

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

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

direct	-7900 Feb 18 j 22:21	10°♊58'13		minimum elong	-7894 Jun 16 j 06:56	24°♊38'20	12°00'19
evening set	-7900 May 22 j 17:14	12°♊45'53		morning rise	-7894 Jun 25 j 18:52	24°♊58'05	
max. Earth dist.	-7900 May 31 j 13:12	13°♊03'04	35.63349 AU	retrograde	-7894 Sep 25 j 23:37	26°♊54'45	
				opposition	-7894 Dec 12 j 09:58	25°♊38'07	12°57'07
conjunction	-7900 Jun 04 j 03:43	13°♊10'09	9°27'32	min. Earth dist.	-7894 Dec 15 j 14:07	25°♊33'12	32.11418 AU
minimum elong	-7900 Jun 04 j 03:21	13°♊10'07	9°27'36	direct	-7893 Mar 03 j 19:25	24°♊17'55	
morning rise	-7900 Jun 16 j 11:09	13°♊34'11		evening set	-7893 Jun 09 j 14:56	26°♊21'11	
retrograde	-7900 Sep 13 j 14:49	15°♊18'17		max. Earth dist.	-7893 Jun 15 j 04:59	26°♊32'53	33.95287 AU
opposition	-7900 Nov 30 j 06:43	14°♊04'17	10°14'47				
min. Earth dist.	-7900 Dec 03 j 13:35	13°♊59'24	33.53868 AU	conjunction	-7893 Jun 18 j 14:21	26°♊40'02	12°24'04
direct	-7899 Feb 20 j 00:00	12°♊46'50		minimum elong	-7893 Jun 18 j 13:54	26°♊40'00	12°24'15
evening set	-7899 May 25 j 05:41	14°♊36'27		morning rise	-7893 Jun 27 j 11:41	26°♊58'43	
max. Earth dist.	-7899 Jun 02 j 15:54	14°♊53'01	35.38348 AU	retrograde	-7893 Sep 28 j 09:34	28°♊57'53	
				opposition	-7893 Dec 14 j 17:28	27°♊40'51	13°22'31
conjunction	-7899 Jun 06 j 06:41	15°♊00'11	9°53'44	min. Earth dist.	-7893 Dec 17 j 19:53	27°♊36'02	31.89267 AU
minimum elong	-7899 Jun 06 j 06:18	15°♊00'09	9°53'48	direct	-7892 Mar 05 j 00:03	26°♊20'15	
morning rise	-7899 Jun 18 j 04:35	15°♊23'42		evening set	-7892 Jun 11 j 14:25	28°♊26'13	
retrograde	-7899 Sep 15 j 19:34	17°♊09'38		max. Earth dist.	-7892 Jun 16 j 14:12	28°♊36'47	33.73046 AU
opposition	-7899 Dec 02 j 09:14	15°♊55'12	10°42'41				
min. Earth dist.	-7899 Dec 05 j 17:03	15°♊50'13	33.29243 AU	conjunction	-7892 Jun 19 j 22:26	28°♊43'53	12°47'24
direct	-7898 Feb 22 j 01:21	14°♊37'16		minimum elong	-7892 Jun 19 j 22:00	28°♊43'51	12°47'36
evening set	-7898 May 27 j 19:32	16°♊28'54		morning rise	-7892 Jun 28 j 04:24	29°♊01'25	
max. Earth dist.	-7898 Jun 04 j 20:35	16°♊44'53	35.13558 AU		-7892 Jul 27 j 14:47	0°♊	
				retrograde	-7892 Sep 29 j 19:17	1°♊03'13	
conjunction	-7898 Jun 08 j 10:10	16°♊52'01	10°19'43		-7892 Dec 06 j 22:51	30°♊	
minimum elong	-7898 Jun 08 j 09:48	16°♊52'00	10°19'49	opposition	-7892 Dec 16 j 01:58	29°♊45'47	13°47'16
morning rise	-7898 Jun 19 j 21:52	17°♊14'57		min. Earth dist.	-7892 Dec 19 j 04:37	29°♊40'55	31.67579 AU
retrograde	-7898 Sep 17 j 23:32	19°♊02'49		direct	-7891 Mar 07 j 06:06	28°♊24'47	
opposition	-7898 Dec 04 j 12:28	17°♊47'56	11°10'20		-7891 May 29 j 13:08	0°♊	
min. Earth dist.	-7898 Dec 07 j 18:58	17°♊42'59	33.04868 AU	evening set	-7891 Jun 14 j 16:14	0°♊33'35	
direct	-7897 Feb 24 j 05:18	16°♊29'31		max. Earth dist.	-7891 Jun 19 j 00:37	0°♊42'54	33.51268 AU
evening set	-7897 May 30 j 10:42	18°♊23'16					
max. Earth dist.	-7897 Jun 07 j 00:21	18°♊38'28	34.89047 AU	conjunction	-7891 Jun 22 j 07:18	0°♊49'57	13°10'04
				minimum elong	-7891 Jun 22 j 06:51	0°♊49'54	13°10'17
conjunction	-7897 Jun 10 j 14:21	18°♊45'43	10°45'25	morning rise	-7891 Jun 29 j 20:35	1°♊06'10	
minimum elong	-7897 Jun 10 j 13:56	18°♊45'41	10°45'31	retrograde	-7891 Oct 02 j 07:30	3°♊10'43	
morning rise	-7897 Jun 21 j 15:16	19°♊07'58		opposition	-7891 Dec 18 j 11:28	1°♊52'54	14°11'19
retrograde	-7897 Sep 20 j 05:21	20°♊57'52		min. Earth dist.	-7891 Dec 21 j 12:15	1°♊48'08	31.46332 AU
opposition	-7897 Dec 06 j 16:31	19°♊42'31	11°37'40	direct	-7890 Mar 09 j 16:03	0°♊31'30	
min. Earth dist.	-7897 Dec 09 j 23:09	19°♊37'32	32.80842 AU	evening set	-7890 Jun 17 j 20:12	2°♊43'19	
direct	-7896 Feb 26 j 07:55	18°♊23'38		max. Earth dist.	-7890 Jun 21 j 10:38	2°♊51'06	33.29913 AU
evening set	-7896 Jun 01 j 03:16	20°♊19'35					
max. Earth dist.	-7896 Jun 08 j 07:15	20°♊34'08	34.64911 AU	conjunction	-7890 Jun 24 j 16:57	2°♊58'11	13°32'02
				minimum elong	-7890 Jun 24 j 16:30	2°♊58'08	13°32'16
conjunction	-7896 Jun 11 j 19:14	20°♊41'17	11°10'46	morning rise	-7890 Jul 01 j 12:04	3°♊12'55	
minimum elong	-7896 Jun 11 j 18:49	20°♊41'15	11°10'54	retrograde	-7890 Oct 04 j 20:01	5°♊20'25	
morning rise	-7896 Jun 22 j 08:26	21°♊02'46		opposition	-7890 Dec 20 j 22:03	4°♊02'11	14°34'35
retrograde	-7896 Sep 21 j 10:16	22°♊54'49		min. Earth dist.	-7890 Dec 23 j 22:53	3°♊57'23	31.25519 AU
opposition	-7896 Dec 07 j 21:28	21°♊39'02	12°04'38	direct	-7889 Mar 12 j 00:43	2°♊40'23	
min. Earth dist.	-7896 Dec 11 j 03:00	21°♊34'05	32.57217 AU	evening set	-7889 Jun 21 j 03:16	4°♊55'23	
direct	-7895 Feb 27 j 12:09	20°♊19'41		max. Earth dist.	-7889 Jun 23 j 23:19	5°♊01'35	33.09007 AU
evening set	-7895 Jun 03 j 21:31	22°♊17'57					
max. Earth dist.	-7895 Jun 10 j 12:49	22°♊31'34	34.41213 AU	conjunction	-7889 Jun 27 j 03:30	5°♊08'32	13°53'12
				minimum elong	-7889 Jun 27 j 03:03	5°♊08'30	13°53'27
conjunction	-7895 Jun 14 j 00:48	22°♊38'48	11°35'42	morning rise	-7889 Jul 03 j 02:14	5°♊21'35	
minimum elong	-7895 Jun 14 j 00:23	22°♊38'46	11°35'50	retrograde	-7889 Oct 07 j 07:41	7°♊32'13	
morning rise	-7895 Jun 24 j 01:43	22°♊59'27		opposition	-7889 Dec 23 j 09:26	6°♊13'35	14°56'59
retrograde	-7895 Sep 23 j 17:15	24°♊53'45		min. Earth dist.	-7889 Dec 26 j 08:26	6°♊08'52	31.05148 AU
opposition	-7895 Dec 10 j 03:08	23°♊37'32	12°31'08	direct	-7888 Mar 13 j 11:53	4°♊51'22	
min. Earth dist.	-7895 Dec 13 j 07:48	23°♊32'37	32.34072 AU	evening set	-7888 Jun 23 j 13:52	7°♊09'51	
direct	-7894 Mar 01 j 15:13	22°♊17'45		max. Earth dist.	-7888 Jun 25 j 10:42	7°♊13'58	32.88562 AU
evening set	-7894 Jun 06 j 17:23	24°♊18'28					
max. Earth dist.	-7894 Jun 12 j 21:13	24°♊31'13	34.17995 AU	conjunction	-7888 Jun 28 j 14:42	7°♊20'59	14°13'31
				minimum elong	-7888 Jun 28 j 14:16	7°♊20'56	14°13'48
conjunction	-7894 Jun 16 j 07:21	24°♊38'22	12°00'09	morning rise	-7888 Jul 03 j 14:20	7°♊32'00	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 2

Attention, astronomical year style is used: The year -7888 in astronomical counting style is the year 7889 BCE in historical counting style.

retrograde	-7888 Oct 08 j 21:47	9° <del>8</del> 46'04		max. Earth dist.	-7880 Jul 15 j 00:50	26° <del>8</del> 03'32	31.49881 AU
opposition	-7888 Dec 24 j 21:45	8° <del>8</del> 27'01	15°18'28				
min. Earth dist.	-7888 Dec 27 j 20:04	8° <del>8</del> 22'19	30.85259 AU	conjunction	-7880 Jul 17 j 09:19	26° <del>8</del> 09'06	16°14'31
direct	-7887 Mar 15 j 22:22	7° <del>8</del> 04'23		minimum elong	-7880 Jul 17 j 09:03	26° <del>8</del> 09'05	16°14'56
evening set	-7887 Jun 27 j 06:15	9° <del>8</del> 26'49		retrograde	-7880 Oct 28 j 07:05	28° <del>8</del> 44'33	
max. Earth dist.	-7887 Jun 28 j 01:24	9° <del>8</del> 28'36	32.68623 AU	opposition	-7879 Jan 13 j 07:37	27° <del>8</del> 22'37	17°24'24
				min. Earth dist.	-7879 Jan 15 j 12:39	27° <del>8</del> 18'57	29.51743 AU
conjunction	-7887 Jul 01 j 02:48	9° <del>8</del> 35'25	14°32'54	direct	-7879 Apr 03 j 18:15	25° <del>8</del> 57'28	
minimum elong	-7887 Jul 01 j 02:22	9° <del>8</del> 35'23	14°33'11	max. Earth dist.	-7879 Jul 17 j 19:49	28° <del>8</del> 32'55	31.36545 AU
morning rise	-7887 Jul 04 j 22:14	9° <del>8</del> 43'56					
retrograde	-7887 Oct 11 j 10:24	12° <del>8</del> 01'54		conjunction	-7879 Jul 20 j 02:26	28° <del>8</del> 38'20	16°23'09
opposition	-7887 Dec 27 j 11:02	10° <del>8</del> 42'26	15°38'54	minimum elong	-7879 Jul 20 j 02:10	28° <del>8</del> 38'18	16°23'35
min. Earth dist.	-7887 Dec 30 j 07:56	10° <del>8</del> 37'48	30.65889 AU		-7879 Aug 25 j 02:27	0° <del>II</del>	
direct	-7886 Mar 18 j 10:44	9° <del>8</del> 19'24		retrograde	-7879 Oct 31 j 04:31	1° <del>II</del> 14'53	
evening set	-7886 Jul 01 j 11:13	11° <del>8</del> 46'54			-7878 Jan 11 j 18:04	30° <del>R</del> 8	
max. Earth dist.	-7886 Jun 30 j 14:53	11° <del>8</del> 44'59	32.49268 AU	opposition	-7878 Jan 16 j 03:34	29° <del>8</del> 52'42	17°33'02
				min. Earth dist.	-7878 Jan 18 j 06:35	29° <del>8</del> 49'10	29.39013 AU
conjunction	-7886 Jul 03 j 15:27	11° <del>8</del> 51'48	14°51'15	direct	-7878 Apr 06 j 12:24	28° <del>8</del> 27'23	
minimum elong	-7886 Jul 03 j 15:03	11° <del>8</del> 51'46	14°51'34		-7878 Jun 22 j 22:18	0° <del>II</del>	
morning rise	-7886 Jul 05 j 18:51	11° <del>8</del> 56'38		max. Earth dist.	-7878 Jul 20 j 17:34	1° <del>II</del> 04'09	31.24131 AU
retrograde	-7886 Oct 14 j 01:08	14° <del>8</del> 19'40					
opposition	-7886 Dec 30 j 01:09	12° <del>8</del> 59'46	15°58'12	conjunction	-7878 Jul 22 j 20:14	1° <del>II</del> 09'12	16°30'08
min. Earth dist.	-7885 Jan 01 j 20:12	12° <del>8</del> 55'14	30.47145 AU	minimum elong	-7878 Jul 22 j 20:03	1° <del>II</del> 09'11	16°30'34
direct	-7885 Mar 20 j 22:43	11° <del>8</del> 36'20		retrograde	-7878 Nov 02 j 23:45	3° <del>II</del> 46'46	
max. Earth dist.	-7885 Jul 03 j 07:01	14° <del>8</del> 03'28	32.30572 AU	opposition	-7877 Jan 19 j 00:17	2° <del>II</del> 24'21	17°39'50
				min. Earth dist.	-7877 Jan 21 j 00:23	2° <del>II</del> 21'01	29.27156 AU
conjunction	-7885 Jul 06 j 04:47	14° <del>8</del> 10'05	15°08'29	direct	-7877 Apr 09 j 08:36	0° <del>II</del> 58'54	
minimum elong	-7885 Jul 06 j 04:22	14° <del>8</del> 10'03	15°08'48	max. Earth dist.	-7877 Jul 23 j 13:29	3° <del>II</del> 36'38	31.12622 AU
	-7885 Jul 28 j 13:01	15° <del>8</del>					
retrograde	-7885 Oct 16 j 14:28	16° <del>8</del> 39'17		conjunction	-7877 Jul 25 j 14:19	3° <del>II</del> 41'32	16°35'23
opposition	-7884 Jan 01 j 16:14	15° <del>8</del> 18'58	16°16'15	minimum elong	-7877 Jul 25 j 14:08	3° <del>II</del> 41'31	16°35'50
min. Earth dist.	-7884 Jan 04 j 10:00	15° <del>8</del> 14'31	30.29087 AU	retrograde	-7877 Nov 05 j 21:19	6° <del>II</del> 20'02	
	-7884 Jan 13 j 10:14	15° <del>R</del> 8		opposition	-7876 Jan 21 j 21:35	4° <del>II</del> 57'24	17°44'47
direct	-7884 Mar 22 j 11:37	13° <del>8</del> 55'10		min. Earth dist.	-7876 Jan 23 j 19:02	4° <del>II</del> 54'14	29.16180 AU
	-7884 May 26 j 16:03	15° <del>8</del>		direct	-7876 Apr 11 j 03:37	3° <del>II</del> 31'48	
max. Earth dist.	-7884 Jul 04 j 22:46	16° <del>8</del> 23'43	32.12640 AU	max. Earth dist.	-7876 Jul 25 j 12:16	6° <del>II</del> 10'39	31.02011 AU
conjunction	-7884 Jul 07 j 18:44	16° <del>8</del> 30'12	15°24'29	conjunction	-7876 Jul 27 j 09:08	6° <del>II</del> 15'10	16°38'53
minimum elong	-7884 Jul 07 j 18:22	16° <del>8</del> 30'10	15°24'50	minimum elong	-7876 Jul 27 j 09:01	6° <del>II</del> 15'09	16°39'20
retrograde	-7884 Oct 18 j 07:12	19° <del>8</del> 00'43		retrograde	-7876 Nov 07 j 17:31	8° <del>II</del> 54'29	
opposition	-7883 Jan 03 j 07:52	17° <del>8</del> 40'01	16°32'58	opposition	-7875 Jan 23 j 19:25	7° <del>II</del> 31'38	17°47'49
min. Earth dist.	-7883 Jan 05 j 22:41	17° <del>8</del> 35'44	30.11821 AU	min. Earth dist.	-7875 Jan 25 j 14:28	7° <del>II</del> 28'38	29.06068 AU
direct	-7883 Mar 25 j 01:01	16° <del>8</del> 15'51		direct	-7875 Apr 14 j 00:50	6° <del>II</del> 05'54	
max. Earth dist.	-7883 Jul 07 j 16:10	18° <del>8</del> 45'53	31.95541 AU	max. Earth dist.	-7875 Jul 28 j 09:19	8° <del>II</del> 45'32	30.92328 AU
conjunction	-7883 Jul 10 j 09:31	18° <del>8</del> 52'10	15°39'11	conjunction	-7875 Jul 30 j 04:08	8° <del>II</del> 49'52	16°40'34
minimum elong	-7883 Jul 10 j 09:09	18° <del>8</del> 52'08	15°39'32	minimum elong	-7875 Jul 30 j 04:01	8° <del>II</del> 49'52	16°41'02
retrograde	-7883 Oct 20 j 22:59	21° <del>8</del> 23'59		retrograde	-7875 Nov 10 j 15:28	11° <del>II</del> 29'56	
opposition	-7882 Jan 06 j 00:42	20° <del>8</del> 02'55	16°48'13	opposition	-7874 Jan 26 j 17:49	10° <del>II</del> 06'51	17°48'52
min. Earth dist.	-7882 Jan 08 j 14:09	19° <del>8</del> 58'43	29.95415 AU	min. Earth dist.	-7874 Jan 28 j 09:19	10° <del>II</del> 04'06	28.96873 AU
direct	-7882 Mar 27 j 15:13	18° <del>8</del> 38'27		direct	-7874 Apr 16 j 21:45	8° <del>II</del> 41'00	
max. Earth dist.	-7882 Jul 10 j 10:23	21° <del>8</del> 09'55	31.79369 AU	max. Earth dist.	-7874 Jul 31 j 08:39	11° <del>II</del> 21'30	30.83600 AU
conjunction	-7882 Jul 13 j 00:44	21° <del>8</del> 15'59	15°52'28	conjunction	-7874 Aug 01 j 23:27	11° <del>II</del> 25'27	16°40'25
minimum elong	-7882 Jul 13 j 00:24	21° <del>8</del> 15'57	15°52'50	minimum elong	-7874 Aug 01 j 23:25	11° <del>II</del> 25'27	16°40'53
retrograde	-7882 Oct 23 j 17:19	23° <del>8</del> 49'02		retrograde	-7874 Nov 13 j 10:37	14° <del>II</del> 06'07	
opposition	-7881 Jan 08 j 18:14	22° <del>8</del> 27'39	17°01'56	opposition	-7873 Jan 29 j 16:46	12° <del>II</del> 42'50	17°47'54
min. Earth dist.	-7881 Jan 11 j 04:10	22° <del>8</del> 23'41	29.79927 AU	min. Earth dist.	-7873 Jan 31 j 05:57	12° <del>II</del> 40'14	28.88623 AU
direct	-7881 Mar 30 j 08:24	21° <del>8</del> 02'55		direct	-7873 Apr 19 j 19:13	11° <del>II</del> 16'53	
max. Earth dist.	-7881 Jul 13 j 04:41	23° <del>8</del> 35'46	31.64142 AU	max. Earth dist.	-7873 Aug 03 j 06:53	13° <del>II</del> 58'00	30.75897 AU
conjunction	-7881 Jul 15 j 16:44	23° <del>8</del> 41'38	16°04'16	conjunction	-7873 Aug 04 j 18:53	14° <del>II</del> 01'41	16°38'21
minimum elong	-7881 Jul 15 j 16:25	23° <del>8</del> 41'36	16°04'39	minimum elong	-7873 Aug 04 j 18:52	14° <del>II</del> 01'41	16°38'51
retrograde	-7881 Oct 26 j 11:43	26° <del>8</del> 15'55		retrograde	-7873 Nov 16 j 08:55	16° <del>II</del> 42'50	
opposition	-7880 Jan 11 j 12:31	24° <del>8</del> 54'14	17°14'01	opposition	-7872 Feb 01 j 15:42	15° <del>II</del> 19'22	17°44'52
min. Earth dist.	-7880 Jan 13 j 20:55	24° <del>8</del> 50'21	29.65379 AU	min. Earth dist.	-7872 Feb 03 j 00:41	15° <del>II</del> 17'04	28.81397 AU
direct	-7880 Mar 31 j 23:42	23° <del>8</del> 29'17		direct	-7872 Apr 21 j 16:57	13° <del>II</del> 53'19	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 3

Attention, astronomical year style is used: The year -7872 in astronomical counting style is the year 7873 BCE in historical counting style.

max. Earth dist.	-7872 Aug 05 j 06:31	16° $\Pi$ 35'05	30.69270 AU	evening set	-7864 Aug 25 j 05:27	7° $\ominus$ 28'53	
conjunction	-7872 Aug 06 j 14:33	16° $\Pi$ 38'21	16°34'22	conjunction	-7864 Aug 27 j 01:53	7° $\ominus$ 33'24	14°52'53
minimum elong	-7872 Aug 06 j 14:36	16° $\Pi$ 38'22	16°34'52	minimum elong	-7864 Aug 27 j 02:14	7° $\ominus$ 33'26	14°53'24
retrograde	-7872 Nov 18 j 04:45	19° $\Pi$ 19'56		max. Earth dist.	-7864 Aug 26 j 24:00	7° $\ominus$ 33'13	30.59773 AU
opposition	-7871 Feb 03 j 15:12	17° $\Pi$ 56'17	17°39'44	morning rise	-7864 Aug 28 j 23:00	7° $\ominus$ 38'00	
min. Earth dist.	-7871 Feb 04 j 21:45	17° $\Pi$ 54'09	28.75254 AU	retrograde	-7864 Dec 09 j 08:38	10° $\ominus$ 14'46	
direct	-7871 Apr 24 j 13:55	16° $\Pi$ 30'11		opposition	-7863 Feb 25 j 12:41	8° $\ominus$ 51'11	15°43'42
max. Earth dist.	-7871 Aug 08 j 05:52	19° $\Pi$ 12'26	30.63811 AU	min. Earth dist.	-7863 Feb 25 j 12:24	8° $\ominus$ 51'12	28.68618 AU
				direct	-7863 May 16 j 04:52	7° $\ominus$ 26'13	
conjunction	-7871 Aug 09 j 10:06	19° $\Pi$ 15'20	16°28'24	evening set	-7863 Aug 26 j 02:16	9° $\ominus$ 59'26	
minimum elong	-7871 Aug 09 j 10:09	19° $\Pi$ 15'20	16°28'55				
retrograde	-7871 Nov 21 j 01:54	21° $\Pi$ 57'12		conjunction	-7863 Aug 29 j 20:28	10° $\ominus$ 08'36	14°32'08
opposition	-7870 Feb 06 j 14:48	20° $\Pi$ 33'26	17°32'28	minimum elong	-7863 Aug 29 j 20:49	10° $\ominus$ 08'38	14°32'40
min. Earth dist.	-7870 Feb 07 j 16:32	20° $\Pi$ 31'38	28.70272 AU	max. Earth dist.	-7863 Aug 29 j 23:03	10° $\ominus$ 08'51	30.63692 AU
direct	-7870 Apr 27 j 13:50	19° $\Pi$ 07'19		morning rise	-7863 Sep 02 j 15:18	10° $\ominus$ 17'49	
max. Earth dist.	-7870 Aug 11 j 05:22	21° $\Pi$ 49'59	30.59568 AU	retrograde	-7863 Dec 12 j 03:19	12° $\ominus$ 49'28	
				opposition	-7862 Feb 28 j 11:49	11° $\ominus$ 26'00	15°20'37
conjunction	-7870 Aug 12 j 05:48	21° $\Pi$ 52'29	16°20'29	min. Earth dist.	-7862 Feb 28 j 08:49	11° $\ominus$ 26'13	28.72703 AU
minimum elong	-7870 Aug 12 j 05:56	21° $\Pi$ 52'30	16°20'59	direct	-7862 May 19 j 03:46	10° $\ominus$ 01'18	
retrograde	-7870 Nov 23 j 22:58	24° $\Pi$ 34'35		evening set	-7862 Aug 27 j 13:56	12° $\ominus$ 30'36	
opposition	-7869 Feb 09 j 14:39	23° $\Pi$ 10'43	17°23'03				
min. Earth dist.	-7869 Feb 10 j 13:26	23° $\Pi$ 09'07	28.66510 AU	conjunction	-7862 Sep 01 j 14:37	12° $\ominus$ 42'50	14°09'49
direct	-7869 Apr 30 j 10:40	21° $\Pi$ 44'39		minimum elong	-7862 Sep 01 j 15:00	12° $\ominus$ 42'52	14°10'20
max. Earth dist.	-7869 Aug 14 j 05:23	24° $\Pi$ 27'39	30.56601 AU	max. Earth dist.	-7862 Sep 01 j 19:45	12° $\ominus$ 43'21	30.68632 AU
				morning rise	-7862 Sep 06 j 16:01	12° $\ominus$ 55'06	
conjunction	-7869 Aug 15 j 01:26	24° $\Pi$ 29'43	16°10'35	retrograde	-7862 Dec 15 j 00:01	15° $\ominus$ 23'07	
minimum elong	-7869 Aug 15 j 01:35	24° $\Pi$ 29'44	16°11'06	opposition	-7861 Mar 03 j 10:17	13° $\ominus$ 59'46	14°55'52
retrograde	-7869 Nov 26 j 20:30	27° $\Pi$ 11'55		min. Earth dist.	-7861 Mar 03 j 02:54	14° $\ominus$ 00'16	28.77792 AU
opposition	-7868 Feb 12 j 14:26	25° $\Pi$ 48'02	17°11'31	direct	-7861 May 22 j 02:19	12° $\ominus$ 35'18	
min. Earth dist.	-7868 Feb 13 j 08:27	25° $\Pi$ 46'46	28.63970 AU	evening set	-7861 Aug 29 j 06:30	15° $\ominus$ 01'14	
direct	-7868 May 02 j 10:20	24° $\Pi$ 22'03					
				conjunction	-7861 Sep 04 j 08:19	15° $\ominus$ 15'55	13°46'00
conjunction	-7868 Aug 16 j 21:00	27° $\Pi$ 06'56	15°58'44	minimum elong	-7861 Sep 04 j 08:43	15° $\ominus$ 15'57	13°46'33
minimum elong	-7868 Aug 16 j 21:12	27° $\Pi$ 06'58	15°59'15	max. Earth dist.	-7861 Sep 04 j 17:38	15° $\ominus$ 16'51	30.74574 AU
max. Earth dist.	-7868 Aug 16 j 04:14	27° $\Pi$ 05'13	30.54878 AU	morning rise	-7861 Sep 10 j 10:47	15° $\ominus$ 30'39	
retrograde	-7868 Nov 28 j 18:31	29° $\Pi$ 49'11		retrograde	-7861 Dec 17 j 17:53	17° $\ominus$ 55'31	
opposition	-7867 Feb 14 j 14:14	28° $\Pi$ 25'17	16°57'53	opposition	-7860 Mar 05 j 08:25	16° $\ominus$ 32'17	14°29'34
min. Earth dist.	-7867 Feb 15 j 05:02	28° $\Pi$ 24'15	28.62648 AU	min. Earth dist.	-7860 Mar 04 j 22:39	16° $\ominus$ 32'58	28.83877 AU
direct	-7867 May 05 j 08:20	26° $\Pi$ 59'28		direct	-7860 May 23 j 23:50	15° $\ominus$ 08'05	
				evening set	-7860 Aug 30 j 01:49	17° $\ominus$ 30'52	
conjunction	-7867 Aug 19 j 16:34	29° $\Pi$ 44'04	15°44'59				
minimum elong	-7867 Aug 19 j 16:48	29° $\Pi$ 44'06	15°45'31	conjunction	-7860 Sep 06 j 01:21	17° $\ominus$ 47'40	13°20'47
max. Earth dist.	-7867 Aug 19 j 04:34	29° $\Pi$ 42'50	30.54390 AU	minimum elong	-7860 Sep 06 j 01:45	17° $\ominus$ 47'42	13°21'18
	-7867 Aug 26 j 04:07	0° $\ominus$		max. Earth dist.	-7860 Sep 06 j 13:45	17° $\ominus$ 48'55	30.81549 AU
retrograde	-7867 Dec 01 j 15:43	2° $\ominus$ 26'14		morning rise	-7860 Sep 13 j 01:34	18° $\ominus$ 04'31	
opposition	-7866 Feb 17 j 14:09	1° $\ominus$ 02'24	16°42'13	retrograde	-7860 Dec 19 j 11:10	20° $\ominus$ 26'30	
min. Earth dist.	-7866 Feb 18 j 00:51	1° $\ominus$ 01'39	28.62495 AU	opposition	-7859 Mar 08 j 05:48	19° $\ominus$ 03'25	14°01'46
	-7866 Mar 31 j 05:28	30° $\kappa$ $\Pi$		min. Earth dist.	-7859 Mar 07 j 15:22	19° $\ominus$ 04'24	28.90994 AU
direct	-7866 May 08 j 08:26	29° $\Pi$ 36'46		direct	-7859 May 26 j 21:51	17° $\ominus$ 39'28	
	-7866 Jun 14 j 03:55	0° $\ominus$		evening set	-7859 Aug 31 j 22:40	19° $\ominus$ 59'19	
conjunction	-7866 Aug 22 j 11:45	2° $\ominus$ 20'57	15°29'23	conjunction	-7859 Sep 08 j 17:51	20° $\ominus$ 17'57	12°54'14
minimum elong	-7866 Aug 22 j 12:02	2° $\ominus$ 20'59	15°29'54	minimum elong	-7859 Sep 08 j 18:16	20° $\ominus$ 18'00	12°54'45
max. Earth dist.	-7866 Aug 22 j 02:42	2° $\ominus$ 20'02	30.55075 AU	max. Earth dist.	-7859 Sep 09 j 10:05	20° $\ominus$ 19'35	30.89576 AU
retrograde	-7866 Dec 04 j 13:54	5° $\ominus$ 02'58		morning rise	-7859 Sep 16 j 13:45	20° $\ominus$ 36'40	
opposition	-7865 Feb 20 j 13:56	3° $\ominus$ 39'12	16°24'35	retrograde	-7859 Dec 22 j 03:30	22° $\ominus$ 55'58	
min. Earth dist.	-7865 Feb 20 j 21:00	3° $\ominus$ 38'42	28.63479 AU	min. Earth dist.	-7858 Mar 10 j 09:41	21° $\ominus$ 34'11	28.99196 AU
direct	-7865 May 11 j 05:56	2° $\ominus$ 13'46		opposition	-7858 Mar 11 j 02:51	21° $\ominus$ 33'01	13°32'35
				direct	-7858 May 29 j 17:15	20° $\ominus$ 09'22	
conjunction	-7865 Aug 25 j 07:01	4° $\ominus$ 57'28	15°11'59	evening set	-7858 Sep 02 j 20:42	22° $\ominus$ 26'24	
minimum elong	-7865 Aug 25 j 07:19	4° $\ominus$ 57'30	15°12'31				
max. Earth dist.	-7865 Aug 25 j 02:41	4° $\ominus$ 57'01	30.56887 AU	conjunction	-7858 Sep 11 j 09:40	22° $\ominus$ 46'41	12°26'26
retrograde	-7865 Dec 07 j 10:47	7° $\ominus$ 39'12		minimum elong	-7858 Sep 11 j 10:05	22° $\ominus$ 46'44	12°26'55
opposition	-7864 Feb 23 j 13:23	6° $\ominus$ 15'31	16°05'03	max. Earth dist.	-7858 Sep 12 j 05:40	22° $\ominus$ 48'41	30.98718 AU
min. Earth dist.	-7864 Feb 23 j 17:13	6° $\ominus$ 15'15	28.65528 AU	morning rise	-7858 Sep 19 j 23:20	23° $\ominus$ 07'03	
direct	-7864 May 13 j 06:20	4° $\ominus$ 50'19		retrograde	-7858 Dec 24 j 19:55	25° $\ominus$ 23'48	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 4

Attention, astronomical year style is used: The year -7857 in astronomical counting style is the year 7858 BCE in historical counting style.

opposition	-7857 Mar 13 j 23:05	24° $\mathring{\text{O}}$ 01'02	13°02'06	direct	-7851 Jun 15 j 22:37	6° $\mathring{\text{O}}$ 53'54	
min. Earth dist.	-7857 Mar 13 j 01:20	24° $\mathring{\text{O}}$ 02'31	29.08504 AU	evening set	-7851 Sep 14 j 22:28	8° $\mathring{\text{O}}$ 54'17	
direct	-7857 Jun 01 j 13:31	22° $\mathring{\text{O}}$ 37'42					
evening set	-7857 Sep 04 j 19:34	24° $\mathring{\text{O}}$ 52'04		conjunction	-7851 Sep 27 j 07:09	9° $\mathring{\text{O}}$ 22'11	8°45'10
				minimum elong	-7851 Sep 27 j 07:30	9° $\mathring{\text{O}}$ 22'13	8°45'38
conjunction	-7857 Sep 14 j 00:56	25° $\mathring{\text{O}}$ 13'50	11°57'28	max. Earth dist.	-7851 Sep 29 j 00:56	9° $\mathring{\text{O}}$ 26'08	31.91609 AU
minimum elong	-7857 Sep 14 j 01:21	25° $\mathring{\text{O}}$ 13'52	11°57'58	morning rise	-7851 Oct 09 j 17:08	9° $\mathring{\text{O}}$ 50'12	
max. Earth dist.	-7857 Sep 15 j 00:09	25° $\mathring{\text{O}}$ 16'07	31.08967 AU	retrograde	-7850 Jan 10 j 00:25	11° $\mathring{\text{O}}$ 51'57	
morning rise	-7857 Sep 23 j 07:11	25° $\mathring{\text{O}}$ 35'41		min. Earth dist.	-7850 Mar 29 j 05:23	10° $\mathring{\text{O}}$ 34'00	30.02115 AU
retrograde	-7857 Dec 27 j 11:27	27° $\mathring{\text{O}}$ 50'00		opposition	-7850 Mar 31 j 01:22	10° $\mathring{\text{O}}$ 31'07	9°01'48
opposition	-7856 Mar 15 j 18:35	26° $\mathring{\text{O}}$ 27'27	12°30'25	direct	-7850 Jun 18 j 14:55	9° $\mathring{\text{O}}$ 10'35	
min. Earth dist.	-7856 Mar 14 j 17:49	26° $\mathring{\text{O}}$ 29'08	29.18937 AU	evening set	-7850 Sep 16 j 23:48	11° $\mathring{\text{O}}$ 08'56	
direct	-7856 Jun 03 j 07:56	25° $\mathring{\text{O}}$ 04'28					
evening set	-7856 Sep 05 j 19:07	27° $\mathring{\text{O}}$ 16'16		conjunction	-7850 Sep 29 j 17:55	11° $\mathring{\text{O}}$ 37'29	8°11'01
				minimum elong	-7850 Sep 29 j 18:15	11° $\mathring{\text{O}}$ 37'31	8°11'27
conjunction	-7856 Sep 15 j 15:40	27° $\mathring{\text{O}}$ 39'22	11°27'27	max. Earth dist.	-7850 Oct 01 j 14:47	11° $\mathring{\text{O}}$ 41'42	32.08210 AU
minimum elong	-7856 Sep 15 j 16:05	27° $\mathring{\text{O}}$ 39'24	11°27'56	morning rise	-7850 Oct 12 j 13:22	12° $\mathring{\text{O}}$ 06'09	
max. Earth dist.	-7856 Sep 16 j 19:05	27° $\mathring{\text{O}}$ 42'03	31.20336 AU	retrograde	-7849 Jan 12 j 11:16	14° $\mathring{\text{O}}$ 06'04	
morning rise	-7856 Sep 25 j 12:57	28° $\mathring{\text{O}}$ 02'33		min. Earth dist.	-7849 Mar 31 j 18:31	12° $\mathring{\text{O}}$ 48'30	30.18741 AU
	-7856 Nov 29 j 17:55	0° $\mathring{\text{O}}$		opposition	-7849 Apr 02 j 15:57	12° $\mathring{\text{O}}$ 45'32	8°25'00
retrograde	-7856 Dec 29 j 02:18	0° $\mathring{\text{O}}$ 14'33		direct	-7849 Jun 21 j 05:58	11° $\mathring{\text{O}}$ 25'24	
	-7855 Jan 28 j 10:27	30° $\mathring{\text{R}}$ $\mathring{\text{O}}$		evening set	-7849 Sep 19 j 01:23	13° $\mathring{\text{O}}$ 21'48	
min. Earth dist.	-7855 Mar 17 j 08:53	28° $\mathring{\text{O}}$ 54'11	29.30452 AU				
opposition	-7855 Mar 18 j 13:29	28° $\mathring{\text{O}}$ 52'15	11°57'40	conjunction	-7849 Oct 02 j 04:03	13° $\mathring{\text{O}}$ 50'53	7°36'31
direct	-7855 Jun 06 j 02:54	27° $\mathring{\text{O}}$ 29'39		minimum elong	-7849 Oct 02 j 04:22	13° $\mathring{\text{O}}$ 50'55	7°36'57
evening set	-7855 Sep 07 j 19:01	29° $\mathring{\text{O}}$ 38'58		max. Earth dist.	-7849 Oct 04 j 02:53	13° $\mathring{\text{O}}$ 55'15	32.25459 AU
	-7855 Sep 16 j 19:54	0° $\mathring{\text{O}}$		morning rise	-7849 Oct 15 j 08:06	14° $\mathring{\text{O}}$ 20'07	
					-7849 Nov 03 j 09:36	15° $\mathring{\text{O}}$	
conjunction	-7855 Sep 18 j 05:29	0° $\mathring{\text{O}}$ 03'16	10°56'28	retrograde	-7848 Jan 14 j 20:57	16° $\mathring{\text{O}}$ 18'15	
minimum elong	-7855 Sep 18 j 05:53	0° $\mathring{\text{O}}$ 03'19	10°56'58	min. Earth dist.	-7848 Apr 02 j 04:40	15° $\mathring{\text{O}}$ 01'11	30.36005 AU
max. Earth dist.	-7855 Sep 19 j 11:32	0° $\mathring{\text{O}}$ 06'12	31.32760 AU		-7848 Apr 02 j 22:47	15° $\mathring{\text{R}}$ $\mathring{\text{O}}$	
morning rise	-7855 Sep 28 j 16:59	0° $\mathring{\text{O}}$ 27'40		opposition	-7848 Apr 04 j 05:22	14° $\mathring{\text{O}}$ 58'01	7°47'54
retrograde	-7855 Dec 31 j 18:09	2° $\mathring{\text{O}}$ 37'27		direct	-7848 Jun 22 j 20:45	13° $\mathring{\text{O}}$ 38'16	
min. Earth dist.	-7854 Mar 19 j 23:40	1° $\mathring{\text{O}}$ 17'34	29.43018 AU		-7848 Sep 04 j 11:06	15° $\mathring{\text{O}}$	
opposition	-7854 Mar 21 j 07:48	1° $\mathring{\text{O}}$ 15'25	11°23'56	evening set	-7848 Sep 20 j 02:55	15° $\mathring{\text{O}}$ 32'47	
	-7854 May 19 j 09:38	30° $\mathring{\text{R}}$ $\mathring{\text{O}}$					
direct	-7854 Jun 08 j 19:09	29° $\mathring{\text{O}}$ 53'13		conjunction	-7848 Oct 03 j 13:18	16° $\mathring{\text{O}}$ 02'20	7°01'45
	-7854 Jun 29 j 00:01	0° $\mathring{\text{O}}$		minimum elong	-7848 Oct 03 j 13:36	16° $\mathring{\text{O}}$ 02'22	7°02'09
evening set	-7854 Sep 09 j 19:23	2° $\mathring{\text{O}}$ 00'11		max. Earth dist.	-7848 Oct 05 j 14:22	16° $\mathring{\text{O}}$ 06'52	32.43321 AU
				morning rise	-7848 Oct 17 j 01:21	16° $\mathring{\text{O}}$ 32'02	
conjunction	-7854 Sep 20 j 18:57	2° $\mathring{\text{O}}$ 25'33	10°24'39	retrograde	-7847 Jan 16 j 05:13	18° $\mathring{\text{O}}$ 28'29	
minimum elong	-7854 Sep 20 j 19:21	2° $\mathring{\text{O}}$ 25'35	10°25'07	min. Earth dist.	-7847 Apr 04 j 15:52	17° $\mathring{\text{O}}$ 11'47	30.53926 AU
max. Earth dist.	-7854 Sep 22 j 05:14	2° $\mathring{\text{O}}$ 28'52	31.46186 AU	opposition	-7847 Apr 06 j 18:17	17° $\mathring{\text{O}}$ 08'31	7°10'35
morning rise	-7854 Oct 01 j 19:22	2° $\mathring{\text{O}}$ 51'01		direct	-7847 Jun 25 j 08:53	15° $\mathring{\text{O}}$ 49'10	
retrograde	-7853 Jan 03 j 08:04	4° $\mathring{\text{O}}$ 58'40		evening set	-7847 Sep 22 j 04:14	17° $\mathring{\text{O}}$ 41'51	
min. Earth dist.	-7853 Mar 22 j 14:23	3° $\mathring{\text{O}}$ 39'16	29.56541 AU				
opposition	-7853 Mar 24 j 01:15	3° $\mathring{\text{O}}$ 36'56	10°49'23	conjunction	-7847 Oct 05 j 21:48	18° $\mathring{\text{O}}$ 11'48	6°26'48
direct	-7853 Jun 11 j 13:51	2° $\mathring{\text{O}}$ 15'09		minimum elong	-7847 Oct 05 j 22:04	18° $\mathring{\text{O}}$ 11'49	6°27'12
evening set	-7853 Sep 11 j 20:11	4° $\mathring{\text{O}}$ 19'50		max. Earth dist.	-7847 Oct 08 j 01:46	18° $\mathring{\text{O}}$ 16'33	32.61831 AU
				morning rise	-7847 Oct 19 j 16:53	18° $\mathring{\text{O}}$ 41'53	
conjunction	-7853 Sep 23 j 07:36	4° $\mathring{\text{O}}$ 46'09	9°52'05	retrograde	-7846 Jan 18 j 12:32	20° $\mathring{\text{O}}$ 36'43	
minimum elong	-7853 Sep 23 j 07:59	4° $\mathring{\text{O}}$ 46'12	9°52'34	min. Earth dist.	-7846 Apr 07 j 01:06	19° $\mathring{\text{O}}$ 20'27	30.72510 AU
max. Earth dist.	-7853 Sep 24 j 19:48	4° $\mathring{\text{O}}$ 49'38	31.60525 AU	opposition	-7846 Apr 09 j 06:13	19° $\mathring{\text{O}}$ 17'02	6°33'06
morning rise	-7853 Oct 04 j 20:13	5° $\mathring{\text{O}}$ 12'35		direct	-7846 Jun 27 j 21:21	17° $\mathring{\text{O}}$ 58'03	
retrograde	-7852 Jan 05 j 23:43	7° $\mathring{\text{O}}$ 18'12		evening set	-7846 Sep 24 j 05:45	19° $\mathring{\text{O}}$ 49'01	
min. Earth dist.	-7852 Mar 24 j 03:29	5° $\mathring{\text{O}}$ 59'18	29.70956 AU				
opposition	-7852 Mar 25 j 18:00	5° $\mathring{\text{O}}$ 56'45	10°14'05	conjunction	-7846 Oct 08 j 05:30	20° $\mathring{\text{O}}$ 19'17	5°51'43
direct	-7852 Jun 13 j 06:25	4° $\mathring{\text{O}}$ 35'23		minimum elong	-7846 Oct 08 j 05:45	20° $\mathring{\text{O}}$ 19'18	5°52'06
evening set	-7852 Sep 12 j 21:06	6° $\mathring{\text{O}}$ 37'53		max. Earth dist.	-7846 Oct 10 j 11:11	20° $\mathring{\text{O}}$ 24'09	32.80997 AU
				morning rise	-7846 Oct 22 j 07:11	20° $\mathring{\text{O}}$ 49'41	
conjunction	-7852 Sep 24 j 19:42	7° $\mathring{\text{O}}$ 05'03	9°18'54	retrograde	-7845 Jan 20 j 21:08	22° $\mathring{\text{O}}$ 42'58	
minimum elong	-7852 Sep 24 j 20:05	7° $\mathring{\text{O}}$ 05'05	9°19'20	min. Earth dist.	-7845 Apr 09 j 09:33	21° $\mathring{\text{O}}$ 27'09	30.91809 AU
max. Earth dist.	-7852 Sep 26 j 11:42	7° $\mathring{\text{O}}$ 08'52	31.75687 AU	opposition	-7845 Apr 11 j 17:14	21° $\mathring{\text{O}}$ 23'35	5°55'34
morning rise	-7852 Oct 06 j 19:22	7° $\mathring{\text{O}}$ 32'20		direct	-7845 Jun 30 j 06:54	20° $\mathring{\text{O}}$ 05'00	
retrograde	-7851 Jan 07 j 11:20	9° $\mathring{\text{O}}$ 35'58		evening set	-7845 Sep 26 j 07:04	21° $\mathring{\text{O}}$ 54'20	
min. Earth dist.	-7851 Mar 26 j 17:47	8° $\mathring{\text{O}}$ 17'30	29.86164 AU				
opposition	-7851 Mar 28 j 10:06	8° $\mathring{\text{O}}$ 14'50	9°38'12	conjunction	-7845 Oct 10 j 12:38	22° $\mathring{\text{O}}$ 24'50	5°16'36

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -7845 in astronomical counting style is the year 7846 BCE in historical counting style.

minimum elong	-7845 Oct 10 j 12:52	22°Ω24'51	5°16'58	min. Earth dist.	-7838 Apr 23 j 03:52	5°♊24'36	32.44456 AU
max. Earth dist.	-7845 Oct 12 j 21:41	22°Ω29'58	33.00858 AU	opposition	-7838 Apr 26 j 01:03	5°♊20'20	1°36'47
morning rise	-7845 Oct 24 j 19:56	22°Ω55'29		direct	-7838 Jul 14 j 17:15	4°♊04'47	
retrograde	-7844 Jan 23 j 03:49	24°Ω47'18		evening set	-7838 Oct 08 j 15:27	5°♊44'55	
min. Earth dist.	-7844 Apr 10 j 17:49	23°Ω31'55	31.11808 AU				
opposition	-7844 Apr 13 j 03:28	23°Ω28'15	5°18'03	conjunction	-7838 Oct 23 j 19:27	6°♊15'31	1°14'34
direct	-7844 Jul 01 j 18:11	22°Ω10'04		minimum elong	-7838 Oct 23 j 19:30	6°♊15'31	1°14'49
evening set	-7844 Sep 27 j 08:24	23°Ω57'52		max. Earth dist.	-7838 Oct 26 j 17:27	6°♊21'27	34.56167 AU
				morning rise	-7838 Nov 08 j 01:47	6°♊46'19	
conjunction	-7844 Oct 11 j 18:48	24°Ω28'32	4°41'29	retrograde	-7837 Feb 05 j 11:03	8°♊29'55	
minimum elong	-7844 Oct 11 j 19:00	24°Ω28'33	4°41'50	min. Earth dist.	-7837 Apr 25 j 07:47	7°♊17'39	32.67973 AU
max. Earth dist.	-7844 Oct 14 j 05:06	24°Ω33'44	33.21403 AU	opposition	-7837 Apr 28 j 05:57	7°♊13'21	1°01'05
morning rise	-7844 Oct 26 j 07:19	24°Ω59'22		direct	-7837 Jul 16 j 22:38	5°♊58'11	
retrograde	-7843 Jan 24 j 12:37	26°Ω49'49		evening set	-7837 Oct 10 j 16:35	7°♊37'16	
min. Earth dist.	-7843 Apr 13 j 00:04	25°Ω34'56	31.32515 AU				
opposition	-7843 Apr 15 j 12:55	25°Ω31'05	4°40'36	conjunction	-7837 Oct 25 j 21:26	8°♊07'41	0°41'10
direct	-7843 Jul 04 j 02:39	24°Ω13'20		minimum elong	-7837 Oct 25 j 21:28	8°♊07'41	0°41'26
evening set	-7843 Sep 29 j 09:38	25°Ω59'41		max. Earth dist.	-7837 Oct 28 j 19:36	8°♊13'35	34.79837 AU
				morning rise	-7837 Nov 10 j 05:02	8°♊38'19	
conjunction	-7843 Oct 14 j 00:30	26°Ω30'28	4°06'27	retrograde	-7836 Feb 07 j 14:13	10°♊20'58	
minimum elong	-7843 Oct 14 j 00:41	26°Ω30'29	4°06'49	min. Earth dist.	-7836 Apr 26 j 10:24	9°♊09'06	32.91728 AU
max. Earth dist.	-7843 Oct 16 j 14:04	26°Ω35'55	33.42612 AU	opposition	-7836 Apr 29 j 10:19	9°♊04'44	0°25'50
morning rise	-7843 Oct 28 j 17:24	27°Ω01'26		direct	-7836 Jul 18 j 01:30	7°♊49'56	
retrograde	-7842 Jan 26 j 17:54	28°Ω50'35		evening set	-7836 Oct 11 j 17:17	9°♊27'59	
min. Earth dist.	-7842 Apr 15 j 07:41	27°Ω36'06	31.53881 AU				
opposition	-7842 Apr 17 j 21:41	27°Ω32'12	4°03'17	conjunction	-7836 Oct 26 j 22:47	9°♊58'12	0°08'13
direct	-7842 Jul 06 j 11:09	26°Ω14'54		minimum elong	-7836 Oct 26 j 22:48	9°♊58'12	0°08'27
evening set	-7842 Oct 01 j 10:50	27°Ω59'52		behind sun begin	-7836 Oct 26 j 17:11	9°♊57'45	
				behind sun end	-7836 Oct 27 j 04:25	9°♊58'39	
conjunction	-7842 Oct 16 j 05:27	28°Ω30'43	3°31'34	max. Earth dist.	-7836 Oct 29 j 23:08	10°♊04'14	35.03708 AU
minimum elong	-7842 Oct 16 j 05:36	28°Ω30'43	3°31'54	morning rise	-7836 Nov 11 j 06:51	10°♊28'38	
max. Earth dist.	-7842 Oct 18 j 20:20	28°Ω36'13	33.64433 AU	desc. node	-7835 Jan 26 j 20:34	12°♊08'00	
morning rise	-7842 Oct 31 j 02:15	29°Ω01'45		retrograde	-7835 Feb 08 j 15:12	12°♊10'22	
	-7842 Dec 01 j 09:17	0°♊		min. Earth dist.	-7835 Apr 28 j 13:52	10°♊58'47	33.15693 AU
retrograde	-7841 Jan 29 j 00:01	0°♊49'39		opposition	-7835 May 01 j 14:01	10°♊54'25	-0°08'56
	-7841 Mar 31 j 21:55	30°♋Ω		direct	-7835 Jul 20 j 06:04	9°♊39'59	
min. Earth dist.	-7841 Apr 17 j 12:29	29°Ω35'43	31.75838 AU	evening set	-7835 Oct 13 j 18:01	11°♊17'04	
opposition	-7841 Apr 20 j 05:33	29°Ω31'39	3°26'12				
direct	-7841 Jul 08 j 20:34	28°Ω14'47		conjunction	-7835 Oct 28 j 23:33	11°♊47'02	-0°24'23
evening set	-7841 Oct 03 j 12:04	29°Ω58'27		minimum elong	-7835 Oct 28 j 23:32	11°♊47'02	0°24'09
	-7841 Oct 04 j 06:21	0°♊		max. Earth dist.	-7835 Nov 01 j 00:05	11°♊53'02	35.27791 AU
				morning rise	-7835 Nov 13 j 07:48	12°♊17'13	
conjunction	-7841 Oct 18 j 09:48	0°♊29'19	2°56'54	retrograde	-7834 Feb 10 j 17:54	13°♊58'04	
minimum elong	-7841 Oct 18 j 09:56	0°♊29'19	2°57'13	min. Earth dist.	-7834 Apr 30 j 14:35	12°♊46'53	33.39906 AU
max. Earth dist.	-7841 Oct 21 j 03:04	0°♊34'59	33.86770 AU	opposition	-7834 May 03 j 16:51	12°♊42'25	-0°43'10
morning rise	-7841 Nov 02 j 09:53	1°♊00'22		direct	-7834 Jul 22 j 08:52	11°♊28'19	
retrograde	-7840 Jan 31 j 04:40	2°♊47'06		evening set	-7834 Oct 15 j 18:31	13°♊04'30	
min. Earth dist.	-7840 Apr 18 j 18:49	1°♊33'34	31.98308 AU				
opposition	-7840 Apr 21 j 12:42	1°♊29'28	2°49'23	conjunction	-7834 Oct 30 j 23:40	13°♊34'11	-0°56'27
direct	-7840 Jul 10 j 04:28	0°♊13'03		minimum elong	-7834 Oct 30 j 23:38	13°♊34'11	0°56'15
evening set	-7840 Oct 04 j 13:13	1°♊55'29		max. Earth dist.	-7834 Nov 03 j 02:09	13°♊40'17	35.52105 AU
				morning rise	-7834 Nov 15 j 07:36	14°♊04'05	
conjunction	-7840 Oct 19 j 13:37	2°♊26'19	2°22'28	retrograde	-7833 Feb 12 j 17:46	15°♊44'08	
minimum elong	-7840 Oct 19 j 13:43	2°♊26'19	2°22'45	min. Earth dist.	-7833 May 02 j 16:42	14°♊33'13	33.64392 AU
max. Earth dist.	-7840 Oct 22 j 08:28	2°♊32'05	34.09568 AU	opposition	-7833 May 05 j 19:06	14°♊28'46	-1°16'52
morning rise	-7840 Nov 03 j 16:16	2°♊57'19		direct	-7833 Jul 24 j 11:17	13°♊15'00	
retrograde	-7839 Feb 01 j 07:32	4°♊42'58		evening set	-7833 Oct 17 j 18:51	14°♊50'20	
min. Earth dist.	-7839 Apr 20 j 23:00	3°♊29'55	32.21203 AU				
opposition	-7839 Apr 23 j 19:09	3°♊25'42	2°12'54	conjunction	-7833 Nov 01 j 23:16	15°♊19'43	-1°28'01
direct	-7839 Jul 12 j 12:14	2°♊09'43		minimum elong	-7833 Nov 01 j 23:12	15°♊19'42	1°27'49
evening set	-7839 Oct 06 j 14:22	3°♊50'59		max. Earth dist.	-7833 Nov 05 j 02:47	15°♊25'51	35.76698 AU
				morning rise	-7833 Nov 17 j 06:18	15°♊49'18	
conjunction	-7839 Oct 21 j 16:40	4°♊21'42	1°48'21	retrograde	-7832 Feb 14 j 15:33	17°♊28'34	
minimum elong	-7839 Oct 21 j 16:44	4°♊21'43	1°48'38	min. Earth dist.	-7832 May 03 j 16:00	16°♊18'04	33.89175 AU
max. Earth dist.	-7839 Oct 24 j 12:39	4°♊27'31	34.32719 AU	opposition	-7832 May 06 j 20:26	16°♊13'31	-1°50'00
morning rise	-7839 Nov 05 j 21:35	4°♊52'39		direct	-7832 Jul 25 j 15:07	15°♊00'06	
retrograde	-7838 Feb 03 j 09:58	6°♊37'15		evening set	-7832 Oct 18 j 19:09	16°♊34'39	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6

