

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

Attention, astronomical year style is used: The year -2900 in astronomical counting style is the year 2901 BCE in historical counting style.

morning rise	-2900 Jan 09 j 17:25	14°♄41'13		evening set	-2894 Dec 26 j 22:05	23°♄56'42	
retrograde	-2900 Apr 09 j 20:57	16°♄15'03					
min. Earth dist.	-2900 Jun 28 j 15:15	15°♄08'47	37.46274 AU	conjunction	-2893 Jan 06 j 13:42	24°♄14'43	-10°51'58
opposition	-2900 Jul 01 j 21:09	15°♄04'27	-9°06'25	minimum elong	-2893 Jan 06 j 13:29	24°♄14'42	10°52'03
direct	-2900 Sep 20 j 06:51	13°♄55'30		max. Earth dist.	-2893 Jan 09 j 20:31	24°♄20'17	41.04000 AU
evening set	-2900 Dec 16 j 06:12	15°♄25'05		morning rise	-2893 Jan 17 j 06:40	24°♄32'49	
				retrograde	-2893 Apr 20 j 11:35	26°♄06'08	
conjunction	-2900 Dec 28 j 16:21	15°♄46'50	-8°49'47	min. Earth dist.	-2893 Jul 09 j 12:13	25°♄01'32	39.20031 AU
minimum elong	-2900 Dec 28 j 16:08	15°♄46'49	8°49'52	opposition	-2893 Jul 12 j 19:01	24°♄57'17	-11°34'54
max. Earth dist.	-2900 Dec 31 j 22:47	15°♄52'35	39.56363 AU	direct	-2893 Oct 01 j 05:04	23°♄50'10	
morning rise	-2899 Jan 10 j 03:57	16°♄08'42		evening set	-2893 Dec 28 j 20:16	25°♄19'12	
retrograde	-2899 Apr 11 j 13:32	17°♄42'21					
min. Earth dist.	-2899 Jun 30 j 09:21	16°♄36'18	37.71371 AU	conjunction	-2892 Jan 08 j 04:08	25°♄36'35	-11°10'14
opposition	-2899 Jul 03 j 15:11	16°♄31'59	-9°29'36	minimum elong	-2892 Jan 08 j 03:55	25°♄36'34	11°10'20
direct	-2899 Sep 22 j 01:43	15°♄23'17		max. Earth dist.	-2892 Jan 11 j 11:58	25°♄42'11	41.28248 AU
evening set	-2899 Dec 18 j 05:11	16°♄52'41		morning rise	-2892 Jan 18 j 13:01	25°♄54'01	
				retrograde	-2892 Apr 21 j 01:10	27°♄27'23	
conjunction	-2899 Dec 30 j 08:43	17°♄13'50	-9°11'41	min. Earth dist.	-2892 Jul 10 j 04:25	26°♄23'00	39.44386 AU
minimum elong	-2899 Dec 30 j 08:31	17°♄13'49	9°11'47	opposition	-2892 Jul 13 j 10:25	26°♄18'48	-11°53'34
max. Earth dist.	-2898 Jan 02 j 14:25	17°♄19'29	39.81177 AU	direct	-2892 Oct 01 j 21:43	25°♄11'58	
morning rise	-2898 Jan 11 j 13:57	17°♄35'05		evening set	-2892 Dec 29 j 18:48	26°♄41'04	
retrograde	-2898 Apr 13 j 06:48	19°♄08'36					
min. Earth dist.	-2898 Jul 02 j 02:21	18°♄02'47	37.96344 AU	conjunction	-2891 Jan 08 j 18:21	26°♄57'46	-11°27'56
opposition	-2898 Jul 05 j 08:52	17°♄58'28	-9°52'07	minimum elong	-2891 Jan 08 j 18:09	26°♄57'45	11°28'01
direct	-2898 Sep 23 j 19:00	16°♄50'00		max. Earth dist.	-2891 Jan 12 j 00:58	27°♄03'16	41.52278 AU
evening set	-2898 Dec 20 j 03:54	18°♄19'16		morning rise	-2891 Jan 18 j 19:02	27°♄14'32	
				retrograde	-2891 Apr 22 j 15:09	28°♄48'00	
conjunction	-2897 Jan 01 j 00:50	18°♄39'47	-9°32'58	min. Earth dist.	-2891 Jul 11 j 18:53	27°♄43'53	39.68500 AU
minimum elong	-2897 Jan 01 j 00:37	18°♄39'46	9°33'03	opposition	-2891 Jul 15 j 01:25	27°♄39'40	-12°11'38
max. Earth dist.	-2897 Jan 04 j 07:47	18°♄45'30	40.05877 AU	direct	-2891 Oct 03 j 12:42	26°♄33'06	
morning rise	-2897 Jan 12 j 23:12	19°♄00'25		evening set	-2891 Dec 31 j 17:13	28°♄02'16	
retrograde	-2897 Apr 14 j 19:35	20°♄33'50					
min. Earth dist.	-2897 Jul 03 j 20:14	19°♄28'12	38.21219 AU	conjunction	-2890 Jan 10 j 08:27	28°♄18'18	-11°45'05
opposition	-2897 Jul 07 j 02:01	19°♄23'56	-10°13'58	minimum elong	-2890 Jan 10 j 08:15	28°♄18'17	11°45'11
direct	-2897 Sep 25 j 14:48	18°♄15'43		max. Earth dist.	-2890 Jan 13 j 15:28	28°♄23'48	41.76018 AU
evening set	-2897 Dec 22 j 02:38	19°♄44'52		morning rise	-2890 Jan 20 j 00:41	28°♄34'24	
					-2890 Mar 29 j 15:46	0°♄	
conjunction	-2896 Jan 02 j 16:32	20°♄04'46	-9°53'37	retrograde	-2890 Apr 24 j 02:58	0°♄07'57	
minimum elong	-2896 Jan 02 j 16:20	20°♄04'45	9°53'43		-2890 May 20 j 02:37	30°♄	
max. Earth dist.	-2896 Jan 05 j 22:52	20°♄10'25	40.30513 AU	min. Earth dist.	-2890 Jul 13 j 11:19	29°♄03'59	39.92290 AU
morning rise	-2896 Jan 14 j 07:52	20°♄24'47		opposition	-2890 Jul 16 j 16:13	28°♄59'52	-12°29'08
retrograde	-2896 Apr 15 j 10:44	21°♄58'07		direct	-2890 Oct 05 j 05:52	27°♄53'33	
min. Earth dist.	-2896 Jul 04 j 11:48	20°♄52'48	38.46042 AU	evening set	-2889 Jan 02 j 15:48	29°♄22'48	
opposition	-2896 Jul 07 j 18:49	20°♄48'28	-10°35'10				
direct	-2896 Sep 26 j 08:10	19°♄40'31		conjunction	-2889 Jan 11 j 22:17	29°♄38'08	-12°01'42
evening set	-2896 Dec 23 j 01:05	21°♄09'35		minimum elong	-2889 Jan 11 j 22:06	29°♄38'07	12°01'47
				max. Earth dist.	-2889 Jan 15 j 04:17	29°♄43'33	41.99419 AU
conjunction	-2895 Jan 03 j 07:49	21°♄28'52	-10°13'41	morning rise	-2889 Jan 21 j 05:36	29°♄53'34	
minimum elong	-2895 Jan 03 j 07:36	21°♄28'51	10°13'45		-2889 Jan 25 j 04:09	0°♄	
max. Earth dist.	-2895 Jan 06 j 14:59	21°♄34'32	40.55087 AU	retrograde	-2889 Apr 25 j 17:10	1°♄27'12	
morning rise	-2895 Jan 14 j 16:00	21°♄48'15		min. Earth dist.	-2889 Jul 15 j 01:22	0°♄23'28	40.15709 AU
retrograde	-2895 Apr 17 j 03:07	23°♄21'34		opposition	-2889 Jul 18 j 06:30	0°♄19'21	-12°46'04
min. Earth dist.	-2895 Jul 06 j 05:04	22°♄16'26	38.70808 AU		-2889 Aug 02 j 14:50	30°♄	
opposition	-2895 Jul 09 j 11:22	22°♄12'10	-10°55'43	direct	-2889 Oct 06 j 20:12	29°♄13'15	
direct	-2895 Sep 27 j 23:38	21°♄04'30			-2889 Dec 07 j 20:25	0°♄	
evening set	-2895 Dec 24 j 23:35	22°♄33'30		evening set	-2888 Jan 04 j 14:19	0°♄42'36	
conjunction	-2894 Jan 04 j 23:00	22°♄52'10	-10°33'07	conjunction	-2888 Jan 13 j 11:47	0°♄57'15	-12°17'47
minimum elong	-2894 Jan 04 j 22:47	22°♄52'09	10°33'13	minimum elong	-2888 Jan 13 j 11:35	0°♄57'14	12°17'53
max. Earth dist.	-2894 Jan 08 j 06:24	22°♄57'49	40.79602 AU	max. Earth dist.	-2888 Jan 16 j 17:04	1°♄02'34	42.22443 AU
morning rise	-2894 Jan 15 j 23:33	23°♄10'55		morning rise	-2888 Jan 22 j 10:09	1°♄11'58	
retrograde	-2894 Apr 18 j 18:26	24°♄44'12		retrograde	-2888 Apr 26 j 08:24	2°♄45'43	
min. Earth dist.	-2894 Jul 07 j 20:21	23°♄39'22	38.95479 AU	min. Earth dist.	-2888 Jul 15 j 16:42	1°♄42'06	40.38769 AU
opposition	-2894 Jul 11 j 03:13	23°♄35'05	-11°15'37	opposition	-2888 Jul 18 j 20:44	1°♄38'04	-13°02'26
direct	-2894 Sep 29 j 15:20	22°♄27'41		direct	-2888 Oct 07 j 08:24	0°♄32'10	

