 AU	
	max. Earth dist.	-12220 Dec 23 j 04:51		opposition	-12211 Jul 03 j 04:36	14° <u>0</u> ′ <u>37</u> ′ <u>24</u> ″ -17°17′09″
	retrograde	-12219 Apr 03 j 13:06		direct	-12211 Sep 22 j 09:16	13° <u>0</u> ′ <u>37</u> ′ <u>50</u> ″
min. Earth dist.	-12219 Jun 23 j 18:53	6° <u>0</u> ′ <u>42</u> ′ <u>37</u> ″ 47.10900 AU	conjunction	-12211 Dec 30 j 22:13	15° <u>0</u> ′ <u>05</u> ′ <u>49</u> ″ -16°35′52″	
	opposition	-12219 Jun 25 j 10:31		minimum elong	-12211 Dec 30 j 22:10	15° <u>0</u> ′ <u>05</u> ′ <u>49</u> ″ 16°36′02″
	direct	-12219 Sep 14 j 09:04		max. Earth dist.	-12210 Jan 01 j 06:10	15° <u>0</u> ′ <u>07</u> ′ <u>39</u> ″ 49.76406 AU
conjunction	-12219 Dec 22 j 16:07	7° <u>0</u> ′ <u>09</u> ′ <u>37</u> ″ -16°31′14″	retrograde	-12210 Apr 12 j 18:30	16° <u>0</u> ′ <u>36</u> ′ <u>28</u> ″	
	minimum elong	-12219 Dec 22 j 16:03		min. Earth dist.	-12210 Jul 03 j 06:02	15° <u>0</u> ′ <u>37</u> ′ <u>41</u> ″ 47.88470 AU
	max. Earth dist.	-12219 Dec 24 j 10:09		opposition	-12210 Jul 04 j 09:41	15° <u>0</u> ′ <u>36</u> ′ <u>21</u> ″ -17°16′36″
retrograde	-12218 Apr 04 j 17:52	8° <u>0</u> ′ <u>41</u> ′ <u>47</u> ″	direct	-12210 Sep 23 j 13:23	14° <u>0</u> ′ <u>36</u> ′ <u>50</u> ″	
	min. Earth dist.	-12218 Jun 25 j 01:56		conjunction	-12209 Jan 01 j 04:37	16° <u>0</u> ′ <u>04</u> ′ <u>40</u> ″ -16°35′15″
	opposition	-12218 Jun 26 j 16:11		minimum elong	-12209 Jan 01 j 04:35	16° <u>0</u> ′ <u>04</u> ′ <u>40</u> ″ 16°35′26″
direct	-12218 Sep 15 j 16:33	6° <u>0</u> ′ <u>40</u> ′ <u>41</u> ″	max. Earth dist.	-12209 Jan 02 j 10:52	16° <u>0</u> ′ <u>06</u> ′ <u>23</u> ″ 49.83028 AU	
	conjunction	-12218 Dec 23 j 22:59		retrograde	-12209 Apr 14 j 00:25	17° <u>0</u> ′ <u>35</u> ′ <u>06</u> ″
	minimum elong	-12218 Dec 23 j 22:54		min. Earth dist.	-12209 Jul 04 j 11:17	16° <u>0</u> ′ <u>36</u> ′ <u>21</u> ″ 47.94830 AU
max. Earth dist.	-12218 Dec 25 j 17:00	8° <u>0</u> ′ <u>12</u> ′ <u>04</u> ″ 49.17128 AU	opposition	-12209 Jul 05 j 14:29	16° <u>0</u> ′ <u>35</u> ′ <u>03</u> ″ -17°15′47″	
	retrograde	-12217 Apr 05 j 21:49		direct	-12209 Sep 24 j 18:49	15° <u>0</u> ′ <u>35</u> ′ <u>33</u> ″
	min. Earth dist.	-12217 Jun 26 j 08:26		conjunction	-12208 Jan 02 j 11:01	17° <u>0</u> ′ <u>03</u> ′ <u>15</u> ″ -16°34′24″
opposition	-12217 Jun 27 j 21:39	8° <u>0</u> ′ <u>40</u> ′ <u>43</u> ″ -17°14′56″	minimum elong	-12208 Jan 02 j 10:59	17° <u>0</u> ′ <u>03</u> ′ <u>14</u> ″ 16°34′36″	
	direct	-12217 Sep 17 j 00:34		max. Earth dist.	-12208 Jan 03 j 15:13	17° <u>0</u> ′ <u>04</u> ′ <u>51</u> ″ 49.89174 AU
	conjunction	-12217 Dec 27 j 21:39				

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 15

Attention, astronomical year style is used: The year -12208 in astronomical counting style is the year 12209 BCE in historical counting style.

retrograde	-12208 Apr 14 j 05:16	18° <u>♁</u> 33'29		direct	-12200 Oct 02 j 18:38	24° <u>♁</u> 16'03	
opposition	-12208 Jul 05 j 19:12	17° <u>♁</u> 33'28	-17°14'42				
min. Earth dist.	-12208 Jul 04 j 18:01	17° <u>♁</u> 34'41	48.00754 AU	conjunction	-12199 Jan 10 j 18:17	25° <u>♁</u> 43'01	-16°14'38
direct	-12208 Sep 25 j 01:04	16° <u>♁</u> 33'59		minimum elong	-12199 Jan 10 j 18:18	25° <u>♁</u> 43'01	16°14'56
				max. Earth dist.	-12199 Jan 11 j 10:47	25° <u>♁</u> 43'57	50.28764 AU
conjunction	-12207 Jan 02 j 17:30	18° <u>♁</u> 01'33	-16°33'16	retrograde	-12199 Apr 23 j 04:28	27° <u>♁</u> 12'05	
minimum elong	-12207 Jan 02 j 17:29	18° <u>♁</u> 01'33	16°33'28	opposition	-12199 Jul 14 j 11:25	26° <u>♁</u> 12'44	-16°52'38
max. Earth dist.	-12207 Jan 03 j 21:20	18° <u>♁</u> 03'09	49.94919 AU	min. Earth dist.	-12199 Jul 13 j 20:51	26° <u>♁</u> 13'25	48.38253 AU
retrograde	-12207 Apr 15 j 07:29	19° <u>♁</u> 31'36		direct	-12199 Oct 03 j 22:28	25° <u>♁</u> 13'36	
opposition	-12207 Jul 06 j 23:53	18° <u>♁</u> 31'39	-17°13'20				
min. Earth dist.	-12207 Jul 05 j 23:46	18° <u>♁</u> 32'48	48.06288 AU	conjunction	-12198 Jan 12 j 00:12	26° <u>♁</u> 40'32	-16°11'13
direct	-12207 Sep 26 j 09:27	17° <u>♁</u> 32'11		minimum elong	-12198 Jan 12 j 00:14	26° <u>♁</u> 40'32	16°11'30
				max. Earth dist.	-12198 Jan 12 j 14:24	26° <u>♁</u> 41'20	50.31019 AU
conjunction	-12206 Jan 03 j 23:32	18° <u>♁</u> 59'37	-16°31'53	retrograde	-12198 Apr 24 j 09:33	28° <u>♁</u> 09'30	
minimum elong	-12206 Jan 03 j 23:30	18° <u>♁</u> 59'36	16°32'06	opposition	-12198 Jul 15 j 15:50	27° <u>♁</u> 10'11	-16°48'56
max. Earth dist.	-12206 Jan 05 j 01:09	19° <u>♁</u> 01'04	50.00310 AU	min. Earth dist.	-12198 Jul 15 j 03:30	27° <u>♁</u> 10'46	48.40184 AU
retrograde	-12206 Apr 16 j 12:53	20° <u>♁</u> 29'30		direct	-12198 Oct 05 j 03:57	26° <u>♁</u> 11'05	
min. Earth dist.	-12206 Jul 07 j 04:57	19° <u>♁</u> 30'43	48.11500 AU				
opposition	-12206 Jul 08 j 04:28	19° <u>♁</u> 29'35	-17°11'42	conjunction	-12197 Jan 13 j 06:18	27° <u>♁</u> 37'57	-16°07'34
direct	-12206 Sep 27 j 14:21	18° <u>♁</u> 30'09		minimum elong	-12197 Jan 13 j 06:19	27° <u>♁</u> 37'58	16°07'53
				max. Earth dist.	-12197 Jan 13 j 19:45	27° <u>♁</u> 38'43	50.32749 AU
conjunction	-12205 Jan 05 j 05:43	19° <u>♁</u> 57'28	-16°30'13	retrograde	-12197 Apr 25 j 11:09	29° <u>♁</u> 06'49	
minimum elong	-12205 Jan 05 j 05:43	19° <u>♁</u> 57'28	16°30'26	opposition	-12197 Jul 16 j 19:59	28° <u>♁</u> 07'32	-16°45'01
max. Earth dist.	-12205 Jan 06 j 06:58	19° <u>♁</u> 58'54	50.05390 AU	min. Earth dist.	-12197 Jul 16 j 09:00	28° <u>♁</u> 08'03	48.41588 AU
retrograde	-12205 Apr 17 j 19:08	21° <u>♁</u> 27'12		direct	-12197 Oct 06 j 12:17	27° <u>♁</u> 08'25	
min. Earth dist.	-12205 Jul 08 j 11:21	20° <u>♁</u> 28'23	48.16407 AU				
opposition	-12205 Jul 09 j 09:02	20° <u>♁</u> 27'21	-17°09'47	conjunction	-12196 Jan 14 j 12:13	28° <u>♁</u> 35'15	-16°03'41
direct	-12205 Sep 28 j 18:34	19° <u>♁</u> 27'57		minimum elong	-12196 Jan 14 j 12:16	28° <u>♁</u> 35'15	16°04'00
				max. Earth dist.	-12196 Jan 14 j 23:01	28° <u>♁</u> 35'51	50.33985 AU
conjunction	-12204 Jan 06 j 11:51	20° <u>♁</u> 55'10	-16°28'16		-12196 Apr 06 j 06:57	0° <u>♁</u>	
minimum elong	-12204 Jan 06 j 11:49	20° <u>♁</u> 55'10	16°28'30	retrograde	-12196 Apr 25 j 16:05	0° <u>♁</u> 04'00	
max. Earth dist.	-12204 Jan 07 j 11:41	20° <u>♁</u> 56'31	50.10193 AU		-12196 May 15 j 04:48	30° <u>♁</u>	
retrograde	-12204 Apr 18 j 02:23	22° <u>♁</u> 24'45		opposition	-12196 Jul 17 j 00:10	29° <u>♁</u> 04'45	-16°40'50
opposition	-12204 Jul 09 j 13:28	21° <u>♁</u> 24'59	-17°07'34	min. Earth dist.	-12196 Jul 16 j 14:13	29° <u>♁</u> 05'13	48.42532 AU
min. Earth dist.	-12204 Jul 08 j 15:55	21° <u>♁</u> 26'00	48.21016 AU	direct	-12196 Oct 06 j 17:14	28° <u>♁</u> 05'37	
direct	-12204 Sep 28 j 21:52	20° <u>♁</u> 25'37					
				conjunction	-12195 Jan 14 j 18:11	29° <u>♁</u> 32'23	-15°59'33
conjunction	-12203 Jan 06 j 17:54	21° <u>♁</u> 52'46	-16°26'03	minimum elong	-12195 Jan 14 j 18:12	29° <u>♁</u> 32'23	15°59'54
minimum elong	-12203 Jan 06 j 17:54	21° <u>♁</u> 52'46	16°26'18	max. Earth dist.	-12195 Jan 15 j 04:15	29° <u>♁</u> 32'57	50.34776 AU
max. Earth dist.	-12203 Jan 07 j 16:07	21° <u>♁</u> 54'02	50.14683 AU		-12195 Feb 04 j 12:18	0° <u>♁</u>	
retrograde	-12203 Apr 19 j 07:31	23° <u>♁</u> 22'13		retrograde	-12195 Apr 26 j 21:24	1° <u>♁</u> 01'02	
opposition	-12203 Jul 10 j 17:58	22° <u>♁</u> 22'32	-17°05'05	opposition	-12195 Jul 18 j 04:18	0° <u>♁</u> 01'48	-16°36'25
min. Earth dist.	-12203 Jul 09 j 22:16	22° <u>♁</u> 23'29	48.25312 AU	min. Earth dist.	-12195 Jul 17 j 20:23	0° <u>♁</u> 02'11	48.43061 AU
direct	-12203 Sep 30 j 02:47	21° <u>♁</u> 23'14			-12195 Jul 19 j 18:19	30° <u>♁</u>	
				direct	-12195 Oct 07 j 21:47	29° <u>♁</u> 02'40	
conjunction	-12202 Jan 08 j 00:02	22° <u>♁</u> 50'20	-16°23'33		-12195 Dec 24 j 19:00	0° <u>♁</u>	
minimum elong	-12202 Jan 08 j 00:01	22° <u>♁</u> 50'20	16°23'49				
max. Earth dist.	-12202 Jan 08 j 21:53	22° <u>♁</u> 51'34	50.18850 AU	conjunction	-12194 Jan 15 j 23:59	0° <u>♁</u> 29'23	-15°55'10
retrograde	-12202 Apr 20 j 09:28	24° <u>♁</u> 19'41		minimum elong	-12194 Jan 16 j 00:02	0° <u>♁</u> 29'23	15°55'31
opposition	-12202 Jul 11 j 22:21	23° <u>♁</u> 20'05	-17°02'21	max. Earth dist.	-12194 Jan 16 j 08:38	0° <u>♁</u> 29'52	50.35208 AU
min. Earth dist.	-12202 Jul 11 j 03:38	23° <u>♁</u> 20'58	48.29242 AU	retrograde	-12194 Apr 28 j 04:57	1° <u>♁</u> 57'56	
direct	-12202 Oct 01 j 10:45	22° <u>♁</u> 20'50		opposition	-12194 Jul 19 j 08:19	0° <u>♁</u> 58'44	-16°31'44
				min. Earth dist.	-12194 Jul 19 j 00:33	0° <u>♁</u> 59'06	48.43249 AU
conjunction	-12201 Jan 09 j 05:53	23° <u>♁</u> 47'53	-16°20'49		-12194 Oct 02 j 18:54	30° <u>♁</u>	
minimum elong	-12201 Jan 09 j 05:53	23° <u>♁</u> 47'53	16°21'06	direct	-12194 Oct 08 j 23:55	29° <u>♁</u> 59'34	
max. Earth dist.	-12201 Jan 10 j 01:15	23° <u>♁</u> 48'59	50.22631 AU		-12194 Oct 15 j 07:59	0° <u>♁</u>	
retrograde	-12201 Apr 21 j 15:27	25° <u>♁</u> 17'08					
min. Earth dist.	-12201 Jul 12 j 09:05	24° <u>♁</u> 18'29	48.32757 AU	conjunction	-12193 Jan 17 j 05:35	1° <u>♁</u> 26'16	-15°50'32
opposition	-12201 Jul 13 j 02:43	24° <u>♁</u> 17'38	-16°59'20	minimum elong	-12193 Jan 17 j 05:37	1° <u>♁</u> 26'16	15°50'54
direct	-12201 Oct 02 j 15:10	23° <u>♁</u> 18'27		max. Earth dist.	-12193 Jan 17 j 12:36	1° <u>♁</u> 26'40	50.35310 AU
				retrograde	-12193 Apr 29 j 10:50	2° <u>♁</u> 54'44	
conjunction	-12200 Jan 10 j 12:06	24° <u>♁</u> 45'27	-16°17'51	opposition	-12193 Jul 20 j 12:29	1° <u>♁</u> 55'33	-16°26'47
minimum elong	-12200 Jan 10 j 12:07	24° <u>♁</u> 45'27	16°18'07	min. Earth dist.	-12193 Jul 20 j 06:32	1° <u>♁</u> 55'50	48.43131 AU
max. Earth dist.	-12200 Jan 11 j 06:36	24° <u>♁</u> 46'30	50.25951 AU	direct	-12193 Oct 10 j 03:21	0° <u>♁</u> 56'23	
retrograde	-12200 Apr 21 j 22:08	26° <u>♁</u> 14'37					
opposition	-12200 Jul 13 j 07:05	25° <u>♁</u> 15'12	-16°56'06	conjunction	-12192 Jan 18 j 11:27	2° <u>♁</u> 23'04	-15°45'39
min. Earth dist.	-12200 Jul 12 j 15:53	25° <u>♁</u> 15'55	48.35774 AU	minimum elong	-12192 Jan 18 j 11:31	2° <u>♁</u> 23'05	15°46'01

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16

Attention, astronomical year style is used: The year -12192 in astronomical counting style is the year 12193 BCE in historical counting style.

max. Earth dist.	-12192 Jan 18 j 18:12	2°M.23'27	50.35125 AU	retrograde	-12184 May 07 j 03:48	11°M.25'40	
retrograde	-12192 Apr 29 j 11:54	3°M.51'28		opposition	-12184 Jul 28 j 00:39	10°M.26'41	-15°30'55
opposition	-12192 Jul 20 j 16:25	2°M.52'19	-16°21'34	min. Earth dist.	-12184 Jul 28 j 06:08	10°M.26'26	48.24796 AU
min. Earth dist.	-12192 Jul 20 j 11:12	2°M.52'34	48.42710 AU	direct	-12184 Oct 18 j 00:41	9°M.27'24	
direct	-12192 Oct 10 j 11:28	1°M.53'09		evening set	-12183 Jan 24 j 08:48	10°M.51'12	
conjunction	-12191 Jan 18 j 17:09	3°M.19'50	-15°40'29	conjunction	-12183 Jan 26 j 15:38	10°M.54'16	-14°50'43
minimum elong	-12191 Jan 18 j 17:12	3°M.19'50	15°40'52	minimum elong	-12183 Jan 26 j 15:44	10°M.54'16	14°51'10
max. Earth dist.	-12191 Jan 18 j 21:36	3°M.20'05	50.34650 AU	max. Earth dist.	-12183 Jan 26 j 07:45	10°M.53'49	50.15728 AU
retrograde	-12191 Apr 30 j 15:39	4°M.48'10		morning rise	-12183 Jan 28 j 22:42	10°M.57'21	
opposition	-12191 Jul 21 j 20:29	3°M.49'03	-16°16'04	retrograde	-12183 May 08 j 10:23	12°M.22'21	
min. Earth dist.	-12191 Jul 21 j 16:03	3°M.49'16	48.41999 AU	opposition	-12183 Jul 29 j 04:45	11°M.23'21	-15°23'31
direct	-12191 Oct 11 j 17:16	2°M.49'54		min. Earth dist.	-12183 Jul 29 j 12:15	11°M.23'00	48.20466 AU
conjunction	-12190 Jan 19 j 22:48	4°M.16'35	-15°35'05	direct	-12183 Oct 19 j 03:39	10°M.24'01	
minimum elong	-12190 Jan 19 j 22:53	4°M.16'35	15°35'29	evening set	-12182 Jan 24 j 19:26	11°M.46'47	
max. Earth dist.	-12190 Jan 20 j 02:55	4°M.16'49	50.33856 AU	conjunction	-12182 Jan 27 j 21:19	11°M.50'56	-14°43'27
retrograde	-12190 May 01 j 21:08	5°M.44'54		minimum elong	-12182 Jan 27 j 21:24	11°M.50'56	14°43'55
opposition	-12190 Jul 23 j 00:35	4°M.45'49	-16°10'20	max. Earth dist.	-12182 Jan 27 j 13:05	11°M.50'28	50.11330 AU
min. Earth dist.	-12190 Jul 22 j 22:08	4°M.45'56	48.40942 AU	morning rise	-12182 Jan 30 j 23:22	11°M.55'05	
direct	-12190 Oct 12 j 21:22	3°M.46'41		retrograde	-12182 May 09 j 12:17	13°M.19'01	
conjunction	-12189 Jan 21 j 04:33	5°M.13'23	-15°29'25	opposition	-12182 Jul 30 j 08:44	12°M.20'00	-15°15'52
minimum elong	-12189 Jan 21 j 04:36	5°M.13'23	15°29'49	min. Earth dist.	-12182 Jul 30 j 16:53	12°M.19'37	48.15786 AU
max. Earth dist.	-12189 Jan 21 j 07:01	5°M.13'31	50.32712 AU	direct	-12182 Oct 20 j 11:00	11°M.20'37	
retrograde	-12189 May 03 j 03:49	6°M.41'39		evening set	-12181 Jan 25 j 09:43	12°M.42'34	
opposition	-12189 Jul 24 j 04:26	5°M.42'38	-16°04'20	conjunction	-12181 Jan 29 j 02:59	12°M.47'35	-14°35'56
min. Earth dist.	-12189 Jul 24 j 02:22	5°M.42'44	48.39496 AU	minimum elong	-12181 Jan 29 j 03:05	12°M.47'35	14°36'24
direct	-12189 Oct 13 j 23:50	4°M.43'29		max. Earth dist.	-12181 Jan 28 j 16:34	12°M.47'00	50.06616 AU
conjunction	-12188 Jan 22 j 10:24	6°M.10'13	-15°23'32	morning rise	-12181 Feb 01 j 20:31	12°M.52'37	
minimum elong	-12188 Jan 22 j 10:28	6°M.10'13	15°23'57	retrograde	-12181 May 10 j 15:46	14°M.15'40	
max. Earth dist.	-12188 Jan 22 j 10:44	6°M.10'14	50.31132 AU	opposition	-12181 Jul 31 j 12:39	13°M.16'40	-15°07'57
retrograde	-12188 May 03 j 10:02	7°M.38'28		min. Earth dist.	-12181 Jul 31 j 21:40	13°M.16'14	48.10816 AU
opposition	-12188 Jul 24 j 08:35	6°M.39'28	-15°58'06	direct	-12181 Oct 21 j 16:50	12°M.17'14	
min. Earth dist.	-12188 Jul 24 j 08:51	6°M.39'27	48.37588 AU	evening set	-12180 Jan 26 j 02:05	13°M.38'31	
direct	-12188 Oct 14 j 03:50	5°M.40'20		conjunction	-12180 Jan 30 j 08:52	13°M.44'17	-14°28'09
conjunction	-12187 Jan 22 j 16:20	7°M.07'06	-15°17'25	minimum elong	-12180 Jan 30 j 08:57	13°M.44'17	14°28'38
minimum elong	-12187 Jan 22 j 16:24	7°M.07'06	15°17'49	max. Earth dist.	-12180 Jan 29 j 22:02	13°M.43'40	50.01614 AU
max. Earth dist.	-12187 Jan 22 j 15:56	7°M.07'04	50.29064 AU	morning rise	-12180 Feb 03 j 15:50	13°M.50'04	
retrograde	-12187 May 04 j 12:19	8°M.35'18			-12180 Apr 06 j 12:03	15°M.	
opposition	-12187 Jul 25 j 12:36	7°M.36'20	-15°51'39	retrograde	-12180 May 10 j 20:54	15°M.12'24	
min. Earth dist.	-12187 Jul 25 j 14:05	7°M.36'16	48.35153 AU		-12180 Jun 14 j 10:26	15°R.M.	
direct	-12187 Oct 15 j 11:14	6°M.37'10		opposition	-12180 Jul 31 j 16:47	14°M.13'23	-14°59'46
conjunction	-12186 Jan 23 j 22:07	8°M.03'58	-15°11'05	min. Earth dist.	-12180 Aug 01 j 03:31	14°M.12'53	48.05555 AU
minimum elong	-12186 Jan 23 j 22:11	8°M.03'58	15°11'31	direct	-12180 Oct 21 j 21:25	13°M.13'57	
max. Earth dist.	-12186 Jan 23 j 18:51	8°M.03'47	50.26473 AU	evening set	-12179 Jan 25 j 19:50	14°M.34'38	
retrograde	-12186 May 05 j 17:04	9°M.32'08		conjunction	-12179 Jan 30 j 14:37	14°M.41'04	-14°20'07
opposition	-12186 Jul 26 j 16:41	8°M.33'10	-15°44'58	minimum elong	-12179 Jan 30 j 14:44	14°M.41'05	14°20'37
min. Earth dist.	-12186 Jul 26 j 19:26	8°M.33'03	48.32202 AU	max. Earth dist.	-12179 Jan 30 j 02:25	14°M.40'23	49.96342 AU
direct	-12186 Oct 16 j 16:12	7°M.33'59		morning rise	-12179 Feb 04 j 09:40	14°M.47'32	
conjunction	-12185 Jan 25 j 03:57	9°M.00'47	-15°04'31		-12179 Feb 13 j 17:37	15°M.	
minimum elong	-12185 Jan 25 j 04:02	9°M.00'47	15°04'57	retrograde	-12179 May 12 j 04:02	16°M.09'14	
max. Earth dist.	-12185 Jan 24 j 23:44	9°M.00'33	50.23358 AU	opposition	-12179 Aug 01 j 20:45	15°M.10'14	-14°51'20
retrograde	-12185 May 06 j 21:09	10°M.28'57		min. Earth dist.	-12179 Aug 02 j 07:31	15°M.09'44	48.00012 AU
opposition	-12185 Jul 27 j 20:48	9°M.29'58	-15°38'04		-12179 Aug 10 j 20:59	15°R.M.	
min. Earth dist.	-12185 Jul 28 j 01:44	9°M.29'44	48.28728 AU	direct	-12179 Oct 22 j 23:15	14°M.10'46	
direct	-12185 Oct 17 j 21:46	8°M.30'44			-12178 Jan 02 j 17:38	15°M.	
evening set	-12184 Jan 25 j 08:59	9°M.56'10		evening set	-12178 Jan 26 j 14:23	15°M.30'56	
conjunction	-12184 Jan 26 j 09:49	9°M.57'33	-14°57'44	conjunction	-12178 Jan 31 j 20:25	15°M.38'00	-14°11'50
minimum elong	-12184 Jan 26 j 09:53	9°M.57'34	14°58'11	minimum elong	-12178 Jan 31 j 20:31	15°M.38'01	14°12'20
max. Earth dist.	-12184 Jan 26 j 03:49	9°M.57'13	50.19764 AU	max. Earth dist.	-12178 Jan 31 j 06:31	15°M.37'14	49.90768 AU
morning rise	-12184 Jan 27 j 10:50	9°M.58'58		morning rise	-12178 Feb 06 j 02:43	15°M.45'06	
				retrograde	-12178 May 13 j 10:25	17°M.06'13	
				opposition	-12178 Aug 03 j 00:54	16°M.07'15	-14°42'37



## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 17

Attention, astronomical year style is used: The year -12178 in astronomical counting style is the year 12179 BCE in historical counting style.