Attention, astronomical year style is used: The year -7832 in astronomical counting style is the year 7833 BCE in historical counting style.

conjunction	-7832 Nov 02 j 22:11	17° $\mathring{\text{M}}$ 03'42	-1°59'03	direct	-7825 Aug 07 j 10:02	26° $\mathring{\text{M}}$ 39'13	
minimum elong	-7832 Nov 02 j 22:06	17° $\mathring{\text{M}}$ 03'41	1°58'53	evening set	-7825 Oct 31 j 17:38	28° $\mathring{\text{M}}$ 09'47	
max. Earth dist.	-7832 Nov 06 j 02:42	17° $\mathring{\text{M}}$ 09'52	36.01578 AU				
morning rise	-7832 Nov 18 j 04:08	17° $\mathring{\text{M}}$ 32'58		conjunction	-7825 Nov 15 j 01:50	28° $\mathring{\text{M}}$ 35'55	-5°20'34
retrograde	-7831 Feb 15 j 13:43	19° $\mathring{\text{M}}$ 11'32		minimum elong	-7825 Nov 15 j 01:40	28° $\mathring{\text{M}}$ 35'55	5°20'29
min. Earth dist.	-7831 May 05 j 16:05	18° $\mathring{\text{M}}$ 01'22	34.14284 AU	max. Earth dist.	-7825 Nov 18 j 11:22	28° $\mathring{\text{M}}$ 42'10	37.80882 AU
opposition	-7831 May 08 j 21:24	17° $\mathring{\text{M}}$ 56'47	-2°22'32	morning rise	-7825 Nov 29 j 12:53	29° $\mathring{\text{M}}$ 02'16	
direct	-7831 Jul 27 j 16:21	16° $\mathring{\text{M}}$ 43'44			-7824 Jan 04 j 18:06	0° $\mathring{\text{A}}$	
evening set	-7831 Oct 20 j 19:02	18° $\mathring{\text{M}}$ 17'33		retrograde	-7824 Feb 27 j 17:20	0° $\mathring{\text{A}}$ 37'18	
					-7824 Apr 23 j 19:38	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
conjunction	-7831 Nov 04 j 20:38	18° $\mathring{\text{M}}$ 46'15	-2°29'34	min. Earth dist.	-7824 May 17 j 02:16	29° $\mathring{\text{M}}$ 29'34	35.94686 AU
minimum elong	-7831 Nov 04 j 20:33	18° $\mathring{\text{M}}$ 46'14	2°29'23	opposition	-7824 May 20 j 11:35	29° $\mathring{\text{M}}$ 24'54	-5°52'42
max. Earth dist.	-7831 Nov 08 j 03:03	18° $\mathring{\text{M}}$ 52'31	36.26763 AU	direct	-7824 Aug 08 j 07:30	28° $\mathring{\text{M}}$ 14'26	
morning rise	-7831 Nov 20 j 00:51	19° $\mathring{\text{M}}$ 15'09		evening set	-7824 Nov 01 j 16:57	29° $\mathring{\text{M}}$ 44'34	
retrograde	-7830 Feb 17 j 10:28	20° $\mathring{\text{M}}$ 53'05			-7824 Nov 10 j 06:36	0° $\mathring{\text{A}}$	
min. Earth dist.	-7830 May 07 j 15:24	19° $\mathring{\text{M}}$ 43'17	34.39674 AU				
opposition	-7830 May 10 j 21:39	19° $\mathring{\text{M}}$ 38'40	-2°54'28	conjunction	-7824 Nov 15 j 21:21	0° $\mathring{\text{A}}$ 10'13	-5°47'01
direct	-7830 Jul 29 j 17:49	18° $\mathring{\text{M}}$ 26'00		minimum elong	-7824 Nov 15 j 21:09	0° $\mathring{\text{A}}$ 10'12	5°46'57
evening set	-7830 Oct 22 j 19:08	19° $\mathring{\text{M}}$ 59'09		max. Earth dist.	-7824 Nov 19 j 07:48	0° $\mathring{\text{A}}$ 16'29	38.06454 AU
				morning rise	-7824 Nov 30 j 04:11	0° $\mathring{\text{A}}$ 36'05	
conjunction	-7830 Nov 06 j 18:36	20° $\mathring{\text{M}}$ 27'27	-2°59'30	retrograde	-7823 Feb 28 j 10:27	2° $\mathring{\text{A}}$ 10'44	
minimum elong	-7830 Nov 06 j 18:29	20° $\mathring{\text{M}}$ 27'27	2°59'22	min. Earth dist.	-7823 May 18 j 23:01	1° $\mathring{\text{A}}$ 03'15	36.20349 AU
max. Earth dist.	-7830 Nov 10 j 01:08	20° $\mathring{\text{M}}$ 33'42	36.52197 AU	opposition	-7823 May 22 j 08:06	0° $\mathring{\text{A}}$ 58'37	-6°20'09
morning rise	-7830 Nov 21 j 20:59	20° $\mathring{\text{M}}$ 55'59			-7823 Jul 11 j 20:09	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
retrograde	-7829 Feb 19 j 09:31	22° $\mathring{\text{M}}$ 33'20		direct	-7823 Aug 10 j 05:42	29° $\mathring{\text{M}}$ 48'28	
min. Earth dist.	-7829 May 09 j 13:29	21° $\mathring{\text{M}}$ 23'56	34.65319 AU		-7823 Sep 07 j 20:55	0° $\mathring{\text{A}}$	
opposition	-7829 May 12 j 21:12	21° $\mathring{\text{M}}$ 19'15	-3°25'46	evening set	-7823 Nov 03 j 16:11	1° $\mathring{\text{A}}$ 18'11	
direct	-7829 Jul 31 j 15:54	20° $\mathring{\text{M}}$ 06'58					
evening set	-7829 Oct 24 j 18:56	21° $\mathring{\text{M}}$ 39'31		conjunction	-7823 Nov 17 j 16:10	1° $\mathring{\text{A}}$ 43'20	-6°12'52
				minimum elong	-7823 Nov 17 j 15:59	1° $\mathring{\text{A}}$ 43'19	6°12'49
conjunction	-7829 Nov 08 j 16:09	22° $\mathring{\text{M}}$ 07'26	-3°28'53	max. Earth dist.	-7823 Nov 21 j 01:48	1° $\mathring{\text{A}}$ 49'30	38.31901 AU
minimum elong	-7829 Nov 08 j 16:01	22° $\mathring{\text{M}}$ 07'25	3°28'44	morning rise	-7823 Dec 01 j 18:49	2° $\mathring{\text{A}}$ 08'41	
max. Earth dist.	-7829 Nov 12 j 00:42	22° $\mathring{\text{M}}$ 13'47	36.77831 AU	retrograde	-7822 Mar 02 j 06:18	3° $\mathring{\text{A}}$ 43'00	
morning rise	-7829 Nov 23 j 16:02	22° $\mathring{\text{M}}$ 35'33		min. Earth dist.	-7822 May 20 j 18:15	2° $\mathring{\text{A}}$ 35'48	36.45920 AU
retrograde	-7828 Feb 21 j 07:20	24° $\mathring{\text{M}}$ 12'22		opposition	-7822 May 24 j 04:08	2° $\mathring{\text{A}}$ 31'09	-6°46'58
min. Earth dist.	-7828 May 10 j 12:45	23° $\mathring{\text{M}}$ 03'18	34.91134 AU	direct	-7822 Aug 12 j 00:20	1° $\mathring{\text{A}}$ 21'16	
opposition	-7828 May 13 j 20:20	22° $\mathring{\text{M}}$ 58'39	-3°56'26	evening set	-7822 Nov 05 j 15:15	2° $\mathring{\text{A}}$ 50'37	
direct	-7828 Aug 01 j 14:28	21° $\mathring{\text{M}}$ 46'45					
evening set	-7828 Oct 25 j 18:37	23° $\mathring{\text{M}}$ 18'44		conjunction	-7822 Nov 19 j 10:45	3° $\mathring{\text{A}}$ 15'16	-6°38'07
				minimum elong	-7822 Nov 19 j 10:32	3° $\mathring{\text{A}}$ 15'15	6°38'06
conjunction	-7828 Nov 09 j 13:03	23° $\mathring{\text{M}}$ 46'14	-3°57'41	max. Earth dist.	-7822 Nov 22 j 21:42	3° $\mathring{\text{A}}$ 21'28	38.57251 AU
minimum elong	-7828 Nov 09 j 12:54	23° $\mathring{\text{M}}$ 46'13	3°57'34	morning rise	-7822 Dec 03 j 08:43	3° $\mathring{\text{A}}$ 40'06	
max. Earth dist.	-7828 Nov 12 j 21:25	23° $\mathring{\text{M}}$ 52'31	37.03596 AU	retrograde	-7821 Mar 04 j 01:03	5° $\mathring{\text{A}}$ 14'04	
morning rise	-7828 Nov 24 j 10:15	24° $\mathring{\text{M}}$ 13'56		min. Earth dist.	-7821 May 22 j 14:28	4° $\mathring{\text{A}}$ 07'03	36.71422 AU
retrograde	-7827 Feb 22 j 06:40	25° $\mathring{\text{M}}$ 50'16		opposition	-7821 May 25 j 23:30	4° $\mathring{\text{A}}$ 02'29	-7°13'07
min. Earth dist.	-7827 May 12 j 09:42	24° $\mathring{\text{M}}$ 41'36	35.17055 AU	direct	-7821 Aug 13 j 18:56	2° $\mathring{\text{A}}$ 52'52	
opposition	-7827 May 15 j 18:56	24° $\mathring{\text{M}}$ 36'53	-4°26'28	evening set	-7821 Nov 07 j 14:10	4° $\mathring{\text{A}}$ 21'53	
direct	-7827 Aug 03 j 11:29	23° $\mathring{\text{M}}$ 25'22					
evening set	-7827 Oct 27 j 18:22	24° $\mathring{\text{M}}$ 56'51		conjunction	-7821 Nov 21 j 04:48	4° $\mathring{\text{A}}$ 46'00	-7°02'46
				minimum elong	-7821 Nov 21 j 04:35	4° $\mathring{\text{A}}$ 45'59	7°02'45
conjunction	-7827 Nov 11 j 09:43	25° $\mathring{\text{M}}$ 23'54	-4°25'54	max. Earth dist.	-7821 Nov 24 j 15:21	4° $\mathring{\text{A}}$ 52'09	38.82564 AU
minimum elong	-7827 Nov 11 j 09:34	25° $\mathring{\text{M}}$ 23'54	4°25'47	morning rise	-7821 Dec 04 j 21:48	5° $\mathring{\text{A}}$ 10'18	
max. Earth dist.	-7827 Nov 14 j 19:14	25° $\mathring{\text{M}}$ 30'14	37.29404 AU	retrograde	-7820 Mar 04 j 19:59	6° $\mathring{\text{A}}$ 43'58	
morning rise	-7827 Nov 26 j 03:52	25° $\mathring{\text{M}}$ 51'11		min. Earth dist.	-7820 May 23 j 08:00	5° $\mathring{\text{A}}$ 37'17	36.96911 AU
retrograde	-7826 Feb 24 j 02:57	27° $\mathring{\text{M}}$ 27'03		opposition	-7820 May 26 j 18:24	5° $\mathring{\text{A}}$ 32'39	-7°38'36
min. Earth dist.	-7826 May 14 j 08:30	26° $\mathring{\text{M}}$ 18'40	35.43005 AU	direct	-7820 Aug 14 j 13:06	4° $\mathring{\text{A}}$ 23'19	
opposition	-7826 May 17 j 17:02	26° $\mathring{\text{M}}$ 14'01	-4°55'51	evening set	-7820 Nov 08 j 12:48	5° $\mathring{\text{A}}$ 52'02	
direct	-7826 Aug 05 j 10:05	25° $\mathring{\text{M}}$ 02'52					
evening set	-7826 Oct 29 j 17:59	26° $\mathring{\text{M}}$ 33'52		conjunction	-7820 Nov 21 j 22:14	6° $\mathring{\text{A}}$ 15'37	-7°26'48
				minimum elong	-7820 Nov 21 j 22:00	6° $\mathring{\text{A}}$ 15'36	7°26'48
conjunction	-7826 Nov 13 j 06:04	27° $\mathring{\text{M}}$ 00'28	-4°53'31	max. Earth dist.	-7820 Nov 25 j 09:30	6° $\mathring{\text{A}}$ 21'46	39.07865 AU
minimum elong	-7826 Nov 13 j 05:54	27° $\mathring{\text{M}}$ 00'28	4°53'26	morning rise	-7820 Dec 05 j 10:09	6° $\mathring{\text{A}}$ 39'23	
max. Earth dist.	-7826 Nov 16 j 15:49	27° $\mathring{\text{M}}$ 06'47	37.55196 AU	retrograde	-7819 Mar 06 j 13:04	8° $\mathring{\text{A}}$ 12'47	
morning rise	-7826 Nov 27 j 20:43	27° $\mathring{\text{M}}$ 27'18		min. Earth dist.	-7819 May 25 j 03:08	7° $\mathring{\text{A}}$ 06'18	37.22420 AU
retrograde	-7825 Feb 25 j 22:01	29° $\mathring{\text{M}}$ 02'44		opposition	-7819 May 28 j 13:03	7° $\mathring{\text{A}}$ 01'43	-8°03'26
min. Earth dist.	-7825 May 16 j 05:09	27° $\mathring{\text{M}}$ 54'42	35.68894 AU	direct	-7819 Aug 16 j 09:01	5° $\mathring{\text{A}}$ 52'40	
opposition	-7825 May 19 j 14:30	27° $\mathring{\text{M}}$ 50'01	-5°24'36	evening set	-7819 Nov 10 j 11:22	7° $\mathring{\text{A}}$ 21'07	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -7819 in astronomical counting style is the year 7820 BCE in historical counting style.

conjunction	-7819 Nov 23 j 15:35	7° <u>♁</u> 44'10	-7°50'14	direct	-7812 Aug 26 j 09:22	15° <u>♁</u> 52'19	
minimum elong	-7819 Nov 23 j 15:22	7° <u>♁</u> 44'09	7°50'14	evening set	-7812 Nov 21 j 23:22	17° <u>♁</u> 19'50	
max. Earth dist.	-7819 Nov 27 j 03:30	7° <u>♁</u> 50'19	39.33194 AU				
morning rise	-7819 Dec 06 j 21:54	8° <u>♁</u> 07'22		conjunction	-7812 Dec 03 j 07:16	17° <u>♁</u> 38'50	-10°17'35
retrograde	-7818 Mar 08 j 04:12	9° <u>♁</u> 40'32		minimum elong	-7812 Dec 03 j 07:01	17° <u>♁</u> 38'49	10°17'40
min. Earth dist.	-7818 May 26 j 20:27	8° <u>♁</u> 34'21	37.47938 AU	max. Earth dist.	-7812 Dec 06 j 18:29	17° <u>♁</u> 44'41	41.07683 AU
opposition	-7818 May 30 j 06:58	8° <u>♁</u> 29'44	-8°27'36	morning rise	-7812 Dec 14 j 16:38	17° <u>♁</u> 57'57	
direct	-7818 Aug 18 j 05:31	7° <u>♁</u> 20'59		retrograde	-7811 Mar 17 j 16:42	19° <u>♁</u> 30'19	
evening set	-7818 Nov 12 j 09:58	8° <u>♁</u> 49'13		min. Earth dist.	-7811 Jun 05 j 18:00	18° <u>♁</u> 25'45	39.23191 AU
				opposition	-7811 Jun 09 j 02:16	18° <u>♁</u> 21'24	-10°59'04
				direct	-7811 Aug 28 j 03:30	17° <u>♁</u> 14'33	
				evening set	-7811 Nov 23 j 21:31	18° <u>♁</u> 42'01	
conjunction	-7818 Nov 25 j 08:24	9° <u>♁</u> 11'43	-8°13'02				
minimum elong	-7818 Nov 25 j 08:10	9° <u>♁</u> 11'41	8°13'03				
max. Earth dist.	-7818 Nov 28 j 19:55	9° <u>♁</u> 17'48	39.58518 AU				
morning rise	-7818 Dec 08 j 09:12	9° <u>♁</u> 34'21		conjunction	-7811 Dec 04 j 22:00	19° <u>♁</u> 00'24	-10°36'23
retrograde	-7817 Mar 09 j 21:05	11° <u>♁</u> 07'20		minimum elong	-7811 Dec 04 j 21:45	19° <u>♁</u> 00'23	10°36'30
min. Earth dist.	-7817 May 28 j 13:46	10° <u>♁</u> 01'26	37.73458 AU	max. Earth dist.	-7811 Dec 08 j 07:46	19° <u>♁</u> 06'06	41.31585 AU
opposition	-7817 Jun 01 j 00:39	9° <u>♁</u> 56'49	-8°51'06	morning rise	-7811 Dec 16 j 00:05	19° <u>♁</u> 18'53	
direct	-7817 Aug 19 j 23:01	8° <u>♁</u> 48'22		retrograde	-7810 Mar 19 j 07:19	20° <u>♁</u> 51'13	
evening set	-7817 Nov 14 j 08:13	10° <u>♁</u> 16'24		min. Earth dist.	-7810 Jun 07 j 08:55	19° <u>♁</u> 46'51	39.47159 AU
				opposition	-7810 Jun 10 j 17:12	19° <u>♁</u> 42'31	-11°18'19
				direct	-7810 Aug 29 j 18:15	18° <u>♁</u> 35'53	
				evening set	-7810 Nov 25 j 19:25	20° <u>♁</u> 03'19	
conjunction	-7817 Nov 27 j 00:56	10° <u>♁</u> 38'20	-8°35'14				
minimum elong	-7817 Nov 27 j 00:42	10° <u>♁</u> 38'19	8°35'17				
max. Earth dist.	-7817 Nov 30 j 13:40	10° <u>♁</u> 44'28	39.83811 AU	conjunction	-7810 Dec 06 j 12:30	20° <u>♁</u> 21'04	-10°54'38
morning rise	-7817 Dec 09 j 19:39	11° <u>♁</u> 00'25		minimum elong	-7810 Dec 06 j 12:15	20° <u>♁</u> 21'03	10°54'45
retrograde	-7816 Mar 10 j 11:10	12° <u>♁</u> 33'14		max. Earth dist.	-7810 Dec 09 j 22:52	20° <u>♁</u> 26'47	41.55200 AU
min. Earth dist.	-7816 May 29 j 07:32	11° <u>♁</u> 27'34	37.98910 AU	morning rise	-7810 Dec 17 j 06:58	20° <u>♁</u> 38'57	
opposition	-7816 Jun 01 j 17:48	11° <u>♁</u> 23'00	-9°13'58	retrograde	-7809 Mar 20 j 21:02	22° <u>♁</u> 11'14	
direct	-7816 Aug 20 j 17:41	10° <u>♁</u> 14'51		min. Earth dist.	-7809 Jun 09 j 00:54	21° <u>♁</u> 07'00	39.70858 AU
evening set	-7816 Nov 15 j 06:35	11° <u>♁</u> 42'43		opposition	-7809 Jun 12 j 07:49	21° <u>♁</u> 02'45	-11°37'00
				direct	-7809 Aug 31 j 09:13	19° <u>♁</u> 56'20	
				evening set	-7809 Nov 27 j 17:14	21° <u>♁</u> 23'44	
conjunction	-7816 Nov 27 j 17:06	12° <u>♁</u> 04'05	-8°56'51				
minimum elong	-7816 Nov 27 j 16:51	12° <u>♁</u> 04'04	8°56'54				
max. Earth dist.	-7816 Dec 01 j 04:48	12° <u>♁</u> 10'07	40.09022 AU	conjunction	-7809 Dec 08 j 02:29	21° <u>♁</u> 40'53	-11°12'21
morning rise	-7816 Dec 10 j 05:40	12° <u>♁</u> 25'35		minimum elong	-7809 Dec 08 j 02:14	21° <u>♁</u> 40'52	11°12'30
retrograde	-7815 Mar 12 j 05:12	13° <u>♁</u> 58'17		max. Earth dist.	-7809 Dec 11 j 11:51	21° <u>♁</u> 46'29	41.78586 AU
min. Earth dist.	-7815 May 30 j 23:34	12° <u>♁</u> 52'55	38.24261 AU	morning rise	-7809 Dec 18 j 13:00	21° <u>♁</u> 58'06	
opposition	-7815 Jun 03 j 10:37	12° <u>♁</u> 48'20	-9°36'12	retrograde	-7808 Mar 21 j 12:46	23° <u>♁</u> 30'24	
direct	-7815 Aug 22 j 08:35	11° <u>♁</u> 40'28		min. Earth dist.	-7808 Jun 09 j 14:21	22° <u>♁</u> 26'23	39.94356 AU
evening set	-7815 Nov 17 j 04:48	13° <u>♁</u> 08'13		opposition	-7808 Jun 12 j 21:56	22° <u>♁</u> 22'07	-11°55'05
				direct	-7808 Aug 31 j 21:49	21° <u>♁</u> 15'54	
				evening set	-7808 Nov 28 j 14:58	22° <u>♁</u> 43'21	
conjunction	-7815 Nov 29 j 09:01	13° <u>♁</u> 29'00	-9°17'53				
minimum elong	-7815 Nov 29 j 08:47	13° <u>♁</u> 28'59	9°17'57				
max. Earth dist.	-7815 Dec 02 j 21:29	13° <u>♁</u> 35'02	40.34077 AU	conjunction	-7808 Dec 08 j 16:11	22° <u>♁</u> 59'51	-11°29'30
morning rise	-7815 Dec 11 j 15:14	13° <u>♁</u> 49'56		minimum elong	-7808 Dec 08 j 15:57	22° <u>♁</u> 59'50	11°29'39
retrograde	-7814 Mar 13 j 22:13	15° <u>♁</u> 22'31		max. Earth dist.	-7808 Dec 12 j 01:40	23° <u>♁</u> 05'26	42.01794 AU
min. Earth dist.	-7814 Jun 01 j 17:32	14° <u>♁</u> 17'20	38.49423 AU	morning rise	-7808 Dec 18 j 18:44	23° <u>♁</u> 16'26	
opposition	-7814 Jun 05 j 03:09	14° <u>♁</u> 12'51	-9°57'49	retrograde	-7807 Mar 23 j 02:33	24° <u>♁</u> 48'46	
direct	-7814 Aug 23 j 23:40	13° <u>♁</u> 05'16		min. Earth dist.	-7807 Jun 11 j 05:21	23° <u>♁</u> 44'53	40.17711 AU
evening set	-7814 Nov 19 j 03:08	14° <u>♁</u> 32'55		opposition	-7807 Jun 14 j 11:53	23° <u>♁</u> 40'42	-12°12'35
				direct	-7807 Sep 02 j 11:10	22° <u>♁</u> 34'42	
				evening set	-7807 Nov 30 j 12:38	24° <u>♁</u> 02'12	
conjunction	-7814 Dec 01 j 00:49	14° <u>♁</u> 53'07	-9°38'20				
minimum elong	-7814 Dec 01 j 00:34	14° <u>♁</u> 53'06	9°38'24				
max. Earth dist.	-7814 Dec 04 j 12:35	14° <u>♁</u> 59'04	40.58914 AU	conjunction	-7807 Dec 10 j 05:44	24° <u>♁</u> 18'03	-11°46'06
morning rise	-7814 Dec 13 j 00:12	15° <u>♁</u> 13'27		minimum elong	-7807 Dec 10 j 05:29	24° <u>♁</u> 18'02	11°46'17
retrograde	-7813 Mar 15 j 13:30	16° <u>♁</u> 45'56		max. Earth dist.	-7807 Dec 13 j 15:27	24° <u>♁</u> 23'38	42.24880 AU
min. Earth dist.	-7813 Jun 03 j 09:03	15° <u>♁</u> 41'01	38.74325 AU	morning rise	-7807 Dec 19 j 23:47	24° <u>♁</u> 33'59	
opposition	-7813 Jun 06 j 19:01	15° <u>♁</u> 36'32	-10°18'49	retrograde	-7806 Mar 24 j 13:16	26° <u>♁</u> 06'22	
direct	-7813 Aug 25 j 16:45	14° <u>♁</u> 29'13		min. Earth dist.	-7806 Jun 12 j 18:40	25° <u>♁</u> 02'43	40.40926 AU
evening set	-7813 Nov 21 j 01:25	15° <u>♁</u> 56'48		opposition	-7806 Jun 16 j 01:22	24° <u>♁</u> 58'32	-12°29'30
				direct	-7806 Sep 04 j 03:38	23° <u>♁</u> 52'45	
				evening set	-7806 Dec 02 j 10:27	25° <u>♁</u> 20'22	
conjunction	-7813 Dec 02 j 16:12	16° <u>♁</u> 16'24	-9°58'14				
minimum elong	-7813 Dec 02 j 15:57	16° <u>♁</u> 16'23	9°58'19				
max. Earth dist.	-7813 Dec 06 j 03:10	16° <u>♁</u> 22'16	40.83454 AU	conjunction	-7806 Dec 11 j 18:54	25° <u>♁</u> 35'34	-12°02'10
morning rise	-7813 Dec 14 j 08:51	16° <u>♁</u> 36'08		minimum elong	-7806 Dec 11 j 18:40	25° <u>♁</u> 35'33	12°02'20
retrograde	-7812 Mar 16 j 04:29	18° <u>♁</u> 08'33		max. Earth dist.	-7806 Dec 15 j 03:31	25° <u>♁</u> 41'02	42.47828 AU
min. Earth dist.	-7812 Jun 04 j 01:54	17° <u>♁</u> 03'48	38.98927 AU	morning rise	-7806 Dec 21 j 04:28	25° <u>♁</u> 50'49	
opposition	-7812 Jun 07 j 10:53	16° <u>♁</u> 59'24	-10°39'14				

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8

Attention, astronomical year style is used: The year -7805 in astronomical counting style is the year 7806 BCE in historical counting style.

retrograde	-7805 Mar 26 j 01:14	27° <u>♄</u> 23'18		evening set	-7799 Dec 13 j 21:25	4° <u>♄</u> 11'37	
min. Earth dist.	-7805 Jun 14 j 07:56	26° <u>♄</u> 19'53	40.64016 AU				
opposition	-7805 Jun 17 j 14:31	26° <u>♄</u> 15'42	-12°45'51	conjunction	-7799 Dec 20 j 09:14	4° <u>♄</u> 21'49	-13°40'22
direct	-7805 Sep 05 j 17:51	25° <u>♄</u> 10'10		minimum elong	-7799 Dec 20 j 09:01	4° <u>♄</u> 21'48	13°40'36
evening set	-7805 Dec 04 j 08:03	26° <u>♄</u> 37'54		max. Earth dist.	-7799 Dec 23 j 13:21	4° <u>♄</u> 26'49	44.01740 AU
				morning rise	-7799 Dec 26 j 21:23	4° <u>♄</u> 32'04	
conjunction	-7805 Dec 13 j 07:54	26° <u>♄</u> 52'26	-12°17'41	retrograde	-7798 Apr 03 j 12:17	6° <u>♄</u> 05'56	
minimum elong	-7805 Dec 13 j 07:39	26° <u>♄</u> 52'25	12°17'52	min. Earth dist.	-7798 Jun 23 j 02:02	5° <u>♄</u> 03'41	42.18124 AU
max. Earth dist.	-7805 Dec 16 j 17:21	26° <u>♄</u> 57'56	42.70641 AU	opposition	-7798 Jun 26 j 03:31	4° <u>♄</u> 59'52	-14°25'28
morning rise	-7805 Dec 22 j 08:34	27° <u>♄</u> 07'02		direct	-7798 Sep 14 j 09:39	3° <u>♄</u> 55'46	
retrograde	-7804 Mar 26 j 12:20	28° <u>♄</u> 39'38		evening set	-7798 Dec 15 j 20:39	5° <u>♄</u> 25'11	
min. Earth dist.	-7804 Jun 14 j 21:59	27° <u>♄</u> 36'23	40.86937 AU				
opposition	-7804 Jun 18 j 03:29	27° <u>♄</u> 32'16	-13°01'38	conjunction	-7798 Dec 21 j 20:47	5° <u>♄</u> 34'34	-13°52'31
direct	-7804 Sep 06 j 08:14	26° <u>♄</u> 26'58		minimum elong	-7798 Dec 21 j 20:35	5° <u>♄</u> 34'34	13°52'48
evening set	-7804 Dec 05 j 05:45	27° <u>♄</u> 54'52		max. Earth dist.	-7798 Dec 25 j 00:53	5° <u>♄</u> 39'32	44.22256 AU
				morning rise	-7798 Dec 27 j 21:09	5° <u>♄</u> 43'59	
conjunction	-7804 Dec 13 j 20:27	28° <u>♄</u> 08'43	-12°32'41	retrograde	-7797 Apr 04 j 23:15	7° <u>♄</u> 18'11	
minimum elong	-7804 Dec 13 j 20:14	28° <u>♄</u> 08'42	12°32'52	min. Earth dist.	-7797 Jun 24 j 15:00	6° <u>♄</u> 15'59	42.38641 AU
max. Earth dist.	-7804 Dec 17 j 04:43	28° <u>♄</u> 14'07	42.93279 AU	opposition	-7797 Jun 27 j 14:30	6° <u>♄</u> 12'16	-14°37'45
morning rise	-7804 Dec 22 j 11:57	28° <u>♄</u> 22'38		direct	-7797 Sep 15 j 21:02	5° <u>♄</u> 08'19	
retrograde	-7803 Mar 28 j 02:31	29° <u>♄</u> 55'24		evening set	-7797 Dec 17 j 20:28	6° <u>♄</u> 38'06	
min. Earth dist.	-7803 Jun 16 j 10:09	28° <u>♄</u> 52'24	41.09659 AU				
opposition	-7803 Jun 19 j 16:09	28° <u>♄</u> 48'17	-13°16'52	conjunction	-7797 Dec 23 j 08:02	6° <u>♄</u> 46'38	-14°04'13
direct	-7803 Sep 07 j 19:28	27° <u>♄</u> 43'13		minimum elong	-7797 Dec 23 j 07:50	6° <u>♄</u> 46'38	14°04'29
evening set	-7803 Dec 07 j 03:36	29° <u>♄</u> 11'17		max. Earth dist.	-7797 Dec 26 j 11:09	6° <u>♄</u> 51'31	44.42449 AU
				morning rise	-7797 Dec 28 j 19:40	6° <u>♄</u> 55'11	
conjunction	-7803 Dec 15 j 09:00	29° <u>♄</u> 24'28	-12°47'10	retrograde	-7796 Apr 05 j 10:56	8° <u>♄</u> 29'44	
minimum elong	-7803 Dec 15 j 08:46	29° <u>♄</u> 24'27	12°47'22	min. Earth dist.	-7796 Jun 25 j 01:27	7° <u>♄</u> 27'42	42.58855 AU
max. Earth dist.	-7803 Dec 18 j 17:20	29° <u>♄</u> 29'50	43.15674 AU	opposition	-7796 Jun 28 j 01:13	7° <u>♄</u> 23'59	-14°49'33
morning rise	-7803 Dec 23 j 15:08	29° <u>♄</u> 37'41		direct	-7796 Sep 16 j 07:14	6° <u>♄</u> 20'11	
	-7802 Jan 06 j 22:45	0° <u>♄</u>		evening set	-7796 Dec 18 j 20:50	7° <u>♄</u> 50'25	
retrograde	-7802 Mar 29 j 17:05	1° <u>♄</u> 10'38					
min. Earth dist.	-7802 Jun 18 j 00:15	0° <u>♄</u> 07'45	41.32112 AU	conjunction	-7796 Dec 23 j 18:50	7° <u>♄</u> 58'03	-14°15'28
opposition	-7802 Jun 21 j 04:32	0° <u>♄</u> 03'45	-13°31'34	minimum elong	-7796 Dec 23 j 18:38	7° <u>♄</u> 58'02	14°15'45
	-7802 Jun 24 j 03:45	30° <u>♄</u>		max. Earth dist.	-7796 Dec 26 j 21:08	8° <u>♄</u> 02'51	44.62361 AU
direct	-7802 Sep 09 j 06:03	28° <u>♄</u> 58'55		morning rise	-7796 Dec 28 j 16:55	8° <u>♄</u> 05'40	
	-7802 Nov 21 j 09:25	0° <u>♄</u>		retrograde	-7795 Apr 06 j 22:42	9° <u>♄</u> 40'38	
evening set	-7802 Dec 09 j 01:47	0° <u>♄</u> 27'12		min. Earth dist.	-7795 Jun 26 j 13:15	8° <u>♄</u> 38'42	42.78821 AU
				opposition	-7795 Jun 29 j 11:52	8° <u>♄</u> 35'03	-15°00'52
conjunction	-7802 Dec 16 j 21:28	0° <u>♄</u> 39'40	-13°01'10	direct	-7795 Sep 17 j 17:07	7° <u>♄</u> 31'24	
minimum elong	-7802 Dec 16 j 21:16	0° <u>♄</u> 39'40	13°01'23	evening set	-7795 Dec 20 j 22:37	9° <u>♄</u> 02'11	
max. Earth dist.	-7802 Dec 20 j 05:00	0° <u>♄</u> 44'58	43.37777 AU				
morning rise	-7802 Dec 24 j 17:40	0° <u>♄</u> 52'10		conjunction	-7795 Dec 25 j 05:45	9° <u>♄</u> 08'50	-14°26'14
retrograde	-7801 Mar 31 j 06:10	2° <u>♄</u> 25'19		minimum elong	-7795 Dec 25 j 05:34	9° <u>♄</u> 08'49	14°26'30
min. Earth dist.	-7801 Jun 19 j 12:30	1° <u>♄</u> 22'40	41.54220 AU	max. Earth dist.	-7795 Dec 28 j 08:16	9° <u>♄</u> 13'38	44.82050 AU
opposition	-7801 Jun 22 j 16:35	1° <u>♄</u> 18'41	-13°45'46	morning rise	-7795 Dec 29 j 12:49	9° <u>♄</u> 15'28	
direct	-7801 Sep 10 j 17:37	0° <u>♄</u> 14'03		retrograde	-7794 Apr 08 j 06:40	10° <u>♄</u> 50'57	
evening set	-7801 Dec 10 j 23:58	1° <u>♄</u> 42'35		min. Earth dist.	-7794 Jun 28 j 00:02	9° <u>♄</u> 49'09	42.98554 AU
				opposition	-7794 Jun 30 j 22:01	9° <u>♄</u> 45'33	-15°11'41
conjunction	-7801 Dec 18 j 09:29	1° <u>♄</u> 54'20	-13°14'42	direct	-7794 Sep 19 j 05:49	8° <u>♄</u> 42'03	
minimum elong	-7801 Dec 18 j 09:15	1° <u>♄</u> 54'19	13°14'55	evening set	-7794 Dec 23 j 02:13	10° <u>♄</u> 13'32	
max. Earth dist.	-7801 Dec 21 j 15:37	1° <u>♄</u> 59'30	43.59502 AU				
morning rise	-7801 Dec 25 j 19:32	2° <u>♄</u> 06'06		conjunction	-7794 Dec 26 j 16:18	10° <u>♄</u> 19'04	-14°36'33
retrograde	-7800 Mar 31 j 17:10	3° <u>♄</u> 39'28		minimum elong	-7794 Dec 26 j 16:07	10° <u>♄</u> 19'03	14°36'51
min. Earth dist.	-7800 Jun 20 j 01:39	2° <u>♄</u> 36'57	41.75941 AU	morning rise	-7794 Dec 30 j 06:16	10° <u>♄</u> 24'34	
opposition	-7800 Jun 23 j 04:34	2° <u>♄</u> 33'02	-13°59'29	max. Earth dist.	-7794 Dec 29 j 17:15	10° <u>♄</u> 23'44	45.01524 AU
direct	-7800 Sep 11 j 06:32	1° <u>♄</u> 28'37		retrograde	-7793 Apr 09 j 15:57	12° <u>♄</u> 00'45	
evening set	-7800 Dec 11 j 22:31	2° <u>♄</u> 57'25		min. Earth dist.	-7793 Jun 29 j 10:13	10° <u>♄</u> 59'07	43.18082 AU
				opposition	-7793 Jul 02 j 08:08	10° <u>♄</u> 55'31	-15°22'03
conjunction	-7800 Dec 18 j 21:33	3° <u>♄</u> 08'24	-13°27'46	direct	-7793 Sep 20 j 16:37	9° <u>♄</u> 52'13	
minimum elong	-7800 Dec 18 j 21:21	3° <u>♄</u> 08'23	13°28'00	evening set	-7793 Dec 25 j 09:04	11° <u>♄</u> 24'38	
max. Earth dist.	-7800 Dec 22 j 03:45	3° <u>♄</u> 13'33	43.80828 AU				
morning rise	-7800 Dec 25 j 20:55	3° <u>♄</u> 19'25		conjunction	-7793 Dec 28 j 02:36	11° <u>♄</u> 28'49	-14°46'25
retrograde	-7799 Apr 02 j 00:53	4° <u>♄</u> 53'01		minimum elong	-7793 Dec 28 j 02:26	11° <u>♄</u> 28'48	14°46'42
min. Earth dist.	-7799 Jun 21 j 14:32	3° <u>♄</u> 50'37	41.97234 AU	morning rise	-7793 Dec 30 j 19:57	11° <u>♄</u> 32'59	
opposition	-7799 Jun 24 j 16:10	3° <u>♄</u> 46'47	-14°12'43	max. Earth dist.	-7793 Dec 31 j 04:01	11° <u>♄</u> 33'30	45.20779 AU
direct	-7799 Sep 12 j 21:54	2° <u>♄</u> 42'32		retrograde	-7792 Apr 10 j 01:23	13° <u>♄</u> 10'05	



## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 9

Attention, astronomical year style is used: The year -7792 in astronomical counting style is the year 7793 BCE in historical counting style.

min. Earth dist.	-7792 Jun 29 j 21:38	12° <del>ℳ</del> 08'34	43.37369 AU	conjunction	-7784 Jan 06 j 08:49	20° <del>ℳ</del> 33'21	-15°50'47
opposition	-7792 Jul 02 j 18:04	12° <del>ℳ</del> 05'04	-15°31'56	minimum elong	-7784 Jan 06 j 08:43	20° <del>ℳ</del> 33'21	15°51'10
direct	-7792 Sep 21 j 03:25	11° <del>ℳ</del> 01'56		max. Earth dist.	-7784 Jan 09 j 01:37	20° <del>ℳ</del> 37'22	46.61897 AU
evening set	-7792 Dec 27 j 01:23	12° <del>ℳ</del> 35'54		retrograde	-7784 Apr 19 j 06:36	22° <del>ℳ</del> 11'34	
				min. Earth dist.	-7784 Jul 09 j 06:05	21° <del>ℳ</del> 10'57	44.77852 AU
conjunction	-7792 Dec 28 j 12:51	12° <del>ℳ</del> 38'09	-14°55'50	opposition	-7784 Jul 11 j 18:14	21° <del>ℳ</del> 07'56	-16°36'09
minimum elong	-7792 Dec 28 j 12:40	12° <del>ℳ</del> 38'09	14°56'09	direct	-7784 Sep 30 j 03:52	20° <del>ℳ</del> 06'00	
morning rise	-7792 Dec 29 j 24:00	12° <del>ℳ</del> 40'24					
max. Earth dist.	-7792 Dec 31 j 12:58	12° <del>ℳ</del> 42'45	45.39803 AU	conjunction	-7783 Jan 06 j 17:45	21° <del>ℳ</del> 39'30	-15°57'09
retrograde	-7791 Apr 11 j 13:26	14° <del>ℳ</del> 19'02		minimum elong	-7783 Jan 06 j 17:38	21° <del>ℳ</del> 39'29	15°57'30
min. Earth dist.	-7791 Jul 01 j 07:04	13° <del>ℳ</del> 17'43	43.56392 AU	max. Earth dist.	-7783 Jan 09 j 08:45	21° <del>ℳ</del> 43'23	46.77635 AU
opposition	-7791 Jul 04 j 03:39	13° <del>ℳ</del> 14'13	-15°41'22	retrograde	-7783 Apr 20 j 13:52	23° <del>ℳ</del> 17'19	
direct	-7791 Sep 22 j 11:05	12° <del>ℳ</del> 11'16		min. Earth dist.	-7783 Jul 10 j 15:08	22° <del>ℳ</del> 16'47	44.93545 AU
				opposition	-7783 Jul 13 j 02:23	22° <del>ℳ</del> 13'49	-16°42'26
conjunction	-7791 Dec 29 j 22:56	13° <del>ℳ</del> 47'09	-15°04'51	direct	-7783 Oct 01 j 13:25	21° <del>ℳ</del> 12'00	
minimum elong	-7791 Dec 29 j 22:47	13° <del>ℳ</del> 47'08	15°05'10				
max. Earth dist.	-7790 Jan 01 j 22:14	13° <del>ℳ</del> 51'39	45.58526 AU	conjunction	-7782 Jan 08 j 02:44	22° <del>ℳ</del> 45'10	-16°03'07
	-7790 Feb 21 j 14:01	15° <del>ℳ</del>		minimum elong	-7782 Jan 08 j 02:38	22° <del>ℳ</del> 45'10	16°03'30
retrograde	-7790 Apr 13 j 00:16	15° <del>ℳ</del> 27'38		max. Earth dist.	-7782 Jan 10 j 17:58	22° <del>ℳ</del> 49'04	46.93071 AU
	-7790 Jun 03 j 05:35	15° <del>ℳ</del>		retrograde	-7782 Apr 21 j 18:23	24° <del>ℳ</del> 22'39	
min. Earth dist.	-7790 Jul 02 j 18:26	14° <del>ℳ</del> 26'25	43.75089 AU	min. Earth dist.	-7782 Jul 12 j 00:32	23° <del>ℳ</del> 22'10	45.08931 AU
opposition	-7790 Jul 05 j 13:14	14° <del>ℳ</del> 23'01	-15°50'23	opposition	-7782 Jul 14 j 10:23	23° <del>ℳ</del> 19'16	-16°48'19
direct	-7790 Sep 23 j 19:42	13° <del>ℳ</del> 20'16		direct	-7782 Oct 03 j 01:21	22° <del>ℳ</del> 17'33	
conjunction	-7790 Dec 31 j 09:03	14° <del>ℳ</del> 55'48	-15°13'26	conjunction	-7781 Jan 09 j 11:24	23° <del>ℳ</del> 50'25	-16°08'43
minimum elong	-7790 Dec 31 j 08:54	14° <del>ℳ</del> 55'47	15°13'47	minimum elong	-7781 Jan 09 j 11:18	23° <del>ℳ</del> 50'25	16°09'05
max. Earth dist.	-7789 Jan 03 j 07:57	15° <del>ℳ</del> 00'16	45.76894 AU	max. Earth dist.	-7781 Jan 12 j 00:51	23° <del>ℳ</del> 54'12	47.08231 AU
	-7789 Jan 03 j 03:42	15° <del>ℳ</del>		retrograde	-7781 Apr 23 j 02:55	25° <del>ℳ</del> 27'33	
retrograde	-7789 Apr 14 j 08:06	16° <del>ℳ</del> 35'54		min. Earth dist.	-7781 Jul 13 j 08:04	24° <del>ℳ</del> 27'13	45.24048 AU
min. Earth dist.	-7789 Jul 04 j 04:28	15° <del>ℳ</del> 34'50	43.93378 AU	opposition	-7781 Jul 15 j 18:03	24° <del>ℳ</del> 24'20	-16°53'48
opposition	-7789 Jul 06 j 22:23	15° <del>ℳ</del> 31'30	-15°58'58	direct	-7781 Oct 04 j 09:16	23° <del>ℳ</del> 22'44	
	-7789 Aug 03 j 00:17	15° <del>ℳ</del>					
direct	-7789 Sep 25 j 07:07	14° <del>ℳ</del> 28'55		conjunction	-7780 Jan 10 j 19:57	24° <del>ℳ</del> 55'18	-16°13'56
	-7789 Nov 16 j 06:50	15° <del>ℳ</del>		minimum elong	-7780 Jan 10 j 19:51	24° <del>ℳ</del> 55'18	16°14'19
				max. Earth dist.	-7780 Jan 13 j 08:57	24° <del>ℳ</del> 59'01	47.23121 AU
conjunction	-7788 Jan 01 j 18:53	16° <del>ℳ</del> 04'07	-15°21'39	retrograde	-7780 Apr 23 j 12:26	26° <del>ℳ</del> 32'07	
minimum elong	-7788 Jan 01 j 18:45	16° <del>ℳ</del> 04'07	15°21'59	min. Earth dist.	-7780 Jul 13 j 17:41	25° <del>ℳ</del> 31'49	45.38891 AU
max. Earth dist.	-7788 Jan 04 j 15:34	16° <del>ℳ</del> 08'26	45.94835 AU	opposition	-7780 Jul 16 j 01:49	25° <del>ℳ</del> 29'02	-16°58'54
retrograde	-7788 Apr 14 j 17:03	17° <del>ℳ</del> 43'51		direct	-7780 Oct 04 j 15:51	24° <del>ℳ</del> 27'33	
min. Earth dist.	-7788 Jul 04 j 14:32	16° <del>ℳ</del> 42'55	44.11225 AU				
opposition	-7788 Jul 07 j 07:36	16° <del>ℳ</del> 39'38	-16°07'10	conjunction	-7779 Jan 11 j 04:22	25° <del>ℳ</del> 59'51	-16°18'46
direct	-7788 Sep 25 j 17:21	15° <del>ℳ</del> 37'13		minimum elong	-7779 Jan 11 j 04:18	25° <del>ℳ</del> 59'51	16°19'09
				max. Earth dist.	-7779 Jan 13 j 16:51	26° <del>ℳ</del> 03'32	47.37744 AU
conjunction	-7787 Jan 02 j 04:38	17° <del>ℳ</del> 12'05	-15°29'29	retrograde	-7779 Apr 24 j 21:15	27° <del>ℳ</del> 36'20	
minimum elong	-7787 Jan 02 j 04:28	17° <del>ℳ</del> 12'04	15°29'49	min. Earth dist.	-7779 Jul 15 j 01:25	26° <del>ℳ</del> 36'11	45.53425 AU
max. Earth dist.	-7787 Jan 05 j 01:04	17° <del>ℳ</del> 16'22	46.12306 AU	opposition	-7779 Jul 17 j 09:18	26° <del>ℳ</del> 33'25	-17°03'37
retrograde	-7787 Apr 16 j 00:32	18° <del>ℳ</del> 51'27		direct	-7779 Oct 05 j 23:00	25° <del>ℳ</del> 32'04	
min. Earth dist.	-7787 Jul 06 j 01:42	17° <del>ℳ</del> 50'34	44.28570 AU				
opposition	-7787 Jul 08 j 16:40	17° <del>ℳ</del> 47'23	-16°14'59	conjunction	-7778 Jan 12 j 12:43	27° <del>ℳ</del> 04'06	-16°23'15
direct	-7787 Sep 27 j 04:26	16° <del>ℳ</del> 45'07		minimum elong	-7778 Jan 12 j 12:38	27° <del>ℳ</del> 04'06	16°23'40
				max. Earth dist.	-7778 Jan 14 j 23:17	27° <del>ℳ</del> 07'39	47.52034 AU
conjunction	-7786 Jan 03 j 14:18	18° <del>ℳ</del> 19'38	-15°36'57	retrograde	-7778 Apr 26 j 06:02	28° <del>ℳ</del> 40'17	
minimum elong	-7786 Jan 03 j 14:11	18° <del>ℳ</del> 19'37	15°37'18	min. Earth dist.	-7778 Jul 16 j 10:04	27° <del>ℳ</del> 40'13	45.67614 AU
max. Earth dist.	-7786 Jan 06 j 08:44	18° <del>ℳ</del> 23'46	46.29291 AU	opposition	-7778 Jul 18 j 16:37	27° <del>ℳ</del> 37'31	-17°07'59
retrograde	-7786 Apr 17 j 10:49	19° <del>ℳ</del> 58'37		direct	-7778 Oct 07 j 05:52	26° <del>ℳ</del> 36'17	
min. Earth dist.	-7786 Jul 07 j 10:38	18° <del>ℳ</del> 57'52	44.45429 AU				
opposition	-7786 Jul 10 j 01:18	18° <del>ℳ</del> 54'43	-16°22'26	conjunction	-7777 Jan 13 j 21:08	28° <del>ℳ</del> 08'05	-16°27'24
direct	-7786 Sep 28 j 12:35	17° <del>ℳ</del> 52'34		minimum elong	-7777 Jan 13 j 21:05	28° <del>ℳ</del> 08'05	16°27'49
				max. Earth dist.	-7777 Jan 16 j 07:33	28° <del>ℳ</del> 11'37	47.65949 AU
conjunction	-7785 Jan 04 j 23:42	19° <del>ℳ</del> 26'44	-15°44'03	retrograde	-7777 Apr 27 j 11:28	29° <del>ℳ</del> 43'59	
minimum elong	-7785 Jan 04 j 23:34	19° <del>ℳ</del> 26'43	15°44'24	min. Earth dist.	-7777 Jul 17 j 19:02	28° <del>ℳ</del> 43'58	45.81378 AU
max. Earth dist.	-7785 Jan 07 j 17:03	19° <del>ℳ</del> 30'47	46.45798 AU	opposition	-7777 Jul 19 j 23:53	28° <del>ℳ</del> 41'21	-17°12'00
retrograde	-7785 Apr 18 j 22:28	21° <del>ℳ</del> 05'20		direct	-7777 Oct 08 j 15:35	27° <del>ℳ</del> 40'15	
min. Earth dist.	-7785 Jul 08 j 21:18	20° <del>ℳ</del> 04'37	44.61840 AU				
opposition	-7785 Jul 11 j 09:57	20° <del>ℳ</del> 01'34	-16°29'29	conjunction	-7776 Jan 15 j 05:12	29° <del>ℳ</del> 11'48	-16°31'14
direct	-7785 Sep 29 j 19:04	18° <del>ℳ</del> 59'32		minimum elong	-7776 Jan 15 j 05:08	29° <del>ℳ</del> 11'47	16°31'39
				max. Earth dist.	-7776 Jan 17 j 13:24	29° <del>ℳ</del> 15'11	47.79423 AU

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10

Attention, astronomical year style is used: The year -7776 in astronomical counting style is the year 7777 BCE in historical counting style.