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Attention, astronomical year style is used: The year -2887 in astronomical counting style is the year 2888 BCE in historical counting style.

evening set	-2887 Jan 05 j 12:47	2°30'13"7		min. Earth dist.	-2881 Jul 25 j 12:19	10°31'29"	41.93189 AU
				opposition	-2881 Jul 28 j 14:14	10°27'39"	-14°41'38"
conjunction	-2887 Jan 14 j 01:02	2°31'53"4	-12°33'21"	direct	-2881 Oct 17 j 03:25	9°23'05"	
minimum elong	-2887 Jan 14 j 00:51	2°31'53"3	12°33'26"	evening set	-2880 Jan 18 j 07:25	10°34'24"	
max. Earth dist.	-2887 Jan 17 j 06:34	2°32'05"2	42.45123 AU				
morning rise	-2887 Jan 22 j 13:55	2°32'29"34		conjunction	-2880 Jan 23 j 13:47	11°30'24"5	-14°07'40"
retrograde	-2887 Apr 27 j 21:10	4°30'32"6		minimum elong	-2880 Jan 23 j 13:38	11°30'24"5	14°07'45"
min. Earth dist.	-2887 Jul 17 j 06:58	2°35'59"58	40.61478 AU	max. Earth dist.	-2880 Jan 26 j 17:39	11°30'07"46	43.97466 AU
opposition	-2887 Jul 20 j 10:27	2°35'59"59	-13°18'16"	morning rise	-2880 Jan 28 j 20:17	11°31'11"06	
direct	-2887 Oct 08 j 23:03	1°35'01"6		retrograde	-2880 May 06 j 07:16	12°34'46"54	
evening set	-2886 Jan 07 j 11:28	3°31'9"51		min. Earth dist.	-2880 Jul 26 j 01:16	11°34'43"35	42.14422 AU
				opposition	-2880 Jul 29 j 01:59	11°34'04"49	-14°53'40"
conjunction	-2886 Jan 15 j 13:56	3°33'30"4	-12°48'23"	direct	-2880 Oct 17 j 16:36	10°36'29"	
minimum elong	-2886 Jan 15 j 13:44	3°33'30"3	12°48'29"	evening set	-2879 Jan 19 j 08:56	12°30'8"19	
max. Earth dist.	-2886 Jan 18 j 17:59	3°38'15"	42.67484 AU				
morning rise	-2886 Jan 23 j 17:06	3°34'6"20		conjunction	-2879 Jan 24 j 01:01	12°31'54"1	-14°19'07"
retrograde	-2886 Apr 29 j 10:20	5°32'02"20		minimum elong	-2879 Jan 24 j 00:52	12°31'54"1	14°19'13"
min. Earth dist.	-2886 Jul 18 j 20:11	4°31'7"02	40.83915 AU	max. Earth dist.	-2879 Jan 27 j 03:24	12°32'03"35	44.18386 AU
opposition	-2886 Jul 21 j 23:44	4°31'3"04	-13°33'33"	morning rise	-2879 Jan 28 j 17:11	12°32'30"4	
direct	-2886 Oct 10 j 12:02	3°30'7"31		retrograde	-2879 May 07 j 17:49	13°35'59"23	
evening set	-2885 Jan 09 j 10:04	4°33'7"17		min. Earth dist.	-2879 Jul 27 j 12:33	12°35'7"17	42.35344 AU
				opposition	-2879 Jul 30 j 13:28	12°35'31"1	-15°05'12"
conjunction	-2885 Jan 17 j 02:35	4°34'9"46	-13°02'54"	direct	-2879 Oct 19 j 04:47	11°34'49"23	
minimum elong	-2885 Jan 17 j 02:25	4°34'9"45	13°03'00"	evening set	-2878 Jan 21 j 11:57	13°32'15"2	
max. Earth dist.	-2885 Jan 20 j 07:28	4°35'45"8	42.89596 AU				
morning rise	-2885 Jan 24 j 19:39	5°30'21"6		conjunction	-2878 Jan 25 j 12:14	13°32'28"10	-14°30'07"
retrograde	-2885 Apr 30 j 20:45	6°33'6"27		minimum elong	-2878 Jan 25 j 12:05	13°32'28"10	14°30'12"
min. Earth dist.	-2885 Jul 20 j 10:34	5°33'15"5	41.06121 AU	morning rise	-2878 Jan 29 j 12:31	13°33'42"9	
opposition	-2885 Jul 23 j 12:50	5°32'9"21	-13°48'16"	max. Earth dist.	-2878 Jan 28 j 14:20	13°33'30"1	44.38949 AU
direct	-2885 Oct 12 j 02:53	4°32'35"9		retrograde	-2878 May 09 j 04:27	15°33'11"26	
evening set	-2884 Jan 11 j 08:48	5°35'35"8		min. Earth dist.	-2878 Jul 29 j 01:43	14°30'9"26	42.55883 AU
				opposition	-2878 Aug 01 j 00:42	14°30'54"46	-15°16'16"
conjunction	-2884 Jan 18 j 14:47	6°30'54"0	-13°16'53"	direct	-2878 Oct 20 j 16:56	13°30'15"1	
minimum elong	-2884 Jan 18 j 14:36	6°30'53"9	13°16'59"	evening set	-2877 Jan 23 j 17:39	14°33'50"8	
max. Earth dist.	-2884 Jan 21 j 18:50	6°31'04"8	43.11519 AU				
morning rise	-2884 Jan 25 j 21:12	6°31'7"24		conjunction	-2877 Jan 26 j 23:19	14°34'01"11	-14°40'40"
retrograde	-2884 May 01 j 07:03	7°35'14"9		minimum elong	-2877 Jan 26 j 23:11	14°34'01"11	14°40'46"
min. Earth dist.	-2884 Jul 20 j 22:26	6°34'8"50	41.28149 AU	morning rise	-2877 Jan 30 j 04:53	14°34'45"15	
opposition	-2884 Jul 24 j 01:36	6°34'44"53	-14°02'25"	max. Earth dist.	-2877 Jan 30 j 00:39	14°34'44"58	44.59115 AU
direct	-2884 Oct 12 j 17:20	5°33'9"43		retrograde	-2877 May 10 j 15:36	16°32'30"1	
evening set	-2883 Jan 12 j 07:47	7°30'9"56		min. Earth dist.	-2877 Jul 30 j 13:00	15°32'21"11	42.75981 AU
				opposition	-2877 Aug 02 j 11:42	15°31'7"33	-15°26'53"
conjunction	-2883 Jan 19 j 02:51	7°32'05"1	-13°30'21"	direct	-2877 Oct 22 j 04:05	14°31'34"8	
minimum elong	-2883 Jan 19 j 02:41	7°32'05"0	13°30'26"	evening set	-2876 Jan 26 j 04:11	15°34'48"14	
max. Earth dist.	-2883 Jan 22 j 06:56	7°32'55"7	43.33268 AU				
morning rise	-2883 Jan 25 j 22:22	7°33'14"8		conjunction	-2876 Jan 28 j 09:56	15°35'51"43	-14°50'48"
retrograde	-2883 May 02 j 19:45	9°30'6"29		minimum elong	-2876 Jan 28 j 09:48	15°35'51"43	14°50'52"
min. Earth dist.	-2883 Jul 22 j 12:01	8°30'33"7	41.50017 AU	morning rise	-2876 Jan 30 j 15:32	15°35'55"12	
opposition	-2883 Jul 25 j 14:07	7°35'9"44	-14°16'02"	max. Earth dist.	-2876 Jan 31 j 09:38	15°35'56"22	44.78828 AU
direct	-2883 Oct 14 j 05:49	6°35'44"6		retrograde	-2876 May 11 j 05:19	17°33'40"6	
evening set	-2882 Jan 14 j 07:11	8°32'51"8		min. Earth dist.	-2876 Jul 31 j 01:01	16°32'32"23	42.95634 AU
				opposition	-2876 Aug 02 j 22:41	16°32'28"49	-15°37'03"
conjunction	-2882 Jan 20 j 14:48	8°33'52"3	-13°43'18"	direct	-2876 Oct 22 j 12:10	15°32'25"15	
minimum elong	-2882 Jan 20 j 14:38	8°33'52"2	13°43'22"				
max. Earth dist.	-2882 Jan 23 j 19:01	8°34'02"8	43.54869 AU	conjunction	-2875 Jan 28 j 20:38	17°30'24"44	-15°00'30"
morning rise	-2882 Jan 26 j 22:38	8°34'53"1		minimum elong	-2875 Jan 28 j 20:30	17°30'24"3	15°00'36"
retrograde	-2882 May 04 j 08:28	10°32'02"30		max. Earth dist.	-2875 Jan 31 j 20:28	17°30'07"22	44.98106 AU
min. Earth dist.	-2882 Jul 24 j 00:08	9°31'7"50	41.71701 AU	retrograde	-2875 May 12 j 15:19	18°34'44"39	
opposition	-2882 Jul 27 j 02:16	9°31'35"8	-14°29'06"	min. Earth dist.	-2875 Aug 01 j 12:57	17°34'30"1	43.14847 AU
direct	-2882 Oct 15 j 17:01	8°30'9"12		opposition	-2875 Aug 04 j 09:09	17°33'39"32	-15°46'47"
evening set	-2881 Jan 16 j 06:58	9°34'00"5		direct	-2875 Oct 23 j 23:09	16°33'36"07	
conjunction	-2881 Jan 22 j 02:17	9°34'29"20	-13°55'43"	conjunction	-2874 Jan 30 j 06:58	18°31'31"10	-15°09'47"
minimum elong	-2881 Jan 22 j 02:09	9°34'29"19	13°55'49"	minimum elong	-2874 Jan 30 j 06:52	18°31'31"10	15°09'52"
max. Earth dist.	-2881 Jan 25 j 05:28	9°35'41"9	43.76275 AU	max. Earth dist.	-2874 Feb 02 j 05:01	18°31'74"1	45.16983 AU
morning rise	-2881 Jan 27 j 21:55	9°35'8"35		retrograde	-2874 May 14 j 00:04	19°35'43"39	
retrograde	-2881 May 05 j 21:37	11°33'35"8		min. Earth dist.	-2874 Aug 02 j 23:09	18°35'31"10	43.33688 AU