min. Earth dist.	-12178 Aug 03 j 13:40	16° <u>ℓ</u> 06'38	47.94158 AU	morning rise	-12171 Feb 15 j 12:51	22° <u>ℓ</u> 31'32	
direct	-12178 Oct 24 j 02:44	15° <u>ℓ</u> 07'46		retrograde	-12171 May 19 j 20:35	23° <u>ℓ</u> 49'26	
evening set	-12177 Jan 27 j 09:50	16° <u>ℓ</u> 27'27		opposition	-12171 Aug 09 j 06:51	22° <u>ℓ</u> 50'18	-13°34'56
				min. Earth dist.	-12171 Aug 10 j 05:16	22° <u>ℓ</u> 49'14	47.40179 AU
conjunction	-12177 Feb 02 j 02:19	16° <u>ℓ</u> 35'08	-14°03'18	direct	-12171 Oct 30 j 16:00	21° <u>ℓ</u> 50'23	
minimum elong	-12177 Feb 02 j 02:27	16° <u>ℓ</u> 35'08	14°03'49	evening set	-12170 Jan 31 j 15:57	23° <u>ℓ</u> 07'26	
max. Earth dist.	-12177 Feb 01 j 12:06	16° <u>ℓ</u> 34'20	49.84862 AU				
morning rise	-12177 Feb 07 j 19:01	16° <u>ℓ</u> 42'49		conjunction	-12170 Feb 08 j 21:20	23° <u>ℓ</u> 18'36	-12°57'04
retrograde	-12177 May 14 j 13:24	18° <u>ℓ</u> 03'24		minimum elong	-12170 Feb 08 j 21:29	23° <u>ℓ</u> 18'36	12°57'38
opposition	-12177 Aug 04 j 05:01	17° <u>ℓ</u> 04'27	-14°33'39	max. Earth dist.	-12170 Feb 07 j 19:33	23° <u>ℓ</u> 17'08	49.30164 AU
min. Earth dist.	-12177 Aug 04 j 18:44	17° <u>ℓ</u> 03'47	47.87918 AU	morning rise	-12170 Feb 17 j 02:48	23° <u>ℓ</u> 29'46	
direct	-12177 Oct 25 j 09:48	16° <u>ℓ</u> 04'57		retrograde	-12170 May 20 j 23:58	24° <u>ℓ</u> 47'18	
evening set	-12176 Jan 28 j 05:59	17° <u>ℓ</u> 24'12		opposition	-12170 Aug 10 j 11:19	23° <u>ℓ</u> 48'06	-13°24'17
				min. Earth dist.	-12170 Aug 11 j 11:27	23° <u>ℓ</u> 46'57	47.30655 AU
conjunction	-12176 Feb 03 j 08:19	17° <u>ℓ</u> 32'27	-13°54'31	direct	-12170 Oct 31 j 22:56	22° <u>ℓ</u> 48'05	
minimum elong	-12176 Feb 03 j 08:25	17° <u>ℓ</u> 32'27	13°55'02	evening set	-12169 Feb 01 j 14:36	24° <u>ℓ</u> 04'49	
max. Earth dist.	-12176 Feb 02 j 15:22	17° <u>ℓ</u> 31'29	49.78538 AU	max. Earth dist.	-12169 Feb 09 j 00:11	24° <u>ℓ</u> 14'52	49.20623 AU
morning rise	-12176 Feb 09 j 10:56	17° <u>ℓ</u> 40'42					
retrograde	-12176 May 14 j 18:18	19° <u>ℓ</u> 00'47		conjunction	-12169 Feb 10 j 03:27	24° <u>ℓ</u> 16'25	-12°46'38
opposition	-12176 Aug 04 j 09:08	18° <u>ℓ</u> 01'50	-14°24'27	minimum elong	-12169 Feb 10 j 03:34	24° <u>ℓ</u> 16'26	12°47'13
min. Earth dist.	-12176 Aug 05 j 00:09	18° <u>ℓ</u> 01'07	47.81238 AU	morning rise	-12169 Feb 18 j 16:26	24° <u>ℓ</u> 28'02	
direct	-12176 Oct 25 j 15:13	17° <u>ℓ</u> 02'19		retrograde	-12169 May 22 j 06:44	25° <u>ℓ</u> 45'12	
evening set	-12175 Jan 28 j 02:44	18° <u>ℓ</u> 21'10		opposition	-12169 Aug 11 j 15:44	24° <u>ℓ</u> 45'57	-13°13'22
				min. Earth dist.	-12169 Aug 12 j 15:58	24° <u>ℓ</u> 44'48	47.20812 AU
conjunction	-12175 Feb 03 j 14:32	18° <u>ℓ</u> 29'56	-13°45'31	direct	-12169 Nov 02 j 02:24	23° <u>ℓ</u> 45'50	
minimum elong	-12175 Feb 03 j 14:39	18° <u>ℓ</u> 29'56	13°46'03	evening set	-12168 Feb 02 j 13:32	25° <u>ℓ</u> 02'18	
max. Earth dist.	-12175 Feb 02 j 20:38	18° <u>ℓ</u> 28'55	49.71730 AU	max. Earth dist.	-12168 Feb 10 j 04:53	25° <u>ℓ</u> 12'41	49.10765 AU
morning rise	-12175 Feb 10 j 02:31	18° <u>ℓ</u> 38'44					
retrograde	-12175 May 15 j 22:19	19° <u>ℓ</u> 58'21		conjunction	-12168 Feb 11 j 09:46	25° <u>ℓ</u> 14'20	-12°35'58
opposition	-12175 Aug 05 j 13:32	18° <u>ℓ</u> 59'24	-14°15'01	minimum elong	-12168 Feb 11 j 09:55	25° <u>ℓ</u> 14'20	12°36'32
min. Earth dist.	-12175 Aug 06 j 06:47	18° <u>ℓ</u> 58'35	47.74041 AU	morning rise	-12168 Feb 20 j 06:11	25° <u>ℓ</u> 26'23	
direct	-12175 Oct 26 j 21:14	17° <u>ℓ</u> 59'50		retrograde	-12168 May 22 j 13:41	26° <u>ℓ</u> 43'13	
evening set	-12174 Jan 28 j 23:51	19° <u>ℓ</u> 18'17		opposition	-12168 Aug 11 j 20:19	25° <u>ℓ</u> 43'55	-13°02'10
				min. Earth dist.	-12168 Aug 12 j 22:31	25° <u>ℓ</u> 42'40	47.10675 AU
conjunction	-12174 Feb 04 j 20:30	19° <u>ℓ</u> 27'33	-13°36'17	direct	-12168 Nov 02 j 05:46	24° <u>ℓ</u> 43'43	
minimum elong	-12174 Feb 04 j 20:38	19° <u>ℓ</u> 27'34	13°36'49	evening set	-12167 Feb 02 j 12:47	25° <u>ℓ</u> 59'55	
max. Earth dist.	-12174 Feb 04 j 00:45	19° <u>ℓ</u> 26'26	49.64409 AU	max. Earth dist.	-12167 Feb 10 j 11:07	26° <u>ℓ</u> 10'44	49.00631 AU
morning rise	-12174 Feb 11 j 17:23	19° <u>ℓ</u> 36'52					
retrograde	-12174 May 17 j 05:31	20° <u>ℓ</u> 56'02		conjunction	-12167 Feb 11 j 16:13	26° <u>ℓ</u> 12'23	-12°25'01
opposition	-12174 Aug 06 j 17:49	19° <u>ℓ</u> 57'04	-14°05'21	minimum elong	-12167 Feb 11 j 16:21	26° <u>ℓ</u> 12'23	12°25'35
min. Earth dist.	-12174 Aug 07 j 11:40	19° <u>ℓ</u> 56'13	47.66316 AU	morning rise	-12167 Feb 20 j 19:36	26° <u>ℓ</u> 24'51	
direct	-12174 Oct 28 j 00:14	18° <u>ℓ</u> 57'25		retrograde	-12167 May 23 j 18:21	27° <u>ℓ</u> 41'23	
evening set	-12173 Jan 29 j 21:22	20° <u>ℓ</u> 15'30		opposition	-12167 Aug 13 j 00:58	26° <u>ℓ</u> 42'02	-12°50'43
max. Earth dist.	-12173 Feb 05 j 04:38	20° <u>ℓ</u> 24'02	49.56549 AU	min. Earth dist.	-12167 Aug 14 j 03:36	26° <u>ℓ</u> 40'46	47.00245 AU
				direct	-12167 Nov 03 j 12:14	25° <u>ℓ</u> 41'46	
conjunction	-12173 Feb 06 j 02:41	20° <u>ℓ</u> 25'16	-13°26'50	evening set	-12166 Feb 03 j 12:06	26° <u>ℓ</u> 57'45	
minimum elong	-12173 Feb 06 j 02:48	20° <u>ℓ</u> 25'17	13°27'23				
morning rise	-12173 Feb 13 j 08:14	20° <u>ℓ</u> 35'04		conjunction	-12166 Feb 12 j 22:24	27° <u>ℓ</u> 10'38	-12°13'48
retrograde	-12173 May 18 j 13:59	21° <u>ℓ</u> 53'48		minimum elong	-12166 Feb 12 j 22:33	27° <u>ℓ</u> 10'39	12°14'24
opposition	-12173 Aug 07 j 22:08	20° <u>ℓ</u> 54'47	-13°55'28	max. Earth dist.	-12166 Feb 11 j 15:03	27° <u>ℓ</u> 08'51	48.90200 AU
min. Earth dist.	-12173 Aug 08 j 18:25	20° <u>ℓ</u> 53'49	47.58070 AU	morning rise	-12166 Feb 22 j 08:54	27° <u>ℓ</u> 23'31	
direct	-12173 Oct 29 j 02:11	19° <u>ℓ</u> 55'04		retrograde	-12166 May 24 j 23:45	28° <u>ℓ</u> 39'46	
evening set	-12172 Jan 30 j 19:25	21° <u>ℓ</u> 12'47		opposition	-12166 Aug 14 j 05:38	27° <u>ℓ</u> 40'24	-12°38'58
max. Earth dist.	-12172 Feb 06 j 10:14	21° <u>ℓ</u> 21'45	49.48193 AU	min. Earth dist.	-12166 Aug 15 j 09:21	27° <u>ℓ</u> 39'04	46.89511 AU
				direct	-12166 Nov 04 j 17:57	26° <u>ℓ</u> 40'03	
conjunction	-12172 Feb 07 j 09:00	21° <u>ℓ</u> 23'02	-13°17'09	evening set	-12165 Feb 04 j 11:45	27° <u>ℓ</u> 55'51	
minimum elong	-12172 Feb 07 j 09:08	21° <u>ℓ</u> 23'02	13°17'42	max. Earth dist.	-12165 Feb 12 j 21:09	28° <u>ℓ</u> 07'19	48.79430 AU
morning rise	-12172 Feb 14 j 22:43	21° <u>ℓ</u> 33'18					
retrograde	-12172 May 18 j 17:21	22° <u>ℓ</u> 51'36		conjunction	-12165 Feb 14 j 05:02	28° <u>ℓ</u> 09'08	-12°02'20
opposition	-12172 Aug 08 j 02:29	21° <u>ℓ</u> 52'32	-13°45'19	minimum elong	-12165 Feb 14 j 05:10	28° <u>ℓ</u> 09'09	12°02'56
min. Earth dist.	-12172 Aug 08 j 23:39	21° <u>ℓ</u> 51'32	47.49332 AU	morning rise	-12165 Feb 23 j 22:13	28° <u>ℓ</u> 22'25	
direct	-12172 Oct 29 j 09:14	20° <u>ℓ</u> 52'43		retrograde	-12165 May 26 j 03:57	29° <u>ℓ</u> 38'26	
evening set	-12171 Jan 30 j 17:34	22° <u>ℓ</u> 10'05		opposition	-12165 Aug 15 j 10:21	28° <u>ℓ</u> 39'02	-12°26'58
				min. Earth dist.	-12165 Aug 16 j 15:59	28° <u>ℓ</u> 37'36	46.78401 AU
conjunction	-12171 Feb 07 j 15:05	22° <u>ℓ</u> 20'48	-13°07'14	direct	-12165 Nov 06 j 00:28	27° <u>ℓ</u> 38'37	
minimum elong	-12171 Feb 07 j 15:12	22° <u>ℓ</u> 20'49	13°07'48	evening set	-12164 Feb 05 j 11:56	28° <u>ℓ</u> 54'15	
max. Earth dist.	-12171 Feb 06 j 13:48	22° <u>ℓ</u> 19'22	49.39376 AU	max. Earth dist.	-12164 Feb 14 j 02:08	29° <u>ℓ</u> 06'00	48.68267 AU

Attention, astronomical year style is used: The year -12164 in astronomical counting style is the year 12165 BCE in historical counting style.

conjunction	-12164 Feb 15 j 11:45	29° $\mathbb{M}$ 07'56	-11°50'37	morning rise	-12158 Mar 04 j 17:52	5° $\mathbb{A}$ 21'52	
minimum elong	-12164 Feb 15 j 11:54	29° $\mathbb{M}$ 07'56	11°51'14	retrograde	-12158 Jun 02 j 01:43	6° $\mathbb{A}$ 36'25	
morning rise	-12164 Feb 25 j 11:34	29° $\mathbb{M}$ 21'38		opposition	-12158 Aug 21 j 22:24	5° $\mathbb{A}$ 36'30	-10°55'44
	-12164 Mar 26 j 18:14	0° $\mathbb{A}$		min. Earth dist.	-12158 Aug 23 j 13:45	5° $\mathbb{A}$ 34'35	45.87434 AU
retrograde	-12164 May 26 j 11:14	0° $\mathbb{A}$ 37'24		direct	-12158 Nov 12 j 12:48	4° $\mathbb{A}$ 35'16	
	-12164 Jul 27 j 02:15	30° $\mathbb{R}\mathbb{M}$		evening set	-12157 Feb 10 j 18:32	5° $\mathbb{A}$ 49'54	
opposition	-12164 Aug 15 j 15:11	29° $\mathbb{M}$ 37'58	-12°14'42	max. Earth dist.	-12157 Feb 20 j 17:11	6° $\mathbb{A}$ 03'42	47.76782 AU
min. Earth dist.	-12164 Aug 16 j 21:25	29° $\mathbb{M}$ 36'31	46.66862 AU				
direct	-12164 Nov 06 j 04:27	28° $\mathbb{M}$ 37'29		conjunction	-12157 Feb 22 j 12:49	6° $\mathbb{A}$ 06'14	-10°21'38
evening set	-12163 Feb 05 j 12:09	29° $\mathbb{M}$ 52'56		minimum elong	-12157 Feb 22 j 12:59	6° $\mathbb{A}$ 06'15	10°22'17
	-12163 Feb 10 j 16:01	0° $\mathbb{A}$		morning rise	-12157 Mar 06 j 06:34	6° $\mathbb{A}$ 22'34	
max. Earth dist.	-12163 Feb 14 j 06:46	0° $\mathbb{A}$ 04'58	48.56625 AU	retrograde	-12157 Jun 03 j 08:12	7° $\mathbb{A}$ 36'57	
				opposition	-12157 Aug 23 j 03:45	6° $\mathbb{A}$ 36'55	-10°41'37
conjunction	-12163 Feb 15 j 18:30	0° $\mathbb{A}$ 07'01	-11°38'39	min. Earth dist.	-12157 Aug 24 j 19:25	6° $\mathbb{A}$ 34'59	45.72838 AU
minimum elong	-12163 Feb 15 j 18:39	0° $\mathbb{A}$ 07'02	11°39'15	direct	-12157 Nov 13 j 19:34	5° $\mathbb{A}$ 35'32	
morning rise	-12163 Feb 26 j 00:48	0° $\mathbb{A}$ 21'07		evening set	-12156 Feb 11 j 20:25	6° $\mathbb{A}$ 50'06	
retrograde	-12163 May 27 j 20:21	1° $\mathbb{A}$ 36'40		max. Earth dist.	-12156 Feb 21 j 22:11	7° $\mathbb{A}$ 04'08	47.62205 AU
opposition	-12163 Aug 16 j 20:16	0° $\mathbb{A}$ 37'11	-12°02'12				
min. Earth dist.	-12163 Aug 18 j 04:50	0° $\mathbb{A}$ 35'37	46.54830 AU	conjunction	-12156 Feb 23 j 20:05	7° $\mathbb{A}$ 06'48	-10°07'52
	-12163 Sep 20 j 10:25	30° $\mathbb{R}\mathbb{M}$		minimum elong	-12156 Feb 23 j 20:14	7° $\mathbb{A}$ 06'49	10°08'31
direct	-12163 Nov 07 j 07:00	29° $\mathbb{M}$ 36'36		morning rise	-12156 Mar 06 j 19:26	7° $\mathbb{A}$ 23'29	
	-12163 Dec 25 j 00:02	0° $\mathbb{A}$		retrograde	-12156 Jun 03 j 14:43	8° $\mathbb{A}$ 37'43	
evening set	-12162 Feb 06 j 12:44	0° $\mathbb{A}$ 51'55		opposition	-12156 Aug 23 j 09:23	7° $\mathbb{A}$ 37'35	-10°27'12
max. Earth dist.	-12162 Feb 15 j 12:55	1° $\mathbb{A}$ 04'17	48.44484 AU	min. Earth dist.	-12156 Aug 25 j 02:05	7° $\mathbb{A}$ 35'36	45.57992 AU
				direct	-12156 Nov 14 j 02:19	6° $\mathbb{A}$ 36'04	
conjunction	-12162 Feb 17 j 01:27	1° $\mathbb{A}$ 06'23	-11°26'26	evening set	-12155 Feb 11 j 22:17	7° $\mathbb{A}$ 50'35	
minimum elong	-12162 Feb 17 j 01:36	1° $\mathbb{A}$ 06'24	11°27'04	max. Earth dist.	-12155 Feb 22 j 05:30	8° $\mathbb{A}$ 04'56	47.47372 AU
morning rise	-12162 Feb 27 j 13:56	1° $\mathbb{A}$ 20'52					
retrograde	-12162 May 29 j 01:56	2° $\mathbb{A}$ 36'12		conjunction	-12155 Feb 24 j 03:29	8° $\mathbb{A}$ 07'38	-9°53'49
opposition	-12162 Aug 18 j 01:18	1° $\mathbb{A}$ 36'39	-11°49'26	minimum elong	-12155 Feb 24 j 03:39	8° $\mathbb{A}$ 07'38	9°54'29
min. Earth dist.	-12162 Aug 19 j 10:47	1° $\mathbb{A}$ 35'02	46.42275 AU	morning rise	-12155 Mar 08 j 07:59	8° $\mathbb{A}$ 24'40	
direct	-12162 Nov 08 j 13:24	0° $\mathbb{A}$ 35'58		retrograde	-12155 Jun 04 j 19:05	9° $\mathbb{A}$ 38'46	
evening set	-12161 Feb 07 j 13:31	1° $\mathbb{A}$ 51'08		opposition	-12155 Aug 24 j 15:10	8° $\mathbb{A}$ 38'33	-10°12'29
max. Earth dist.	-12161 Feb 16 j 17:04	2° $\mathbb{A}$ 03'43	48.31825 AU	min. Earth dist.	-12155 Aug 26 j 09:12	8° $\mathbb{A}$ 36'30	45.42888 AU
				direct	-12155 Nov 15 j 10:26	7° $\mathbb{A}$ 36'54	
conjunction	-12161 Feb 18 j 08:20	2° $\mathbb{A}$ 05'59	-11°13'59	evening set	-12154 Feb 13 j 00:36	8° $\mathbb{A}$ 51'22	
minimum elong	-12161 Feb 18 j 08:29	2° $\mathbb{A}$ 06'00	11°14'37	max. Earth dist.	-12154 Feb 23 j 11:34	9° $\mathbb{A}$ 05'59	47.32301 AU
morning rise	-12161 Mar 01 j 03:07	2° $\mathbb{A}$ 20'51					
retrograde	-12161 May 30 j 07:06	3° $\mathbb{A}$ 35'58		conjunction	-12154 Feb 25 j 10:55	9° $\mathbb{A}$ 08'46	-9°39'29
opposition	-12161 Aug 19 j 06:28	2° $\mathbb{A}$ 36'21	-11°36'24	minimum elong	-12154 Feb 25 j 11:04	9° $\mathbb{A}$ 08'46	9°40'09
min. Earth dist.	-12161 Aug 20 j 17:32	2° $\mathbb{A}$ 34'39	46.29215 AU	morning rise	-12154 Mar 09 j 20:42	9° $\mathbb{A}$ 26'09	
direct	-12161 Nov 09 j 20:08	1° $\mathbb{A}$ 35'32		retrograde	-12154 Jun 06 j 01:31	10° $\mathbb{A}$ 40'10	
evening set	-12160 Feb 08 j 14:30	2° $\mathbb{A}$ 50'33		opposition	-12154 Aug 25 j 20:53	9° $\mathbb{A}$ 39'52	-9°57'29
max. Earth dist.	-12160 Feb 17 j 23:24	3° $\mathbb{A}$ 03'28	48.18662 AU	min. Earth dist.	-12154 Aug 27 j 15:05	9° $\mathbb{A}$ 37'47	45.27532 AU
				direct	-12154 Nov 16 j 16:39	8° $\mathbb{A}$ 38'05	
conjunction	-12160 Feb 19 j 15:31	3° $\mathbb{A}$ 05'47	-11°01'18	evening set	-12153 Feb 14 j 03:05	9° $\mathbb{A}$ 52'31	
minimum elong	-12160 Feb 19 j 15:40	3° $\mathbb{A}$ 05'48	11°01'56	max. Earth dist.	-12153 Feb 24 j 17:42	10° $\mathbb{A}$ 07'24	47.16935 AU
morning rise	-12160 Mar 01 j 16:10	3° $\mathbb{A}$ 21'01					
retrograde	-12160 May 30 j 10:23	4° $\mathbb{A}$ 35'56		conjunction	-12153 Feb 26 j 18:37	10° $\mathbb{A}$ 10'17	-9°24'53
opposition	-12160 Aug 19 j 11:42	3° $\mathbb{A}$ 36'13	-11°23'08	minimum elong	-12153 Feb 26 j 18:47	10° $\mathbb{A}$ 10'17	9°25'34
min. Earth dist.	-12160 Aug 21 j 00:39	3° $\mathbb{A}$ 34'26	46.15672 AU	morning rise	-12153 Mar 11 j 09:28	10° $\mathbb{A}$ 28'01	
direct	-12160 Nov 10 j 04:50	2° $\mathbb{A}$ 35'17		retrograde	-12153 Jun 07 j 11:08	11° $\mathbb{A}$ 41'57	
evening set	-12159 Feb 08 j 15:49	3° $\mathbb{A}$ 50'09		opposition	-12153 Aug 27 j 02:56	10° $\mathbb{A}$ 41'34	-9°42'11
max. Earth dist.	-12159 Feb 18 j 04:46	4° $\mathbb{A}$ 03'20	48.05067 AU	min. Earth dist.	-12153 Aug 28 j 23:15	10° $\mathbb{A}$ 39'23	45.11857 AU
				direct	-12153 Nov 17 j 20:20	9° $\mathbb{A}$ 39'39	
conjunction	-12159 Feb 19 j 22:35	4° $\mathbb{A}$ 05'46	-10°48'20	evening set	-12152 Feb 15 j 06:01	10° $\mathbb{A}$ 54'05	
minimum elong	-12159 Feb 19 j 22:45	4° $\mathbb{A}$ 05'46	10°48'58	max. Earth dist.	-12152 Feb 26 j 01:10	11° $\mathbb{A}$ 09'17	47.01226 AU
morning rise	-12159 Mar 03 j 05:07	4° $\mathbb{A}$ 21'22					
retrograde	-12159 May 31 j 17:40	5° $\mathbb{A}$ 36'05		conjunction	-12152 Feb 28 j 02:33	11° $\mathbb{A}$ 12'11	-9°09'59
opposition	-12159 Aug 20 j 16:57	4° $\mathbb{A}$ 36'16	-11°09'34	minimum elong	-12152 Feb 28 j 02:42	11° $\mathbb{A}$ 12'12	9°10'39
min. Earth dist.	-12159 Aug 22 j 06:12	4° $\mathbb{A}$ 34'28	46.01727 AU	morning rise	-12152 Mar 11 j 22:13	11° $\mathbb{A}$ 30'16	
direct	-12159 Nov 11 j 09:21	3° $\mathbb{A}$ 35'11		retrograde	-12152 Jun 07 j 19:39	12° $\mathbb{A}$ 44'09	
evening set	-12158 Feb 09 j 16:57	4° $\mathbb{A}$ 49'56		opposition	-12152 Aug 27 j 09:01	11° $\mathbb{A}$ 43'40	-9°26'35
max. Earth dist.	-12158 Feb 19 j 10:10	5° $\mathbb{A}$ 03'23	47.91081 AU	min. Earth dist.	-12152 Aug 29 j 05:54	11° $\mathbb{A}$ 41'27	44.95796 AU
				direct	-12152 Nov 18 j 01:41	10° $\mathbb{A}$ 41'37	
conjunction	-12158 Feb 21 j 05:34	5° $\mathbb{A}$ 05'54	-10°35'07	evening set	-12151 Feb 15 j 09:19	11° $\mathbb{A}$ 56'04	
minimum elong	-12158 Feb 21 j 05:42	5° $\mathbb{A}$ 05'55	10°35'46	max. Earth dist.	-12151 Feb 26 j 06:39	12° $\mathbb{A}$ 11'26	46.85100 AU

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 19

Attention, astronomical year style is used: The year -12151 in astronomical counting style is the year 12152 BCE in historical counting style.

conjunction	-12151 Feb 28 j 10:35	12°♂14'31	-8°54'50	evening set	-12144 Feb 22 j 15:32	19°♂20'01	
minimum elong	-12151 Feb 28 j 10:45	12°♂14'31	8°55'31	max. Earth dist.	-12144 Mar 05 j 10:15	19°♂37'02	45.60187 AU
morning rise	-12151 Mar 13 j 11:10	12°♂32'56					
retrograde	-12151 Jun 09 j 03:46	13°♂46'45		conjunction	-12144 Mar 07 j 23:01	19°♂40'43	-7°01'00
opposition	-12151 Aug 28 j 15:25	12°♂46'10	-9°10'43	minimum elong	-12144 Mar 07 j 23:10	19°♂40'44	7°01'42
min. Earth dist.	-12151 Aug 30 j 14:00	12°♂43'52	44.79308 AU	morning rise	-12144 Mar 22 j 05:08	20°♂01'23	
direct	-12151 Nov 19 j 08:07	11°♂43'58		retrograde	-12144 Jun 16 j 08:03	21°♂15'10	
evening set	-12150 Feb 16 j 12:36	12°♂58'27		opposition	-12144 Sep 04 j 15:54	20°♂13'33	-7°11'23
max. Earth dist.	-12150 Feb 27 j 14:12	13°♂14'06	46.68509 AU	min. Earth dist.	-12144 Sep 06 j 22:10	20°♂10'49	43.52164 AU
				direct	-12144 Nov 26 j 15:25	19°♂10'01	
conjunction	-12150 Mar 01 j 18:46	13°♂17'14	-8°39'24	evening set	-12143 Feb 22 j 20:59	20°♂25'01	
minimum elong	-12150 Mar 01 j 18:55	13°♂17'14	8°40'04	max. Earth dist.	-12143 Mar 06 j 18:30	20°♂42'16	45.41101 AU
morning rise	-12150 Mar 14 j 23:49	13°♂35'58					
retrograde	-12150 Jun 10 j 08:13	14°♂49'45		conjunction	-12143 Mar 09 j 08:19	20°♂46'03	-6°43'35
opposition	-12150 Aug 29 j 22:00	13°♂49'02	-8°54'33	minimum elong	-12143 Mar 09 j 08:26	20°♂46'03	6°44'17
min. Earth dist.	-12150 Aug 31 j 22:12	13°♂46'39	44.62332 AU	morning rise	-12143 Mar 23 j 18:00	21°♂07'00	
direct	-12150 Nov 20 j 18:20	12°♂46'41		retrograde	-12143 Jun 17 j 17:18	22°♂20'53	
evening set	-12149 Feb 17 j 16:31	14°♂01'11		opposition	-12143 Sep 05 j 23:41	21°♂19'08	-6°53'06
max. Earth dist.	-12149 Feb 28 j 20:28	14°♂17'02	46.51446 AU	min. Earth dist.	-12143 Sep 08 j 07:37	21°♂16'18	43.32855 AU
				direct	-12143 Nov 27 j 22:04	20°♂15'25	
conjunction	-12149 Mar 03 j 03:08	14°♂20'17	-8°23'42	evening set	-12142 Feb 24 j 02:39	21°♂30'34	
minimum elong	-12149 Mar 03 j 03:17	14°♂20'18	8°24'24	max. Earth dist.	-12142 Mar 08 j 03:35	21°♂48'06	45.21815 AU
morning rise	-12149 Mar 16 j 12:50	14°♂39'22					
retrograde	-12149 Jun 11 j 15:24	15°♂53'06		conjunction	-12142 Mar 10 j 17:36	21°♂51'55	-6°25'52
opposition	-12149 Aug 31 j 04:28	14°♂52'16	-8°38'07	minimum elong	-12142 Mar 10 j 17:44	21°♂51'55	6°26'34
min. Earth dist.	-12149 Sep 02 j 05:21	14°♂49'50	44.44888 AU	morning rise	-12142 Mar 25 j 06:48	22°♂13'10	
direct	-12149 Nov 22 j 01:43	13°♂49'43		retrograde	-12142 Jun 19 j 04:20	23°♂27'11	
evening set	-12148 Feb 18 j 20:38	15°♂04'15		opposition	-12142 Sep 07 j 07:29	22°♂25'17	-6°34'29
max. Earth dist.	-12148 Mar 01 j 03:25	15°♂20'19	46.33908 AU	min. Earth dist.	-12142 Sep 09 j 15:25	22°♂22'27	43.13320 AU
				direct	-12142 Nov 29 j 03:37	21°♂21'23	
conjunction	-12148 Mar 03 j 11:46	15°♂23'41	-8°07'44	evening set	-12141 Feb 25 j 08:56	22°♂36'45	
minimum elong	-12148 Mar 03 j 11:56	15°♂23'42	8°08'25	max. Earth dist.	-12141 Mar 09 j 11:10	22°♂54'27	45.02273 AU
morning rise	-12148 Mar 17 j 01:47	15°♂43'05					
retrograde	-12148 Jun 12 j 00:07	16°♂56'48		conjunction	-12141 Mar 12 j 03:15	22°♂58'24	-6°07'50
opposition	-12148 Aug 31 j 11:21	15°♂55'48	-8°21'22	minimum elong	-12141 Mar 12 j 03:23	22°♂58'24	6°08'33
min. Earth dist.	-12148 Sep 02 j 14:34	15°♂53'15	44.27000 AU	morning rise	-12141 Mar 26 j 19:55	23°♂19'58	
direct	-12148 Nov 22 j 07:21	14°♂53'04		retrograde	-12141 Jun 20 j 15:20	24°♂34'06	
evening set	-12147 Feb 19 j 00:53	16°♂07'38		opposition	-12141 Sep 08 j 15:27	23°♂32'04	-6°15'34
max. Earth dist.	-12147 Mar 02 j 11:27	16°♂23'59	46.15961 AU	min. Earth dist.	-12141 Sep 11 j 01:09	23°♂29'08	42.93522 AU
				direct	-12141 Nov 30 j 10:08	22°♂27'59	
conjunction	-12147 Mar 04 j 20:21	16°♂27'24	-7°51'29	evening set	-12140 Feb 26 j 15:33	23°♂43'36	
minimum elong	-12147 Mar 04 j 20:30	16°♂27'25	7°52'11	max. Earth dist.	-12140 Mar 09 j 21:03	24°♂01'34	44.82426 AU
morning rise	-12147 Mar 18 j 14:32	16°♂47'07					
retrograde	-12147 Jun 13 j 08:35	18°♂00'49		conjunction	-12140 Mar 12 j 13:19	24°♂05'32	-5°49'31
opposition	-12147 Sep 01 j 18:14	16°♂59'40	-8°04'21	minimum elong	-12140 Mar 12 j 13:27	24°♂05'33	5°50'14
min. Earth dist.	-12147 Sep 03 j 21:45	16°♂57'06	44.08724 AU	morning rise	-12140 Mar 27 j 09:01	24°♂27'24	
direct	-12147 Nov 23 j 14:42	15°♂56'44		retrograde	-12140 Jun 20 j 23:23	25°♂41'41	
evening set	-12146 Feb 20 j 05:30	17°♂11'23		opposition	-12140 Sep 08 j 23:52	24°♂39'31	-5°56'19
max. Earth dist.	-12146 Mar 03 j 17:51	17°♂27'54	45.97652 AU	min. Earth dist.	-12140 Sep 11 j 10:39	24°♂36'31	42.73380 AU
				direct	-12140 Nov 30 j 21:21	23°♂35'15	
conjunction	-12146 Mar 06 j 05:02	17°♂31'28	-7°34'57	evening set	-12139 Feb 26 j 22:37	24°♂51'06	
minimum elong	-12146 Mar 06 j 05:11	17°♂31'28	7°35'39	max. Earth dist.	-12139 Mar 11 j 05:00	25°♂09'13	44.62211 AU
morning rise	-12146 Mar 20 j 03:26	17°♂51'29					
retrograde	-12146 Jun 14 j 18:09	19°♂05'12		conjunction	-12139 Mar 13 j 23:19	25°♂13'21	-5°30'54
opposition	-12146 Sep 03 j 01:13	18°♂03'53	-7°47'00	minimum elong	-12139 Mar 13 j 23:26	25°♂13'21	5°31'36
min. Earth dist.	-12146 Sep 05 j 06:11	18°♂01'14	43.90135 AU	morning rise	-12139 Mar 28 j 22:12	25°♂35'30	
direct	-12146 Nov 24 j 21:20	17°♂00'44		retrograde	-12139 Jun 22 j 08:32	26°♂49'57	
evening set	-12145 Feb 21 j 10:15	18°♂15'29		opposition	-12139 Sep 10 j 08:27	25°♂47'38	-5°36'45
max. Earth dist.	-12145 Mar 05 j 02:47	18°♂32'18	45.79044 AU	min. Earth dist.	-12139 Sep 12 j 20:00	25°♂44'35	42.52851 AU
				direct	-12139 Dec 02 j 07:24	24°♂43'10	
conjunction	-12145 Mar 07 j 14:01	18°♂35'53	-7°18'07	evening set	-12138 Feb 28 j 06:02	25°♂59'16	
minimum elong	-12145 Mar 07 j 14:09	18°♂35'54	7°18'50	max. Earth dist.	-12138 Mar 12 j 14:16	26°♂17'34	44.41563 AU
morning rise	-12145 Mar 21 j 16:13	18°♂56'14					
retrograde	-12145 Jun 16 j 00:47	20°♂09'58		conjunction	-12138 Mar 15 j 09:50	26°♂21'48	-5°11'59
opposition	-12145 Sep 04 j 08:32	19°♂08'30	-7°29'21	minimum elong	-12138 Mar 15 j 09:58	26°♂21'48	5°12'42
min. Earth dist.	-12145 Sep 06 j 14:36	19°♂05'47	43.71260 AU	morning rise	-12138 Mar 30 j 11:28	26°♂44'14	
direct	-12145 Nov 26 j 07:02	18°♂05'09		retrograde	-12138 Jun 23 j 17:28	27°♂58'53	

Attention, astronomical year style is used: The year -12138 in astronomical counting style is the year 12139 BCE in historical counting style.