	-7776 Feb 19 j 02:06	0°♄		minimum elong	-7768 Jan 23 j 18:27	7°♄29'45	16°51'00
retrograde	-7776 Apr 27 j 18:09	0°♄47'24		max. Earth dist.	-7768 Jan 25 j 16:58	7°♄32'29	48.71231 AU
	-7776 Jul 07 j 10:07	30°♄		retrograde	-7768 May 06 j 04:35	9°♄03'09	
min. Earth dist.	-7776 Jul 18 j 02:43	29°♄47'30	45.94676 AU	min. Earth dist.	-7768 Jul 26 j 16:16	8°♄03'38	46.85276 AU
opposition	-7776 Jul 20 j 07:02	29°♄44'55	-17°15'42	opposition	-7768 Jul 28 j 11:07	8°♄01'33	-17°33'39
direct	-7776 Oct 09 j 00:01	28°♄43'55		direct	-7768 Oct 17 j 05:33	7°♄01'12	
	-7775 Jan 04 j 23:13	0°♄					
conjunction	-7775 Jan 15 j 13:22	0°♄15'13	-16°34'45	conjunction	-7767 Jan 24 j 01:42	8°♄30'45	-16°51'32
minimum elong	-7775 Jan 15 j 13:20	0°♄15'13	16°35'10	minimum elong	-7767 Jan 24 j 01:42	8°♄30'45	16°52'00
max. Earth dist.	-7775 Jan 17 j 20:34	0°♄18'32	47.92401 AU	max. Earth dist.	-7767 Jan 26 j 00:17	8°♄33'30	48.81244 AU
retrograde	-7775 Apr 29 j 02:47	1°♄50'32		retrograde	-7767 May 07 j 09:27	10°♄03'57	
min. Earth dist.	-7775 Jul 19 j 12:08	0°♄50'38	46.07461 AU	min. Earth dist.	-7767 Jul 27 j 23:22	9°♄04'29	46.95144 AU
opposition	-7775 Jul 21 j 14:06	0°♄48'11	-17°19'04	opposition	-7767 Jul 29 j 16:58	9°♄02'28	-17°34'24
	-7775 Sep 06 j 12:24	30°♄		direct	-7767 Oct 18 j 13:30	8°♄02'13	
direct	-7775 Oct 10 j 06:53	29°♄47'17		conjunction	-7766 Jan 25 j 08:47	9°♄31'37	-16°52'11
	-7775 Nov 12 j 16:29	0°♄		minimum elong	-7766 Jan 25 j 08:48	9°♄31'37	16°52'39
conjunction	-7774 Jan 16 j 21:32	1°♄18'19	-16°37'57	max. Earth dist.	-7766 Jan 27 j 05:16	9°♄34'14	48.90945 AU
minimum elong	-7774 Jan 16 j 21:28	1°♄18'19	16°38'23	retrograde	-7766 May 08 j 14:20	11°♄04'36	
max. Earth dist.	-7774 Jan 19 j 03:17	1°♄21'33	48.04879 AU	min. Earth dist.	-7766 Jul 29 j 05:43	10°♄05'16	47.04676 AU
retrograde	-7774 Apr 30 j 11:24	2°♄53'20		opposition	-7766 Jul 30 j 22:49	10°♄03'16	-17°34'50
min. Earth dist.	-7774 Jul 20 j 19:35	1°♄53'31	46.19728 AU	direct	-7766 Oct 19 j 20:56	9°♄03'07	
opposition	-7774 Jul 22 j 20:56	1°♄51'06	-17°22'08	conjunction	-7765 Jan 26 j 15:51	10°♄32'21	-16°52'32
direct	-7774 Oct 11 j 12:47	0°♄50'16		minimum elong	-7765 Jan 26 j 15:52	10°♄32'21	16°53'01
conjunction	-7773 Jan 18 j 05:19	2°♄21'04	-16°40'51	max. Earth dist.	-7765 Jan 28 j 11:40	10°♄34'56	49.00266 AU
minimum elong	-7773 Jan 18 j 05:17	2°♄21'04	16°41'18	retrograde	-7765 May 09 j 20:21	12°♄05'10	
max. Earth dist.	-7773 Jan 20 j 09:00	2°♄24'10	48.16852 AU	min. Earth dist.	-7765 Jul 30 j 13:46	11°♄05'50	47.13793 AU
retrograde	-7773 May 01 j 18:51	3°♄55'47		opposition	-7765 Aug 01 j 04:37	11°♄03'57	-17°34'58
min. Earth dist.	-7773 Jul 22 j 03:57	2°♄55'59	46.31527 AU	direct	-7765 Oct 21 j 04:17	10°♄03'54	
opposition	-7773 Jul 24 j 03:39	2°♄53'38	-17°24'53	conjunction	-7764 Jan 27 j 22:57	11°♄32'59	-16°52'37
direct	-7773 Oct 12 j 19:44	1°♄52'53		minimum elong	-7764 Jan 27 j 22:59	11°♄32'59	16°53'05
conjunction	-7772 Jan 19 j 13:06	3°♄23'27	-16°43'27	max. Earth dist.	-7764 Jan 29 j 17:17	11°♄35'28	49.09164 AU
minimum elong	-7772 Jan 19 j 13:03	3°♄23'27	16°43'53	retrograde	-7764 May 10 j 05:12	13°♄05'36	
max. Earth dist.	-7772 Jan 21 j 16:36	3°♄26'31	48.28391 AU	min. Earth dist.	-7764 Jul 30 j 19:54	12°♄06'21	47.22444 AU
retrograde	-7772 May 01 j 22:27	4°♄57'52		opposition	-7764 Aug 01 j 10:15	12°♄04'30	-17°34'49
min. Earth dist.	-7772 Jul 22 j 11:49	3°♄58'06	46.42907 AU	direct	-7764 Oct 21 j 08:09	11°♄04'31	
opposition	-7772 Jul 24 j 10:10	3°♄55'49	-17°27'19	conjunction	-7763 Jan 28 j 05:53	12°♄33'28	-16°52'25
direct	-7772 Oct 13 j 05:49	2°♄55'08		minimum elong	-7763 Jan 28 j 05:54	12°♄33'28	16°52'54
conjunction	-7771 Jan 19 j 20:33	4°♄25'28	-16°45'43	max. Earth dist.	-7763 Jan 29 j 22:02	12°♄35'49	49.17563 AU
minimum elong	-7771 Jan 19 j 20:32	4°♄25'28	16°46'10	retrograde	-7763 May 11 j 13:14	14°♄05'53	
max. Earth dist.	-7771 Jan 21 j 21:59	4°♄28'24	48.39558 AU	min. Earth dist.	-7763 Aug 01 j 03:48	13°♄06'38	47.30582 AU
retrograde	-7771 May 03 j 04:43	5°♄59'37		opposition	-7763 Aug 02 j 16:03	13°♄04'53	-17°34'24
min. Earth dist.	-7771 Jul 23 j 18:30	4°♄59'55	46.53941 AU	direct	-7763 Oct 22 j 12:27	12°♄04'58	
opposition	-7771 Jul 25 j 16:34	4°♄57'39	-17°29'24	conjunction	-7762 Jan 29 j 13:01	13°♄33'45	-16°51'58
direct	-7771 Oct 14 j 13:30	3°♄57'02		minimum elong	-7762 Jan 29 j 13:04	13°♄33'45	16°52'26
conjunction	-7770 Jan 21 j 04:05	5°♄27'09	-16°47'40	max. Earth dist.	-7762 Jan 31 j 04:30	13°♄36'03	49.25441 AU
minimum elong	-7770 Jan 21 j 04:03	5°♄27'09	16°48'06	retrograde	-7762 May 12 j 17:25	15°♄05'56	
max. Earth dist.	-7770 Jan 23 j 05:02	5°♄30'03	48.50390 AU	min. Earth dist.	-7762 Aug 02 j 10:42	14°♄06'42	47.38180 AU
retrograde	-7770 May 04 j 11:48	7°♄01'03		opposition	-7762 Aug 03 j 21:30	14°♄05'01	-17°33'44
min. Earth dist.	-7770 Jul 25 j 02:44	6°♄01'21	46.64662 AU	direct	-7762 Oct 23 j 20:33	13°♄05'09	
opposition	-7770 Jul 26 j 22:49	5°♄59'12	-17°31'09	conjunction	-7761 Jan 30 j 19:51	14°♄33'47	-16°51'14
direct	-7770 Oct 15 j 20:18	4°♄58'40		minimum elong	-7761 Jan 30 j 19:52	14°♄33'47	16°51'44
conjunction	-7769 Jan 22 j 11:28	6°♄28'34	-16°49'16	max. Earth dist.	-7761 Feb 01 j 08:40	14°♄35'56	49.32809 AU
minimum elong	-7769 Jan 22 j 11:28	6°♄28'34	16°49'44	retrograde	-7761 May 13 j 22:00	16°♄05'44	
max. Earth dist.	-7769 Jan 24 j 11:37	6°♄31'24	48.60949 AU	min. Earth dist.	-7761 Aug 03 j 17:00	15°♄06'32	47.45292 AU
retrograde	-7769 May 05 j 19:45	8°♄02'12		opposition	-7761 Aug 05 j 02:58	15°♄04'54	-17°32'47
min. Earth dist.	-7769 Jul 26 j 08:50	7°♄02'38	46.75103 AU	direct	-7761 Oct 25 j 04:03	14°♄05'03	
opposition	-7769 Jul 28 j 04:55	7°♄00'29	-17°32'34	conjunction	-7760 Feb 01 j 02:28	15°♄33'31	-16°50'15
direct	-7769 Oct 17 j 01:26	6°♄00'02		minimum elong	-7760 Feb 01 j 02:32	15°♄33'31	16°50'45
conjunction	-7768 Jan 23 j 18:27	7°♄29'45	-16°50'34	max. Earth dist.	-7760 Feb 02 j 14:41	15°♄35'37	49.39703 AU
				retrograde	-7760 May 14 j 02:19	17°♄05'16	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 11

Attention, astronomical year style is used: The year -7760 in astronomical counting style is the year 7761 BCE in historical counting style.

min. Earth dist.	-7760 Aug 04 j 00:38	16°♂06'01	47.51954 AU	conjunction	-7751 Feb 09 j 12:15	24°♂22'37	-16°28'48
opposition	-7760 Aug 05 j 08:24	16°♂04'29	-17°31'33	minimum elong	-7751 Feb 09 j 12:22	24°♂22'37	16°29'18
direct	-7760 Oct 25 j 11:40	15°♂04'40		max. Earth dist.	-7751 Feb 10 j 12:14	24°♂23'59	49.85983 AU
				retrograde	-7751 May 23 j 07:35	25°♂53'00	
conjunction	-7759 Feb 01 j 09:09	16°♂32'58	-16°49'00	min. Earth dist.	-7751 Aug 13 j 07:28	24°♂53'59	47.96112 AU
minimum elong	-7759 Feb 01 j 09:12	16°♂32'58	16°49'29	opposition	-7751 Aug 14 j 05:11	24°♂52'57	-17°07'34
max. Earth dist.	-7759 Feb 02 j 20:04	16°♂34'59	49.46197 AU	direct	-7751 Nov 03 j 11:13	23°♂53'34	
retrograde	-7759 May 15 j 08:36	18°♂04'31					
min. Earth dist.	-7759 Aug 05 j 05:56	17°♂05'18	47.58233 AU	conjunction	-7750 Feb 10 j 18:44	25°♂21'04	-16°25'07
opposition	-7759 Aug 06 j 13:29	17°♂03'46	-17°30'02	minimum elong	-7750 Feb 10 j 18:50	25°♂21'04	16°25'38
direct	-7759 Oct 26 j 17:10	16°♂03'59		max. Earth dist.	-7750 Feb 11 j 17:38	25°♂22'22	49.88996 AU
				retrograde	-7750 May 24 j 11:19	26°♂51'20	
conjunction	-7758 Feb 02 j 15:43	17°♂32'08	-16°47'27	opposition	-7750 Aug 15 j 10:03	25°♂51'20	-17°03'36
minimum elong	-7758 Feb 02 j 15:47	17°♂32'08	16°47'57	min. Earth dist.	-7750 Aug 14 j 14:48	25°♂52'16	47.98785 AU
max. Earth dist.	-7758 Feb 04 j 00:49	17°♂34'03	49.52326 AU	direct	-7750 Nov 04 j 18:32	24°♂51'59	
retrograde	-7758 May 16 j 17:16	19°♂03'29					
opposition	-7758 Aug 07 j 18:44	18°♂02'49	-17°28'13	conjunction	-7749 Feb 12 j 00:57	26°♂19'24	-16°21'12
min. Earth dist.	-7758 Aug 06 j 12:51	18°♂04'15	47.64179 AU	minimum elong	-7749 Feb 12 j 01:05	26°♂19'24	16°21'43
direct	-7758 Oct 27 j 20:14	17°♂03'03		max. Earth dist.	-7749 Feb 12 j 22:06	26°♂20'36	49.91477 AU
				retrograde	-7749 May 25 j 16:53	27°♂49'33	
conjunction	-7757 Feb 03 j 22:13	18°♂31'04	-16°45'37	opposition	-7749 Aug 16 j 14:39	26°♂49'36	-16°59'23
minimum elong	-7757 Feb 03 j 22:16	18°♂31'04	16°46'07	min. Earth dist.	-7749 Aug 15 j 19:51	26°♂50'30	48.00933 AU
max. Earth dist.	-7757 Feb 05 j 07:15	18°♂32'59	49.58144 AU	direct	-7749 Nov 05 j 23:54	25°♂50'14	
retrograde	-7757 May 17 j 22:07	20°♂02'14					
opposition	-7757 Aug 08 j 23:46	19°♂01'38	-17°26'07	conjunction	-7748 Feb 13 j 07:05	27°♂17'35	-16°17'03
min. Earth dist.	-7757 Aug 07 j 18:46	19°♂03'01	47.69808 AU	minimum elong	-7748 Feb 13 j 07:11	27°♂17'35	16°17'34
direct	-7757 Oct 29 j 02:27	18°♂01'55		max. Earth dist.	-7748 Feb 14 j 02:05	27°♂18'40	49.93453 AU
				retrograde	-7748 May 26 j 01:14	28°♂47'37	
conjunction	-7756 Feb 05 j 04:31	19°♂29'49	-16°43'30	opposition	-7748 Aug 16 j 19:18	27°♂47'42	-16°54'56
minimum elong	-7756 Feb 05 j 04:36	19°♂29'50	16°44'00	min. Earth dist.	-7748 Aug 16 j 02:37	27°♂48'30	48.02616 AU
max. Earth dist.	-7756 Feb 06 j 11:31	19°♂31'36	49.63675 AU	direct	-7748 Nov 06 j 02:22	26°♂48'20	
retrograde	-7756 May 18 j 03:04	21°♂00'49					
min. Earth dist.	-7756 Aug 08 j 00:18	20°♂01'40	47.75157 AU	conjunction	-7747 Feb 13 j 13:18	28°♂15'37	-16°12'39
opposition	-7756 Aug 09 j 04:46	20°♂00'18	-17°23'43	minimum elong	-7747 Feb 13 j 13:26	28°♂15'37	16°13'11
direct	-7756 Oct 29 j 08:09	19°♂00'38		max. Earth dist.	-7747 Feb 14 j 07:58	28°♂16'40	49.94998 AU
				retrograde	-7747 May 27 j 06:51	29°♂45'31	
conjunction	-7755 Feb 05 j 10:53	20°♂28'27	-16°41'05	opposition	-7747 Aug 17 j 23:50	28°♂45'37	-16°50'12
minimum elong	-7755 Feb 05 j 10:58	20°♂28'27	16°41'35	min. Earth dist.	-7747 Aug 17 j 08:09	28°♂46'22	48.03877 AU
max. Earth dist.	-7755 Feb 06 j 17:26	20°♂30'12	49.68908 AU	direct	-7747 Nov 07 j 07:06	27°♂46'14	
retrograde	-7755 May 19 j 06:49	21°♂59'19					
min. Earth dist.	-7755 Aug 09 j 07:15	21°♂00'10	47.80184 AU	conjunction	-7746 Feb 14 j 19:20	29°♂13'28	-16°08'00
opposition	-7755 Aug 10 j 09:51	20°♂58'53	-17°21'01	minimum elong	-7746 Feb 14 j 19:27	29°♂13'28	16°08'30
direct	-7755 Oct 30 j 15:51	19°♂59'17		max. Earth dist.	-7746 Feb 15 j 11:39	29°♂14'24	49.96159 AU
					-7746 Mar 22 j 13:30	0°♂	
conjunction	-7754 Feb 06 j 17:19	21°♂27'01	-16°38'24	retrograde	-7746 May 28 j 12:01	0°♂43'14	
minimum elong	-7754 Feb 06 j 17:24	21°♂27'01	16°38'55		-7746 Aug 04 j 11:03	30°♂	
max. Earth dist.	-7754 Feb 07 j 22:31	21°♂28'41	49.73820 AU	opposition	-7746 Aug 19 j 04:14	29°♂43'23	-16°45'13
retrograde	-7754 May 20 j 13:55	22°♂57'45		min. Earth dist.	-7746 Aug 18 j 13:21	29°♂44'05	48.04791 AU
opposition	-7754 Aug 11 j 14:35	21°♂57'25	-17°18'02	direct	-7746 Nov 08 j 11:57	28°♂44'00	
min. Earth dist.	-7754 Aug 10 j 12:21	21°♂58'41	47.84854 AU		-7745 Feb 07 j 20:32	0°♂	
direct	-7754 Oct 31 j 20:01	20°♂57'53					
				conjunction	-7745 Feb 16 j 01:24	0°♂11'10	-16°03'04
conjunction	-7753 Feb 07 j 23:38	22°♂25'33	-16°35'27	minimum elong	-7745 Feb 16 j 01:32	0°♂11'11	16°03'36
minimum elong	-7753 Feb 07 j 23:43	22°♂25'33	16°35'57	max. Earth dist.	-7745 Feb 16 j 17:15	0°♂12'04	49.96986 AU
max. Earth dist.	-7753 Feb 09 j 02:57	22°♂27'07	49.78339 AU	retrograde	-7745 May 29 j 13:10	1°♂40'51	
retrograde	-7753 May 21 j 22:06	23°♂56'11		opposition	-7745 Aug 20 j 08:47	0°♂41'01	-16°39'57
opposition	-7753 Aug 12 j 19:35	22°♂55'57	-17°14'48	min. Earth dist.	-7745 Aug 19 j 19:38	0°♂41'38	48.05385 AU
min. Earth dist.	-7753 Aug 11 j 19:23	22°♂57'07	47.89113 AU		-7745 Sep 28 j 20:33	30°♂	
direct	-7753 Nov 01 j 22:24	21°♂56'29		direct	-7745 Nov 09 j 20:38	29°♂41'38	
					-7745 Dec 21 j 10:21	0°♂	
conjunction	-7752 Feb 09 j 05:55	23°♂24'05	-16°32'14				
minimum elong	-7752 Feb 09 j 06:00	23°♂24'06	16°32'45	conjunction	-7744 Feb 17 j 07:13	1°♂08'45	-15°57'53
max. Earth dist.	-7752 Feb 10 j 08:41	23°♂25'37	49.82417 AU	minimum elong	-7744 Feb 17 j 07:21	1°♂08'46	15°58'23
retrograde	-7752 May 22 j 02:54	24°♂54'36		max. Earth dist.	-7744 Feb 17 j 21:54	1°♂09'36	49.97530 AU
min. Earth dist.	-7752 Aug 12 j 01:31	23°♂55'34	47.92877 AU	retrograde	-7744 May 29 j 18:17	2°♂38'21	
opposition	-7752 Aug 13 j 00:25	23°♂54'28	-17°11'18	opposition	-7744 Aug 20 j 13:11	1°♂38'33	-16°34'24
direct	-7752 Nov 02 j 04:51	22°♂55'03		min. Earth dist.	-7744 Aug 20 j 00:04	1°♂39'11	48.05689 AU

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Attention, astronomical year style is used: The year -7744 in astronomical counting style is the year 7745 BCE in historical counting style.

direct	-7744 Nov 10 j 02:05	0° $\overline{3}$ 39'11		minimum elong	-7735 Feb 25 j 13:30	9° $\overline{3}$ 46'08	15°00'24
				max. Earth dist.	-7735 Feb 25 j 14:44	9° $\overline{3}$ 46'12	49.84752 AU
conjunction	-7743 Feb 17 j 13:10	2° $\overline{3}$ 06'17	-15°52'25	retrograde	-7735 Jun 07 j 17:56	11° $\overline{3}$ 15'14	
minimum elong	-7743 Feb 17 j 13:18	2° $\overline{3}$ 06'17	15°52'56	opposition	-7735 Aug 29 j 04:24	10° $\overline{3}$ 15'41	-15°33'05
max. Earth dist.	-7743 Feb 18 j 02:12	2° $\overline{3}$ 07'01	49.97776 AU	min. Earth dist.	-7735 Aug 29 j 04:25	10° $\overline{3}$ 15'41	47.89992 AU
retrograde	-7743 May 31 j 02:23	3° $\overline{3}$ 35'48		direct	-7735 Nov 18 j 21:34	9° $\overline{3}$ 16'12	
opposition	-7743 Aug 21 j 17:35	2° $\overline{3}$ 36'03	-16°28'35	evening set	-7734 Feb 24 j 17:59	10° $\overline{3}$ 40'35	
min. Earth dist.	-7743 Aug 21 j 06:24	2° $\overline{3}$ 36'35	48.05698 AU				
direct	-7743 Nov 11 j 03:48	1° $\overline{3}$ 36'42		conjunction	-7734 Feb 26 j 19:21	10° $\overline{3}$ 43'23	-14°52'15
				minimum elong	-7734 Feb 26 j 19:32	10° $\overline{3}$ 43'23	14°52'47
conjunction	-7742 Feb 18 j 19:16	3° $\overline{3}$ 03'47	-15°46'41	max. Earth dist.	-7734 Feb 26 j 19:22	10° $\overline{3}$ 43'23	49.81081 AU
minimum elong	-7742 Feb 18 j 19:25	3° $\overline{3}$ 03'47	15°47'12	morning rise	-7734 Feb 28 j 21:08	10° $\overline{3}$ 46'12	
max. Earth dist.	-7742 Feb 19 j 08:00	3° $\overline{3}$ 04'30	49.97719 AU	retrograde	-7734 Jun 08 j 22:08	12° $\overline{3}$ 12'29	
retrograde	-7742 Jun 01 j 07:38	4° $\overline{3}$ 33'15		opposition	-7734 Aug 30 j 08:37	11° $\overline{3}$ 12'55	-15°25'02
opposition	-7742 Aug 22 j 21:57	3° $\overline{3}$ 33'33	-16°22'30	min. Earth dist.	-7734 Aug 30 j 08:51	11° $\overline{3}$ 12'54	47.86026 AU
min. Earth dist.	-7742 Aug 22 j 11:33	3° $\overline{3}$ 34'03	48.05363 AU	direct	-7734 Nov 20 j 03:31	10° $\overline{3}$ 13'24	
direct	-7742 Nov 12 j 08:56	2° $\overline{3}$ 34'12		evening set	-7733 Feb 25 j 01:42	11° $\overline{3}$ 36'34	
conjunction	-7741 Feb 20 j 01:05	4° $\overline{3}$ 01'18	-15°40'42	conjunction	-7733 Feb 28 j 01:07	11° $\overline{3}$ 40'37	-14°44'22
minimum elong	-7741 Feb 20 j 01:14	4° $\overline{3}$ 01'18	15°41'14	minimum elong	-7733 Feb 28 j 01:18	11° $\overline{3}$ 40'37	14°44'52
max. Earth dist.	-7741 Feb 20 j 11:26	4° $\overline{3}$ 01'53	49.97302 AU	max. Earth dist.	-7733 Feb 27 j 23:28	11° $\overline{3}$ 40'31	49.77071 AU
retrograde	-7741 Jun 02 j 13:05	5° $\overline{3}$ 30'42		morning rise	-7733 Mar 03 j 00:57	11° $\overline{3}$ 44'41	
opposition	-7741 Aug 24 j 02:19	4° $\overline{3}$ 31'03	-16°16'09	retrograde	-7733 Jun 10 j 05:58	13° $\overline{3}$ 09'42	
min. Earth dist.	-7741 Aug 23 j 17:00	4° $\overline{3}$ 31'30	48.04647 AU	opposition	-7733 Aug 31 j 12:58	12° $\overline{3}$ 10'09	-15°16'44
direct	-7741 Nov 13 j 13:29	3° $\overline{3}$ 31'43		min. Earth dist.	-7733 Aug 31 j 15:01	12° $\overline{3}$ 10'03	47.81755 AU
				direct	-7733 Nov 21 j 05:25	11° $\overline{3}$ 10'36	
conjunction	-7740 Feb 21 j 07:10	4° $\overline{3}$ 58'50	-15°34'28	evening set	-7732 Feb 25 j 14:44	12° $\overline{3}$ 32'52	
minimum elong	-7740 Feb 21 j 07:20	4° $\overline{3}$ 58'50	15°35'00				
max. Earth dist.	-7740 Feb 21 j 16:47	4° $\overline{3}$ 59'23	49.96460 AU	conjunction	-7732 Feb 29 j 07:07	12° $\overline{3}$ 37'52	-14°36'13
retrograde	-7740 Jun 02 j 16:20	6° $\overline{3}$ 28'11		minimum elong	-7732 Feb 29 j 07:18	12° $\overline{3}$ 37'53	14°36'44
opposition	-7740 Aug 24 j 06:42	5° $\overline{3}$ 28'35	-16°09'33	max. Earth dist.	-7732 Feb 29 j 05:17	12° $\overline{3}$ 37'46	49.72783 AU
min. Earth dist.	-7740 Aug 23 j 23:38	5° $\overline{3}$ 28'55	48.03469 AU	morning rise	-7732 Mar 03 j 23:56	12° $\overline{3}$ 42'54	
direct	-7740 Nov 13 j 20:25	4° $\overline{3}$ 29'15		retrograde	-7732 Jun 10 j 11:10	14° $\overline{3}$ 06'58	
				opposition	-7732 Aug 31 j 17:10	13° $\overline{3}$ 07'26	-15°08'08
conjunction	-7739 Feb 21 j 13:15	5° $\overline{3}$ 56'22	-15°28'01	min. Earth dist.	-7732 Aug 31 j 19:44	13° $\overline{3}$ 07'18	47.77196 AU
minimum elong	-7739 Feb 21 j 13:24	5° $\overline{3}$ 56'23	15°28'32	direct	-7732 Nov 21 j 09:58	12° $\overline{3}$ 07'51	
max. Earth dist.	-7739 Feb 21 j 20:58	5° $\overline{3}$ 56'49	49.95144 AU	evening set	-7731 Feb 25 j 06:06	13° $\overline{3}$ 29'22	
retrograde	-7739 Jun 03 j 20:55	7° $\overline{3}$ 25'42					
opposition	-7739 Aug 25 j 11:04	6° $\overline{3}$ 26'07	-16°02'44	conjunction	-7731 Mar 01 j 13:01	13° $\overline{3}$ 35'12	-14°27'48
min. Earth dist.	-7739 Aug 25 j 04:33	6° $\overline{3}$ 26'26	48.01778 AU	minimum elong	-7731 Mar 01 j 13:13	13° $\overline{3}$ 35'13	14°28'18
direct	-7739 Nov 15 j 02:13	5° $\overline{3}$ 26'47		max. Earth dist.	-7731 Mar 01 j 09:00	13° $\overline{3}$ 34'59	49.68221 AU
				morning rise	-7731 Mar 05 j 20:27	13° $\overline{3}$ 41'03	
conjunction	-7738 Feb 22 j 19:21	6° $\overline{3}$ 53'54	-15°21'20	retrograde	-7731 Jun 11 j 17:17	15° $\overline{3}$ 04'19	
minimum elong	-7738 Feb 22 j 19:32	6° $\overline{3}$ 53'55	15°21'51	opposition	-7731 Sep 01 j 21:29	14° $\overline{3}$ 04'48	-14°59'17
max. Earth dist.	-7738 Feb 23 j 00:45	6° $\overline{3}$ 54'13	49.93288 AU	min. Earth dist.	-7731 Sep 02 j 00:58	14° $\overline{3}$ 04'38	47.72360 AU
retrograde	-7738 Jun 05 j 04:04	8° $\overline{3}$ 23'11		direct	-7731 Nov 22 j 14:00	13° $\overline{3}$ 05'12	
opposition	-7738 Aug 26 j 15:30	7° $\overline{3}$ 23'37	-15°55'41	evening set	-7730 Feb 25 j 23:10	14° $\overline{3}$ 26'05	
min. Earth dist.	-7738 Aug 26 j 11:20	7° $\overline{3}$ 23'49	47.99553 AU				
direct	-7738 Nov 16 j 05:35	6° $\overline{3}$ 24'15		conjunction	-7730 Mar 02 j 19:07	14° $\overline{3}$ 32'40	-14°19'07
				minimum elong	-7730 Mar 02 j 19:19	14° $\overline{3}$ 32'40	14°19'39
conjunction	-7737 Feb 24 j 01:29	7° $\overline{3}$ 51'23	-15°14'25	max. Earth dist.	-7730 Mar 02 j 14:38	14° $\overline{3}$ 32'24	49.63353 AU
minimum elong	-7737 Feb 24 j 01:38	7° $\overline{3}$ 51'24	15°14'56	morning rise	-7730 Mar 07 j 15:33	14° $\overline{3}$ 39'15	
max. Earth dist.	-7737 Feb 24 j 06:11	7° $\overline{3}$ 51'39	49.90916 AU	retrograde	-7730 Jun 12 j 20:13	16° $\overline{3}$ 01'48	
retrograde	-7737 Jun 06 j 10:03	9° $\overline{3}$ 20'36		opposition	-7730 Sep 03 j 01:49	15° $\overline{3}$ 02'18	-14°50'10
opposition	-7737 Aug 27 j 19:50	8° $\overline{3}$ 21'03	-15°48'24	min. Earth dist.	-7730 Sep 03 j 07:09	15° $\overline{3}$ 02'03	47.67197 AU
min. Earth dist.	-7737 Aug 27 j 16:46	8° $\overline{3}$ 21'12	47.96809 AU	direct	-7730 Nov 23 j 21:15	14° $\overline{3}$ 02'43	
direct	-7737 Nov 17 j 09:43	7° $\overline{3}$ 21'39		evening set	-7729 Feb 26 j 17:26	15° $\overline{3}$ 23'01	
conjunction	-7736 Feb 25 j 07:16	8° $\overline{3}$ 48'48	-15°07'16	conjunction	-7729 Mar 04 j 01:10	15° $\overline{3}$ 30'16	-14°10'11
minimum elong	-7736 Feb 25 j 07:27	8° $\overline{3}$ 48'48	15°07'47	minimum elong	-7729 Mar 04 j 01:22	15° $\overline{3}$ 30'17	14°10'42
max. Earth dist.	-7736 Feb 25 j 09:25	8° $\overline{3}$ 48'55	49.88055 AU	max. Earth dist.	-7729 Mar 03 j 19:10	15° $\overline{3}$ 29'56	49.58158 AU
retrograde	-7736 Jun 06 j 16:18	10° $\overline{3}$ 17'57		morning rise	-7729 Mar 09 j 09:26	15° $\overline{3}$ 37'32	
opposition	-7736 Aug 28 j 00:10	9° $\overline{3}$ 18'24	-15°40'52	retrograde	-7729 Jun 14 j 00:36	16° $\overline{3}$ 59'28	
min. Earth dist.	-7736 Aug 27 j 22:13	9° $\overline{3}$ 18'30	47.93609 AU	opposition	-7729 Sep 04 j 06:06	16° $\overline{3}$ 00'00	-14°40'47
direct	-7736 Nov 17 j 13:45	8° $\overline{3}$ 18'58		min. Earth dist.	-7729 Sep 04 j 11:42	15° $\overline{3}$ 59'44	47.61668 AU
				direct	-7729 Nov 25 j 02:58	15° $\overline{3}$ 00'23	
conjunction	-7735 Feb 25 j 13:21	9° $\overline{3}$ 46'07	-14°59'53	evening set	-7728 Feb 27 j 12:21	16° $\overline{3}$ 20'11	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 13

Attention, astronomical year style is used: The year -7728 in astronomical counting style is the year 7729 BCE in historical counting style.

conjunction	-7728 Mar 04 j 07:10	16° $\overline{3}$ 28'03	-14°01'00	direct	-7722 Dec 01 j 12:46	21° $\overline{3}$ 46'27	
minimum elong	-7728 Mar 04 j 07:21	16° $\overline{3}$ 28'03	14°01'32	evening set	-7721 Mar 03 j 17:27	23° $\overline{3}$ 03'20	
max. Earth dist.	-7728 Mar 03 j 23:10	16° $\overline{3}$ 27'36	49.52547 AU	max. Earth dist.	-7721 Mar 11 j 08:26	23° $\overline{3}$ 13'45	48.99592 AU
morning rise	-7728 Mar 10 j 02:33	16° $\overline{3}$ 35'58					
retrograde	-7728 Jun 14 j 07:44	17° $\overline{3}$ 57'19		conjunction	-7721 Mar 12 j 03:29	23° $\overline{3}$ 14'50	-12°50'14
opposition	-7728 Sep 04 j 10:36	16° $\overline{3}$ 57'52	-14°31'09	minimum elong	-7721 Mar 12 j 03:42	23° $\overline{3}$ 14'51	12°50'45
min. Earth dist.	-7728 Sep 04 j 18:35	16° $\overline{3}$ 57'29	47.55696 AU	morning rise	-7721 Mar 20 j 14:12	23° $\overline{3}$ 26'23	
direct	-7728 Nov 25 j 06:23	15° $\overline{3}$ 58'14		retrograde	-7721 Jun 22 j 00:16	24° $\overline{3}$ 44'25	
evening set	-7727 Feb 27 j 08:22	17° $\overline{3}$ 17'33		opposition	-7721 Sep 11 j 18:16	23° $\overline{3}$ 44'43	-13°17'00
				min. Earth dist.	-7721 Sep 12 j 11:16	23° $\overline{3}$ 43'54	47.00164 AU
conjunction	-7727 Mar 05 j 13:33	17° $\overline{3}$ 26'00	-13°51'36	direct	-7721 Dec 02 j 16:09	22° $\overline{3}$ 44'32	
minimum elong	-7727 Mar 05 j 13:46	17° $\overline{3}$ 26'00	13°52'06	evening set	-7720 Mar 03 j 15:51	24° $\overline{3}$ 01'07	
max. Earth dist.	-7727 Mar 05 j 04:51	17° $\overline{3}$ 25'30	49.46465 AU				
morning rise	-7727 Mar 11 j 19:14	17° $\overline{3}$ 34'30		conjunction	-7720 Mar 12 j 09:49	24° $\overline{3}$ 13'05	-12°39'08
retrograde	-7727 Jun 15 j 15:13	18° $\overline{3}$ 55'18		minimum elong	-7720 Mar 12 j 10:01	24° $\overline{3}$ 13'05	12°39'37
opposition	-7727 Sep 05 j 14:58	17° $\overline{3}$ 55'52	-14°21'17	max. Earth dist.	-7720 Mar 11 j 14:23	24° $\overline{3}$ 11'58	48.90424 AU
min. Earth dist.	-7727 Sep 06 j 00:03	17° $\overline{3}$ 55'26	47.49209 AU	morning rise	-7720 Mar 21 j 04:16	24° $\overline{3}$ 25'04	
direct	-7727 Nov 26 j 09:33	16° $\overline{3}$ 56'11		retrograde	-7720 Jun 22 j 04:10	25° $\overline{3}$ 42'44	
evening set	-7726 Feb 28 j 04:56	18° $\overline{3}$ 15'03		opposition	-7720 Sep 11 j 23:01	24° $\overline{3}$ 42'59	-13°05'22
				min. Earth dist.	-7720 Sep 12 j 17:32	24° $\overline{3}$ 42'05	46.90700 AU
conjunction	-7726 Mar 06 j 19:51	18° $\overline{3}$ 24'04	-13°41'58	direct	-7720 Dec 02 j 23:18	23° $\overline{3}$ 42'44	
minimum elong	-7726 Mar 06 j 20:02	18° $\overline{3}$ 24'05	13°42'28	evening set	-7719 Mar 04 j 14:52	24° $\overline{3}$ 59'01	
max. Earth dist.	-7726 Mar 06 j 08:12	18° $\overline{3}$ 23'24	49.39856 AU				
morning rise	-7726 Mar 13 j 11:23	18° $\overline{3}$ 33'07		conjunction	-7719 Mar 13 j 16:17	25° $\overline{3}$ 11'25	-12°27'46
retrograde	-7726 Jun 16 j 23:18	19° $\overline{3}$ 53'25		minimum elong	-7719 Mar 13 j 16:30	25° $\overline{3}$ 11'26	12°28'16
opposition	-7726 Sep 06 j 19:32	18° $\overline{3}$ 53'57	-14°11'11	max. Earth dist.	-7719 Mar 12 j 19:25	25° $\overline{3}$ 10'14	48.80976 AU
min. Earth dist.	-7726 Sep 07 j 06:03	18° $\overline{3}$ 53'27	47.42196 AU	morning rise	-7719 Mar 22 j 18:16	25° $\overline{3}$ 23'51	
direct	-7726 Nov 27 j 12:37	17° $\overline{3}$ 54'13		retrograde	-7719 Jun 23 j 08:33	26° $\overline{3}$ 41'11	
evening set	-7725 Mar 01 j 01:48	19° $\overline{3}$ 12'39		opposition	-7719 Sep 13 j 03:36	25° $\overline{3}$ 41'24	-12°53'27
				min. Earth dist.	-7719 Sep 13 j 22:16	25° $\overline{3}$ 40'30	46.80950 AU
conjunction	-7725 Mar 08 j 02:07	19° $\overline{3}$ 22'12	-13°32'06	direct	-7719 Dec 04 j 05:37	24° $\overline{3}$ 41'04	
minimum elong	-7725 Mar 08 j 02:20	19° $\overline{3}$ 22'13	13°32'36	evening set	-7718 Mar 05 j 14:03	25° $\overline{3}$ 57'07	
max. Earth dist.	-7725 Mar 07 j 13:32	19° $\overline{3}$ 21'29	49.32709 AU				
morning rise	-7725 Mar 15 j 02:59	19° $\overline{3}$ 31'47		conjunction	-7718 Mar 14 j 22:52	26° $\overline{3}$ 09'57	-12°16'08
retrograde	-7725 Jun 18 j 01:46	20° $\overline{3}$ 51'35		minimum elong	-7718 Mar 14 j 23:05	26° $\overline{3}$ 09'58	12°16'37
opposition	-7725 Sep 08 j 00:08	19° $\overline{3}$ 52'06	-14°00'51	max. Earth dist.	-7718 Mar 14 j 00:20	26° $\overline{3}$ 08'39	48.71220 AU
min. Earth dist.	-7725 Sep 08 j 12:43	19° $\overline{3}$ 51'29	47.34647 AU	morning rise	-7718 Mar 24 j 08:18	26° $\overline{3}$ 22'49	
direct	-7725 Nov 28 j 20:08	18° $\overline{3}$ 52'17		retrograde	-7718 Jun 24 j 14:52	27° $\overline{3}$ 39'50	
evening set	-7724 Feb 29 j 23:16	20° $\overline{3}$ 10'17		opposition	-7718 Sep 14 j 08:31	26° $\overline{3}$ 40'02	-12°41'16
				min. Earth dist.	-7718 Sep 15 j 05:14	26° $\overline{3}$ 39'02	46.70886 AU
conjunction	-7724 Mar 08 j 08:26	20° $\overline{3}$ 20'22	-13°22'00	direct	-7718 Dec 05 j 10:12	25° $\overline{3}$ 39'39	
minimum elong	-7724 Mar 08 j 08:38	20° $\overline{3}$ 20'22	13°22'31	evening set	-7717 Mar 06 j 13:24	26° $\overline{3}$ 55'27	
max. Earth dist.	-7724 Mar 07 j 18:06	20° $\overline{3}$ 19'33	49.25068 AU	max. Earth dist.	-7717 Mar 15 j 06:36	27° $\overline{3}$ 07'24	48.61136 AU
morning rise	-7724 Mar 15 j 18:09	20° $\overline{3}$ 30'28					
retrograde	-7724 Jun 18 j 04:31	21° $\overline{3}$ 49'47		conjunction	-7717 Mar 16 j 05:26	27° $\overline{3}$ 08'43	-12°04'14
opposition	-7724 Sep 08 j 04:31	20° $\overline{3}$ 50'14	-13°50'17	minimum elong	-7717 Mar 16 j 05:38	27° $\overline{3}$ 08'43	12°04'44
min. Earth dist.	-7724 Sep 08 j 17:40	20° $\overline{3}$ 49'36	47.26622 AU	morning rise	-7717 Mar 25 j 21:51	27° $\overline{3}$ 22'01	
direct	-7724 Nov 29 j 03:54	19° $\overline{3}$ 50'20		retrograde	-7717 Jun 25 j 21:58	28° $\overline{3}$ 38'45	
evening set	-7723 Mar 01 j 21:00	21° $\overline{3}$ 07'57		opposition	-7717 Sep 15 j 13:21	27° $\overline{3}$ 38'55	-12°28'48
				min. Earth dist.	-7717 Sep 16 j 10:45	27° $\overline{3}$ 37'53	46.60452 AU
conjunction	-7723 Mar 09 j 14:48	21° $\overline{3}$ 18'31	-13°11'40	direct	-7717 Dec 06 j 14:22	26° $\overline{3}$ 38'29	
minimum elong	-7723 Mar 09 j 15:01	21° $\overline{3}$ 18'32	13°12'11	evening set	-7716 Mar 06 j 13:15	27° $\overline{3}$ 54'04	
max. Earth dist.	-7723 Mar 08 j 22:24	21° $\overline{3}$ 17'35	49.16959 AU	max. Earth dist.	-7716 Mar 15 j 10:41	28° $\overline{3}$ 06'18	48.50655 AU
morning rise	-7723 Mar 17 j 09:15	21° $\overline{3}$ 29'07					
retrograde	-7723 Jun 19 j 11:07	22° $\overline{3}$ 47'59		conjunction	-7716 Mar 16 j 12:08	28° $\overline{3}$ 07'45	-11°52'05
opposition	-7723 Sep 09 j 09:09	21° $\overline{3}$ 48'23	-13°39'27	minimum elong	-7716 Mar 16 j 12:21	28° $\overline{3}$ 07'46	11°52'34
min. Earth dist.	-7723 Sep 10 j 00:29	21° $\overline{3}$ 47'39	47.18163 AU	morning rise	-7716 Mar 26 j 11:39	28° $\overline{3}$ 21'29	
direct	-7723 Nov 30 j 08:06	20° $\overline{3}$ 48'24		retrograde	-7716 Jun 26 j 07:09	29° $\overline{3}$ 37'56	
evening set	-7722 Mar 02 j 19:07	22° $\overline{3}$ 05'38		opposition	-7716 Sep 15 j 18:12	28° $\overline{3}$ 38'05	-12°16'05
				min. Earth dist.	-7716 Sep 16 j 17:04	28° $\overline{3}$ 36'59	46.49600 AU
conjunction	-7722 Mar 10 j 21:14	22° $\overline{3}$ 16'40	-13°01'05	direct	-7716 Dec 06 j 17:04	27° $\overline{3}$ 37'34	
minimum elong	-7722 Mar 10 j 21:25	22° $\overline{3}$ 16'41	13°01'35	evening set	-7715 Mar 07 j 13:20	28° $\overline{3}$ 52'59	
max. Earth dist.	-7722 Mar 10 j 04:23	22° $\overline{3}$ 15'42	49.08450 AU				
morning rise	-7722 Mar 18 j 23:48	22° $\overline{3}$ 27'45		conjunction	-7715 Mar 17 j 19:11	29° $\overline{3}$ 07'05	-11°39'42
retrograde	-7722 Jun 20 j 16:40	23° $\overline{3}$ 46'11		minimum elong	-7715 Mar 17 j 19:23	29° $\overline{3}$ 07'06	11°40'11
opposition	-7722 Sep 10 j 13:38	22° $\overline{3}$ 46'32	-13°28'22	max. Earth dist.	-7715 Mar 16 j 16:48	29° $\overline{3}$ 05'34	48.39706 AU
min. Earth dist.	-7722 Sep 11 j 05:33	22° $\overline{3}$ 45'46	47.09320 AU	morning rise	-7715 Mar 28 j 01:24	29° $\overline{3}$ 21'13	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 14

Attention, astronomical year style is used: The year -7715 in astronomical counting style is the year 7716 BCE in historical counting style.

	-7715 Apr 27 j 13:44	0°≈		min. Earth dist.	-7709 Sep 24 j 14:53	5°≈36'46	45.60240 AU
retrograde	-7715 Jun 27 j 12:18	0°≈37'26		direct	-7709 Dec 14 j 12:51	4°≈36'58	
	-7715 Aug 28 j 03:23	30°≈		evening set	-7708 Mar 12 j 20:33	5°≈51'19	
opposition	-7715 Sep 16 j 23:21	29°≈37'32	-12°03'07	max. Earth dist.	-7708 Mar 23 j 08:10	6°≈05'55	47.49966 AU
min. Earth dist.	-7715 Sep 18 j 00:17	29°≈36'20	46.38243 AU				
direct	-7715 Dec 07 j 23:39	28°≈36'56		conjunction	-7708 Mar 24 j 21:20	6°≈08'05	-10°05'55
evening set	-7714 Mar 08 j 13:51	29°≈52'10		minimum elong	-7708 Mar 24 j 21:33	6°≈08'06	10°06'22
	-7714 Mar 14 j 06:37	0°≈		morning rise	-7708 Apr 05 j 22:21	6°≈24'53	
max. Earth dist.	-7714 Mar 17 j 21:52	0°≈05'02	48.28251 AU	retrograde	-7708 Jul 04 j 06:06	7°≈39'36	
				opposition	-7708 Sep 23 j 12:41	6°≈39'07	-10°24'57
conjunction	-7714 Mar 19 j 02:10	0°≈06'40	-11°27'03	min. Earth dist.	-7708 Sep 24 j 22:27	6°≈37'27	45.46033 AU
minimum elong	-7714 Mar 19 j 02:24	0°≈06'41	11°27'31	direct	-7708 Dec 14 j 19:34	5°≈37'37	
morning rise	-7714 Mar 29 j 14:58	0°≈21'12		evening set	-7707 Mar 13 j 22:31	6°≈51'52	
retrograde	-7714 Jun 28 j 16:06	1°≈37'10		max. Earth dist.	-7707 Mar 24 j 15:32	7°≈06'48	47.35789 AU
opposition	-7714 Sep 18 j 04:25	0°≈37'13	-11°49'54				
min. Earth dist.	-7714 Sep 19 j 06:01	0°≈35'59	46.26368 AU	conjunction	-7707 Mar 26 j 04:55	7°≈09'00	-9°51'26
	-7714 Oct 22 j 14:13	30°≈		minimum elong	-7707 Mar 26 j 05:08	7°≈09'01	9°51'53
direct	-7714 Dec 09 j 07:46	29°≈36'31		morning rise	-7707 Apr 07 j 11:19	7°≈26'10	
	-7713 Jan 25 j 14:13	0°≈		retrograde	-7707 Jul 05 j 12:51	8°≈40'44	
evening set	-7713 Mar 09 j 14:25	0°≈51'35		opposition	-7707 Sep 24 j 18:23	7°≈40'09	-10°09'48
max. Earth dist.	-7713 Mar 19 j 02:40	1°≈04'43	48.16266 AU	min. Earth dist.	-7707 Sep 26 j 04:19	7°≈38'29	45.31570 AU
				direct	-7707 Dec 16 j 01:34	6°≈38'32	
conjunction	-7713 Mar 20 j 09:15	1°≈06'29	-11°14'10	evening set	-7706 Mar 15 j 00:45	7°≈52'43	
minimum elong	-7713 Mar 20 j 09:27	1°≈06'30	11°14'39	max. Earth dist.	-7706 Mar 25 j 20:48	8°≈07'53	47.21351 AU
morning rise	-7713 Mar 31 j 04:32	1°≈21'24					
retrograde	-7713 Jun 29 j 22:31	2°≈37'08		conjunction	-7706 Mar 27 j 12:26	8°≈10'13	-9°36'41
opposition	-7713 Sep 19 j 09:43	1°≈37'07	-11°36'25	minimum elong	-7706 Mar 27 j 12:39	8°≈10'14	9°37'08
min. Earth dist.	-7713 Sep 20 j 13:40	1°≈35'46	46.13981 AU	morning rise	-7706 Apr 09 j 00:20	8°≈27'44	
direct	-7713 Dec 10 j 13:11	0°≈36'19		retrograde	-7706 Jul 06 j 23:34	9°≈42'11	
evening set	-7712 Mar 09 j 15:10	1°≈51'11		opposition	-7706 Sep 26 j 00:11	8°≈41'31	-9°54'20
max. Earth dist.	-7712 Mar 19 j 09:08	2°≈04'40	48.03795 AU	min. Earth dist.	-7706 Sep 27 j 11:23	8°≈39'47	45.16850 AU
				direct	-7706 Dec 17 j 03:50	7°≈39'47	
conjunction	-7712 Mar 20 j 16:21	2°≈06'28	-11°01'02	evening set	-7705 Mar 16 j 03:08	8°≈53'55	
minimum elong	-7712 Mar 20 j 16:34	2°≈06'29	11°01'31	max. Earth dist.	-7705 Mar 27 j 04:22	9°≈09'26	47.06630 AU
morning rise	-7712 Mar 31 j 17:47	2°≈21'47					
retrograde	-7712 Jun 30 j 05:17	3°≈37'17		conjunction	-7705 Mar 28 j 20:15	9°≈11'47	-9°21'39
opposition	-7712 Sep 19 j 14:57	2°≈37'11	-11°22'41	minimum elong	-7705 Mar 28 j 20:27	9°≈11'47	9°22'05
min. Earth dist.	-7712 Sep 20 j 19:36	2°≈35'47	46.01112 AU	morning rise	-7705 Apr 10 j 13:14	9°≈29'39	
direct	-7712 Dec 10 j 17:52	1°≈36'15		retrograde	-7705 Jul 08 j 07:11	10°≈44'00	
evening set	-7711 Mar 10 j 16:19	2°≈50'57		opposition	-7705 Sep 27 j 06:09	9°≈43'15	-9°38'35
				min. Earth dist.	-7705 Sep 28 j 18:48	9°≈41'27	45.01815 AU
conjunction	-7711 Mar 21 j 23:31	3°≈06'37	-10°47'40	direct	-7705 Dec 18 j 09:41	8°≈41'23	
minimum elong	-7711 Mar 21 j 23:43	3°≈06'38	10°48'07	evening set	-7704 Mar 16 j 05:54	9°≈55'31	
max. Earth dist.	-7711 Mar 20 j 13:45	3°≈04'40	47.90867 AU	max. Earth dist.	-7704 Mar 27 j 10:27	10°≈11'16	46.91575 AU
morning rise	-7711 Apr 02 j 07:11	3°≈22'20					
retrograde	-7711 Jul 01 j 14:05	4°≈37'36		conjunction	-7704 Mar 29 j 04:03	10°≈13'43	-9°06'20
opposition	-7711 Sep 20 j 20:10	3°≈37'24	-11°08'41	minimum elong	-7704 Mar 29 j 04:15	10°≈13'44	9°06'47
min. Earth dist.	-7711 Sep 22 j 02:22	3°≈35'56	45.87832 AU	morning rise	-7704 Apr 11 j 02:13	10°≈31'56	
direct	-7711 Dec 11 j 21:40	2°≈36'19		retrograde	-7704 Jul 08 j 13:22	11°≈46'12	
evening set	-7710 Mar 11 j 17:32	3°≈50'53		opposition	-7704 Sep 27 j 12:12	10°≈45'22	-9°22'33
max. Earth dist.	-7710 Mar 21 j 20:35	4°≈04'57	47.77544 AU	min. Earth dist.	-7704 Sep 29 j 01:27	10°≈43'32	44.86408 AU
				direct	-7704 Dec 18 j 17:55	9°≈43'22	
conjunction	-7710 Mar 23 j 06:52	4°≈06'56	-10°34'01	evening set	-7703 Mar 17 j 09:03	10°≈57'30	
minimum elong	-7710 Mar 23 j 07:06	4°≈06'57	10°34'29	max. Earth dist.	-7703 Mar 28 j 16:43	11°≈13'28	46.76091 AU
morning rise	-7710 Apr 03 j 20:22	4°≈23'01					
retrograde	-7710 Jul 02 j 19:31	5°≈38'04		conjunction	-7703 Mar 30 j 12:14	11°≈16'03	-8°50'46
opposition	-7710 Sep 22 j 01:40	4°≈37'46	-10°54'23	minimum elong	-7703 Mar 30 j 12:27	11°≈16'04	8°51'10
min. Earth dist.	-7710 Sep 23 j 09:21	4°≈36'14	45.74183 AU	morning rise	-7703 Apr 12 j 15:19	11°≈34'37	
direct	-7710 Dec 13 j 05:20	3°≈36'33		retrograde	-7703 Jul 09 j 19:13	12°≈48'49	
evening set	-7709 Mar 12 j 18:55	4°≈51'00		opposition	-7703 Sep 28 j 18:29	11°≈47'53	-9°06'14
max. Earth dist.	-7709 Mar 23 j 02:14	5°≈05'20	47.63901 AU	min. Earth dist.	-7703 Sep 30 j 10:06	11°≈45'55	44.70554 AU
				direct	-7703 Dec 20 j 02:00	10°≈45'44	
conjunction	-7709 Mar 24 j 13:57	5°≈07'25	-10°20'06	evening set	-7702 Mar 18 j 12:32	11°≈59'52	
minimum elong	-7709 Mar 24 j 14:09	5°≈07'26	10°20'33	max. Earth dist.	-7702 Mar 30 j 00:17	12°≈16'07	46.60149 AU
morning rise	-7709 Apr 05 j 09:16	5°≈23'51					
retrograde	-7709 Jul 04 j 00:49	6°≈38'43		conjunction	-7702 Mar 31 j 20:37	12°≈18'45	-8°34'55
opposition	-7709 Sep 23 j 07:06	5°≈38'20	-10°39'49	minimum elong	-7702 Mar 31 j 20:48	12°≈18'46	8°35'20