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 3

Attention, astronomical year style is used: The year -2874 in astronomical counting style is the year 2875 BCE in historical counting style.

opposition	-2874 Aug 05 j 19:25	18° $\overline{3}$ 49'41	-15°56'04	conjunction	-2865 Feb 09 j 20:13	28° $\overline{3}$ 26'02	-16°14'19
direct	-2874 Oct 25 j 10:14	17° $\overline{3}$ 46'25		minimum elong	-2865 Feb 09 j 20:10	28° $\overline{3}$ 26'02	16°14'24
				max. Earth dist.	-2865 Feb 12 j 12:43	28° $\overline{3}$ 30'03	46.73756 AU
conjunction	-2873 Jan 31 j 17:02	19° $\overline{3}$ 23'03	-15°18'38		-2865 May 05 j 04:38	0° $\approx$	
minimum elong	-2873 Jan 31 j 16:55	19° $\overline{3}$ 23'03	15°18'44	retrograde	-2865 May 24 j 10:57	0° $\approx$ 04'07	
max. Earth dist.	-2873 Feb 03 j 15:09	19° $\overline{3}$ 27'33	45.35505 AU		-2865 Jun 12 j 19:49	30° $\overline{R}$ $\overline{3}$	
retrograde	-2873 May 15 j 07:10	21° $\overline{3}$ 04'06		min. Earth dist.	-2865 Aug 13 j 18:30	29° $\overline{3}$ 03'40	44.90029 AU
min. Earth dist.	-2873 Aug 04 j 10:54	20° $\overline{3}$ 02'41	43.52206 AU	opposition	-2865 Aug 16 j 06:56	29° $\overline{3}$ 00'40	-16°59'59
opposition	-2873 Aug 07 j 05:31	19° $\overline{3}$ 59'17	-16°04'54	direct	-2865 Nov 05 j 00:37	27° $\overline{3}$ 58'47	
direct	-2873 Oct 26 j 23:24	18° $\overline{3}$ 56'10					
				conjunction	-2864 Feb 11 j 05:03	29° $\overline{3}$ 32'15	-16°19'34
conjunction	-2872 Feb 02 j 02:59	20° $\overline{3}$ 32'24	-15°27'03	minimum elong	-2864 Feb 11 j 05:01	29° $\overline{3}$ 32'15	16°19'39
minimum elong	-2872 Feb 02 j 02:54	20° $\overline{3}$ 32'23	15°27'08	max. Earth dist.	-2864 Feb 13 j 19:18	29° $\overline{3}$ 36'06	46.89312 AU
max. Earth dist.	-2872 Feb 05 j 00:23	20° $\overline{3}$ 36'50	45.53756 AU		-2864 Mar 01 j 03:23	0° $\approx$	
retrograde	-2872 May 15 j 16:39	22° $\overline{3}$ 13'02		retrograde	-2864 May 24 j 21:08	1° $\approx$ 09'58	
min. Earth dist.	-2872 Aug 04 j 20:21	21° $\overline{3}$ 11'46	43.70455 AU	min. Earth dist.	-2864 Aug 14 j 03:50	0° $\approx$ 09'37	45.05422 AU
opposition	-2872 Aug 07 j 15:16	21° $\overline{3}$ 08'23	-16°13'17	opposition	-2864 Aug 16 j 15:25	0° $\approx$ 06'39	-17°05'07
direct	-2872 Oct 27 j 10:09	20° $\overline{3}$ 05'24			-2864 Aug 22 j 05:20	30° $\overline{R}$ $\overline{3}$	
				direct	-2864 Nov 05 j 07:42	29° $\overline{3}$ 04'53	
conjunction	-2871 Feb 02 j 12:38	21° $\overline{3}$ 41'14	-15°35'02		-2863 Jan 16 j 04:00	0° $\approx$	
minimum elong	-2871 Feb 02 j 12:32	21° $\overline{3}$ 41'14	15°35'08	conjunction	-2863 Feb 11 j 13:49	0° $\approx$ 38'01	-16°24'29
max. Earth dist.	-2871 Feb 05 j 09:07	21° $\overline{3}$ 45'35	45.71749 AU	minimum elong	-2863 Feb 11 j 13:47	0° $\approx$ 38'01	16°24'33
retrograde	-2871 May 17 j 04:09	23° $\overline{3}$ 21'29		max. Earth dist.	-2863 Feb 14 j 03:46	0° $\approx$ 41'51	47.04361 AU
min. Earth dist.	-2871 Aug 06 j 07:09	22° $\overline{3}$ 20'19	43.88466 AU	retrograde	-2863 May 26 j 03:16	2° $\approx$ 15'23	
opposition	-2871 Aug 09 j 01:00	22° $\overline{3}$ 16'59	-16°21'13	min. Earth dist.	-2863 Aug 15 j 14:10	1° $\approx$ 15'02	45.20305 AU
direct	-2871 Oct 28 j 18:12	21° $\overline{3}$ 14'10		opposition	-2863 Aug 17 j 23:46	1° $\approx$ 12'11	-17°09'55
				direct	-2863 Nov 06 j 18:03	0° $\approx$ 10'30	
conjunction	-2870 Feb 03 j 22:21	22° $\overline{3}$ 49'38	-15°42'36				
minimum elong	-2870 Feb 03 j 22:17	22° $\overline{3}$ 49'37	15°42'40	conjunction	-2862 Feb 12 j 22:25	1° $\approx$ 43'19	-16°29'03
max. Earth dist.	-2870 Feb 06 j 19:12	22° $\overline{3}$ 53'59	45.89511 AU	minimum elong	-2862 Feb 12 j 22:23	1° $\approx$ 43'19	16°29'08
retrograde	-2870 May 18 j 14:11	24° $\overline{3}$ 29'28		max. Earth dist.	-2862 Feb 15 j 10:40	1° $\approx$ 47'02	47.18943 AU
min. Earth dist.	-2870 Aug 07 j 17:06	23° $\overline{3}$ 28'27	44.06219 AU	retrograde	-2862 May 27 j 09:27	3° $\approx$ 20'20	
opposition	-2870 Aug 10 j 10:16	23° $\overline{3}$ 25'10	-16°28'42	min. Earth dist.	-2862 Aug 16 j 22:13	2° $\approx$ 20'05	45.34741 AU