opposition	-12138 Sep 11 j 17:19	26° $\nearrow$ 56'23	-5°16'53	direct	-12132 Dec 10 j 04:05	2° $\searrow$ 54'13	
min. Earth dist.	-12138 Sep 14 j 07:08	26° $\nearrow$ 53'12	42.31879 AU	evening set	-12131 Mar 07 j 21:39	4° $\searrow$ 12'30	
direct	-12138 Dec 03 j 16:32	25° $\nearrow$ 51'41		max. Earth dist.	-12131 Mar 20 j 13:38	4° $\searrow$ 32'00	42.86573 AU
evening set	-12137 Mar 01 j 13:58	27° $\nearrow$ 08'02					
max. Earth dist.	-12137 Mar 13 j 23:56	27° $\nearrow$ 26'32	44.20478 AU	conjunction	-12131 Mar 23 j 17:16	4° $\searrow$ 36'54	-2°51'13
				minimum elong	-12131 Mar 23 j 17:20	4° $\searrow$ 36'54	2°51'55
conjunction	-12137 Mar 16 j 20:33	27° $\nearrow$ 30'51	-4°52'47	morning rise	-12131 Apr 08 j 10:07	5° $\searrow$ 01'09	
minimum elong	-12137 Mar 16 j 20:40	27° $\nearrow$ 30'51	4°53'29	retrograde	-12131 Jul 01 j 23:31	6° $\searrow$ 17'33	
morning rise	-12137 Apr 01 j 00:57	27° $\nearrow$ 53'34		opposition	-12131 Sep 19 j 14:21	5° $\searrow$ 13'25	-2°48'42
retrograde	-12137 Jun 25 j 04:09	29° $\nearrow$ 08'24		min. Earth dist.	-12131 Sep 22 j 10:53	5° $\searrow$ 09'48	40.75294 AU
opposition	-12137 Sep 13 j 02:24	28° $\nearrow$ 05'43	-4°56'41	direct	-12131 Dec 11 j 12:20	4° $\searrow$ 06'46	
min. Earth dist.	-12137 Sep 15 j 16:33	28° $\nearrow$ 02'30	42.10462 AU	evening set	-12130 Mar 09 j 08:27	5° $\searrow$ 25'29	
direct	-12137 Dec 05 j 01:13	27° $\nearrow$ 00'46		max. Earth dist.	-12130 Mar 22 j 02:23	5° $\searrow$ 45'13	42.63524 AU
evening set	-12136 Mar 01 j 22:20	28° $\nearrow$ 17'23					
max. Earth dist.	-12136 Mar 14 j 08:28	28° $\nearrow$ 35'59	43.98943 AU	conjunction	-12130 Mar 25 j 05:41	5° $\searrow$ 50'07	-2°29'53
				minimum elong	-12130 Mar 25 j 05:45	5° $\searrow$ 50'07	2°30'36
conjunction	-12136 Mar 17 j 07:29	28° $\nearrow$ 40'28	-4°33'16	morning rise	-12130 Apr 09 j 23:52	6° $\searrow$ 14'36	
minimum elong	-12136 Mar 17 j 07:36	28° $\nearrow$ 40'29	4°34'00	retrograde	-12130 Jul 03 j 12:23	7° $\searrow$ 31'22	
morning rise	-12136 Apr 01 j 14:26	29° $\nearrow$ 03'28		opposition	-12130 Sep 21 j 01:15	6° $\searrow$ 27'01	-2°26'13
	-12136 May 17 j 01:44	0° $\searrow$		min. Earth dist.	-12130 Sep 23 j 21:53	6° $\searrow$ 23'23	40.52109 AU
retrograde	-12136 Jun 25 j 17:46	0° $\searrow$ 18'30		direct	-12130 Dec 12 j 23:33	5° $\searrow$ 20'06	
	-12136 Aug 04 j 16:35	30° $\nearrow$		evening set	-12129 Mar 10 j 19:58	6° $\searrow$ 39'18	
opposition	-12136 Sep 13 j 11:45	29° $\nearrow$ 15'35	-4°36'11	max. Earth dist.	-12129 Mar 23 j 13:10	6° $\searrow$ 59'06	42.40321 AU
min. Earth dist.	-12136 Sep 16 j 03:54	29° $\nearrow$ 12'16	41.88633 AU				
direct	-12136 Dec 05 j 07:51	28° $\nearrow$ 10'22		conjunction	-12129 Mar 26 j 18:21	7° $\searrow$ 04'10	-2°08'15
evening set	-12135 Mar 03 j 06:57	29° $\nearrow$ 27'16		minimum elong	-12129 Mar 26 j 18:25	7° $\searrow$ 04'10	2°08'58
max. Earth dist.	-12135 Mar 15 j 19:36	29° $\nearrow$ 46'08	43.77018 AU	morning rise	-12129 Apr 11 j 13:54	7° $\searrow$ 28'53	
				retrograde	-12129 Jul 05 j 02:59	8° $\searrow$ 46'03	
conjunction	-12135 Mar 18 j 18:43	29° $\nearrow$ 50'38	-4°13'28	opposition	-12129 Sep 22 j 12:33	7° $\searrow$ 41'29	-2°03'23
minimum elong	-12135 Mar 18 j 18:49	29° $\nearrow$ 50'39	4°14'11	min. Earth dist.	-12129 Sep 25 j 10:04	7° $\searrow$ 37'47	40.28762 AU
	-12135 Mar 24 j 22:14	0° $\searrow$		direct	-12129 Dec 14 j 10:19	6° $\searrow$ 34'18	
morning rise	-12135 Apr 03 j 03:54	0° $\searrow$ 13'53		evening set	-12128 Mar 11 j 07:54	7° $\searrow$ 54'01	
retrograde	-12135 Jun 27 j 04:24	1° $\searrow$ 29'09		max. Earth dist.	-12128 Mar 24 j 02:11	8° $\searrow$ 14'01	42.16903 AU
opposition	-12135 Sep 14 j 21:23	0° $\searrow$ 25'59	-4°15'20				
min. Earth dist.	-12135 Sep 17 j 14:17	0° $\searrow$ 22'38	41.66439 AU	conjunction	-12128 Mar 27 j 07:30	8° $\searrow$ 19'07	-1°46'19
	-12135 Oct 06 j 08:20	30° $\nearrow$		minimum elong	-12128 Mar 27 j 07:33	8° $\searrow$ 19'07	1°47'02
direct	-12135 Dec 06 j 18:31	29° $\nearrow$ 20'30		morning rise	-12128 Apr 12 j 03:50	8° $\searrow$ 44'03	
	-12134 Feb 05 j 03:32	0° $\searrow$		retrograde	-12128 Jul 05 j 14:58	10° $\searrow$ 01'39	
evening set	-12134 Mar 04 j 15:57	0° $\searrow$ 37'43		opposition	-12128 Sep 23 j 00:20	8° $\searrow$ 56'52	-1°40'14
max. Earth dist.	-12134 Mar 17 j 04:48	0° $\searrow$ 56'41	43.54763 AU	min. Earth dist.	-12128 Sep 25 j 23:18	8° $\searrow$ 53'05	40.05181 AU
				direct	-12128 Dec 14 j 23:06	7° $\searrow$ 49'25	
conjunction	-12134 Mar 20 j 05:51	1° $\searrow$ 01'20	-3°53'22	evening set	-12127 Mar 12 j 20:34	9° $\searrow$ 09'41	
minimum elong	-12134 Mar 20 j 05:56	1° $\searrow$ 01'21	3°54'05	max. Earth dist.	-12127 Mar 25 j 14:26	9° $\searrow$ 29'47	41.93236 AU
morning rise	-12134 Apr 04 j 17:24	1° $\searrow$ 24'51					
retrograde	-12134 Jun 28 j 14:58	2° $\searrow$ 40'20		conjunction	-12127 Mar 28 j 20:52	9° $\searrow$ 35'00	-1°24'04
opposition	-12134 Sep 16 j 07:08	1° $\searrow$ 36'56	-3°54'11	minimum elong	-12127 Mar 28 j 20:55	9° $\searrow$ 35'01	1°24'47
min. Earth dist.	-12134 Sep 19 j 00:49	1° $\searrow$ 33'31	41.43959 AU	morning rise	-12127 Apr 13 j 18:06	10° $\searrow$ 00'09	
direct	-12134 Dec 08 j 05:10	0° $\searrow$ 31'09		retrograde	-12127 Jul 07 j 03:14	11° $\searrow$ 18'14	
evening set	-12133 Mar 06 j 01:22	1° $\searrow$ 48'42		opposition	-12127 Sep 24 j 12:23	10° $\searrow$ 13'13	-1°16'46
max. Earth dist.	-12133 Mar 18 j 15:52	2° $\searrow$ 07'52	43.32226 AU	min. Earth dist.	-12127 Sep 27 j 11:31	10° $\searrow$ 09'24	39.81331 AU
				direct	-12127 Dec 16 j 11:34	9° $\searrow$ 05'29	
conjunction	-12133 Mar 21 j 17:30	2° $\searrow$ 12'35	-3°32'57	evening set	-12126 Mar 14 j 09:38	10° $\searrow$ 26'19	
minimum elong	-12133 Mar 21 j 17:36	2° $\searrow$ 12'35	3°33'39	max. Earth dist.	-12126 Mar 27 j 02:32	10° $\searrow$ 46'29	41.69248 AU
morning rise	-12133 Apr 06 j 06:53	2° $\searrow$ 36'21					
retrograde	-12133 Jun 29 j 23:17	3° $\searrow$ 52'06		conjunction	-12126 Mar 30 j 10:37	10° $\searrow$ 51'51	-1°01'32
opposition	-12133 Sep 17 j 17:12	2° $\searrow$ 48'28	-3°32'41	minimum elong	-12126 Mar 30 j 10:38	10° $\searrow$ 51'51	1°02'14
min. Earth dist.	-12133 Sep 20 j 12:26	2° $\searrow$ 44'56	41.21234 AU	morning rise	-12126 Apr 15 j 08:18	11° $\searrow$ 17'13	
direct	-12133 Dec 09 j 17:51	1° $\searrow$ 42'23		retrograde	-12126 Jul 08 j 17:29	12° $\searrow$ 35'48	
evening set	-12132 Mar 06 j 11:22	3° $\searrow$ 00'16		opposition	-12126 Sep 26 j 00:56	11° $\searrow$ 30'31	-0°52'58
max. Earth dist.	-12132 Mar 19 j 03:05	3° $\searrow$ 19'38	43.09487 AU	min. Earth dist.	-12126 Sep 29 j 02:07	11° $\searrow$ 26'35	39.57155 AU
				direct	-12126 Dec 17 j 21:59	10° $\searrow$ 22'30	
conjunction	-12132 Mar 22 j 05:19	3° $\searrow$ 24'25	-3°12'14	evening set	-12125 Mar 15 j 23:25	11° $\searrow$ 43'54	
minimum elong	-12132 Mar 22 j 05:23	3° $\searrow$ 24'25	3°12'57	max. Earth dist.	-12125 Mar 28 j 16:30	12° $\searrow$ 04'14	41.44927 AU
morning rise	-12132 Apr 06 j 20:35	3° $\searrow$ 48'25					
retrograde	-12132 Jun 30 j 10:18	5° $\searrow$ 04'28		conjunction	-12125 Apr 01 j 00:50	12° $\searrow$ 09'39	-0°38'42
opposition	-12132 Sep 18 j 03:35	4° $\searrow$ 00'36	-3°10'52	minimum elong	-12125 Apr 01 j 00:51	12° $\searrow$ 09'39	0°39'24
min. Earth dist.	-12132 Sep 20 j 22:32	3° $\searrow$ 57'04	40.98335 AU	morning rise	-12125 Apr 16 j 22:47	12° $\searrow$ 35'12	

Attention, astronomical year style is used: The year -12125 in astronomical counting style is the year 12126 BCE in historical counting style.

retrograde	-12125 Jul 10 j 08:14	13° $\overline{3}$ 54'18		evening set	-12118 Mar 25 j 17:08	21° $\overline{3}$ 13'51	
opposition	-12125 Sep 27 j 13:43	12° $\overline{3}$ 48'46	-0°28'50	max. Earth dist.	-12118 Apr 07 j 01:05	21° $\overline{3}$ 34'37	39.68448 AU
min. Earth dist.	-12125 Sep 30 j 15:07	12° $\overline{3}$ 44'47	39.32641 AU				
direct	-12125 Dec 19 j 09:26	11° $\overline{3}$ 40'25		conjunction	-12118 Apr 10 j 13:45	21° $\overline{3}$ 40'37	2°09'01
evening set	-12124 Mar 16 j 13:57	13° $\overline{3}$ 02'27		minimum elong	-12118 Apr 10 j 13:41	21° $\overline{3}$ 40'37	2°08'21
max. Earth dist.	-12124 Mar 29 j 04:53	13° $\overline{3}$ 22'46	41.20272 AU	morning rise	-12118 Apr 26 j 06:25	22° $\overline{3}$ 07'10	
				retrograde	-12118 Jul 19 j 22:57	23° $\overline{3}$ 30'50	
conjunction	-12124 Apr 01 j 15:21	13° $\overline{3}$ 28'22	-0°15'36	opposition	-12118 Oct 06 j 19:06	22° $\overline{3}$ 23'05	2°28'40
minimum elong	-12124 Apr 01 j 15:22	13° $\overline{3}$ 28'22	0°16'17	min. Earth dist.	-12118 Oct 10 j 00:51	22° $\overline{3}$ 18'43	37.55902 AU
morning rise	-12124 Apr 17 j 13:27	13° $\overline{3}$ 54'06		direct	-12118 Dec 28 j 11:45	21° $\overline{3}$ 12'13	
retrograde	-12124 Jul 11 j 00:38	15° $\overline{3}$ 13'45		evening set	-12117 Mar 27 j 12:21	22° $\overline{3}$ 39'35	
opposition	-12124 Sep 28 j 03:01	14° $\overline{3}$ 07'55	-0°04'23	max. Earth dist.	-12117 Apr 08 j 17:02	23° $\overline{3}$ 00'18	39.42988 AU
min. Earth dist.	-12124 Oct 01 j 05:54	14° $\overline{3}$ 03'51	39.07834 AU				
asc. node	-12124 Dec 02 j 05:07	13° $\overline{3}$ 03'04		conjunction	-12117 Apr 12 j 06:55	23° $\overline{3}$ 06'26	2°34'00
direct	-12124 Dec 19 j 21:19	12° $\overline{3}$ 59'14		minimum elong	-12117 Apr 12 j 06:50	23° $\overline{3}$ 06'26	2°33'19
evening set	-12123 Mar 18 j 04:43	14° $\overline{3}$ 21'55		morning rise	-12117 Apr 27 j 21:49	23° $\overline{3}$ 33'04	
max. Earth dist.	-12123 Mar 30 j 19:45	14° $\overline{3}$ 42'23	40.95326 AU	retrograde	-12117 Jul 21 j 18:43	24° $\overline{3}$ 57'34	
				opposition	-12117 Oct 08 j 11:18	23° $\overline{3}$ 49'31	2°55'09
conjunction	-12123 Apr 03 j 06:10	14° $\overline{3}$ 48'01	0°07'54	min. Earth dist.	-12117 Oct 11 j 17:26	23° $\overline{3}$ 45'06	37.30506 AU
minimum elong	-12123 Apr 03 j 06:10	14° $\overline{3}$ 48'01	0°07'12	direct	-12117 Dec 30 j 03:31	22° $\overline{3}$ 38'18	
behind sun begin	-12123 Apr 03 j 00:12	14° $\overline{3}$ 47'38		evening set	-12116 Mar 28 j 08:15	24° $\overline{3}$ 06'38	
behind sun end	-12123 Apr 03 j 12:07	14° $\overline{3}$ 48'24		max. Earth dist.	-12116 Apr 09 j 11:05	24° $\overline{3}$ 27'23	39.17494 AU
morning rise	-12123 Apr 19 j 03:54	15° $\overline{3}$ 13'55					
retrograde	-12123 Jul 12 j 14:50	16° $\overline{3}$ 34'08		conjunction	-12116 Apr 13 j 00:46	24° $\overline{3}$ 33'33	2°59'12
opposition	-12123 Sep 29 j 16:42	15° $\overline{3}$ 28'00	0°20'23	minimum elong	-12116 Apr 13 j 00:40	24° $\overline{3}$ 33'33	2°58'33
min. Earth dist.	-12123 Oct 02 j 20:28	15° $\overline{3}$ 23'51	38.82765 AU	morning rise	-12116 Apr 28 j 13:16	25° $\overline{3}$ 00'14	
direct	-12123 Dec 21 j 13:19	14° $\overline{3}$ 18'57		retrograde	-12116 Jul 22 j 12:35	26° $\overline{3}$ 25'37	
evening set	-12122 Mar 19 j 20:21	15° $\overline{3}$ 42'19		opposition	-12116 Oct 09 j 04:20	25° $\overline{3}$ 17'16	3°21'54
max. Earth dist.	-12122 Apr 01 j 09:29	16° $\overline{3}$ 02'48	40.70157 AU	min. Earth dist.	-12116 Oct 12 j 11:31	25° $\overline{3}$ 12'46	37.05064 AU
				direct	-12116 Dec 30 j 21:40	24° $\overline{3}$ 05'42	
conjunction	-12122 Apr 04 j 21:15	16° $\overline{3}$ 08'34	0°31'34	evening set	-12115 Mar 30 j 05:00	25° $\overline{3}$ 35'02	
minimum elong	-12122 Apr 04 j 21:14	16° $\overline{3}$ 08'34	0°30'52	max. Earth dist.	-12115 Apr 11 j 04:41	25° $\overline{3}$ 55'44	38.91935 AU
morning rise	-12122 Apr 20 j 18:44	16° $\overline{3}$ 34'37					
retrograde	-12122 Jul 14 j 06:33	17° $\overline{3}$ 55'26		conjunction	-12115 Apr 14 j 18:50	26° $\overline{3}$ 02'01	3°24'38
opposition	-12122 Oct 01 j 06:30	16° $\overline{3}$ 49'00	0°45'27	minimum elong	-12115 Apr 14 j 18:43	26° $\overline{3}$ 02'00	3°23'59
min. Earth dist.	-12122 Oct 04 j 10:25	16° $\overline{3}$ 44'49	38.57520 AU	morning rise	-12115 Apr 30 j 04:54	26° $\overline{3}$ 28'44	
direct	-12122 Dec 23 j 04:12	15° $\overline{3}$ 39'34		retrograde	-12115 Jul 24 j 07:22	27° $\overline{3}$ 55'03	
evening set	-12121 Mar 21 j 12:33	17° $\overline{3}$ 03'39		opposition	-12115 Oct 10 j 21:44	26° $\overline{3}$ 46'23	3°48'53
max. Earth dist.	-12121 Apr 03 j 00:31	17° $\overline{3}$ 24'13	40.44814 AU	min. Earth dist.	-12115 Oct 14 j 04:33	26° $\overline{3}$ 41'53	36.79540 AU
				direct	-12114 Jan 01 j 15:16	25° $\overline{3}$ 34'27	
conjunction	-12121 Apr 06 j 12:54	17° $\overline{3}$ 30'04	0°55'32	evening set	-12114 Apr 01 j 02:42	27° $\overline{3}$ 04'50	
minimum elong	-12121 Apr 06 j 12:52	17° $\overline{3}$ 30'04	0°54'50	max. Earth dist.	-12114 Apr 12 j 22:26	27° $\overline{3}$ 25'26	38.66240 AU
morning rise	-12121 Apr 22 j 09:30	17° $\overline{3}$ 56'16					
retrograde	-12121 Jul 15 j 20:04	19° $\overline{3}$ 17'43		conjunction	-12114 Apr 16 j 13:42	27° $\overline{3}$ 31'50	3°50'17
opposition	-12121 Oct 02 j 21:02	18° $\overline{3}$ 10'57	1°10'49	minimum elong	-12114 Apr 16 j 13:34	27° $\overline{3}$ 31'50	3°49'39
min. Earth dist.	-12121 Oct 06 j 02:27	18° $\overline{3}$ 06'40	38.32149 AU	morning rise	-12114 May 01 j 20:46	27° $\overline{3}$ 58'36	
direct	-12121 Dec 24 j 18:48	17° $\overline{3}$ 01'10		retrograde	-12114 Jul 26 j 01:34	29° $\overline{3}$ 25'53	
evening set	-12120 Mar 22 j 05:24	18° $\overline{3}$ 25'59		opposition	-12114 Oct 12 j 15:44	28° $\overline{3}$ 16'52	4°16'07
max. Earth dist.	-12120 Apr 03 j 16:33	18° $\overline{3}$ 46'38	40.19382 AU	min. Earth dist.	-12114 Oct 16 j 00:16	28° $\overline{3}$ 12'15	36.53883 AU
				direct	-12113 Jan 03 j 07:24	27° $\overline{3}$ 04'33	
conjunction	-12120 Apr 07 j 04:44	18° $\overline{3}$ 52'31	1°19'46	evening set	-12113 Apr 03 j 01:24	28° $\overline{3}$ 36'02	
minimum elong	-12120 Apr 07 j 04:42	18° $\overline{3}$ 52'31	1°19'06	max. Earth dist.	-12113 Apr 14 j 18:12	28° $\overline{3}$ 56'35	38.40398 AU
morning rise	-12120 Apr 23 j 00:22	19° $\overline{3}$ 18'51					
retrograde	-12120 Jul 16 j 11:09	20° $\overline{3}$ 40'59		conjunction	-12113 Apr 18 j 09:09	29° $\overline{3}$ 03'02	4°16'07
opposition	-12120 Oct 03 j 11:54	19° $\overline{3}$ 33'53	1°36'29	minimum elong	-12113 Apr 18 j 09:01	29° $\overline{3}$ 03'01	4°15'29
min. Earth dist.	-12120 Oct 06 j 16:43	19° $\overline{3}$ 29'37	38.06727 AU	morning rise	-12113 May 03 j 12:56	29° $\overline{3}$ 29'47	
direct	-12120 Dec 25 j 09:16	18° $\overline{3}$ 23'44			-12113 May 21 j 18:33	0° $\approx$	
evening set	-12119 Mar 23 j 23:01	19° $\overline{3}$ 49'21		retrograde	-12113 Jul 27 j 21:10	0° $\approx$ 58'06	
max. Earth dist.	-12119 Apr 05 j 07:31	20° $\overline{3}$ 09'59	39.93910 AU		-12113 Oct 06 j 06:10	30° $\overline{R}$ $\overline{3}$	
				opposition	-12113 Oct 14 j 10:24	29° $\overline{3}$ 48'43	4°43'34
conjunction	-12119 Apr 08 j 21:02	20° $\overline{3}$ 16'01	1°44'16	min. Earth dist.	-12113 Oct 17 j 18:44	29° $\overline{3}$ 44'05	36.28074 AU
minimum elong	-12119 Apr 08 j 20:59	20° $\overline{3}$ 16'01	1°43'35	direct	-12112 Jan 05 j 00:57	28° $\overline{3}$ 36'00	
morning rise	-12119 Apr 24 j 15:23	20° $\overline{3}$ 42'27			-12112 Mar 30 j 01:11	0° $\approx$	
retrograde	-12119 Jul 18 j 06:02	22° $\overline{3}$ 05'20		evening set	-12112 Apr 04 j 01:01	0° $\approx$ 08'37	
opposition	-12119 Oct 05 j 03:15	20° $\overline{3}$ 57'54	2°02'27	max. Earth dist.	-12112 Apr 15 j 12:20	0° $\approx$ 28'58	38.14397 AU
min. Earth dist.	-12119 Oct 08 j 09:09	20° $\overline{3}$ 53'34	37.81312 AU				
direct	-12119 Dec 26 j 20:28	19° $\overline{3}$ 47'24		conjunction	-12112 Apr 19 j 04:59	0° $\approx$ 35'36	4°42'09

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22

Attention, astronomical year style is used: The year -12112 in astronomical counting style is the year 12113 BCE in historical counting style.

minimum elong	-12112 Apr 19 j 04:49	0°35'35	4°41'31	max. Earth dist.	-12105 Apr 27 j 23:17	11°56'50	36.32607 AU
morning rise	-12112 May 04 j 05:11	1°02'19					
retrograde	-12112 Jul 28 j 19:32	2°31'42		conjunction	-12105 May 01 j 15:20	12°03'51	7°47'20
opposition	-12112 Oct 15 j 05:40	1°21'56	5°11'13	minimum elong	-12105 May 01 j 15:03	12°03'50	7°46'47
min. Earth dist.	-12112 Oct 18 j 15:02	1°17'13	36.02146 AU	morning rise	-12105 May 15 j 02:21	12°29'29	
direct	-12111 Jan 05 j 16:59	0°08'48		retrograde	-12105 Aug 10 j 13:08	14°08'02	
evening set	-12111 Apr 06 j 01:26	1°42'37		opposition	-12105 Oct 27 j 13:58	12°55'28	8°28'12
max. Earth dist.	-12111 Apr 17 j 09:26	2°02'53	37.88278 AU	min. Earth dist.	-12105 Oct 30 j 23:07	12°50'33	34.22029 AU
				direct	-12104 Jan 17 j 17:02	11°39'19	
conjunction	-12111 Apr 21 j 01:31	2°09'31	5°08'20	evening set	-12104 Apr 19 j 08:35	13°23'14	
minimum elong	-12111 Apr 21 j 01:20	2°09'31	5°07'42	max. Earth dist.	-12104 Apr 29 j 01:15	13°41'49	36.07319 AU
morning rise	-12111 May 05 j 21:32	2°36'11					
retrograde	-12111 Jul 30 j 16:23	4°06'41		conjunction	-12104 May 02 j 15:54	13°48'47	8°13'50
opposition	-12111 Oct 17 j 01:30	2°56'32	5°39'03	minimum elong	-12104 May 02 j 15:35	13°48'46	8°13'18
min. Earth dist.	-12111 Oct 20 j 11:12	2°51'46	35.76130 AU	morning rise	-12104 May 15 j 19:33	14°14'06	
direct	-12110 Jan 07 j 13:01	1°42'57			-12104 Jun 10 j 15:37	15°	
evening set	-12110 Apr 08 j 02:49	3°18'00		retrograde	-12104 Aug 11 j 15:50	15°54'16	
max. Earth dist.	-12110 Apr 19 j 05:18	3°38'04	37.62103 AU		-12104 Oct 15 j 16:59	15°R	
				opposition	-12104 Oct 28 j 14:44	14°41'19	8°56'25
conjunction	-12110 Apr 22 j 22:19	3°44'50	5°34'40	min. Earth dist.	-12104 Oct 31 j 23:42	14°36'23	33.97077 AU
minimum elong	-12110 Apr 22 j 22:06	3°44'49	5°34'03	direct	-12103 Jan 18 j 17:35	13°24'46	
morning rise	-12110 May 07 j 14:06	4°11'24			-12103 Apr 16 j 05:19	15°	
retrograde	-12110 Aug 01 j 15:34	5°43'03		evening set	-12103 Apr 21 j 17:44	15°10'27	
opposition	-12110 Oct 18 j 21:49	4°32'30	6°07'03	max. Earth dist.	-12103 May 01 j 02:12	15°28'34	35.82237 AU
min. Earth dist.	-12110 Oct 22 j 07:24	4°27'43	35.50102 AU				
direct	-12109 Jan 09 j 09:45	3°18'29		conjunction	-12103 May 04 j 17:04	15°35'38	8°40'16
evening set	-12109 Apr 10 j 05:07	4°54'50		minimum elong	-12103 May 04 j 16:45	15°35'37	8°39'45
max. Earth dist.	-12109 Apr 21 j 03:00	5°14'44	37.35914 AU	morning rise	-12103 May 17 j 13:10	16°00'35	
				retrograde	-12103 Aug 13 j 21:14	17°42'27	
conjunction	-12109 Apr 24 j 19:51	5°21'33	6°01'06	opposition	-12103 Oct 30 j 16:03	16°29'07	9°24'34
minimum elong	-12109 Apr 24 j 19:39	5°21'32	6°00'30	min. Earth dist.	-12103 Nov 03 j 00:17	16°24'12	33.72329 AU
morning rise	-12109 May 09 j 06:38	5°48'00		direct	-12102 Jan 20 j 18:10	15°12'09	
retrograde	-12109 Aug 03 j 13:29	7°20'53		evening set	-12102 Apr 24 j 03:59	16°59'40	
opposition	-12109 Oct 20 j 18:55	6°09'55	6°35'10	max. Earth dist.	-12102 May 03 j 04:44	17°17'21	35.57306 AU
min. Earth dist.	-12109 Oct 24 j 05:29	6°05'02	35.24118 AU				
direct	-12108 Jan 11 j 06:47	4°55'27		conjunction	-12102 May 06 j 19:07	17°24'26	9°06'35
evening set	-12108 Apr 11 j 08:31	6°33'10		minimum elong	-12102 May 06 j 18:46	17°24'25	9°06'05
max. Earth dist.	-12108 Apr 22 j 01:23	6°52'52	37.09815 AU	morning rise	-12102 May 19 j 06:50	17°48'58	
				retrograde	-12102 Aug 16 j 00:10	19°32'36	
conjunction	-12108 Apr 25 j 17:49	6°59'43	6°27'37	opposition	-12102 Nov 01 j 18:26	18°18'52	9°52'35
minimum elong	-12108 Apr 25 j 17:34	6°59'42	6°27'03	min. Earth dist.	-12102 Nov 05 j 03:26	18°13'52	33.47726 AU
morning rise	-12108 May 09 j 23:23	7°26'01		direct	-12101 Jan 22 j 19:12	17°01'30	
retrograde	-12108 Aug 04 j 11:14	9°00'12		evening set	-12101 Apr 26 j 15:49	18°50'54	
opposition	-12108 Oct 21 j 16:38	7°48'50	7°03'23	max. Earth dist.	-12101 May 05 j 08:05	19°08'04	35.32517 AU
min. Earth dist.	-12108 Oct 25 j 02:00	7°43'59	34.98271 AU				
direct	-12107 Jan 12 j 04:19	6°33'55		conjunction	-12101 May 08 j 21:49	19°15'11	9°32'45
evening set	-12107 Apr 13 j 12:42	8°13'04		minimum elong	-12101 May 08 j 21:28	19°15'10	9°32'17
max. Earth dist.	-12107 Apr 23 j 23:24	8°32'28	36.83860 AU	morning rise	-12101 May 21 j 00:43	19°39'15	
				retrograde	-12101 Aug 18 j 03:42	21°24'42	
conjunction	-12107 Apr 27 j 16:15	8°39'26	6°54'11	opposition	-12101 Nov 03 j 21:31	20°10'34	10°20'28
minimum elong	-12107 Apr 27 j 16:00	8°39'25	6°53'37	min. Earth dist.	-12101 Nov 07 j 05:19	20°05'36	33.23269 AU
morning rise	-12107 May 11 j 16:05	9°05'32		direct	-12100 Jan 24 j 22:14	18°52'45	
retrograde	-12107 Aug 06 j 10:19	10°41'06		evening set	-12100 Apr 28 j 04:52	20°44'08	
opposition	-12107 Oct 23 j 15:07	9°29'19	7°31'39	max. Earth dist.	-12100 May 06 j 11:13	21°00'39	35.07862 AU
min. Earth dist.	-12107 Oct 27 j 01:11	9°24'24	34.72619 AU				
direct	-12106 Jan 13 j 23:47	8°13'59		conjunction	-12100 May 10 j 01:21	21°07'52	9°58'44
evening set	-12106 Apr 15 j 18:10	9°54'38		minimum elong	-12100 May 10 j 00:58	21°07'50	9°58'16
max. Earth dist.	-12106 Apr 26 j 00:06	10°13'52	36.58118 AU	morning rise	-12100 May 21 j 18:48	21°31'23	
				retrograde	-12100 Aug 19 j 08:28	23°18'45	
conjunction	-12106 Apr 29 j 15:29	10°20'46	7°20'46	opposition	-12100 Nov 05 j 01:36	22°04'11	10°48'08
minimum elong	-12106 Apr 29 j 15:12	10°20'45	7°20'12	min. Earth dist.	-12100 Nov 08 j 10:02	21°59'09	32.98982 AU
morning rise	-12106 May 13 j 09:03	10°46'39		direct	-12099 Jan 25 j 23:12	20°45'55	
retrograde	-12106 Aug 08 j 10:15	12°23'40		evening set	-12099 Apr 30 j 19:13	22°39'19	
opposition	-12106 Oct 25 j 14:06	11°11'30	7°59'56	max. Earth dist.	-12099 May 08 j 16:52	22°55'16	34.83390 AU
min. Earth dist.	-12106 Oct 28 j 23:10	11°06'36	34.47197 AU				
direct	-12105 Jan 15 j 20:40	9°55'44		conjunction	-12099 May 12 j 05:27	23°02'26	10°24'28
evening set	-12105 Apr 18 j 00:52	11°38'00		minimum elong	-12099 May 12 j 05:05	23°02'25	10°24'01

Attention, astronomical year style is used: The year -12099 in astronomical counting style is the year 12100 BCE in historical counting style.