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 15

Attention, astronomical year style is used: The year -7702 in astronomical counting style is the year 7703 BCE in historical counting style.

morning rise	-7702 Apr 14 j 04:22	12°37'39	opposition	-7696 Oct 05 j 18:20	19°14'54	-7°03'53
retrograde	-7702 Jul 11 j 02:09	13°51'48	min. Earth dist.	-7696 Oct 07 j 17:57	19°12'30	43.47730 AU
opposition	-7702 Sep 30 j 00:57	12°50'45 -8°49'38	direct	-7696 Dec 27 j 02:08	18°11'27	
min. Earth dist.	-7702 Oct 01 j 17:09	12°48'45 44.54219 AU	evening set	-7695 Mar 24 j 20:26	19°26'00	
direct	-7702 Dec 21 j 09:00	11°48'27	max. Earth dist.	-7695 Apr 06 j 04:55	19°43'53	45.37042 AU
evening set	-7701 Mar 19 j 16:13	13°02'34				
max. Earth dist.	-7701 Mar 31 j 05:54	13°19'00 46.43720 AU	conjunction	-7695 Apr 08 j 10:25	19°47'09	-6°36'16
			minimum elong	-7695 Apr 08 j 10:36	19°47'09	6°36'38
conjunction	-7701 Apr 02 j 04:51	13°21'48 -8°18'48	morning rise	-7695 Apr 22 j 23:25	20°08'16	
minimum elong	-7701 Apr 02 j 05:03	13°21'49 8°19'12	retrograde	-7695 Jul 18 j 14:43	21°22'25	
morning rise	-7701 Apr 15 j 17:23	13°41'02	opposition	-7695 Oct 07 j 01:50	20°20'21	-6°45'11
retrograde	-7701 Jul 12 j 11:59	14°55'07	min. Earth dist.	-7695 Oct 09 j 02:22	20°17'53	43.28998 AU
opposition	-7701 Oct 01 j 07:33	13°53'57 -8°32'45	direct	-7695 Dec 28 j 08:44	19°16'43	
min. Earth dist.	-7701 Oct 03 j 01:35	13°51'51 44.37413 AU	evening set	-7694 Mar 26 j 02:22	20°31'26	
direct	-7701 Dec 22 j 13:43	12°51'28	max. Earth dist.	-7694 Apr 07 j 12:45	20°49'31	45.18338 AU
evening set	-7700 Mar 19 j 20:09	14°05'37				
max. Earth dist.	-7700 Mar 31 j 13:54	14°22'19 46.26821 AU	conjunction	-7694 Apr 09 j 19:52	20°52'53	-6°18'09
			minimum elong	-7694 Apr 09 j 20:01	20°52'53	6°18'31
conjunction	-7700 Apr 02 j 13:32	14°25'10 -8°02'25	morning rise	-7694 Apr 24 j 12:35	21°14'18	
minimum elong	-7700 Apr 02 j 13:43	14°25'11 8°02'50	retrograde	-7694 Jul 20 j 00:53	22°28'32	
morning rise	-7700 Apr 16 j 06:24	14°44'43	opposition	-7694 Oct 08 j 09:31	21°26'21	-6°26'10
	-7700 Apr 27 j 08:57	15°	min. Earth dist.	-7694 Oct 10 j 10:26	21°23'52	43.10056 AU
retrograde	-7700 Jul 12 j 20:18	15°58'46	direct	-7694 Dec 29 j 16:31	20°22'33	
	-7700 Sep 29 j 11:06	15°	evening set	-7693 Mar 27 j 08:22	21°37'27	
opposition	-7700 Oct 01 j 14:10	14°57'27 -8°15'35	max. Earth dist.	-7693 Apr 08 j 21:15	21°55'45	44.99380 AU
min. Earth dist.	-7700 Oct 03 j 09:43	14°55'16 44.20149 AU				
direct	-7700 Dec 22 j 21:00	13°54'47	conjunction	-7693 Apr 11 j 05:28	21°59'13	-5°59'44
	-7699 Mar 14 j 13:48	15°	minimum elong	-7693 Apr 11 j 05:37	21°59'13	6°00'07
evening set	-7699 Mar 21 j 00:35	15°08'58	morning rise	-7693 Apr 26 j 01:31	22°20'56	
max. Earth dist.	-7699 Apr 01 j 20:40	15°25'53 46.09503 AU	retrograde	-7693 Jul 21 j 08:31	23°35'18	
			opposition	-7693 Oct 09 j 17:31	22°32'58	-6°06'50
conjunction	-7699 Apr 03 j 22:16	15°28'51 -7°45'45	min. Earth dist.	-7693 Oct 11 j 20:21	22°30'23	42.90840 AU
minimum elong	-7699 Apr 03 j 22:27	15°28'52 7°46'10	direct	-7693 Dec 31 j 02:51	21°29'00	
morning rise	-7699 Apr 17 j 19:35	15°48'43	evening set	-7692 Mar 27 j 15:01	22°44'07	
retrograde	-7699 Jul 14 j 05:03	17°02'44	max. Earth dist.	-7692 Apr 09 j 06:36	23°02'40	44.80130 AU
opposition	-7699 Oct 02 j 20:56	16°01'16 -7°58'07				
min. Earth dist.	-7699 Oct 04 j 17:02	15°59'03 44.02497 AU	conjunction	-7692 Apr 11 j 15:27	23°06'11	-5°41'02
	-7699 Dec 12 j 07:44	15°	minimum elong	-7692 Apr 11 j 15:36	23°06'11	5°41'23
direct	-7699 Dec 24 j 04:52	14°58'24	morning rise	-7692 Apr 26 j 14:45	23°28'11	
	-7698 Jan 05 j 02:19	15°	retrograde	-7692 Jul 21 j 16:18	24°42'42	
evening set	-7698 Mar 22 j 05:05	16°12'39	opposition	-7692 Oct 10 j 01:29	23°40'15	-5°47'11
max. Earth dist.	-7698 Apr 03 j 04:05	16°29'47 45.91800 AU	min. Earth dist.	-7692 Oct 12 j 04:39	23°37'37	42.71292 AU
			direct	-7692 Dec 31 j 12:31	22°36'05	
conjunction	-7698 Apr 05 j 07:04	16°32'51 -7°28'49	evening set	-7691 Mar 28 j 22:13	23°51'26	
minimum elong	-7698 Apr 05 j 07:15	16°32'52 7°29'13	max. Earth dist.	-7691 Apr 10 j 14:25	24°10'06	44.60498 AU
morning rise	-7698 Apr 19 j 08:31	16°53'02				
retrograde	-7698 Jul 15 j 11:20	18°07'03	conjunction	-7691 Apr 13 j 01:44	24°13'47	-5°22'03
opposition	-7698 Oct 04 j 03:58	17°05'25 -7°40'21	minimum elong	-7691 Apr 13 j 01:52	24°13'48	5°22'24
min. Earth dist.	-7698 Oct 06 j 02:08	17°03'06 43.84502 AU	morning rise	-7691 Apr 28 j 04:11	24°36'06	
direct	-7698 Dec 25 j 13:26	16°02'22	retrograde	-7691 Jul 23 j 03:19	25°50'46	
evening set	-7697 Mar 23 j 09:54	17°16'41	opposition	-7691 Oct 11 j 09:57	24°48'10	-5°27'14
max. Earth dist.	-7697 Apr 04 j 12:40	17°34'05 45.73798 AU	min. Earth dist.	-7691 Oct 13 j 15:15	24°45'25	42.51349 AU
			direct	-7690 Jan 01 j 19:01	23°43'49	
conjunction	-7697 Apr 06 j 16:02	17°37'12 -7°11'35	evening set	-7690 Mar 30 j 05:37	24°59'23	
minimum elong	-7697 Apr 06 j 16:13	17°37'12 7°11'59	max. Earth dist.	-7690 Apr 12 j 00:27	25°18'18	44.40434 AU
morning rise	-7697 Apr 20 j 21:27	17°57'42				
retrograde	-7697 Jul 16 j 17:59	19°11'43	conjunction	-7690 Apr 14 j 12:15	25°22'01	-5°02'46
opposition	-7697 Oct 05 j 11:00	18°09'57 -7°22'17	minimum elong	-7690 Apr 14 j 12:24	25°22'02	5°03'05
min. Earth dist.	-7697 Oct 07 j 09:14	18°07'37 43.66232 AU	morning rise	-7690 Apr 29 j 17:25	25°44'37	
direct	-7697 Dec 26 j 21:53	17°06'41	retrograde	-7690 Jul 24 j 14:14	26°59'28	
evening set	-7696 Mar 23 j 15:00	18°21'06	opposition	-7690 Oct 12 j 18:40	25°56'41	-5°06'58
max. Earth dist.	-7696 Apr 04 j 19:29	18°38'41 45.55536 AU	min. Earth dist.	-7690 Oct 15 j 01:03	25°53'53	42.30952 AU
			direct	-7689 Jan 03 j 02:55	24°52'07	
conjunction	-7696 Apr 07 j 01:00	18°41'56 -6°54'04	evening set	-7689 Mar 31 j 13:35	26°07'57	
minimum elong	-7696 Apr 07 j 01:10	18°41'57 6°54'27	max. Earth dist.	-7689 Apr 13 j 08:43	26°26'58	44.19925 AU
morning rise	-7696 Apr 21 j 10:28	19°02'45				
retrograde	-7696 Jul 17 j 05:13	20°16'50	conjunction	-7689 Apr 15 j 22:54	26°30'52	-4°43'11

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16

Attention, astronomical year style is used: The year -7689 in astronomical counting style is the year 7690 BCE in historical counting style.

minimum elong	-7689 Apr 15 j 23:02	26° $\approx$ 30'52	4°43'32	retrograde	-7683 Aug 01 j 19:56	5° $\mathbb{H}$ 16'03	
morning rise	-7689 May 01 j 06:58	26° $\approx$ 53'43		opposition	-7683 Oct 20 j 13:48	4° $\mathbb{H}$ 11'40	-2°36'16
retrograde	-7689 Jul 26 j 03:38	28° $\approx$ 08'45		min. Earth dist.	-7683 Oct 23 j 03:54	4° $\mathbb{H}$ 08'23	40.78168 AU
opposition	-7689 Oct 14 j 03:27	27° $\approx$ 05'46	-4°46'23	direct	-7682 Jan 10 j 23:12	3° $\mathbb{H}$ 05'11	
min. Earth dist.	-7689 Oct 16 j 10:50	27° $\approx$ 02'55	42.10122 AU	evening set	-7682 Apr 08 j 08:20	4° $\mathbb{H}$ 23'20	
direct	-7688 Jan 04 j 10:16	26° $\approx$ 00'57		max. Earth dist.	-7682 Apr 21 j 10:47	4° $\mathbb{H}$ 43'31	42.66720 AU
evening set	-7688 Mar 31 j 21:47	27° $\approx$ 17'03					
max. Earth dist.	-7688 Apr 13 j 18:28	27° $\approx$ 36'16	43.98966 AU	conjunction	-7682 Apr 24 j 08:13	4° $\mathbb{H}$ 48'01	-2°17'56
				minimum elong	-7682 Apr 24 j 08:17	4° $\mathbb{H}$ 48'02	2°18'13
conjunction	-7688 Apr 16 j 09:54	27° $\approx$ 40'15	-4°23'20	morning rise	-7682 May 10 j 06:00	5° $\mathbb{H}$ 12'36	
minimum elong	-7688 Apr 16 j 10:01	27° $\approx$ 40'15	4°23'39	retrograde	-7682 Aug 03 j 08:38	6° $\mathbb{H}$ 29'29	
morning rise	-7688 May 01 j 20:23	28° $\approx$ 03'22		opposition	-7682 Oct 22 j 00:26	5° $\mathbb{H}$ 24'54	-2°13'26
retrograde	-7688 Jul 26 j 13:51	29° $\approx$ 18'36		min. Earth dist.	-7682 Oct 24 j 14:20	5° $\mathbb{H}$ 21'36	40.55490 AU
opposition	-7688 Oct 14 j 12:38	28° $\approx$ 15'24	-4°25'30	direct	-7681 Jan 12 j 11:06	4° $\mathbb{H}$ 18'08	
min. Earth dist.	-7688 Oct 16 j 22:09	28° $\approx$ 12'25	41.88856 AU	evening set	-7681 Apr 09 j 19:48	5° $\mathbb{H}$ 36'45	
direct	-7687 Jan 04 j 20:16	27° $\approx$ 10'20		max. Earth dist.	-7681 Apr 22 j 22:00	5° $\mathbb{H}$ 57'03	42.44007 AU
evening set	-7687 Apr 02 j 06:32	28° $\approx$ 26'42					
max. Earth dist.	-7687 Apr 15 j 04:38	28° $\approx$ 46'05	43.77606 AU	conjunction	-7681 Apr 25 j 20:56	6° $\mathbb{H}$ 01'41	-1°56'00
				minimum elong	-7681 Apr 25 j 20:59	6° $\mathbb{H}$ 01'41	1°56'16
conjunction	-7687 Apr 17 j 21:05	28° $\approx$ 50'09	-4°03'10	morning rise	-7681 May 11 j 19:50	6° $\mathbb{H}$ 26'29	
minimum elong	-7687 Apr 17 j 21:11	28° $\approx$ 50'10	4°03'29	retrograde	-7681 Aug 04 j 20:06	7° $\mathbb{H}$ 43'46	
morning rise	-7687 May 03 j 09:59	29° $\approx$ 13'32		opposition	-7681 Oct 23 j 11:25	6° $\mathbb{H}$ 38'58	-1°50'18
	-7687 Jun 07 j 17:19	0° $\mathbb{H}$		min. Earth dist.	-7681 Oct 26 j 03:14	6° $\mathbb{H}$ 35'33	40.32645 AU
retrograde	-7687 Jul 27 j 21:42	0° $\mathbb{H}$ 28'58		direct	-7680 Jan 13 j 21:50	5° $\mathbb{H}$ 31'56	
	-7687 Sep 16 j 17:55	30° $\mathbb{R}\approx$		evening set	-7680 Apr 10 j 07:46	6° $\mathbb{H}$ 51'04	
opposition	-7687 Oct 15 j 21:51	29° $\approx$ 25'33	-4°04'18	max. Earth dist.	-7680 Apr 23 j 11:06	7° $\mathbb{H}$ 11'32	42.21098 AU
min. Earth dist.	-7687 Oct 18 j 07:37	29° $\approx$ 22'32	41.67220 AU				
direct	-7686 Jan 06 j 08:50	28° $\approx$ 20'11		conjunction	-7680 Apr 26 j 10:03	7° $\mathbb{H}$ 16'13	-1°33'46
evening set	-7686 Apr 03 j 15:42	29° $\approx$ 36'51		minimum elong	-7680 Apr 26 j 10:06	7° $\mathbb{H}$ 16'13	1°34'02
max. Earth dist.	-7686 Apr 16 j 13:52	29° $\approx$ 56'21	43.55888 AU	morning rise	-7680 May 12 j 09:50	7° $\mathbb{H}$ 41'14	
	-7686 Apr 18 j 23:20	0° $\mathbb{H}$		retrograde	-7680 Aug 05 j 07:28	8° $\mathbb{H}$ 58'58	
conjunction	-7686 Apr 19 j 08:27	0° $\mathbb{H}$ 00'35	-3°42'43	opposition	-7680 Oct 23 j 22:45	7° $\mathbb{H}$ 53'56	-1°26'50
minimum elong	-7686 Apr 19 j 08:34	0° $\mathbb{H}$ 00'35	3°43'02	min. Earth dist.	-7680 Oct 26 j 14:53	7° $\mathbb{H}$ 50'29	40.09565 AU
morning rise	-7686 May 04 j 23:34	0° $\mathbb{H}$ 24'13		direct	-7679 Jan 14 j 09:42	6° $\mathbb{H}$ 46'39	
retrograde	-7686 Jul 29 j 07:38	1° $\mathbb{H}$ 39'52		evening set	-7679 Apr 11 j 20:34	8° $\mathbb{H}$ 06'18	
opposition	-7686 Oct 17 j 07:29	0° $\mathbb{H}$ 36'13	-3°42'46	max. Earth dist.	-7679 Apr 24 j 22:12	8° $\mathbb{H}$ 26'49	41.97916 AU
min. Earth dist.	-7686 Oct 19 j 19:06	0° $\mathbb{H}$ 33'06	41.45279 AU				
	-7686 Nov 16 j 20:22	30° $\mathbb{R}\approx$		conjunction	-7679 Apr 27 j 23:27	8° $\mathbb{H}$ 31'40	-1°11'14
direct	-7685 Jan 07 j 18:22	29° $\approx$ 30'34		minimum elong	-7679 Apr 27 j 23:29	8° $\mathbb{H}$ 31'40	1°11'28
	-7685 Feb 28 j 00:08	0° $\mathbb{H}$		morning rise	-7679 May 14 j 00:02	8° $\mathbb{H}$ 56'54	
evening set	-7685 Apr 05 j 00:57	0° $\mathbb{H}$ 47'33		retrograde	-7679 Aug 06 j 23:05	10° $\mathbb{H}$ 15'06	
max. Earth dist.	-7685 Apr 18 j 01:30	1° $\mathbb{H}$ 07'16	43.33890 AU	opposition	-7679 Oct 25 j 10:26	9° $\mathbb{H}$ 09'50	-1°03'03
				min. Earth dist.	-7679 Oct 28 j 03:57	9° $\mathbb{H}$ 06'19	39.86206 AU
conjunction	-7685 Apr 20 j 19:56	1° $\mathbb{H}$ 11'31	-3°21'59	direct	-7678 Jan 15 j 18:04	8° $\mathbb{H}$ 02'16	
minimum elong	-7685 Apr 20 j 20:02	1° $\mathbb{H}$ 11'32	3°22'16	evening set	-7678 Apr 13 j 09:48	9° $\mathbb{H}$ 22'31	
morning rise	-7685 May 06 j 12:55	1° $\mathbb{H}$ 35'24		max. Earth dist.	-7678 Apr 26 j 11:43	9° $\mathbb{H}$ 43'10	41.74410 AU
retrograde	-7685 Jul 30 j 17:53	2° $\mathbb{H}$ 51'19					
opposition	-7685 Oct 18 j 17:20	1° $\mathbb{H}$ 47'25	-3°20'56	conjunction	-7678 Apr 29 j 13:24	9° $\mathbb{H}$ 48'04	-0°48'25
min. Earth dist.	-7685 Oct 21 j 05:21	1° $\mathbb{H}$ 44'16	41.23083 AU	minimum elong	-7678 Apr 29 j 13:25	9° $\mathbb{H}$ 48'04	0°48'40
direct	-7684 Jan 09 j 04:00	0° $\mathbb{H}$ 41'29		morning rise	-7678 May 15 j 14:14	10° $\mathbb{H}$ 13'30	
evening set	-7684 Apr 05 j 11:00	1° $\mathbb{H}$ 58'49		retrograde	-7678 Aug 08 j 13:08	11° $\mathbb{H}$ 32'12	
max. Earth dist.	-7684 Apr 18 j 11:24	2° $\mathbb{H}$ 18'39	43.11670 AU	opposition	-7678 Oct 26 j 22:41	10° $\mathbb{H}$ 26'41	-0°38'58
				min. Earth dist.	-7678 Oct 29 j 17:36	10° $\mathbb{H}$ 23'04	39.62512 AU
conjunction	-7684 Apr 21 j 07:42	2° $\mathbb{H}$ 23'02	-3°00'56	direct	-7677 Jan 17 j 05:01	9° $\mathbb{H}$ 18'50	
minimum elong	-7684 Apr 21 j 07:48	2° $\mathbb{H}$ 23'02	3°01'13	evening set	-7677 Apr 14 j 23:36	10° $\mathbb{H}$ 39'40	
morning rise	-7684 May 07 j 02:38	2° $\mathbb{H}$ 47'10		max. Earth dist.	-7677 Apr 28 j 00:12	11° $\mathbb{H}$ 00'22	41.50573 AU
retrograde	-7684 Jul 31 j 07:31	4° $\mathbb{H}$ 03'21					
opposition	-7684 Oct 19 j 03:17	2° $\mathbb{H}$ 59'13	-2°58'45	conjunction	-7677 May 01 j 03:23	11° $\mathbb{H}$ 05'25	-0°25'19
min. Earth dist.	-7684 Oct 21 j 16:07	2° $\mathbb{H}$ 56'00	41.00708 AU	minimum elong	-7677 May 01 j 03:24	11° $\mathbb{H}$ 05'25	0°25'32
direct	-7683 Jan 09 j 12:06	1° $\mathbb{H}$ 53'00		morning rise	-7677 May 17 j 04:36	11° $\mathbb{H}$ 31'01	
evening set	-7683 Apr 06 j 21:26	3° $\mathbb{H}$ 10'43		retrograde	-7677 Aug 10 j 04:28	12° $\mathbb{H}$ 50'14	
max. Earth dist.	-7683 Apr 19 j 23:12	3° $\mathbb{H}$ 30'44	42.89266 AU	opposition	-7677 Oct 28 j 11:06	11° $\mathbb{H}$ 44'28	-0°14'33
				min. Earth dist.	-7677 Oct 31 j 06:29	11° $\mathbb{H}$ 40'48	39.38489 AU
conjunction	-7683 Apr 22 j 19:57	3° $\mathbb{H}$ 35'10	-2°39'35	direct	-7676 Jan 18 j 18:36	10° $\mathbb{H}$ 36'17	
minimum elong	-7683 Apr 22 j 20:02	3° $\mathbb{H}$ 35'10	2°39'52	evening set	-7676 Apr 15 j 14:07	11° $\mathbb{H}$ 57'45	
morning rise	-7683 May 08 j 16:16	3° $\mathbb{H}$ 59'32		max. Earth dist.	-7676 Apr 28 j 13:09	12° $\mathbb{H}$ 18'29	41.26384 AU



## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 17

Attention, astronomical year style is used: The year -7676 in astronomical counting style is the year 7677 BCE in historical counting style.

conjunction	-7676 May 01 j 18:00	12° $\mathbf{\text{H}}$ 23'40	-0°01'59	opposition	-7670 Nov 06 j 13:13	21° $\mathbf{\text{H}}$ 15'00	2°44'37
minimum elong	-7676 May 01 j 18:01	12° $\mathbf{\text{H}}$ 23'40	0°02'12	min. Earth dist.	-7670 Nov 09 j 13:31	21° $\mathbf{\text{H}}$ 10'55	37.64686 AU
behind sun begin	-7676 May 01 j 11:30	12° $\mathbf{\text{H}}$ 23'16		direct	-7669 Jan 27 j 20:46	20° $\mathbf{\text{H}}$ 04'19	
behind sun end	-7676 May 02 j 00:32	12° $\mathbf{\text{H}}$ 24'05		evening set	-7669 Apr 26 j 13:30	21° $\mathbf{\text{H}}$ 31'07	
morning rise	-7676 May 17 j 19:05	12° $\mathbf{\text{H}}$ 49'27		max. Earth dist.	-7669 May 08 j 23:48	21° $\mathbf{\text{H}}$ 52'05	39.51933 AU
asc. node	-7676 May 31 j 17:28	13° $\mathbf{\text{H}}$ 10'41					
retrograde	-7676 Aug 10 j 18:25	14° $\mathbf{\text{H}}$ 09'12		conjunction	-7669 May 12 j 09:40	21° $\mathbf{\text{H}}$ 57'54	2°49'11
opposition	-7676 Oct 28 j 23:55	13° $\mathbf{\text{H}}$ 03'09	0°10'10	minimum elong	-7669 May 12 j 09:34	21° $\mathbf{\text{H}}$ 57'53	2°49'03
min. Earth dist.	-7676 Oct 31 j 21:22	12° $\mathbf{\text{H}}$ 59'21	39.14145 AU	morning rise	-7669 May 28 j 02:35	22° $\mathbf{\text{H}}$ 24'29	
direct	-7675 Jan 19 j 08:54	11° $\mathbf{\text{H}}$ 54'38		retrograde	-7669 Aug 21 j 10:21	23° $\mathbf{\text{H}}$ 49'03	
evening set	-7675 Apr 17 j 05:15	13° $\mathbf{\text{H}}$ 16'44		opposition	-7669 Nov 08 j 05:03	22° $\mathbf{\text{H}}$ 40'48	3°11'18
max. Earth dist.	-7675 Apr 30 j 03:49	13° $\mathbf{\text{H}}$ 37'35	41.01900 AU	min. Earth dist.	-7669 Nov 11 j 06:48	22° $\mathbf{\text{H}}$ 36'36	37.39653 AU
				direct	-7668 Jan 29 j 12:12	21° $\mathbf{\text{H}}$ 29'45	
conjunction	-7675 May 03 j 08:58	13° $\mathbf{\text{H}}$ 42'50	0°21'46	evening set	-7668 Apr 27 j 09:34	22° $\mathbf{\text{H}}$ 57'31	
minimum elong	-7675 May 03 j 08:57	13° $\mathbf{\text{H}}$ 42'50	0°21'34	max. Earth dist.	-7668 May 09 j 18:08	23° $\mathbf{\text{H}}$ 18'31	39.26797 AU
morning rise	-7675 May 19 j 09:44	14° $\mathbf{\text{H}}$ 08'46					
retrograde	-7675 Aug 12 j 07:18	15° $\mathbf{\text{H}}$ 29'05		conjunction	-7668 May 13 j 03:30	23° $\mathbf{\text{H}}$ 24'21	3°14'34
opposition	-7675 Oct 30 j 13:07	14° $\mathbf{\text{H}}$ 22'44	0°35'11	minimum elong	-7668 May 13 j 03:23	23° $\mathbf{\text{H}}$ 24'21	3°14'27
min. Earth dist.	-7675 Nov 02 j 10:35	14° $\mathbf{\text{H}}$ 18'55	38.89531 AU	morning rise	-7668 May 28 j 17:53	23° $\mathbf{\text{H}}$ 50'59	
direct	-7674 Jan 20 j 23:52	13° $\mathbf{\text{H}}$ 13'52		retrograde	-7668 Aug 22 j 02:37	25° $\mathbf{\text{H}}$ 16'26	
evening set	-7674 Apr 18 j 20:57	14° $\mathbf{\text{H}}$ 36'38		opposition	-7668 Nov 08 j 21:18	24° $\mathbf{\text{H}}$ 07'53	3°38'14
max. Earth dist.	-7674 May 01 j 16:56	14° $\mathbf{\text{H}}$ 57'28	40.77160 AU	min. Earth dist.	-7668 Nov 11 j 23:05	24° $\mathbf{\text{H}}$ 03'40	37.14562 AU
				direct	-7667 Jan 30 j 04:48	22° $\mathbf{\text{H}}$ 56'29	
conjunction	-7674 May 05 j 00:02	15° $\mathbf{\text{H}}$ 02'53	0°45'42	evening set	-7667 Apr 29 j 06:45	24° $\mathbf{\text{H}}$ 25'16	
minimum elong	-7674 May 05 j 00:01	15° $\mathbf{\text{H}}$ 02'53	0°45'30	max. Earth dist.	-7667 May 11 j 10:43	24° $\mathbf{\text{H}}$ 46'07	39.01570 AU
morning rise	-7674 May 21 j 00:17	15° $\mathbf{\text{H}}$ 28'59					
retrograde	-7674 Aug 13 j 22:08	16° $\mathbf{\text{H}}$ 49'53		conjunction	-7667 May 14 j 21:45	24° $\mathbf{\text{H}}$ 52'08	3°40'10
opposition	-7674 Nov 01 j 02:42	15° $\mathbf{\text{H}}$ 43'13	1°00'31	minimum elong	-7667 May 14 j 21:37	24° $\mathbf{\text{H}}$ 52'07	3°40'04
min. Earth dist.	-7674 Nov 04 j 01:40	15° $\mathbf{\text{H}}$ 39'18	38.64721 AU	morning rise	-7667 May 30 j 09:31	25° $\mathbf{\text{H}}$ 18'48	
direct	-7673 Jan 22 j 11:47	14° $\mathbf{\text{H}}$ 33'59		retrograde	-7667 Aug 23 j 21:58	26° $\mathbf{\text{H}}$ 45'10	
evening set	-7673 Apr 20 j 13:09	15° $\mathbf{\text{H}}$ 57'28		opposition	-7667 Nov 10 j 14:13	25° $\mathbf{\text{H}}$ 36'18	4°05'23
max. Earth dist.	-7673 May 03 j 08:48	16° $\mathbf{\text{H}}$ 18'25	40.52241 AU	min. Earth dist.	-7667 Nov 13 j 16:57	25° $\mathbf{\text{H}}$ 32'01	36.89380 AU
				direct	-7666 Jan 31 j 18:50	24° $\mathbf{\text{H}}$ 24'32	
conjunction	-7673 May 06 j 15:38	16° $\mathbf{\text{H}}$ 23'51	1°09'54	evening set	-7666 May 01 j 04:30	25° $\mathbf{\text{H}}$ 54'22	
minimum elong	-7673 May 06 j 15:36	16° $\mathbf{\text{H}}$ 23'51	1°09'43	max. Earth dist.	-7666 May 13 j 05:32	26° $\mathbf{\text{H}}$ 15'12	38.76198 AU
morning rise	-7673 May 22 j 14:54	16° $\mathbf{\text{H}}$ 50'04					
retrograde	-7673 Aug 15 j 13:11	18° $\mathbf{\text{H}}$ 11'37		conjunction	-7666 May 16 j 16:34	26° $\mathbf{\text{H}}$ 21'15	4°05'58
opposition	-7673 Nov 02 j 16:37	17° $\mathbf{\text{H}}$ 04'38	1°26'07	minimum elong	-7666 May 16 j 16:25	26° $\mathbf{\text{H}}$ 21'14	4°05'53
min. Earth dist.	-7673 Nov 05 j 16:08	17° $\mathbf{\text{H}}$ 00'39	38.39770 AU	morning rise	-7666 Jun 01 j 00:59	26° $\mathbf{\text{H}}$ 47'55	
direct	-7672 Jan 24 j 00:34	15° $\mathbf{\text{H}}$ 55'02		retrograde	-7666 Aug 25 j 17:23	28° $\mathbf{\text{H}}$ 15'17	
evening set	-7672 Apr 21 j 06:12	17° $\mathbf{\text{H}}$ 19'15		opposition	-7666 Nov 12 j 07:50	27° $\mathbf{\text{H}}$ 06'04	4°32'46
max. Earth dist.	-7672 May 03 j 23:14	17° $\mathbf{\text{H}}$ 40'12	40.27217 AU	min. Earth dist.	-7666 Nov 15 j 11:41	27° $\mathbf{\text{H}}$ 01'42	36.64043 AU
				direct	-7665 Feb 02 j 10:41	25° $\mathbf{\text{H}}$ 53'55	
conjunction	-7672 May 07 j 07:27	17° $\mathbf{\text{H}}$ 45'46	1°34'21	evening set	-7665 May 03 j 03:26	27° $\mathbf{\text{H}}$ 24'52	
minimum elong	-7672 May 07 j 07:24	17° $\mathbf{\text{H}}$ 45'46	1°34'11	max. Earth dist.	-7665 May 14 j 23:44	27° $\mathbf{\text{H}}$ 45'32	38.50671 AU
morning rise	-7672 May 23 j 05:45	18° $\mathbf{\text{H}}$ 12'06					
retrograde	-7672 Aug 16 j 07:35	19° $\mathbf{\text{H}}$ 34'20		conjunction	-7665 May 18 j 11:52	27° $\mathbf{\text{H}}$ 51'43	4°31'57
opposition	-7672 Nov 03 j 06:59	18° $\mathbf{\text{H}}$ 27'01	1°52'01	minimum elong	-7665 May 18 j 11:42	27° $\mathbf{\text{H}}$ 51'43	4°31'52
min. Earth dist.	-7672 Nov 06 j 06:36	18° $\mathbf{\text{H}}$ 23'01	38.14756 AU	morning rise	-7665 Jun 02 j 16:57	28° $\mathbf{\text{H}}$ 18'22	
direct	-7671 Jan 24 j 12:29	17° $\mathbf{\text{H}}$ 17'02		retrograde	-7665 Aug 27 j 14:51	29° $\mathbf{\text{H}}$ 46'46	
evening set	-7671 Apr 22 j 23:52	18° $\mathbf{\text{H}}$ 42'05		opposition	-7665 Nov 14 j 01:42	28° $\mathbf{\text{H}}$ 37'11	5°00'22
max. Earth dist.	-7671 May 05 j 15:18	19° $\mathbf{\text{H}}$ 03'03	40.02126 AU	min. Earth dist.	-7665 Nov 17 j 05:33	28° $\mathbf{\text{H}}$ 32'48	36.38559 AU
				direct	-7664 Feb 04 j 03:30	27° $\mathbf{\text{H}}$ 24'38	
conjunction	-7671 May 08 j 23:51	19° $\mathbf{\text{H}}$ 08'41	1°59'04	evening set	-7664 May 04 j 03:12	28° $\mathbf{\text{H}}$ 56'45	
minimum elong	-7671 May 08 j 23:46	19° $\mathbf{\text{H}}$ 08'41	1°58'55	max. Earth dist.	-7664 May 15 j 18:35	29° $\mathbf{\text{H}}$ 17'14	38.24966 AU
morning rise	-7671 May 24 j 20:30	19° $\mathbf{\text{H}}$ 35'07					
retrograde	-7671 Aug 18 j 00:10	20° $\mathbf{\text{H}}$ 58'05		conjunction	-7664 May 19 j 07:53	29° $\mathbf{\text{H}}$ 23'33	4°58'07
opposition	-7671 Nov 04 j 21:55	19° $\mathbf{\text{H}}$ 50'27	2°18'11	minimum elong	-7664 May 19 j 07:42	29° $\mathbf{\text{H}}$ 23'32	4°58'03
min. Earth dist.	-7671 Nov 07 j 22:47	19° $\mathbf{\text{H}}$ 46'21	37.89714 AU	morning rise	-7664 Jun 03 j 08:59	29° $\mathbf{\text{H}}$ 50'09	
direct	-7670 Jan 26 j 03:09	18° $\mathbf{\text{H}}$ 40'06			-7664 Jun 09 j 02:23	0° $\mathbf{\text{Y}}$	
evening set	-7670 Apr 24 j 18:21	20° $\mathbf{\text{H}}$ 06'00		retrograde	-7664 Aug 28 j 11:15	1° $\mathbf{\text{Y}}$ 19'36	
max. Earth dist.	-7670 May 07 j 08:03	20° $\mathbf{\text{H}}$ 27'01	39.77035 AU	opposition	-7664 Nov 14 j 20:25	0° $\mathbf{\text{Y}}$ 09'40	5°28'09
				min. Earth dist.	-7664 Nov 18 j 01:59	0° $\mathbf{\text{Y}}$ 05'08	36.12922 AU
conjunction	-7670 May 10 j 16:34	20° $\mathbf{\text{H}}$ 32'42	2°24'01		-7664 Nov 21 j 18:27	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	
minimum elong	-7670 May 10 j 16:29	20° $\mathbf{\text{H}}$ 32'42	2°23'51	direct	-7663 Feb 04 j 22:34	28° $\mathbf{\text{H}}$ 56'41	
morning rise	-7670 May 26 j 11:32	20° $\mathbf{\text{H}}$ 59'13			-7663 Apr 18 j 05:59	0° $\mathbf{\text{Y}}$	
retrograde	-7670 Aug 19 j 17:02	22° $\mathbf{\text{H}}$ 22'57		evening set	-7663 May 06 j 03:58	0° $\mathbf{\text{Y}}$ 30'00	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 18

Attention, astronomical year style is used: The year -7663 in astronomical counting style is the year 7664 BCE in historical counting style.

max. Earth dist.	-7663 May 17 j 15:13	0°♊50'22	37.99127 AU	min. Earth dist.	-7657 Nov 30 j 06:50	11°♊32'39	34.34236 AU
				direct	-7656 Feb 16 j 20:47	10°♊21'26	
conjunction	-7663 May 21 j 04:20	0°♊56'44	5°24'25	evening set	-7656 May 19 j 13:39	12°♊05'03	
minimum elong	-7663 May 21 j 04:08	0°♊56'43	5°24'22	max. Earth dist.	-7656 May 29 j 05:30	12°♊23'25	36.19451 AU
morning rise	-7663 Jun 05 j 01:07	1°♊23'15					
retrograde	-7663 Aug 30 j 07:31	2°♊53'48		conjunction	-7656 Jun 01 j 18:59	12°♊30'15	8°30'29
opposition	-7663 Nov 16 j 15:34	1°♊43'29	5°56'06	minimum elong	-7656 Jun 01 j 18:40	12°♊30'14	8°30'32
min. Earth dist.	-7663 Nov 19 j 20:50	1°♊38'57	35.87179 AU	morning rise	-7656 Jun 14 j 20:57	12°♊55'13	
direct	-7662 Feb 06 j 19:39	0°♊30'04		retrograde	-7656 Sep 11 j 04:49	14°♊35'30	
evening set	-7662 May 08 j 05:42	2°♊04'39		opposition	-7656 Nov 27 j 23:49	13°♊22'25	9°14'00
max. Earth dist.	-7662 May 19 j 10:34	2°♊24'44	37.73196 AU	min. Earth dist.	-7656 Dec 01 j 05:49	13°♊17'38	34.09400 AU
				direct	-7655 Feb 17 j 21:35	12°♊05'59	
conjunction	-7662 May 23 j 01:17	2°♊31'17	5°50'51	evening set	-7655 May 21 j 23:11	13°♊51'24	
minimum elong	-7662 May 23 j 01:04	2°♊31'16	5°50'49	max. Earth dist.	-7655 May 31 j 05:47	14°♊09'14	35.94451 AU
morning rise	-7662 Jun 06 j 17:25	2°♊57'41					
retrograde	-7662 Sep 01 j 04:58	4°♊29'25		conjunction	-7655 Jun 03 j 20:11	14°♊16'12	8°56'57
opposition	-7662 Nov 18 j 11:22	3°♊18'41	6°24'12	minimum elong	-7655 Jun 03 j 19:50	14°♊16'10	8°57'01
min. Earth dist.	-7662 Nov 21 j 17:50	3°♊14'03	35.61407 AU	morning rise	-7655 Jun 16 j 14:03	14°♊40'47	
direct	-7661 Feb 08 j 13:45	2°♊04'50		retrograde	-7655 Sep 13 j 06:55	16°♊22'46	
evening set	-7661 May 10 j 08:10	3°♊40'43		opposition	-7655 Nov 30 j 00:31	15°♊09'18	9°42'10
max. Earth dist.	-7661 May 21 j 08:47	4°♊00'39	37.47249 AU	min. Earth dist.	-7655 Dec 03 j 07:14	15°♊04'27	33.84735 AU
				direct	-7654 Feb 19 j 19:51	13°♊52'27	
conjunction	-7661 May 24 j 22:44	4°♊07'12	6°17'23	evening set	-7654 May 24 j 10:03	15°♊39'45	
minimum elong	-7661 May 24 j 22:29	4°♊07'11	6°17'22	max. Earth dist.	-7654 Jun 02 j 09:01	15°♊57'07	35.69589 AU
morning rise	-7661 Jun 08 j 09:37	4°♊33'28					
retrograde	-7661 Sep 03 j 00:48	6°♊06'26		conjunction	-7654 Jun 05 j 22:17	16°♊04'05	9°23'18
opposition	-7661 Nov 20 j 07:47	4°♊55'18	6°52'25	minimum elong	-7654 Jun 05 j 21:56	16°♊04'03	9°23'24
min. Earth dist.	-7661 Nov 23 j 14:11	4°♊50'38	35.35651 AU	morning rise	-7654 Jun 18 j 07:14	16°♊28'12	
direct	-7660 Feb 10 j 10:07	3°♊41'00		retrograde	-7654 Sep 15 j 07:48	18°♊11'58	
evening set	-7660 May 11 j 11:56	5°♊18'16		opposition	-7654 Dec 02 j 02:04	16°♊58'07	10°10'13
max. Earth dist.	-7660 May 22 j 05:44	5°♊37'53	37.21354 AU	min. Earth dist.	-7654 Dec 05 j 08:39	16°♊53'14	33.60200 AU
				direct	-7653 Feb 21 j 20:14	15°♊40'50	
conjunction	-7660 May 25 j 20:42	5°♊44'35	6°44'00	evening set	-7653 May 26 j 22:17	17°♊30'05	
minimum elong	-7660 May 25 j 20:27	5°♊44'33	6°44'00	max. Earth dist.	-7653 Jun 04 j 10:45	17°♊46'48	35.44848 AU
morning rise	-7660 Jun 09 j 02:08	6°♊10'40					
retrograde	-7660 Sep 04 j 00:30	7°♊44'56		conjunction	-7653 Jun 08 j 00:54	17°♊53'54	9°49'29
opposition	-7660 Nov 21 j 04:40	6°♊33'24	7°20'43	minimum elong	-7653 Jun 08 j 00:31	17°♊53'52	9°49'35
min. Earth dist.	-7660 Nov 24 j 11:05	6°♊28'42	35.10009 AU	morning rise	-7653 Jun 20 j 00:38	18°♊17'30	
direct	-7659 Feb 11 j 04:21	5°♊18'38		retrograde	-7653 Sep 17 j 12:35	20°♊03'08	
evening set	-7659 May 13 j 16:38	6°♊57'22		opposition	-7653 Dec 04 j 04:20	18°♊48'52	10°38'06
max. Earth dist.	-7659 May 24 j 05:02	7°♊16'46	36.95575 AU	min. Earth dist.	-7653 Dec 07 j 10:41	18°♊43'58	33.35793 AU
				direct	-7652 Feb 23 j 19:09	17°♊31'08	
conjunction	-7659 May 27 j 19:26	7°♊23'28	7°10'39	evening set	-7652 May 28 j 11:57	19°♊22'24	
minimum elong	-7659 May 27 j 19:10	7°♊23'27	7°10'39	max. Earth dist.	-7652 Jun 05 j 14:58	19°♊38'30	35.20210 AU
morning rise	-7659 Jun 10 j 18:37	7°♊49'20					
retrograde	-7659 Sep 05 j 23:44	9°♊25'00		conjunction	-7652 Jun 09 j 04:33	19°♊45'37	10°15'28
opposition	-7659 Nov 23 j 02:33	8°♊13'03	7°49'03	minimum elong	-7652 Jun 09 j 04:10	19°♊45'36	10°15'36
min. Earth dist.	-7659 Nov 26 j 09:33	8°♊08'18	34.84528 AU	morning rise	-7652 Jun 20 j 18:05	20°♊08'38	
direct	-7658 Feb 12 j 23:52	6°♊57'51		retrograde	-7652 Sep 18 j 16:16	21°♊56'13	
evening set	-7658 May 15 j 22:25	8°♊38'08		opposition	-7652 Dec 05 j 07:31	20°♊41'31	11°05'46
max. Earth dist.	-7658 May 26 j 04:17	8°♊57'13	36.69992 AU	min. Earth dist.	-7652 Dec 08 j 14:34	20°♊36'33	33.11507 AU
				direct	-7651 Feb 24 j 19:55	19°♊23'19	
conjunction	-7658 May 29 j 18:28	9°♊03'58	7°37'18	evening set	-7651 May 31 j 03:13	21°♊16'41	
minimum elong	-7658 May 29 j 18:11	9°♊03'57	7°37'19	max. Earth dist.	-7651 Jun 07 j 19:24	21°♊32'04	34.95727 AU
morning rise	-7658 Jun 12 j 11:11	9°♊29'35					
retrograde	-7658 Sep 08 j 01:11	11°♊06'42		conjunction	-7651 Jun 11 j 08:47	21°♊39'15	10°41'12
opposition	-7658 Nov 25 j 00:54	9°♊54'22	8°17'24	minimum elong	-7651 Jun 11 j 08:23	21°♊39'12	10°41'20
min. Earth dist.	-7658 Nov 28 j 06:51	9°♊49'39	34.59270 AU	morning rise	-7651 Jun 22 j 11:38	22°♊01'36	
direct	-7657 Feb 14 j 22:07	8°♊38'45		retrograde	-7651 Sep 20 j 23:13	23°♊51'11	
evening set	-7657 May 18 j 05:22	10°♊20'39		opposition	-7651 Dec 07 j 11:28	22°♊36'02	11°33'10
max. Earth dist.	-7657 May 28 j 03:49	10°♊39'21	36.44614 AU	min. Earth dist.	-7651 Dec 10 j 17:27	22°♊31'06	32.87408 AU
				direct	-7650 Feb 27 j 00:09	21°♊17'21	
conjunction	-7657 May 31 j 18:22	10°♊46'12	8°03'55	evening set	-7650 Jun 02 j 19:35	23°♊12'55	
minimum elong	-7657 May 31 j 18:04	10°♊46'10	8°03'57	max. Earth dist.	-7650 Jun 10 j 00:17	23°♊27'29	34.71431 AU
morning rise	-7657 Jun 14 j 03:58	11°♊11'31					
retrograde	-7657 Sep 10 j 03:03	12°♊50'11		conjunction	-7650 Jun 13 j 13:39	23°♊34'43	11°06'38
opposition	-7657 Nov 26 j 23:57	11°♊37'27	8°45'44	minimum elong	-7650 Jun 13 j 13:15	23°♊34'41	11°06'47

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 19

Attention, astronomical year style is used: The year -7650 in astronomical counting style is the year 7651 BCE in historical counting style.

morning rise	-7650 Jun 24 j 05:00	23° $\Upsilon$ 56'21		direct	-7643 Mar 12 j 18:26	5° $\mathcal{B}$ 29'20	
retrograde	-7650 Sep 23 j 06:21	25° $\Upsilon$ 48'02		evening set	-7643 Jun 21 j 16:59	7° $\mathcal{B}$ 43'39	
opposition	-7650 Dec 09 j 16:20	24° $\Upsilon$ 32'24	12°00'14	max. Earth dist.	-7643 Jun 24 j 15:54	7° $\mathcal{B}$ 50'05	33.13305 AU
min. Earth dist.	-7650 Dec 12 j 23:02	24° $\Upsilon$ 27'24	32.63546 AU				
direct	-7649 Mar 01 j 03:39	23° $\Upsilon$ 13'15		conjunction	-7643 Jun 27 j 20:32	7° $\mathcal{B}$ 57'04	13°50'07
evening set	-7649 Jun 05 j 13:46	25° $\Upsilon$ 11'05		minimum elong	-7643 Jun 27 j 20:06	7° $\mathcal{B}$ 57'02	13°50'23
max. Earth dist.	-7649 Jun 12 j 07:18	25° $\Upsilon$ 24'52	34.47415 AU	morning rise	-7643 Jul 03 j 22:34	8° $\mathcal{B}$ 10'22	
				retrograde	-7643 Oct 07 j 21:57	10° $\mathcal{B}$ 20'21	
conjunction	-7649 Jun 15 j 19:18	25° $\Upsilon$ 32'04	11°31'41	opposition	-7643 Dec 24 j 02:12	9° $\mathcal{B}$ 01'42	14°53'42
minimum elong	-7649 Jun 15 j 18:52	25° $\Upsilon$ 32'01	11°31'50	min. Earth dist.	-7643 Dec 27 j 01:42	8° $\mathcal{B}$ 56'57	31.09452 AU
morning rise	-7649 Jun 25 j 22:17	25° $\Upsilon$ 52'51		direct	-7642 Mar 15 j 02:09	7° $\mathcal{B}$ 39'29	
retrograde	-7649 Sep 25 j 12:50	27° $\Upsilon$ 46'44		evening set	-7642 Jun 25 j 02:46	9° $\mathcal{B}$ 57'15	
opposition	-7649 Dec 11 j 21:45	26° $\Upsilon$ 30'38	12°26'53	max. Earth dist.	-7642 Jun 27 j 04:32	10° $\mathcal{B}$ 01'49	32.92989 AU
min. Earth dist.	-7649 Dec 15 j 02:57	26° $\Upsilon$ 25'42	32.40000 AU				
direct	-7648 Mar 02 j 09:46	25° $\Upsilon$ 10'59		conjunction	-7642 Jun 30 j 07:21	10° $\mathcal{B}$ 08'42	14°10'32
evening set	-7648 Jun 07 j 09:25	27° $\Upsilon$ 11'12		minimum elong	-7642 Jun 30 j 06:55	10° $\mathcal{B}$ 08'40	14°10'50
max. Earth dist.	-7648 Jun 13 j 13:28	27° $\Upsilon$ 23'58	34.23745 AU	morning rise	-7642 Jul 05 j 10:40	10° $\mathcal{B}$ 20'03	
				retrograde	-7642 Oct 10 j 12:06	12° $\mathcal{B}$ 33'26	
conjunction	-7648 Jun 17 j 01:38	27° $\Upsilon$ 31'15	11°56'18	opposition	-7642 Dec 26 j 14:10	11° $\mathcal{B}$ 14'25	15°15'16
minimum elong	-7648 Jun 17 j 01:13	27° $\Upsilon$ 31'13	11°56'30	min. Earth dist.	-7642 Dec 29 j 11:26	11° $\mathcal{B}$ 09'48	30.89721 AU
morning rise	-7648 Jun 26 j 15:34	27° $\Upsilon$ 51'08		direct	-7641 Mar 17 j 14:03	9° $\mathcal{B}$ 51'51	
retrograde	-7648 Sep 26 j 21:07	29° $\Upsilon$ 47'19		evening set	-7641 Jun 28 j 17:47	12° $\mathcal{B}$ 13'31	
opposition	-7648 Dec 13 j 04:15	28° $\Upsilon$ 30'45	12°53'03	max. Earth dist.	-7641 Jun 29 j 17:15	12° $\mathcal{B}$ 15'41	32.73224 AU
min. Earth dist.	-7648 Dec 16 j 09:29	28° $\Upsilon$ 25'46	32.16863 AU				
direct	-7647 Mar 04 j 14:54	27° $\Upsilon$ 10'36		conjunction	-7641 Jul 02 j 19:10	12° $\mathcal{B}$ 22'33	14°30'01
evening set	-7647 Jun 10 j 06:46	29° $\Upsilon$ 13'19		minimum elong	-7641 Jul 02 j 18:44	12° $\mathcal{B}$ 22'30	14°30'19
max. Earth dist.	-7647 Jun 15 j 22:50	29° $\Upsilon$ 25'11	34.00519 AU	morning rise	-7641 Jul 06 j 19:26	12° $\mathcal{B}$ 31'29	
				retrograde	-7641 Oct 13 j 02:51	14° $\mathcal{B}$ 48'44	
conjunction	-7647 Jun 19 j 08:40	29° $\Upsilon$ 32'20	12°20'24	opposition	-7641 Dec 29 j 03:02	13° $\mathcal{B}$ 29'20	15°35'48
minimum elong	-7647 Jun 19 j 08:14	29° $\Upsilon$ 32'18	12°20'36	min. Earth dist.	-7640 Jan 01 j 00:04	13° $\mathcal{B}$ 24'43	30.70541 AU
morning rise	-7647 Jun 28 j 08:17	29° $\Upsilon$ 51'11		direct	-7640 Mar 19 j 00:53	12° $\mathcal{B}$ 06'24	
	-7647 Jul 02 j 14:20	0° $\mathcal{B}$		evening set	-7640 Jul 01 j 19:41	14° $\mathcal{B}$ 32'55	
retrograde	-7647 Sep 29 j 04:32	1° $\mathcal{B}$ 49'48		max. Earth dist.	-7640 Jul 01 j 08:15	14° $\mathcal{B}$ 31'51	32.54029 AU
opposition	-7647 Dec 15 j 11:41	0° $\mathcal{B}$ 32'47	13°18'38				
min. Earth dist.	-7647 Dec 18 j 15:29	0° $\mathcal{B}$ 27'51	31.94207 AU	conjunction	-7640 Jul 04 j 07:48	14° $\mathcal{B}$ 38'33	14°48'30
	-7646 Jan 06 j 03:39	30° $\mathcal{R}\Upsilon$		minimum elong	-7640 Jul 04 j 07:23	14° $\mathcal{B}$ 38'30	14°48'49
direct	-7646 Mar 06 j 22:18	29° $\Upsilon$ 12'10		morning rise	-7640 Jul 06 j 19:00	14° $\mathcal{B}$ 44'06	
	-7646 May 03 j 08:14	0° $\mathcal{B}$			-7640 Jul 13 j 21:11	15° $\mathcal{B}$	
evening set	-7646 Jun 13 j 05:57	1° $\mathcal{B}$ 17'31		retrograde	-7640 Oct 14 j 17:15	17° $\mathcal{B}$ 06'08	
max. Earth dist.	-7646 Jun 18 j 06:49	1° $\mathcal{B}$ 28'10	33.77824 AU	opposition	-7640 Dec 30 j 17:00	15° $\mathcal{B}$ 46'23	15°55'15
				min. Earth dist.	-7639 Jan 02 j 11:45	15° $\mathcal{B}$ 41'53	30.51912 AU
conjunction	-7646 Jun 21 j 16:23	1° $\mathcal{B}$ 35'22	12°43'54		-7639 Jan 30 j 03:01	15° $\mathcal{R}\mathcal{B}$	
minimum elong	-7646 Jun 21 j 15:57	1° $\mathcal{B}$ 35'20	12°44'08	direct	-7639 Mar 21 j 14:33	14° $\mathcal{B}$ 23'06	
morning rise	-7646 Jun 30 j 00:54	1° $\mathcal{B}$ 53'04			-7639 May 09 j 05:55	15° $\mathcal{B}$	
retrograde	-7646 Oct 01 j 14:16	3° $\mathcal{B}$ 54'16		max. Earth dist.	-7639 Jul 03 j 22:12	16° $\mathcal{B}$ 49'56	32.35409 AU
opposition	-7646 Dec 17 j 19:50	2° $\mathcal{B}$ 36'48	13°43'35				
min. Earth dist.	-7646 Dec 20 j 22:30	2° $\mathcal{B}$ 31'55	31.72128 AU	conjunction	-7639 Jul 06 j 21:01	16° $\mathcal{B}$ 56'37	15°05'53
direct	-7645 Mar 09 j 03:54	1° $\mathcal{B}$ 15'45		minimum elong	-7639 Jul 06 j 20:36	16° $\mathcal{B}$ 56'35	15°06'12
evening set	-7645 Jun 16 j 07:07	3° $\mathcal{B}$ 23'54		retrograde	-7639 Oct 17 j 09:48	19° $\mathcal{B}$ 25'35	
max. Earth dist.	-7645 Jun 20 j 17:40	3° $\mathcal{B}$ 33'22	33.55712 AU	opposition	-7638 Jan 02 j 07:54	18° $\mathcal{B}$ 05'27	16°13'29
				min. Earth dist.	-7638 Jan 05 j 01:39	18° $\mathcal{B}$ 01'00	30.33878 AU
conjunction	-7645 Jun 24 j 01:00	3° $\mathcal{B}$ 40'27	13°06'44	direct	-7638 Mar 24 j 03:24	16° $\mathcal{B}$ 41'49	
minimum elong	-7645 Jun 24 j 00:33	3° $\mathcal{B}$ 40'25	13°06'58	max. Earth dist.	-7638 Jul 06 j 15:20	19° $\mathcal{B}$ 10'13	32.17417 AU
morning rise	-7645 Jul 01 j 16:56	3° $\mathcal{B}$ 56'51					
retrograde	-7645 Oct 03 j 22:25	6° $\mathcal{B}$ 00'47		conjunction	-7638 Jul 09 j 11:07	19° $\mathcal{B}$ 16'40	15°22'06
opposition	-7645 Dec 20 j 05:03	4° $\mathcal{B}$ 42'55	14°07'47	minimum elong	-7638 Jul 09 j 10:44	19° $\mathcal{B}$ 16'38	15°22'27
min. Earth dist.	-7645 Dec 23 j 06:48	4° $\mathcal{B}$ 38'04	31.50634 AU	retrograde	-7638 Oct 20 j 01:26	21° $\mathcal{B}$ 46'58	
direct	-7644 Mar 10 j 11:05	3° $\mathcal{B}$ 21'27		opposition	-7637 Jan 04 j 23:32	20° $\mathcal{B}$ 26'27	16°30'27
evening set	-7644 Jun 18 j 10:43	5° $\mathcal{B}$ 32'34		min. Earth dist.	-7637 Jan 07 j 15:23	20° $\mathcal{B}$ 22'06	30.16475 AU
max. Earth dist.	-7644 Jun 22 j 03:53	5° $\mathcal{B}$ 40'35	33.34213 AU	direct	-7637 Mar 26 j 18:52	19° $\mathcal{B}$ 02'28	
				max. Earth dist.	-7637 Jul 09 j 06:58	21° $\mathcal{B}$ 32'11	32.00115 AU
conjunction	-7644 Jun 25 j 10:17	5° $\mathcal{B}$ 47'40	13°28'50				
minimum elong	-7644 Jun 25 j 09:51	5° $\mathcal{B}$ 47'37	13°29'06	conjunction	-7637 Jul 12 j 01:42	21° $\mathcal{B}$ 38'36	15°37'03
morning rise	-7644 Jul 02 j 08:17	6° $\mathcal{B}$ 02'37		minimum elong	-7637 Jul 12 j 01:20	21° $\mathcal{B}$ 38'33	15°37'24
retrograde	-7644 Oct 05 j 10:26	8° $\mathcal{B}$ 09'27		retrograde	-7637 Oct 22 j 18:21	24° $\mathcal{B}$ 10'10	
opposition	-7644 Dec 21 j 15:00	6° $\mathcal{B}$ 51'11	14°31'11	opposition	-7636 Jan 07 j 15:59	22° $\mathcal{B}$ 49'16	16°46'01
min. Earth dist.	-7644 Dec 24 j 14:49	6° $\mathcal{B}$ 46'27	31.29751 AU	min. Earth dist.	-7636 Jan 10 j 05:50	22° $\mathcal{B}$ 45'03	29.99785 AU