direct	-2870 Oct 30 j 02:52	22° $\overline{3}$ 22'30		opposition	-2862 Aug 19 j 07:38	2° $\approx$ 17'14	-17°14'21
				direct	-2862 Nov 08 j 03:43	1° $\approx$ 15'39	
conjunction	-2869 Feb 05 j 07:42	23° $\overline{3}$ 57'37	-15°49'44				
minimum elong	-2869 Feb 05 j 07:37	23° $\overline{3}$ 57'36	15°49'48	conjunction	-2861 Feb 14 j 06:42	2° $\approx$ 48'09	-16°33'16
max. Earth dist.	-2869 Feb 08 j 02:49	24° $\overline{3}$ 01'51	46.07028 AU	minimum elong	-2861 Feb 14 j 06:42	2° $\approx$ 48'09	16°33'20
retrograde	-2869 May 20 j 00:44	25° $\overline{3}$ 37'04		max. Earth dist.	-2861 Feb 16 j 17:57	2° $\approx$ 51'47	47.33103 AU
min. Earth dist.	-2869 Aug 09 j 02:22	24° $\overline{3}$ 36'13	44.23719 AU	retrograde	-2861 May 28 j 17:37	4° $\approx$ 24'49	
opposition	-2869 Aug 11 j 19:33	24° $\overline{3}$ 32'57	-16°35'45	min. Earth dist.	-2861 Aug 18 j 07:55	3° $\approx$ 24'35	45.48798 AU
direct	-2869 Oct 31 j 10:35	23° $\overline{3}$ 30'27		opposition	-2861 Aug 20 j 15:36	3° $\approx$ 21'50	-17°18'26
				direct	-2861 Nov 09 j 12:24	2° $\approx$ 20'20	
conjunction	-2868 Feb 06 j 16:52	25° $\overline{3}$ 05'14	-15°56'27				
minimum elong	-2868 Feb 06 j 16:49	25° $\overline{3}$ 05'13	15°56'32	conjunction	-2860 Feb 15 j 14:50	3° $\approx$ 52'32	-16°37'08
max. Earth dist.	-2868 Feb 09 j 12:18	25° $\overline{3}$ 09'28	46.24265 AU	minimum elong	-2860 Feb 15 j 14:49	3° $\approx$ 52'31	16°37'12
retrograde	-2868 May 20 j 07:59	26° $\overline{3}$ 44'20		max. Earth dist.	-2860 Feb 18 j 02:01	3° $\approx$ 56'08	47.46923 AU
min. Earth dist.	-2868 Aug 09 j 13:23	25° $\overline{3}$ 43'33	44.40909 AU	retrograde	-2860 May 29 j 01:39	5° $\approx$ 28'52	
opposition	-2868 Aug 12 j 04:44	25° $\overline{3}$ 40'23	-16°42'23	min. Earth dist.	-2860 Aug 18 j 16:01	4° $\approx$ 28'43	45.62516 AU
direct	-2868 Oct 31 j 20:55	24° $\overline{3}$ 38'03		opposition	-2860 Aug 20 j 23:16	4° $\approx$ 26'00	-17°22'08
				direct	-2860 Nov 09 j 20:26	3° $\approx$ 24'36	
conjunction	-2867 Feb 07 j 02:07	26° $\overline{3}$ 12'30	-16°02'47				
minimum elong	-2867 Feb 07 j 02:02	26° $\overline{3}$ 12'29	16°02'51	conjunction	-2859 Feb 15 j 22:50	4° $\approx$ 56'30	-16°40'38
max. Earth dist.	-2867 Feb 09 j 20:21	26° $\overline{3}$ 16'39	46.41184 AU	minimum elong	-2859 Feb 15 j 22:51	4° $\approx$ 56'30	16°40'41
retrograde	-2867 May 21 j 14:52	27° $\overline{3}$ 51'16		max. Earth dist.	-2859 Feb 18 j 08:10	5° $\approx$ 00'00	47.60433 AU
min. Earth dist.	-2867 Aug 10 j 22:10	26° $\overline{3}$ 50'39	44.57736 AU	retrograde	-2859 May 30 j 12:01	6° $\approx$ 32'32	
opposition	-2867 Aug 13 j 13:29	26° $\overline{3}$ 47'29	-16°48'37	min. Earth dist.	-2859 Aug 20 j 00:01	5° $\approx$ 32'28	45.75949 AU
direct	-2867 Nov 02 j 08:12	25° $\overline{3}$ 45'19		opposition	-2859 Aug 22 j 06:43	5° $\approx$ 29'47	-17°25'28
				direct	-2859 Nov 11 j 01:10	4° $\approx$ 28'30	
conjunction	-2866 Feb 08 j 11:12	27° $\overline{3}$ 19'26	-16°08'44				
minimum elong	-2866 Feb 08 j 11:09	27° $\overline{3}$ 19'26	16°08'49	conjunction	-2858 Feb 17 j 06:51	6° $\approx$ 00'09	-16°43'47
max. Earth dist.	-2866 Feb 11 j 04:07	27° $\overline{3}$ 23'29	46.57697 AU	minimum elong	-2858 Feb 17 j 06:50	6° $\approx$ 00'08	16°43'51
retrograde	-2866 May 23 j 01:33	28° $\overline{3}$ 57'52		max. Earth dist.	-2858 Feb 19 j 16:24	6° $\approx$ 03'38	47.73664 AU
min. Earth dist.	-2866 Aug 12 j 08:50	27° $\overline{3}$ 57'20	44.74134 AU	retrograde	-2858 May 31 j 19:03	7° $\approx$ 35'53	
opposition	-2866 Aug 14 j 22:20	27° $\overline{3}$ 54'15	-16°54'29	min. Earth dist.	-2858 Aug 21 j 08:59	6° $\approx$ 35'52	45.89093 AU
direct	-2866 Nov 03 j 16:34	26° $\overline{3}$ 52'14		opposition	-2858 Aug 23 j 14:08	6° $\approx$ 33'15	-17°28'25

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 4

Attention, astronomical year style is used: The year -2858 in astronomical counting style is the year 2859 BCE in historical counting style.