morning rise	-12099 May 23 j 12:44	23° $\approx$ 25'20		direct	-12092 Feb 09 j 15:01	4° $\mathbf{H}$ 51'09	
retrograde	-12099 Aug 21 j 13:07	25° $\approx$ 14'42		evening set	-12092 May 18 j 18:35	7° $\mathbf{H}$ 01'27	
opposition	-12099 Nov 07 j 06:24	23° $\approx$ 59'40	11°15'32	max. Earth dist.	-12092 May 23 j 03:24	7° $\mathbf{H}$ 10'56	33.22906 AU
min. Earth dist.	-12099 Nov 10 j 13:35	23° $\approx$ 54'41	32.74895 AU				
direct	-12098 Jan 28 j 02:56	22° $\approx$ 40'56		conjunction	-12092 May 26 j 06:35	7° $\mathbf{H}$ 17'46	13°12'11
evening set	-12098 May 03 j 11:04	24° $\approx$ 36'27		minimum elong	-12092 May 26 j 06:08	7° $\mathbf{H}$ 17'44	13°11'53
max. Earth dist.	-12098 May 10 j 21:20	24° $\approx$ 51'36	34.59143 AU	morning rise	-12092 Jun 02 j 16:49	7° $\mathbf{H}$ 33'56	
				retrograde	-12092 Sep 05 j 06:18	9° $\mathbf{H}$ 40'03	
conjunction	-12098 May 14 j 10:19	24° $\approx$ 58'53	10°49'53	opposition	-12092 Nov 21 j 16:13	8° $\mathbf{H}$ 21'51	14°13'41
minimum elong	-12098 May 14 j 09:55	24° $\approx$ 58'51	10°49'27	min. Earth dist.	-12092 Nov 24 j 14:46	8° $\mathbf{H}$ 17'13	31.18327 AU
morning rise	-12098 May 25 j 06:56	25° $\approx$ 21'07		direct	-12091 Feb 11 j 00:53	7° $\mathbf{H}$ 00'05	
retrograde	-12098 Aug 23 j 20:06	27° $\approx$ 12'32		evening set	-12091 May 21 j 22:16	9° $\mathbf{H}$ 13'18	
opposition	-12098 Nov 09 j 11:52	25° $\approx$ 57'02	11°42'36	max. Earth dist.	-12091 May 25 j 14:14	9° $\mathbf{H}$ 21'21	33.02284 AU
min. Earth dist.	-12098 Nov 12 j 18:59	25° $\approx$ 52'01	32.51087 AU				
direct	-12097 Jan 30 j 05:23	24° $\approx$ 37'49		conjunction	-12091 May 28 j 16:30	9° $\mathbf{H}$ 28'10	13°33'30
evening set	-12097 May 06 j 04:20	26° $\approx$ 35'32		minimum elong	-12091 May 28 j 16:04	9° $\mathbf{H}$ 28'08	13°33'14
max. Earth dist.	-12097 May 13 j 05:02	26° $\approx$ 50'01	34.35197 AU	morning rise	-12091 Jun 04 j 09:12	9° $\mathbf{H}$ 42'53	
				retrograde	-12091 Sep 07 j 19:08	11° $\mathbf{H}$ 51'56	
conjunction	-12097 May 16 j 16:02	26° $\approx$ 57'12	11°14'57	opposition	-12091 Nov 24 j 04:11	10° $\mathbf{H}$ 33'21	14°36'14
minimum elong	-12097 May 16 j 15:38	26° $\approx$ 57'10	11°14'33	min. Earth dist.	-12091 Nov 27 j 01:59	10° $\mathbf{H}$ 28'45	30.98324 AU
morning rise	-12097 May 27 j 00:59	27° $\approx$ 18'39		direct	-12090 Feb 13 j 08:42	9° $\mathbf{H}$ 11'14	
retrograde	-12097 Aug 26 j 02:55	29° $\approx$ 12'14		evening set	-12090 May 25 j 04:53	11° $\mathbf{H}$ 27'35	
opposition	-12097 Nov 11 j 18:28	27° $\approx$ 56'15	12°09'16	max. Earth dist.	-12090 May 28 j 04:01	11° $\mathbf{H}$ 34'10	32.82276 AU
min. Earth dist.	-12097 Nov 15 j 00:44	27° $\approx$ 51'16	32.27622 AU				
direct	-12096 Feb 01 j 10:25	26° $\approx$ 36'34		conjunction	-12090 May 31 j 03:25	11° $\mathbf{H}$ 40'47	13°53'57
evening set	-12096 May 07 j 23:01	28° $\approx$ 36'34		minimum elong	-12090 May 31 j 02:58	11° $\mathbf{H}$ 40'44	13°53'43
max. Earth dist.	-12096 May 14 j 11:32	28° $\approx$ 50'09	34.11645 AU	morning rise	-12090 Jun 06 j 00:30	11° $\mathbf{H}$ 53'50	
				retrograde	-12090 Sep 10 j 07:36	14° $\mathbf{H}$ 06'02	
conjunction	-12096 May 17 j 22:07	28° $\approx$ 57'22	11°39'35	opposition	-12090 Nov 26 j 17:04	12° $\mathbf{H}$ 47'04	14°57'50
minimum elong	-12096 May 17 j 21:41	28° $\approx$ 57'20	11°39'11	min. Earth dist.	-12090 Nov 29 j 12:44	12° $\mathbf{H}$ 42'34	30.78906 AU
morning rise	-12096 May 27 j 18:54	29° $\approx$ 17'59		direct	-12089 Feb 15 j 19:39	11° $\mathbf{H}$ 24'37	
	-12096 Jun 17 j 21:07	0° $\mathbf{H}$		evening set	-12089 May 28 j 14:47	13° $\mathbf{H}$ 44'20	
retrograde	-12096 Aug 27 j 12:22	1° $\mathbf{H}$ 13'50		max. Earth dist.	-12089 May 30 j 16:29	13° $\mathbf{H}$ 48'58	32.62861 AU
	-12096 Nov 11 j 08:38	30° $\mathbf{R}$					
opposition	-12096 Nov 13 j 01:48	29° $\approx$ 57'22	12°35'27	conjunction	-12089 Jun 02 j 15:04	13° $\mathbf{H}$ 55'34	14°13'28
min. Earth dist.	-12096 Nov 16 j 06:32	29° $\approx$ 52'27	32.04610 AU	minimum elong	-12089 Jun 02 j 14:39	13° $\mathbf{H}$ 55'32	14°13'16
direct	-12095 Feb 02 j 15:11	28° $\approx$ 37'12		morning rise	-12089 Jun 07 j 14:12	14° $\mathbf{H}$ 06'42	
	-12095 Apr 21 j 04:42	0° $\mathbf{H}$		retrograde	-12089 Sep 12 j 22:33	16° $\mathbf{H}$ 22'18	
evening set	-12095 May 10 j 19:13	0° $\mathbf{H}$ 39'36		opposition	-12089 Nov 29 j 07:01	15° $\mathbf{H}$ 02'57	15°18'25
max. Earth dist.	-12095 May 16 j 20:29	0° $\mathbf{H}$ 52'20	33.88566 AU	min. Earth dist.	-12089 Dec 02 j 01:15	14° $\mathbf{H}$ 58'32	30.60086 AU
				direct	-12088 Feb 18 j 06:02	13° $\mathbf{H}$ 40'10	
conjunction	-12095 May 20 j 05:10	0° $\mathbf{H}$ 59'26	12°03'42	evening set	-12088 May 31 j 05:33	16° $\mathbf{H}$ 03'39	
minimum elong	-12095 May 20 j 04:45	0° $\mathbf{H}$ 59'24	12°03'20	max. Earth dist.	-12088 Jun 01 j 07:54	16° $\mathbf{H}$ 06'07	32.44040 AU
morning rise	-12095 May 29 j 12:45	1° $\mathbf{H}$ 19'07					
retrograde	-12095 Aug 29 j 21:20	3° $\mathbf{H}$ 17'20		conjunction	-12088 Jun 04 j 03:31	16° $\mathbf{H}$ 12'30	14°31'59
opposition	-12095 Nov 15 j 10:02	2° $\mathbf{H}$ 00'24	13°01'04	minimum elong	-12088 Jun 04 j 03:05	16° $\mathbf{H}$ 12'28	14°31'47
min. Earth dist.	-12095 Nov 18 j 14:10	1° $\mathbf{H}$ 55'29	31.82119 AU	morning rise	-12088 Jun 08 j 00:23	16° $\mathbf{H}$ 21'16	
direct	-12094 Feb 04 j 22:45	0° $\mathbf{H}$ 39'47		retrograde	-12088 Sep 14 j 12:41	18° $\mathbf{H}$ 40'40	
evening set	-12094 May 13 j 17:13	2° $\mathbf{H}$ 44'41		opposition	-12088 Nov 30 j 22:00	17° $\mathbf{H}$ 20'55	15°37'53
max. Earth dist.	-12094 May 19 j 05:39	2° $\mathbf{H}$ 56'26	33.66061 AU	min. Earth dist.	-12088 Dec 03 j 14:38	17° $\mathbf{H}$ 16'36	30.41849 AU
				direct	-12087 Feb 19 j 18:41	15° $\mathbf{H}$ 57'48	
conjunction	-12094 May 22 j 12:49	3° $\mathbf{H}$ 03'29	12°27'13	evening set	-12087 Jun 04 j 06:18	18° $\mathbf{H}$ 25'55	
minimum elong	-12094 May 22 j 12:22	3° $\mathbf{H}$ 03'26	12°26'52	max. Earth dist.	-12087 Jun 03 j 22:17	18° $\mathbf{H}$ 25'10	32.25845 AU
morning rise	-12094 May 31 j 06:24	3° $\mathbf{H}$ 22'07					
retrograde	-12094 Sep 01 j 08:55	5° $\mathbf{H}$ 22'49		conjunction	-12087 Jun 06 j 16:40	18° $\mathbf{H}$ 31'28	14°49'24
opposition	-12094 Nov 17 j 19:05	4° $\mathbf{H}$ 05'26	13°26'02	minimum elong	-12087 Jun 06 j 16:16	18° $\mathbf{H}$ 31'26	14°49'14
min. Earth dist.	-12094 Nov 20 j 20:45	4° $\mathbf{H}$ 00'39	31.60223 AU	morning rise	-12087 Jun 09 j 02:11	18° $\mathbf{H}$ 36'57	
direct	-12093 Feb 07 j 07:33	2° $\mathbf{H}$ 44'24		retrograde	-12087 Sep 17 j 05:44	21° $\mathbf{H}$ 01'01	
evening set	-12093 May 16 j 16:49	4° $\mathbf{H}$ 51'56		opposition	-12087 Dec 03 j 13:32	19° $\mathbf{H}$ 40'54	15°56'10
max. Earth dist.	-12093 May 21 j 15:36	5° $\mathbf{H}$ 02'35	33.44156 AU	min. Earth dist.	-12087 Dec 06 j 03:46	19° $\mathbf{H}$ 36'43	30.24250 AU
				direct	-12086 Feb 22 j 07:13	18° $\mathbf{H}$ 17'26	
conjunction	-12093 May 24 j 21:18	5° $\mathbf{H}$ 09'34	12°50'04	max. Earth dist.	-12086 Jun 06 j 14:53	20° $\mathbf{H}$ 46'17	32.08304 AU
minimum elong	-12093 May 24 j 20:53	5° $\mathbf{H}$ 09'31	12°49'45				
morning rise	-12093 Jun 01 j 23:51	5° $\mathbf{H}$ 27'02		conjunction	-12086 Jun 09 j 06:39	20° $\mathbf{H}$ 52'23	15°05'40
retrograde	-12093 Sep 03 j 19:14	7° $\mathbf{H}$ 30'22		minimum elong	-12086 Jun 09 j 06:15	20° $\mathbf{H}$ 52'21	15°05'31
opposition	-12093 Nov 20 j 05:13	6° $\mathbf{H}$ 12'34	13°50'15	retrograde	-12086 Sep 19 j 22:04	23° $\mathbf{H}$ 23'17	
min. Earth dist.	-12093 Nov 23 j 06:25	6° $\mathbf{H}$ 07'47	31.38954 AU	opposition	-12086 Dec 06 j 06:12	22° $\mathbf{H}$ 02'46	16°13'10

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24

Attention, astronomical year style is used: The year -12086 in astronomical counting style is the year 12087 BCE in historical counting style.

min. Earth dist.	-12086 Dec 08 j 19:06	21° $\text{H}$ 58'39	30.07315 AU	min. Earth dist.	-12078 Dec 28 j 10:06	11° $\text{Y}$ 52'54	29.04650 AU
direct	-12085 Feb 24 j 22:37	20° $\text{H}$ 38'59		direct	-12077 Mar 16 j 22:09	10° $\text{Y}$ 30'06	
max. Earth dist.	-12085 Jun 09 j 07:34	23° $\text{H}$ 09'12	31.91497 AU	max. Earth dist.	-12077 Jun 30 j 01:42	13° $\text{Y}$ 09'46	30.91663 AU
conjunction	-12085 Jun 11 j 21:03	23° $\text{H}$ 15'09	15°20'39	conjunction	-12077 Jul 01 j 12:31	13° $\text{Y}$ 13'18	16°25'04
minimum elong	-12085 Jun 11 j 20:41	23° $\text{H}$ 15'06	15°20'33	minimum elong	-12077 Jul 01 j 12:24	13° $\text{Y}$ 13'17	16°25'12
retrograde	-12085 Sep 22 j 16:48	25° $\text{H}$ 47'19		retrograde	-12077 Oct 13 j 04:53	15° $\text{Y}$ 53'42	
opposition	-12085 Dec 08 j 23:34	24° $\text{H}$ 26'25	16°28'46	opposition	-12077 Dec 29 j 20:45	14° $\text{Y}$ 30'36	17°32'31
min. Earth dist.	-12085 Dec 11 j 09:09	24° $\text{H}$ 22'30	29.91131 AU	min. Earth dist.	-12077 Dec 31 j 06:13	14° $\text{Y}$ 28'16	28.96388 AU
direct	-12084 Feb 27 j 15:32	23° $\text{H}$ 02'19		direct	-12076 Mar 18 j 18:55	13° $\text{Y}$ 05'14	
max. Earth dist.	-12084 Jun 11 j 01:20	25° $\text{H}$ 33'54	31.75485 AU	max. Earth dist.	-12076 Jul 01 j 23:08	15° $\text{Y}$ 45'35	30.83896 AU
conjunction	-12084 Jun 13 j 12:12	25° $\text{H}$ 39'37	15°34'18	conjunction	-12076 Jul 03 j 07:25	15° $\text{Y}$ 48'52	16°25'16
minimum elong	-12084 Jun 13 j 11:49	25° $\text{H}$ 39'35	15°34'13	minimum elong	-12076 Jul 03 j 07:19	15° $\text{Y}$ 48'52	16°25'26
retrograde	-12084 Sep 24 j 10:00	28° $\text{H}$ 13'03		retrograde	-12076 Oct 15 j 03:56	18° $\text{Y}$ 29'56	
opposition	-12084 Dec 10 j 17:52	26° $\text{H}$ 51'45	16°42'52	opposition	-12076 Dec 31 j 19:56	17° $\text{Y}$ 06'40	17°31'56
min. Earth dist.	-12084 Dec 13 j 01:54	26° $\text{H}$ 47'56	29.75781 AU	min. Earth dist.	-12075 Jan 02 j 01:21	17° $\text{Y}$ 04'37	28.89115 AU
direct	-12083 Mar 01 j 07:03	25° $\text{H}$ 27'22		direct	-12075 Mar 21 j 15:17	15° $\text{Y}$ 41'16	
max. Earth dist.	-12083 Jun 13 j 20:22	28° $\text{H}$ 00'18	31.60381 AU	max. Earth dist.	-12075 Jul 04 j 22:29	18° $\text{Y}$ 22'22	30.77126 AU
conjunction	-12083 Jun 16 j 03:45	28° $\text{H}$ 05'44	15°46'30	conjunction	-12075 Jul 06 j 02:44	18° $\text{Y}$ 25'15	16°23'37
minimum elong	-12083 Jun 16 j 03:26	28° $\text{H}$ 05'42	15°46'27	minimum elong	-12075 Jul 06 j 02:41	18° $\text{Y}$ 25'15	16°23'49
retrograde	-12083 Aug 09 j 14:15	0° $\text{Y}$		retrograde	-12075 Oct 18 j 00:31	21° $\text{Y}$ 06'52	
opposition	-12083 Sep 27 j 05:01	0° $\text{Y}$ 40'20		opposition	-12074 Jan 03 j 19:40	19° $\text{Y}$ 43'27	17°29'20
min. Earth dist.	-12083 Nov 17 j 05:07	30° $\text{R}$ $\text{H}$		min. Earth dist.	-12074 Jan 04 j 22:40	19° $\text{Y}$ 41'34	28.82798 AU
direct	-12083 Dec 13 j 12:45	29° $\text{H}$ 18'41	16°55'23	direct	-12074 Mar 24 j 12:45	18° $\text{Y}$ 18'02	
max. Earth dist.	-12082 Mar 04 j 01:38	27° $\text{H}$ 54'03	29.61344 AU	conjunction	-12074 Jul 08 j 22:07	21° $\text{Y}$ 02'14	16°20'06
retrograde	-12082 Jun 04 j 14:57	0° $\text{Y}$		minimum elong	-12074 Jul 08 j 22:05	21° $\text{Y}$ 02'14	16°20'20
opposition	-12082 Jun 16 j 14:59	0° $\text{Y}$ 28'11	31.46243 AU	max. Earth dist.	-12074 Jul 07 j 20:54	20° $\text{Y}$ 59'39	30.71364 AU
conjunction	-12082 Jun 18 j 19:57	0° $\text{Y}$ 33'25	15°57'09	retrograde	-12074 Oct 20 j 23:24	23° $\text{Y}$ 44'17	
minimum elong	-12082 Jun 18 j 19:38	0° $\text{Y}$ 33'23	15°57'08	opposition	-12073 Jan 06 j 19:27	22° $\text{Y}$ 20'43	17°24'43
retrograde	-12082 Sep 30 j 00:57	3° $\text{Y}$ 09'09		min. Earth dist.	-12073 Jan 07 j 18:04	22° $\text{Y}$ 19'08	28.77460 AU
opposition	-12082 Dec 16 j 08:24	1° $\text{Y}$ 47'10	17°06'12	direct	-12073 Mar 27 j 12:13	20° $\text{Y}$ 55'18	
min. Earth dist.	-12082 Dec 18 j 10:22	1° $\text{Y}$ 43'44	29.47902 AU	conjunction	-12073 Jul 11 j 17:44	23° $\text{Y}$ 39'35	16°14'41
direct	-12081 Mar 06 j 18:37	0° $\text{Y}$ 22'18		minimum elong	-12073 Jul 11 j 17:46	23° $\text{Y}$ 39'35	16°14'57
max. Earth dist.	-12081 Jun 19 j 12:03	2° $\text{Y}$ 57'46	31.33165 AU	max. Earth dist.	-12073 Jul 10 j 20:16	23° $\text{Y}$ 37'23	30.66617 AU
conjunction	-12081 Jun 21 j 12:47	3° $\text{Y}$ 02'36	16°06'12	retrograde	-12073 Oct 23 j 20:40	26° $\text{Y}$ 21'58	
minimum elong	-12081 Jun 21 j 12:31	3° $\text{Y}$ 02'35	16°06'13	opposition	-12072 Jan 09 j 19:43	24° $\text{Y}$ 58'15	17°18'03
retrograde	-12081 Oct 02 j 19:14	5° $\text{Y}$ 39'25		min. Earth dist.	-12072 Jan 10 j 15:50	24° $\text{Y}$ 56'51	28.73133 AU
opposition	-12081 Dec 19 j 04:52	4° $\text{Y}$ 17'09	17°15'14	direct	-12072 Mar 29 j 09:56	23° $\text{Y}$ 32'52	
min. Earth dist.	-12081 Dec 21 j 02:48	4° $\text{Y}$ 13'58	29.35500 AU	conjunction	-12072 Jul 13 j 13:12	26° $\text{Y}$ 17'06	16°07'23
direct	-12080 Mar 08 j 14:01	2° $\text{Y}$ 52'07		minimum elong	-12072 Jul 13 j 13:15	26° $\text{Y}$ 17'06	16°07'41
max. Earth dist.	-12080 Jun 21 j 07:38	5° $\text{Y}$ 28'38	31.21174 AU	max. Earth dist.	-12072 Jul 12 j 19:35	26° $\text{Y}$ 15'18	30.62947 AU
conjunction	-12080 Jun 23 j 05:54	5° $\text{Y}$ 33'16	16°13'34	retrograde	-12072 Oct 25 j 19:17	28° $\text{Y}$ 59'40	
minimum elong	-12080 Jun 23 j 05:38	5° $\text{Y}$ 33'14	16°13'36	opposition	-12071 Jan 11 j 19:51	27° $\text{Y}$ 35'51	17°09'19
retrograde	-12080 Oct 04 j 15:42	8° $\text{Y}$ 11'06		min. Earth dist.	-12071 Jan 12 j 11:14	27° $\text{Y}$ 34'47	28.69861 AU
opposition	-12080 Dec 21 j 01:58	6° $\text{Y}$ 48'34	17°22'26	direct	-12071 Apr 01 j 10:10	26° $\text{Y}$ 10'30	
min. Earth dist.	-12080 Dec 22 j 21:02	6° $\text{Y}$ 45'36	29.24177 AU	conjunction	-12071 Jul 16 j 08:41	28° $\text{Y}$ 54'35	15°58'11
direct	-12079 Mar 11 j 07:31	5° $\text{Y}$ 23'24		minimum elong	-12071 Jul 16 j 08:48	28° $\text{Y}$ 54'35	15°58'30
max. Earth dist.	-12079 Jun 24 j 06:06	8° $\text{Y}$ 01'09	31.10278 AU	max. Earth dist.	-12071 Jul 15 j 18:31	28° $\text{Y}$ 53'07	30.60380 AU
conjunction	-12079 Jun 25 j 23:45	8° $\text{Y}$ 05'20	16°19'11	retrograde	-12071 Aug 12 j 16:59	0° $\text{R}$	
minimum elong	-12079 Jun 25 j 23:34	8° $\text{Y}$ 05'19	16°19'15	opposition	-12071 Oct 28 j 17:34	1° $\text{R}$ 37'14	
retrograde	-12079 Oct 07 j 11:32	10° $\text{Y}$ 44'06		min. Earth dist.	-12070 Jan 14 j 19:56	0° $\text{R}$ 13'19	16°58'32
opposition	-12079 Dec 23 j 23:32	9° $\text{Y}$ 21'22	17°27'44	direct	-12070 Jan 15 j 08:23	0° $\text{R}$ 12'27	28.67708 AU
min. Earth dist.	-12079 Dec 25 j 15:17	9° $\text{Y}$ 18'37	29.13896 AU	retrograde	-12070 Jan 22 j 19:51	30° $\text{R}$ $\text{Y}$	
direct	-12078 Mar 14 j 02:56	7° $\text{Y}$ 56'07		opposition	-12070 Apr 04 j 08:49	28° $\text{Y}$ 48'02	
max. Earth dist.	-12078 Jun 27 j 02:37	10° $\text{Y}$ 34'45	31.00453 AU	conjunction	-12070 Jun 09 j 10:42	0° $\text{R}$	
conjunction	-12078 Jun 28 j 17:53	10° $\text{Y}$ 38'44	16°23'02	minimum elong	-12070 Jul 19 j 04:04	1° $\text{R}$ 31'51	15°47'05
minimum elong	-12078 Jun 28 j 17:42	10° $\text{Y}$ 38'42	16°23'08	max. Earth dist.	-12070 Jul 19 j 04:12	1° $\text{R}$ 31'52	15°47'26
retrograde	-12078 Oct 10 j 09:10	13° $\text{Y}$ 18'22		retrograde	-12070 Jul 18 j 18:30	1° $\text{R}$ 30'52	30.58999 AU
opposition	-12078 Dec 26 j 21:48	11° $\text{Y}$ 55'26	17°31'06	opposition	-12069 Jan 17 j 20:01	2° $\text{R}$ 50'32	16°45'43



## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 25

Attention, astronomical year style is used: The year -12069 in astronomical counting style is the year 12070 BCE in historical counting style.


























































































































min. Earth dist.	-12069 Jan 18 j 03:44	2°8'49"59	28.66724 AU	min. Earth dist.	-12062 Feb 04 j 18:28	20°8'55"39	28.93142 AU
direct	-12069 Apr 07 j 09:16	1°8'25"20		direct	-12062 Apr 25 j 18:33	19°8'30"53	
				evening set	-12062 Aug 01 j 02:05	21°8'52"00	
conjunction	-12069 Jul 21 j 23:06	4°8'08"47	15°34'06	conjunction	-12062 Aug 08 j 05:40	22°8'09"08	13°15'27
minimum elong	-12069 Jul 21 j 23:17	4°8'08"48	15°34'28	minimum elong	-12062 Aug 08 j 06:01	22°8'09"10	13°16'00
max. Earth dist.	-12069 Jul 21 j 16:54	4°8'08"09	30.58842 AU	max. Earth dist.	-12062 Aug 09 j 02:38	22°8'11"14	30.91335 AU
retrograde	-12069 Nov 03 j 12:29	6°8'51"19		morning rise	-12062 Aug 15 j 10:00	22°8'26"20	
opposition	-12068 Jan 20 j 20:07	5°8'27"20	16°30'52	retrograde	-12062 Nov 21 j 04:36	24°8'48"19	
min. Earth dist.	-12068 Jan 21 j 00:08	5°8'27"04	28.66975 AU	opposition	-12061 Feb 08 j 11:25	23°8'25"12	13°56'17
direct	-12068 Apr 09 j 06:58	4°8'02"19		min. Earth dist.	-12061 Feb 07 j 13:44	23°8'26"41	29.01147 AU
				direct	-12061 Apr 28 j 13:54	22°8'02"04	
conjunction	-12068 Jul 23 j 18:12	6°8'45"17	15°19'17	evening set	-12061 Aug 03 j 00:06	24°8'20"21	
minimum elong	-12068 Jul 23 j 18:24	6°8'45"18	15°19'41				
max. Earth dist.	-12068 Jul 23 j 17:06	6°8'45"10	30.59959 AU	conjunction	-12061 Aug 10 j 22:00	24°8'39"12	12°49'48
retrograde	-12068 Nov 05 j 09:31	9°8'27"36		minimum elong	-12061 Aug 10 j 22:21	24°8'39"14	12°50'20
opposition	-12067 Jan 22 j 19:49	8°8'03"40	16°14'03	max. Earth dist.	-12061 Aug 11 j 22:00	24°8'41"35	31.00176 AU
min. Earth dist.	-12067 Jan 22 j 19:35	8°8'03"41	28.68458 AU	morning rise	-12061 Aug 18 j 20:44	24°8'58"09	
direct	-12067 Apr 12 j 06:57	6°8'38"51		retrograde	-12061 Nov 23 j 22:31	27°8'17"32	
				min. Earth dist.	-12060 Feb 10 j 06:08	25°8'56"22	29.10083 AU
conjunction	-12067 Jul 26 j 12:51	9°8'21"15	15°02'40	opposition	-12060 Feb 11 j 08:14	25°8'54"36	13°28'05
minimum elong	-12067 Jul 26 j 13:06	9°8'21"17	15°03'05	direct	-12060 Apr 30 j 10:55	24°8'31"45	
max. Earth dist.	-12067 Jul 26 j 14:48	9°8'21"27	30.62335 AU	evening set	-12060 Aug 03 j 22:58	26°8'47"19	
retrograde	-12067 Nov 08 j 06:49	12°8'03"18					
opposition	-12066 Jan 25 j 19:20	10°8'39"27	15°55'20	conjunction	-12060 Aug 12 j 13:52	27°8'07"43	12°22'57
min. Earth dist.	-12066 Jan 25 j 14:54	10°8'39"45	28.71169 AU	minimum elong	-12060 Aug 12 j 14:14	27°8'07"45	12°23'32
direct	-12066 Apr 15 j 04:23	9°8'14"51		max. Earth dist.	-12060 Aug 13 j 17:02	27°8'10"24	31.09939 AU
evening set	-12066 Jul 26 j 11:59	11°8'49"46		morning rise	-12060 Aug 21 j 05:45	27°8'28"13	
				retrograde	-12060 Nov 25 j 15:13	29°8'45"08	
conjunction	-12066 Jul 29 j 07:20	11°8'56"37	14°44'20	min. Earth dist.	-12059 Feb 11 j 23:57	28°8'24"16	29.19954 AU
minimum elong	-12066 Jul 29 j 07:36	11°8'56"38	14°44'48	opposition	-12059 Feb 13 j 04:20	28°8'22"20	12°58'38
max. Earth dist.	-12066 Jul 29 j 14:17	11°8'57"19	30.65928 AU	direct	-12059 May 03 j 06:28	26°8'59"48	
morning rise	-12066 Aug 01 j 03:12	12°8'03"31		evening set	-12059 Aug 05 j 22:31	29°8'12"43	
retrograde	-12066 Nov 11 j 01:27	14°8'38"16					
opposition	-12065 Jan 28 j 18:36	13°8'14"32	15°34'47	conjunction	-12059 Aug 15 j 05:06	29°8'34"32	11°54'59
min. Earth dist.	-12065 Jan 28 j 10:42	13°8'15"05	28.75041 AU	minimum elong	-12059 Aug 15 j 05:27	29°8'34"34	11°55'35
direct	-12065 Apr 18 j 03:09	11°8'50"13		max. Earth dist.	-12059 Aug 16 j 11:49	29°8'37"33	31.20650 AU
evening set	-12065 Jul 27 j 19:34	14°8'20"54		morning rise	-12059 Aug 24 j 12:37	29°8'56"26	
					-12059 Aug 26 j 01:19	0°8'11"19	
conjunction	-12065 Aug 01 j 01:25	14°8'31"14	14°24'21	retrograde	-12059 Nov 28 j 07:18	2°8'10"56	
minimum elong	-12065 Aug 01 j 01:42	14°8'31"16	14°24'50	opposition	-12058 Feb 15 j 23:38	0°8'48"19	12°28'04
max. Earth dist.	-12065 Aug 01 j 11:10	14°8'32"13	30.70691 AU	min. Earth dist.	-12058 Feb 14 j 15:19	0°8'50"30	29.30763 AU
morning rise	-12065 Aug 05 j 07:53	14°8'41"37			-12058 Mar 19 j 20:28	30°8'12"43	
	-12065 Aug 12 j 22:44	15°8'12"25		direct	-12058 May 06 j 02:48	29°8'26"04	
retrograde	-12065 Nov 13 j 22:45	17°8'12"25			-12058 Jun 20 j 05:24	0°8'11"19	
opposition	-12064 Jan 31 j 17:31	15°8'48"49	15°12'30	evening set	-12058 Aug 07 j 22:19	1°8'36"27	
min. Earth dist.	-12064 Jan 31 j 05:09	15°8'49"40	28.80044 AU				
	-12064 Mar 03 j 04:58	15°8'12"25		conjunction	-12058 Aug 17 j 19:23	1°8'59"31	11°26'01
direct	-12064 Apr 19 j 23:59	14°8'24"47		minimum elong	-12058 Aug 17 j 19:46	1°8'59"33	11°26'38
	-12064 Jun 04 j 11:36	15°8'12"25		max. Earth dist.	-12058 Aug 19 j 04:55	2°8'10"24	31.32311 AU
evening set	-12064 Jul 28 j 10:41	16°8'52"00		morning rise	-12058 Aug 27 j 17:43	2°8'22"42	
				retrograde	-12058 Nov 30 j 22:51	4°8'34"53	
conjunction	-12064 Aug 02 j 19:14	17°8'04"58	14°02'49	min. Earth dist.	-12057 Feb 17 j 07:04	3°8'14"49	29.42565 AU
minimum elong	-12064 Aug 02 j 19:33	17°8'05"00	14°03'20	opposition	-12057 Feb 18 j 18:22	3°8'12"27	11°56'26
max. Earth dist.	-12064 Aug 03 j 09:36	17°8'06"25	30.76552 AU	direct	-12057 May 08 j 20:27	1°8'50"31	
morning rise	-12064 Aug 08 j 04:24	17°8'18"00		evening set	-12057 Aug 09 j 22:33	3°8'58"27	
retrograde	-12064 Nov 15 j 16:37	19°8'45"35					
opposition	-12063 Feb 02 j 16:05	18°8'22"08	14°48'36	conjunction	-12057 Aug 20 j 09:16	4°8'22"39	10°56'06
min. Earth dist.	-12063 Feb 02 j 01:06	18°8'23"10	28.86092 AU	minimum elong	-12057 Aug 20 j 09:38	4°8'22"41	10°56'43
direct	-12063 Apr 22 j 21:20	16°8'58"25		max. Earth dist.	-12057 Aug 21 j 23:02	4°8'26"18	31.44980 AU
evening set	-12063 Jul 30 j 05:26	19°8'22"28		morning rise	-12057 Aug 30 j 21:06	4°8'46"58	
				retrograde	-12057 Dec 03 j 13:20	6°8'56"54	
conjunction	-12063 Aug 05 j 12:39	19°8'37"39	13°39'49	min. Earth dist.	-12056 Feb 19 j 21:24	5°8'37"17	29.55379 AU
minimum elong	-12063 Aug 05 j 12:59	19°8'37"41	13°40'20	opposition	-12056 Feb 21 j 12:12	5°8'34"42	11°23'52
max. Earth dist.	-12063 Aug 06 j 05:43	19°8'39"22	30.83455 AU	direct	-12056 May 10 j 16:21	4°8'13"07	
morning rise	-12063 Aug 11 j 20:35	19°8'52"55		evening set	-12056 Aug 10 j 23:03	6°8'18"41	
retrograde	-12063 Nov 18 j 11:25	22°8'17"36					
opposition	-12062 Feb 05 j 13:51	20°8'54"19	14°23'09				

Attention, astronomical year style is used: The year -12056 in astronomical counting style is the year 12057 BCE in historical counting style.