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 20

Attention, astronomical year style is used: The year -7636 in astronomical counting style is the year 7637 BCE in historical counting style.

direct	-7636 Mar 28 j 09:20	21° <b>8</b> 24'56		direct	-7628 Apr 17 j 10:21	11° <b>II</b> 22'36	
max. Earth dist.	-7636 Jul 11 j 01:36	23° <b>8</b> 56'08	31.83566 AU	max. Earth dist.	-7628 Jul 31 j 22:23	14° <b>II</b> 02'53	30.86444 AU
conjunction	-7636 Jul 13 j 17:02	24° <b>8</b> 02'17	15°50'39	conjunction	-7628 Aug 02 j 14:03	14° <b>II</b> 06'55	16°41'03
minimum elong	-7636 Jul 13 j 16:42	24° <b>8</b> 02'15	15°51'03	minimum elong	-7628 Aug 02 j 14:00	14° <b>II</b> 06'55	16°41'32
retrograde	-7636 Oct 24 j 09:33	26° <b>8</b> 35'05		retrograde	-7628 Nov 14 j 01:03	16° <b>II</b> 47'24	
opposition	-7635 Jan 09 j 09:24	25° <b>8</b> 13'49	17°00'05	opposition	-7627 Jan 30 j 05:46	15° <b>II</b> 24'12	17°48'39
min. Earth dist.	-7635 Jan 11 j 21:25	25° <b>8</b> 09'41	29.83870 AU	min. Earth dist.	-7627 Jan 31 j 18:48	15° <b>II</b> 21'37	28.91558 AU
direct	-7635 Mar 31 j 01:15	23° <b>8</b> 49'10		direct	-7627 Apr 20 j 06:37	13° <b>II</b> 58'17	
max. Earth dist.	-7635 Jul 13 j 19:17	26° <b>8</b> 21'38	31.67881 AU	max. Earth dist.	-7627 Aug 03 j 22:18	16° <b>II</b> 39'26	30.78860 AU
conjunction	-7635 Jul 16 j 08:48	26° <b>8</b> 27'38	16°02'48	conjunction	-7627 Aug 05 j 09:42	16° <b>II</b> 43'02	16°39'16
minimum elong	-7635 Jul 16 j 08:29	26° <b>8</b> 27'37	16°03'12	minimum elong	-7627 Aug 05 j 09:41	16° <b>II</b> 43'02	16°39'45
retrograde	-7635 Oct 27 j 04:44	29° <b>8</b> 01'37		retrograde	-7627 Nov 16 j 22:48	19° <b>II</b> 24'04	
opposition	-7634 Jan 12 j 03:30	27° <b>8</b> 40'00	17°12'34	opposition	-7626 Feb 02 j 04:57	18° <b>II</b> 00'44	17°45'55
min. Earth dist.	-7634 Jan 14 j 12:15	27° <b>8</b> 36'05	29.68847 AU	min. Earth dist.	-7626 Feb 03 j 14:48	17° <b>II</b> 58'21	28.84409 AU
direct	-7634 Apr 02 j 16:52	26° <b>8</b> 15'03		direct	-7626 Apr 23 j 06:15	16° <b>II</b> 34'47	
max. Earth dist.	-7634 Jul 16 j 15:06	28° <b>8</b> 48'53	31.53132 AU	max. Earth dist.	-7626 Aug 06 j 20:05	19° <b>II</b> 16'26	30.72258 AU
conjunction	-7634 Jul 19 j 01:10	28° <b>8</b> 54'36	16°13'25	conjunction	-7626 Aug 08 j 05:18	19° <b>II</b> 19'49	16°35'34
minimum elong	-7634 Jul 19 j 00:54	28° <b>8</b> 54'34	16°13'51	minimum elong	-7626 Aug 08 j 05:21	19° <b>II</b> 19'50	16°36'04
	-7634 Aug 16 j 14:15	0° <b>II</b>		retrograde	-7626 Nov 19 j 21:21	22° <b>II</b> 01'19	
retrograde	-7634 Oct 29 j 21:12	1° <b>II</b> 29'43		opposition	-7625 Feb 05 j 04:20	20° <b>II</b> 37'50	17°41'08
opposition	-7633 Jan 14 j 22:29	0° <b>II</b> 07'46	17°23'21	min. Earth dist.	-7625 Feb 06 j 10:49	20° <b>II</b> 35'42	28.78221 AU
min. Earth dist.	-7633 Jan 17 j 05:26	0° <b>II</b> 03'58	29.54774 AU	direct	-7625 Apr 26 j 04:15	19° <b>II</b> 11'52	
	-7633 Jan 19 j 14:52	30° <b>8</b>		max. Earth dist.	-7625 Aug 09 j 20:20	21° <b>II</b> 54'07	30.66650 AU
direct	-7633 Apr 05 j 09:05	28° <b>8</b> 42'34		conjunction	-7625 Aug 11 j 01:17	21° <b>II</b> 57'05	16°29'58
	-7633 Jun 14 j 21:12	0° <b>II</b>		minimum elong	-7625 Aug 11 j 01:21	21° <b>II</b> 57'05	16°30'28
max. Earth dist.	-7633 Jul 19 j 10:53	1° <b>II</b> 17'39	31.39409 AU	retrograde	-7625 Nov 22 j 17:48	24° <b>II</b> 38'54	
conjunction	-7633 Jul 21 j 18:06	1° <b>II</b> 23'07	16°22'25	opposition	-7624 Feb 08 j 03:58	23° <b>II</b> 15'19	17°34'16
minimum elong	-7633 Jul 21 j 17:50	1° <b>II</b> 23'06	16°22'50	min. Earth dist.	-7624 Feb 09 j 07:43	23° <b>II</b> 13'22	28.73002 AU
retrograde	-7633 Nov 01 j 16:21	3° <b>II</b> 59'18		direct	-7624 Apr 28 j 03:29	21° <b>II</b> 49'20	
opposition	-7632 Jan 17 j 17:52	2° <b>II</b> 37'05	17°32'21	conjunction	-7624 Aug 12 j 21:06	24° <b>II</b> 34'35	16°22'27
min. Earth dist.	-7632 Jan 19 j 20:59	2° <b>II</b> 33'32	29.41715 AU	minimum elong	-7624 Aug 12 j 21:13	24° <b>II</b> 34'36	16°22'57
direct	-7632 Apr 07 j 03:46	1° <b>II</b> 11'40		max. Earth dist.	-7624 Aug 11 j 18:45	24° <b>II</b> 31'53	30.62086 AU
max. Earth dist.	-7632 Jul 21 j 07:32	3° <b>II</b> 47'58	31.26732 AU	retrograde	-7624 Nov 24 j 16:46	27° <b>II</b> 16'37	
conjunction	-7632 Jul 23 j 11:40	3° <b>II</b> 53'10	16°29'43	opposition	-7623 Feb 10 j 03:46	25° <b>II</b> 52'56	17°25'20
minimum elong	-7632 Jul 23 j 11:28	3° <b>II</b> 53'09	16°30'09	min. Earth dist.	-7623 Feb 11 j 03:20	25° <b>II</b> 51'16	28.68825 AU
retrograde	-7632 Nov 03 j 11:34	6° <b>II</b> 30'22		direct	-7623 May 01 j 02:22	24° <b>II</b> 26'57	
opposition	-7631 Jan 19 j 14:19	5° <b>II</b> 07'53	17°39'30	conjunction	-7623 Aug 15 j 16:52	27° <b>II</b> 12'08	16°13'00
min. Earth dist.	-7631 Jan 21 j 15:33	5° <b>II</b> 04'28	29.29689 AU	minimum elong	-7623 Aug 15 j 17:00	27° <b>II</b> 12'09	16°13'31
direct	-7631 Apr 09 j 20:25	3° <b>II</b> 42'19		max. Earth dist.	-7623 Aug 14 j 19:02	27° <b>II</b> 09'54	30.58609 AU
max. Earth dist.	-7631 Jul 24 j 05:03	6° <b>II</b> 19'48	31.15129 AU	retrograde	-7623 Nov 27 j 12:54	29° <b>II</b> 54'18	
conjunction	-7631 Jul 26 j 05:32	6° <b>II</b> 24'40	16°35'16	opposition	-7622 Feb 13 j 03:47	28° <b>II</b> 30'31	17°14'18
minimum elong	-7631 Jul 26 j 05:21	6° <b>II</b> 24'39	16°35'43	min. Earth dist.	-7622 Feb 14 j 00:40	28° <b>II</b> 29'03	28.65738 AU
retrograde	-7631 Nov 06 j 08:16	9° <b>II</b> 02'49		direct	-7622 May 04 j 00:59	27° <b>II</b> 04'35	
opposition	-7630 Jan 22 j 11:18	7° <b>II</b> 40'08	17°44'45	conjunction	-7622 Aug 18 j 12:30	29° <b>II</b> 49'33	16°01'37
min. Earth dist.	-7630 Jan 24 j 08:29	7° <b>II</b> 37'00	29.18685 AU	minimum elong	-7622 Aug 18 j 12:43	29° <b>II</b> 49'35	16°02'08
direct	-7630 Apr 12 j 16:54	6° <b>II</b> 14'27		max. Earth dist.	-7622 Aug 17 j 18:03	29° <b>II</b> 47'40	30.56300 AU
max. Earth dist.	-7630 Jul 27 j 02:04	8° <b>II</b> 52'56	31.04559 AU		-7622 Aug 22 j 18:25	0° <b>III</b>	
conjunction	-7630 Jul 28 j 23:59	8° <b>II</b> 57'33	16°39'02	retrograde	-7622 Nov 30 j 10:03	2° <b>III</b> 31'43	
minimum elong	-7630 Jul 28 j 23:52	8° <b>II</b> 57'33	16°39'30	opposition	-7621 Feb 16 j 03:26	1° <b>III</b> 07'54	17°01'11
retrograde	-7630 Nov 09 j 05:39	11° <b>II</b> 36'35		min. Earth dist.	-7621 Feb 16 j 19:31	1° <b>III</b> 06'46	28.63815 AU
opposition	-7629 Jan 25 j 08:50	10° <b>II</b> 13'42	17°48'02		-7621 Apr 03 j 16:34	30° <b>8</b> II	
min. Earth dist.	-7629 Jan 27 j 04:00	10° <b>II</b> 10'42	29.08686 AU	direct	-7621 May 07 j 00:25	29° <b>II</b> 42'03	
direct	-7629 Apr 15 j 12:16	8° <b>II</b> 47'55			-7621 Jun 08 j 07:10	0° <b>III</b>	
max. Earth dist.	-7629 Jul 30 j 00:58	11° <b>II</b> 27'27	30.95012 AU	conjunction	-7621 Aug 21 j 08:05	2° <b>III</b> 26'44	15°48'20
conjunction	-7629 Jul 31 j 18:54	11° <b>II</b> 31'42	16°40'58	minimum elong	-7621 Aug 21 j 08:19	2° <b>III</b> 26'45	15°48'51
minimum elong	-7629 Jul 31 j 18:48	11° <b>II</b> 31'41	16°41'26	max. Earth dist.	-7621 Aug 20 j 17:52	2° <b>III</b> 25'16	30.55198 AU
retrograde	-7629 Nov 12 j 02:41	14° <b>II</b> 11'29		retrograde	-7621 Dec 03 j 06:18	5° <b>III</b> 08'49	
opposition	-7628 Jan 28 j 07:01	12° <b>II</b> 48'27	17°49'21	opposition	-7620 Feb 19 j 03:21	3° <b>III</b> 44'59	16°46'01
min. Earth dist.	-7628 Jan 29 j 22:37	12° <b>II</b> 45'41	28.99644 AU	min. Earth dist.	-7620 Feb 19 j 16:31	3° <b>III</b> 44'04	28.63098 AU

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 21

Attention, astronomical year style is used: The year -7620 in astronomical counting style is the year 7621 BCE in historical counting style.

direct	-7620 May 08 j 21:47	2° $\overline{0}$ 19'16		evening set	-7613 Sep 02 j 18:36	22° $\overline{0}$ 43'28	
conjunction	-7620 Aug 23 j 03:20	5° $\overline{0}$ 03'32	15°33'09	conjunction	-7613 Sep 10 j 09:47	23° $\overline{0}$ 01'45	12°59'53
minimum elong	-7620 Aug 23 j 03:37	5° $\overline{0}$ 03'34	15°33'40	minimum elong	-7613 Sep 10 j 10:11	23° $\overline{0}$ 01'47	13°00'23
max. Earth dist.	-7620 Aug 22 j 17:06	5° $\overline{0}$ 02'30	30.55360 AU	max. Earth dist.	-7613 Sep 11 j 00:17	23° $\overline{0}$ 03'12	30.88844 AU
retrograde	-7620 Dec 05 j 03:21	7° $\overline{0}$ 45'28		morning rise	-7613 Sep 18 j 01:44	23° $\overline{0}$ 20'05	
opposition	-7619 Feb 21 j 03:01	6° $\overline{0}$ 21'40	16°28'49	retrograde	-7613 Dec 23 j 21:09	25° $\overline{0}$ 39'57	
min. Earth dist.	-7619 Feb 21 j 11:07	6° $\overline{0}$ 21'07	28.63606 AU	opposition	-7612 Mar 11 j 16:19	24° $\overline{0}$ 17'05	13°38'46
direct	-7619 May 11 j 20:51	4° $\overline{0}$ 56'08		min. Earth dist.	-7612 Mar 10 j 23:38	24° $\overline{0}$ 18'14	28.98409 AU
				direct	-7612 May 30 j 06:35	22° $\overline{0}$ 53'27	
conjunction	-7619 Aug 25 j 22:27	7° $\overline{0}$ 39'55	15°16'09	evening set	-7612 Sep 03 j 16:30	25° $\overline{0}$ 11'10	
minimum elong	-7619 Aug 25 j 22:44	7° $\overline{0}$ 39'57	15°16'40				
max. Earth dist.	-7619 Aug 25 j 15:58	7° $\overline{0}$ 39'15	30.56764 AU	conjunction	-7612 Sep 12 j 01:59	25° $\overline{0}$ 31'08	12°32'19
retrograde	-7619 Dec 07 j 23:21	10° $\overline{0}$ 21'36		minimum elong	-7612 Sep 12 j 02:24	25° $\overline{0}$ 31'11	12°32'48
opposition	-7618 Feb 24 j 02:34	8° $\overline{0}$ 57'52	16°09'40	max. Earth dist.	-7612 Sep 12 j 20:46	25° $\overline{0}$ 33'00	30.97670 AU
min. Earth dist.	-7618 Feb 24 j 07:39	8° $\overline{0}$ 57'31	28.65338 AU	morning rise	-7612 Sep 20 j 12:07	25° $\overline{0}$ 51'11	
direct	-7618 May 14 j 18:34	7° $\overline{0}$ 32'33		retrograde	-7612 Dec 25 j 13:16	28° $\overline{0}$ 08'27	
evening set	-7618 Aug 27 j 16:10	10° $\overline{0}$ 13'11		opposition	-7611 Mar 14 j 12:58	26° $\overline{0}$ 45'45	13°08'33
				min. Earth dist.	-7611 Mar 13 j 17:53	26° $\overline{0}$ 47'03	29.07321 AU
conjunction	-7618 Aug 28 j 17:15	10° $\overline{0}$ 15'45	14°57'22	direct	-7611 Jun 02 j 03:51	25° $\overline{0}$ 22'25	
minimum elong	-7618 Aug 28 j 17:36	10° $\overline{0}$ 15'47	14°57'52	evening set	-7611 Sep 05 j 15:27	27° $\overline{0}$ 37'24	
morning rise	-7618 Aug 29 j 19:03	10° $\overline{0}$ 18'23					
max. Earth dist.	-7618 Aug 28 j 15:09	10° $\overline{0}$ 15'32	30.59400 AU	conjunction	-7611 Sep 14 j 17:29	27° $\overline{0}$ 58'53	12°03'36
retrograde	-7618 Dec 10 j 19:33	12° $\overline{0}$ 57'04		minimum elong	-7611 Sep 14 j 17:54	27° $\overline{0}$ 58'55	12°04'06
opposition	-7617 Feb 27 j 01:46	11° $\overline{0}$ 33'28	15°48'39	max. Earth dist.	-7611 Sep 15 j 14:48	28° $\overline{0}$ 00'59	31.07451 AU
min. Earth dist.	-7617 Feb 27 j 02:25	11° $\overline{0}$ 33'25	28.68230 AU	morning rise	-7611 Sep 23 j 20:20	28° $\overline{0}$ 20'26	
direct	-7617 May 17 j 17:21	10° $\overline{0}$ 08'24			-7611 Nov 12 j 06:44	0° $\Omega$	
evening set	-7617 Aug 28 j 01:34	12° $\overline{0}$ 42'34		retrograde	-7611 Dec 28 j 05:51	0° $\Omega$ 35'14	
					-7610 Feb 14 j 09:27	30° $\overline{R}$ $\overline{0}$	
conjunction	-7617 Aug 31 j 11:41	12° $\overline{0}$ 50'54	14°36'54	min. Earth dist.	-7610 Mar 16 j 09:10	29° $\overline{0}$ 14'17	29.17199 AU
minimum elong	-7617 Aug 31 j 12:02	12° $\overline{0}$ 50'56	14°37'25	opposition	-7610 Mar 17 j 08:38	29° $\overline{0}$ 12'42	12°37'08
max. Earth dist.	-7617 Aug 31 j 12:41	12° $\overline{0}$ 51'00	30.63184 AU	direct	-7610 Jun 05 j 00:04	27° $\overline{0}$ 49'39	
morning rise	-7617 Sep 03 j 22:27	12° $\overline{0}$ 59'19			-7610 Sep 06 j 18:03	0° $\Omega$	
retrograde	-7617 Dec 13 j 16:04	15° $\overline{0}$ 31'48		evening set	-7610 Sep 07 j 14:49	0° $\Omega$ 02'01	
opposition	-7616 Mar 01 j 00:43	14° $\overline{0}$ 08'20	15°25'50				
min. Earth dist.	-7616 Feb 29 j 22:11	14° $\overline{0}$ 08'30	28.72244 AU	conjunction	-7610 Sep 17 j 08:21	0° $\Omega$ 24'51	11°33'49
direct	-7616 May 19 j 13:56	12° $\overline{0}$ 43'32		minimum elong	-7610 Sep 17 j 08:46	0° $\Omega$ 24'54	11°34'17
evening set	-7616 Aug 28 j 11:14	15° $\overline{0}$ 13'39		max. Earth dist.	-7610 Sep 18 j 09:34	0° $\Omega$ 27'20	31.18197 AU
				morning rise	-7610 Sep 27 j 02:40	0° $\Omega$ 47'46	
conjunction	-7616 Sep 02 j 05:56	15° $\overline{0}$ 25'15	14°14'49	retrograde	-7610 Dec 30 j 20:08	3° $\Omega$ 00'11	
minimum elong	-7616 Sep 02 j 06:19	15° $\overline{0}$ 25'17	14°15'19	min. Earth dist.	-7609 Mar 19 j 01:55	1° $\Omega$ 39'35	29.28069 AU
max. Earth dist.	-7616 Sep 02 j 11:27	15° $\overline{0}$ 25'49	30.68081 AU	opposition	-7609 Mar 20 j 03:46	1° $\Omega$ 37'50	12°04'39
morning rise	-7616 Sep 07 j 01:16	15° $\overline{0}$ 36'56		direct	-7609 Jun 07 j 19:15	0° $\Omega$ 15'06	
retrograde	-7616 Dec 15 j 11:40	18° $\overline{0}$ 05'37		evening set	-7609 Sep 09 j 14:45	2° $\Omega$ 24'57	
opposition	-7615 Mar 03 j 23:24	16° $\overline{0}$ 42'17	15°01'21				
min. Earth dist.	-7615 Mar 03 j 17:08	16° $\overline{0}$ 42'43	28.77309 AU	conjunction	-7609 Sep 19 j 22:24	2° $\Omega$ 49'00	11°03'05
direct	-7615 May 22 j 13:45	15° $\overline{0}$ 17'47		minimum elong	-7609 Sep 19 j 22:49	2° $\Omega$ 49'03	11°03'33
evening set	-7615 Aug 30 j 02:48	17° $\overline{0}$ 44'27		max. Earth dist.	-7609 Sep 21 j 02:43	2° $\Omega$ 51'46	31.29958 AU
				morning rise	-7609 Sep 30 j 06:55	3° $\Omega$ 13'08	
conjunction	-7615 Sep 04 j 23:33	17° $\overline{0}$ 58'37	13°51'14	retrograde	-7608 Jan 02 j 10:58	5° $\Omega$ 23'17	
minimum elong	-7615 Sep 04 j 23:56	17° $\overline{0}$ 58'40	13°51'44	opposition	-7608 Mar 21 j 22:00	4° $\Omega$ 01'08	11°31'10
max. Earth dist.	-7615 Sep 05 j 07:33	17° $\overline{0}$ 59'26	30.74020 AU	min. Earth dist.	-7608 Mar 20 j 15:41	4° $\Omega$ 03'11	29.39963 AU
morning rise	-7615 Sep 10 j 21:01	18° $\overline{0}$ 12'53		direct	-7608 Jun 09 j 14:19	2° $\Omega$ 38'45	
retrograde	-7615 Dec 18 j 08:04	20° $\overline{0}$ 38'22		evening set	-7608 Sep 10 j 15:00	4° $\Omega$ 46'11	
opposition	-7614 Mar 06 j 21:37	19° $\overline{0}$ 15'11	14°35'16				
min. Earth dist.	-7614 Mar 06 j 11:44	19° $\overline{0}$ 15'52	28.83393 AU	conjunction	-7608 Sep 21 j 11:50	5° $\Omega$ 11'19	10°31'27
direct	-7614 May 25 j 10:56	17° $\overline{0}$ 50'58		minimum elong	-7608 Sep 21 j 12:14	5° $\Omega$ 11'22	10°31'54
evening set	-7614 Aug 31 j 21:45	20° $\overline{0}$ 14'29		max. Earth dist.	-7608 Sep 22 j 19:31	5° $\Omega$ 14'24	31.42745 AU
				morning rise	-7608 Oct 02 j 09:41	5° $\Omega$ 36'33	
conjunction	-7614 Sep 07 j 17:01	20° $\overline{0}$ 30'51	13°26'13	retrograde	-7607 Jan 03 j 23:42	7° $\Omega$ 44'32	
minimum elong	-7614 Sep 07 j 17:26	20° $\overline{0}$ 30'53	13°26'42	min. Earth dist.	-7607 Mar 23 j 06:42	6° $\Omega$ 24'50	29.52912 AU
max. Earth dist.	-7614 Sep 08 j 05:21	20° $\overline{0}$ 32'05	30.80954 AU	opposition	-7607 Mar 24 j 15:43	6° $\Omega$ 22'38	10°56'48
morning rise	-7614 Sep 14 j 12:54	20° $\overline{0}$ 47'17		direct	-7607 Jun 12 j 06:45	5° $\Omega$ 00'37	
retrograde	-7614 Dec 21 j 01:26	23° $\overline{0}$ 09'52		evening set	-7607 Sep 12 j 15:30	7° $\Omega$ 05'44	
opposition	-7613 Mar 09 j 19:12	21° $\overline{0}$ 46'51	14°07'42				
min. Earth dist.	-7613 Mar 09 j 06:30	21° $\overline{0}$ 47'43	28.90428 AU	conjunction	-7607 Sep 24 j 00:35	7° $\Omega$ 31'51	9°59'03
direct	-7613 May 28 j 08:43	20° $\overline{0}$ 22'55		minimum elong	-7607 Sep 24 j 00:59	7° $\Omega$ 31'53	9°59'30

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22

Attention, astronomical year style is used: The year -7607 in astronomical counting style is the year 7608 BCE in historical counting style.

max. Earth dist.	-7607 Sep 25 j 12:00	7°Ω35'15	31.56575 AU	opposition	-7600 Apr 09 j 21:18	22°Ω04'11	6°40'42
morning rise	-7607 Oct 05 j 10:35	7°Ω58'04		direct	-7600 Jun 28 j 12:07	20°Ω45'12	
retrograde	-7606 Jan 06 j 12:03	10°Ω03'57		evening set	-7600 Sep 25 j 00:27	22°Ω36'40	
min. Earth dist.	-7606 Mar 25 j 19:39	8°Ω44'47	29.66876 AU				
opposition	-7606 Mar 27 j 08:28	8°Ω42'20	10°21'39	conjunction	-7600 Oct 08 j 23:02	23°Ω06'53	5°58'48
direct	-7606 Jun 14 j 23:51	7°Ω20'43		minimum elong	-7600 Oct 08 j 23:17	23°Ω06'54	5°59'09
evening set	-7606 Sep 14 j 16:23	9°Ω23'37		max. Earth dist.	-7600 Oct 11 j 04:15	23°Ω11'43	32.76937 AU
				morning rise	-7600 Oct 22 j 23:16	23°Ω37'14	
conjunction	-7606 Sep 26 j 12:37	9°Ω50'37	9°25'59	retrograde	-7599 Jan 21 j 17:06	25°Ω30'54	
minimum elong	-7606 Sep 26 j 13:00	9°Ω50'39	9°26'23	min. Earth dist.	-7599 Apr 10 j 01:24	24°Ω15'06	30.87736 AU
max. Earth dist.	-7606 Sep 28 j 02:32	9°Ω54'14	31.71384 AU	opposition	-7599 Apr 12 j 08:38	24°Ω11'34	6°03'08
morning rise	-7606 Oct 08 j 10:07	10°Ω17'42		direct	-7599 Jul 01 j 00:51	22°Ω52'58	
retrograde	-7605 Jan 09 j 01:21	12°Ω21'37		evening set	-7599 Sep 27 j 01:56	24°Ω42'47	
min. Earth dist.	-7605 Mar 28 j 08:34	11°Ω02'56	29.81822 AU				
opposition	-7605 Mar 30 j 00:26	11°Ω00'18	9°45'51	conjunction	-7599 Oct 11 j 06:17	25°Ω13'15	5°23'38
direct	-7605 Jun 17 j 13:29	9°Ω39'06		minimum elong	-7599 Oct 11 j 06:31	25°Ω13'17	5°23'59
evening set	-7605 Sep 16 j 17:20	11°Ω39'54		max. Earth dist.	-7599 Oct 13 j 13:40	25°Ω18'15	32.96661 AU
				morning rise	-7599 Oct 25 j 12:33	25°Ω43'53	
conjunction	-7605 Sep 29 j 00:06	12°Ω07'39	8°52'19	retrograde	-7598 Jan 23 j 22:39	27°Ω36'03	
minimum elong	-7605 Sep 29 j 00:28	12°Ω07'41	8°52'45	min. Earth dist.	-7598 Apr 12 j 10:46	26°Ω20'38	31.07528 AU
max. Earth dist.	-7605 Sep 30 j 17:53	12°Ω11'37	31.87126 AU	opposition	-7598 Apr 14 j 19:16	26°Ω17'02	5°25'33
morning rise	-7605 Oct 11 j 07:54	12°Ω35'31		direct	-7598 Jul 03 j 11:13	24°Ω58'50	
retrograde	-7604 Jan 11 j 12:45	14°Ω37'32		evening set	-7598 Sep 29 j 03:21	26°Ω47'03	
min. Earth dist.	-7604 Mar 29 j 21:08	13°Ω19'21	29.97662 AU				
opposition	-7604 Mar 31 j 15:45	13°Ω16'33	9°09'30	conjunction	-7598 Oct 13 j 12:56	27°Ω17'42	4°48'30
direct	-7604 Jun 19 j 05:46	11°Ω55'48		minimum elong	-7598 Oct 13 j 13:09	27°Ω17'43	4°48'48
evening set	-7604 Sep 17 j 18:30	13°Ω54'34		max. Earth dist.	-7598 Oct 15 j 22:42	27°Ω22'53	33.16928 AU
				morning rise	-7598 Oct 28 j 00:17	27°Ω48'31	
conjunction	-7604 Sep 30 j 10:38	14°Ω22'59	8°18'12	retrograde	-7597 Jan 26 j 03:16	29°Ω39'16	
minimum elong	-7604 Sep 30 j 10:59	14°Ω23'01	8°18'35	min. Earth dist.	-7597 Apr 14 j 17:48	28°Ω24'17	31.27878 AU
max. Earth dist.	-7604 Oct 02 j 06:14	14°Ω27'05	32.03713 AU	opposition	-7597 Apr 17 j 04:46	28°Ω20'33	4°48'04
morning rise	-7604 Oct 13 j 04:13	14°Ω51'31		direct	-7597 Jul 05 j 22:05	27°Ω02'43	
	-7604 Oct 17 j 00:50	15°Ω		evening set	-7597 Oct 01 j 04:47	28°Ω49'26	
retrograde	-7603 Jan 13 j 02:20	16°Ω51'44					
min. Earth dist.	-7603 Apr 01 j 08:25	15°Ω34'05	30.14339 AU	conjunction	-7597 Oct 15 j 18:40	29°Ω20'13	4°13'25
opposition	-7603 Apr 03 j 06:21	15°Ω31'05	8°32'42	minimum elong	-7597 Oct 15 j 18:51	29°Ω20'14	4°13'44
	-7603 Apr 23 j 13:36	15°Ω		max. Earth dist.	-7597 Oct 18 j 05:58	29°Ω25'28	33.37747 AU
direct	-7603 Jun 21 j 19:20	14°Ω10'47		morning rise	-7597 Oct 30 j 10:45	29°Ω51'10	
	-7603 Aug 16 j 15:52	15°Ω			-7597 Nov 03 j 17:44	0°Ω	
evening set	-7603 Sep 19 j 19:48	16°Ω07'37		retrograde	-7596 Jan 28 j 09:37	1°Ω40'34	
				min. Earth dist.	-7596 Apr 16 j 00:30	0°Ω26'00	31.48843 AU
conjunction	-7603 Oct 02 j 20:50	16°Ω36'37	7°43'41	opposition	-7596 Apr 18 j 13:44	0°Ω22'08	4°10'42
minimum elong	-7603 Oct 02 j 21:09	16°Ω36'38	7°44'06		-7596 May 03 j 09:39	30°Ω	
max. Earth dist.	-7603 Oct 04 j 20:06	16°Ω41'01	32.21065 AU	direct	-7596 Jul 07 j 05:19	29°Ω04'42	
morning rise	-7603 Oct 15 j 23:07	17°Ω05'44			-7596 Sep 05 j 23:48	0°Ω	
retrograde	-7602 Jan 15 j 12:13	19°Ω04'12		evening set	-7596 Oct 02 j 05:51	0°Ω49'59	
min. Earth dist.	-7602 Apr 03 j 20:33	17°Ω46'59	30.31751 AU				
opposition	-7602 Apr 05 j 20:04	17°Ω43'54	7°55'35	conjunction	-7596 Oct 16 j 23:47	1°Ω20'49	3°38'29
direct	-7602 Jun 24 j 09:06	16°Ω24'02		minimum elong	-7596 Oct 16 j 23:56	1°Ω20'50	3°38'46
evening set	-7602 Sep 21 j 21:22	18°Ω19'01		max. Earth dist.	-7596 Oct 19 j 14:10	1°Ω26'19	33.59165 AU
				morning rise	-7596 Oct 31 j 19:40	1°Ω51'51	
conjunction	-7602 Oct 05 j 06:13	18°Ω48'30	7°08'54	retrograde	-7595 Jan 29 j 13:37	3°Ω39'59	
minimum elong	-7602 Oct 05 j 06:32	18°Ω48'31	7°09'16	min. Earth dist.	-7595 Apr 18 j 06:52	2°Ω25'49	31.70416 AU
max. Earth dist.	-7602 Oct 07 j 06:53	18°Ω53'00	32.39101 AU	opposition	-7595 Apr 20 j 21:50	2°Ω21'52	3°33'33
morning rise	-7602 Oct 18 j 16:39	19°Ω18'07		direct	-7595 Jul 09 j 14:40	1°Ω04'50	
retrograde	-7601 Jan 17 j 23:32	21°Ω14'55		evening set	-7595 Oct 04 j 07:10	2°Ω48'45	
min. Earth dist.	-7601 Apr 06 j 06:05	19°Ω58'14	30.49828 AU				
opposition	-7601 Apr 08 j 09:00	19°Ω54'57	7°18'13	conjunction	-7595 Oct 19 j 04:13	3°Ω19'37	3°03'44
direct	-7601 Jun 26 j 22:31	18°Ω35'31		minimum elong	-7595 Oct 19 j 04:21	3°Ω19'37	3°04'02
evening set	-7601 Sep 23 j 22:50	20°Ω28'43		max. Earth dist.	-7595 Oct 21 j 19:37	3°Ω25'08	33.81176 AU
				morning rise	-7595 Nov 03 j 03:37	3°Ω50'39	
conjunction	-7601 Oct 07 j 14:56	20°Ω58'36	6°33'55	retrograde	-7594 Jan 31 j 20:18	5°Ω37'34	
minimum elong	-7601 Oct 07 j 15:13	20°Ω58'38	6°34'17	min. Earth dist.	-7594 Apr 20 j 11:13	4°Ω23'53	31.92610 AU
max. Earth dist.	-7601 Oct 09 j 18:36	21°Ω03'20	32.57734 AU	opposition	-7594 Apr 23 j 04:59	4°Ω19'48	2°56'39
morning rise	-7601 Oct 21 j 08:37	21°Ω28'38		direct	-7594 Jul 11 j 20:13	3°Ω03'10	
retrograde	-7600 Jan 20 j 08:21	23°Ω23'50		evening set	-7594 Oct 06 j 08:13	4°Ω45'50	
min. Earth dist.	-7600 Apr 07 j 17:11	22°Ω07'33	30.68501 AU				

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Attention, astronomical year style is used: The year -7594 in astronomical counting style is the year 7595 BCE in historical counting style.

conjunction	-7594 Oct 21 j 08:05	5° $\mathring{M}$ 16'40	2°29'14	retrograde	-7587 Feb 13 j 10:47	18° $\mathring{M}$ 36'10	
minimum elong	-7594 Oct 21 j 08:11	5° $\mathring{M}$ 16'40	2°29'30	min. Earth dist.	-7587 May 03 j 09:23	17° $\mathring{M}$ 25'22	33.59817 AU
max. Earth dist.	-7594 Oct 24 j 02:28	5° $\mathring{M}$ 22'23	34.03758 AU	opposition	-7587 May 06 j 12:33	17° $\mathring{M}$ 20'52	-1°10'28
morning rise	-7594 Nov 05 j 10:09	5° $\mathring{M}$ 47'40		direct	-7587 Jul 25 j 04:56	16° $\mathring{M}$ 07'08	
retrograde	-7593 Feb 02 j 23:54	7° $\mathring{M}$ 33'28		evening set	-7587 Oct 18 j 14:09	17° $\mathring{M}$ 42'45	
min. Earth dist.	-7593 Apr 22 j 16:54	6° $\mathring{M}$ 20'09	32.15367 AU				
opposition	-7593 Apr 25 j 11:34	6° $\mathring{M}$ 16'02	2°20'03	conjunction	-7587 Nov 02 j 18:37	18° $\mathring{M}$ 12'12	-1°22'02
direct	-7593 Jul 14 j 02:20	4° $\mathring{M}$ 59'50		minimum elong	-7587 Nov 02 j 18:34	18° $\mathring{M}$ 12'12	1°21'52
evening set	-7593 Oct 08 j 09:10	6° $\mathring{M}$ 41'18		max. Earth dist.	-7587 Nov 05 j 22:01	18° $\mathring{M}$ 18'21	35.72132 AU
				morning rise	-7587 Nov 18 j 01:43	18° $\mathring{M}$ 41'52	
conjunction	-7593 Oct 23 j 11:08	7° $\mathring{M}$ 12'03	1°55'01	retrograde	-7586 Feb 15 j 09:59	20° $\mathring{M}$ 21'23	
minimum elong	-7593 Oct 23 j 11:13	7° $\mathring{M}$ 12'03	1°55'17	min. Earth dist.	-7586 May 05 j 11:23	19° $\mathring{M}$ 10'52	33.84551 AU
max. Earth dist.	-7593 Oct 26 j 06:36	7° $\mathring{M}$ 17'49	34.26866 AU	opposition	-7586 May 08 j 14:17	19° $\mathring{M}$ 06'24	-1°43'45
morning rise	-7593 Nov 07 j 15:28	7° $\mathring{M}$ 42'59		direct	-7586 Jul 27 j 07:20	17° $\mathring{M}$ 53'01	
retrograde	-7592 Feb 05 j 04:19	9° $\mathring{M}$ 27'42		evening set	-7586 Oct 20 j 14:36	19° $\mathring{M}$ 27'51	
min. Earth dist.	-7592 Apr 23 j 19:49	8° $\mathring{M}$ 14'55	32.38635 AU				
opposition	-7592 Apr 26 j 17:23	8° $\mathring{M}$ 10'38	1°43'50	conjunction	-7586 Nov 04 j 17:54	19° $\mathring{M}$ 56'58	-1°53'13
direct	-7592 Jul 15 j 08:58	6° $\mathring{M}$ 54'52		minimum elong	-7586 Nov 04 j 17:50	19° $\mathring{M}$ 56'58	1°53'05
evening set	-7592 Oct 09 j 10:09	8° $\mathring{M}$ 35'13		max. Earth dist.	-7586 Nov 07 j 21:13	20° $\mathring{M}$ 03'03	35.96876 AU
				morning rise	-7586 Nov 19 j 23:55	20° $\mathring{M}$ 26'18	
conjunction	-7592 Oct 24 j 13:42	9° $\mathring{M}$ 05'51	1°21'08	retrograde	-7585 Feb 17 j 10:49	22° $\mathring{M}$ 05'06	
minimum elong	-7592 Oct 24 j 13:45	9° $\mathring{M}$ 05'51	1°21'22	min. Earth dist.	-7585 May 07 j 10:39	20° $\mathring{M}$ 54'57	34.09416 AU
max. Earth dist.	-7592 Oct 27 j 11:22	9° $\mathring{M}$ 11'45	34.50416 AU	opposition	-7585 May 10 j 15:23	20° $\mathring{M}$ 50'24	-2°16'27
morning rise	-7592 Nov 08 j 19:46	9° $\mathring{M}$ 36'40		direct	-7585 Jul 29 j 08:45	19° $\mathring{M}$ 37'22	
retrograde	-7591 Feb 06 j 07:10	11° $\mathring{M}$ 20'23		evening set	-7585 Oct 22 j 14:44	21° $\mathring{M}$ 11'26	
min. Earth dist.	-7591 Apr 26 j 00:26	10° $\mathring{M}$ 07'59	32.62342 AU				
opposition	-7591 Apr 28 j 22:36	10° $\mathring{M}$ 03'41	1°08'01	conjunction	-7585 Nov 06 j 16:26	21° $\mathring{M}$ 40'13	-2°23'53
direct	-7591 Jul 17 j 15:03	8° $\mathring{M}$ 48'21		minimum elong	-7585 Nov 06 j 16:21	21° $\mathring{M}$ 40'12	2°23'45
evening set	-7591 Oct 11 j 11:00	10° $\mathring{M}$ 27'39		max. Earth dist.	-7585 Nov 09 j 21:24	21° $\mathring{M}$ 46'23	36.21738 AU
				morning rise	-7585 Nov 21 j 20:56	22° $\mathring{M}$ 09'12	
conjunction	-7591 Oct 26 j 15:46	10° $\mathring{M}$ 58'06	0°47'38	retrograde	-7584 Feb 19 j 09:59	23° $\mathring{M}$ 47'19	
minimum elong	-7591 Oct 26 j 15:48	10° $\mathring{M}$ 58'07	0°47'52	min. Earth dist.	-7584 May 08 j 11:17	22° $\mathring{M}$ 37'26	34.34448 AU
max. Earth dist.	-7591 Oct 29 j 14:46	11° $\mathring{M}$ 04'05	34.74348 AU	opposition	-7584 May 11 j 16:02	22° $\mathring{M}$ 32'55	-2°48'33
morning rise	-7591 Nov 10 j 22:57	11° $\mathring{M}$ 28'46		direct	-7584 Jul 30 j 09:41	21° $\mathring{M}$ 20'13	
retrograde	-7590 Feb 08 j 08:48	13° $\mathring{M}$ 11'33		evening set	-7584 Oct 23 j 14:46	22° $\mathring{M}$ 53'36	
min. Earth dist.	-7590 Apr 28 j 02:57	11° $\mathring{M}$ 59'36	32.86386 AU				
opposition	-7590 May 01 j 03:00	11° $\mathring{M}$ 55'13	0°32'38	conjunction	-7584 Nov 07 j 14:38	23° $\mathring{M}$ 21'59	-2°53'59
direct	-7590 Jul 19 j 21:07	10° $\mathring{M}$ 40'18		minimum elong	-7584 Nov 07 j 14:31	23° $\mathring{M}$ 21'59	2°53'52
evening set	-7590 Oct 13 j 12:00	12° $\mathring{M}$ 18'36		max. Earth dist.	-7584 Nov 10 j 20:29	23° $\mathring{M}$ 28'11	36.46783 AU
				morning rise	-7584 Nov 22 j 17:06	23° $\mathring{M}$ 50'36	
conjunction	-7590 Oct 28 j 17:13	12° $\mathring{M}$ 48'52	0°14'33	retrograde	-7583 Feb 20 j 06:12	25° $\mathring{M}$ 28'05	
minimum elong	-7590 Oct 28 j 17:14	12° $\mathring{M}$ 48'52	0°14'45	min. Earth dist.	-7583 May 10 j 09:24	24° $\mathring{M}$ 18'36	34.59678 AU
behind sun begin	-7590 Oct 28 j 14:28	12° $\mathring{M}$ 48'39		opposition	-7583 May 13 j 15:47	24° $\mathring{M}$ 13'59	-3°20'02
behind sun end	-7590 Oct 28 j 19:59	12° $\mathring{M}$ 49'05		direct	-7583 Aug 01 j 11:26	23° $\mathring{M}$ 01'38	
max. Earth dist.	-7590 Oct 31 j 17:03	12° $\mathring{M}$ 54'52	34.98542 AU	evening set	-7583 Oct 25 j 14:46	24° $\mathring{M}$ 34'22	
morning rise	-7590 Nov 13 j 01:10	13° $\mathring{M}$ 19'20					
retrograde	-7589 Feb 10 j 09:42	15° $\mathring{M}$ 01'14		conjunction	-7583 Nov 09 j 12:11	25° $\mathring{M}$ 02'21	-3°23'32
desc. node	-7589 Apr 09 j 12:31	14° $\mathring{M}$ 18'38		minimum elong	-7583 Nov 09 j 12:04	25° $\mathring{M}$ 02'21	3°23'25
min. Earth dist.	-7589 Apr 30 j 05:55	13° $\mathring{M}$ 49'40	33.10697 AU	max. Earth dist.	-7583 Nov 12 j 18:38	25° $\mathring{M}$ 08'33	36.72017 AU
opposition	-7589 May 03 j 06:47	13° $\mathring{M}$ 45'15	-0°02'15	morning rise	-7583 Nov 24 j 12:31	25° $\mathring{M}$ 30'34	
direct	-7589 Jul 22 j 00:11	12° $\mathring{M}$ 30'46		retrograde	-7582 Feb 22 j 02:36	27° $\mathring{M}$ 07'30	
evening set	-7589 Oct 15 j 12:47	14° $\mathring{M}$ 08'07		min. Earth dist.	-7582 May 12 j 08:04	25° $\mathring{M}$ 58'20	34.85132 AU
				opposition	-7582 May 15 j 15:07	25° $\mathring{M}$ 53'42	-3°50'53
conjunction	-7589 Oct 30 j 18:18	14° $\mathring{M}$ 38'08	-0°18'10	direct	-7582 Aug 03 j 11:13	24° $\mathring{M}$ 41'42	
minimum elong	-7589 Oct 30 j 18:17	14° $\mathring{M}$ 38'08	0°17'58	evening set	-7582 Oct 27 j 14:28	26° $\mathring{M}$ 13'51	
max. Earth dist.	-7589 Nov 02 j 19:58	14° $\mathring{M}$ 44'15	35.22950 AU				
morning rise	-7589 Nov 15 j 02:16	15° $\mathring{M}$ 08'22		conjunction	-7582 Nov 11 j 09:22	26° $\mathring{M}$ 41'25	-3°52'29
retrograde	-7588 Feb 12 j 09:00	16° $\mathring{M}$ 49'26		minimum elong	-7582 Nov 11 j 09:13	26° $\mathring{M}$ 41'25	3°52'24
min. Earth dist.	-7588 May 01 j 08:20	15° $\mathring{M}$ 38'15	33.35186 AU	max. Earth dist.	-7582 Nov 14 j 17:33	26° $\mathring{M}$ 47'43	36.97456 AU
opposition	-7588 May 04 j 09:58	15° $\mathring{M}$ 33'48	-0°36'38	morning rise	-7582 Nov 26 j 06:49	27° $\mathring{M}$ 09'13	
direct	-7588 Jul 23 j 04:14	14° $\mathring{M}$ 19'43		retrograde	-7581 Feb 23 j 21:36	28° $\mathring{M}$ 45'38	
evening set	-7588 Oct 16 j 13:32	15° $\mathring{M}$ 56'11		min. Earth dist.	-7581 May 14 j 06:05	27° $\mathring{M}$ 36'48	35.10776 AU
				opposition	-7581 May 17 j 13:42	27° $\mathring{M}$ 32'09	-4°21'05
conjunction	-7588 Oct 31 j 18:37	16° $\mathring{M}$ 25'56	-0°50'20	direct	-7581 Aug 05 j 10:57	26° $\mathring{M}$ 20'31	
minimum elong	-7588 Oct 31 j 18:35	16° $\mathring{M}$ 25'55	0°50'10	evening set	-7581 Oct 29 j 14:10	27° $\mathring{M}$ 52'07	
max. Earth dist.	-7588 Nov 03 j 20:11	16° $\mathring{M}$ 31'58	35.47490 AU				
morning rise	-7588 Nov 16 j 02:30	16° $\mathring{M}$ 55'53		conjunction	-7581 Nov 13 j 05:55	28° $\mathring{M}$ 19'15	-4°20'51

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24

Attention, astronomical year style is used: The year -7581 in astronomical counting style is the year 7582 BCE in historical counting style.