direct	-2858 Nov 12 j 08:54	5°32'06			-2849 Feb 11 j 05:51	15°	
conjunction	-2857 Feb 18 j 14:30	7°03'29	-16°46'34	conjunction	-2849 Feb 27 j 01:55	15°22'17	-16°57'25
minimum elong	-2857 Feb 18 j 14:32	7°03'29	16°46'38	minimum elong	-2849 Feb 27 j 01:59	15°22'17	16°57'30
max. Earth dist.	-2857 Feb 20 j 22:45	7°06'53	47.86627 AU	max. Earth dist.	-2849 Mar 01 j 00:17	15°25'02	48.76024 AU
retrograde	-2857 Jun 02 j 00:05	8°38'57		retrograde	-2849 Jun 10 j 10:48	16°55'45	
min. Earth dist.	-2857 Aug 22 j 15:56	7°39'05	46.01953 AU	min. Earth dist.	-2849 Aug 31 j 07:31	15°56'18	46.89776 AU
opposition	-2857 Aug 24 j 21:20	7°36'28	-17°31'01	opposition	-2849 Sep 02 j 02:59	15°54'11	-17°40'13
direct	-2857 Nov 13 j 17:59	6°35'26			-2849 Oct 29 j 18:51	15°8	
				direct	-2849 Nov 22 j 01:16	14°53'54	
conjunction	-2856 Feb 19 j 22:10	8°06'35	-16°49'00		-2849 Dec 15 j 05:01	15°	
minimum elong	-2856 Feb 19 j 22:10	8°06'35	16°49'04				
max. Earth dist.	-2856 Feb 22 j 05:31	8°09'56	47.99291 AU	conjunction	-2848 Feb 28 j 08:56	16°23'18	-16°57'27
retrograde	-2856 Jun 02 j 07:13	9°41'49		minimum elong	-2848 Feb 28 j 09:01	16°23'18	16°57'30
min. Earth dist.	-2856 Aug 23 j 00:55	8°42'00	46.14504 AU	max. Earth dist.	-2848 Mar 01 j 07:25	16°26'02	48.85211 AU
opposition	-2856 Aug 25 j 04:31	8°39'28	-17°33'16	retrograde	-2848 Jun 10 j 18:02	17°56'30	
direct	-2856 Nov 14 j 02:32	7°38'35		min. Earth dist.	-2848 Aug 31 j 15:02	16°57'03	46.98795 AU
				opposition	-2848 Sep 02 j 09:05	16°55'01	-17°40'00
conjunction	-2855 Feb 20 j 05:53	9°09'31	-16°51'07	direct	-2848 Nov 22 j 06:52	15°54'47	
minimum elong	-2855 Feb 20 j 05:55	9°09'31	16°51'11				
max. Earth dist.	-2855 Feb 22 j 12:53	9°12'49	48.11633 AU	conjunction	-2847 Feb 28 j 15:46	17°23'58	-16°57'09
retrograde	-2855 Jun 03 j 15:38	10°44'29		minimum elong	-2847 Feb 28 j 15:49	17°23'59	16°57'13
min. Earth dist.	-2855 Aug 24 j 08:29	9°44'48	46.26677 AU	max. Earth dist.	-2847 Mar 02 j 12:35	17°26'37	48.94089 AU
opposition	-2855 Aug 26 j 11:27	9°42'18	-17°35'10	retrograde	-2847 Jun 11 j 23:15	18°56'56	
direct	-2855 Nov 15 j 09:14	8°41'32		min. Earth dist.	-2847 Sep 01 j 21:01	17°57'33	47.07515 AU
				opposition	-2847 Sep 03 j 15:04	17°55'31	-17°39'27
conjunction	-2854 Feb 21 j 13:26	10°12'16	-16°52'54	direct	-2847 Nov 23 j 13:11	16°55'21	
minimum elong	-2854 Feb 21 j 13:27	10°12'16	16°52'57				
max. Earth dist.	-2854 Feb 23 j 18:17	10°15'26	48.23569 AU	conjunction	-2846 Mar 01 j 22:29	18°24'21	-16°56'33
retrograde	-2854 Jun 05 j 01:30	11°47'00		minimum elong	-2846 Mar 01 j 22:35	18°24'21	16°56'36
min. Earth dist.	-2854 Aug 25 j 16:33	10°47'23	46.38427 AU	max. Earth dist.	-2846 Mar 03 j 18:33	18°26'57	49.02666 AU
opposition	-2854 Aug 27 j 18:17	10°44'58	-17°36'45	retrograde	-2846 Jun 13 j 02:58	19°57'05	
direct	-2854 Nov 16 j 13:47	9°44'19		min. Earth dist.	-2846 Sep 03 j 04:40	18°57'43	47.15946 AU
				opposition	-2846 Sep 04 j 20:59	18°55'46	-17°38'35
conjunction	-2853 Feb 22 j 21:02	11°14'50	-16°54'23	direct	-2846 Nov 24 j 21:47	17°55'41	
minimum elong	-2853 Feb 22 j 21:05	11°14'50	16°54'27				
max. Earth dist.	-2853 Feb 25 j 01:36	11°17'58	48.35047 AU	conjunction	-2845 Mar 03 j 05:11	19°24'30	-16°55'39
retrograde	-2853 Jun 06 j 08:08	12°49'19		minimum elong	-2845 Mar 03 j 05:15	19°24'30	16°55'42
min. Earth dist.	-2853 Aug 27 j 01:15	11°49'44	46.49680 AU	max. Earth dist.	-2845 Mar 05 j 00:50	19°27'03	49.10982 AU
opposition	-2853 Aug 29 j 01:08	11°47'24	-17°38'03	retrograde	-2845 Jun 14 j 08:09	20°57'01	
direct	-2853 Nov 17 j 20:45	10°46'52		min. Earth dist.	-2845 Sep 04 j 10:35	19°57'44	47.24092 AU
				opposition	-2845 Sep 06 j 02:44	19°55'48	-17°37'24
conjunction	-2852 Feb 24 j 04:23	12°17'10	-16°55'34	direct	-2845 Nov 26 j 05:19	18°55'47	
minimum elong	-2852 Feb 24 j 04:25	12°17'10	16°55'37				
max. Earth dist.	-2852 Feb 26 j 06:49	12°20'10	48.46031 AU	conjunction	-2844 Mar 03 j 11:35	20°24'27	-16°54'26
retrograde	-2852 Jun 06 j 13:59	13°51'23		minimum elong	-2844 Mar 03 j 11:41	20°24'27	16°54'29
min. Earth dist.	-2852 Aug 27 j 08:21	12°51'54	46.60418 AU	max. Earth dist.	-2844 Mar 05 j 05:28	20°26'54	49.19004 AU
opposition	-2852 Aug 29 j 07:49	12°49'35	-17°39'02	retrograde	-2844 Jun 14 j 16:43	21°56'48	
direct	-2852 Nov 18 j 04:22	11°49'08		min. Earth dist.	-2844 Sep 04 j 17:36	20°57'33	47.31935 AU
				opposition	-2844 Sep 06 j 08:35	20°55'41	-17°35'55
conjunction	-2851 Feb 24 j 11:46	13°19'13	-16°56'29	direct	-2844 Nov 26 j 09:20	19°55'45	
minimum elong	-2851 Feb 24 j 11:49	13°19'13	16°56'33				
max. Earth dist.	-2851 Feb 26 j 12:58	13°22'09	48.56490 AU	conjunction	-2843 Mar 04 j 18:16	21°24'16	-16°52'55
retrograde	-2851 Jun 07 j 19:13	14°53'11		minimum elong	-2843 Mar 04 j 18:21	21°24'16	16°52'58
min. Earth dist.	-2851 Aug 28 j 17:16	13°53'40	46.70646 AU	max. Earth dist.	-2843 Mar 06 j 12:04	21°26'42	49.26695 AU
opposition	-2851 Aug 30 j 14:21	13°51'28	-17°39'44	retrograde	-2843 Jun 15 j 23:39	22°56'26	
direct	-2851 Nov 19 j 13:01	12°51'05		min. Earth dist.	-2843 Sep 06 j 00:41	21°57'14	47.39403 AU
				opposition	-2843 Sep 07 j 14:06	21°55'26	-17°34'08
conjunction	-2850 Feb 25 j 19:05	14°20'55	-16°57'06	direct	-2843 Nov 27 j 14:25	20°55'36	
minimum elong	-2850 Feb 25 j 19:08	14°20'56	16°57'09				
max. Earth dist.	-2850 Feb 27 j 19:30	14°23'48	48.66475 AU	conjunction	-2842 Mar 06 j 00:49	22°23'59	-16°51'08
	-2850 Mar 26 j 01:45	15°		minimum elong	-2842 Mar 06 j 00:56	22°24'00	16°51'11
retrograde	-2850 Jun 09 j 00:53	15°54'38		max. Earth dist.	-2842 Mar 07 j 16:34	22°26'18	49.33999 AU
	-2850 Aug 25 j 20:28	15°8		retrograde	-2842 Jun 17 j 06:26	23°55'59	
min. Earth dist.	-2850 Aug 30 j 00:04	14°55'11	46.80407 AU	min. Earth dist.	-2842 Sep 07 j 06:45	22°56'52	47.46449 AU
opposition	-2850 Aug 31 j 20:40	14°53'01	-17°40'08	opposition	-2842 Sep 08 j 19:39	22°55'06	-17°32'04
direct	-2850 Nov 20 j 21:29	13°52'41		direct	-2842 Nov 28 j 19:14	21°55'21	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -2841 in astronomical counting style is the year 2842 BCE in historical counting style.