conjunction	-12056 Aug 21 j 22:16	6°II43'54	10°25'21	direct	-12049 May 27 j 20:34	20°II01'30	
minimum elong	-12056 Aug 21 j 22:38	6°II43'56	10°26'00	evening set	-12049 Aug 24 j 06:28	21°II53'04	
max. Earth dist.	-12056 Aug 23 j 14:23	6°II47'46	31.58667 AU				
morning rise	-12056 Sep 01 j 22:59	7°II09'15		conjunction	-12049 Sep 06 j 23:05	22°II22'45	6°34'43
retrograde	-12056 Dec 05 j 04:25	9°II17'03		minimum elong	-12049 Sep 06 j 23:20	22°II22'47	6°35'24
min. Earth dist.	-12055 Feb 21 j 10:47	7°II57'55	29.69230 AU	max. Earth dist.	-12049 Sep 09 j 10:09	22°II28'08	32.79332 AU
opposition	-12055 Feb 23 j 05:15	7°II55'05	10°50'27	morning rise	-12049 Sep 20 j 18:10	22°II52'39	
direct	-12055 May 13 j 09:01	6°II33'52		retrograde	-12049 Dec 21 j 06:31	24°II47'39	
evening set	-12055 Aug 12 j 23:42	8°II37'11		min. Earth dist.	-12048 Mar 08 j 18:00	23°II31'54	30.90503 AU
				opposition	-12048 Mar 11 j 06:10	23°II28'03	6°41'52
				direct	-12048 May 29 j 07:20	22°II09'50	
				evening set	-12048 Aug 25 j 07:41	23°II59'43	
conjunction	-12055 Aug 24 j 10:47	9°II03'19	9°53'52				
minimum elong	-12055 Aug 24 j 11:08	9°II03'21	9°54'30				
max. Earth dist.	-12055 Aug 26 j 07:06	9°II07'33	31.73364 AU				
morning rise	-12055 Sep 04 j 23:13	9°II29'36		conjunction	-12048 Sep 08 j 06:57	24°II29'43	6°00'39
retrograde	-12055 Dec 07 j 15:37	11°II35'19		minimum elong	-12048 Sep 08 j 07:11	24°II29'45	6°01'22
min. Earth dist.	-12054 Feb 24 j 00:22	10°II16'38	29.84074 AU	max. Earth dist.	-12048 Sep 10 j 20:44	24°II35'17	32.99248 AU
opposition	-12054 Feb 25 j 21:23	10°II13'39	10°16'18	morning rise	-12048 Sep 22 j 08:26	24°II59'56	
direct	-12054 May 16 j 01:58	8°II52'51		retrograde	-12048 Dec 22 j 14:59	26°II53'21	
evening set	-12054 Aug 15 j 00:36	10°II54'00		min. Earth dist.	-12047 Mar 11 j 02:40	25°II38'03	31.10440 AU
				opposition	-12047 Mar 13 j 16:44	25°II34'06	6°05'26
				direct	-12047 May 31 j 19:57	24°II16'16	
				evening set	-12047 Aug 27 j 09:00	26°II04'31	
conjunction	-12054 Aug 26 j 22:26	11°II20'56	9°21'43				
minimum elong	-12054 Aug 26 j 22:47	11°II20'58	9°22'23				
max. Earth dist.	-12054 Aug 28 j 20:51	11°II25'21	31.89039 AU	conjunction	-12047 Sep 10 j 13:52	26°II34'46	5°26'33
morning rise	-12054 Sep 07 j 21:59	11°II48'03		minimum elong	-12047 Sep 10 j 14:04	26°II34'47	5°27'15
retrograde	-12054 Dec 10 j 04:28	13°II51'47		max. Earth dist.	-12047 Sep 13 j 04:33	26°II40'22	33.19660 AU
min. Earth dist.	-12053 Feb 26 j 11:54	12°II33'40	29.99883 AU	morning rise	-12047 Sep 24 j 21:25	27°II05'14	
opposition	-12053 Feb 28 j 12:51	12°II30'27	9°41'31	retrograde	-12047 Dec 24 j 23:28	28°II57'09	
direct	-12053 May 18 j 17:05	11°II10'04		min. Earth dist.	-12046 Mar 13 j 10:00	27°II42'16	31.30914 AU
evening set	-12053 Aug 17 j 01:25	13°II09'08		opposition	-12046 Mar 16 j 02:24	27°II38'12	5°29'00
				direct	-12046 Jun 03 j 05:30	26°II20'45	
				evening set	-12046 Aug 29 j 10:00	28°II07'27	
conjunction	-12053 Aug 29 j 09:26	13°II36'48	8°49'02				
minimum elong	-12053 Aug 29 j 09:45	13°II36'50	8°49'42				
max. Earth dist.	-12053 Aug 31 j 11:45	13°II41'32	32.05617 AU	conjunction	-12046 Sep 12 j 20:10	28°II37'52	4°52'28
morning rise	-12053 Sep 10 j 19:10	14°II04'38		minimum elong	-12046 Sep 12 j 20:22	28°II37'53	4°53'11
retrograde	-12053 Dec 12 j 15:04	16°II06'30		max. Earth dist.	-12046 Sep 15 j 13:52	28°II43'41	33.40593 AU
min. Earth dist.	-12052 Feb 29 j 00:55	14°II48'49	30.16571 AU	morning rise	-12046 Sep 27 j 08:52	29°II08'32	
opposition	-12052 Mar 02 j 03:37	14°II45'30	9°06'13		-12046 Oct 24 j 02:55	0°☾	
direct	-12052 May 20 j 07:21	13°II25'34		retrograde	-12046 Dec 27 j 03:51	0°☾58'59	
evening set	-12052 Aug 18 j 02:36	15°II22'38			-12045 Mar 05 j 08:22	30°RII	
				min. Earth dist.	-12045 Mar 15 j 17:47	29°II44'29	31.51931 AU
conjunction	-12052 Aug 30 j 19:52	15°II50'56	8°15'54	opposition	-12045 Mar 18 j 11:19	29°II40'21	4°52'39
minimum elong	-12052 Aug 30 j 20:11	15°II50'58	8°16'35	direct	-12045 Jun 05 j 16:06	28°II23'17	
max. Earth dist.	-12052 Sep 02 j 00:15	15°II55'49	32.23026 AU		-12045 Aug 27 j 07:14	0°☾	
morning rise	-12052 Sep 12 j 15:01	16°II19'24		evening set	-12045 Aug 31 j 10:59	0°☾08'29	
retrograde	-12052 Dec 14 j 01:52	18°II19'27					
min. Earth dist.	-12051 Mar 02 j 10:59	17°II02'21	30.34058 AU	conjunction	-12045 Sep 15 j 01:36	0°☾39'02	4°18'28
opposition	-12051 Mar 04 j 17:16	16°II58'48	8°30'30	minimum elong	-12045 Sep 15 j 01:46	0°☾39'02	4°19'09
direct	-12051 May 22 j 20:59	15°II39'19		max. Earth dist.	-12045 Sep 17 j 20:18	0°☾44'53	33.62070 AU
evening set	-12051 Aug 20 j 03:50	17°II34'28		morning rise	-12045 Sep 29 j 19:03	1°☾09'49	
				retrograde	-12045 Dec 29 j 09:21	2°☾58'52	
conjunction	-12051 Sep 02 j 05:37	18°II03'19	7°42'25	min. Earth dist.	-12044 Mar 16 j 22:55	1°☾44'51	31.73533 AU
minimum elong	-12051 Sep 02 j 05:55	18°II03'21	7°43'05	opposition	-12044 Mar 19 j 19:20	1°☾40'34	4°16'27
max. Earth dist.	-12051 Sep 04 j 12:43	18°II08'25	32.41161 AU	direct	-12044 Jun 07 j 01:34	0°☾23'53	
morning rise	-12051 Sep 15 j 09:30	18°II32'21		evening set	-12044 Sep 01 j 11:53	2°☾07'39	
retrograde	-12051 Dec 16 j 11:27	20°II30'39					
min. Earth dist.	-12050 Mar 04 j 22:43	19°II13'58	30.52258 AU	conjunction	-12044 Sep 16 j 06:29	2°☾38'17	3°44'35
opposition	-12050 Mar 07 j 06:25	19°II10'21	7°54'29	minimum elong	-12044 Sep 16 j 06:38	2°☾38'17	3°45'17
direct	-12050 May 25 j 08:39	17°II51'18		max. Earth dist.	-12044 Sep 19 j 04:02	2°☾44'20	33.84106 AU
evening set	-12050 Aug 22 j 05:02	19°II44'38		morning rise	-12044 Oct 01 j 03:58	3°☾09'08	
				retrograde	-12044 Dec 30 j 12:48	4°☾56'53	
conjunction	-12050 Sep 04 j 14:40	20°II13'56	7°08'39	min. Earth dist.	-12043 Mar 19 j 05:14	3°☾43'13	31.95726 AU
minimum elong	-12050 Sep 04 j 14:57	20°II13'58	7°09'21	opposition	-12043 Mar 22 j 02:28	3°☾38'54	3°40'26
max. Earth dist.	-12050 Sep 07 j 00:05	20°II19'13	32.59959 AU	direct	-12043 Jun 09 j 09:28	2°☾22'37	
morning rise	-12050 Sep 18 j 02:21	20°II43'26		evening set	-12043 Sep 03 j 12:39	4°☾05'03	
retrograde	-12050 Dec 18 j 20:59	22°II40'03					
min. Earth dist.	-12049 Mar 07 j 08:05	21°II23'54	30.71087 AU	conjunction	-12043 Sep 18 j 10:42	4°☾35'41	3°10'54
opposition	-12049 Mar 09 j 18:40	21°II20'07	7°18'15				


























































































































## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 27

Attention, astronomical year style is used: The year -12043 in astronomical counting style is the year 12044 BCE in historical counting style.

minimum elong	-12043 Sep 18 j 10:49	4°  35'42	3°11'35	min. Earth dist.	-12036 Apr 01 j 02:31	16°  45'47	33.64075 AU
max. Earth dist.	-12043 Sep 21 j 09:40	4°  41'49	34.06724 AU	opposition	-12036 Apr 04 j 08:42	16°  41'05	-0°22'08
morning rise	-12043 Oct 03 j 11:37	5°  06'34		direct	-12036 Jun 22 j 16:34	15°  27'40	
retrograde	-12042 Jan 01 j 15:45	6°  53'05		evening set	-12036 Sep 15 j 15:38	17°  02'41	
min. Earth dist.	-12042 Mar 21 j 08:43	5°  39'56	32.18502 AU				
opposition	-12042 Mar 24 j 08:51	5°  35'27	3°04'40	conjunction	-12036 Sep 30 j 23:16	17°  32'18	-0°36'11
direct	-12042 Jun 11 j 16:23	4°  19'35		minimum elong	-12036 Sep 30 j 23:15	17°  32'18	0°35'30
evening set	-12042 Sep 05 j 13:14	6°  00'45		max. Earth dist.	-12036 Oct 04 j 07:00	17°  38'47	35.76566 AU
				morning rise	-12036 Oct 16 j 10:12	18°  02'11	
conjunction	-12042 Sep 20 j 14:01	6°  31'21	2°37'26	retrograde	-12035 Jan 14 j 03:42	19°  41'44	
minimum elong	-12042 Sep 20 j 14:07	6°  31'22	2°38'09	min. Earth dist.	-12035 Apr 03 j 02:21	18°  31'28	33.89107 AU
max. Earth dist.	-12042 Sep 23 j 14:54	6°  37'35	34.29881 AU	opposition	-12035 Apr 06 j 10:06	18°  26'42	-0°54'59
morning rise	-12042 Oct 05 j 17:59	7°  02'13		direct	-12035 Jun 24 j 19:29	17°  13'39	
retrograde	-12041 Jan 03 j 18:53	8°  47'34		evening set	-12035 Sep 17 j 15:44	18°  47'49	
min. Earth dist.	-12041 Mar 23 j 13:32	7°  34'49	32.41832 AU				
opposition	-12041 Mar 26 j 14:42	7°  30'18	2°29'11	conjunction	-12035 Oct 02 j 22:51	19°  17'09	-1°06'57
direct	-12041 Jun 13 j 20:44	6°  14'51		minimum elong	-12035 Oct 02 j 22:48	19°  17'09	1°06'17
evening set	-12041 Sep 07 j 13:45	7°  54'50		max. Earth dist.	-12035 Oct 06 j 07:28	19°  23'39	36.01611 AU
				morning rise	-12035 Oct 18 j 09:27	19°  46'45	
conjunction	-12041 Sep 22 j 17:01	8°  25'22	2°04'15	retrograde	-12034 Jan 16 j 02:16	21°  25'32	
minimum elong	-12041 Sep 22 j 17:06	8°  25'22	2°04'57	min. Earth dist.	-12034 Apr 05 j 03:33	20°  15'32	34.14238 AU
max. Earth dist.	-12041 Sep 25 j 19:57	8°  31'43	34.53550 AU	opposition	-12034 Apr 08 j 11:09	20°  10'49	-1°27'17
morning rise	-12041 Oct 07 j 23:15	8°  56'09		direct	-12034 Jun 26 j 19:50	18°  58'06	
retrograde	-12040 Jan 05 j 21:43	10°  40'24		evening set	-12034 Sep 19 j 15:21	20°  31'28	
min. Earth dist.	-12040 Mar 24 j 16:38	9°  28'07	32.65639 AU				
opposition	-12040 Mar 27 j 19:34	9°  23'32	1°54'05	conjunction	-12034 Oct 04 j 21:47	21°  00'30	-1°37'15
direct	-12040 Jun 15 j 01:19	8°  08'29		minimum elong	-12034 Oct 04 j 21:44	21°  00'29	1°36'34
evening set	-12040 Sep 08 j 14:20	9°  47'22		max. Earth dist.	-12034 Oct 08 j 07:24	21°  07'01	36.26751 AU
				morning rise	-12034 Oct 20 j 07:27	21°  29'47	
conjunction	-12040 Sep 23 j 19:17	10°  17'47	1°31'23	retrograde	-12033 Jan 18 j 00:07	23°  07'47	
minimum elong	-12040 Sep 23 j 19:20	10°  17'47	1°32'06	min. Earth dist.	-12033 Apr 07 j 02:46	21°  58'10	34.39473 AU
max. Earth dist.	-12040 Sep 26 j 22:59	10°  24'09	34.77633 AU	opposition	-12033 Apr 10 j 11:23	21°  53'24	-1°59'03
morning rise	-12040 Oct 09 j 03:35	10°  48'28		direct	-12033 Jun 28 j 21:07	20°  41'01	
retrograde	-12039 Jan 07 j 01:32	12°  31'41		evening set	-12033 Sep 21 j 15:06	22°  13'37	
min. Earth dist.	-12039 Mar 26 j 19:35	11°  19'50	32.89858 AU				
opposition	-12039 Mar 29 j 23:54	11°  15'11	1°19'21	conjunction	-12033 Oct 06 j 20:11	22°  42'19	-2°07'02
direct	-12039 Jun 17 j 04:38	10°  00'34		minimum elong	-12033 Oct 06 j 20:06	22°  42'19	2°06'23
evening set	-12039 Sep 10 j 14:41	11°  38'24		max. Earth dist.	-12033 Oct 10 j 05:51	22°  48'47	36.51996 AU
				morning rise	-12033 Oct 22 j 04:48	23°  11'16	
conjunction	-12039 Sep 25 j 21:05	12°  08'40	0°58'54	retrograde	-12032 Jan 20 j 00:01	24°  48'34	
minimum elong	-12039 Sep 25 j 21:07	12°  08'40	0°59'34	min. Earth dist.	-12032 Apr 08 j 01:41	23°  39'15	34.64870 AU
max. Earth dist.	-12039 Sep 29 j 03:04	12°  15'10	35.02056 AU	opposition	-12032 Apr 11 j 10:58	23°  34'28	-2°30'14
morning rise	-12039 Oct 11 j 06:35	12°  39'12		direct	-12032 Jun 29 j 19:30	22°  22'25	
retrograde	-12038 Jan 09 j 03:17	14°  21'26		evening set	-12032 Sep 22 j 14:31	23°  54'20	
min. Earth dist.	-12038 Mar 28 j 22:34	13°  09'59	33.14380 AU				
opposition	-12038 Apr 01 j 03:25	13°  05'19	0°45'03	conjunction	-12032 Oct 07 j 18:10	24°  22'40	-2°36'18
direct	-12038 Jun 19 j 09:54	11°  51'07		minimum elong	-12032 Oct 07 j 18:05	24°  22'40	2°35'39
evening set	-12038 Sep 12 j 15:08	13°  27'58		max. Earth dist.	-12032 Oct 11 j 05:41	24°  29'14	36.77399 AU
				morning rise	-12032 Oct 23 j 01:02	24°  51'16	
conjunction	-12038 Sep 27 j 22:16	13°  58'03	0°26'47	retrograde	-12031 Jan 20 j 21:46	26°  27'53	
minimum elong	-12038 Sep 27 j 22:17	13°  58'03	0°27'29	min. Earth dist.	-12031 Apr 10 j 00:28	25°  18'53	34.90437 AU
max. Earth dist.	-12038 Oct 01 j 04:12	14°  04'29	35.26736 AU	opposition	-12031 Apr 13 j 09:54	25°  14'07	-3°00'49
morning rise	-12038 Oct 13 j 08:48	14°  28'23		direct	-12031 Jul 01 j 19:30	24°  02'23	
retrograde	-12037 Jan 11 j 06:20	16°  09'41		evening set	-12031 Sep 24 j 13:49	25°  33'39	
min. Earth dist.	-12037 Mar 30 j 23:45	14°  58'41	33.39150 AU				
opposition	-12037 Apr 03 j 06:21	14°  53'57	0°11'13	conjunction	-12031 Oct 09 j 15:24	26°  01'38	-3°05'02
direct	-12037 Jun 21 j 12:58	13°  40'08		minimum elong	-12031 Oct 09 j 15:17	26°  01'37	3°04'24
desc. node	-12037 Aug 03 j 17:40	14°  07'38		max. Earth dist.	-12031 Oct 13 j 02:42	26°  08'07	37.02978 AU
evening set	-12037 Sep 14 j 15:23	15°  16'03		morning rise	-12031 Oct 24 j 20:23	26°  29'51	
				retrograde	-12030 Jan 22 j 19:58	28°  05'51	
conjunction	-12037 Sep 29 j 22:59	15°  45'55	-0°04'59	min. Earth dist.	-12030 Apr 11 j 21:05	26°  57'14	35.16210 AU
minimum elong	-12037 Sep 29 j 23:00	15°  45'55	0°04'19	opposition	-12030 Apr 15 j 08:14	26°  52'24	-3°30'49
behind sun begin	-12037 Sep 29 j 16:42	15°  45'26		direct	-12030 Jul 03 j 17:20	25°  41'01	
behind sun end	-12037 Sep 30 j 05:17	15°  46'25		evening set	-12030 Sep 26 j 12:57	27°  11'41	
max. Earth dist.	-12037 Oct 03 j 06:43	15°  52'27	35.51591 AU				
morning rise	-12037 Oct 15 j 09:56	16°  16'03		conjunction	-12030 Oct 11 j 12:16	27°  39'17	-3°33'12
retrograde	-12036 Jan 13 j 05:00	17°  56'28		minimum elong	-12030 Oct 11 j 12:09	27°  39'16	3°32'34

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 28

Attention, astronomical year style is used: The year -12030 in astronomical counting style is the year 12031 BCE in historical counting style.

max. Earth dist.	-12030 Oct 15 j 01:15	27°  45'51	37.28744 AU	opposition	-12023 Apr 26 j 05:51	7°  48'05	-6°43'29
morning rise	-12030 Oct 26 j 14:54	28°  07'07		direct	-12023 Jul 14 j 17:46	6°  39'01	
retrograde	-12029 Jan 24 j 14:13	29°  42'33		evening set	-12023 Oct 08 j 03:40	8°  06'39	
min. Earth dist.	-12029 Apr 13 j 19:19	28°  34'13	35.42172 AU				
opposition	-12029 Apr 17 j 06:04	28°  29'26	-4°00'12	conjunction	-12023 Oct 22 j 02:35	8°  31'06	-6°34'36
direct	-12029 Jul 05 j 17:37	27°  18'24		minimum elong	-12023 Oct 22 j 02:23	8°  31'05	6°34'02
evening set	-12029 Sep 28 j 11:51	28°  48'31		max. Earth dist.	-12023 Oct 25 j 16:48	8°  37'26	39.10203 AU
				morning rise	-12023 Nov 05 j 04:24	8°  55'45	
conjunction	-12029 Oct 13 j 08:39	29°  15'42	-4°00'49	retrograde	-12022 Feb 04 j 01:35	10°  28'13	
minimum elong	-12029 Oct 13 j 08:31	29°  15'41	4°00'12	min. Earth dist.	-12022 Apr 24 j 13:20	9°  21'59	37.24433 AU
max. Earth dist.	-12029 Oct 16 j 21:45	29°  22'15	37.54682 AU	opposition	-12022 Apr 28 j 00:14	9°  17'21	-7°08'33
morning rise	-12029 Oct 28 j 08:38	29°  43'07		direct	-12022 Jul 16 j 14:46	8°  08'33	
	-12029 Nov 06 j 23:05	0°  ♈		evening set	-12022 Oct 10 j 01:47	9°  35'50	
retrograde	-12028 Jan 26 j 09:12	1°  ♈18'02					
min. Earth dist.	-12028 Apr 14 j 15:05	0°  ♈10'07	35.68280 AU	conjunction	-12022 Oct 23 j 20:13	9°  59'47	-6°58'16
opposition	-12028 Apr 18 j 03:14	0°  ♈05'16	-4°28'57	minimum elong	-12022 Oct 23 j 20:01	9°  59'46	6°57'42
	-12028 Apr 21 j 22:40	30°  ♐♐		max. Earth dist.	-12022 Oct 27 j 10:00	10°  06'03	39.35622 AU
direct	-12028 Jul 06 j 16:25	28°  54'35		morning rise	-12022 Nov 06 j 17:16	10°  23'56	
	-12028 Sep 15 j 09:47	0°  ♈		retrograde	-12021 Feb 05 j 16:48	11°  56'03	
evening set	-12028 Sep 29 j 10:51	0°  ♈24'12		min. Earth dist.	-12021 Apr 26 j 06:34	10°  50'06	37.49934 AU
				opposition	-12021 Apr 29 j 17:58	10°  45'27	-7°33'01
conjunction	-12028 Oct 14 j 04:37	0°  ♈50'58	-4°27'52	direct	-12021 Jul 18 j 10:44	9°  36'54	
minimum elong	-12028 Oct 14 j 04:29	0°  ♈50'58	4°27'14	evening set	-12021 Oct 11 j 23:48	11°  03'52	
max. Earth dist.	-12028 Oct 17 j 18:19	0°  ♈57'30	37.80714 AU				
morning rise	-12028 Oct 29 j 01:45	1°  ♈17'58		conjunction	-12021 Oct 25 j 13:18	11°  27'19	-7°21'22
retrograde	-12027 Jan 27 j 04:29	2°  ♈52'24		minimum elong	-12021 Oct 25 j 13:05	11°  27'18	7°20'49
min. Earth dist.	-12027 Apr 16 j 12:07	1°  ♈44'48	35.94481 AU	max. Earth dist.	-12021 Oct 29 j 02:44	11°  33'30	39.60877 AU
opposition	-12027 Apr 19 j 23:54	1°  ♈39'59	-4°57'06	morning rise	-12021 Nov 08 j 05:37	11°  50'57	
direct	-12027 Jul 08 j 12:28	0°  ♈29'40		retrograde	-12020 Feb 07 j 09:09	13°  22'46	
evening set	-12027 Oct 01 j 09:32	1°  ♈58'49		min. Earth dist.	-12020 Apr 27 j 00:31	12°  17'00	37.75321 AU
				opposition	-12020 Apr 30 j 11:22	12°  12'23	-7°56'52
conjunction	-12027 Oct 16 j 00:14	2°  ♈25'09	-4°54'20	direct	-12020 Jul 19 j 03:53	11°  04'05	
minimum elong	-12027 Oct 16 j 00:05	2°  ♈25'08	4°53'44	evening set	-12020 Oct 12 j 21:35	12°  30'46	
max. Earth dist.	-12027 Oct 19 j 14:46	2°  ♈31'42	38.06802 AU				
morning rise	-12027 Oct 30 j 17:55	2°  ♈51'42		conjunction	-12020 Oct 26 j 06:09	12°  53'42	-7°43'53
retrograde	-12026 Jan 28 j 23:08	4°  ♈25'42		minimum elong	-12020 Oct 26 j 05:57	12°  53'41	7°43'22
min. Earth dist.	-12026 Apr 18 j 07:53	3°  ♈18'26	36.20693 AU	max. Earth dist.	-12020 Oct 29 j 20:26	12°  59'55	39.86035 AU
opposition	-12026 Apr 21 j 20:03	3°  ♈13'37	-5°24'37	morning rise	-12020 Nov 08 j 17:08	13°  16'49	
direct	-12026 Jul 10 j 09:15	2°  ♈03'39		retrograde	-12019 Feb 08 j 00:40	14°  48'21	
evening set	-12026 Oct 03 j 08:12	3°  ♈32'23		min. Earth dist.	-12019 Apr 28 j 17:25	13°  42'48	38.00623 AU
				opposition	-12019 May 02 j 04:03	13°  38'13	-8°20'05
conjunction	-12026 Oct 17 j 19:13	3°  ♈58'15	-5°20'15	direct	-12019 Jul 20 j 21:21	12°  30'09	
minimum elong	-12026 Oct 17 j 19:03	3°  ♈58'14	5°19'39	evening set	-12019 Oct 14 j 19:18	13°  56'36	
max. Earth dist.	-12026 Oct 21 j 09:04	4°  ♈04'42	38.32855 AU				
morning rise	-12026 Nov 01 j 09:30	4°  ♈24'21		conjunction	-12019 Oct 27 j 22:25	14°  19'01	-8°05'50
retrograde	-12025 Jan 30 j 20:57	5°  ♈57'57		minimum elong	-12019 Oct 27 j 22:11	14°  19'00	8°05'19
min. Earth dist.	-12025 Apr 20 j 03:27	4°  ♈50'59	36.46862 AU	max. Earth dist.	-12019 Oct 31 j 11:42	14°  25'06	40.11138 AU
opposition	-12025 Apr 23 j 15:53	4°  ♈46'12	-5°51'31	morning rise	-12019 Nov 10 j 04:06	14°  41'35	
direct	-12025 Jul 12 j 02:32	3°  ♈36'32			-12019 Nov 21 j 08:46	15°  ♐	
evening set	-12025 Oct 05 j 06:48	5°  ♈04'53		retrograde	-12018 Feb 09 j 18:57	16°  12'52	
				min. Earth dist.	-12018 Apr 30 j 09:07	15°  07'36	38.25906 AU
conjunction	-12025 Oct 19 j 14:10	5°  ♈30'18	-5°45'36	opposition	-12018 May 03 j 20:30	15°  03'00	-8°42'42
minimum elong	-12025 Oct 19 j 13:59	5°  ♈30'17	5°45'01		-12018 May 06 j 02:57	15°  ♐♐	
max. Earth dist.	-12025 Oct 23 j 05:04	5°  ♈36'46	38.58811 AU	direct	-12018 Jul 22 j 11:57	13°  55'11	
morning rise	-12025 Nov 03 j 00:28	5°  ♈55'56			-12018 Oct 03 j 12:13	15°  ♐	
retrograde	-12024 Feb 01 j 15:21	7°  ♈29'08		evening set	-12018 Oct 16 j 16:36	15°  21'26	
min. Earth dist.	-12024 Apr 20 j 23:41	6°  ♈22'24	36.72897 AU				
opposition	-12024 Apr 24 j 11:04	6°  ♈17'42	-6°17'48	conjunction	-12018 Oct 29 j 14:19	15°  43'19	-8°27'12
direct	-12024 Jul 12 j 22:05	5°  ♈08'20		minimum elong	-12018 Oct 29 j 14:06	15°  43'18	8°26'42
evening set	-12024 Oct 06 j 05:24	6°  ♈36'19		max. Earth dist.	-12018 Nov 02 j 04:47	15°  49'27	40.36218 AU
				morning rise	-12018 Nov 11 j 14:22	16°  05'21	
conjunction	-12024 Oct 20 j 08:39	7°  ♈01'15	-6°10'23	retrograde	-12017 Feb 11 j 09:49	17°  36'26	
minimum elong	-12024 Oct 20 j 08:28	7°  ♈01'15	6°09'48	min. Earth dist.	-12017 May 02 j 02:15	16°  31'22	38.51162 AU
max. Earth dist.	-12024 Oct 23 j 22:21	7°  ♈07'36	38.84609 AU	opposition	-12017 May 05 j 12:36	16°  26'50	-9°04'41
morning rise	-12024 Nov 03 j 14:51	7°  ♈26'25		direct	-12017 Jul 24 j 04:48	15°  19'17	
retrograde	-12023 Feb 02 j 09:59	8°  ♈59'13		evening set	-12017 Oct 18 j 14:02	16°  45'22	
min. Earth dist.	-12023 Apr 22 j 17:42	7°  ♈52'49	36.98762 AU				

# Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 29

Attention, astronomical year style is used: The year -12017 in astronomical counting style is the year 12018 BCE in historical counting style.