minimum elong	-7581 Nov 13 j 05:46	28° <del>19</del> 19'15	4°20'46	morning rise	-7575 Dec 05 j 19:06	8° <del>07</del> 07'27	
max. Earth dist.	-7581 Nov 16 j 14:01	28° <del>19</del> 25'29	37.23071 AU	retrograde	-7574 Mar 06 j 12:54	9° <del>04</del> 41'15	
morning rise	-7581 Nov 28 j 00:30	28° <del>19</del> 46'37		min. Earth dist.	-7574 May 25 j 05:07	8° <del>04</del> 34'30	36.91404 AU
	-7580 Jan 15 j 14:28	0° <del>05</del>		opposition	-7574 May 28 j 14:12	8° <del>04</del> 29'56	-7°34'14
retrograde	-7580 Feb 25 j 19:33	0° <del>05</del> 22'34		direct	-7574 Aug 16 j 13:11	7° <del>04</del> 20'35	
	-7580 Apr 08 j 06:39	30° <del>08</del>		evening set	-7574 Nov 10 j 08:59	8° <del>04</del> 49'27	
min. Earth dist.	-7580 May 15 j 02:45	29° <del>08</del> 14'07	35.36602 AU				
opposition	-7580 May 18 j 11:54	29° <del>08</del> 09'25	-4°50'38	conjunction	-7574 Nov 23 j 19:10	9° <del>04</del> 13'08	-7°22'42
direct	-7580 Aug 06 j 07:35	27° <del>08</del> 58'08		minimum elong	-7574 Nov 23 j 18:56	9° <del>04</del> 13'07	7°22'44
evening set	-7580 Oct 30 j 13:34	29° <del>08</del> 29'15		max. Earth dist.	-7574 Nov 27 j 05:06	9° <del>04</del> 19'12	39.02323 AU
				morning rise	-7574 Dec 07 j 07:46	9° <del>04</del> 37'00	
conjunction	-7580 Nov 14 j 02:06	29° <del>08</del> 55'56	-4°48'37	retrograde	-7573 Mar 08 j 07:16	11° <del>04</del> 10'31	
minimum elong	-7580 Nov 14 j 01:56	29° <del>08</del> 55'55	4°48'34	min. Earth dist.	-7573 May 26 j 22:55	10° <del>04</del> 04'02	37.16723 AU
	-7580 Nov 16 j 06:45	0° <del>05</del>		opposition	-7573 May 30 j 08:51	9° <del>04</del> 59'26	-7°59'15
max. Earth dist.	-7580 Nov 17 j 12:00	0° <del>05</del> 02'15	37.48817 AU	direct	-7573 Aug 18 j 07:00	8° <del>04</del> 50'21	
morning rise	-7580 Nov 28 j 17:16	0° <del>05</del> 22'50		evening set	-7573 Nov 12 j 07:40	10° <del>04</del> 18'55	
retrograde	-7579 Feb 26 j 16:16	1° <del>05</del> 58'22					
min. Earth dist.	-7579 May 17 j 00:52	0° <del>05</del> 50'12	35.62530 AU	conjunction	-7573 Nov 25 j 12:34	10° <del>04</del> 42'03	-7°46'18
opposition	-7579 May 20 j 09:35	0° <del>05</del> 45'33	-5°19'32	minimum elong	-7573 Nov 25 j 12:21	10° <del>04</del> 42'02	7°46'21
	-7579 Jun 25 j 01:28	30° <del>08</del>		max. Earth dist.	-7573 Nov 28 j 23:36	10° <del>04</del> 48'09	39.27381 AU
direct	-7579 Aug 08 j 04:41	29° <del>08</del> 34'38		morning rise	-7573 Dec 08 j 19:45	11° <del>04</del> 05'22	
	-7579 Sep 19 j 21:34	0° <del>05</del>		retrograde	-7572 Mar 09 j 01:03	12° <del>04</del> 38'37	
evening set	-7579 Nov 01 j 13:04	1° <del>05</del> 05'17		min. Earth dist.	-7572 May 27 j 18:10	11° <del>04</del> 32'17	37.41927 AU
				opposition	-7572 May 31 j 03:08	11° <del>04</del> 27'46	-8°23'37
conjunction	-7579 Nov 15 j 21:57	1° <del>05</del> 31'31	-5°15'48	direct	-7572 Aug 19 j 00:45	10° <del>04</del> 18'56	
minimum elong	-7579 Nov 15 j 21:46	1° <del>05</del> 31'30	5°15'45	evening set	-7572 Nov 13 j 06:11	11° <del>04</del> 47'14	
max. Earth dist.	-7579 Nov 19 j 07:30	1° <del>05</del> 37'46	37.74632 AU				
morning rise	-7579 Nov 30 j 09:26	1° <del>05</del> 57'57		conjunction	-7572 Nov 26 j 05:32	12° <del>04</del> 09'49	-8°09'18
retrograde	-7578 Feb 28 j 14:39	3° <del>05</del> 33'04		minimum elong	-7572 Nov 26 j 05:18	12° <del>04</del> 09'48	8°09'21
min. Earth dist.	-7578 May 18 j 20:28	2° <del>05</del> 25'17	35.88498 AU	max. Earth dist.	-7572 Nov 29 j 16:13	12° <del>04</del> 15'51	39.52356 AU
opposition	-7578 May 22 j 06:28	2° <del>05</del> 20'35	-5°47'46	morning rise	-7572 Dec 09 j 06:58	12° <del>04</del> 32'34	
direct	-7578 Aug 10 j 00:24	1° <del>05</del> 10'01		retrograde	-7571 Mar 10 j 18:57	14° <del>04</del> 05'36	
evening set	-7578 Nov 03 j 12:31	2° <del>05</del> 40'17		min. Earth dist.	-7571 May 29 j 10:47	12° <del>04</del> 59'32	37.67065 AU
				opposition	-7571 Jun 01 j 20:49	12° <del>04</del> 54'59	-8°47'19
conjunction	-7578 Nov 17 j 17:22	3° <del>05</del> 06'02	-5°42'22	direct	-7571 Aug 20 j 17:59	11° <del>04</del> 46'23	
minimum elong	-7578 Nov 17 j 17:10	3° <del>05</del> 06'01	5°42'20	evening set	-7571 Nov 15 j 04:43	13° <del>04</del> 14'29	
max. Earth dist.	-7578 Nov 21 j 03:43	3° <del>05</del> 12'17	38.00426 AU				
morning rise	-7578 Dec 02 j 00:54	3° <del>05</del> 31'58		conjunction	-7571 Nov 27 j 22:08	13° <del>04</del> 36'30	-8°31'41
retrograde	-7577 Mar 02 j 10:18	5° <del>05</del> 06'44		minimum elong	-7571 Nov 27 j 21:54	13° <del>04</del> 36'29	8°31'46
min. Earth dist.	-7577 May 20 j 17:55	3° <del>05</del> 59'12	36.14434 AU	max. Earth dist.	-7571 Dec 01 j 09:03	13° <del>04</del> 42'31	39.77272 AU
opposition	-7577 May 24 j 03:11	3° <del>05</del> 54'34	-6°15'21	morning rise	-7571 Dec 10 j 17:47	13° <del>04</del> 58'41	
direct	-7577 Aug 11 j 20:36	2° <del>05</del> 44'20		retrograde	-7570 Mar 12 j 10:27	15° <del>04</del> 31'30	
evening set	-7577 Nov 05 j 11:38	4° <del>05</del> 14'13		min. Earth dist.	-7570 May 31 j 04:32	14° <del>04</del> 25'39	37.92183 AU
				opposition	-7570 Jun 03 j 14:02	14° <del>04</del> 21'08	-9°10'22
conjunction	-7577 Nov 19 j 12:21	4° <del>05</del> 39'28	-6°08'20	direct	-7570 Aug 22 j 12:08	13° <del>04</del> 12'48	
minimum elong	-7577 Nov 19 j 12:09	4° <del>05</del> 39'27	6°08'20	evening set	-7570 Nov 17 j 02:59	14° <del>04</del> 40'43	
max. Earth dist.	-7577 Nov 22 j 23:05	4° <del>05</del> 45'43	38.26150 AU				
morning rise	-7577 Dec 03 j 15:27	5° <del>05</del> 04'55		conjunction	-7570 Nov 29 j 14:26	15° <del>04</del> 02'10	-8°53'28
retrograde	-7576 Mar 03 j 03:08	6° <del>05</del> 39'20		minimum elong	-7570 Nov 29 j 14:12	15° <del>04</del> 02'09	8°53'32
min. Earth dist.	-7576 May 21 j 13:27	5° <del>05</del> 32'07	36.40254 AU	max. Earth dist.	-7570 Dec 03 j 02:13	15° <del>04</del> 08'12	40.02179 AU
opposition	-7576 May 24 j 23:18	5° <del>05</del> 27'28	-6°42'17	morning rise	-7570 Dec 12 j 03:45	15° <del>04</del> 23'46	
direct	-7576 Aug 12 j 19:41	4° <del>05</del> 17'33		retrograde	-7569 Mar 13 j 23:46	16° <del>04</del> 56'26	
evening set	-7576 Nov 06 j 10:59	5° <del>05</del> 47'04		min. Earth dist.	-7569 Jun 01 j 21:00	15° <del>04</del> 50'51	38.17277 AU
				opposition	-7569 Jun 05 j 06:52	15° <del>04</del> 46'19	-9°32'47
conjunction	-7576 Nov 20 j 07:01	6° <del>05</del> 11'49	-6°33'43	direct	-7569 Aug 24 j 07:43	14° <del>04</del> 38'16	
minimum elong	-7576 Nov 20 j 06:48	6° <del>05</del> 11'48	6°33'42	evening set	-7569 Nov 19 j 01:06	16° <del>04</del> 06'02	
max. Earth dist.	-7576 Nov 23 j 17:07	6° <del>05</del> 17'59	38.51720 AU				
morning rise	-7576 Dec 04 j 05:41	6° <del>05</del> 36'45		conjunction	-7569 Dec 01 j 06:06	16° <del>04</del> 26'55	-9°14'38
retrograde	-7575 Mar 04 j 20:51	8° <del>05</del> 10'51		minimum elong	-7569 Dec 01 j 05:51	16° <del>04</del> 26'54	9°14'44
min. Earth dist.	-7575 May 23 j 09:15	7° <del>05</del> 03'53	36.65927 AU	max. Earth dist.	-7569 Dec 04 j 17:14	16° <del>04</del> 32'52	40.27062 AU
opposition	-7575 May 26 j 19:01	6° <del>05</del> 59'16	-7°08'35	morning rise	-7569 Dec 13 j 13:09	16° <del>04</del> 47'55	
direct	-7575 Aug 14 j 16:12	5° <del>05</del> 49'39		retrograde	-7568 Mar 14 j 15:44	18° <del>04</del> 20'29	
evening set	-7575 Nov 08 j 10:01	7° <del>05</del> 18'50		min. Earth dist.	-7568 Jun 02 j 12:59	17° <del>04</del> 15'11	38.42355 AU
				opposition	-7568 Jun 05 j 23:26	17° <del>04</del> 10'39	-9°54'32
conjunction	-7575 Nov 22 j 01:25	7° <del>05</del> 43'03	-6°58'31	direct	-7568 Aug 24 j 23:55	16° <del>04</del> 02'53	
minimum elong	-7575 Nov 22 j 01:13	7° <del>05</del> 43'02	6°58'31	evening set	-7568 Nov 19 j 23:08	17° <del>04</del> 30'32	
max. Earth dist.	-7575 Nov 25 j 12:23	7° <del>05</del> 49'14	38.77116 AU				



## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 25

Attention, astronomical year style is used: The year -7568 in astronomical counting style is the year 7569 BCE in historical counting style.

conjunction	-7568 Dec 01 j 21:44	17° <u>♁</u> 50'49	-9°35'13	direct	-7561 Sep 04 j 11:15	25° <u>♁</u> 34'21	
minimum elong	-7568 Dec 01 j 21:30	17° <u>♁</u> 50'48	9°35'18	evening set	-7561 Dec 02 j 08:52	27° <u>♁</u> 01'59	
max. Earth dist.	-7568 Dec 05 j 10:03	17° <u>♁</u> 56'50	40.51903 AU				
morning rise	-7568 Dec 13 j 22:06	18° <u>♁</u> 11'15		conjunction	-7561 Dec 12 j 03:04	27° <u>♁</u> 17'56	-11°43'35
retrograde	-7567 Mar 16 j 06:12	19° <u>♁</u> 43'44		minimum elong	-7561 Dec 12 j 02:49	27° <u>♁</u> 17'55	11°43'46
min. Earth dist.	-7567 Jun 04 j 05:58	18° <u>♁</u> 38'38	38.67361 AU	max. Earth dist.	-7561 Dec 15 j 12:24	27° <u>♁</u> 23'30	42.19891 AU
opposition	-7567 Jun 07 j 15:29	18° <u>♁</u> 34'10	-10°15'39	morning rise	-7561 Dec 21 j 22:24	27° <u>♁</u> 33'59	
direct	-7567 Aug 26 j 16:42	17° <u>♁</u> 26'42		retrograde	-7560 Mar 25 j 10:33	29° <u>♁</u> 06'29	
evening set	-7567 Nov 21 j 21:16	18° <u>♁</u> 54'17		min. Earth dist.	-7560 Jun 13 j 16:48	28° <u>♁</u> 02'49	40.35857 AU
				opposition	-7560 Jun 16 j 22:34	27° <u>♁</u> 58'40	-12°26'58
conjunction	-7567 Dec 03 j 13:02	19° <u>♁</u> 13'59	-9°55'13	direct	-7560 Sep 05 j 00:45	26° <u>♁</u> 52'54	
minimum elong	-7567 Dec 03 j 12:47	19° <u>♁</u> 13'58	9°55'20	evening set	-7560 Dec 03 j 06:46	28° <u>♁</u> 20'35	
max. Earth dist.	-7567 Dec 07 j 00:25	19° <u>♁</u> 19'53	40.76655 AU				
morning rise	-7567 Dec 15 j 06:31	19° <u>♁</u> 33'48		conjunction	-7560 Dec 12 j 16:28	28° <u>♁</u> 35'53	-11°59'47
retrograde	-7566 Mar 17 j 23:31	21° <u>♁</u> 06'14		minimum elong	-7560 Dec 12 j 16:15	28° <u>♁</u> 35'52	11°59'58
min. Earth dist.	-7566 Jun 05 j 20:53	20° <u>♁</u> 01'27	38.92247 AU	max. Earth dist.	-7560 Dec 16 j 01:05	28° <u>♁</u> 41'22	42.42716 AU
opposition	-7566 Jun 09 j 07:10	19° <u>♁</u> 56'58	-10°36'10	morning rise	-7560 Dec 22 j 03:06	28° <u>♁</u> 51'16	
direct	-7566 Aug 28 j 06:30	18° <u>♁</u> 49'46			-7559 Feb 09 j 20:25	0° <u>♁</u>	
evening set	-7566 Nov 23 j 19:12	20° <u>♁</u> 17'20		retrograde	-7559 Mar 27 j 01:06	0° <u>♁</u> 23'49	
					-7559 May 12 j 02:31	30° <u>♁</u>	
conjunction	-7566 Dec 05 j 03:56	20° <u>♁</u> 36'26	-10°14'38	min. Earth dist.	-7559 Jun 15 j 05:34	29° <u>♁</u> 20'21	40.58768 AU
minimum elong	-7566 Dec 05 j 03:41	20° <u>♁</u> 36'25	10°14'45	opposition	-7559 Jun 18 j 11:44	29° <u>♁</u> 16'12	-12°43'28
max. Earth dist.	-7566 Dec 08 j 15:43	20° <u>♁</u> 42'19	41.01237 AU	direct	-7559 Sep 06 j 13:14	28° <u>♁</u> 10'37	
morning rise	-7566 Dec 16 j 14:23	20° <u>♁</u> 55'39		evening set	-7559 Dec 05 j 04:35	29° <u>♁</u> 38'24	
retrograde	-7565 Mar 19 j 16:29	22° <u>♁</u> 28'03					
min. Earth dist.	-7565 Jun 07 j 13:36	21° <u>♁</u> 23'27	39.16943 AU	conjunction	-7559 Dec 14 j 05:29	29° <u>♁</u> 53'03	-12°15'27
opposition	-7565 Jun 10 j 22:38	21° <u>♁</u> 19'04	-10°56'04	minimum elong	-7559 Dec 14 j 05:15	29° <u>♁</u> 53'02	12°15'39
direct	-7565 Aug 29 j 20:23	20° <u>♁</u> 12'09		max. Earth dist.	-7559 Dec 17 j 13:37	29° <u>♁</u> 58'28	42.65322 AU
evening set	-7565 Nov 25 j 17:12	21° <u>♁</u> 39'42			-7559 Dec 18 j 12:24	0° <u>♁</u>	
				morning rise	-7559 Dec 23 j 07:24	0° <u>♁</u> 07'44	
conjunction	-7565 Dec 06 j 18:46	21° <u>♁</u> 58'11	-10°33'29	retrograde	-7558 Mar 28 j 14:57	1° <u>♁</u> 40'23	
minimum elong	-7565 Dec 06 j 18:31	21° <u>♁</u> 58'10	10°33'38	min. Earth dist.	-7558 Jun 16 j 19:32	0° <u>♁</u> 37'03	40.81497 AU
max. Earth dist.	-7565 Dec 10 j 06:12	22° <u>♁</u> 04'01	41.25608 AU	opposition	-7558 Jun 20 j 00:50	0° <u>♁</u> 32'58	-12°59'25
morning rise	-7565 Dec 17 j 21:44	22° <u>♁</u> 16'47			-7558 Jul 17 j 03:20	30° <u>♁</u>	
retrograde	-7564 Mar 20 j 06:13	23° <u>♁</u> 49'12		direct	-7558 Sep 08 j 01:33	29° <u>♁</u> 27'35	
min. Earth dist.	-7564 Jun 08 j 04:32	22° <u>♁</u> 44'51	39.41379 AU		-7558 Oct 29 j 13:47	0° <u>♁</u>	
opposition	-7564 Jun 11 j 13:37	22° <u>♁</u> 40'29	-11°15'22	evening set	-7558 Dec 07 j 02:18	0° <u>♁</u> 55'30	
direct	-7564 Aug 30 j 12:31	21° <u>♁</u> 33'50					
evening set	-7564 Nov 26 j 15:15	23° <u>♁</u> 01'23		conjunction	-7558 Dec 15 j 18:15	1° <u>♁</u> 09'27	-12°30'36
				minimum elong	-7558 Dec 15 j 18:02	1° <u>♁</u> 09'26	12°30'49
conjunction	-7564 Dec 07 j 09:13	23° <u>♁</u> 19'15	-10°51'48	max. Earth dist.	-7558 Dec 19 j 02:50	1° <u>♁</u> 14'52	42.87766 AU
minimum elong	-7564 Dec 07 j 08:59	23° <u>♁</u> 19'14	10°51'57	morning rise	-7558 Dec 24 j 10:54	1° <u>♁</u> 23'27	
max. Earth dist.	-7564 Dec 10 j 19:31	23° <u>♁</u> 24'59	41.49680 AU	retrograde	-7557 Mar 30 j 00:05	2° <u>♁</u> 56'13	
morning rise	-7564 Dec 18 j 04:46	23° <u>♁</u> 37'14		min. Earth dist.	-7557 Jun 18 j 08:28	1° <u>♁</u> 53'04	41.04051 AU
retrograde	-7563 Mar 21 j 19:28	25° <u>♁</u> 09'39		opposition	-7557 Jun 21 j 13:30	1° <u>♁</u> 49'00	-13°14'47
min. Earth dist.	-7563 Jun 09 j 20:11	24° <u>♁</u> 05'30	39.65505 AU	direct	-7557 Sep 09 j 17:13	0° <u>♁</u> 43'50	
opposition	-7563 Jun 13 j 04:29	24° <u>♁</u> 01'11	-11°34'06	evening set	-7557 Dec 09 j 00:12	2° <u>♁</u> 11'54	
direct	-7563 Sep 01 j 04:36	22° <u>♁</u> 54'47					
evening set	-7563 Nov 28 j 13:14	24° <u>♁</u> 22'21		conjunction	-7557 Dec 17 j 06:41	2° <u>♁</u> 25'09	-12°45'13
				minimum elong	-7557 Dec 17 j 06:27	2° <u>♁</u> 25'08	12°45'26
conjunction	-7563 Dec 08 j 23:39	24° <u>♁</u> 39'36	-11°09'35	max. Earth dist.	-7557 Dec 20 j 13:58	2° <u>♁</u> 30'28	43.10054 AU
minimum elong	-7563 Dec 08 j 23:24	24° <u>♁</u> 39'35	11°09'45	morning rise	-7557 Dec 25 j 13:56	2° <u>♁</u> 38'28	
max. Earth dist.	-7563 Dec 12 j 10:16	24° <u>♁</u> 45'19	41.73419 AU	retrograde	-7556 Mar 30 j 11:04	4° <u>♁</u> 11'23	
morning rise	-7563 Dec 19 j 11:16	24° <u>♁</u> 56'56		min. Earth dist.	-7556 Jun 18 j 20:47	3° <u>♁</u> 08'27	41.26461 AU
retrograde	-7562 Mar 23 j 06:27	26° <u>♁</u> 29'22		opposition	-7556 Jun 22 j 01:58	3° <u>♁</u> 04'23	-13°29'37
min. Earth dist.	-7562 Jun 11 j 11:37	25° <u>♁</u> 25'23	39.89271 AU	direct	-7556 Sep 10 j 06:48	1° <u>♁</u> 59'25	
opposition	-7562 Jun 14 j 18:44	25° <u>♁</u> 21'08	-11°52'17	evening set	-7556 Dec 09 j 22:05	3° <u>♁</u> 27'41	
direct	-7562 Sep 02 j 21:47	24° <u>♁</u> 14'58					
evening set	-7562 Nov 30 j 11:14	25° <u>♁</u> 42'34		conjunction	-7556 Dec 17 j 19:01	3° <u>♁</u> 40'14	-12°59'19
				minimum elong	-7556 Dec 17 j 18:49	3° <u>♁</u> 40'13	12°59'33
conjunction	-7562 Dec 10 j 13:33	25° <u>♁</u> 59'10	-11°26'51	max. Earth dist.	-7556 Dec 21 j 03:05	3° <u>♁</u> 45'34	43.32179 AU
minimum elong	-7562 Dec 10 j 13:19	25° <u>♁</u> 59'09	11°27'01	morning rise	-7556 Dec 25 j 16:33	3° <u>♁</u> 52'50	
max. Earth dist.	-7562 Dec 13 j 22:30	26° <u>♁</u> 04'44	41.96814 AU	retrograde	-7555 Mar 31 j 22:27	5° <u>♁</u> 25'57	
morning rise	-7562 Dec 20 j 17:08	26° <u>♁</u> 15'52		min. Earth dist.	-7555 Jun 20 j 10:25	4° <u>♁</u> 23'09	41.48674 AU
retrograde	-7561 Mar 24 j 20:48	27° <u>♁</u> 48'19		opposition	-7555 Jun 23 j 14:12	4° <u>♁</u> 19'10	-13°43'55
min. Earth dist.	-7561 Jun 13 j 01:23	26° <u>♁</u> 44'33	40.12710 AU	direct	-7555 Sep 11 j 19:48	3° <u>♁</u> 14'25	
opposition	-7561 Jun 16 j 08:47	26° <u>♁</u> 40'18	-12°09'54	evening set	-7555 Dec 11 j 20:21	4° <u>♁</u> 42'54	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26

Attention, astronomical year style is used: The year -7555 in astronomical counting style is the year 7556 BCE in historical counting style.

conjunction	-7555 Dec 19 j 07:09	4° $\mathbb{M}$ .54'44	-13°12'54	direct	-7548 Sep 20 j 01:48	11° $\mathbb{M}$ .44'15	
minimum elong	-7555 Dec 19 j 06:56	4° $\mathbb{M}$ .54'43	13°13'09	evening set	-7548 Dec 23 j 22:21	13° $\mathbb{M}$ .15'45	
max. Earth dist.	-7555 Dec 22 j 13:59	4° $\mathbb{M}$ .59'58	43.54102 AU				
morning rise	-7555 Dec 26 j 18:25	5° $\mathbb{M}$ .06'36		conjunction	-7548 Dec 27 j 14:42	13° $\mathbb{M}$ .21'25	-14°35'15
retrograde	-7554 Apr 02 j 11:43	6° $\mathbb{M}$ .39'56		minimum elong	-7548 Dec 27 j 14:31	13° $\mathbb{M}$ .21'24	14°35'35
min. Earth dist.	-7554 Jun 21 j 21:44	5° $\mathbb{M}$ .37'22	41.70658 AU	morning rise	-7548 Dec 31 j 06:53	13° $\mathbb{M}$ .27'05	
opposition	-7554 Jun 25 j 01:57	5° $\mathbb{M}$ .33'23	-13°57'41	max. Earth dist.	-7548 Dec 30 j 15:47	13° $\mathbb{M}$ .26'07	44.97539 AU
direct	-7554 Sep 13 j 06:18	4° $\mathbb{M}$ .28'51			-7547 Mar 24 j 17:36	15° $\mathbb{M}$ .	
evening set	-7554 Dec 13 j 18:41	5° $\mathbb{M}$ .57'37		retrograde	-7547 Apr 10 j 16:44	15° $\mathbb{M}$ .03'17	
					-7547 Apr 27 j 16:30	15° $\mathbb{R}$ $\mathbb{M}$ .	
conjunction	-7554 Dec 20 j 19:00	6° $\mathbb{M}$ .08'42	-13°26'01	min. Earth dist.	-7547 Jun 30 j 09:37	14° $\mathbb{M}$ .01'38	43.13920 AU
minimum elong	-7554 Dec 20 j 18:48	6° $\mathbb{M}$ .08'41	13°26'17	opposition	-7547 Jul 03 j 06:45	13° $\mathbb{M}$ .58'05	-15°20'49
max. Earth dist.	-7554 Dec 24 j 01:25	6° $\mathbb{M}$ .13'52	43.75761 AU	direct	-7547 Sep 21 j 13:13	12° $\mathbb{M}$ .54'47	
morning rise	-7554 Dec 27 j 19:48	6° $\mathbb{M}$ .19'49		evening set	-7547 Dec 26 j 05:01	14° $\mathbb{M}$ .27'10	
retrograde	-7553 Apr 04 j 00:48	7° $\mathbb{M}$ .53'25					
min. Earth dist.	-7553 Jun 23 j 11:08	6° $\mathbb{M}$ .50'59	41.92356 AU	conjunction	-7547 Dec 29 j 01:08	14° $\mathbb{M}$ .31'32	-14°45'17
opposition	-7553 Jun 26 j 13:44	6° $\mathbb{M}$ .47'06	-14°10'57	minimum elong	-7547 Dec 29 j 00:58	14° $\mathbb{M}$ .31'31	14°45'36
direct	-7553 Sep 14 j 17:02	5° $\mathbb{M}$ .42'47		morning rise	-7547 Dec 31 j 21:05	14° $\mathbb{M}$ .35'53	
evening set	-7553 Dec 15 j 17:22	7° $\mathbb{M}$ .11'51		max. Earth dist.	-7546 Jan 01 j 00:44	14° $\mathbb{M}$ .36'07	45.16473 AU
					-7546 Jan 16 j 20:22	15° $\mathbb{M}$ .	
conjunction	-7553 Dec 22 j 06:44	7° $\mathbb{M}$ .22'10	-13°38'39	retrograde	-7546 Apr 12 j 02:00	16° $\mathbb{M}$ .12'57	
minimum elong	-7553 Dec 22 j 06:31	7° $\mathbb{M}$ .22'09	13°38'54	min. Earth dist.	-7546 Jul 01 j 20:26	15° $\mathbb{M}$ .11'24	43.32876 AU
max. Earth dist.	-7553 Dec 25 j 12:51	7° $\mathbb{M}$ .27'18	43.97111 AU	opposition	-7546 Jul 04 j 16:40	15° $\mathbb{M}$ .07'54	-15°30'52
morning rise	-7553 Dec 28 j 20:20	7° $\mathbb{M}$ .32'30			-7546 Jul 11 j 03:39	15° $\mathbb{R}$ $\mathbb{M}$ .	
retrograde	-7552 Apr 04 j 11:26	9° $\mathbb{M}$ .06'23		direct	-7546 Sep 23 j 00:11	14° $\mathbb{M}$ .04'45	
min. Earth dist.	-7552 Jun 23 j 23:08	8° $\mathbb{M}$ .04'08	42.13689 AU		-7546 Dec 02 j 17:20	15° $\mathbb{M}$ .	
opposition	-7552 Jun 27 j 01:10	8° $\mathbb{M}$ .00'18	-14°23'44	evening set	-7546 Dec 28 j 19:53	15° $\mathbb{M}$ .38'35	
direct	-7552 Sep 15 j 05:47	6° $\mathbb{M}$ .56'11					
evening set	-7552 Dec 16 j 16:40	8° $\mathbb{M}$ .25'36		conjunction	-7546 Dec 30 j 11:30	15° $\mathbb{M}$ .41'06	-14°54'52
				minimum elong	-7546 Dec 30 j 11:19	15° $\mathbb{M}$ .41'06	14°55'11
conjunction	-7552 Dec 22 j 18:20	8° $\mathbb{M}$ .35'08	-13°50'50	morning rise	-7545 Jan 01 j 02:49	15° $\mathbb{M}$ .43'37	
minimum elong	-7552 Dec 22 j 18:08	8° $\mathbb{M}$ .35'07	13°51'07	max. Earth dist.	-7545 Jan 02 j 11:33	15° $\mathbb{M}$ .45'42	45.35146 AU
max. Earth dist.	-7552 Dec 25 j 22:37	8° $\mathbb{M}$ .40'07	44.18064 AU	retrograde	-7545 Apr 13 j 08:46	17° $\mathbb{M}$ .22'05	
morning rise	-7552 Dec 28 j 20:16	8° $\mathbb{M}$ .44'39		min. Earth dist.	-7545 Jul 03 j 07:15	16° $\mathbb{M}$ .20'39	43.51570 AU
retrograde	-7551 Apr 05 j 22:54	10° $\mathbb{M}$ .18'53		opposition	-7545 Jul 06 j 02:23	16° $\mathbb{M}$ .17'13	-15°40'28
min. Earth dist.	-7551 Jun 25 j 11:14	9° $\mathbb{M}$ .16'46	42.34612 AU	direct	-7545 Sep 24 j 13:04	15° $\mathbb{M}$ .14'13	
opposition	-7551 Jun 28 j 12:21	9° $\mathbb{M}$ .12'59	-14°36'03				
direct	-7551 Sep 16 j 17:19	8° $\mathbb{M}$ .09'04		conjunction	-7545 Dec 31 j 21:26	16° $\mathbb{M}$ .50'11	-15°04'00
evening set	-7551 Dec 18 j 16:32	9° $\mathbb{M}$ .38'54		minimum elong	-7545 Dec 31 j 21:17	16° $\mathbb{M}$ .50'10	15°04'20
				max. Earth dist.	-7544 Jan 03 j 19:55	16° $\mathbb{M}$ .54'39	45.53586 AU
conjunction	-7551 Dec 24 j 05:53	9° $\mathbb{M}$ .47'33	-14°02'35	retrograde	-7544 Apr 13 j 18:42	18° $\mathbb{M}$ .30'46	
minimum elong	-7551 Dec 24 j 05:42	9° $\mathbb{M}$ .47'33	14°02'51	min. Earth dist.	-7544 Jul 03 j 16:31	17° $\mathbb{M}$ .29'30	43.70033 AU
max. Earth dist.	-7551 Dec 27 j 10:04	9° $\mathbb{M}$ .52'31	44.38580 AU	opposition	-7544 Jul 06 j 11:55	17° $\mathbb{M}$ .26'04	-15°49'37
morning rise	-7551 Dec 29 j 19:22	9° $\mathbb{M}$ .56'14		direct	-7544 Sep 24 j 22:37	16° $\mathbb{M}$ .23'13	
retrograde	-7550 Apr 07 j 07:11	11° $\mathbb{M}$ .30'50					
min. Earth dist.	-7550 Jun 27 j 00:01	10° $\mathbb{M}$ .28'50	42.55065 AU	conjunction	-7543 Jan 01 j 07:25	17° $\mathbb{M}$ .58'49	-15°12'43
opposition	-7550 Jun 29 j 23:23	10° $\mathbb{M}$ .25'08	-14°47'55	minimum elong	-7543 Jan 01 j 07:15	17° $\mathbb{M}$ .58'48	15°13'03
direct	-7550 Sep 18 j 06:55	9° $\mathbb{M}$ .21'23		max. Earth dist.	-7543 Jan 04 j 05:51	18° $\mathbb{M}$ .03'16	45.71784 AU
evening set	-7550 Dec 20 j 17:06	10° $\mathbb{M}$ .51'41		retrograde	-7543 Apr 15 j 05:17	19° $\mathbb{M}$ .39'01	
				min. Earth dist.	-7543 Jul 05 j 03:35	18° $\mathbb{M}$ .37'50	43.88246 AU
conjunction	-7550 Dec 25 j 16:58	10° $\mathbb{M}$ .59'26	-14°13'54	opposition	-7543 Jul 07 j 21:13	18° $\mathbb{M}$ .34'30	-15°58'19
minimum elong	-7550 Dec 25 j 16:46	10° $\mathbb{M}$ .59'25	14°14'12	direct	-7543 Sep 26 j 07:23	17° $\mathbb{M}$ .31'50	
max. Earth dist.	-7550 Dec 28 j 19:11	11° $\mathbb{M}$ .04'15	44.58644 AU				
morning rise	-7550 Dec 30 j 16:52	11° $\mathbb{M}$ .07'12		conjunction	-7542 Jan 02 j 17:17	19° $\mathbb{M}$ .07'04	-15°21'00
retrograde	-7549 Apr 08 j 18:57	12° $\mathbb{M}$ .42'14		minimum elong	-7542 Jan 02 j 17:09	19° $\mathbb{M}$ .07'04	15°21'21
min. Earth dist.	-7549 Jun 28 j 10:52	11° $\mathbb{M}$ .40'23	42.75073 AU	max. Earth dist.	-7542 Jan 05 j 14:54	19° $\mathbb{M}$ .11'27	45.89738 AU
opposition	-7549 Jul 01 j 10:07	11° $\mathbb{M}$ .36'43	-14°59'20	retrograde	-7542 Apr 16 j 17:01	20° $\mathbb{M}$ .46'52	
direct	-7549 Sep 19 j 17:03	10° $\mathbb{M}$ .33'07		min. Earth dist.	-7542 Jul 06 j 12:41	19° $\mathbb{M}$ .45'52	44.06176 AU
evening set	-7549 Dec 22 j 18:45	12° $\mathbb{M}$ .03'57		opposition	-7542 Jul 09 j 06:17	19° $\mathbb{M}$ .42'33	-16°06'34
				direct	-7542 Sep 27 j 14:35	18° $\mathbb{M}$ .40'03	
conjunction	-7549 Dec 27 j 03:54	12° $\mathbb{M}$ .10'43	-14°24'48				
minimum elong	-7549 Dec 27 j 03:43	12° $\mathbb{M}$ .10'43	14°25'05	conjunction	-7541 Jan 04 j 02:42	20° $\mathbb{M}$ .14'58	-15°28'53
max. Earth dist.	-7549 Dec 30 j 05:41	12° $\mathbb{M}$ .15'29	44.78274 AU	minimum elong	-7541 Jan 04 j 02:33	20° $\mathbb{M}$ .14'57	15°29'14
morning rise	-7549 Dec 31 j 13:03	12° $\mathbb{M}$ .17'30		max. Earth dist.	-7541 Jan 06 j 23:02	20° $\mathbb{M}$ .19'15	46.07384 AU
retrograde	-7548 Apr 09 j 07:25	13° $\mathbb{M}$ .53'04		retrograde	-7541 Apr 18 j 03:42	21° $\mathbb{M}$ .54'24	
min. Earth dist.	-7548 Jun 28 j 23:19	12° $\mathbb{M}$ .51'15	42.94675 AU	min. Earth dist.	-7541 Jul 07 j 23:04	20° $\mathbb{M}$ .53'31	44.23788 AU
opposition	-7548 Jul 01 j 20:38	12° $\mathbb{M}$ .47'42	-15°10'18	opposition	-7541 Jul 10 j 15:20	20° $\mathbb{M}$ .50'16	-16°14'25

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 27

Attention, astronomical year style is used: The year -7541 in astronomical counting style is the year 7542 BCE in historical counting style.

direct	-7541 Sep 28 j 22:16	19° $\mathbb{M}$ .47'55			-7532 Jan 09 j 03:39	0° $\mathbb{X}$	
conjunction	-7540 Jan 05 j 12:21	21° $\mathbb{M}$ .22'31	-15°36'22	conjunction	-7532 Jan 14 j 11:23	0° $\mathbb{X}$ 07'45	-16°23'15
minimum elong	-7540 Jan 05 j 12:13	21° $\mathbb{M}$ .22'31	15°36'45	minimum elong	-7532 Jan 14 j 11:18	0° $\mathbb{X}$ 07'44	16°23'39
max. Earth dist.	-7540 Jan 08 j 08:36	21° $\mathbb{M}$ .26'47	46.24686 AU	max. Earth dist.	-7532 Jan 16 j 22:17	0° $\mathbb{X}$ 11'20	47.47629 AU
retrograde	-7540 Apr 18 j 09:29	23° $\mathbb{M}$ .01'36		retrograde	-7532 Apr 27 j 01:46	1° $\mathbb{X}$ 43'57	
min. Earth dist.	-7540 Jul 08 j 09:05	22° $\mathbb{M}$ .00'49	44.41003 AU	min. Earth dist.	-7532 Jul 17 j 08:51	0° $\mathbb{X}$ 43'47	45.63167 AU
opposition	-7540 Jul 11 j 00:02	21° $\mathbb{M}$ .57'38	-16°21'52	opposition	-7532 Jul 19 j 15:53	0° $\mathbb{X}$ 41'03	-17°08'03
direct	-7540 Sep 29 j 10:18	20° $\mathbb{M}$ .55'27			-7532 Aug 26 j 09:24	30° $\mathbb{R}$ $\mathbb{M}$ .	
				direct	-7532 Oct 08 j 08:04	29° $\mathbb{M}$ .39'42	
conjunction	-7539 Jan 05 j 21:48	22° $\mathbb{M}$ .29'43	-15°43'29		-7532 Nov 19 j 14:51	0° $\mathbb{X}$	
minimum elong	-7539 Jan 05 j 21:40	22° $\mathbb{M}$ .29'43	15°43'51				
max. Earth dist.	-7539 Jan 08 j 15:43	22° $\mathbb{M}$ .33'50	46.41573 AU	conjunction	-7531 Jan 14 j 19:34	1° $\mathbb{X}$ 11'29	-16°27'28
retrograde	-7539 Apr 19 j 17:08	24° $\mathbb{M}$ .08'26		minimum elong	-7531 Jan 14 j 19:31	1° $\mathbb{X}$ 11'29	16°27'53
min. Earth dist.	-7539 Jul 09 j 18:21	23° $\mathbb{M}$ .07'47	44.57776 AU	max. Earth dist.	-7531 Jan 17 j 05:28	1° $\mathbb{X}$ 14'59	47.61496 AU
opposition	-7539 Jul 12 j 08:41	23° $\mathbb{M}$ .04'39	-16°28'56	retrograde	-7531 Apr 28 j 12:01	2° $\mathbb{X}$ 47'24	
direct	-7539 Sep 30 j 20:47	22° $\mathbb{M}$ .02'36		min. Earth dist.	-7531 Jul 18 j 17:46	1° $\mathbb{X}$ 47'17	45.76978 AU
				opposition	-7531 Jul 20 j 23:15	1° $\mathbb{X}$ 44'38	-17°12'08
conjunction	-7538 Jan 07 j 07:11	23° $\mathbb{M}$ .36'33	-15°50'14	direct	-7531 Oct 09 j 12:50	0° $\mathbb{X}$ 43'25	
minimum elong	-7538 Jan 07 j 07:04	23° $\mathbb{M}$ .36'32	15°50'37				
max. Earth dist.	-7538 Jan 10 j 00:38	23° $\mathbb{M}$ .40'36	46.57981 AU	conjunction	-7530 Jan 16 j 03:42	2° $\mathbb{X}$ 14'58	-16°31'20
retrograde	-7538 Apr 21 j 01:41	25° $\mathbb{M}$ .14'54		minimum elong	-7530 Jan 16 j 03:38	2° $\mathbb{X}$ 14'57	16°31'45
min. Earth dist.	-7538 Jul 11 j 05:07	24° $\mathbb{M}$ .14'16	44.74052 AU	max. Earth dist.	-7530 Jan 18 j 13:25	2° $\mathbb{X}$ 18'26	47.75101 AU
opposition	-7538 Jul 13 j 17:09	24° $\mathbb{M}$ .11'16	-16°35'38	retrograde	-7530 Apr 29 j 17:54	3° $\mathbb{X}$ 50'35	
direct	-7538 Oct 02 j 06:12	23° $\mathbb{M}$ .09'20		min. Earth dist.	-7530 Jul 20 j 01:24	2° $\mathbb{X}$ 50'35	45.90489 AU
				opposition	-7530 Jul 22 j 06:13	2° $\mathbb{X}$ 47'59	-17°15'50
conjunction	-7537 Jan 08 j 16:22	24° $\mathbb{M}$ .42'56	-15°56'38	direct	-7530 Oct 10 j 21:47	1° $\mathbb{X}$ 46'54	
minimum elong	-7537 Jan 08 j 16:16	24° $\mathbb{M}$ .42'56	15°57'01				
max. Earth dist.	-7537 Jan 11 j 08:12	24° $\mathbb{M}$ .46'53	46.73915 AU	conjunction	-7529 Jan 17 j 11:36	3° $\mathbb{X}$ 18'13	-16°34'50
retrograde	-7537 Apr 22 j 11:13	26° $\mathbb{M}$ .20'55		minimum elong	-7529 Jan 17 j 11:34	3° $\mathbb{X}$ 18'13	16°35'16
min. Earth dist.	-7537 Jul 12 j 13:33	25° $\mathbb{M}$ .20'24	44.89844 AU	max. Earth dist.	-7529 Jan 19 j 19:17	3° $\mathbb{X}$ 21'34	47.88402 AU
opposition	-7537 Jul 15 j 01:24	25° $\mathbb{M}$ .17'25	-16°41'59	retrograde	-7529 May 01 j 00:26	4° $\mathbb{X}$ 53'34	
direct	-7537 Oct 03 j 13:49	24° $\mathbb{M}$ .15'35		min. Earth dist.	-7529 Jul 21 j 09:09	3° $\mathbb{X}$ 53'42	46.03680 AU
				opposition	-7529 Jul 23 j 13:13	3° $\mathbb{X}$ 51'08	-17°19'12
conjunction	-7536 Jan 10 j 01:12	25° $\mathbb{M}$ .48'52	-16°02'41	direct	-7529 Oct 12 j 05:53	2° $\mathbb{X}$ 50'11	
minimum elong	-7536 Jan 10 j 01:05	25° $\mathbb{M}$ .48'51	16°03'05				
max. Earth dist.	-7536 Jan 12 j 15:27	25° $\mathbb{M}$ .52'41	46.89375 AU	conjunction	-7528 Jan 18 j 19:32	4° $\mathbb{X}$ 21'17	-16°38'01
retrograde	-7536 Apr 22 j 21:19	27° $\mathbb{M}$ .26'28		minimum elong	-7528 Jan 18 j 19:29	4° $\mathbb{X}$ 21'17	16°38'27
min. Earth dist.	-7536 Jul 12 j 23:35	26° $\mathbb{M}$ .25'58	45.05192 AU	max. Earth dist.	-7528 Jan 21 j 03:05	4° $\mathbb{X}$ 24'38	48.01342 AU
opposition	-7536 Jul 15 j 09:36	26° $\mathbb{M}$ .23'04	-16°47'57	retrograde	-7528 May 01 j 06:22	5° $\mathbb{X}$ 56'24	
direct	-7536 Oct 03 j 21:01	25° $\mathbb{M}$ .21'20		min. Earth dist.	-7528 Jul 21 j 18:10	4° $\mathbb{X}$ 56'35	46.16463 AU
				opposition	-7528 Jul 23 j 20:09	4° $\mathbb{X}$ 54'07	-17°22'13
conjunction	-7535 Jan 10 j 10:09	26° $\mathbb{M}$ .54'17	-16°08'23	direct	-7528 Oct 12 j 14:59	3° $\mathbb{X}$ 53'18	
minimum elong	-7535 Jan 10 j 10:03	26° $\mathbb{M}$ .54'17	16°08'46				
max. Earth dist.	-7535 Jan 13 j 00:12	26° $\mathbb{M}$ .58'05	47.04425 AU	conjunction	-7527 Jan 19 j 03:32	5° $\mathbb{X}$ 24'12	-16°40'53
retrograde	-7535 Apr 24 j 03:29	28° $\mathbb{M}$ .31'30		minimum elong	-7527 Jan 19 j 03:30	5° $\mathbb{X}$ 24'11	16°41'19
min. Earth dist.	-7535 Jul 14 j 08:20	27° $\mathbb{M}$ .31'04	45.20138 AU	max. Earth dist.	-7527 Jan 21 j 09:08	5° $\mathbb{X}$ 27'24	48.13857 AU
opposition	-7535 Jul 16 j 17:19	27° $\mathbb{M}$ .28'13	-16°53'33	retrograde	-7527 May 02 j 14:47	6° $\mathbb{X}$ 59'03	
direct	-7535 Oct 05 j 07:02	26° $\mathbb{M}$ .26'34		min. Earth dist.	-7527 Jul 23 j 01:11	5° $\mathbb{X}$ 59'22	46.28784 AU
				opposition	-7527 Jul 25 j 02:45	5° $\mathbb{X}$ 56'56	-17°24'55
conjunction	-7534 Jan 11 j 18:43	27° $\mathbb{M}$ .59'12	-16°13'42	direct	-7527 Oct 13 j 21:20	4° $\mathbb{X}$ 56'13	
minimum elong	-7534 Jan 11 j 18:38	27° $\mathbb{M}$ .59'12	16°14'07				
max. Earth dist.	-7534 Jan 14 j 06:46	28° $\mathbb{M}$ .02'53	47.19114 AU	conjunction	-7526 Jan 20 j 11:23	6° $\mathbb{X}$ 26'55	-16°43'27
retrograde	-7534 Apr 25 j 11:02	29° $\mathbb{M}$ .36'04		minimum elong	-7526 Jan 20 j 11:21	6° $\mathbb{X}$ 26'55	16°43'52
min. Earth dist.	-7534 Jul 15 j 16:27	28° $\mathbb{M}$ .35'43	45.34763 AU	max. Earth dist.	-7526 Jan 22 j 15:18	6° $\mathbb{X}$ 30'01	48.25875 AU
opposition	-7534 Jul 18 j 01:02	28° $\mathbb{M}$ .32'54	-16°58'46	retrograde	-7526 May 04 j 00:23	8° $\mathbb{X}$ 01'31	
direct	-7534 Oct 06 j 15:26	27° $\mathbb{M}$ .31'21		min. Earth dist.	-7526 Jul 24 j 10:15	7° $\mathbb{X}$ 01'51	46.40594 AU
				opposition	-7526 Jul 26 j 09:34	6° $\mathbb{X}$ 59'32	-17°27'20
conjunction	-7533 Jan 13 j 03:03	29° $\mathbb{M}$ .03'40	-16°18'40	direct	-7526 Oct 15 j 02:19	5° $\mathbb{X}$ 58'55	
minimum elong	-7533 Jan 13 j 02:59	29° $\mathbb{M}$ .03'40	16°19'04				
max. Earth dist.	-7533 Jan 15 j 15:12	29° $\mathbb{M}$ .07'20	47.33498 AU	conjunction	-7525 Jan 21 j 19:04	7° $\mathbb{X}$ 29'24	-16°45'43
	-7533 Feb 23 j 05:40	0° $\mathbb{X}$		minimum elong	-7525 Jan 21 j 19:03	7° $\mathbb{X}$ 29'24	16°46'10
retrograde	-7533 Apr 26 j 16:39	0° $\mathbb{X}$ 40'12		max. Earth dist.	-7525 Jan 23 j 22:16	7° $\mathbb{X}$ 32'27	48.37388 AU
	-7533 Jun 29 j 17:52	30° $\mathbb{R}$ $\mathbb{M}$ .		retrograde	-7525 May 05 j 07:39	9° $\mathbb{X}$ 03'44	
min. Earth dist.	-7533 Jul 17 j 01:42	29° $\mathbb{M}$ .39'54	45.49094 AU	min. Earth dist.	-7525 Jul 25 j 17:49	8° $\mathbb{X}$ 04'07	46.51877 AU
opposition	-7533 Jul 19 j 08:39	29° $\mathbb{M}$ .37'10	-17°03'36	opposition	-7525 Jul 27 j 16:07	8° $\mathbb{X}$ 01'51	-17°29'26
direct	-7533 Oct 08 j 01:33	28° $\mathbb{M}$ .35'43		direct	-7525 Oct 16 j 09:01	7° $\mathbb{X}$ 01'19	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 28

Attention, astronomical year style is used: The year -7524 in astronomical counting style is the year 7525 BCE in historical counting style.