conjunction	-2841 Mar 07 j 07:15	23° $\approx$ 23'37	-16°49'05		-2833 Jan 09 j 11:08	0° $\mathbb{H}$	
minimum elong	-2841 Mar 07 j 07:21	23° $\approx$ 23'37	16°49'07				
max. Earth dist.	-2841 Mar 08 j 21:52	23° $\approx$ 25'52	49.40830 AU	conjunction	-2833 Mar 15 j 09:16	1° $\mathbb{H}$ 14'52	-16°23'27
retrograde	-2841 Jun 18 j 11:14	24° $\approx$ 55'28		minimum elong	-2833 Mar 15 j 09:26	1° $\mathbb{H}$ 14'52	16°23'29
min. Earth dist.	-2841 Sep 08 j 14:48	23° $\approx$ 56'20	47.52996 AU	max. Earth dist.	-2833 Mar 16 j 14:21	1° $\mathbb{H}$ 16'32	49.78727 AU
opposition	-2841 Sep 10 j 01:20	23° $\approx$ 54'41	-17°29'44	retrograde	-2833 Jun 26 j 09:35	2° $\mathbb{H}$ 45'30	
direct	-2841 Nov 30 j 02:06	22° $\approx$ 55'00		opposition	-2833 Sep 17 j 18:39	1° $\mathbb{H}$ 45'13	-17°01'39
				min. Earth dist.	-2833 Sep 16 j 17:05	1° $\mathbb{H}$ 46'26	47.88791 AU
conjunction	-2840 Mar 07 j 13:52	24° $\approx$ 23'08	-16°46'46	direct	-2833 Dec 07 j 22:52	0° $\mathbb{H}$ 45'52	
minimum elong	-2840 Mar 07 j 14:00	24° $\approx$ 23'09	16°46'50				
max. Earth dist.	-2840 Mar 09 j 03:22	24° $\approx$ 25'19	49.47161 AU	conjunction	-2832 Mar 15 j 15:13	2° $\mathbb{H}$ 13'07	-16°19'02
retrograde	-2840 Jun 18 j 15:38	25° $\approx$ 54'50		minimum elong	-2832 Mar 15 j 15:21	2° $\mathbb{H}$ 13'07	16°19'04
min. Earth dist.	-2840 Sep 08 j 20:49	24° $\approx$ 55'45	47.59008 AU	max. Earth dist.	-2832 Mar 16 j 18:24	2° $\mathbb{H}$ 14'40	49.81874 AU
opposition	-2840 Sep 10 j 06:42	24° $\approx$ 54'07	-17°27'09	retrograde	-2832 Jun 26 j 17:00	3° $\mathbb{H}$ 43'38	
direct	-2840 Nov 30 j 09:53	23° $\approx$ 54'31		opposition	-2832 Sep 17 j 23:27	2° $\mathbb{H}$ 43'26	-16°56'53
				min. Earth dist.	-2832 Sep 16 j 22:18	2° $\mathbb{H}$ 44'38	47.91694 AU
conjunction	-2839 Mar 08 j 20:20	25° $\approx$ 22'31	-16°44'13	direct	-2832 Dec 08 j 01:33	1° $\mathbb{H}$ 44'08	
minimum elong	-2839 Mar 08 j 20:26	25° $\approx$ 22'31	16°44'16				
max. Earth dist.	-2839 Mar 10 j 07:16	25° $\approx$ 24'32	49.52953 AU	conjunction	-2831 Mar 16 j 21:15	3° $\mathbb{H}$ 11'19	-16°14'21
retrograde	-2839 Jun 20 j 00:19	26° $\approx$ 54'02		minimum elong	-2831 Mar 16 j 21:25	3° $\mathbb{H}$ 11'20	16°14'23
min. Earth dist.	-2839 Sep 10 j 04:02	25° $\approx$ 54'57	47.64494 AU	max. Earth dist.	-2831 Mar 17 j 23:36	3° $\mathbb{H}$ 12'50	49.84670 AU
opposition	-2839 Sep 11 j 12:12	25° $\approx$ 53'24	-17°24'19	retrograde	-2831 Jun 27 j 21:51	4° $\mathbb{H}$ 41'44	
direct	-2839 Dec 01 j 13:52	24° $\approx$ 53'50		min. Earth dist.	-2831 Sep 18 j 05:26	3° $\mathbb{H}$ 42'42	47.94216 AU
				opposition	-2831 Sep 19 j 04:23	3° $\mathbb{H}$ 41'37	-16°51'52
conjunction	-2838 Mar 10 j 02:47	26° $\approx$ 21'43	-16°41'25	direct	-2831 Dec 09 j 06:56	2° $\mathbb{H}$ 42'22	
minimum elong	-2838 Mar 10 j 02:55	26° $\approx$ 21'43	16°41'29				
max. Earth dist.	-2838 Mar 11 j 13:24	26° $\approx$ 23'43	49.58230 AU	conjunction	-2830 Mar 18 j 03:17	4° $\mathbb{H}$ 09'30	-16°09'24
retrograde	-2838 Jun 21 j 07:22	27° $\approx$ 53'04		minimum elong	-2830 Mar 18 j 03:25	4° $\mathbb{H}$ 09'31	16°09'26
min. Earth dist.	-2838 Sep 11 j 10:55	26° $\approx$ 53'57	47.69475 AU	max. Earth dist.	-2830 Mar 19 j 04:35	4° $\mathbb{H}$ 10'57	49.87072 AU
opposition	-2838 Sep 12 j 17:25	26° $\approx$ 52'30	-17°21'14	retrograde	-2830 Jun 29 j 00:26	5° $\mathbb{H}$ 39'50	
direct	-2838 Dec 02 j 18:09	25° $\approx$ 52'58		min. Earth dist.	-2830 Sep 19 j 10:33	4° $\mathbb{H}$ 40'50	47.96298 AU
				opposition	-2830 Sep 20 j 09:03	4° $\mathbb{H}$ 39'46	-16°46'35
conjunction	-2837 Mar 11 j 09:00	27° $\approx$ 20'42	-16°38'22	direct	-2830 Dec 10 j 14:44	3° $\mathbb{H}$ 40'34	