conjunction	-12017 Oct 31 j 06:01	17° $\Omega$ 06'42	-8°47'59	direct	-12010 Aug 02 j 13:58	24° $\Omega$ 46'31	
minimum elong	-12017 Oct 31 j 05:47	17° $\Omega$ 06'41	8°47'29	evening set	-12010 Oct 29 j 17:28	26° $\Omega$ 12'12	
max. Earth dist.	-12017 Nov 03 j 19:48	17° $\Omega$ 12'46	40.61276 AU				
morning rise	-12017 Nov 13 j 00:11	17° $\Omega$ 28'12		conjunction	-12010 Nov 09 j 11:37	26° $\Omega$ 29'36	-10°58'22
retrograde	-12016 Feb 13 j 00:07	18° $\Omega$ 59'06		minimum elong	-12010 Nov 09 j 11:22	26° $\Omega$ 29'35	10°57'58
min. Earth dist.	-12016 May 02 j 16:49	17° $\Omega$ 54'21	38.76382 AU	max. Earth dist.	-12010 Nov 12 j 22:23	26° $\Omega$ 35'13	42.31843 AU
opposition	-12016 May 06 j 04:04	17° $\Omega$ 49'48	-9°26'03	morning rise	-12010 Nov 20 j 07:05	26° $\Omega$ 47'08	
direct	-12016 Jul 24 j 22:16	16° $\Omega$ 42'31		retrograde	-12009 Feb 22 j 00:07	28° $\Omega$ 17'30	
evening set	-12016 Oct 19 j 11:19	18° $\Omega$ 08'29		min. Earth dist.	-12009 May 13 j 01:01	27° $\Omega$ 14'16	40.47429 AU
				opposition	-12009 May 16 j 07:43	27° $\Omega$ 10'04	-11°39'39
				direct	-12009 Aug 04 j 06:27	26° $\Omega$ 04'33	
				evening set	-12009 Oct 31 j 14:21	27° $\Omega$ 30'13	
conjunction	-12016 Oct 31 j 21:19	18° $\Omega$ 29'16	-9°08'13				
minimum elong	-12016 Oct 31 j 21:05	18° $\Omega$ 29'16	9°07'44	conjunction	-12009 Nov 11 j 01:00	27° $\Omega$ 47'03	-11°14'57
max. Earth dist.	-12016 Nov 04 j 11:19	18° $\Omega$ 35'19	40.86265 AU	minimum elong	-12009 Nov 11 j 00:46	27° $\Omega$ 47'02	11°14'33
morning rise	-12016 Nov 13 j 09:35	18° $\Omega$ 50'13		max. Earth dist.	-12009 Nov 14 j 10:38	27° $\Omega$ 52'34	42.55007 AU
retrograde	-12015 Feb 13 j 13:55	20° $\Omega$ 21'00		morning rise	-12009 Nov 21 j 13:08	28° $\Omega$ 03'58	
min. Earth dist.	-12015 May 04 j 09:09	19° $\Omega$ 16'27	39.01526 AU	retrograde	-12008 Feb 23 j 12:43	29° $\Omega$ 34'20	
opposition	-12015 May 07 j 19:25	19° $\Omega$ 11'58	-9°46'50	min. Earth dist.	-12008 May 13 j 14:50	28° $\Omega$ 31'14	40.70657 AU
direct	-12015 Jul 26 j 14:34	18° $\Omega$ 04'59		opposition	-12008 May 16 j 20:34	28° $\Omega$ 27'06	-11°56'34
evening set	-12015 Oct 21 j 08:20	19° $\Omega$ 30'50		direct	-12008 Aug 04 j 19:22	27° $\Omega$ 21'46	
				evening set	-12008 Nov 01 j 11:01	28° $\Omega$ 47'28	
conjunction	-12015 Nov 02 j 12:17	19° $\Omega$ 51'05	-9°27'53				
minimum elong	-12015 Nov 02 j 12:02	19° $\Omega$ 51'04	9°27'24	conjunction	-12008 Nov 11 j 14:13	29° $\Omega$ 03'41	-11°31'02
max. Earth dist.	-12015 Nov 06 j 02:24	19° $\Omega$ 57'06	41.11156 AU	minimum elong	-12008 Nov 11 j 13:58	29° $\Omega$ 03'41	11°30'39
morning rise	-12015 Nov 14 j 18:06	20° $\Omega$ 11'29		max. Earth dist.	-12008 Nov 15 j 00:10	29° $\Omega$ 09'11	42.77913 AU
retrograde	-12014 Feb 15 j 03:12	21° $\Omega$ 42'09		morning rise	-12008 Nov 21 j 18:31	29° $\Omega$ 20'01	
min. Earth dist.	-12014 May 05 j 23:58	20° $\Omega$ 37'54	39.26524 AU		-12008 Dec 18 j 11:37	0° $\Upsilon$	
opposition	-12014 May 09 j 10:15	20° $\Omega$ 33'25	-10°07'01	retrograde	-12007 Feb 24 j 00:10	0° $\Upsilon$ 50'22	
direct	-12014 Jul 28 j 06:34	19° $\Omega$ 26'43			-12007 May 05 j 02:59	30° $\Upsilon$ $\Omega$	
evening set	-12014 Oct 23 j 05:31	20° $\Omega$ 52'30		min. Earth dist.	-12007 May 15 j 04:14	29° $\Omega$ 47'24	40.93638 AU
				opposition	-12007 May 18 j 09:04	29° $\Omega$ 43'20	-12°12'58
conjunction	-12014 Nov 04 j 02:58	21° $\Omega$ 12'12	-9°47'01	direct	-12007 Aug 06 j 09:08	28° $\Omega$ 38'12	
minimum elong	-12014 Nov 04 j 02:44	21° $\Omega$ 12'11	9°46'34		-12007 Oct 31 j 19:57	0° $\Upsilon$	
max. Earth dist.	-12014 Nov 07 j 15:57	21° $\Omega$ 18'05	41.35869 AU	evening set	-12007 Nov 03 j 07:35	0° $\Upsilon$ 03'55	
morning rise	-12014 Nov 16 j 02:29	21° $\Omega$ 32'02					
retrograde	-12013 Feb 16 j 19:27	23° $\Omega$ 02'37		conjunction	-12007 Nov 13 j 02:48	0° $\Upsilon$ 19'33	-11°46'36
min. Earth dist.	-12013 May 07 j 15:00	21° $\Omega$ 58'36	39.51334 AU	minimum elong	-12007 Nov 13 j 02:35	0° $\Upsilon$ 19'32	11°46'14
opposition	-12013 May 11 j 00:49	21° $\Omega$ 54'11	-10°26'37	max. Earth dist.	-12007 Nov 16 j 11:19	0° $\Upsilon$ 24'55	43.00608 AU
direct	-12013 Jul 29 j 19:22	20° $\Omega$ 47'45		morning rise	-12007 Nov 22 j 23:13	0° $\Upsilon$ 35'16	
evening set	-12013 Oct 25 j 02:34	22° $\Omega$ 13'29		retrograde	-12006 Feb 25 j 15:00	2° $\Upsilon$ 05'37	
conjunction	-12013 Nov 05 j 17:37	22° $\Omega$ 32'37	-10°05'37	min. Earth dist.	-12006 May 16 j 16:11	1° $\Upsilon$ 02'52	41.16440 AU
minimum elong	-12013 Nov 05 j 17:23	22° $\Omega$ 32'36	10°05'10	opposition	-12006 May 19 j 21:20	0° $\Upsilon$ 58'48	-12°28'49
max. Earth dist.	-12013 Nov 09 j 07:08	22° $\Omega$ 38'31	41.60349 AU		-12006 Jul 16 j 15:47	30° $\Upsilon$ $\Omega$	
morning rise	-12013 Nov 17 j 10:23	22° $\Omega$ 51'53		direct	-12006 Aug 07 j 19:22	29° $\Omega$ 53'51	
retrograde	-12012 Feb 18 j 10:37	24° $\Omega$ 22'25			-12006 Aug 29 j 20:52	0° $\Upsilon$	
min. Earth dist.	-12012 May 08 j 06:36	23° $\Omega$ 18'35	39.75860 AU	evening set	-12006 Nov 05 j 04:02	1° $\Upsilon$ 19'39	
opposition	-12012 May 11 j 15:03	23° $\Omega$ 14'15	-10°45'41				
direct	-12012 Jul 30 j 09:13	22° $\Omega$ 08'04		conjunction	-12006 Nov 14 j 15:21	1° $\Upsilon$ 34'40	-12°01'41
evening set	-12012 Oct 25 j 23:44	23° $\Omega$ 33'47		minimum elong	-12006 Nov 14 j 15:07	1° $\Upsilon$ 34'39	12°01'19
conjunction	-12012 Nov 06 j 07:55	23° $\Omega$ 52'22	-10°23'42	max. Earth dist.	-12006 Nov 18 j 00:27	1° $\Upsilon$ 40'03	43.23133 AU
minimum elong	-12012 Nov 06 j 07:40	23° $\Omega$ 52'21	10°23'17	morning rise	-12006 Nov 24 j 03:41	1° $\Upsilon$ 49'46	
max. Earth dist.	-12012 Nov 09 j 19:38	23° $\Omega$ 58'06	41.84523 AU	retrograde	-12005 Feb 27 j 03:57	3° $\Upsilon$ 20'10	
morning rise	-12012 Nov 17 j 17:47	24° $\Omega$ 11'03		min. Earth dist.	-12005 May 18 j 05:36	2° $\Upsilon$ 17'33	41.39079 AU
retrograde	-12011 Feb 19 j 02:37	25° $\Omega$ 41'31		opposition	-12005 May 21 j 09:18	2° $\Upsilon$ 13'34	-12°44'08
min. Earth dist.	-12011 May 09 j 20:13	24° $\Omega$ 37'56	40.00063 AU	direct	-12005 Aug 09 j 07:25	1° $\Upsilon$ 08'49	
opposition	-12011 May 13 j 04:49	24° $\Omega$ 33'37	-11°04'12	evening set	-12005 Nov 07 j 00:39	2° $\Upsilon$ 34'42	
direct	-12011 Jul 31 j 22:02	23° $\Omega$ 27'40					
evening set	-12011 Oct 27 j 20:41	24° $\Omega$ 53'22		conjunction	-12005 Nov 16 j 03:42	2° $\Upsilon$ 49'07	-12°16'15
conjunction	-12011 Nov 07 j 21:56	25° $\Omega$ 11'22	-10°41'17	minimum elong	-12005 Nov 16 j 03:29	2° $\Upsilon$ 49'06	12°15'54
minimum elong	-12011 Nov 07 j 21:42	25° $\Omega$ 11'21	10°40'51	max. Earth dist.	-12005 Nov 19 j 11:50	2° $\Upsilon$ 54'24	43.45512 AU
max. Earth dist.	-12011 Nov 11 j 09:29	25° $\Omega$ 17'04	42.08350 AU	morning rise	-12005 Nov 25 j 07:36	3° $\Upsilon$ 03'35	
morning rise	-12011 Nov 19 j 00:48	25° $\Omega$ 29'28		retrograde	-12004 Feb 28 j 14:48	4° $\Upsilon$ 34'03	
retrograde	-12010 Feb 20 j 13:51	26° $\Omega$ 59'54		min. Earth dist.	-12004 May 18 j 16:44	3° $\Upsilon$ 31'40	41.61549 AU
min. Earth dist.	-12010 May 11 j 11:44	25° $\Omega$ 56'27	40.23917 AU	opposition	-12004 May 21 j 20:55	3° $\Upsilon$ 27'41	-12°58'56
opposition	-12010 May 14 j 18:31	25° $\Omega$ 52'14	-11°22'11	direct	-12004 Aug 09 j 20:20	2° $\Upsilon$ 23'08	
				evening set	-12004 Nov 07 j 21:09	3° $\Upsilon$ 49'10	

# Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 30

Attention, astronomical year style is used: The year -12004 in astronomical counting style is the year 12005 BCE in historical counting style.

conjunction	-12004 Nov 16 j 15:41	4° $\mathring{\text{M}}$ 02'56	-12°30'19	direct	-11997 Aug 19 j 05:46	10° $\mathring{\text{M}}$ 48'13	
minimum elong	-12004 Nov 16 j 15:26	4° $\mathring{\text{M}}$ 02'55	12°29'59	evening set	-11997 Nov 20 j 00:54	12° $\mathring{\text{M}}$ 15'53	
max. Earth dist.	-12004 Nov 19 j 23:09	4° $\mathring{\text{M}}$ 08'09	43.67702 AU				
morning rise	-12004 Nov 25 j 11:07	4° $\mathring{\text{M}}$ 16'46		conjunction	-11997 Nov 25 j 22:57	12° $\mathring{\text{M}}$ 24'54	-13°56'21
retrograde	-12003 Mar 01 j 00:12	5° $\mathring{\text{M}}$ 47'21		minimum elong	-11997 Nov 25 j 22:44	12° $\mathring{\text{M}}$ 24'53	13°56'08
min. Earth dist.	-12003 May 20 j 05:25	4° $\mathring{\text{M}}$ 45'07	41.83830 AU	max. Earth dist.	-11997 Nov 28 j 23:09	12° $\mathring{\text{M}}$ 29'29	45.14104 AU
opposition	-12003 May 23 j 08:20	4° $\mathring{\text{M}}$ 41'12	-13°13'14	morning rise	-11997 Dec 01 j 21:11	12° $\mathring{\text{M}}$ 33'56	
direct	-12003 Aug 11 j 09:36	3° $\mathring{\text{M}}$ 36'52		retrograde	-11996 Mar 09 j 01:50	14° $\mathring{\text{M}}$ 05'56	
evening set	-12003 Nov 09 j 17:42	5° $\mathring{\text{M}}$ 03'03		min. Earth dist.	-11996 May 28 j 13:42	13° $\mathring{\text{M}}$ 04'41	43.30072 AU
				opposition	-11996 May 31 j 09:36	13° $\mathring{\text{M}}$ 01'13	-14°40'19
				direct	-11996 Aug 19 j 15:12	11° $\mathring{\text{M}}$ 58'08	
				evening set	-11996 Nov 20 j 23:11	13° $\mathring{\text{M}}$ 26'10	
conjunction	-12003 Nov 18 j 03:35	5° $\mathring{\text{M}}$ 16'12	-12°43'55				
minimum elong	-12003 Nov 18 j 03:23	5° $\mathring{\text{M}}$ 16'11	12°43'36				
max. Earth dist.	-12003 Nov 21 j 11:13	5° $\mathring{\text{M}}$ 21'24	43.89695 AU				
morning rise	-12003 Nov 26 j 14:05	5° $\mathring{\text{M}}$ 29'24		conjunction	-11996 Nov 26 j 09:29	13° $\mathring{\text{M}}$ 34'24	-14°06'59
retrograde	-12002 Mar 02 j 09:42	7° $\mathring{\text{M}}$ 00'07		minimum elong	-11996 Nov 26 j 09:17	13° $\mathring{\text{M}}$ 34'23	14°06'45
min. Earth dist.	-12002 May 21 j 17:10	5° $\mathring{\text{M}}$ 58'04	42.05867 AU	max. Earth dist.	-11996 Nov 29 j 09:51	13° $\mathring{\text{M}}$ 38'58	45.33388 AU
opposition	-12002 May 24 j 19:27	5° $\mathring{\text{M}}$ 54'12	-13°27'01	morning rise	-11996 Dec 01 j 19:49	13° $\mathring{\text{M}}$ 42'38	
direct	-12002 Aug 12 j 22:28	4° $\mathring{\text{M}}$ 50'04		retrograde	-11995 Mar 10 j 12:10	15° $\mathring{\text{M}}$ 14'58	
evening set	-12002 Nov 11 j 14:20	6° $\mathring{\text{M}}$ 16'26		min. Earth dist.	-11995 May 30 j 00:42	14° $\mathring{\text{M}}$ 13'47	43.49341 AU
				opposition	-11995 Jun 01 j 19:01	14° $\mathring{\text{M}}$ 10'24	-14°51'01
				direct	-11995 Aug 21 j 00:18	13° $\mathring{\text{M}}$ 07'27	
				evening set	-11995 Nov 22 j 22:10	14° $\mathring{\text{M}}$ 35'55	
conjunction	-12002 Nov 19 j 15:07	6° $\mathring{\text{M}}$ 28'57	-12°57'04				
minimum elong	-12002 Nov 19 j 14:52	6° $\mathring{\text{M}}$ 28'56	12°56'45				
max. Earth dist.	-12002 Nov 22 j 20:58	6° $\mathring{\text{M}}$ 34'00	44.11419 AU	conjunction	-11995 Nov 27 j 19:42	14° $\mathring{\text{M}}$ 43'19	-14°17'11
morning rise	-12002 Nov 27 j 16:33	6° $\mathring{\text{M}}$ 41'30		minimum elong	-11995 Nov 27 j 19:29	14° $\mathring{\text{M}}$ 43'18	14°16'59
retrograde	-12001 Mar 03 j 22:50	8° $\mathring{\text{M}}$ 12'22		max. Earth dist.	-11995 Nov 30 j 18:19	14° $\mathring{\text{M}}$ 47'46	45.52364 AU
min. Earth dist.	-12001 May 23 j 04:34	7° $\mathring{\text{M}}$ 10'31	42.27614 AU	morning rise	-11995 Dec 02 j 17:12	14° $\mathring{\text{M}}$ 50'43	
opposition	-12001 May 26 j 06:25	7° $\mathring{\text{M}}$ 06'41	-13°40'20	retrograde	-11994 Mar 11 j 23:31	16° $\mathring{\text{M}}$ 23'26	
direct	-12001 Aug 14 j 07:32	6° $\mathring{\text{M}}$ 02'46		min. Earth dist.	-11994 May 31 j 09:42	15° $\mathring{\text{M}}$ 22'25	43.68331 AU
evening set	-12001 Nov 13 j 11:12	7° $\mathring{\text{M}}$ 29'20		opposition	-11994 Jun 03 j 04:13	15° $\mathring{\text{M}}$ 19'02	-15°01'17
				direct	-11994 Aug 22 j 08:08	14° $\mathring{\text{M}}$ 16'14	
				evening set	-11994 Nov 24 j 21:55	15° $\mathring{\text{M}}$ 45'12	
conjunction	-12001 Nov 21 j 02:46	7° $\mathring{\text{M}}$ 41'11	-13°09'45				
minimum elong	-12001 Nov 21 j 02:34	7° $\mathring{\text{M}}$ 41'11	13°09'29				
max. Earth dist.	-12001 Nov 24 j 08:40	7° $\mathring{\text{M}}$ 46'14	44.32807 AU	conjunction	-11994 Nov 29 j 05:41	15° $\mathring{\text{M}}$ 51'43	-14°26'58
morning rise	-12001 Nov 28 j 18:50	7° $\mathring{\text{M}}$ 53'05		minimum elong	-11994 Nov 29 j 05:29	15° $\mathring{\text{M}}$ 51'42	14°26'46
retrograde	-12000 Mar 04 j 10:15	9° $\mathring{\text{M}}$ 24'08		max. Earth dist.	-11994 Dec 02 j 03:58	15° $\mathring{\text{M}}$ 56'07	45.71072 AU
min. Earth dist.	-12000 May 23 j 17:14	8° $\mathring{\text{M}}$ 22'23	42.48982 AU	morning rise	-11994 Dec 03 j 13:22	15° $\mathring{\text{M}}$ 58'12	
opposition	-12000 May 26 j 17:03	8° $\mathring{\text{M}}$ 18'40	-13°53'12	retrograde	-11993 Mar 13 j 07:23	17° $\mathring{\text{M}}$ 31'24	
direct	-12000 Aug 14 j 18:26	7° $\mathring{\text{M}}$ 14'57		min. Earth dist.	-11993 Jun 01 j 20:34	16° $\mathring{\text{M}}$ 30'28	43.87068 AU
evening set	-12000 Nov 14 j 08:22	8° $\mathring{\text{M}}$ 41'45		opposition	-11993 Jun 04 j 13:22	16° $\mathring{\text{M}}$ 27'10	-15°11'06
				direct	-11993 Aug 23 j 19:27	15° $\mathring{\text{M}}$ 24'31	
				evening set	-11993 Nov 26 j 23:26	16° $\mathring{\text{M}}$ 54'06	
conjunction	-12000 Nov 21 j 14:12	8° $\mathring{\text{M}}$ 52'56	-13°22'01				
minimum elong	-12000 Nov 21 j 13:58	8° $\mathring{\text{M}}$ 52'55	13°21'44				
max. Earth dist.	-12000 Nov 24 j 18:10	8° $\mathring{\text{M}}$ 57'50	44.53803 AU	conjunction	-11993 Nov 30 j 15:41	16° $\mathring{\text{M}}$ 59'37	-14°36'20
morning rise	-12000 Nov 28 j 20:23	9° $\mathring{\text{M}}$ 04'08		minimum elong	-11993 Nov 30 j 15:29	16° $\mathring{\text{M}}$ 59'36	14°36'09
retrograde	-11999 Mar 05 j 21:52	10° $\mathring{\text{M}}$ 35'23		morning rise	-11993 Dec 04 j 07:44	17° $\mathring{\text{M}}$ 05'08	
min. Earth dist.	-11999 May 25 j 03:53	9° $\mathring{\text{M}}$ 33'50	42.69926 AU	max. Earth dist.	-11993 Dec 03 j 13:24	17° $\mathring{\text{M}}$ 03'59	45.89552 AU
opposition	-11999 May 28 j 03:31	9° $\mathring{\text{M}}$ 30'08	-14°05'37	retrograde	-11992 Mar 13 j 13:33	18° $\mathring{\text{M}}$ 38'53	
direct	-11999 Aug 16 j 05:23	8° $\mathring{\text{M}}$ 26'36		min. Earth dist.	-11992 Jun 02 j 05:27	17° $\mathring{\text{M}}$ 38'07	44.05560 AU
evening set	-11999 Nov 16 j 05:26	9° $\mathring{\text{M}}$ 53'40		opposition	-11992 Jun 04 j 22:02	17° $\mathring{\text{M}}$ 34'51	-15°20'30
				direct	-11992 Aug 24 j 07:30	16° $\mathring{\text{M}}$ 32'21	
				evening set	-11992 Nov 28 j 03:19	18° $\mathring{\text{M}}$ 02'45	
conjunction	-11999 Nov 23 j 01:12	10° $\mathring{\text{M}}$ 04'10	-13°33'52				
minimum elong	-11999 Nov 23 j 00:59	10° $\mathring{\text{M}}$ 04'09	13°33'37				
max. Earth dist.	-11999 Nov 26 j 04:16	10° $\mathring{\text{M}}$ 08'58	44.74343 AU	conjunction	-11992 Dec 01 j 01:20	18° $\mathring{\text{M}}$ 07'07	-14°45'17
morning rise	-11999 Nov 29 j 21:20	10° $\mathring{\text{M}}$ 14'39		minimum elong	-11992 Dec 01 j 01:09	18° $\mathring{\text{M}}$ 07'06	14°45'06
retrograde	-11998 Mar 07 j 07:38	11° $\mathring{\text{M}}$ 46'08		morning rise	-11992 Dec 03 j 23:07	18° $\mathring{\text{M}}$ 11'27	
min. Earth dist.	-11998 May 26 j 16:16	10° $\mathring{\text{M}}$ 44'39	42.90413 AU	max. Earth dist.	-11992 Dec 03 j 21:32	18° $\mathring{\text{M}}$ 11'21	46.07788 AU
opposition	-11998 May 29 j 13:56	10° $\mathring{\text{M}}$ 41'04	-14°17'37	retrograde	-11991 Mar 14 j 22:52	19° $\mathring{\text{M}}$ 45'59	
direct	-11998 Aug 17 j 17:04	9° $\mathring{\text{M}}$ 37'42		min. Earth dist.	-11991 Jun 03 j 15:01	18° $\mathring{\text{M}}$ 45'22	44.23814 AU
evening set	-11998 Nov 18 j 03:00	11° $\mathring{\text{M}}$ 05'03		opposition	-11991 Jun 06 j 06:47	18° $\mathring{\text{M}}$ 42'08	-15°29'27
				direct	-11991 Aug 25 j 16:15	17° $\mathring{\text{M}}$ 39'48	
				evening set	-11991 Nov 30 j 12:54	19° $\mathring{\text{M}}$ 11'23	
conjunction	-11998 Nov 24 j 12:16	11° $\mathring{\text{M}}$ 14'49	-13°45'19				
minimum elong	-11998 Nov 24 j 12:03	11° $\mathring{\text{M}}$ 14'49	13°45'03				
max. Earth dist.	-11998 Nov 27 j 14:29	11° $\mathring{\text{M}}$ 19'34	44.94442 AU	conjunction	-11991 Dec 02 j 10:47	19° $\mathring{\text{M}}$ 14'13	-14°53'50
morning rise	-11998 Nov 30 j 21:39	11° $\mathring{\text{M}}$ 24'36		minimum elong	-11991 Dec 02 j 10:35	19° $\mathring{\text{M}}$ 14'12	14°53'40
retrograde	-11997 Mar 08 j 15:11	12° $\mathring{\text{M}}$ 56'19		morning rise	-11991 Dec 04 j 08:20	19° $\mathring{\text{M}}$ 17'02	
min. Earth dist.	-11997 May 28 j 02:54	11° $\mathring{\text{M}}$ 54'59	43.10442 AU	max. Earth dist.	-11991 Dec 05 j 07:11	19° $\mathring{\text{M}}$ 18'27	46.25772 AU
opposition	-11997 May 30 j 23:48	11° $\mathring{\text{M}}$ 51'26	-14°29'11				

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 31

Attention, astronomical year style is used: The year -11990 in astronomical counting style is the year 11991 BCE in historical counting style.

retrograde	-11990 Mar 16 j 07:17	20° $\mathring{\mu}$ 52'44		direct	-11982 Sep 04 j 19:21	27° $\mathring{\mu}$ 29'31	
min. Earth dist.	-11990 Jun 05 j 00:53	19° $\mathring{\mu}$ 52'13	44.41777 AU				
opposition	-11990 Jun 07 j 15:16	19° $\mathring{\mu}$ 49'04	-15°38'00	conjunction	-11982 Dec 12 j 18:37	29° $\mathring{\mu}$ 01'08	-15°54'37
direct	-11990 Aug 27 j 01:33	18° $\mathring{\mu}$ 46'54		minimum elong	-11982 Dec 12 j 18:28	29° $\mathring{\mu}$ 01'07	15°54'35
				max. Earth dist.	-11982 Dec 15 j 03:17	29° $\mathring{\mu}$ 04'32	47.69711 AU
conjunction	-11990 Dec 03 j 20:11	20° $\mathring{\mu}$ 20'59	-15°01'59		-11981 Jan 25 j 18:44	0° $\mathring{\mu}$	
minimum elong	-11990 Dec 03 j 20:01	20° $\mathring{\mu}$ 20'59	15°01'51	retrograde	-11981 Mar 26 j 08:02	0° $\mathring{\mu}$ 36'23	
max. Earth dist.	-11990 Dec 06 j 14:37	20° $\mathring{\mu}$ 25'06	46.43458 AU		-11981 May 25 j 21:17	30° $\mathring{\mu}$	
retrograde	-11989 Mar 17 j 19:14	21° $\mathring{\mu}$ 59'08		min. Earth dist.	-11981 Jun 15 j 07:51	29° $\mathring{\mu}$ 36'34	45.84896 AU
min. Earth dist.	-11989 Jun 06 j 09:22	20° $\mathring{\mu}$ 58'47	44.59415 AU	opposition	-11981 Jun 17 j 11:49	29° $\mathring{\mu}$ 34'00	-16°38'26
opposition	-11989 Jun 08 j 23:27	20° $\mathring{\mu}$ 55'40	-15°46'10	direct	-11981 Sep 06 j 03:43	28° $\mathring{\mu}$ 32'51	
direct	-11989 Aug 28 j 07:18	19° $\mathring{\mu}$ 53'39			-11981 Dec 11 j 05:06	0° $\mathring{\mu}$	
conjunction	-11989 Dec 05 j 05:34	21° $\mathring{\mu}$ 27'27	-15°09'47	conjunction	-11981 Dec 14 j 02:52	0° $\mathring{\mu}$ 04'11	-15°59'38
minimum elong	-11989 Dec 05 j 05:23	21° $\mathring{\mu}$ 27'26	15°09'39	minimum elong	-11981 Dec 14 j 02:44	0° $\mathring{\mu}$ 04'10	15°59'36
max. Earth dist.	-11989 Dec 07 j 23:27	21° $\mathring{\mu}$ 31'29	46.60776 AU	max. Earth dist.	-11981 Dec 16 j 11:28	0° $\mathring{\mu}$ 07'34	47.83868 AU
retrograde	-11988 Mar 18 j 05:53	23° $\mathring{\mu}$ 05'13		retrograde	-11980 Mar 26 j 13:00	1° $\mathring{\mu}$ 39'07	
min. Earth dist.	-11988 Jun 06 j 19:50	22° $\mathring{\mu}$ 04'56	44.76654 AU	min. Earth dist.	-11980 Jun 15 j 15:31	0° $\mathring{\mu}$ 39'24	45.98997 AU
opposition	-11988 Jun 09 j 07:41	22° $\mathring{\mu}$ 01'56	-15°53'56	opposition	-11980 Jun 17 j 18:36	0° $\mathring{\mu}$ 36'52	-16°43'20
direct	-11988 Aug 28 j 14:39	21° $\mathring{\mu}$ 00'04			-11980 Jul 21 j 02:48	30° $\mathring{\mu}$	
				direct	-11980 Sep 06 j 12:58	29° $\mathring{\mu}$ 35'50	
conjunction	-11988 Dec 05 j 14:49	22° $\mathring{\mu}$ 33'33	-15°17'13		-11980 Oct 23 j 04:19	0° $\mathring{\mu}$	
minimum elong	-11988 Dec 05 j 14:39	22° $\mathring{\mu}$ 33'32	15°17'06				
max. Earth dist.	-11988 Dec 08 j 07:20	22° $\mathring{\mu}$ 37'30	46.77676 AU	conjunction	-11980 Dec 14 j 10:42	1° $\mathring{\mu}$ 06'54	-16°04'17
retrograde	-11987 Mar 19 j 11:59	24° $\mathring{\mu}$ 10'58		minimum elong	-11980 Dec 14 j 10:33	1° $\mathring{\mu}$ 06'54	16°04'17
min. Earth dist.	-11987 Jun 08 j 04:12	23° $\mathring{\mu}$ 10'49	44.93431 AU	max. Earth dist.	-11980 Dec 16 j 17:18	1° $\mathring{\mu}$ 10'10	47.97767 AU
opposition	-11987 Jun 10 j 15:34	23° $\mathring{\mu}$ 07'51	-16°01'21	retrograde	-11979 Mar 27 j 22:03	2° $\mathring{\mu}$ 41'34	
direct	-11987 Aug 30 j 01:12	22° $\mathring{\mu}$ 06'07		min. Earth dist.	-11979 Jun 16 j 22:29	1° $\mathring{\mu}$ 41'58	46.12842 AU
				opposition	-11979 Jun 19 j 01:14	1° $\mathring{\mu}$ 39'27	-16°47'52
conjunction	-11987 Dec 06 j 23:49	23° $\mathring{\mu}$ 39'17	-15°24'18	direct	-11979 Sep 07 j 18:14	0° $\mathring{\mu}$ 38'32	
minimum elong	-11987 Dec 06 j 23:38	23° $\mathring{\mu}$ 39'16	15°24'11				
max. Earth dist.	-11987 Dec 09 j 14:15	23° $\mathring{\mu}$ 43'06	46.94100 AU	conjunction	-11979 Dec 15 j 18:34	2° $\mathring{\mu}$ 09'23	-16°08'36
retrograde	-11986 Mar 20 j 18:24	25° $\mathring{\mu}$ 16'20		minimum elong	-11979 Dec 15 j 18:28	2° $\mathring{\mu}$ 09'23	16°08'35
min. Earth dist.	-11986 Jun 09 j 13:49	24° $\mathring{\mu}$ 16'14	45.09734 AU	max. Earth dist.	-11979 Dec 18 j 01:05	2° $\mathring{\mu}$ 12'38	48.11397 AU
opposition	-11986 Jun 11 j 23:29	24° $\mathring{\mu}$ 13'21	-16°08'25	retrograde	-11978 Mar 29 j 07:12	3° $\mathring{\mu}$ 43'46	
direct	-11986 Aug 31 j 11:11	23° $\mathring{\mu}$ 11'45		min. Earth dist.	-11978 Jun 18 j 06:58	2° $\mathring{\mu}$ 44'13	46.26395 AU
				opposition	-11978 Jun 20 j 07:48	2° $\mathring{\mu}$ 41'49	-16°52'04
conjunction	-11986 Dec 08 j 08:49	24° $\mathring{\mu}$ 44'35	-15°31'03	direct	-11978 Sep 08 j 23:22	1° $\mathring{\mu}$ 41'02	
minimum elong	-11986 Dec 08 j 08:40	24° $\mathring{\mu}$ 44'35	15°30'58				
max. Earth dist.	-11986 Dec 10 j 22:55	24° $\mathring{\mu}$ 48'23	47.10047 AU	conjunction	-11978 Dec 17 j 02:22	3° $\mathring{\mu}$ 11'40	-16°12'35
retrograde	-11985 Mar 22 j 00:54	26° $\mathring{\mu}$ 21'17		minimum elong	-11978 Dec 17 j 02:14	3° $\mathring{\mu}$ 11'39	16°12'36
min. Earth dist.	-11985 Jun 10 j 23:07	25° $\mathring{\mu}$ 21'14	45.25537 AU	max. Earth dist.	-11978 Dec 19 j 07:25	3° $\mathring{\mu}$ 14'48	48.24729 AU
opposition	-11985 Jun 13 j 07:10	25° $\mathring{\mu}$ 18'26	-16°15'08	retrograde	-11977 Mar 30 j 14:30	4° $\mathring{\mu}$ 45'46	
direct	-11985 Sep 01 j 20:59	24° $\mathring{\mu}$ 16'55		min. Earth dist.	-11977 Jun 19 j 13:33	3° $\mathring{\mu}$ 46'22	46.39604 AU
				opposition	-11977 Jun 21 j 14:09	3° $\mathring{\mu}$ 43'59	-16°55'55
conjunction	-11985 Dec 09 j 17:35	25° $\mathring{\mu}$ 49'26	-15°37'28	direct	-11977 Sep 10 j 05:58	2° $\mathring{\mu}$ 43'19	
minimum elong	-11985 Dec 09 j 17:25	25° $\mathring{\mu}$ 49'26	15°37'23				
max. Earth dist.	-11985 Dec 12 j 05:13	25° $\mathring{\mu}$ 53'03	47.25524 AU	conjunction	-11977 Dec 18 j 10:08	4° $\mathring{\mu}$ 13'46	-16°16'15
retrograde	-11984 Mar 22 j 10:34	27° $\mathring{\mu}$ 25'46		minimum elong	-11977 Dec 18 j 10:02	4° $\mathring{\mu}$ 13'45	16°16'16
min. Earth dist.	-11984 Jun 11 j 06:56	26° $\mathring{\mu}$ 25'47	45.40901 AU	max. Earth dist.	-11977 Dec 20 j 13:29	4° $\mathring{\mu}$ 16'48	48.37678 AU
opposition	-11984 Jun 13 j 14:30	26° $\mathring{\mu}$ 23'02	-16°21'30	retrograde	-11976 Mar 30 j 20:01	5° $\mathring{\mu}$ 47'38	
direct	-11984 Sep 02 j 03:08	25° $\mathring{\mu}$ 21'36		min. Earth dist.	-11976 Jun 19 j 21:53	4° $\mathring{\mu}$ 48'17	46.52411 AU
				opposition	-11976 Jun 21 j 20:28	4° $\mathring{\mu}$ 46'00	-16°59'28
conjunction	-11984 Dec 10 j 02:11	26° $\mathring{\mu}$ 53'48	-15°43'32	direct	-11976 Sep 10 j 14:23	3° $\mathring{\mu}$ 45'28	
minimum elong	-11984 Dec 10 j 02:02	26° $\mathring{\mu}$ 53'48	15°43'29				
max. Earth dist.	-11984 Dec 12 j 13:21	26° $\mathring{\mu}$ 57'23	47.40582 AU	conjunction	-11976 Dec 18 j 17:57	5° $\mathring{\mu}$ 15'42	-16°19'36
retrograde	-11983 Mar 23 j 18:48	28° $\mathring{\mu}$ 29'45		minimum elong	-11976 Dec 18 j 17:49	5° $\mathring{\mu}$ 15'42	16°19'38
min. Earth dist.	-11983 Jun 12 j 16:23	27° $\mathring{\mu}$ 29'47	45.55875 AU	max. Earth dist.	-11976 Dec 20 j 20:44	5° $\mathring{\mu}$ 18'42	48.50200 AU
opposition	-11983 Jun 14 j 21:51	27° $\mathring{\mu}$ 27'08	-16°27'31	retrograde	-11975 Apr 01 j 00:18	6° $\mathring{\mu}$ 49'19	
direct	-11983 Sep 03 j 10:34	26° $\mathring{\mu}$ 25'48		min. Earth dist.	-11975 Jun 21 j 05:28	5° $\mathring{\mu}$ 50'03	46.64743 AU
				opposition	-11975 Jun 23 j 02:43	5° $\mathring{\mu}$ 47'50	-17°02'42
conjunction	-11983 Dec 11 j 10:26	27° $\mathring{\mu}$ 57'41	-15°49'16	direct	-11975 Sep 11 j 23:44	4° $\mathring{\mu}$ 47'25	
minimum elong	-11983 Dec 11 j 10:17	27° $\mathring{\mu}$ 57'41	15°49'12				
max. Earth dist.	-11983 Dec 13 j 20:30	28° $\mathring{\mu}$ 01'11	47.55299 AU	conjunction	-11975 Dec 20 j 01:21	6° $\mathring{\mu}$ 17'27	-16°22'41
retrograde	-11982 Mar 25 j 01:34	29° $\mathring{\mu}$ 33'17		minimum elong	-11975 Dec 20 j 01:16	6° $\mathring{\mu}$ 17'27	16°22'43
min. Earth dist.	-11982 Jun 13 j 23:30	28° $\mathring{\mu}$ 33'25	45.70523 AU	max. Earth dist.	-11975 Dec 22 j 01:32	6° $\mathring{\mu}$ 20'18	48.62234 AU
opposition	-11982 Jun 16 j 04:53	28° $\mathring{\mu}$ 30'46	-16°33'09	retrograde	-11974 Apr 02 j 08:41	7° $\mathring{\mu}$ 50'50	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 32