conjunction	-7524 Jan 23 j 02:37	8°♂31'35	-16°47'42	retrograde	-7516 May 13 j 15:09	18°♂10'45	
minimum elong	-7524 Jan 23 j 02:36	8°♂31'35	16°48'08	min. Earth dist.	-7516 Aug 03 j 09:51	17°♂11'30	47.36184 AU
max. Earth dist.	-7524 Jan 25 j 03:20	8°♂34'29	48.48394 AU	opposition	-7516 Aug 04 j 21:31	17°♂09'46	-17°34'17
retrograde	-7524 May 05 j 14:56	10°♂05'39		direct	-7516 Oct 24 j 21:43	16°♂09'53	
min. Earth dist.	-7524 Jul 26 j 01:20	9°♂06'04	46.62682 AU				
opposition	-7524 Jul 27 j 22:29	9°♂03'52	-17°31'14	conjunction	-7515 Jan 31 j 18:30	17°♂38'31	-16°51'45
direct	-7524 Oct 16 j 15:47	8°♂03'24		minimum elong	-7515 Jan 31 j 18:32	17°♂38'31	16°52'13
				max. Earth dist.	-7515 Feb 02 j 09:38	17°♂40'48	49.30992 AU
conjunction	-7523 Jan 23 j 10:13	9°♂33'27	-16°49'22	retrograde	-7515 May 14 j 22:49	19°♂10'33	
minimum elong	-7523 Jan 23 j 10:13	9°♂33'27	16°49'51	min. Earth dist.	-7515 Aug 04 j 16:13	18°♂11'22	47.43665 AU
max. Earth dist.	-7523 Jan 25 j 10:34	9°♂36'19	48.58938 AU	opposition	-7515 Aug 06 j 02:59	18°♂09'41	-17°33'18
retrograde	-7523 May 06 j 17:36	11°♂07'15		direct	-7515 Oct 26 j 02:25	17°♂09'52	
min. Earth dist.	-7523 Jul 27 j 09:34	10°♂07'40	46.73039 AU				
opposition	-7523 Jul 29 j 04:47	10°♂05'33	-17°32'44	conjunction	-7514 Feb 02 j 01:14	18°♂38'23	-16°50'45
direct	-7523 Oct 18 j 02:00	9°♂05'09		minimum elong	-7514 Feb 02 j 01:18	18°♂38'23	16°51'14
				max. Earth dist.	-7514 Feb 03 j 13:44	18°♂40'30	49.38228 AU
conjunction	-7522 Jan 24 j 17:32	10°♂34'58	-16°50'45	retrograde	-7514 May 16 j 06:28	20°♂10'13	
minimum elong	-7522 Jan 24 j 17:32	10°♂34'58	16°51'13	min. Earth dist.	-7514 Aug 05 j 23:15	19°♂11'03	47.50621 AU
max. Earth dist.	-7522 Jan 26 j 16:06	10°♂37'43	48.69082 AU	opposition	-7514 Aug 07 j 08:28	19°♂09'27	-17°32'04
retrograde	-7522 May 07 j 23:59	12°♂08'30		direct	-7514 Oct 27 j 07:02	18°♂09'41	
min. Earth dist.	-7522 Jul 28 j 15:43	11°♂09'00	46.83020 AU				
opposition	-7522 Jul 30 j 10:47	11°♂06'54	-17°33'55	conjunction	-7513 Feb 03 j 08:06	19°♂38'04	-16°49'30
direct	-7522 Oct 19 j 09:17	10°♂06'34		minimum elong	-7513 Feb 03 j 08:09	19°♂38'04	16°49'59
				max. Earth dist.	-7513 Feb 04 j 19:53	19°♂40'08	49.44929 AU
conjunction	-7521 Jan 26 j 00:42	11°♂36'10	-16°51'49	retrograde	-7513 May 17 j 09:27	21°♂09'43	
minimum elong	-7521 Jan 26 j 00:41	11°♂36'10	16°52'18	min. Earth dist.	-7513 Aug 07 j 06:36	20°♂10'32	47.57025 AU
max. Earth dist.	-7521 Jan 27 j 22:14	11°♂38'51	48.78870 AU	opposition	-7513 Aug 08 j 13:51	20°♂09'01	-17°30'35
retrograde	-7521 May 09 j 09:24	13°♂09'27		direct	-7513 Oct 28 j 15:26	19°♂09'18	
min. Earth dist.	-7521 Jul 29 j 23:42	12°♂09'57	46.92677 AU				
opposition	-7521 Jul 31 j 16:52	12°♂07'57	-17°34'46	conjunction	-7512 Feb 04 j 14:45	20°♂37'32	-16°48'00
direct	-7521 Oct 20 j 13:05	11°♂07'40		minimum elong	-7512 Feb 04 j 14:49	20°♂37'32	16°48'30
				max. Earth dist.	-7512 Feb 06 j 00:17	20°♂39'28	49.51109 AU
conjunction	-7520 Jan 27 j 07:50	12°♂37'04	-16°52'34	retrograde	-7512 May 17 j 14:09	22°♂09'00	
minimum elong	-7520 Jan 27 j 07:52	12°♂37'04	16°53'01	opposition	-7512 Aug 08 j 19:05	21°♂08'22	-17°28'50
max. Earth dist.	-7520 Jan 29 j 04:58	12°♂39'43	48.88366 AU	min. Earth dist.	-7512 Aug 07 j 12:29	21°♂09'51	47.62916 AU
retrograde	-7520 May 09 j 15:29	14°♂10'07		direct	-7512 Oct 28 j 22:45	20°♂08'40	
min. Earth dist.	-7520 Jul 30 j 05:55	13°♂10'41	47.02025 AU				
opposition	-7520 Jul 31 j 22:45	13°♂08'42	-17°35'18	conjunction	-7511 Feb 04 j 21:25	21°♂36'46	-16°46'14
direct	-7520 Oct 20 j 19:30	12°♂08'29		minimum elong	-7511 Feb 04 j 21:29	21°♂36'46	16°46'43
				max. Earth dist.	-7511 Feb 06 j 05:31	21°♂38'37	49.56785 AU
conjunction	-7519 Jan 27 j 14:51	13°♂37'43	-16°53'00	retrograde	-7511 May 18 j 21:35	23°♂08'03	
minimum elong	-7519 Jan 27 j 14:51	13°♂37'43	16°53'28	min. Earth dist.	-7511 Aug 08 j 19:54	22°♂08'51	47.68340 AU
max. Earth dist.	-7519 Jan 29 j 09:54	13°♂40'14	48.97563 AU	opposition	-7511 Aug 10 j 00:13	22°♂07'29	-17°26'49
retrograde	-7519 May 10 j 22:06	15°♂10'31		direct	-7511 Oct 30 j 03:19	21°♂07'48	
min. Earth dist.	-7519 Jul 31 j 12:43	14°♂11'08	47.11085 AU				
opposition	-7519 Aug 02 j 04:31	14°♂09'13	-17°35'30	conjunction	-7510 Feb 06 j 03:59	22°♂35'46	-16°44'13
direct	-7519 Oct 22 j 01:19	13°♂09'04		minimum elong	-7510 Feb 06 j 04:04	22°♂35'47	16°44'43
				max. Earth dist.	-7510 Feb 07 j 11:18	22°♂37'35	49.62042 AU
conjunction	-7518 Jan 28 j 21:53	14°♂38'09	-16°53'08	retrograde	-7510 May 20 j 03:34	24°♂06'53	
minimum elong	-7518 Jan 28 j 21:56	14°♂38'09	16°53'35	min. Earth dist.	-7510 Aug 10 j 01:21	23°♂07'42	47.73360 AU
max. Earth dist.	-7518 Jan 30 j 17:01	14°♂40'40	49.06464 AU	opposition	-7510 Aug 11 j 05:13	23°♂06'22	-17°24'32
retrograde	-7518 May 12 j 01:38	16°♂10'44		direct	-7510 Oct 31 j 08:01	22°♂06'43	
min. Earth dist.	-7518 Aug 01 j 20:06	15°♂11'24	47.19823 AU				
opposition	-7518 Aug 03 j 10:19	15°♂09'32	-17°35'24	conjunction	-7509 Feb 07 j 10:09	23°♂34'34	-16°41'55
direct	-7518 Oct 23 j 10:09	14°♂09'29		minimum elong	-7509 Feb 07 j 10:14	23°♂34'34	16°42'24
				max. Earth dist.	-7509 Feb 08 j 15:23	23°♂36'15	49.66926 AU
conjunction	-7517 Jan 30 j 04:36	15°♂38'24	-16°52'57	retrograde	-7509 May 21 j 10:11	25°♂05'30	
minimum elong	-7517 Jan 30 j 04:37	15°♂38'24	16°53'25	min. Earth dist.	-7509 Aug 11 j 07:39	24°♂06'19	47.78044 AU
max. Earth dist.	-7517 Jan 31 j 21:54	15°♂40'49	49.15046 AU	opposition	-7509 Aug 12 j 10:16	24°♂05'02	-17°21'57
retrograde	-7517 May 13 j 07:30	17°♂10'48		direct	-7509 Nov 01 j 12:37	23°♂05'25	
min. Earth dist.	-7517 Aug 03 j 01:55	16°♂11'34	47.28212 AU				
opposition	-7517 Aug 04 j 15:56	16°♂09'43	-17°34'59	conjunction	-7508 Feb 08 j 16:34	24°♂33'10	-16°39'20
direct	-7517 Oct 24 j 16:37	15°♂09'45		minimum elong	-7508 Feb 08 j 16:39	24°♂33'10	16°39'50
				max. Earth dist.	-7508 Feb 09 j 21:48	24°♂34'51	49.71492 AU
conjunction	-7516 Jan 31 j 11:29	16°♂38'31	-16°52'29	retrograde	-7508 May 21 j 12:40	26°♂03'57	
minimum elong	-7516 Jan 31 j 11:32	16°♂38'31	16°52'58	opposition	-7508 Aug 12 j 15:07	25°♂03'33	-17°19'04
max. Earth dist.	-7516 Feb 02 j 03:34	16°♂40'51	49.23238 AU	min. Earth dist.	-7508 Aug 11 j 13:56	25°♂04'46	47.82412 AU

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 29

Attention, astronomical year style is used: The year -7508 in astronomical counting style is the year 7509 BCE in historical counting style.

direct	-7508 Nov 01 j 20:50	24° $\mathring{\text{A}}$ 03'58		opposition	-7500 Aug 20 j 04:44	2° $\mathring{\text{B}}$ 49'23	-16°46'13
				min. Earth dist.	-7500 Aug 19 j 13:16	2° $\mathring{\text{B}}$ 50'08	48.04106 AU
conjunction	-7507 Feb 08 j 22:52	25° $\mathring{\text{A}}$ 31'38	-16°36'27	direct	-7500 Nov 09 j 13:57	1° $\mathring{\text{B}}$ 50'02	
minimum elong	-7507 Feb 08 j 22:59	25° $\mathring{\text{A}}$ 31'38	16°36'57				
max. Earth dist.	-7507 Feb 10 j 02:13	25° $\mathring{\text{A}}$ 33'12	49.75774 AU	conjunction	-7499 Feb 17 j 00:22	3° $\mathring{\text{B}}$ 17'14	-16°04'03
retrograde	-7507 May 22 j 17:22	27° $\mathring{\text{A}}$ 02'16		minimum elong	-7499 Feb 17 j 00:30	3° $\mathring{\text{B}}$ 17'14	16°04'34
opposition	-7507 Aug 13 j 19:57	26° $\mathring{\text{A}}$ 01'57	-17°15'54	max. Earth dist.	-7499 Feb 17 j 15:47	3° $\mathring{\text{B}}$ 18'07	49.96303 AU
min. Earth dist.	-7507 Aug 12 j 18:50	26° $\mathring{\text{A}}$ 03'10	47.86496 AU	retrograde	-7499 May 30 j 16:52	4° $\mathring{\text{B}}$ 46'59	
direct	-7507 Nov 03 j 02:55	25° $\mathring{\text{A}}$ 02'24		opposition	-7499 Aug 21 j 09:19	3° $\mathring{\text{B}}$ 47'09	-16°41'00
				min. Earth dist.	-7499 Aug 20 j 19:37	3° $\mathring{\text{B}}$ 47'48	48.04690 AU
conjunction	-7506 Feb 10 j 05:00	26° $\mathring{\text{A}}$ 30'00	-16°33'18	direct	-7499 Nov 10 j 17:26	2° $\mathring{\text{B}}$ 47'47	
minimum elong	-7506 Feb 10 j 05:05	26° $\mathring{\text{A}}$ 30'00	16°33'49				
max. Earth dist.	-7506 Feb 11 j 07:24	26° $\mathring{\text{A}}$ 31'30	49.79758 AU	conjunction	-7498 Feb 18 j 06:23	4° $\mathring{\text{B}}$ 14'55	-15°58'55
retrograde	-7506 May 23 j 23:31	28° $\mathring{\text{A}}$ 00'31		minimum elong	-7498 Feb 18 j 06:31	4° $\mathring{\text{B}}$ 14'56	15°59'25
min. Earth dist.	-7506 Aug 14 j 01:43	27° $\mathring{\text{A}}$ 01'24	47.90278 AU	max. Earth dist.	-7498 Feb 18 j 21:31	4° $\mathring{\text{B}}$ 15'47	49.96756 AU
opposition	-7506 Aug 15 j 00:50	27° $\mathring{\text{A}}$ 00'17	-17°12'27	retrograde	-7498 May 31 j 19:59	5° $\mathring{\text{B}}$ 44'33	
direct	-7506 Nov 04 j 08:06	26° $\mathring{\text{A}}$ 00'48		opposition	-7498 Aug 22 j 13:45	4° $\mathring{\text{B}}$ 44'44	-16°35'31
				min. Earth dist.	-7498 Aug 22 j 01:27	4° $\mathring{\text{B}}$ 45'19	48.04857 AU
conjunction	-7505 Feb 11 j 11:14	27° $\mathring{\text{A}}$ 28'19	-16°29'52	direct	-7498 Nov 12 j 00:16	3° $\mathring{\text{B}}$ 45'20	
minimum elong	-7505 Feb 11 j 11:22	27° $\mathring{\text{A}}$ 28'19	16°30'23				
max. Earth dist.	-7505 Feb 12 j 13:05	27° $\mathring{\text{A}}$ 29'47	49.83451 AU	conjunction	-7497 Feb 19 j 12:17	5° $\mathring{\text{B}}$ 12'26	-15°53'31
retrograde	-7505 May 25 j 07:05	28° $\mathring{\text{A}}$ 58'44		minimum elong	-7497 Feb 19 j 12:25	5° $\mathring{\text{B}}$ 12'26	15°54'02
min. Earth dist.	-7505 Aug 15 j 06:47	27° $\mathring{\text{A}}$ 59'40	47.93731 AU	max. Earth dist.	-7497 Feb 20 j 01:23	5° $\mathring{\text{B}}$ 13'11	49.96842 AU
opposition	-7505 Aug 16 j 05:28	27° $\mathring{\text{A}}$ 58'35	-17°08'42	retrograde	-7497 Jun 01 j 23:58	6° $\mathring{\text{B}}$ 41'57	
direct	-7505 Nov 05 j 11:23	26° $\mathring{\text{A}}$ 59'09		opposition	-7497 Aug 23 j 18:02	5° $\mathring{\text{B}}$ 42'09	-16°29'46
				min. Earth dist.	-7497 Aug 23 j 06:06	5° $\mathring{\text{B}}$ 42'43	48.04685 AU
conjunction	-7504 Feb 12 j 17:21	28° $\mathring{\text{A}}$ 26'37	-16°26'10	direct	-7497 Nov 13 j 06:09	4° $\mathring{\text{B}}$ 42'45	
minimum elong	-7504 Feb 12 j 17:26	28° $\mathring{\text{A}}$ 26'37	16°26'41				
max. Earth dist.	-7504 Feb 13 j 16:51	28° $\mathring{\text{A}}$ 27'58	49.86785 AU	conjunction	-7496 Feb 20 j 18:15	6° $\mathring{\text{B}}$ 09'48	-15°47'51
retrograde	-7504 May 25 j 15:42	29° $\mathring{\text{A}}$ 56'55		minimum elong	-7496 Feb 20 j 18:24	6° $\mathring{\text{B}}$ 09'48	15°48'21
opposition	-7504 Aug 16 j 10:14	28° $\mathring{\text{A}}$ 56'52	-17°04'42	max. Earth dist.	-7496 Feb 21 j 06:22	6° $\mathring{\text{B}}$ 10'29	49.96596 AU
min. Earth dist.	-7504 Aug 15 j 13:06	28° $\mathring{\text{A}}$ 57'53	47.96801 AU	retrograde	-7496 Jun 02 j 04:21	7° $\mathring{\text{B}}$ 39'15	
direct	-7504 Nov 05 j 13:34	27° $\mathring{\text{A}}$ 57'28		opposition	-7496 Aug 23 j 22:32	6° $\mathring{\text{B}}$ 39'28	-16°23'45
				min. Earth dist.	-7496 Aug 23 j 12:34	6° $\mathring{\text{B}}$ 39'56	48.04197 AU
conjunction	-7503 Feb 12 j 23:44	29° $\mathring{\text{A}}$ 24'54	-16°22'13	direct	-7496 Nov 13 j 12:06	5° $\mathring{\text{B}}$ 40'03	
minimum elong	-7503 Feb 12 j 23:51	29° $\mathring{\text{A}}$ 24'55	16°22'44				
max. Earth dist.	-7503 Feb 13 j 22:45	29° $\mathring{\text{A}}$ 26'13	49.89694 AU	conjunction	-7495 Feb 21 j 00:16	7° $\mathring{\text{B}}$ 07'05	-15°41'55
	-7503 Mar 11 j 05:46	0° $\mathring{\text{B}}$		minimum elong	-7495 Feb 21 j 00:24	7° $\mathring{\text{B}}$ 07'05	15°42'26
retrograde	-7503 May 26 j 19:13	0° $\mathring{\text{B}}$ 55'07		max. Earth dist.	-7495 Feb 21 j 11:44	7° $\mathring{\text{B}}$ 07'44	49.96063 AU
	-7503 Aug 13 j 08:46	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		retrograde	-7495 Jun 03 j 10:12	8° $\mathring{\text{B}}$ 36'28	
opposition	-7503 Aug 17 j 14:51	29° $\mathring{\text{A}}$ 55'08	-17°00'26	opposition	-7495 Aug 25 j 02:45	7° $\mathring{\text{B}}$ 36'43	-16°17'27
min. Earth dist.	-7503 Aug 16 j 19:34	29° $\mathring{\text{A}}$ 56'03	47.99401 AU	min. Earth dist.	-7495 Aug 24 j 17:01	7° $\mathring{\text{B}}$ 37'11	48.03415 AU
direct	-7503 Nov 06 j 20:25	28° $\mathring{\text{A}}$ 55'46		direct	-7495 Nov 14 j 16:19	6° $\mathring{\text{B}}$ 37'18	
	-7502 Jan 28 j 03:41	0° $\mathring{\text{B}}$					
conjunction	-7502 Feb 14 j 05:56	0° $\mathring{\text{B}}$ 23'09	-16°18'02	conjunction	-7494 Feb 22 j 06:06	8° $\mathring{\text{B}}$ 04'20	-15°35'44
minimum elong	-7502 Feb 14 j 06:03	0° $\mathring{\text{B}}$ 23'10	16°18'32	minimum elong	-7494 Feb 22 j 06:16	8° $\mathring{\text{B}}$ 04'21	15°36'14
max. Earth dist.	-7502 Feb 15 j 02:34	0° $\mathring{\text{B}}$ 24'20	49.92125 AU	max. Earth dist.	-7494 Feb 22 j 15:28	8° $\mathring{\text{B}}$ 04'52	49.95242 AU
retrograde	-7502 May 27 j 22:06	1° $\mathring{\text{B}}$ 53'15		retrograde	-7494 Jun 04 j 18:31	9° $\mathring{\text{B}}$ 33'40	
opposition	-7502 Aug 18 j 19:32	0° $\mathring{\text{B}}$ 53'20	-16°55'56	opposition	-7494 Aug 26 j 07:11	8° $\mathring{\text{B}}$ 33'58	-16°10'53
min. Earth dist.	-7502 Aug 18 j 00:57	0° $\mathring{\text{B}}$ 54'13	48.01500 AU	min. Earth dist.	-7494 Aug 25 j 22:45	8° $\mathring{\text{B}}$ 34'22	48.02351 AU
	-7502 Oct 15 j 14:52	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		direct	-7494 Nov 15 j 17:55	7° $\mathring{\text{B}}$ 34'34	
direct	-7502 Nov 08 j 04:00	29° $\mathring{\text{A}}$ 54'00		conjunction	-7493 Feb 23 j 11:58	9° $\mathring{\text{B}}$ 01'38	-15°29'16
	-7502 Dec 01 j 12:39	0° $\mathring{\text{B}}$		minimum elong	-7493 Feb 23 j 12:07	9° $\mathring{\text{B}}$ 01'38	15°29'47
				max. Earth dist.	-7493 Feb 23 j 21:15	9° $\mathring{\text{B}}$ 02'09	49.94125 AU
conjunction	-7501 Feb 15 j 12:01	1° $\mathring{\text{B}}$ 21'19	-16°13'36	retrograde	-7493 Jun 05 j 23:00	10° $\mathring{\text{B}}$ 30'56	
minimum elong	-7501 Feb 15 j 12:09	1° $\mathring{\text{B}}$ 21'20	16°14'07	opposition	-7493 Aug 27 j 11:34	9° $\mathring{\text{B}}$ 31'17	-16°04'02
max. Earth dist.	-7501 Feb 16 j 07:08	1° $\mathring{\text{B}}$ 22'25	49.94026 AU	min. Earth dist.	-7493 Aug 27 j 04:31	9° $\mathring{\text{B}}$ 31'37	48.00952 AU
retrograde	-7501 May 29 j 03:33	2° $\mathring{\text{B}}$ 51'19		direct	-7493 Nov 16 j 23:28	8° $\mathring{\text{B}}$ 31'55	
min. Earth dist.	-7501 Aug 19 j 08:11	1° $\mathring{\text{B}}$ 52'13	48.03062 AU				
opposition	-7501 Aug 20 j 00:19	1° $\mathring{\text{B}}$ 51'26	-16°51'12	conjunction	-7492 Feb 24 j 17:56	9° $\mathring{\text{B}}$ 59'00	-15°22'33
direct	-7501 Nov 09 j 09:52	0° $\mathring{\text{B}}$ 52'06		minimum elong	-7492 Feb 24 j 18:07	9° $\mathring{\text{B}}$ 59'01	15°23'04
				max. Earth dist.	-7492 Feb 25 j 01:10	9° $\mathring{\text{B}}$ 59'25	49.92663 AU
conjunction	-7500 Feb 16 j 18:16	2° $\mathring{\text{B}}$ 19'22	-16°08'57	retrograde	-7492 Jun 06 j 02:33	11° $\mathring{\text{B}}$ 28'17	
minimum elong	-7500 Feb 16 j 18:24	2° $\mathring{\text{B}}$ 19'22	16°09'26	opposition	-7492 Aug 27 j 15:46	10° $\mathring{\text{B}}$ 28'42	-15°56'56
max. Earth dist.	-7500 Feb 17 j 12:10	2° $\mathring{\text{B}}$ 20'23	49.95414 AU	min. Earth dist.	-7492 Aug 27 j 09:24	10° $\mathring{\text{B}}$ 29'01	47.99179 AU
retrograde	-7500 May 29 j 09:44	3° $\mathring{\text{B}}$ 49'14		direct	-7492 Nov 17 j 05:38	9° $\mathring{\text{B}}$ 29'21	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 30

Attention, astronomical year style is used: The year -7491 in astronomical counting style is the year 7492 BCE in historical counting style.

conjunction	-7491 Feb 25 j 00:03	10° $\overline{3}$ 56'30	-15°15'36	max. Earth dist.	-7484 Mar 03 j 12:44	17° $\overline{3}$ 39'38	49.63677 AU
minimum elong	-7491 Feb 25 j 00:12	10° $\overline{3}$ 56'30	15°16'06	morning rise	-7484 Mar 08 j 12:58	17° $\overline{3}$ 46'27	
max. Earth dist.	-7491 Feb 25 j 05:49	10° $\overline{3}$ 56'49	49.90774 AU	retrograde	-7484 Jun 13 j 23:25	19° $\overline{3}$ 09'08	
retrograde	-7491 Jun 07 j 07:27	12° $\overline{3}$ 25'47		opposition	-7484 Sep 04 j 02:42	18° $\overline{3}$ 09'37	-14°51'36
opposition	-7491 Aug 28 j 20:15	11° $\overline{3}$ 26'15	-15°49'36	min. Earth dist.	-7484 Sep 04 j 07:58	18° $\overline{3}$ 09'22	47.67387 AU
min. Earth dist.	-7491 Aug 28 j 16:16	11° $\overline{3}$ 26'26	47.96947 AU	direct	-7484 Nov 24 j 19:01	17° $\overline{3}$ 10'00	
direct	-7491 Nov 18 j 11:28	10° $\overline{3}$ 26'55		evening set	-7483 Feb 27 j 18:35	18° $\overline{3}$ 30'22	
conjunction	-7490 Feb 26 j 06:05	11° $\overline{3}$ 54'06	-15°08'25	conjunction	-7483 Mar 05 j 00:35	18° $\overline{3}$ 37'30	-14°11'37
minimum elong	-7490 Feb 26 j 06:16	11° $\overline{3}$ 54'07	15°08'55	minimum elong	-7483 Mar 05 j 00:47	18° $\overline{3}$ 37'31	14°12'06
max. Earth dist.	-7490 Feb 26 j 10:41	11° $\overline{3}$ 54'22	49.88408 AU	max. Earth dist.	-7483 Mar 04 j 18:49	18° $\overline{3}$ 37'10	49.58179 AU
retrograde	-7490 Jun 08 j 14:15	13° $\overline{3}$ 23'23		morning rise	-7483 Mar 10 j 07:05	18° $\overline{3}$ 44'40	
opposition	-7490 Aug 30 j 00:36	12° $\overline{3}$ 23'53	-15°42'02	retrograde	-7483 Jun 15 j 04:56	20° $\overline{3}$ 06'41	
min. Earth dist.	-7490 Aug 29 j 21:18	12° $\overline{3}$ 24'03	47.94196 AU	opposition	-7483 Sep 05 j 07:07	19° $\overline{3}$ 07'09	-14°42'18
direct	-7490 Nov 19 j 14:45	11° $\overline{3}$ 24'33		min. Earth dist.	-7483 Sep 05 j 13:28	19° $\overline{3}$ 06'50	47.61602 AU
conjunction	-7489 Feb 27 j 12:07	12° $\overline{3}$ 51'47	-15°01'00	direct	-7483 Nov 25 j 23:45	18° $\overline{3}$ 07'29	
minimum elong	-7489 Feb 27 j 12:18	12° $\overline{3}$ 51'47	15°01'30	evening set	-7482 Feb 28 j 13:23	19° $\overline{3}$ 27'17	
max. Earth dist.	-7489 Feb 27 j 14:01	12° $\overline{3}$ 51'53	49.85506 AU	conjunction	-7482 Mar 06 j 06:25	19° $\overline{3}$ 35'04	-14°02'30
retrograde	-7489 Jun 09 j 21:48	14° $\overline{3}$ 21'03		minimum elong	-7482 Mar 06 j 06:36	19° $\overline{3}$ 35'04	14°03'00
opposition	-7489 Aug 31 j 05:01	13° $\overline{3}$ 21'35	-15°34'13	max. Earth dist.	-7482 Mar 05 j 22:46	19° $\overline{3}$ 34'38	49.52391 AU
min. Earth dist.	-7489 Aug 31 j 03:46	13° $\overline{3}$ 21'38	47.90911 AU	morning rise	-7482 Mar 11 j 23:59	19° $\overline{3}$ 42'51	
direct	-7489 Nov 20 j 17:25	12° $\overline{3}$ 22'13		retrograde	-7482 Jun 16 j 08:52	21° $\overline{3}$ 04'16	
evening set	-7488 Feb 26 j 20:54	13° $\overline{3}$ 46'55		opposition	-7482 Sep 06 j 11:28	20° $\overline{3}$ 04'44	-14°32'43
conjunction	-7488 Feb 28 j 18:22	13° $\overline{3}$ 49'29	-14°53'22	min. Earth dist.	-7482 Sep 06 j 18:14	20° $\overline{3}$ 04'24	47.55530 AU
minimum elong	-7488 Feb 28 j 18:33	13° $\overline{3}$ 49'30	14°53'53	direct	-7482 Nov 27 j 05:26	19° $\overline{3}$ 05'02	
max. Earth dist.	-7488 Feb 28 j 19:31	13° $\overline{3}$ 49'33	49.82066 AU	evening set	-7481 Mar 01 j 08:58	20° $\overline{3}$ 24'20	
morning rise	-7488 Mar 01 j 16:15	13° $\overline{3}$ 52'05		conjunction	-7481 Mar 07 j 12:31	20° $\overline{3}$ 32'42	-13°53'07
retrograde	-7488 Jun 10 j 01:57	15° $\overline{3}$ 18'43		minimum elong	-7481 Mar 07 j 12:44	20° $\overline{3}$ 32'43	13°53'37
opposition	-7488 Aug 31 j 09:26	14° $\overline{3}$ 19'16	-15°26'12	max. Earth dist.	-7481 Mar 07 j 03:49	20° $\overline{3}$ 32'12	49.46295 AU
min. Earth dist.	-7488 Aug 31 j 09:50	14° $\overline{3}$ 19'15	47.87077 AU	morning rise	-7481 Mar 13 j 16:40	20° $\overline{3}$ 41'06	
direct	-7488 Nov 20 j 23:48	13° $\overline{3}$ 19'52		retrograde	-7481 Jun 17 j 11:44	22° $\overline{3}$ 01'57	
evening set	-7487 Feb 26 j 03:46	14° $\overline{3}$ 43'17		opposition	-7481 Sep 07 j 15:53	21° $\overline{3}$ 02'25	-14°22'52
conjunction	-7487 Mar 01 j 00:26	14° $\overline{3}$ 47'11	-14°45'30	min. Earth dist.	-7481 Sep 08 j 00:40	21° $\overline{3}$ 01'59	47.49135 AU
minimum elong	-7487 Mar 01 j 00:37	14° $\overline{3}$ 47'11	14°46'00	direct	-7481 Nov 28 j 12:47	20° $\overline{3}$ 02'41	
max. Earth dist.	-7487 Feb 28 j 23:06	14° $\overline{3}$ 47'06	49.78111 AU	evening set	-7480 Mar 01 j 05:19	21° $\overline{3}$ 21'32	
morning rise	-7487 Mar 03 j 21:32	14° $\overline{3}$ 51'06		conjunction	-7480 Mar 07 j 18:45	21° $\overline{3}$ 30'28	-13°43'29
retrograde	-7487 Jun 11 j 05:51	16° $\overline{3}$ 16'23		minimum elong	-7480 Mar 07 j 18:56	21° $\overline{3}$ 30'28	13°43'59
opposition	-7487 Sep 01 j 13:41	15° $\overline{3}$ 16'55	-15°17'56	max. Earth dist.	-7480 Mar 07 j 09:10	21° $\overline{3}$ 29'55	49.39870 AU
min. Earth dist.	-7487 Sep 01 j 14:50	15° $\overline{3}$ 16'52	47.82756 AU	morning rise	-7480 Mar 14 j 08:42	21° $\overline{3}$ 39'26	
direct	-7487 Nov 22 j 06:14	14° $\overline{3}$ 17'28		retrograde	-7480 Jun 17 j 17:24	22° $\overline{3}$ 59'46	
evening set	-7486 Feb 26 j 16:22	15° $\overline{3}$ 39'56		opposition	-7480 Sep 07 j 20:15	22° $\overline{3}$ 00'14	-14°12'46
conjunction	-7486 Mar 02 j 06:31	15° $\overline{3}$ 44'49	-14°37'24	min. Earth dist.	-7480 Sep 08 j 05:29	21° $\overline{3}$ 59'47	47.42366 AU
minimum elong	-7486 Mar 02 j 06:42	15° $\overline{3}$ 44'50	14°37'55	direct	-7480 Nov 28 j 17:41	21° $\overline{3}$ 00'28	
max. Earth dist.	-7486 Mar 02 j 03:55	15° $\overline{3}$ 44'40	49.73683 AU	evening set	-7479 Mar 02 j 02:08	22° $\overline{3}$ 18'54	
morning rise	-7486 Mar 05 j 21:07	15° $\overline{3}$ 49'44		conjunction	-7479 Mar 09 j 00:59	22° $\overline{3}$ 28'21	-13°33'37
retrograde	-7486 Jun 12 j 09:21	17° $\overline{3}$ 14'01		minimum elong	-7479 Mar 09 j 01:12	22° $\overline{3}$ 28'22	13°34'06
opposition	-7486 Sep 02 j 18:07	16° $\overline{3}$ 14'32	-15°09'25	max. Earth dist.	-7479 Mar 08 j 12:58	22° $\overline{3}$ 27'40	49.33029 AU
min. Earth dist.	-7486 Sep 02 j 21:32	16° $\overline{3}$ 14'22	47.77997 AU	morning rise	-7479 Mar 16 j 00:29	22° $\overline{3}$ 37'52	
direct	-7486 Nov 23 j 12:43	15° $\overline{3}$ 15'02		retrograde	-7479 Jun 19 j 01:19	23° $\overline{3}$ 57'44	
evening set	-7485 Feb 27 j 07:32	16° $\overline{3}$ 36'41		opposition	-7479 Sep 09 j 00:45	22° $\overline{3}$ 58'12	-14°02'25
conjunction	-7485 Mar 03 j 12:26	16° $\overline{3}$ 42'24	-14°29'04	min. Earth dist.	-7479 Sep 09 j 12:01	22° $\overline{3}$ 57'40	47.35164 AU
minimum elong	-7485 Mar 03 j 12:38	16° $\overline{3}$ 42'25	14°29'33	direct	-7479 Nov 29 j 19:55	21° $\overline{3}$ 58'23	
max. Earth dist.	-7485 Mar 03 j 09:03	16° $\overline{3}$ 42'13	49.68861 AU	evening set	-7478 Mar 02 j 23:28	23° $\overline{3}$ 16'25	
morning rise	-7485 Mar 07 j 17:48	16° $\overline{3}$ 48'09		conjunction	-7478 Mar 10 j 07:25	23° $\overline{3}$ 26'24	-13°23'30
retrograde	-7485 Jun 13 j 14:31	18° $\overline{3}$ 11'35		minimum elong	-7478 Mar 10 j 07:37	23° $\overline{3}$ 26'25	13°23'58
opposition	-7485 Sep 03 j 22:23	17° $\overline{3}$ 12'05	-15°00'38	max. Earth dist.	-7478 Mar 09 j 18:44	23° $\overline{3}$ 25'41	49.25723 AU
min. Earth dist.	-7485 Sep 04 j 02:04	17° $\overline{3}$ 11'55	47.72856 AU	morning rise	-7478 Mar 17 j 15:52	23° $\overline{3}$ 36'26	
direct	-7485 Nov 24 j 17:49	16° $\overline{3}$ 12'32		retrograde	-7478 Jun 20 j 07:07	24° $\overline{3}$ 55'51	
evening set	-7484 Feb 28 j 00:25	17° $\overline{3}$ 33'30		opposition	-7478 Sep 10 j 05:20	23° $\overline{3}$ 56'18	-13°51'49
conjunction	-7484 Mar 03 j 18:25	17° $\overline{3}$ 39'57	-14°20'28	min. Earth dist.	-7478 Sep 10 j 18:03	23° $\overline{3}$ 55'41	47.27457 AU
minimum elong	-7484 Mar 03 j 18:36	17° $\overline{3}$ 39'58	14°20'58	direct	-7478 Dec 01 j 01:14	22° $\overline{3}$ 56'26	
				evening set	-7477 Mar 03 j 21:10	24° $\overline{3}$ 14'05	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 31

Attention, astronomical year style is used: The year -7477 in astronomical counting style is the year 7478 BCE in historical counting style.

conjunction	-7477 Mar 11 j 13:40	24° $\text{S}$ 24'35	-13°13'09	retrograde	-7471 Jun 26 j 20:28	1° $\approx$ 45'12	
minimum elong	-7477 Mar 11 j 13:53	24° $\text{S}$ 24'36	13°13'38	opposition	-7471 Sep 16 j 14:08	0° $\approx$ 45'18	-12°30'40
max. Earth dist.	-7477 Mar 10 j 22:28	24° $\text{S}$ 23'43	49.17909 AU	min. Earth dist.	-7471 Sep 17 j 12:04	0° $\approx$ 44'15	46.60578 AU
morning rise	-7477 Mar 19 j 06:50	24° $\text{S}$ 35'07			-7471 Oct 30 j 16:53	30° $\text{R}$ $\text{S}$	
retrograde	-7477 Jun 21 j 12:37	25° $\text{S}$ 54'05		direct	-7471 Dec 07 j 16:16	29° $\text{S}$ 44'49	
opposition	-7477 Sep 11 j 09:56	24° $\text{S}$ 54'30	-13°40'59		-7470 Jan 14 j 09:06	0° $\approx$	
min. Earth dist.	-7477 Sep 11 j 23:39	24° $\text{S}$ 53'51	47.19230 AU	evening set	-7470 Mar 08 j 13:25	1° $\approx$ 00'25	
direct	-7477 Dec 02 j 07:01	23° $\text{S}$ 54'33		max. Earth dist.	-7470 Mar 17 j 11:09	1° $\approx$ 12'38	48.50718 AU
evening set	-7476 Mar 03 j 19:15	25° $\text{S}$ 11'52					
conjunction	-7476 Mar 11 j 20:14	25° $\text{S}$ 22'51	-13°02'34	conjunction	-7470 Mar 18 j 11:20	1° $\approx$ 14'02	-11°53'54
minimum elong	-7476 Mar 11 j 20:26	25° $\text{S}$ 22'51	13°03'02	minimum elong	-7470 Mar 18 j 11:34	1° $\approx$ 14'03	11°54'21
max. Earth dist.	-7476 Mar 11 j 03:28	25° $\text{S}$ 21'53	49.09555 AU	morning rise	-7470 Mar 28 j 09:44	1° $\approx$ 27'41	
morning rise	-7476 Mar 19 j 21:46	25° $\text{S}$ 33'51		retrograde	-7470 Jun 28 j 01:48	2° $\approx$ 44'11	
retrograde	-7476 Jun 21 j 16:31	26° $\text{S}$ 52'24		opposition	-7470 Sep 17 j 18:58	1° $\approx$ 44'15	-12°17'59
opposition	-7476 Sep 11 j 14:35	25° $\text{S}$ 52'47	-13°29'55	min. Earth dist.	-7470 Sep 18 j 16:54	1° $\approx$ 43'11	46.49694 AU
min. Earth dist.	-7476 Sep 12 j 06:46	25° $\text{S}$ 52'00	47.10472 AU	direct	-7470 Dec 08 j 22:05	0° $\approx$ 43'41	
direct	-7476 Dec 02 j 13:45	24° $\text{S}$ 52'46		evening set	-7469 Mar 09 j 13:08	1° $\approx$ 59'04	
evening set	-7475 Mar 04 j 17:49	26° $\text{S}$ 09'44		conjunction	-7469 Mar 19 j 17:53	2° $\approx$ 13'06	-11°41'31
max. Earth dist.	-7475 Mar 12 j 08:49	26° $\text{S}$ 20'08	49.00706 AU	minimum elong	-7469 Mar 19 j 18:05	2° $\approx$ 13'07	11°41'59
conjunction	-7475 Mar 13 j 02:47	26° $\text{S}$ 21'10	-12°51'45	max. Earth dist.	-7469 Mar 18 j 15:38	2° $\approx$ 11'35	48.39852 AU
minimum elong	-7475 Mar 13 j 03:00	26° $\text{S}$ 21'11	12°52'15	morning rise	-7469 Mar 29 j 23:14	2° $\approx$ 27'10	
morning rise	-7475 Mar 21 j 12:18	26° $\text{S}$ 32'39		retrograde	-7469 Jun 29 j 10:28	3° $\approx$ 43'25	
retrograde	-7475 Jun 22 j 21:16	27° $\text{S}$ 50'48		opposition	-7469 Sep 18 j 23:59	2° $\approx$ 43'27	-12°05'01
opposition	-7475 Sep 12 j 19:12	26° $\text{S}$ 51'08	-13°18'35	min. Earth dist.	-7469 Sep 19 j 23:40	2° $\approx$ 42'18	46.38533 AU
min. Earth dist.	-7475 Sep 13 j 11:51	26° $\text{S}$ 50'20	47.01231 AU	direct	-7469 Dec 10 j 00:00	1° $\approx$ 42'49	
direct	-7475 Dec 03 j 19:45	25° $\text{S}$ 51'01		evening set	-7468 Mar 09 j 13:18	2° $\approx$ 58'01	
evening set	-7474 Mar 05 j 16:19	27° $\text{S}$ 07'39		max. Earth dist.	-7468 Mar 18 j 22:21	3° $\approx$ 10'56	48.28684 AU
conjunction	-7474 Mar 14 j 09:04	27° $\text{S}$ 19'33	-12°40'42	conjunction	-7468 Mar 20 j 00:50	3° $\approx$ 12'27	-11°28'53
minimum elong	-7474 Mar 14 j 09:16	27° $\text{S}$ 19'33	12°41'10	minimum elong	-7468 Mar 20 j 01:04	3° $\approx$ 12'28	11°29'20
max. Earth dist.	-7474 Mar 13 j 12:41	27° $\text{S}$ 18'23	48.91393 AU	morning rise	-7468 Mar 30 j 12:42	3° $\approx$ 26'56	
morning rise	-7474 Mar 23 j 02:29	27° $\text{S}$ 31'29		retrograde	-7468 Jun 29 j 17:25	4° $\approx$ 42'56	
retrograde	-7474 Jun 24 j 05:39	28° $\text{S}$ 49'16		opposition	-7468 Sep 19 j 04:56	3° $\approx$ 42'56	-11°51'47
opposition	-7474 Sep 13 j 23:55	27° $\text{S}$ 49'32	-13°07'01	min. Earth dist.	-7468 Sep 20 j 05:40	3° $\approx$ 41'44	46.27029 AU
min. Earth dist.	-7474 Sep 14 j 18:22	27° $\text{S}$ 48'38	46.91572 AU	direct	-7468 Dec 10 j 05:11	2° $\approx$ 42'14	
direct	-7474 Dec 04 j 22:11	26° $\text{S}$ 49'19		evening set	-7467 Mar 10 j 13:53	3° $\approx$ 57'16	
evening set	-7473 Mar 06 j 15:11	28° $\text{S}$ 05'39		max. Earth dist.	-7467 Mar 20 j 03:01	4° $\approx$ 10'27	48.17154 AU
conjunction	-7473 Mar 15 j 15:38	28° $\text{S}$ 18'00	-12°29'24	conjunction	-7467 Mar 21 j 07:45	4° $\approx$ 12'07	-11°15'58
minimum elong	-7473 Mar 15 j 15:51	28° $\text{S}$ 18'00	12°29'53	minimum elong	-7467 Mar 21 j 07:57	4° $\approx$ 12'08	11°16'25
max. Earth dist.	-7473 Mar 14 j 19:04	28° $\text{S}$ 16'49	48.81690 AU	morning rise	-7467 Apr 01 j 02:10	4° $\approx$ 27'00	
morning rise	-7473 Mar 24 j 16:32	28° $\text{S}$ 30'23		retrograde	-7467 Jul 01 j 00:50	5° $\approx$ 42'46	
retrograde	-7473 Jun 25 j 11:56	29° $\text{S}$ 47'47		opposition	-7467 Sep 20 j 10:05	4° $\approx$ 42'44	-11°38'16
opposition	-7473 Sep 15 j 04:32	28° $\text{S}$ 48'00	-12°55'10	min. Earth dist.	-7467 Sep 21 j 11:46	4° $\approx$ 41'29	46.15139 AU
min. Earth dist.	-7473 Sep 16 j 00:09	28° $\text{S}$ 47'03	46.81540 AU	direct	-7467 Dec 11 j 10:30	3° $\approx$ 41'57	
direct	-7473 Dec 06 j 02:57	27° $\text{S}$ 47'41		evening set	-7466 Mar 11 j 14:26	4° $\approx$ 56'51	
evening set	-7472 Mar 06 j 14:26	29° $\text{S}$ 03'45		max. Earth dist.	-7466 Mar 21 j 08:49	5° $\approx$ 10'21	48.05182 AU
conjunction	-7472 Mar 15 j 22:07	29° $\text{S}$ 16'32	-12°17'50	conjunction	-7466 Mar 22 j 14:45	5° $\approx$ 12'05	-11°02'49
minimum elong	-7472 Mar 15 j 22:21	29° $\text{S}$ 16'32	12°18'17	minimum elong	-7466 Mar 22 j 14:59	5° $\approx$ 12'06	11°03'16
max. Earth dist.	-7472 Mar 14 j 23:30	29° $\text{S}$ 15'14	48.71654 AU	morning rise	-7466 Apr 02 j 15:27	5° $\approx$ 27'21	
morning rise	-7472 Mar 25 j 06:27	29° $\text{S}$ 29'20		retrograde	-7466 Jul 02 j 05:46	6° $\approx$ 42'55	
retrograde	-7472 Jun 25 j 17:51	0° $\approx$		opposition	-7466 Sep 21 j 15:28	5° $\approx$ 42'50	-11°24'30
opposition	-7472 Sep 15 j 09:16	29° $\text{S}$ 46'34	-12°43'03	min. Earth dist.	-7466 Sep 22 j 19:26	5° $\approx$ 41'28	46.02779 AU
min. Earth dist.	-7472 Sep 16 j 05:24	29° $\text{S}$ 45'36	46.71202 AU	direct	-7466 Dec 12 j 17:52	4° $\approx$ 41'57	
direct	-7471 Mar 06 j 02:41	0° $\approx$		evening set	-7465 Mar 12 j 15:33	5° $\approx$ 56'42	
evening set	-7471 Mar 07 j 13:44	0° $\approx$ 01'59		conjunction	-7465 Mar 23 j 22:00	6° $\approx$ 12'19	-10°49'25
max. Earth dist.	-7471 Mar 16 j 05:07	0° $\approx$ 13'50	48.61312 AU	minimum elong	-7465 Mar 23 j 22:12	6° $\approx$ 12'20	10°49'50
conjunction	-7471 Mar 17 j 04:43	0° $\approx$ 15'11	-12°06'00	max. Earth dist.	-7465 Mar 22 j 14:40	6° $\approx$ 10'30	47.92736 AU
minimum elong	-7471 Mar 17 j 04:56	0° $\approx$ 15'12	12°06'28	morning rise	-7465 Apr 04 j 04:45	6° $\approx$ 27'58	
morning rise	-7471 Mar 26 j 20:13	0° $\approx$ 28'26		retrograde	-7465 Jul 03 j 10:12	7° $\approx$ 43'20	
				opposition	-7465 Sep 22 j 20:41	6° $\approx$ 43'11	-11°10'29
				min. Earth dist.	-7465 Sep 24 j 01:11	6° $\approx$ 41'47	45.89919 AU
				direct	-7465 Dec 14 j 01:22	5° $\approx$ 42'11	
				evening set	-7464 Mar 12 j 16:55	6° $\approx$ 56'48	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 32

Attention, astronomical year style is used: The year -7464 in astronomical counting style is the year 7465 BCE in historical counting style.

max. Earth dist.	-7464 Mar 22 j 19:22	7° $\approx$ 10'49	47.79775 AU	min. Earth dist.	-7458 Oct 01 j 01:58	13° $\approx$ 49'04	44.88242 AU
				direct	-7458 Dec 20 j 18:56	12° $\approx$ 48'53	
conjunction	-7464 Mar 24 j 05:22	7° $\approx$ 12'47	-10°35'45	evening set	-7457 Mar 19 j 08:24	14° $\approx$ 02'54	
minimum elong	-7464 Mar 24 j 05:35	7° $\approx$ 12'48	10°36'12	max. Earth dist.	-7457 Mar 30 j 16:09	14° $\approx$ 18'52	46.77961 AU
morning rise	-7464 Apr 04 j 18:15	7° $\approx$ 28'49					
retrograde	-7464 Jul 03 j 18:19	8° $\approx$ 43'59		conjunction	-7457 Apr 01 j 10:52	14° $\approx$ 21'24	-8°52'46
opposition	-7464 Sep 23 j 02:14	7° $\approx$ 43'44	-10°56'11	minimum elong	-7457 Apr 01 j 11:05	14° $\approx$ 21'25	8°53'10
min. Earth dist.	-7464 Sep 24 j 08:57	7° $\approx$ 42'14	45.76556 AU	morning rise	-7457 Apr 14 j 13:26	14° $\approx$ 39'55	
direct	-7464 Dec 14 j 05:39	6° $\approx$ 42'36			-7457 Apr 29 j 10:02	15° $\approx$	
evening set	-7463 Mar 13 j 18:26	7° $\approx$ 57'04		retrograde	-7457 Jul 11 j 20:57	15° $\approx$ 54'05	
max. Earth dist.	-7463 Mar 24 j 02:22	8° $\approx$ 11'26	47.66321 AU		-7457 Sep 24 j 23:22	15° $\approx$ R	
				opposition	-7457 Sep 30 j 18:57	14° $\approx$ 53'05	-9°08'19
conjunction	-7463 Mar 25 j 12:51	8° $\approx$ 13'27	-10°21'51	min. Earth dist.	-7457 Oct 02 j 08:53	14° $\approx$ 51'13	44.72528 AU
minimum elong	-7463 Mar 25 j 13:03	8° $\approx$ 13'27	10°22'16	direct	-7457 Dec 21 j 23:33	13° $\approx$ 50'56	
morning rise	-7463 Apr 06 j 07:22	8° $\approx$ 29'51			-7456 Mar 15 j 21:35	15° $\approx$	
retrograde	-7463 Jul 05 j 02:13	9° $\approx$ 44'49		evening set	-7456 Mar 19 j 11:41	15° $\approx$ 04'59	
opposition	-7463 Sep 24 j 07:45	8° $\approx$ 44'28	-10°41'38	max. Earth dist.	-7456 Mar 30 j 23:39	15° $\approx$ 21'14	46.62236 AU
min. Earth dist.	-7463 Sep 25 j 15:37	8° $\approx$ 42'54	45.62710 AU				
direct	-7463 Dec 15 j 10:21	7° $\approx$ 43'11		conjunction	-7456 Apr 01 j 19:11	15° $\approx$ 23'49	-8°36'56
evening set	-7462 Mar 14 j 20:16	8° $\approx$ 57'32		minimum elong	-7456 Apr 01 j 19:23	15° $\approx$ 23'50	8°37'20
max. Earth dist.	-7462 Mar 25 j 07:23	9° $\approx$ 12'07	47.52424 AU	morning rise	-7456 Apr 15 j 02:27	15° $\approx$ 42'40	
				retrograde	-7456 Jul 12 j 04:22	16° $\approx$ 56'48	
conjunction	-7462 Mar 26 j 20:15	9° $\approx$ 14'16	-10°07'41	opposition	-7456 Oct 01 j 01:24	15° $\approx$ 55'43	-8°51'43
minimum elong	-7462 Mar 26 j 20:27	9° $\approx$ 14'17	10°08'07	min. Earth dist.	-7456 Oct 02 j 17:15	15° $\approx$ 53'45	44.56493 AU
morning rise	-7462 Apr 07 j 20:35	9° $\approx$ 31'02			-7456 Nov 27 j 23:06	15° $\approx$ R	
retrograde	-7462 Jul 06 j 10:45	10° $\approx$ 45'48		direct	-7456 Dec 22 j 07:16	14° $\approx$ 53'26	
opposition	-7462 Sep 25 j 13:18	9° $\approx$ 45'20	-10°26'49		-7455 Jan 15 j 14:22	15° $\approx$	
min. Earth dist.	-7462 Sep 26 j 22:05	9° $\approx$ 43'44	45.48460 AU	evening set	-7455 Mar 20 j 15:21	16° $\approx$ 07'32	
direct	-7462 Dec 16 j 14:50	8° $\approx$ 43'54		max. Earth dist.	-7455 Apr 01 j 06:47	16° $\approx$ 24'03	46.46173 AU
evening set	-7461 Mar 15 j 22:03	9° $\approx$ 58'08					
max. Earth dist.	-7461 Mar 26 j 13:55	10° $\approx$ 13'01	47.38127 AU	conjunction	-7455 Apr 03 j 03:30	16° $\approx$ 26'43	-8°20'49
				minimum elong	-7455 Apr 03 j 03:42	16° $\approx$ 26'44	8°21'13
conjunction	-7461 Mar 28 j 03:46	10° $\approx$ 15'14	-9°53'15	morning rise	-7455 Apr 16 j 15:25	16° $\approx$ 45'54	
minimum elong	-7461 Mar 28 j 03:59	10° $\approx$ 15'15	9°53'40	retrograde	-7455 Jul 13 j 10:32	18° $\approx$ 00'00	
morning rise	-7461 Apr 09 j 09:35	10° $\approx$ 32'22		opposition	-7455 Oct 02 j 07:50	16° $\approx$ 58'51	-8°34'50
retrograde	-7461 Jul 07 j 14:56	11° $\approx$ 46'58		min. Earth dist.	-7455 Oct 03 j 24:00	16° $\approx$ 56'51	44.40086 AU
opposition	-7461 Sep 26 j 19:04	10° $\approx$ 46'23	-10°11'42	direct	-7455 Dec 23 j 15:32	15° $\approx$ 56'26	
min. Earth dist.	-7461 Sep 28 j 05:46	10° $\approx$ 44'41	45.33836 AU	evening set	-7454 Mar 21 j 19:20	17° $\approx$ 10'35	
direct	-7461 Dec 17 j 23:48	9° $\approx$ 44'47		max. Earth dist.	-7454 Apr 02 j 12:59	17° $\approx$ 27'17	46.29690 AU
evening set	-7460 Mar 16 j 00:21	10° $\approx$ 58'56					
max. Earth dist.	-7460 Mar 26 j 20:42	11° $\approx$ 14'07	47.23500 AU	conjunction	-7454 Apr 04 j 12:02	17° $\approx$ 30'06	-8°04'26
				minimum elong	-7454 Apr 04 j 12:13	17° $\approx$ 30'06	8°04'49
conjunction	-7460 Mar 28 j 11:27	11° $\approx$ 16'24	-9°38'33	morning rise	-7454 Apr 18 j 04:32	17° $\approx$ 49'37	
minimum elong	-7460 Mar 28 j 11:39	11° $\approx$ 16'24	9°38'58	retrograde	-7454 Jul 14 j 18:41	19° $\approx$ 03'43	
morning rise	-7460 Apr 09 j 22:37	11° $\approx$ 33'52		opposition	-7454 Oct 03 j 14:34	18° $\approx$ 02'28	-8°17'40
retrograde	-7460 Jul 07 j 19:35	12° $\approx$ 48'19		min. Earth dist.	-7454 Oct 05 j 09:02	18° $\approx$ 00'21	44.23243 AU
opposition	-7460 Sep 27 j 00:44	11° $\approx$ 47'37	-9°56'18	direct	-7454 Dec 24 j 21:34	16° $\approx$ 59'55	
min. Earth dist.	-7460 Sep 28 j 11:36	11° $\approx$ 45'54	45.18902 AU	evening set	-7453 Mar 22 j 23:31	18° $\approx$ 14'07	
direct	-7460 Dec 18 j 08:09	10° $\approx$ 45'52		max. Earth dist.	-7453 Apr 03 j 21:14	18° $\approx$ 31'06	46.12746 AU
evening set	-7459 Mar 17 j 02:51	11° $\approx$ 59'57					
max. Earth dist.	-7459 Mar 28 j 02:27	12° $\approx$ 15'22	47.08573 AU	conjunction	-7453 Apr 05 j 20:48	18° $\approx$ 33'58	-7°47'46
				minimum elong	-7453 Apr 05 j 21:00	18° $\approx$ 33'58	7°48'09
conjunction	-7459 Mar 29 j 19:11	12° $\approx$ 17'46	-9°23'35	morning rise	-7453 Apr 19 j 17:33	18° $\approx$ 53'48	
minimum elong	-7459 Mar 29 j 19:23	12° $\approx$ 17'46	9°23'58	retrograde	-7453 Jul 16 j 04:01	20° $\approx$ 07'55	
morning rise	-7459 Apr 11 j 11:41	12° $\approx$ 35'34		opposition	-7453 Oct 04 j 21:29	19° $\approx$ 06'33	-8°00'12
retrograde	-7459 Jul 09 j 03:44	13° $\approx$ 49'55		min. Earth dist.	-7453 Oct 06 j 16:57	19° $\approx$ 04'22	44.05902 AU
opposition	-7459 Sep 28 j 06:47	12° $\approx$ 49'07	-9°40'36	direct	-7453 Dec 26 j 03:19	18° $\approx$ 03'49	
min. Earth dist.	-7459 Sep 29 j 19:21	12° $\approx$ 47'18	45.03703 AU	evening set	-7452 Mar 23 j 04:18	19° $\approx$ 18'06	
direct	-7459 Dec 19 j 12:40	11° $\approx$ 47'13		max. Earth dist.	-7452 Apr 04 j 03:22	19° $\approx$ 35'15	45.95301 AU
evening set	-7458 Mar 18 j 05:20	13° $\approx$ 01'15					
max. Earth dist.	-7458 Mar 29 j 10:13	13° $\approx$ 17'00	46.93392 AU	conjunction	-7452 Apr 06 j 05:43	19° $\approx$ 38'16	-7°30'51
				minimum elong	-7452 Apr 06 j 05:53	19° $\approx$ 38'17	7°31'12
conjunction	-7458 Mar 31 j 02:57	13° $\approx$ 19'24	-9°08'19	morning rise	-7452 Apr 20 j 06:49	19° $\approx$ 58'26	
minimum elong	-7458 Mar 31 j 03:09	13° $\approx$ 19'25	9°08'43	retrograde	-7452 Jul 16 j 15:07	21° $\approx$ 12'34	
morning rise	-7458 Apr 13 j 00:23	13° $\approx$ 37'34		opposition	-7452 Oct 05 j 04:27	20° $\approx$ 11'03	-7°42'27
retrograde	-7458 Jul 10 j 11:05	14° $\approx$ 51'49		min. Earth dist.	-7452 Oct 07 j 01:19	20° $\approx$ 08'48	43.88077 AU
opposition	-7458 Sep 29 j 12:53	13° $\approx$ 50'55	-9°24'37	direct	-7452 Dec 26 j 07:52	19° $\approx$ 08'09	



## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 33

Attention, astronomical year style is used: The year -7451 in astronomical counting style is the year 7452 BCE in historical counting style.

evening set	-7451 Mar 24 j 09:12	20° $\approx$ 22'30		opposition	-7445 Oct 13 j 10:16	27° $\approx$ 53'38	-5°29'42
max. Earth dist.	-7451 Apr 05 j 11:29	20° $\approx$ 39'54	45.77365 AU	min. Earth dist.	-7445 Oct 15 j 14:08	27° $\approx$ 50'58	42.53313 AU
				direct	-7444 Jan 03 j 18:09	26° $\approx$ 49'13	
conjunction	-7451 Apr 07 j 14:54	20° $\approx$ 43'00	-7°13'38	evening set	-7444 Mar 31 j 04:24	28° $\approx$ 04'39	
minimum elong	-7451 Apr 07 j 15:05	20° $\approx$ 43'00	7°14'01	max. Earth dist.	-7444 Apr 12 j 22:44	28° $\approx$ 23'31	44.42449 AU
morning rise	-7451 Apr 21 j 19:55	21° $\approx$ 03'28					
retrograde	-7451 Jul 17 j 22:31	22° $\approx$ 17'36		conjunction	-7444 Apr 15 j 10:39	28° $\approx$ 27'15	-5°05'08
opposition	-7451 Oct 06 j 11:45	21° $\approx$ 15'57	-7°24'25	minimum elong	-7444 Apr 15 j 10:48	28° $\approx$ 27'15	5°05'26
min. Earth dist.	-7451 Oct 08 j 10:31	21° $\approx$ 13'35	43.69779 AU	morning rise	-7444 Apr 30 j 15:42	28° $\approx$ 49'47	
direct	-7451 Dec 27 j 17:11	20° $\approx$ 12'51			-7444 Jul 05 j 23:41	0° $\approx$	
evening set	-7450 Mar 25 j 14:18	21° $\approx$ 27'18		retrograde	-7444 Jul 25 j 13:00	0° $\approx$ 04'33	
max. Earth dist.	-7450 Apr 06 j 19:13	21° $\approx$ 44'54	45.58998 AU		-7444 Aug 14 j 04:04	30° $\approx$	
				opposition	-7444 Oct 13 j 18:47	29° $\approx$ 01'40	-5°09'27
conjunction	-7450 Apr 08 j 23:54	21° $\approx$ 48'06	-6°56'10	min. Earth dist.	-7444 Oct 16 j 00:39	28° $\approx$ 58'54	42.33083 AU
minimum elong	-7450 Apr 09 j 00:05	21° $\approx$ 48'07	6°56'31	direct	-7443 Jan 04 j 04:15	27° $\approx$ 57'03	
morning rise	-7450 Apr 23 j 08:54	22° $\approx$ 08'53		evening set	-7443 Apr 01 j 12:07	29° $\approx$ 12'45	
retrograde	-7450 Jul 19 j 05:03	23° $\approx$ 23'02		max. Earth dist.	-7443 Apr 14 j 09:13	29° $\approx$ 31'52	44.22187 AU
opposition	-7450 Oct 07 j 19:01	22° $\approx$ 21'12	-7°06'05				
min. Earth dist.	-7450 Oct 09 j 18:09	22° $\approx$ 18'49	43.51076 AU	conjunction	-7443 Apr 16 j 21:18	29° $\approx$ 35'37	-4°45'35
direct	-7450 Dec 29 j 03:46	21° $\approx$ 17'53		minimum elong	-7443 Apr 16 j 21:25	29° $\approx$ 35'38	4°45'54
evening set	-7449 Mar 26 j 19:49	22° $\approx$ 32'27		morning rise	-7443 May 02 j 05:01	29° $\approx$ 58'26	
max. Earth dist.	-7449 Apr 08 j 02:34	22° $\approx$ 50'14	45.40234 AU		-7443 May 03 j 06:42	0° $\approx$	
				retrograde	-7443 Jul 26 j 21:35	1° $\approx$ 13'24	
conjunction	-7449 Apr 10 j 09:16	22° $\approx$ 53'34	-6°38'24	opposition	-7443 Oct 15 j 03:33	0° $\approx$ 10'22	-4°48'54
minimum elong	-7449 Apr 10 j 09:27	22° $\approx$ 53'35	6°38'45	min. Earth dist.	-7443 Oct 17 j 09:48	0° $\approx$ 07'33	42.12559 AU
morning rise	-7449 Apr 24 j 22:03	23° $\approx$ 14'39			-7443 Oct 23 j 12:35	30° $\approx$	
retrograde	-7449 Jul 20 j 12:43	24° $\approx$ 28'51		direct	-7442 Jan 05 j 13:57	29° $\approx$ 05'32	
opposition	-7449 Oct 09 j 02:26	23° $\approx$ 26'50	-6°47'26		-7442 Mar 18 j 14:59	0° $\approx$	
min. Earth dist.	-7449 Oct 11 j 03:43	23° $\approx$ 24'20	43.32023 AU	evening set	-7442 Apr 02 j 20:13	0° $\approx$ 21'30	
direct	-7449 Dec 30 j 11:45	22° $\approx$ 23'18		max. Earth dist.	-7442 Apr 15 j 17:27	0° $\approx$ 40'43	44.01591 AU
evening set	-7448 Mar 27 j 01:39	23° $\approx$ 37'59					
max. Earth dist.	-7448 Apr 08 j 11:59	23° $\approx$ 56'02	45.21151 AU	conjunction	-7442 Apr 18 j 07:56	0° $\approx$ 44'39	-4°25'45
				minimum elong	-7442 Apr 18 j 08:04	0° $\approx$ 44'40	4°26'02
conjunction	-7448 Apr 10 j 18:53	23° $\approx$ 59'24	-6°20'20	morning rise	-7442 May 03 j 18:22	1° $\approx$ 07'44	
minimum elong	-7448 Apr 10 j 19:03	23° $\approx$ 59'24	6°20'40	retrograde	-7442 Jul 28 j 10:02	2° $\approx$ 22'55	
morning rise	-7448 Apr 25 j 11:09	24° $\approx$ 20'47		opposition	-7442 Oct 16 j 12:35	1° $\approx$ 19'42	-4°28'02
retrograde	-7448 Jul 20 j 20:44	25° $\approx$ 35'03		min. Earth dist.	-7442 Oct 18 j 20:26	1° $\approx$ 16'48	41.91687 AU
opposition	-7448 Oct 09 j 10:07	24° $\approx$ 32'52	-6°28'28	direct	-7441 Jan 06 j 20:01	0° $\approx$ 14'39	
min. Earth dist.	-7448 Oct 11 j 11:41	24° $\approx$ 30'20	43.12673 AU	evening set	-7441 Apr 04 j 04:50	1° $\approx$ 30'55	
direct	-7448 Dec 30 j 20:09	23° $\approx$ 29'06		max. Earth dist.	-7441 Apr 17 j 04:05	1° $\approx$ 50'21	43.80602 AU
evening set	-7447 Mar 28 j 07:50	24° $\approx$ 43'55					
max. Earth dist.	-7447 Apr 09 j 19:28	25° $\approx$ 02'08	45.01798 AU	conjunction	-7441 Apr 19 j 19:12	1° $\approx$ 54'20	-4°05'36
				minimum elong	-7441 Apr 19 j 19:19	1° $\approx$ 54'21	4°05'53
conjunction	-7447 Apr 12 j 04:25	25° $\approx$ 05'37	-6°01'59	morning rise	-7441 May 05 j 07:51	2° $\approx$ 17'42	
minimum elong	-7447 Apr 12 j 04:34	25° $\approx$ 05'38	6°02'20	retrograde	-7441 Jul 29 j 21:13	3° $\approx$ 33'07	
morning rise	-7447 Apr 27 j 00:14	25° $\approx$ 27'19		opposition	-7441 Oct 17 j 21:52	2° $\approx$ 29'42	-4°06'50
retrograde	-7447 Jul 22 j 08:47	26° $\approx$ 41'39		min. Earth dist.	-7441 Oct 20 j 07:14	2° $\approx$ 26'42	41.70400 AU
opposition	-7447 Oct 10 j 17:58	25° $\approx$ 39'17	-6°09'12	direct	-7440 Jan 08 j 05:20	1° $\approx$ 24'24	
min. Earth dist.	-7447 Oct 12 j 20:33	25° $\approx$ 36'43	42.93093 AU	evening set	-7440 Apr 04 j 14:06	2° $\approx$ 40'59	
direct	-7446 Jan 01 j 01:10	24° $\approx$ 35'18		max. Earth dist.	-7440 Apr 17 j 13:40	3° $\approx$ 00'33	43.59203 AU
evening set	-7446 Mar 29 j 14:14	25° $\approx$ 50'18					
max. Earth dist.	-7446 Apr 11 j 05:08	26° $\approx$ 08'47	44.82220 AU	conjunction	-7440 Apr 20 j 06:38	3° $\approx$ 04'40	-3°45'10
				minimum elong	-7440 Apr 20 j 06:45	3° $\approx$ 04'40	3°45'27
conjunction	-7446 Apr 13 j 14:19	26° $\approx$ 12'18	-5°43'20	morning rise	-7440 May 05 j 21:38	3° $\approx$ 28'17	
minimum elong	-7446 Apr 13 j 14:28	26° $\approx$ 12'19	5°43'39	retrograde	-7440 Jul 30 j 09:40	4° $\approx$ 43'56	
morning rise	-7446 Apr 28 j 13:14	26° $\approx$ 34'16		opposition	-7440 Oct 18 j 07:25	3° $\approx$ 40'19	-3°45'20
retrograde	-7446 Jul 23 j 19:25	27° $\approx$ 48'44		min. Earth dist.	-7440 Oct 20 j 17:27	3° $\approx$ 37'17	41.48706 AU
opposition	-7446 Oct 12 j 02:03	26° $\approx$ 46'11	-5°49'36	direct	-7439 Jan 08 j 15:41	2° $\approx$ 34'45	
min. Earth dist.	-7446 Oct 14 j 05:54	26° $\approx$ 43'32	42.73303 AU	evening set	-7439 Apr 05 j 23:35	3° $\approx$ 51'41	
direct	-7445 Jan 02 j 09:06	25° $\approx$ 41'59		max. Earth dist.	-7439 Apr 18 j 23:36	4° $\approx$ 11'22	43.37377 AU
evening set	-7445 Mar 30 j 21:04	26° $\approx$ 57'11					
max. Earth dist.	-7445 Apr 12 j 13:56	27° $\approx$ 15'53	44.62452 AU	conjunction	-7439 Apr 21 j 18:17	4° $\approx$ 15'37	-3°24'27
				minimum elong	-7439 Apr 21 j 18:23	4° $\approx$ 15'38	3°24'43
conjunction	-7445 Apr 15 j 00:18	27° $\approx$ 19'29	-5°24'23	morning rise	-7439 May 07 j 11:10	4° $\approx$ 39'29	
minimum elong	-7445 Apr 15 j 00:26	27° $\approx$ 19'30	5°24'43	retrograde	-7439 Jul 31 j 20:25	5° $\approx$ 55'24	
morning rise	-7445 Apr 30 j 02:27	27° $\approx$ 41'45		opposition	-7439 Oct 19 j 17:19	4° $\approx$ 51'33	-3°23'31
retrograde	-7445 Jul 25 j 05:19	28° $\approx$ 56'20		min. Earth dist.	-7439 Oct 22 j 05:32	4° $\approx$ 48'23	41.26616 AU

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 34

Attention, astronomical year style is used: The year -7438 in astronomical counting style is the year 7439 BCE in historical counting style.

direct	-7438 Jan 10 j 02:46	3° $\mathbf{\text{H}}$ 45'43		retrograde	-7432 Aug 09 j 10:10	14° $\mathbf{\text{H}}$ 35'09	
evening set	-7438 Apr 07 j 09:31	5° $\mathbf{\text{H}}$ 03'00		opposition	-7432 Oct 27 j 21:55	13° $\mathbf{\text{H}}$ 29'36	-0°41'50
max. Earth dist.	-7438 Apr 20 j 10:58	5° $\mathbf{\text{H}}$ 22'52	43.15188 AU	min. Earth dist.	-7432 Oct 30 j 15:50	13° $\mathbf{\text{H}}$ 26'02	39.65470 AU
				direct	-7431 Jan 18 j 07:10	12° $\mathbf{\text{H}}$ 21'45	
conjunction	-7438 Apr 23 j 06:11	5° $\mathbf{\text{H}}$ 27'11	-3°03'26	evening set	-7431 Apr 15 j 20:59	13° $\mathbf{\text{H}}$ 42'26	
minimum elong	-7438 Apr 23 j 06:16	5° $\mathbf{\text{H}}$ 27'11	3°03'42	max. Earth dist.	-7431 Apr 28 j 23:40	14° $\mathbf{\text{H}}$ 03'15	41.53711 AU
morning rise	-7438 May 09 j 00:53	5° $\mathbf{\text{H}}$ 51'17					
retrograde	-7438 Aug 02 j 05:40	7° $\mathbf{\text{H}}$ 07'29		conjunction	-7431 May 02 j 00:58	14° $\mathbf{\text{H}}$ 08'10	-0°28'05
opposition	-7438 Oct 21 j 03:16	6° $\mathbf{\text{H}}$ 03'24	-3°01'23	minimum elong	-7431 May 02 j 00:59	14° $\mathbf{\text{H}}$ 08'10	0°28'17
min. Earth dist.	-7438 Oct 23 j 15:39	6° $\mathbf{\text{H}}$ 00'13	41.04185 AU	morning rise	-7431 May 18 j 02:11	14° $\mathbf{\text{H}}$ 33'45	
direct	-7437 Jan 11 j 14:31	4° $\mathbf{\text{H}}$ 57'16		retrograde	-7431 Aug 10 j 23:00	15° $\mathbf{\text{H}}$ 52'53	
evening set	-7437 Apr 08 j 19:57	6° $\mathbf{\text{H}}$ 14'56		opposition	-7431 Oct 29 j 10:17	14° $\mathbf{\text{H}}$ 47'07	-0°17'28
max. Earth dist.	-7437 Apr 21 j 20:48	6° $\mathbf{\text{H}}$ 34'53	42.92674 AU	min. Earth dist.	-7431 Nov 01 j 04:36	14° $\mathbf{\text{H}}$ 43'30	39.41846 AU
				direct	-7430 Jan 19 j 19:24	13° $\mathbf{\text{H}}$ 38'59	
conjunction	-7437 Apr 24 j 18:14	6° $\mathbf{\text{H}}$ 39'22	-2°42'07	evening set	-7430 Apr 17 j 11:25	15° $\mathbf{\text{H}}$ 00'18	
minimum elong	-7437 Apr 24 j 18:19	6° $\mathbf{\text{H}}$ 39'22	2°42'22	max. Earth dist.	-7430 Apr 30 j 12:04	15° $\mathbf{\text{H}}$ 21'08	41.29990 AU
morning rise	-7437 May 10 j 14:40	7° $\mathbf{\text{H}}$ 03'42					
retrograde	-7437 Aug 03 j 17:53	8° $\mathbf{\text{H}}$ 20'13		conjunction	-7430 May 03 j 15:18	15° $\mathbf{\text{H}}$ 26'12	-0°04'48
opposition	-7437 Oct 22 j 13:36	7° $\mathbf{\text{H}}$ 15'53	-2°38'56	minimum elong	-7430 May 03 j 15:18	15° $\mathbf{\text{H}}$ 26'12	0°04'59
min. Earth dist.	-7437 Oct 25 j 03:37	7° $\mathbf{\text{H}}$ 12'36	40.81475 AU	behind sun begin	-7430 May 03 j 08:58	15° $\mathbf{\text{H}}$ 25'48	
direct	-7436 Jan 12 j 23:11	6° $\mathbf{\text{H}}$ 09'28		behind sun end	-7430 May 03 j 21:39	15° $\mathbf{\text{H}}$ 26'36	
evening set	-7436 Apr 09 j 06:46	7° $\mathbf{\text{H}}$ 27'32		morning rise	-7430 May 19 j 16:40	15° $\mathbf{\text{H}}$ 51'58	
max. Earth dist.	-7436 Apr 22 j 09:19	7° $\mathbf{\text{H}}$ 47'42	42.69893 AU	asc. node	-7430 Jul 16 j 13:21	17° $\mathbf{\text{H}}$ 02'16	
				retrograde	-7430 Aug 12 j 16:12	17° $\mathbf{\text{H}}$ 11'40	
conjunction	-7436 Apr 25 j 06:42	7° $\mathbf{\text{H}}$ 52'12	-2°20'31	opposition	-7430 Oct 30 j 22:53	16° $\mathbf{\text{H}}$ 05'39	0°07'12
minimum elong	-7436 Apr 25 j 06:46	7° $\mathbf{\text{H}}$ 52'12	2°20'45	min. Earth dist.	-7430 Nov 02 j 18:12	16° $\mathbf{\text{H}}$ 01'59	39.17998 AU
morning rise	-7436 May 11 j 04:21	8° $\mathbf{\text{H}}$ 16'46		direct	-7429 Jan 21 j 04:49	14° $\mathbf{\text{H}}$ 57'14	
retrograde	-7436 Aug 04 j 06:24	9° $\mathbf{\text{H}}$ 33'37		evening set	-7429 Apr 19 j 02:22	16° $\mathbf{\text{H}}$ 19'13	
opposition	-7436 Oct 23 j 00:13	8° $\mathbf{\text{H}}$ 29'02	-2°16'09	max. Earth dist.	-7429 May 02 j 02:18	16° $\mathbf{\text{H}}$ 40'08	41.05985 AU
min. Earth dist.	-7436 Oct 25 j 15:03	8° $\mathbf{\text{H}}$ 25'42	40.58532 AU				
direct	-7435 Jan 13 j 08:45	7° $\mathbf{\text{H}}$ 22'19		conjunction	-7429 May 05 j 06:15	16° $\mathbf{\text{H}}$ 45'17	0°18'55
evening set	-7435 Apr 10 j 18:12	8° $\mathbf{\text{H}}$ 40'50		minimum elong	-7429 May 05 j 06:14	16° $\mathbf{\text{H}}$ 45'17	0°18'46
max. Earth dist.	-7435 Apr 23 j 20:20	9° $\mathbf{\text{H}}$ 01'05	42.46922 AU	morning rise	-7429 May 21 j 07:11	17° $\mathbf{\text{H}}$ 11'13	
				retrograde	-7429 Aug 14 j 08:33	18° $\mathbf{\text{H}}$ 31'30	
conjunction	-7435 Apr 26 j 19:14	9° $\mathbf{\text{H}}$ 05'43	-1°58'37	opposition	-7429 Nov 01 j 12:10	17° $\mathbf{\text{H}}$ 25'13	0°32'11
minimum elong	-7435 Apr 26 j 19:18	9° $\mathbf{\text{H}}$ 05'43	1°58'50	min. Earth dist.	-7429 Nov 04 j 09:14	17° $\mathbf{\text{H}}$ 21'26	38.93848 AU
morning rise	-7435 May 12 j 18:14	9° $\mathbf{\text{H}}$ 30'30		direct	-7428 Jan 22 j 16:54	16° $\mathbf{\text{H}}$ 16'29	
retrograde	-7435 Aug 05 j 21:00	10° $\mathbf{\text{H}}$ 47'45		evening set	-7428 Apr 19 j 18:11	17° $\mathbf{\text{H}}$ 39'10	
opposition	-7435 Oct 24 j 11:08	9° $\mathbf{\text{H}}$ 42'54	-1°53'03	max. Earth dist.	-7428 May 02 j 16:22	18° $\mathbf{\text{H}}$ 00'07	40.81675 AU
min. Earth dist.	-7435 Oct 27 j 02:09	9° $\mathbf{\text{H}}$ 39'33	40.35443 AU				
direct	-7434 Jan 14 j 17:44	8° $\mathbf{\text{H}}$ 35'54		conjunction	-7428 May 05 j 21:29	18° $\mathbf{\text{H}}$ 05'24	0°42'49
evening set	-7434 Apr 12 j 05:51	9° $\mathbf{\text{H}}$ 54'53		minimum elong	-7428 May 05 j 21:28	18° $\mathbf{\text{H}}$ 05'23	0°42'39
max. Earth dist.	-7434 Apr 25 j 08:29	10° $\mathbf{\text{H}}$ 15'18	42.23800 AU	morning rise	-7428 May 21 j 21:57	18° $\mathbf{\text{H}}$ 31'28	
				retrograde	-7428 Aug 15 j 00:09	19° $\mathbf{\text{H}}$ 52'22	
conjunction	-7434 Apr 28 j 08:04	10° $\mathbf{\text{H}}$ 20'00	-1°36'25	opposition	-7428 Nov 02 j 01:41	18° $\mathbf{\text{H}}$ 45'48	0°57'28
minimum elong	-7434 Apr 28 j 08:07	10° $\mathbf{\text{H}}$ 20'00	1°36'38	min. Earth dist.	-7428 Nov 04 j 22:55	18° $\mathbf{\text{H}}$ 41'59	38.69395 AU
morning rise	-7434 May 14 j 07:53	10° $\mathbf{\text{H}}$ 45'00		direct	-7427 Jan 23 j 07:38	17° $\mathbf{\text{H}}$ 36'43	
retrograde	-7434 Aug 07 j 08:59	12° $\mathbf{\text{H}}$ 02'39		evening set	-7427 Apr 21 j 10:37	19° $\mathbf{\text{H}}$ 00'07	
opposition	-7434 Oct 25 j 22:29	10° $\mathbf{\text{H}}$ 57'34	-1°29'38	max. Earth dist.	-7427 May 04 j 06:11	19° $\mathbf{\text{H}}$ 21'03	40.57043 AU
min. Earth dist.	-7434 Oct 28 j 14:58	10° $\mathbf{\text{H}}$ 54'07	40.12228 AU				
direct	-7433 Jan 16 j 06:44	9° $\mathbf{\text{H}}$ 50'17		conjunction	-7427 May 07 j 13:11	19° $\mathbf{\text{H}}$ 26'30	1°06'59
evening set	-7433 Apr 13 j 18:18	11° $\mathbf{\text{H}}$ 09'47		minimum elong	-7427 May 07 j 13:09	19° $\mathbf{\text{H}}$ 26'29	1°06'50
max. Earth dist.	-7433 Apr 26 j 21:35	11° $\mathbf{\text{H}}$ 30'22	42.00574 AU	morning rise	-7427 May 23 j 12:46	19° $\mathbf{\text{H}}$ 52'42	
				retrograde	-7427 Aug 16 j 14:43	21° $\mathbf{\text{H}}$ 14'14	
conjunction	-7433 Apr 29 j 21:20	11° $\mathbf{\text{H}}$ 35'07	-1°13'56	opposition	-7427 Nov 03 j 15:48	20° $\mathbf{\text{H}}$ 07'21	1°23'02
minimum elong	-7433 Apr 29 j 21:22	11° $\mathbf{\text{H}}$ 35'07	1°14'08	min. Earth dist.	-7427 Nov 06 j 14:59	20° $\mathbf{\text{H}}$ 03'24	38.44652 AU
morning rise	-7433 May 15 j 21:55	12° $\mathbf{\text{H}}$ 00'19		direct	-7426 Jan 24 j 22:48	18° $\mathbf{\text{H}}$ 57'55	
retrograde	-7433 Aug 08 j 20:42	13° $\mathbf{\text{H}}$ 18'25		evening set	-7426 Apr 23 j 03:30	20° $\mathbf{\text{H}}$ 22'04	
opposition	-7433 Oct 27 j 09:54	12° $\mathbf{\text{H}}$ 13'06	-1°05'54	max. Earth dist.	-7426 May 05 j 22:11	20° $\mathbf{\text{H}}$ 43'05	40.32136 AU
min. Earth dist.	-7433 Oct 30 j 02:10	12° $\mathbf{\text{H}}$ 09'38	39.88910 AU				
direct	-7432 Jan 17 j 20:35	11° $\mathbf{\text{H}}$ 05'32		conjunction	-7426 May 09 j 05:09	20° $\mathbf{\text{H}}$ 48'34	1°31'25
evening set	-7432 Apr 14 j 07:28	12° $\mathbf{\text{H}}$ 25'37		minimum elong	-7426 May 09 j 05:05	20° $\mathbf{\text{H}}$ 48'33	1°31'16
max. Earth dist.	-7432 Apr 27 j 09:27	12° $\mathbf{\text{H}}$ 46'15	41.77220 AU	morning rise	-7426 May 25 j 03:36	21° $\mathbf{\text{H}}$ 14'53	
				retrograde	-7426 Aug 18 j 04:17	22° $\mathbf{\text{H}}$ 37'05	
conjunction	-7432 Apr 30 j 11:00	12° $\mathbf{\text{H}}$ 51'09	-0°51'09	opposition	-7426 Nov 05 j 06:11	21° $\mathbf{\text{H}}$ 29'53	1°48'54
minimum elong	-7432 Apr 30 j 11:02	12° $\mathbf{\text{H}}$ 51'09	0°51'22	min. Earth dist.	-7426 Nov 08 j 05:36	21° $\mathbf{\text{H}}$ 25'53	38.19651 AU
morning rise	-7432 May 16 j 12:06	13° $\mathbf{\text{H}}$ 16'33		direct	-7425 Jan 26 j 14:45	20° $\mathbf{\text{H}}$ 20'04	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 35

Attention, astronomical year style is used: The year -7425 in astronomical counting style is the year 7426 BCE in historical counting style.

evening set	-7425 Apr 24 j 21:23	21° $\mathbf{\text{H}}$ 44'59		minimum elong	-7419 May 19 j 09:01	0° $\mathbf{\text{Y}}$ 52'35	4°28'50
max. Earth dist.	-7425 May 07 j 12:30	22° $\mathbf{\text{H}}$ 05'55	40.06987 AU	morning rise	-7419 Jun 03 j 14:45	1° $\mathbf{\text{Y}}$ 19'14	
				retrograde	-7419 Aug 28 j 09:46	2° $\mathbf{\text{Y}}$ 47'26	
conjunction	-7425 May 10 j 21:33	22° $\mathbf{\text{H}}$ 11'35	1°56'06	opposition	-7419 Nov 15 j 00:11	1° $\mathbf{\text{Y}}$ 37'52	4°57'06
minimum elong	-7425 May 10 j 21:29	22° $\mathbf{\text{H}}$ 11'35	1°55'59	min. Earth dist.	-7419 Nov 18 j 03:34	1° $\mathbf{\text{Y}}$ 33'30	36.42386 AU
morning rise	-7425 May 26 j 18:43	22° $\mathbf{\text{H}}$ 38'01		direct	-7418 Feb 05 j 03:57	0° $\mathbf{\text{Y}}$ 25'22	
retrograde	-7425 Aug 19 j 21:15	24° $\mathbf{\text{H}}$ 00'55		evening set	-7418 May 05 j 23:32	1° $\mathbf{\text{Y}}$ 57'14	
opposition	-7425 Nov 06 j 20:53	22° $\mathbf{\text{H}}$ 53'22	2°15'03	max. Earth dist.	-7418 May 17 j 16:23	2° $\mathbf{\text{Y}}$ 17'48	38.28944 AU
min. Earth dist.	-7425 Nov 09 j 21:35	22° $\mathbf{\text{H}}$ 49'18	37.94463 AU				
direct	-7424 Jan 28 j 03:33	21° $\mathbf{\text{H}}$ 43'09		conjunction	-7418 May 21 j 04:44	2° $\mathbf{\text{Y}}$ 24'03	4°55'00
evening set	-7424 Apr 25 j 15:50	23° $\mathbf{\text{H}}$ 08'54		minimum elong	-7418 May 21 j 04:33	2° $\mathbf{\text{Y}}$ 24'02	4°54'59
max. Earth dist.	-7424 May 08 j 05:32	23° $\mathbf{\text{H}}$ 29'53	39.81658 AU	morning rise	-7418 Jun 05 j 06:38	2° $\mathbf{\text{Y}}$ 50'39	
				retrograde	-7418 Aug 30 j 07:22	4° $\mathbf{\text{Y}}$ 19'57	
conjunction	-7424 May 11 j 14:31	23° $\mathbf{\text{H}}$ 35'36	2°21'02	opposition	-7418 Nov 16 j 18:36	3° $\mathbf{\text{Y}}$ 10'03	5°24'50
minimum elong	-7424 May 11 j 14:26	23° $\mathbf{\text{H}}$ 35'35	2°20'55	min. Earth dist.	-7418 Nov 19 j 22:36	3° $\mathbf{\text{Y}}$ 05'37	36.17014 AU
morning rise	-7424 May 27 j 09:47	24° $\mathbf{\text{H}}$ 02'06		direct	-7417 Feb 06 j 19:40	1° $\mathbf{\text{Y}}$ 57'10	
retrograde	-7424 Aug 20 j 13:29	25° $\mathbf{\text{H}}$ 25'45		evening set	-7417 May 08 j 00:05	3° $\mathbf{\text{Y}}$ 30'17	
opposition	-7424 Nov 07 j 12:17	24° $\mathbf{\text{H}}$ 17'51	2°41'28	max. Earth dist.	-7417 May 19 j 12:39	3° $\mathbf{\text{Y}}$ 50'43	38.03368 AU
min. Earth dist.	-7424 Nov 10 j 13:44	24° $\mathbf{\text{H}}$ 13'43	37.69137 AU				
direct	-7423 Jan 28 j 18:17	23° $\mathbf{\text{H}}$ 07'15		conjunction	-7417 May 23 j 01:13	3° $\mathbf{\text{Y}}$ 57'02	5°21'17
evening set	-7423 Apr 27 j 11:01	24° $\mathbf{\text{H}}$ 33'51		minimum elong	-7417 May 23 j 01:00	3° $\mathbf{\text{Y}}$ 57'01	5°21'15
max. Earth dist.	-7423 May 09 j 21:37	24° $\mathbf{\text{H}}$ 54'48	39.56232 AU	morning rise	-7417 Jun 06 j 22:40	4° $\mathbf{\text{Y}}$ 23'34	
				retrograde	-7417 Sep 01 j 04:51	5° $\mathbf{\text{Y}}$ 54'01	
conjunction	-7423 May 13 j 07:31	25° $\mathbf{\text{H}}$ 00'37	2°46'11	opposition	-7417 Nov 18 j 13:44	4° $\mathbf{\text{Y}}$ 43'46	5°52'45
minimum elong	-7423 May 13 j 07:25	25° $\mathbf{\text{H}}$ 00'37	2°46'06	min. Earth dist.	-7417 Nov 21 j 18:59	4° $\mathbf{\text{Y}}$ 39'14	35.91535 AU
morning rise	-7423 May 29 j 00:53	25° $\mathbf{\text{H}}$ 27'11		direct	-7416 Feb 08 j 13:45	3° $\mathbf{\text{Y}}$ 30'29	
retrograde	-7423 Aug 22 j 09:04	26° $\mathbf{\text{H}}$ 51'38		evening set	-7416 May 09 j 01:50	5° $\mathbf{\text{Y}}$ 04'54	
opposition	-7423 Nov 09 j 03:59	25° $\mathbf{\text{H}}$ 43'23	3°08'08	max. Earth dist.	-7416 May 20 j 08:53	5° $\mathbf{\text{Y}}$ 25'07	37.77684 AU
min. Earth dist.	-7423 Nov 12 j 05:17	25° $\mathbf{\text{H}}$ 39'14	37.43763 AU				
direct	-7422 Jan 30 j 08:57	24° $\mathbf{\text{H}}$ 32'22		conjunction	-7416 May 23 j 22:09	5° $\mathbf{\text{Y}}$ 31'32	5°47'41
evening set	-7422 Apr 29 j 06:56	25° $\mathbf{\text{H}}$ 59'55		minimum elong	-7416 May 23 j 21:56	5° $\mathbf{\text{Y}}$ 31'31	5°47'41
max. Earth dist.	-7422 May 11 j 14:44	26° $\mathbf{\text{H}}$ 20'50	39.30757 AU	morning rise	-7416 Jun 07 j 15:04	5° $\mathbf{\text{Y}}$ 57'58	
				retrograde	-7416 Sep 02 j 04:39	7° $\mathbf{\text{Y}}$ 29'37	
conjunction	-7422 May 15 j 01:13	26° $\mathbf{\text{H}}$ 26'44	3°11'34	opposition	-7416 Nov 19 j 09:29	6° $\mathbf{\text{Y}}$ 19'00	6°20'49
minimum elong	-7422 May 15 j 01:07	26° $\mathbf{\text{H}}$ 26'43	3°11'29	min. Earth dist.	-7416 Nov 22 j 14:29	6° $\mathbf{\text{Y}}$ 14'28	35.65953 AU
morning rise	-7422 May 30 j 16:05	26° $\mathbf{\text{H}}$ 53'21		direct	-7415 Feb 09 j 09:14	5° $\mathbf{\text{Y}}$ 05'19	
retrograde	-7422 Aug 24 j 03:29	28° $\mathbf{\text{H}}$ 18'39		evening set	-7415 May 11 j 04:22	6° $\mathbf{\text{Y}}$ 41'04	
opposition	-7422 Nov 10 j 20:13	27° $\mathbf{\text{H}}$ 10'03	3°35'03	max. Earth dist.	-7415 May 22 j 05:16	7° $\mathbf{\text{Y}}$ 01'01	37.51869 AU
min. Earth dist.	-7422 Nov 13 j 22:55	27° $\mathbf{\text{H}}$ 05'47	37.18385 AU				
direct	-7421 Feb 01 j 00:31	25° $\mathbf{\text{H}}$ 58'39		conjunction	-7415 May 25 j 19:37	7° $\mathbf{\text{Y}}$ 07'35	6°14'12
evening set	-7421 May 01 j 03:45	27° $\mathbf{\text{H}}$ 27'11		minimum elong	-7415 May 25 j 19:23	7° $\mathbf{\text{Y}}$ 07'34	6°14'12
max. Earth dist.	-7421 May 13 j 09:05	27° $\mathbf{\text{H}}$ 48'05	39.05301 AU	morning rise	-7415 Jun 09 j 07:21	7° $\mathbf{\text{Y}}$ 33'52	
				retrograde	-7415 Sep 04 j 02:26	9° $\mathbf{\text{Y}}$ 06'46	
conjunction	-7421 May 16 j 19:21	27° $\mathbf{\text{H}}$ 54'02	3°37'09	opposition	-7415 Nov 21 j 05:57	7° $\mathbf{\text{Y}}$ 55'46	6°49'01
minimum elong	-7421 May 16 j 19:13	27° $\mathbf{\text{H}}$ 54'01	3°37'05	min. Earth dist.	-7415 Nov 24 j 12:34	7° $\mathbf{\text{Y}}$ 51'07	35.40273 AU
morning rise	-7421 Jun 01 j 07:33	28° $\mathbf{\text{H}}$ 20'40		direct	-7414 Feb 11 j 05:03	6° $\mathbf{\text{Y}}$ 41'39	
retrograde	-7421 Aug 25 j 20:51	29° $\mathbf{\text{H}}$ 46'52		evening set	-7414 May 13 j 08:03	8° $\mathbf{\text{Y}}$ 18'47	
opposition	-7421 Nov 12 j 12:56	28° $\mathbf{\text{H}}$ 37'56	4°02'12	max. Earth dist.	-7414 May 24 j 03:47	8° $\mathbf{\text{Y}}$ 38'32	37.25973 AU
min. Earth dist.	-7421 Nov 15 j 15:01	28° $\mathbf{\text{H}}$ 33'41	36.93033 AU				
direct	-7420 Feb 02 j 18:52	27° $\mathbf{\text{H}}$ 26'10		conjunction	-7414 May 27 j 17:45	8° $\mathbf{\text{Y}}$ 45'08	6°40'49
evening set	-7420 May 02 j 01:28	28° $\mathbf{\text{H}}$ 55'45		minimum elong	-7414 May 27 j 17:30	8° $\mathbf{\text{Y}}$ 45'07	6°40'50
max. Earth dist.	-7420 May 14 j 02:15	29° $\mathbf{\text{H}}$ 16'31	38.79856 AU	morning rise	-7414 Jun 10 j 23:55	9° $\mathbf{\text{Y}}$ 11'15	
				retrograde	-7414 Sep 05 j 23:52	10° $\mathbf{\text{Y}}$ 45'26	
conjunction	-7420 May 17 j 13:57	29° $\mathbf{\text{H}}$ 22'37	4°02'56	opposition	-7414 Nov 23 j 02:47	9° $\mathbf{\text{Y}}$ 34'03	7°17'20
minimum elong	-7420 May 17 j 13:49	29° $\mathbf{\text{H}}$ 22'36	4°02'53	min. Earth dist.	-7414 Nov 26 j 09:05	9° $\mathbf{\text{Y}}$ 29'22	35.14537 AU
morning rise	-7420 Jun 01 j 23:05	29° $\mathbf{\text{H}}$ 49'16		direct	-7413 Feb 13 j 03:47	8° $\mathbf{\text{Y}}$ 19'28	
	-7420 Jun 08 j 08:14	0° $\mathbf{\text{Y}}$		evening set	-7413 May 15 j 12:52	9° $\mathbf{\text{Y}}$ 58'03	
retrograde	-7420 Aug 26 j 15:30	1° $\mathbf{\text{Y}}$ 16'26		max. Earth dist.	-7413 May 26 j 00:53	10° $\mathbf{\text{Y}}$ 17'24	37.00034 AU
opposition	-7420 Nov 13 j 06:16	0° $\mathbf{\text{Y}}$ 07'11	4°29'33				
min. Earth dist.	-7420 Nov 16 j 09:33	0° $\mathbf{\text{Y}}$ 02'50	36.67714 AU	conjunction	-7413 May 29 j 16:27	10° $\mathbf{\text{Y}}$ 24'12	7°07'29
	-7420 Nov 18 j 10:58	30° $\mathbf{\text{H}}$		minimum elong	-7413 May 29 j 16:10	10° $\mathbf{\text{Y}}$ 24'10	7°07'30
direct	-7419 Feb 03 j 11:01	28° $\mathbf{\text{H}}$ 55'02		morning rise	-7413 Jun 12 j 16:41	10° $\mathbf{\text{Y}}$ 50'06	
	-7419 Apr 18 j 09:47	0° $\mathbf{\text{Y}}$		retrograde	-7413 Sep 07 j 23:04	12° $\mathbf{\text{Y}}$ 25'38	
evening set	-7419 May 04 j 00:00	0° $\mathbf{\text{Y}}$ 25'44		opposition	-7413 Nov 25 j 00:24	11° $\mathbf{\text{Y}}$ 13'50	7°45'42
max. Earth dist.	-7419 May 15 j 22:15	0° $\mathbf{\text{Y}}$ 46'30	38.54418 AU	min. Earth dist.	-7413 Nov 28 j 07:39	11° $\mathbf{\text{Y}}$ 09'04	34.88812 AU
				direct	-7412 Feb 14 j 23:44	9° $\mathbf{\text{Y}}$ 58'47	
conjunction	-7419 May 19 j 09:11	0° $\mathbf{\text{Y}}$ 52'36	4°28'53	evening set	-7412 May 16 j 18:36	11° $\mathbf{\text{Y}}$ 38'53	

## Planetary Phenomena of Pluto from -7900 through -7398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36

Attention, astronomical year style is used: The year -7412 in astronomical counting style is the year 7413 BCE in historical counting style.

max. Earth dist.	-7412 May 27 j 01:06	11° $\Upsilon$ 57'59	36.74118 AU	min. Earth dist.	-7406 Dec 10 j 09:56	23° $\Upsilon$ 33'42	33.14472 AU
				direct	-7405 Feb 26 j 19:34	22° $\Upsilon$ 20'23	
conjunction	-7412 May 30 j 15:44	12° $\Upsilon$ 04'46	7°34'10	evening set	-7405 Jun 01 j 21:23	24° $\Upsilon$ 13'24	
minimum elong	-7412 May 30 j 15:27	12° $\Upsilon$ 04'44	7°34'14	max. Earth dist.	-7405 Jun 09 j 16:22	24° $\Upsilon$ 28'58	34.98860 AU
morning rise	-7412 Jun 13 j 09:17	12° $\Upsilon$ 30'25					
retrograde	-7412 Sep 08 j 20:58	14° $\Upsilon$ 07'23		conjunction	-7405 Jun 13 j 04:31	24° $\Upsilon$ 36'02	10°38'18
opposition	-7412 Nov 25 j 22:46	12° $\Upsilon$ 55'08	8°14'06	minimum elong	-7405 Jun 13 j 04:07	24° $\Upsilon$ 36'00	10°38'27
min. Earth dist.	-7412 Nov 29 j 06:00	12° $\Upsilon$ 50'20	34.63156 AU	morning rise	-7405 Jun 24 j 08:42	24° $\Upsilon$ 58'28	
direct	-7411 Feb 15 j 21:41	11° $\Upsilon$ 39'37		retrograde	-7405 Sep 22 j 18:18	26° $\Upsilon$ 47'43	
evening set	-7411 May 19 j 01:35	13° $\Upsilon$ 21'17		opposition	-7405 Dec 09 j 07:40	25° $\Upsilon$ 32'34	11°30'03
max. Earth dist.	-7411 May 29 j 00:10	13° $\Upsilon$ 39'58	36.48319 AU	min. Earth dist.	-7405 Dec 12 j 13:21	25° $\Upsilon$ 27'39	32.90661 AU
				direct	-7404 Feb 28 j 22:39	24° $\Upsilon$ 13'55	
conjunction	-7411 Jun 01 j 15:28	13° $\Upsilon$ 46'52	8°00'51	evening set	-7404 Jun 03 j 13:45	26° $\Upsilon$ 09'07	
minimum elong	-7411 Jun 01 j 15:09	13° $\Upsilon$ 46'51	8°00'55	max. Earth dist.	-7404 Jun 10 j 20:30	26° $\Upsilon$ 23'50	34.74872 AU
morning rise	-7411 Jun 15 j 02:09	14° $\Upsilon$ 12'14					
retrograde	-7411 Sep 10 j 22:02	15° $\Upsilon$ 50'41		conjunction	-7404 Jun 14 j 09:11	26° $\Upsilon$ 31'01	11°03'43
opposition	-7411 Nov 27 j 21:40	14° $\Upsilon$ 38'00	8°42'30	minimum elong	-7404 Jun 14 j 08:46	26° $\Upsilon$ 30'59	11°03'54
min. Earth dist.	-7411 Dec 01 j 04:34	14° $\Upsilon$ 33'12	34.37681 AU	morning rise	-7404 Jun 25 j 02:06	26° $\Upsilon$ 52'43	
direct	-7410 Feb 17 j 18:06	13° $\Upsilon$ 22'00		retrograde	-7404 Sep 24 j 00:53	28° $\Upsilon$ 44'07	
evening set	-7410 May 21 j 09:26	15° $\Upsilon$ 05'20		opposition	-7404 Dec 10 j 12:16	27° $\Upsilon$ 28'32	11°57'06
max. Earth dist.	-7410 May 31 j 01:11	15° $\Upsilon$ 23'39	36.22702 AU	min. Earth dist.	-7404 Dec 13 j 17:27	27° $\Upsilon$ 23'37	32.67090 AU
				direct	-7403 Mar 02 j 00:22	26° $\Upsilon$ 09'26	
conjunction	-7410 Jun 03 j 15:53	15° $\Upsilon$ 30'34	8°27'29	evening set	-7403 Jun 06 j 07:37	28° $\Upsilon$ 06'57	
minimum elong	-7410 Jun 03 j 15:33	15° $\Upsilon$ 30'33	8°27'35	max. Earth dist.	-7403 Jun 13 j 03:12	28° $\Upsilon$ 20'52	34.51103 AU
morning rise	-7410 Jun 16 j 18:52	15° $\Upsilon$ 55'34					
retrograde	-7410 Sep 12 j 23:14	17° $\Upsilon$ 35'37		conjunction	-7403 Jun 16 j 14:51	28° $\Upsilon$ 28'02	11°28'46
opposition	-7410 Nov 29 j 21:28	16° $\Upsilon$ 22'29	9°10'50	minimum elong	-7403 Jun 16 j 14:27	28° $\Upsilon$ 28'00	11°28'57
min. Earth dist.	-7410 Dec 03 j 04:54	16° $\Upsilon$ 17'37	34.12432 AU	morning rise	-7403 Jun 26 j 19:27	28° $\Upsilon$ 48'55	
direct	-7409 Feb 19 j 15:42	15° $\Upsilon$ 06'01			-7403 Aug 04 j 14:15	0° $\mathcal{B}$	
evening set	-7409 May 23 j 18:51	16° $\Upsilon$ 51'06		retrograde	-7403 Sep 26 j 06:43	0° $\mathcal{B}$ 42'32	
max. Earth dist.	-7409 Jun 02 j 02:41	17° $\Upsilon$ 08'59	35.97350 AU		-7403 Nov 20 j 04:08	30° $\mathcal{R}\Upsilon$	
				opposition	-7403 Dec 12 j 17:51	29° $\Upsilon$ 26'31	12°23'45
conjunction	-7409 Jun 05 j 16:56	17° $\Upsilon$ 15'56	8°54'01	min. Earth dist.	-7403 Dec 15 j 23:23	29° $\Upsilon$ 21'33	32.43755 AU
minimum elong	-7409 Jun 05 j 16:35	17° $\Upsilon$ 15'54	8°54'06	direct	-7402 Mar 04 j 03:01	28° $\Upsilon$ 06'58	
morning rise	-7409 Jun 18 j 11:52	17° $\Upsilon$ 40'33			-7402 Jun 05 j 18:29	0° $\mathcal{B}$	
retrograde	-7409 Sep 15 j 02:24	19° $\Upsilon$ 22'15		evening set	-7402 Jun 09 j 03:12	0° $\mathcal{B}$ 06'53	
opposition	-7409 Dec 01 j 21:46	18° $\Upsilon$ 08'42	9°39'04	max. Earth dist.	-7402 Jun 15 j 09:49	0° $\mathcal{B}$ 19'50	34.27598 AU
min. Earth dist.	-7409 Dec 05 j 03:54	18° $\Upsilon$ 03'53	33.87478 AU				
direct	-7408 Feb 21 j 15:19	16° $\Upsilon$ 51'46		conjunction	-7402 Jun 18 j 21:06	0° $\mathcal{B}$ 27'02	11°53'25
evening set	-7408 May 25 j 05:24	18° $\Upsilon$ 38'42		minimum elong	-7402 Jun 18 j 20:40	0° $\mathcal{B}$ 27'00	11°53'37
max. Earth dist.	-7408 Jun 03 j 04:23	18° $\Upsilon$ 56'03	35.72288 AU	morning rise	-7402 Jun 28 j 12:43	0° $\mathcal{B}$ 47'02	
				retrograde	-7402 Sep 28 j 15:27	2° $\mathcal{B}$ 42'57	
conjunction	-7408 Jun 06 j 18:47	19° $\Upsilon$ 03'04	9°20'24	opposition	-7402 Dec 15 j 00:08	1° $\mathcal{B}$ 26'30	12°49'58
minimum elong	-7408 Jun 06 j 18:25	19° $\Upsilon$ 03'03	9°20'31	min. Earth dist.	-7402 Dec 18 j 04:23	1° $\mathcal{B}$ 21'35	32.20698 AU
morning rise	-7408 Jun 19 j 04:59	19° $\Upsilon$ 27'14		direct	-7401 Mar 06 j 08:59	0° $\mathcal{B}$ 06'29	
retrograde	-7408 Sep 16 j 06:07	21° $\Upsilon$ 10'42		evening set	-7401 Jun 12 j 00:27	2° $\mathcal{B}$ 08'54	
opposition	-7408 Dec 02 j 23:07	19° $\Upsilon$ 56'44	10°07'09	max. Earth dist.	-7401 Jun 17 j 17:19	2° $\mathcal{B}$ 20'48	34.04373 AU
min. Earth dist.	-7408 Dec 06 j 05:54	19° $\Upsilon$ 51'51	33.62843 AU				
direct	-7407 Feb 22 j 15:52	18° $\Upsilon$ 39'22		conjunction	-7401 Jun 21 j 04:16	2° $\mathcal{B}$ 28'03	12°17'34
evening set	-7407 May 27 j 17:14	20° $\Upsilon$ 28'13		minimum elong	-7401 Jun 21 j 03:50	2° $\mathcal{B}$ 28'00	12°17'47
max. Earth dist.	-7407 Jun 05 j 08:18	20° $\Upsilon$ 45'07	35.47542 AU	morning rise	-7401 Jun 30 j 05:49	2° $\mathcal{B}$ 47'01	
				retrograde	-7401 Oct 01 j 00:34	4° $\mathcal{B}$ 45'22	
conjunction	-7407 Jun 08 j 21:09	20° $\Upsilon$ 52'05	9°46'36	opposition	-7401 Dec 17 j 07:24	3° $\mathcal{B}$ 28'28	13°15'38
minimum elong	-7407 Jun 08 j 20:47	20° $\Upsilon$ 52'03	9°46'43	min. Earth dist.	-7401 Dec 20 j 12:05	3° $\mathcal{B}$ 23'30	31.97967 AU
morning rise	-7407 Jun 20 j 21:59	21° $\Upsilon$ 15'45		direct	-7400 Mar 07 j 14:47	2° $\mathcal{B}$ 07'59	
retrograde	-7407 Sep 18 j 10:20	23° $\Upsilon$ 01'02		evening set	-7400 Jun 13 j 23:41	4° $\mathcal{B}$ 13'02	
opposition	-7407 Dec 05 j 01:08	21° $\Upsilon$ 46'40	10°35'02	max. Earth dist.	-7400 Jun 19 j 02:46	4° $\mathcal{B}$ 23'51	33.81524 AU
min. Earth dist.	-7407 Dec 08 j 06:46	21° $\Upsilon$ 41'49	33.38514 AU				
direct	-7406 Feb 24 j 19:01	20° $\Upsilon$ 28'53		conjunction	-7400 Jun 22 j 12:06	4° $\mathcal{B}$ 31'02	12°41'11
evening set	-7406 May 30 j 06:32	22° $\Upsilon$ 19'46		minimum elong	-7400 Jun 22 j 11:40	4° $\mathcal{B}$ 30'59	12°41'26
max. Earth dist.	-7406 Jun 07 j 10:49	22° $\Upsilon$ 35'57	35.23077 AU	morning rise	-7400 Jun 30 j 22:28	4° $\mathcal{B}$ 48'52	
				retrograde	-7400 Oct 02 j 10:11	6° $\mathcal{B}$ 49'46	
conjunction	-7406 Jun 11 j 00:22	22° $\Upsilon$ 43'03	10°12'35	opposition	-7400 Dec 18 j 15:33	5° $\mathcal{B}$ 32'25	13°40'43
minimum elong	-7406 Jun 10 j 23:58	22° $\Upsilon$ 43'01	10°12'44	min. Earth dist.	-7400 Dec 21 j 18:23	5° $\mathcal{B}$ 27'32	31.75645 AU
morning rise	-7406 Jun 22 j 15:22	23° $\Upsilon$ 06'08		direct	-7399 Mar 09 j 23:20	4° $\mathcal{B}$ 11'28	
retrograde	-7406 Sep 20 j 15:06	24° $\Upsilon$ 53'22		evening set	-7399 Jun 17 j 00:33	6° $\mathcal{B}$ 19'17	
opposition	-7406 Dec 07 j 03:50	23° $\Upsilon$ 38'36	11°02'41	max. Earth dist.	-7399 Jun 21 j 11:29	6° $\mathcal{B}$ 28'47	33.59115 AU

Attention, astronomical year style is used: The year -7399 in astronomical counting style is the year 7400 BCE in historical counting style.

conjunction	-7399 Jun 24 j 20:29	6°836'00	13°04'10
minimum elong	-7399 Jun 24 j 20:02	6°835'57	13°04'24
morning rise	-7399 Jul 02 j 14:35	6°852'34	
retrograde	-7399 Oct 04 j 20:43	8°856'10	
opposition	-7399 Dec 21 j 00:35	7°838'21	14°05'05
min. Earth dist.	-7399 Dec 24 j 03:11	7°833'28	31.53821 AU