minimum elong	-2837 Mar 11 j 09:08	27° $\approx$ 20'43	16°38'24				
max. Earth dist.	-2837 Mar 12 j 17:31	27° $\approx$ 22'35	49.63052 AU	conjunction	-2829 Mar 19 j 09:13	5° $\mathbb{H}$ 07'39	-16°04'13
retrograde	-2837 Jun 22 j 13:36	28° $\approx$ 51'53		minimum elong	-2829 Mar 19 j 09:23	5° $\mathbb{H}$ 07'39	16°04'16
opposition	-2837 Sep 13 j 22:34	27° $\approx$ 51'22	-17°17'53	max. Earth dist.	-2829 Mar 20 j 08:09	5° $\mathbb{H}$ 08'57	49.88998 AU
min. Earth dist.	-2837 Sep 12 j 16:25	27° $\approx$ 52'49	47.74034 AU	retrograde	-2829 Jun 30 j 06:53	6° $\mathbb{H}$ 37'53	
direct	-2837 Dec 03 j 22:22	26° $\approx$ 51'52		opposition	-2829 Sep 21 j 13:56	5° $\mathbb{H}$ 37'53	-16°41'03
				min. Earth dist.	-2829 Sep 20 j 17:22	5° $\mathbb{H}$ 38'52	47.97889 AU
conjunction	-2836 Mar 11 j 15:06	28° $\approx$ 19'29	-16°35'03	direct	-2829 Dec 11 j 19:48	4° $\mathbb{H}$ 38'42	
minimum elong	-2836 Mar 11 j 15:13	28° $\approx$ 19'30	16°35'06				
max. Earth dist.	-2836 Mar 12 j 22:42	28° $\approx$ 21'19	49.67465 AU	conjunction	-2828 Mar 19 j 15:16	6° $\mathbb{H}$ 05'44	-15°58'49
retrograde	-2836 Jun 22 j 16:07	29° $\approx$ 50'31		minimum elong	-2828 Mar 19 j 15:26	6° $\mathbb{H}$ 05'44	15°58'50
min. Earth dist.	-2836 Sep 12 j 23:40	28° $\approx$ 51'24	47.78208 AU	max. Earth dist.	-2828 Mar 20 j 13:40	6° $\mathbb{H}$ 07'01	49.90407 AU
opposition	-2836 Sep 14 j 03:46	28° $\approx$ 50'03	-17°14'15	retrograde	-2828 Jun 30 j 13:45	7° $\mathbb{H}$ 35'53	
direct	-2836 Dec 04 j 06:44	27° $\approx$ 50'35		opposition	-2828 Sep 21 j 18:44	6° $\mathbb{H}$ 35'55	-16°35'18
				min. Earth dist.	-2828 Sep 20 j 23:47	6° $\mathbb{H}$ 36'49	47.98922 AU
conjunction	-2835 Mar 12 j 21:20	29° $\approx$ 18'05	-16°31'27	direct	-2828 Dec 11 j 23:59	5° $\mathbb{H}$ 36'45	
minimum elong	-2835 Mar 12 j 21:29	29° $\approx$ 18'06	16°31'29				
max. Earth dist.	-2835 Mar 14 j 04:16	29° $\approx$ 19'53	49.71535 AU	conjunction	-2827 Mar 20 j 21:17	7° $\mathbb{H}$ 03'42	-15°53'11
	-2835 Apr 13 j 08:59	0° $\mathbb{H}$		minimum elong	-2827 Mar 20 j 21:28	7° $\mathbb{H}$ 03'43	15°53'13
retrograde	-2835 Jun 23 j 19:29	0° $\mathbb{H}$ 48'58		max. Earth dist.	-2827 Mar 21 j 17:09	7° $\mathbb{H}$ 04'50	49.91269 AU
	-2835 Sep 05 j 07:45	30° $\mathbb{R}$		retrograde	-2827 Jul 01 j 21:19	8° $\mathbb{H}$ 33'45	
min. Earth dist.	-2835 Sep 14 j 04:42	29° $\approx$ 49'54	47.82042 AU	opposition	-2827 Sep 22 j 23:20	7° $\mathbb{H}$ 33'48	-16°29'19
opposition	-2835 Sep 15 j 08:37	29° $\approx$ 48'34	-17°10'20	min. Earth dist.	-2827 Sep 22 j 05:15	7° $\mathbb{H}$ 34'40	47.99416 AU
direct	-2835 Dec 05 j 14:31	28° $\approx$ 49'07		direct	-2827 Dec 13 j 02:45	6° $\mathbb{H}$ 34'37	
	-2834 Mar 02 j 02:18	0° $\mathbb{H}$					
conjunction	-2834 Mar 14 j 03:20	0° $\mathbb{H}$ 16'32	-16°27'35	conjunction	-2826 Mar 22 j 03:16	8° $\mathbb{H}$ 01'32	-15°47'19
minimum elong	-2834 Mar 14 j 03:28	0° $\mathbb{H}$ 16'33	16°27'38	minimum elong	-2826 Mar 22 j 03:27	8° $\mathbb{H}$ 01'32	15°47'21
max. Earth dist.	-2834 Mar 15 j 08:21	0° $\mathbb{H}$ 18'12	49.75279 AU	max. Earth dist.	-2826 Mar 22 j 21:48	8° $\mathbb{H}$ 02'35	49.91595 AU
retrograde	-2834 Jun 25 j 03:01	1° $\mathbb{H}$ 47'17		retrograde	-2826 Jul 03 j 00:37	9° $\mathbb{H}$ 31'27	
min. Earth dist.	-2834 Sep 15 j 11:07	0° $\mathbb{H}$ 48'13	47.85575 AU	opposition	-2826 Sep 24 j 04:04	8° $\mathbb{H}$ 31'31	-16°23'06
opposition	-2834 Sep 16 j 13:41	0° $\mathbb{H}$ 46'56	-17°06'08	min. Earth dist.	-2826 Sep 23 j 12:15	8° $\mathbb{H}$ 32'16	47.99399 AU
	-2834 Nov 02 j 16:24	30° $\mathbb{R}$		direct	-2826 Dec 14 j 09:24	7° $\mathbb{H}$ 32'20	
direct	-2834 Dec 06 j 18:22	29° $\approx$ 47'33		conjunction	-2825 Mar 23 j 09:02	8° $\mathbb{H}$ 59'10	-15°41'13