Attention, astronomical year style is used: The year -11974 in astronomical counting style is the year 11975 BCE in historical counting style.

min. Earth dist.	-11974 Jun 22 j 12:35	6° <u>♁</u> 51'38	46.76574 AU	conjunction	-11966 Dec 29 j 16:56	15° <u>♁</u> 20'49	-16°37'16
opposition	-11974 Jun 24 j 08:54	6° <u>♁</u> 49'29	-17°05'39	minimum elong	-11966 Dec 29 j 16:54	15° <u>♁</u> 20'48	16°37'25
direct	-11974 Sep 13 j 04:50	5° <u>♁</u> 49'09		max. Earth dist.	-11966 Dec 31 j 06:41	15° <u>♁</u> 22'59	49.51599 AU
				retrograde	-11965 Apr 11 j 14:17	16° <u>♁</u> 52'03	
conjunction	-11974 Dec 21 j 08:59	7° <u>♁</u> 18'59	-16°25'28	min. Earth dist.	-11965 Jul 02 j 01:30	15° <u>♁</u> 53'11	47.64480 AU
minimum elong	-11974 Dec 21 j 08:53	7° <u>♁</u> 18'58	16°25'31	opposition	-11965 Jul 03 j 10:43	15° <u>♁</u> 51'35	-17°18'40
max. Earth dist.	-11974 Dec 23 j 08:20	7° <u>♁</u> 21'45	48.73750 AU	direct	-11965 Sep 22 j 14:18	14° <u>♁</u> 51'52	
retrograde	-11973 Apr 03 j 16:25	8° <u>♁</u> 52'06					
min. Earth dist.	-11973 Jun 23 j 21:00	7° <u>♁</u> 52'54	46.87879 AU	conjunction	-11965 Dec 30 j 23:37	16° <u>♁</u> 20'06	-16°37'26
opposition	-11973 Jun 25 j 14:55	7° <u>♁</u> 50'51	-17°08'18	minimum elong	-11965 Dec 30 j 23:33	16° <u>♁</u> 20'06	16°37'36
direct	-11973 Sep 14 j 10:30	6° <u>♁</u> 50'36		max. Earth dist.	-11964 Jan 01 j 10:47	16° <u>♁</u> 22'08	49.59810 AU
				retrograde	-11964 Apr 11 j 20:33	17° <u>♁</u> 51'09	
conjunction	-11973 Dec 22 j 16:29	8° <u>♁</u> 20'13	-16°27'59	min. Earth dist.	-11964 Jul 02 j 07:44	16° <u>♁</u> 52'21	47.72479 AU
minimum elong	-11973 Dec 22 j 16:24	8° <u>♁</u> 20'13	16°28'04	opposition	-11964 Jul 03 j 15:51	16° <u>♁</u> 50'48	-17°18'37
max. Earth dist.	-11973 Dec 24 j 13:58	8° <u>♁</u> 22'53	48.84773 AU	direct	-11964 Sep 22 j 19:47	15° <u>♁</u> 51'10	
retrograde	-11972 Apr 04 j 00:04	9° <u>♁</u> 53'04					
min. Earth dist.	-11972 Jun 24 j 03:20	8° <u>♁</u> 53'56	46.98697 AU	conjunction	-11964 Dec 31 j 06:16	17° <u>♁</u> 19'16	-16°37'19
opposition	-11972 Jun 25 j 20:44	8° <u>♁</u> 51'55	-17°10'40	minimum elong	-11964 Dec 31 j 06:15	17° <u>♁</u> 19'16	16°37'30
direct	-11972 Sep 14 j 16:26	7° <u>♁</u> 51'44		max. Earth dist.	-11963 Jan 01 j 16:50	17° <u>♁</u> 21'15	49.67565 AU
				retrograde	-11963 Apr 13 j 02:26	18° <u>♁</u> 50'09	
conjunction	-11972 Dec 22 j 23:36	9° <u>♁</u> 21'09	-16°30'13	opposition	-11963 Jul 04 j 20:58	17° <u>♁</u> 49'54	-17°18'19
minimum elong	-11972 Dec 22 j 23:31	9° <u>♁</u> 21'09	16°30'18	min. Earth dist.	-11963 Jul 03 j 15:07	17° <u>♁</u> 51'20	47.79981 AU
max. Earth dist.	-11972 Dec 24 j 19:24	9° <u>♁</u> 23'43	48.95325 AU	direct	-11963 Sep 24 j 01:27	16° <u>♁</u> 50'20	
retrograde	-11971 Apr 05 j 05:54	10° <u>♁</u> 53'43					
min. Earth dist.	-11971 Jun 25 j 11:01	9° <u>♁</u> 54'35	47.09088 AU	conjunction	-11962 Jan 01 j 12:55	18° <u>♁</u> 18'18	-16°36'58
opposition	-11971 Jun 27 j 02:33	9° <u>♁</u> 52'40	-17°12'45	minimum elong	-11962 Jan 01 j 12:52	18° <u>♁</u> 18'18	16°37'09
direct	-11971 Sep 15 j 23:25	8° <u>♁</u> 52'32		max. Earth dist.	-11962 Jan 02 j 21:18	18° <u>♁</u> 20'09	49.74822 AU
				retrograde	-11962 Apr 14 j 10:02	19° <u>♁</u> 49'00	
conjunction	-11971 Dec 24 j 06:48	10° <u>♁</u> 21'45	-16°32'09	min. Earth dist.	-11962 Jul 04 j 20:40	18° <u>♁</u> 50'14	47.86960 AU
minimum elong	-11971 Dec 24 j 06:43	10° <u>♁</u> 21'45	16°32'15	opposition	-11962 Jul 06 j 01:52	18° <u>♁</u> 48'50	-17°17'46
max. Earth dist.	-11971 Dec 26 j 02:11	10° <u>♁</u> 24'17	49.05492 AU	direct	-11962 Sep 25 j 05:21	17° <u>♁</u> 49'19	
retrograde	-11970 Apr 06 j 08:45	11° <u>♁</u> 54'04					
min. Earth dist.	-11970 Jun 26 j 17:29	10° <u>♁</u> 54'59	47.19102 AU	conjunction	-11961 Jan 02 j 19:31	19° <u>♁</u> 17'10	-16°36'22
opposition	-11970 Jun 28 j 08:04	10° <u>♁</u> 53'06	-17°14'30	minimum elong	-11961 Jan 02 j 19:30	19° <u>♁</u> 17'10	16°36'35
direct	-11970 Sep 17 j 08:31	9° <u>♁</u> 53'01		max. Earth dist.	-11961 Jan 04 j 01:56	19° <u>♁</u> 18'54	49.81535 AU
				retrograde	-11961 Apr 15 j 16:39	20° <u>♁</u> 47'41	
conjunction	-11970 Dec 25 j 13:44	11° <u>♁</u> 22'02	-16°33'46	min. Earth dist.	-11961 Jul 06 j 04:05	19° <u>♁</u> 48'52	47.93396 AU
minimum elong	-11970 Dec 25 j 13:40	11° <u>♁</u> 22'02	16°33'53	opposition	-11961 Jul 07 j 06:55	19° <u>♁</u> 47'35	-17°16'58
max. Earth dist.	-11970 Dec 27 j 06:55	11° <u>♁</u> 24'26	49.15317 AU	direct	-11961 Sep 26 j 10:29	18° <u>♁</u> 48'06	
retrograde	-11969 Apr 07 j 14:46	12° <u>♁</u> 54'07					
min. Earth dist.	-11969 Jun 27 j 23:43	11° <u>♁</u> 55'05	47.28799 AU	conjunction	-11960 Jan 04 j 02:10	20° <u>♁</u> 15'49	-16°35'32
opposition	-11969 Jun 29 j 13:36	11° <u>♁</u> 53'14	-17°15'57	minimum elong	-11960 Jan 04 j 02:07	20° <u>♁</u> 15'49	16°35'45
direct	-11969 Sep 18 j 14:47	10° <u>♁</u> 53'13		max. Earth dist.	-11960 Jan 05 j 07:34	20° <u>♁</u> 17'30	49.87724 AU
				retrograde	-11960 Apr 15 j 19:17	21° <u>♁</u> 46'09	
conjunction	-11969 Dec 26 j 20:45	12° <u>♁</u> 22'02	-16°35'06	min. Earth dist.	-11960 Jul 06 j 09:54	20° <u>♁</u> 47'21	47.99308 AU
minimum elong	-11969 Dec 26 j 20:40	12° <u>♁</u> 22'02	16°35'13	opposition	-11960 Jul 07 j 11:38	20° <u>♁</u> 46'07	-17°15'54
max. Earth dist.	-11969 Dec 28 j 13:46	12° <u>♁</u> 24'25	49.24830 AU	direct	-11960 Sep 26 j 18:45	19° <u>♁</u> 46'39	
retrograde	-11968 Apr 07 j 22:15	13° <u>♁</u> 53'54					
min. Earth dist.	-11968 Jun 28 j 06:58	12° <u>♁</u> 54'51	47.38186 AU	conjunction	-11959 Jan 04 j 08:29	21° <u>♁</u> 14'14	-16°34'26
opposition	-11968 Jun 29 j 19:02	12° <u>♁</u> 53'07	-17°17'06	minimum elong	-11959 Jan 04 j 08:28	21° <u>♁</u> 14'14	16°34'41
direct	-11968 Sep 18 j 19:26	11° <u>♁</u> 53'10		max. Earth dist.	-11959 Jan 05 j 11:24	21° <u>♁</u> 15'47	49.93427 AU
				retrograde	-11959 Apr 16 j 23:55	22° <u>♁</u> 44'23	
conjunction	-11968 Dec 27 j 03:34	13° <u>♁</u> 21'49	-16°36'07	opposition	-11959 Jul 08 j 16:23	21° <u>♁</u> 44'25	-17°14'35
minimum elong	-11968 Dec 27 j 03:30	13° <u>♁</u> 21'49	16°36'14	min. Earth dist.	-11959 Jul 07 j 15:50	21° <u>♁</u> 45'35	48.04778 AU
max. Earth dist.	-11968 Dec 28 j 19:00	13° <u>♁</u> 24'06	49.34065 AU	direct	-11959 Sep 28 j 00:42	20° <u>♁</u> 44'58	
retrograde	-11967 Apr 09 j 06:25	14° <u>♁</u> 53'27					
min. Earth dist.	-11967 Jun 29 j 12:11	13° <u>♁</u> 54'31	47.47284 AU	conjunction	-11958 Jan 05 j 14:42	22° <u>♁</u> 12'26	-16°33'05
opposition	-11967 Jul 01 j 00:19	13° <u>♁</u> 52'46	-17°17'55	minimum elong	-11958 Jan 05 j 14:41	22° <u>♁</u> 12'26	16°33'19
direct	-11967 Sep 19 j 22:48	12° <u>♁</u> 52'53		max. Earth dist.	-11958 Jan 06 j 17:16	22° <u>♁</u> 13'57	49.98710 AU
				retrograde	-11958 Apr 18 j 05:31	23° <u>♁</u> 42'25	
conjunction	-11967 Dec 28 j 10:06	14° <u>♁</u> 21'23	-16°36'50	opposition	-11958 Jul 09 j 21:05	22° <u>♁</u> 42'29	-17°13'00
minimum elong	-11967 Dec 28 j 10:02	14° <u>♁</u> 21'23	16°36'59	min. Earth dist.	-11958 Jul 08 j 22:22	22° <u>♁</u> 43'35	48.09846 AU
max. Earth dist.	-11967 Dec 30 j 00:14	14° <u>♁</u> 23'35	49.42994 AU	direct	-11958 Sep 29 j 05:53	21° <u>♁</u> 43'04	
retrograde	-11966 Apr 10 j 11:42	15° <u>♁</u> 52'49					
min. Earth dist.	-11966 Jun 30 j 19:30	14° <u>♁</u> 53'54	47.56067 AU	conjunction	-11957 Jan 06 j 20:56	23° <u>♁</u> 10'25	-16°31'28
opposition	-11966 Jul 02 j 05:42	14° <u>♁</u> 52'15	-17°18'26	minimum elong	-11957 Jan 06 j 20:56	23° <u>♁</u> 10'25	16°31'43
direct	-11966 Sep 21 j 05:28	13° <u>♁</u> 52'27		max. Earth dist.	-11957 Jan 07 j 21:44	23° <u>♁</u> 11'50	50.03640 AU



Attention, astronomical year style is used: The year -11957 in astronomical counting style is the year 11958 BCE in historical counting style.

retrograde	-11957 Apr 19 j 13:26	24° <u>0</u> 40'15		minimum elong	-11949 Jan 14 j 21:10	0° <u>0</u> 51'15	16°09'14
min. Earth dist.	-11957 Jul 10 j 02:57	23° <u>0</u> 41'27	48.14579 AU	max. Earth dist.	-11949 Jan 15 j 10:23	0° <u>0</u> 52'00	50.31051 AU
opposition	-11957 Jul 11 j 01:29	23° <u>0</u> 40'23	-17°11'08	retrograde	-11949 Apr 27 j 04:10	2° <u>0</u> 20'11	
direct	-11957 Sep 30 j 08:12	22° <u>0</u> 40'59		opposition	-11949 Jul 18 j 12:27	1° <u>0</u> 20'52	-16°46'25
				min. Earth dist.	-11949 Jul 18 j 00:31	1° <u>0</u> 21'26	48.40013 AU
conjunction	-11956 Jan 08 j 03:06	24° <u>0</u> 08'15	-16°29'34	direct	-11949 Oct 08 j 02:46	0° <u>0</u> 21'45	
minimum elong	-11956 Jan 08 j 03:06	24° <u>0</u> 08'15	16°29'49				
max. Earth dist.	-11956 Jan 09 j 02:33	24° <u>0</u> 09'34	50.08246 AU	conjunction	-11948 Jan 16 j 03:16	1° <u>0</u> 48'35	-16°05'01
retrograde	-11956 Apr 19 j 18:36	25° <u>0</u> 37'55		minimum elong	-11948 Jan 16 j 03:19	1° <u>0</u> 48'35	16°05'21
min. Earth dist.	-11956 Jul 10 j 09:28	24° <u>0</u> 39'06	48.19013 AU	max. Earth dist.	-11948 Jan 16 j 15:45	1° <u>0</u> 49'17	50.32458 AU
opposition	-11956 Jul 11 j 06:07	24° <u>0</u> 38'07	-17°08'59	retrograde	-11948 Apr 27 j 07:34	3° <u>0</u> 17'25	
direct	-11956 Sep 30 j 13:12	23° <u>0</u> 38'45		opposition	-11948 Jul 18 j 16:45	2° <u>0</u> 18'07	-16°42'14
				min. Earth dist.	-11948 Jul 18 j 06:52	2° <u>0</u> 18'35	48.41100 AU
conjunction	-11955 Jan 08 j 09:06	25° <u>0</u> 05'56	-16°27'24	direct	-11948 Oct 08 j 09:33	1° <u>0</u> 18'59	
minimum elong	-11955 Jan 08 j 09:06	25° <u>0</u> 05'56	16°27'40				
max. Earth dist.	-11955 Jan 09 j 08:16	25° <u>0</u> 07'15	50.12574 AU	conjunction	-11947 Jan 16 j 09:01	2° <u>0</u> 45'45	-16°00'52
retrograde	-11955 Apr 20 j 20:28	26° <u>0</u> 35'29		minimum elong	-11947 Jan 16 j 09:02	2° <u>0</u> 45'45	16°01'13
opposition	-11955 Jul 12 j 10:32	25° <u>0</u> 35'45	-17°06'32	max. Earth dist.	-11947 Jan 16 j 19:25	2° <u>0</u> 46'20	50.33388 AU
min. Earth dist.	-11955 Jul 11 j 14:24	25° <u>0</u> 36'42	48.23152 AU	retrograde	-11947 Apr 28 j 14:46	4° <u>0</u> 14'28	
direct	-11955 Oct 01 j 21:26	24° <u>0</u> 36'26		opposition	-11947 Jul 19 j 20:50	3° <u>0</u> 15'11	-16°37'48
				min. Earth dist.	-11947 Jul 19 j 11:21	3° <u>0</u> 15'38	48.41734 AU
conjunction	-11954 Jan 09 j 15:01	26° <u>0</u> 03'33	-16°24'57	direct	-11947 Oct 09 j 12:07	2° <u>0</u> 16'02	
minimum elong	-11954 Jan 09 j 15:02	26° <u>0</u> 03'33	16°25'13				
max. Earth dist.	-11954 Jan 10 j 11:56	26° <u>0</u> 04'44	50.16616 AU	conjunction	-11946 Jan 17 j 14:50	3° <u>0</u> 42'45	-15°56'30
retrograde	-11954 Apr 22 j 01:09	27° <u>0</u> 32'59		minimum elong	-11946 Jan 17 j 14:53	3° <u>0</u> 42'45	15°56'52
opposition	-11954 Jul 13 j 14:53	26° <u>0</u> 33'20	-17°03'49	max. Earth dist.	-11946 Jan 17 j 23:45	3° <u>0</u> 43'15	50.33884 AU
min. Earth dist.	-11954 Jul 12 j 19:39	26° <u>0</u> 34'15	48.27005 AU	retrograde	-11946 Apr 29 j 20:43	5° <u>0</u> 11'21	
direct	-11954 Oct 03 j 03:03	25° <u>0</u> 34'04		opposition	-11946 Jul 21 j 00:55	4° <u>0</u> 12'05	-16°33'07
				min. Earth dist.	-11946 Jul 20 j 17:40	4° <u>0</u> 12'25	48.41973 AU
conjunction	-11953 Jan 10 j 21:08	27° <u>0</u> 01'07	-16°22'14	direct	-11946 Oct 10 j 15:17	3° <u>0</u> 12'54	
minimum elong	-11953 Jan 10 j 21:09	27° <u>0</u> 01'07	16°22'32				
max. Earth dist.	-11953 Jan 11 j 17:45	27° <u>0</u> 02'18	50.20348 AU	conjunction	-11945 Jan 18 j 20:45	4° <u>0</u> 39'34	-15°51'52
retrograde	-11953 Apr 23 j 06:09	28° <u>0</u> 30'28		minimum elong	-11945 Jan 18 j 20:48	4° <u>0</u> 39'35	15°52'14
opposition	-11953 Jul 14 j 19:19	27° <u>0</u> 30'54	-17°00'50	max. Earth dist.	-11945 Jan 19 j 05:06	4° <u>0</u> 40'03	50.34024 AU
min. Earth dist.	-11953 Jul 14 j 02:01	27° <u>0</u> 31'43	48.30509 AU	retrograde	-11945 Apr 30 j 23:16	6° <u>0</u> 08'04	
direct	-11953 Oct 04 j 08:26	26° <u>0</u> 31'41		opposition	-11945 Jul 22 j 04:58	5° <u>0</u> 08'49	-16°28'11
				min. Earth dist.	-11945 Jul 21 j 22:13	5° <u>0</u> 09'08	48.41861 AU
conjunction	-11952 Jan 12 j 03:09	27° <u>0</u> 58'41	-16°19'15	direct	-11945 Oct 11 j 22:39	4° <u>0</u> 09'37	
minimum elong	-11952 Jan 12 j 03:11	27° <u>0</u> 58'42	16°19'34				
max. Earth dist.	-11952 Jan 12 j 21:55	27° <u>0</u> 59'45	50.23720 AU	conjunction	-11944 Jan 20 j 02:26	5° <u>0</u> 36'16	-15°46'59
retrograde	-11952 Apr 23 j 13:46	29° <u>0</u> 27'56		minimum elong	-11944 Jan 20 j 02:29	5° <u>0</u> 36'17	15°47'22
opposition	-11952 Jul 14 j 23:30	28° <u>0</u> 28'27	-16°57'35	max. Earth dist.	-11944 Jan 20 j 08:27	5° <u>0</u> 36'37	50.33837 AU
min. Earth dist.	-11952 Jul 14 j 06:39	28° <u>0</u> 29'15	48.33619 AU	retrograde	-11944 May 01 j 02:52	7° <u>0</u> 04'41	
direct	-11952 Oct 04 j 10:45	27° <u>0</u> 29'17		opposition	-11944 Jul 22 j 08:59	6° <u>0</u> 05'27	-16°22'58
				min. Earth dist.	-11944 Jul 22 j 03:15	6° <u>0</u> 05'44	48.41452 AU
conjunction	-11951 Jan 12 j 09:10	28° <u>0</u> 56'16	-16°16'02	direct	-11944 Oct 12 j 04:30	5° <u>0</u> 06'15	
minimum elong	-11951 Jan 12 j 09:10	28° <u>0</u> 56'16	16°16'21				
max. Earth dist.	-11951 Jan 13 j 02:08	28° <u>0</u> 57'13	50.26657 AU	conjunction	-11943 Jan 20 j 08:13	6° <u>0</u> 32'53	-15°41'50
	-11951 Mar 05 j 13:25	0° <u>0</u>		minimum elong	-11943 Jan 20 j 08:17	6° <u>0</u> 32'54	15°42'13
retrograde	-11951 Apr 24 j 21:24	0° <u>0</u> 25'24		max. Earth dist.	-11943 Jan 20 j 14:07	6° <u>0</u> 33'13	50.33364 AU
	-11951 Jun 14 j 08:51	30° <u>0</u> 8'15		retrograde	-11943 May 02 j 06:34	8° <u>0</u> 01'15	
opposition	-11951 Jul 16 j 03:56	29° <u>0</u> 25'59	-16°54'06	opposition	-11943 Jul 23 j 13:05	7° <u>0</u> 02'03	-16°17'29
min. Earth dist.	-11951 Jul 15 j 13:23	29° <u>0</u> 26'41	48.36273 AU	min. Earth dist.	-11943 Jul 23 j 08:54	7° <u>0</u> 02'15	48.40753 AU
direct	-11951 Oct 05 j 13:43	28° <u>0</u> 26'51		direct	-11943 Oct 13 j 10:12	6° <u>0</u> 02'52	
conjunction	-11950 Jan 13 j 15:09	29° <u>0</u> 53'48	-16°12'35	conjunction	-11942 Jan 21 j 13:48	7° <u>0</u> 29'29	-15°36'25
minimum elong	-11950 Jan 13 j 15:11	29° <u>0</u> 53'48	16°12'54	minimum elong	-11942 Jan 21 j 13:51	7° <u>0</u> 29'29	15°36'49
max. Earth dist.	-11950 Jan 14 j 07:13	29° <u>0</u> 54'42	50.29119 AU	max. Earth dist.	-11942 Jan 21 j 18:04	7° <u>0</u> 29'44	50.32620 AU
	-11950 Jan 18 j 05:07	0° <u>0</u>		retrograde	-11942 May 03 j 13:13	8° <u>0</u> 57'49	
retrograde	-11950 Apr 26 j 00:32	1° <u>0</u> 22'50		opposition	-11942 Jul 24 j 17:04	7° <u>0</u> 58'40	-16°11'44
opposition	-11950 Jul 17 j 08:14	0° <u>0</u> 23'29	-16°50'22	min. Earth dist.	-11942 Jul 24 j 13:03	7° <u>0</u> 58'51	48.39764 AU
min. Earth dist.	-11950 Jul 16 j 18:44	0° <u>0</u> 24'07	48.38405 AU	direct	-11942 Oct 14 j 12:55	6° <u>0</u> 59'29	
	-11950 Aug 07 j 12:04	30° <u>0</u> 8'15					
direct	-11950 Oct 06 j 20:45	29° <u>0</u> 24'22		conjunction	-11941 Jan 22 j 19:35	8° <u>0</u> 26'08	-15°30'46
	-11950 Dec 05 j 10:54	0° <u>0</u>		minimum elong	-11941 Jan 22 j 19:40	8° <u>0</u> 26'09	15°31'10
				max. Earth dist.	-11941 Jan 22 j 22:22	8° <u>0</u> 26'18	50.31558 AU
conjunction	-11949 Jan 14 j 21:09	0° <u>0</u> 51'15	-16°08'55	retrograde	-11941 May 04 j 20:18	9° <u>0</u> 54'26	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 34

Attention, astronomical year style is used: The year -11941 in astronomical counting style is the year 11942 BCE in historical counting style.

opposition	-11941 Jul 25 j 21:06	8° <b>ℳ</b> 55'20	-16°05'43			-11934 Sep 01 j 23:22	15° <b>ℳ</b>	
min. Earth dist.	-11941 Jul 25 j 19:11	8° <b>ℳ</b> 55'26	48.38441 AU	direct		-11934 Oct 22 j 03:02	14° <b>ℳ</b> 34'48	
direct	-11941 Oct 15 j 15:34	7° <b>ℳ</b> 56'11				-11934 Dec 10 j 20:50	15° <b>ℳ</b>	
				evening set		-11933 Jan 27 j 03:30	15° <b>ℳ</b> 56'57	
conjunction	-11940 Jan 24 j 01:29	9° <b>ℳ</b> 22'53	-15°24'51					
minimum elong	-11940 Jan 24 j 01:33	9° <b>ℳ</b> 22'53	15°25'16	conjunction	-11933 Jan 30 j 18:30	16° <b>ℳ</b> 01'50	-14°37'09	
max. Earth dist.	-11940 Jan 24 j 03:37	9° <b>ℳ</b> 23'00	50.30148 AU	minimum elong	-11933 Jan 30 j 18:36	16° <b>ℳ</b> 01'50	14°37'38	
retrograde	-11940 May 05 j 00:06	10° <b>ℳ</b> 51'09		max. Earth dist.	-11933 Jan 30 j 09:09	16° <b>ℳ</b> 01'19	50.06661 AU	
opposition	-11940 Jul 26 j 01:07	9° <b>ℳ</b> 52'07	-15°59'28	morning rise	-11933 Feb 03 j 09:44	16° <b>ℳ</b> 06'44		
min. Earth dist.	-11940 Jul 26 j 00:02	9° <b>ℳ</b> 52'10	48.36723 AU	retrograde	-11933 May 12 j 07:30	17° <b>ℳ</b> 30'01		
direct	-11940 Oct 15 j 21:30	8° <b>ℳ</b> 52'59		opposition	-11933 Aug 02 j 05:37	16° <b>ℳ</b> 31'03	-15°09'14	
				min. Earth dist.	-11933 Aug 02 j 15:14	16° <b>ℳ</b> 30'35	48.10822 AU	
conjunction	-11939 Jan 24 j 07:06	10° <b>ℳ</b> 19'44	-15°18'42	direct	-11933 Oct 23 j 09:52	15° <b>ℳ</b> 31'41		
minimum elong	-11939 Jan 24 j 07:12	10° <b>ℳ</b> 19'45	15°19'08	evening set	-11932 Jan 27 j 19:38	16° <b>ℳ</b> 53'06		
max. Earth dist.	-11939 Jan 24 j 06:44	10° <b>ℳ</b> 19'43	50.28310 AU					
retrograde	-11939 May 06 j 04:48	11° <b>ℳ</b> 48'01		conjunction	-11932 Feb 01 j 00:18	16° <b>ℳ</b> 58'45	-14°29'24	
opposition	-11939 Jul 27 j 05:13	10° <b>ℳ</b> 49'02	-15°52'59	minimum elong	-11932 Feb 01 j 00:24	16° <b>ℳ</b> 58'46	14°29'52	
min. Earth dist.	-11939 Jul 27 j 05:38	10° <b>ℳ</b> 49'00	48.34556 AU	max. Earth dist.	-11932 Jan 31 j 13:11	16° <b>ℳ</b> 58'08	50.01549 AU	
direct	-11939 Oct 17 j 02:22	9° <b>ℳ</b> 49'54		morning rise	-11932 Feb 05 j 05:13	17° <b>ℳ</b> 04'26		
				retrograde	-11932 May 12 j 13:37	18° <b>ℳ</b> 26'57		
conjunction	-11938 Jan 25 j 13:05	11° <b>ℳ</b> 16'42	-15°12'20	opposition	-11932 Aug 02 j 09:40	17° <b>ℳ</b> 27'57	-15°01'05	
minimum elong	-11938 Jan 25 j 13:09	11° <b>ℳ</b> 16'42	15°12'46	min. Earth dist.	-11932 Aug 02 j 19:23	17° <b>ℳ</b> 27'30	48.05432 AU	
max. Earth dist.	-11938 Jan 25 j 11:51	11° <b>ℳ</b> 16'38	50.25982 AU	direct	-11932 Oct 23 j 13:21	16° <b>ℳ</b> 28'33		
retrograde	-11938 May 07 j 07:59	12° <b>ℳ</b> 44'59		evening set	-11931 Jan 27 j 12:55	17° <b>ℳ</b> 49'20		
opposition	-11938 Jul 28 j 09:17	11° <b>ℳ</b> 46'02	-15°46'16					
min. Earth dist.	-11938 Jul 28 j 11:48	11° <b>ℳ</b> 45'55	48.31861 AU	conjunction	-11931 Feb 01 j 05:57	17° <b>ℳ</b> 55'41	-14°21'24	
direct	-11938 Oct 18 j 08:58	10° <b>ℳ</b> 46'53		minimum elong	-11931 Feb 01 j 06:03	17° <b>ℳ</b> 55'41	14°21'53	
				max. Earth dist.	-11931 Jan 31 j 17:29	17° <b>ℳ</b> 54'59	49.96119 AU	
conjunction	-11937 Jan 26 j 19:02	12° <b>ℳ</b> 13'45	-15°05'45	morning rise	-11931 Feb 05 j 23:15	18° <b>ℳ</b> 02'03		
minimum elong	-11937 Jan 26 j 19:09	12° <b>ℳ</b> 13'45	15°06'11	retrograde	-11931 May 13 j 20:53	19° <b>ℳ</b> 23'54		
max. Earth dist.	-11937 Jan 26 j 15:28	12° <b>ℳ</b> 13'33	50.23128 AU	opposition	-11931 Aug 03 j 13:52	18° <b>ℳ</b> 24'53	-14°52'40	
retrograde	-11937 May 08 j 15:32	13° <b>ℳ</b> 42'01		min. Earth dist.	-11931 Aug 04 j 01:30	18° <b>ℳ</b> 24'20	47.99743 AU	
opposition	-11937 Jul 29 j 13:22	12° <b>ℳ</b> 43'05	-15°39'19	direct	-11931 Oct 24 j 15:42	17° <b>ℳ</b> 25'26		
min. Earth dist.	-11937 Jul 29 j 16:37	12° <b>ℳ</b> 42'55	48.28621 AU	evening set	-11930 Jan 28 j 07:30	18° <b>ℳ</b> 45'39		
direct	-11937 Oct 19 j 11:21	11° <b>ℳ</b> 43'55						
evening set	-11936 Jan 27 j 10:34	13° <b>ℳ</b> 10'00		conjunction	-11930 Feb 02 j 11:51	18° <b>ℳ</b> 52'39	-14°13'08	
				minimum elong	-11930 Feb 02 j 11:58	18° <b>ℳ</b> 52'39	14°13'37	
conjunction	-11936 Jan 28 j 00:57	13° <b>ℳ</b> 10'49	-14°58'56	max. Earth dist.	-11930 Feb 01 j 23:01	18° <b>ℳ</b> 51'56	49.90410 AU	
minimum elong	-11936 Jan 28 j 01:02	13° <b>ℳ</b> 10'49	14°59'23	morning rise	-11930 Feb 07 j 16:26	18° <b>ℳ</b> 59'39		
evening rise	-11936 Jan 28 j 15:32	13° <b>ℳ</b> 11'38		retrograde	-11930 May 15 j 01:55	20° <b>ℳ</b> 20'53		
max. Earth dist.	-11936 Jan 27 j 19:26	13° <b>ℳ</b> 10'30	50.19716 AU	opposition	-11930 Aug 04 j 17:50	19° <b>ℳ</b> 21'52	-14°43'59	
retrograde	-11936 May 08 j 22:50	14° <b>ℳ</b> 39'04		min. Earth dist.	-11930 Aug 05 j 05:56	19° <b>ℳ</b> 21'17	47.93751 AU	
opposition	-11936 Jul 29 j 17:32	13° <b>ℳ</b> 40'08	-15°32'10	direct	-11930 Oct 25 j 20:27	18° <b>ℳ</b> 22'22		
min. Earth dist.	-11936 Jul 29 j 23:16	13° <b>ℳ</b> 39'51	48.24846 AU	evening set	-11929 Jan 29 j 02:49	19° <b>ℳ</b> 42'06		
direct	-11936 Oct 19 j 13:08	12° <b>ℳ</b> 40'56						
evening set	-11935 Jan 26 j 03:58	14° <b>ℳ</b> 05'01		conjunction	-11929 Feb 03 j 17:44	19° <b>ℳ</b> 49'42	-14°04'37	
				minimum elong	-11929 Feb 03 j 17:51	19° <b>ℳ</b> 49'42	14°05'08	
conjunction	-11935 Jan 28 j 06:52	14° <b>ℳ</b> 07'52	-14°51'55	max. Earth dist.	-11929 Feb 03 j 02:33	19° <b>ℳ</b> 48'51	49.84392 AU	
minimum elong	-11935 Jan 28 j 06:59	14° <b>ℳ</b> 07'52	14°52'23	morning rise	-11929 Feb 09 j 08:57	19° <b>ℳ</b> 57'18		
max. Earth dist.	-11935 Jan 28 j 00:28	14° <b>ℳ</b> 07'30	50.15806 AU	retrograde	-11929 May 16 j 07:07	21° <b>ℳ</b> 17'58		
morning rise	-11935 Jan 30 j 10:01	14° <b>ℳ</b> 10'44		opposition	-11929 Aug 05 j 22:00	20° <b>ℳ</b> 18'58	-14°35'02	
	-11935 Mar 10 j 12:27	15° <b>ℳ</b>		min. Earth dist.	-11929 Aug 06 j 11:26	20° <b>ℳ</b> 18'19	47.87443 AU	
retrograde	-11935 May 10 j 01:42	15° <b>ℳ</b> 36'05		direct	-11929 Oct 27 j 01:17	19° <b>ℳ</b> 19'26		
	-11935 Jul 10 j 06:19	15° <b>ℳ</b>		evening set	-11928 Jan 29 j 22:49	20° <b>ℳ</b> 38'43		
opposition	-11935 Jul 30 j 21:31	14° <b>ℳ</b> 37'09	-15°24'46					
min. Earth dist.	-11935 Jul 31 j 04:00	14° <b>ℳ</b> 36'50	48.20581 AU	conjunction	-11928 Feb 04 j 23:46	20° <b>ℳ</b> 46'52	-13°55'51	
direct	-11935 Oct 20 j 20:25	13° <b>ℳ</b> 37'54		minimum elong	-11928 Feb 04 j 23:54	20° <b>ℳ</b> 46'53	13°56'22	
	-11934 Jan 25 j 21:52	15° <b>ℳ</b>		max. Earth dist.	-11928 Feb 04 j 08:09	20° <b>ℳ</b> 45'59	49.78022 AU	
evening set	-11934 Jan 26 j 13:29	15° <b>ℳ</b> 00'53		morning rise	-11928 Feb 11 j 00:56	20° <b>ℳ</b> 55'03		
				retrograde	-11928 May 16 j 08:56	22° <b>ℳ</b> 15'13		
conjunction	-11934 Jan 29 j 12:33	15° <b>ℳ</b> 04'53	-14°44'39	opposition	-11928 Aug 06 j 02:12	21° <b>ℳ</b> 16'12	-14°25'50	
minimum elong	-11934 Jan 29 j 12:38	15° <b>ℳ</b> 04'53	14°45'07	min. Earth dist.	-11928 Aug 06 j 17:20	21° <b>ℳ</b> 15'29	47.80745 AU	
max. Earth dist.	-11934 Jan 29 j 03:33	15° <b>ℳ</b> 04'22	50.11436 AU	direct	-11928 Oct 27 j 08:50	20° <b>ℳ</b> 16'38		
morning rise	-11934 Feb 01 j 11:51	15° <b>ℳ</b> 08'53		evening set	-11927 Jan 29 j 19:25	21° <b>ℳ</b> 35'30		
retrograde	-11934 May 11 j 04:44	16° <b>ℳ</b> 33'04						
opposition	-11934 Aug 01 j 01:36	15° <b>ℳ</b> 34'07	-15°17'08	conjunction	-11927 Feb 05 j 05:45	21° <b>ℳ</b> 44'11	-13°46'50	
min. Earth dist.	-11934 Aug 01 j 09:28	15° <b>ℳ</b> 33'44	48.15894 AU	minimum elong	-11927 Feb 05 j 05:52	21° <b>ℳ</b> 44'12	13°47'22	

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 35

Attention, astronomical year style is used: The year -11927 in astronomical counting style is the year 11928 BCE in historical counting style.

max. Earth dist.	-11927 Feb 04 j 12:08	21° $\mathcal{M}$ 43'12	49.71254 AU	max. Earth dist.	-11920 Feb 11 j 21:30	28° $\mathcal{M}$ 26'35	49.10322 AU
morning rise	-11927 Feb 11 j 16:22	21° $\mathcal{M}$ 52'55					
retrograde	-11927 May 17 j 15:16	23° $\mathcal{M}$ 12'36		conjunction	-11920 Feb 13 j 01:19	28° $\mathcal{M}$ 28'10	-12°37'16
opposition	-11927 Aug 07 j 06:21	22° $\mathcal{M}$ 13'35	-14°16'24	minimum elong	-11920 Feb 13 j 01:28	28° $\mathcal{M}$ 28'11	12°37'51
min. Earth dist.	-11927 Aug 07 j 22:08	22° $\mathcal{M}$ 12'50	47.73617 AU	morning rise	-11920 Feb 21 j 20:44	28° $\mathcal{M}$ 40'11	
direct	-11927 Oct 28 j 12:35	21° $\mathcal{M}$ 13'58		retrograde	-11920 May 24 j 05:53	29° $\mathcal{M}$ 57'05	
evening set	-11926 Jan 30 j 16:22	22° $\mathcal{M}$ 32'27		opposition	-11920 Aug 13 j 13:15	28° $\mathcal{M}$ 57'46	-13°03'33
				min. Earth dist.	-11920 Aug 14 j 14:41	28° $\mathcal{M}$ 56'33	47.10185 AU
conjunction	-11926 Feb 06 j 11:51	22° $\mathcal{M}$ 41'39	-13°37'36	direct	-11920 Nov 03 j 22:49	27° $\mathcal{M}$ 57'34	
minimum elong	-11926 Feb 06 j 11:59	22° $\mathcal{M}$ 41'40	13°38'08	evening set	-11919 Feb 04 j 05:02	29° $\mathcal{M}$ 13'49	
max. Earth dist.	-11926 Feb 05 j 16:24	22° $\mathcal{M}$ 40'33	49.64005 AU	max. Earth dist.	-11919 Feb 12 j 01:31	29° $\mathcal{M}$ 24'31	49.00076 AU
morning rise	-11926 Feb 13 j 07:37	22° $\mathcal{M}$ 50'54					
retrograde	-11926 May 18 j 23:23	24° $\mathcal{M}$ 10'08		conjunction	-11919 Feb 13 j 07:32	29° $\mathcal{M}$ 26'14	-12°26'20
opposition	-11926 Aug 08 j 10:47	23° $\mathcal{M}$ 11'06	-14°06'43	minimum elong	-11919 Feb 13 j 07:41	29° $\mathcal{M}$ 26'14	12°26'54
min. Earth dist.	-11926 Aug 09 j 05:05	23° $\mathcal{M}$ 10'14	47.65983 AU	morning rise	-11919 Feb 22 j 10:15	29° $\mathcal{M}$ 38'39	
direct	-11926 Oct 29 j 14:28	22° $\mathcal{M}$ 11'26			-11919 Mar 10 j 14:10	0° $\mathcal{A}$	
evening set	-11925 Jan 31 j 14:01	23° $\mathcal{M}$ 29'32		retrograde	-11919 May 25 j 11:50	0° $\mathcal{A}$ 55'16	
					-11919 Aug 11 j 04:21	30° $\mathcal{R}$ $\mathcal{M}$	
conjunction	-11925 Feb 07 j 18:10	23° $\mathcal{M}$ 39'14	-13°28'08	opposition	-11919 Aug 14 j 17:49	29° $\mathcal{M}$ 55'54	-12°52'06
minimum elong	-11925 Feb 07 j 18:17	23° $\mathcal{M}$ 39'15	13°28'40	min. Earth dist.	-11919 Aug 15 j 20:24	29° $\mathcal{M}$ 54'37	46.99672 AU
max. Earth dist.	-11925 Feb 06 j 21:35	23° $\mathcal{M}$ 38'05	49.56243 AU	direct	-11919 Nov 05 j 03:51	28° $\mathcal{M}$ 55'37	
morning rise	-11925 Feb 14 j 22:28	23° $\mathcal{M}$ 48'58			-11918 Jan 27 j 11:31	0° $\mathcal{A}$	
retrograde	-11925 May 20 j 03:43	25° $\mathcal{M}$ 07'46		evening set	-11918 Feb 05 j 04:16	0° $\mathcal{A}$ 11'38	
opposition	-11925 Aug 09 j 15:03	24° $\mathcal{M}$ 08'43	-13°56'48	max. Earth dist.	-11918 Feb 13 j 07:44	0° $\mathcal{A}$ 22'45	48.89569 AU
min. Earth dist.	-11925 Aug 10 j 10:10	24° $\mathcal{M}$ 07'48	47.57811 AU				
direct	-11925 Oct 30 j 20:43	23° $\mathcal{M}$ 08'58		conjunction	-11918 Feb 14 j 13:56	0° $\mathcal{A}$ 24'28	-12°15'08
evening set	-11924 Feb 01 j 11:56	24° $\mathcal{M}$ 26'43		minimum elong	-11918 Feb 14 j 14:05	0° $\mathcal{A}$ 24'29	12°15'43
max. Earth dist.	-11924 Feb 08 j 01:00	24° $\mathcal{M}$ 35'35	49.47948 AU	morning rise	-11918 Feb 23 j 23:34	0° $\mathcal{A}$ 37'19	
				retrograde	-11918 May 26 j 14:13	1° $\mathcal{A}$ 53'39	
conjunction	-11924 Feb 09 j 00:22	24° $\mathcal{M}$ 36'55	-13°18'27	opposition	-11918 Aug 15 j 22:32	0° $\mathcal{A}$ 54'14	-12°40'22
minimum elong	-11924 Feb 09 j 00:30	24° $\mathcal{M}$ 36'55	13°18'59	min. Earth dist.	-11918 Aug 17 j 02:24	0° $\mathcal{A}$ 52'54	46.88878 AU
morning rise	-11924 Feb 16 j 13:08	24° $\mathcal{M}$ 47'07			-11918 Oct 13 j 10:42	30° $\mathcal{R}$ $\mathcal{M}$	
retrograde	-11924 May 20 j 08:21	26° $\mathcal{M}$ 05'30		direct	-11918 Nov 06 j 11:36	29° $\mathcal{M}$ 53'53	
opposition	-11924 Aug 09 j 19:31	25° $\mathcal{M}$ 06'24	-13°46'40		-11918 Nov 30 j 07:33	0° $\mathcal{A}$	
min. Earth dist.	-11924 Aug 10 j 16:20	25° $\mathcal{M}$ 05'24	47.49129 AU	evening set	-11917 Feb 06 j 04:00	1° $\mathcal{A}$ 09'43	
direct	-11924 Oct 31 j 02:42	24° $\mathcal{M}$ 06'35					
evening set	-11923 Feb 01 j 09:55	25° $\mathcal{M}$ 23'59		conjunction	-11917 Feb 15 j 20:23	1° $\mathcal{A}$ 22'57	-12°03'40
max. Earth dist.	-11923 Feb 08 j 06:37	25° $\mathcal{M}$ 33'17	49.39152 AU	minimum elong	-11917 Feb 15 j 20:32	1° $\mathcal{A}$ 22'57	12°04'15
				max. Earth dist.	-11917 Feb 14 j 12:32	1° $\mathcal{A}$ 21'07	48.78792 AU
conjunction	-11923 Feb 09 j 06:32	25° $\mathcal{M}$ 34'38	-13°08'31	morning rise	-11917 Feb 25 j 12:53	1° $\mathcal{A}$ 36'12	
minimum elong	-11923 Feb 09 j 06:40	25° $\mathcal{M}$ 34'39	13°09'04	retrograde	-11917 May 27 j 20:17	2° $\mathcal{A}$ 52'16	
morning rise	-11923 Feb 17 j 03:16	25° $\mathcal{M}$ 45'18		opposition	-11917 Aug 17 j 03:08	1° $\mathcal{A}$ 52'50	-12°28'21
retrograde	-11923 May 21 j 11:09	27° $\mathcal{M}$ 03'18		min. Earth dist.	-11917 Aug 18 j 07:21	1° $\mathcal{A}$ 51'29	46.77803 AU
opposition	-11923 Aug 10 j 23:58	26° $\mathcal{M}$ 04'08	-13°36'16	direct	-11917 Nov 07 j 16:29	0° $\mathcal{A}$ 52'25	
min. Earth dist.	-11923 Aug 11 j 22:34	26° $\mathcal{M}$ 03'03	47.39960 AU	evening set	-11916 Feb 07 j 03:49	2° $\mathcal{A}$ 08'04	
direct	-11923 Nov 01 j 10:17	25° $\mathcal{M}$ 04'14		max. Earth dist.	-11916 Feb 15 j 17:47	2° $\mathcal{A}$ 19'48	48.67696 AU
evening set	-11922 Feb 02 j 08:25	26° $\mathcal{M}$ 21'18					
max. Earth dist.	-11922 Feb 09 j 10:48	26° $\mathcal{M}$ 30'56	49.29916 AU	conjunction	-11916 Feb 17 j 03:01	2° $\mathcal{A}$ 21'42	-11°51'56
				minimum elong	-11916 Feb 17 j 03:09	2° $\mathcal{A}$ 21'43	11°52'32
conjunction	-11922 Feb 10 j 12:44	26° $\mathcal{M}$ 32'25	-12°58'21	morning rise	-11916 Feb 27 j 02:12	2° $\mathcal{A}$ 35'22	
minimum elong	-11922 Feb 10 j 12:53	26° $\mathcal{M}$ 32'25	12°58'55	retrograde	-11916 May 28 j 05:28	3° $\mathcal{A}$ 51'12	
morning rise	-11922 Feb 18 j 17:17	26° $\mathcal{M}$ 43'32		opposition	-11916 Aug 17 j 08:04	2° $\mathcal{A}$ 51'44	-12°16'04
retrograde	-11922 May 22 j 17:00	28° $\mathcal{M}$ 01'09		min. Earth dist.	-11916 Aug 18 j 14:27	2° $\mathcal{A}$ 50'16	46.66389 AU
opposition	-11922 Aug 12 j 04:12	27° $\mathcal{M}$ 01'56	-13°25'38	direct	-11916 Nov 07 j 18:07	1° $\mathcal{A}$ 51'15	
min. Earth dist.	-11922 Aug 13 j 03:17	27° $\mathcal{M}$ 00'50	47.30380 AU	evening set	-11915 Feb 07 j 03:53	3° $\mathcal{A}$ 06'43	
direct	-11922 Nov 02 j 14:37	26° $\mathcal{M}$ 01'55		max. Earth dist.	-11915 Feb 15 j 23:43	3° $\mathcal{A}$ 18'49	48.56241 AU
evening set	-11921 Feb 03 j 07:04	27° $\mathcal{M}$ 18'42					
				conjunction	-11915 Feb 17 j 09:35	3° $\mathcal{A}$ 20'46	-11°39'56
conjunction	-11921 Feb 11 j 19:04	27° $\mathcal{M}$ 30'15	-12°47'56	minimum elong	-11915 Feb 17 j 09:45	3° $\mathcal{A}$ 20'46	11°40'32
minimum elong	-11921 Feb 11 j 19:12	27° $\mathcal{M}$ 30'15	12°48'30	morning rise	-11915 Feb 27 j 15:10	3° $\mathcal{A}$ 34'50	
max. Earth dist.	-11921 Feb 10 j 15:36	27° $\mathcal{M}$ 28'41	49.20281 AU	retrograde	-11915 May 29 j 11:42	4° $\mathcal{A}$ 50'27	
morning rise	-11921 Feb 20 j 07:15	27° $\mathcal{M}$ 41'49		opposition	-11915 Aug 18 j 12:58	3° $\mathcal{A}$ 50'56	-12°03'31
retrograde	-11921 May 24 j 00:06	28° $\mathcal{M}$ 59'04		min. Earth dist.	-11915 Aug 19 j 19:52	3° $\mathcal{A}$ 49'27	46.54568 AU
opposition	-11921 Aug 13 j 08:47	27° $\mathcal{M}$ 59'48	-13°14'43	direct	-11915 Nov 08 j 23:04	2° $\mathcal{A}$ 50'22	
min. Earth dist.	-11921 Aug 14 j 09:55	27° $\mathcal{M}$ 58'36	47.20439 AU	evening set	-11914 Feb 08 j 04:22	4° $\mathcal{A}$ 05'41	
direct	-11921 Nov 03 j 17:52	26° $\mathcal{M}$ 59'41		max. Earth dist.	-11914 Feb 17 j 03:52	4° $\mathcal{A}$ 18'02	48.44342 AU
evening set	-11920 Feb 04 j 05:58	28° $\mathcal{M}$ 16'11					

## Planetary Phenomena of Pluto from -12400 through -11898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36

Attention, astronomical year style is used: The year -11914 in astronomical counting style is the year 11915 BCE in historical counting style.

conjunction	-11914 Feb 18 j 16:24	4°♂20'08	-11°27'42	evening set	-11907 Feb 13 j 14:03	11°♂04'24	
minimum elong	-11914 Feb 18 j 16:32	4°♂20'08	11°28'18	max. Earth dist.	-11907 Feb 23 j 20:37	11°♂18'44	47.48242 AU
morning rise	-11914 Mar 01 j 04:28	4°♂34'35					
retrograde	-11914 May 30 j 18:05	5°♂49'59		conjunction	-11907 Feb 25 j 18:43	11°♂21'26	-9°54'57
opposition	-11914 Aug 19 j 17:56	4°♂50'25	-11°50'43	minimum elong	-11907 Feb 25 j 18:53	11°♂21'26	9°55'36
min. Earth dist.	-11914 Aug 21 j 02:44	4°♂48'50	46.42286 AU	morning rise	-11907 Mar 09 j 23:00	11°♂38'26	
direct	-11914 Nov 10 j 05:02	3°♂49'45		retrograde	-11907 Jun 06 j 11:01	12°♂52'33	
evening set	-11913 Feb 09 j 05:09	5°♂04'56		opposition	-11907 Aug 26 j 07:52	11°♂52'18	-10°13'40
max. Earth dist.	-11913 Feb 18 j 10:19	5°♂17'37	48.31950 AU	min. Earth dist.	-11907 Aug 28 j 00:50	11°♂50'18	45.43758 AU
				direct	-11907 Nov 17 j 02:39	10°♂50'38	
conjunction	-11913 Feb 19 j 23:32	5°♂19'46	-11°15'13	evening set	-11906 Feb 14 j 16:16	12°♂05'03	
minimum elong	-11913 Feb 19 j 23:43	5°♂19'47	11°15'50	max. Earth dist.	-11906 Feb 25 j 03:07	12°♂19'40	47.33144 AU
morning rise	-11913 Mar 02 j 17:40	5°♂34'36					
retrograde	-11913 May 31 j 21:06	6°♂49'47		conjunction	-11906 Feb 27 j 02:20	12°♂22'26	-9°40'38
opposition	-11913 Aug 20 j 23:12	5°♂50'10	-11°37'40	minimum elong	-11906 Feb 27 j 02:29	12°♂22'27	9°41'16
min. Earth dist.	-11913 Aug 22 j 09:45	5°♂48'29	46.29487 AU	morning rise	-11906 Mar 11 j 11:47	12°♂39'48	
direct	-11913 Nov 11 j 14:13	4°♂49'23		retrograde	-11906 Jun 07 j 18:59	13°♂53'48	
evening set	-11912 Feb 10 j 06:11	6°♂04'25		opposition	-11906 Aug 27 j 13:42	12°♂53'28	-9°58'40
max. Earth dist.	-11912 Feb 19 j 14:57	6°♂17'20	48.19055 AU	min. Earth dist.	-11906 Aug 29 j 08:33	12°♂51'21	45.28388 AU
				direct	-11906 Nov 18 j 07:21	11°♂51'40	
conjunction	-11912 Feb 21 j 06:29	6°♂19'37	-11°02'29	evening set	-11905 Feb 15 j 18:54	13°♂06'03	
minimum elong	-11912 Feb 21 j 06:38	6°♂19'38	11°03'06	max. Earth dist.	-11905 Feb 26 j 10:20	13°♂20'58	47.17794 AU
morning rise	-11912 Mar 03 j 06:41	6°♂34'49					
retrograde	-11912 Jun 01 j 02:53	7°♂49'48		conjunction	-11905 Feb 28 j 10:05	13°♂23'47	-9°26'01
opposition	-11912 Aug 21 j 04:23	6°♂50'06	-11°24'21	minimum elong	-11905 Feb 28 j 10:15	13°♂23'47	9°26'40
min. Earth dist.	-11912 Aug 22 j 15:35	6°♂48'23	46.16192 AU	morning rise	-11905 Mar 13 j 00:33	13°♂41'29	
direct	-11912 Nov 11 j 20:19	5°♂49'11		retrograde	-11905 Jun 09 j 03:07	14°♂55'25	
evening set	-11911 Feb 10 j 07:18	7°♂04'05		opposition	-11905 Aug 28 j 19:41	13°♂55'00	-9°43'21
max. Earth dist.	-11911 Feb 19 j 20:28	7°♂17'16	48.05664 AU	min. Earth dist.	-11905 Aug 30 j 14:39	13°♂52'53	45.12741 AU
				direct	-11905 Nov 19 j 12:14	12°♂53'05	
conjunction	-11911 Feb 21 j 13:39	7°♂19'39	-10°49'31	evening set	-11904 Feb 16 j 21:41	14°♂07'28	
minimum elong	-11911 Feb 21 j 13:49	7°♂19'40	10°50'09	max. Earth dist.	-11904 Feb 27 j 15:56	14°♂22'36	47.02141 AU
morning rise	-11911 Mar 04 j 19:45	7°♂35'14					
retrograde	-11911 Jun 02 j 10:06	8°♂50'01		conjunction	-11904 Feb 29 j 17:48	14°♂25'33	-9°11'07
opposition	-11911 Aug 22 j 09:43	7°♂50'12	-11°10'46	minimum elong	-11904 Feb 29 j 17:58	14°♂25'33	9°11'47
min. Earth dist.	-11911 Aug 23 j 23:17	7°♂48'23	46.02429 AU	morning rise	-11904 Mar 13 j 13:20	14°♂43'36	
direct	-11911 Nov 13 j 00:54	6°♂49'09		retrograde	-11904 Jun 09 j 11:49	15°♂57'29	
evening set	-11910 Feb 11 j 08:41	8°♂03'54		opposition	-11904 Aug 29 j 01:51	14°♂56'58	-9°27'45
max. Earth dist.	-11910 Feb 21 j 02:57	8°♂17'24	47.91842 AU	min. Earth dist.	-11904 Aug 30 j 22:31	14°♂54'46	44.96782 AU
				direct	-11904 Nov 19 j 17:50	13°♂54'56	
conjunction	-11910 Feb 22 j 20:51	8°♂19'50	-10°36'16	evening set	-11903 Feb 17 j 00:44	15°♂09'21	
minimum elong	-11910 Feb 22 j 21:00	8°♂19'51	10°36'54	max. Earth dist.	-11903 Feb 27 j 23:45	15°♂24'48	46.86137 AU
morning rise	-11910 Mar 06 j 08:37	8°♂35'47					
retrograde	-11910 Jun 03 j 17:53	9°♂50'22		conjunction	-11903 Mar 02 j 01:53	15°♂27'46	-8°55'57
opposition	-11910 Aug 23 j 15:03	8°♂50'27	-10°56'56	minimum elong	-11903 Mar 02 j 02:02	15°♂27'47	8°56'37
min. Earth dist.	-11910 Aug 25 j 05:04	8°♂48'36	45.88246 AU	morning rise	-11903 Mar 15 j 02:03	15°♂46'10	
direct	-11910 Nov 14 j 05:54	7°♂49'14		retrograde	-11903 Jun 10 j 17:04	17°♂00'00	
evening set	-11909 Feb 12 j 10:21	9°♂03'52		opposition	-11903 Aug 30 j 08:06	15°♂59'24	-9°11'52
max. Earth dist.	-11909 Feb 22 j 07:46	9°♂17'36	47.77621 AU	min. Earth dist.	-11903 Sep 01 j 06:09	15°♂57'08	44.80431 AU
				direct	-11903 Nov 21 j 03:06	14°♂57'14	
conjunction	-11909 Feb 24 j 04:06	9°♂20'11	-10°22'47	evening set	-11902 Feb 18 j 04:16	16°♂11'42	
minimum elong	-11909 Feb 24 j 04:16	9°♂20'11	10°23'25	max. Earth dist.	-11902 Mar 01 j 05:36	16°♂27'21	46.69720 AU
morning rise	-11909 Mar 07 j 21:37	9°♂36'29					
retrograde	-11909 Jun 05 j 01:49	10°♂50'53		conjunction	-11902 Mar 03 j 10:01	16°♂30'28	-8°40'31
opposition	-11909 Aug 24 j 20:30	9°♂50'51	-10°42'48	minimum elong	-11902 Mar 03 j 10:11	16°♂30'29	8°41'10
min. Earth dist.	-11909 Aug 26 j 12:05	9°♂48'55	45.73712 AU	morning rise	-11902 Mar 16 j 15:01	16°♂49'12	
direct	-11909 Nov 15 j 10:58	8°♂49'29		retrograde	-11902 Jun 12 j 00:31	18°♂03'00	
evening set	-11908 Feb 13 j 12:07	10°♂04'02		opposition	-11902 Aug 31 j 14:34	17°♂02'20	-8°55'41
max. Earth dist.	-11908 Feb 23 j 15:03	10°♂18'06	47.63070 AU	min. Earth dist.	-11902 Sep 02 j 13:26	17°♂00'00	44.63636 AU
				direct	-11902 Nov 22 j 10:21	16°♂00'01	
conjunction	-11908 Feb 25 j 11:32	10°♂20'42	-10°09'00	evening set	-11901 Feb 19 j 08:04	17°♂14'32	
minimum elong	-11908 Feb 25 j 11:41	10°♂20'43	10°09'38	max. Earth dist.	-11901 Mar 02 j 12:33	17°♂30'24	46.52811 AU
morning rise	-11908 Mar 08 j 10:21	10°♂37'22					
retrograde	-11908 Jun 05 j 05:43	11°♂51'36		conjunction	-11901 Mar 04 j 18:32	17°♂33'37	-8°24'48
opposition	-11908 Aug 25 j 02:12	10°♂51'27	-10°28'23	minimum elong	-11901 Mar 04 j 18:41	17°♂33'38	8°25'27
min. Earth dist.	-11908 Aug 26 j 18:50	10°♂49'28	45.58865 AU	morning rise	-11901 Mar 18 j 03:57	17°♂52'41	
direct	-11908 Nov 15 j 19:22	9°♂49'56		retrograde	-11901 Jun 13 j 08:11	19°♂06'29	

Attention, astronomical year style is used: The year -11901 in astronomical counting style is the year 11902 BCE in historical counting style.

opposition	-11901 Sep 01 j 21:18	18° <del>2</del> 05'42	-8°39'14
min. Earth dist.	-11901 Sep 03 j 22:35	18° <del>2</del> 03'15	44.46340 AU
direct	-11901 Nov 23 j 16:55	17° <del>2</del> 03'13	
evening set	-11900 Feb 20 j 12:14	18° <del>2</del> 17'47	
max. Earth dist.	-11900 Mar 02 j 20:07	18° <del>2</del> 33'55	46.35415 AU

conjunction	-11900 Mar 05 j 03:08	18° <del>2</del> 37'12	-8°08'49
minimum elong	-11900 Mar 05 j 03:17	18° <del>2</del> 37'13	8°09'29
morning rise	-11900 Mar 18 j 16:55	18° <del>2</del> 56'36	
retrograde	-11900 Jun 13 j 17:38	20° <del>2</del> 10'23	
opposition	-11900 Sep 02 j 04:08	19° <del>2</del> 09'27	-8°22'29
min. Earth dist.	-11900 Sep 04 j 05:52	19° <del>2</del> 06'59	44.28555 AU
direct	-11900 Nov 23 j 22:45	18° <del>2</del> 06'48	
evening set	-11899 Feb 20 j 16:29	19° <del>2</del> 21'25	
max. Earth dist.	-11899 Mar 04 j 02:05	19° <del>2</del> 37'43	46.17533 AU

conjunction	-11899 Mar 06 j 11:40	19° <del>2</del> 41'11	-7°52'33
minimum elong	-11899 Mar 06 j 11:48	19° <del>2</del> 41'11	7°53'13
morning rise	-11899 Mar 20 j 05:49	20° <del>2</del> 00'53	
retrograde	-11899 Jun 15 j 04:35	21° <del>2</del> 14'40	
opposition	-11899 Sep 03 j 11:06	20° <del>2</del> 13'35	-8°05'26
min. Earth dist.	-11899 Sep 05 j 14:50	20° <del>2</del> 11'01	44.10314 AU
direct	-11899 Nov 25 j 03:47	19° <del>2</del> 10'44	