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6

Attention, astronomical year style is used: The year -2825 in astronomical counting style is the year 2826 BCE in historical counting style.

minimum elong	-2825 Mar 23 j 09:12	8° $\text{H}$ 59'10	15°41'16	conjunction	-2817 Mar 31 j 07:06	16° $\text{H}$ 37'46	-14°43'17
max. Earth dist.	-2825 Mar 24 j 02:40	9° $\text{H}$ 00'10	49.91455 AU	minimum elong	-2817 Mar 31 j 07:17	16° $\text{H}$ 37'47	14°43'18
retrograde	-2825 Jul 04 j 02:51	10° $\text{H}$ 28'59		max. Earth dist.	-2817 Mar 31 j 14:34	16° $\text{H}$ 38'11	49.77921 AU
opposition	-2825 Sep 25 j 08:35	9° $\text{H}$ 29'03	-16°16'38	morning rise	-2817 Apr 03 j 10:02	16° $\text{H}$ 42'01	
min. Earth dist.	-2825 Sep 24 j 17:10	9° $\text{H}$ 29'47	47.98933 AU	retrograde	-2817 Jul 12 j 02:38	18° $\text{H}$ 07'20	
direct	-2825 Dec 15 j 17:01	8° $\text{H}$ 29'51		opposition	-2817 Oct 02 j 20:10	17° $\text{H}$ 07'38	-15°15'26
				min. Earth dist.	-2817 Oct 02 j 13:32	17° $\text{H}$ 07'57	47.83047 AU
conjunction	-2824 Mar 23 j 14:48	9° $\text{H}$ 56'38	-15°34'53	direct	-2817 Dec 23 j 01:59	16° $\text{H}$ 08'28	
minimum elong	-2824 Mar 23 j 14:59	9° $\text{H}$ 56'39	15°34'54	evening set	-2816 Mar 27 j 18:04	17° $\text{H}$ 30'13	
max. Earth dist.	-2824 Mar 24 j 06:18	9° $\text{H}$ 57'31	49.90894 AU				
retrograde	-2824 Jul 04 j 08:52	11° $\text{H}$ 26'22		conjunction	-2816 Mar 31 j 13:06	17° $\text{H}$ 35'23	-14°34'56
opposition	-2824 Sep 25 j 13:05	10° $\text{H}$ 26'27	-16°09'55	minimum elong	-2816 Mar 31 j 13:18	17° $\text{H}$ 35'23	14°34'57
min. Earth dist.	-2824 Sep 24 j 23:19	10° $\text{H}$ 27'06	47.98089 AU	max. Earth dist.	-2816 Mar 31 j 19:13	17° $\text{H}$ 35'43	49.74502 AU
direct	-2824 Dec 15 j 21:37	9° $\text{H}$ 27'13		morning rise	-2816 Apr 04 j 08:42	17° $\text{H}$ 40'34	
				retrograde	-2816 Jul 12 j 06:49	19° $\text{H}$ 04'56	
conjunction	-2823 Mar 24 j 20:44	10° $\text{H}$ 53'57	-15°28'17	opposition	-2816 Oct 03 j 00:40	18° $\text{H}$ 05'16	-15°06'40
minimum elong	-2823 Mar 24 j 20:54	10° $\text{H}$ 53'58	15°28'20	min. Earth dist.	-2816 Oct 02 j 20:29	18° $\text{H}$ 05'28	47.79238 AU
max. Earth dist.	-2823 Mar 25 j 12:04	10° $\text{H}$ 54'50	49.89977 AU	direct	-2816 Dec 23 j 07:37	17° $\text{H}$ 06'04	
retrograde	-2823 Jul 05 j 14:09	12° $\text{H}$ 23'37		evening set	-2815 Mar 28 j 09:56	18° $\text{H}$ 27'03	
opposition	-2823 Sep 26 j 17:34	11° $\text{H}$ 23'42	-16°02'56				
min. Earth dist.	-2823 Sep 26 j 04:49	11° $\text{H}$ 24'19	47.96896 AU	conjunction	-2815 Apr 01 j 19:10	18° $\text{H}$ 33'02	-14°26'22
direct	-2823 Dec 17 j 02:44	10° $\text{H}$ 24'28		minimum elong	-2815 Apr 01 j 19:21	18° $\text{H}$ 33'02	14°26'22
				max. Earth dist.	-2815 Apr 01 j 23:58	18° $\text{H}$ 33'18	49.70566 AU
conjunction	-2822 Mar 26 j 02:23	11° $\text{H}$ 51'11	-15°21'26	morning rise	-2815 Apr 06 j 04:56	18° $\text{H}$ 39'02	
minimum elong	-2822 Mar 26 j 02:35	11° $\text{H}$ 51'12	15°21'27	retrograde	-2815 Jul 13 j 08:57	20° $\text{H}$ 02'35	
max. Earth dist.	-2822 Mar 26 j 15:52	11° $\text{H}$ 51'57	49.88747 AU	opposition	-2815 Oct 04 j 05:07	19° $\text{H}$ 02'54	-14°57'39
retrograde	-2822 Jul 06 j 21:24	13° $\text{H}$ 20'47		min. Earth dist.	-2815 Oct 04 j 01:29	19° $\text{H}$ 03'04	47.74897 AU
opposition	-2822 Sep 27 j 21:58	12° $\text{H}$ 20'54	-15°55'41	direct	-2815 Dec 24 j 15:38	18° $\text{H}$ 03'41	
min. Earth dist.	-2822 Sep 27 j 09:34	12° $\text{H}$ 21'29	47.95409 AU	evening set	-2814 Mar 29 j 03:03	19° $\text{H}$ 23'59	
direct	-2822 Dec 18 j 04:56	11° $\text{H}$ 21'39					
				conjunction	-2814 Apr 03 j 00:58	19° $\text{H}$ 30'40	-14°17'34
conjunction	-2821 Mar 27 j 08:06	12° $\text{H}$ 48'23	-15°14'19	minimum elong	-2814 Apr 03 j 01:10	19° $\text{H}$ 30'41	14°17'35
minimum elong	-2821 Mar 27 j 08:16	12° $\text{H}$ 48'23	15°14'21	max. Earth dist.	-2814 Apr 03 j 03:16	19° $\text{H}$ 30'48	49.66101 AU
max. Earth dist.	-2821 Mar 27 j 20:50	12° $\text{H}$ 49'06	49.87225 AU	morning rise	-2814 Apr 07 j 23:32	19° $\text{H}$ 37'24	
retrograde	-2821 Jul 08 j 02:23	14° $\text{H}$ 17'56		retrograde	-2814 Jul 14 j 13:51	21° $\text{H}$ 00'13	
opposition	-2821 Sep 29 j 02:29	13° $\text{H}$ 18'05	-15°48'09	opposition	-2814 Oct 05 j 09:36	20° $\text{H}$ 00'31	-14°48'25
min. Earth dist.	-2821 Sep 28 j 15:55	13° $\text{H}$ 18'35	47.93634 AU	min. Earth dist.	-2814 Oct 05 j 07:59	20° $\text{H}$ 00'36	47.70060 AU
direct	-2821 Dec 19 j 09:38	12° $\text{H}$ 18'51		direct	-2814 Dec 25 j 21:19	19° $\text{H}$ 01'15	
				evening set	-2813 Mar 29 j 21:19	20° $\text{H}$ 20'55	
conjunction	-2820 Mar 27 j 13:48	13° $\text{H}$ 45'35	-15°06'56				
minimum elong	-2820 Mar 27 j 14:00	13° $\text{H}$ 45'36	15°06'57	conjunction	-2813 Apr 04 j 06:55	20° $\text{H}$ 28'16	-14°08'32
max. Earth dist.	-2820 Mar 28 j 01:51	13° $\text{H}$ 46'16	49.85432 AU	minimum elong	-2813 Apr 04 j 07:07	20° $\text{H}$ 28'17	14°08'33
retrograde	-2820 Jul 08 j 05:14	15° $\text{H}$ 15'08		max. Earth dist.	-2813 Apr 04 j 08:50	20° $\text{H}$ 28'23	49.61169 AU
opposition	-2820 Sep 29 j 06:52	14° $\text{H}$ 15'18	-15°40'21	morning rise	-2813 Apr 09 j 17:08	20° $\text{H}$ 35'40	
min. Earth dist.	-2820 Sep 28 j 20:19	14° $\text{H}$ 15'48	47.91559 AU	retrograde	-2813 Jul 15 j 18:32	21° $\text{H}$ 57'49	
direct	-2820 Dec 19 j 16:24	13° $\text{H}$ 16'05		opposition	-2813 Oct 06 j 13:59	20° $\text{H}$ 58'05	-14°38'57
				min. Earth dist.	-2813 Oct 06 j 13:27	20° $\text{H}$ 58'07	47.64771 AU
conjunction	-2819 Mar 28 j 19:32	14° $\text{H}$ 42'52	-14°59'18	direct	-2813 Dec 27 j 02:54	19° $\text{H}$ 58'46	
minimum elong	-2819 Mar 28 j 19:43	14° $\text{H}$ 42'52	14°59'19	evening set	-2812 Mar 29 j 16:20	21° $\text{H}$ 17'51	
evening set	-2819 Mar 28 j 04:33	14° $\text{H}$ 42'00					
morning rise	-2819 Mar 29 j 10:55	14° $\text{H}$ 43'44		conjunction	-2812 Apr 04 j 12:42	21° $\text{H}$ 25'49	-13°59'16
max. Earth dist.	-2819 Mar 29 j 05:31	14° $\text{H}$ 43'26	49.83316 AU	minimum elong	-2812 Apr 04 j 12:54	21° $\text{H}$ 25'49	13°59'18
retrograde	-2819 Jul 09 j 10:55	16° $\text{H}$ 12'24		max. Earth dist.	-2812 Apr 04 j 12:31	21° $\text{H}$ 25'48	49.55826 AU
opposition	-2819 Sep 30 j 11:15	15° $\text{H}$ 12'38	-15°32'18	morning rise	-2812 Apr 10 j 09:47	21° $\text{H}$ 33'49	
min. Earth dist.	-2819 Sep 30 j 02:31	15° $\text{H}$ 13'03	47.89150 AU	retrograde	-2812 Jul 16 j 02:44	22° $\text{H}$ 55'20	
direct	-2819 Dec 20 j 21:16	14° $\text{H}$ 13'27		opposition	-2812 Oct 06 j 18:23	21° $\text{H}$ 55'35	-14°29'13
evening set	-2818 Mar 27 j 20:04	15° $\text{H}$ 37'13		min. Earth dist.	-2812 Oct 06 j 18:36	21° $\text{H}$ 55'35	47.59100 AU
				direct	-2812 Dec 27 j 04:46	20° $\text{H}$ 56'12	
conjunction	-2818 Mar 30 j 01:27	15° $\text{H}$ 40'15	-14°51'25	evening set	-2811 Mar 30 j 11:58	22° $\text{H}$ 14'45	
minimum elong	-2818 Mar 30 j 01:40	15° $\text{H}$ 40'16	14°51'26				
max. Earth dist.	-2818 Mar 30 j 11:16	15° $\text{H}$ 40'49	49.80834 AU	conjunction	-2811 Apr 05 j 18:38	22° $\text{H}$ 23'18	-13°49'46
morning rise	-2818 Apr 01 j 07:19	15° $\text{H}$ 43'19		minimum elong	-2811 Apr 05 j 18:51	22° $\text{H}$ 23'19	13°49'46
retrograde	-2818 Jul 10 j 17:45	17° $\text{H}$ 09'49		max. Earth dist.	-2811 Apr 05 j 17:31	22° $\text{H}$ 23'14	49.50106 AU
opposition	-2818 Oct 01 j 15:42	16° $\text{H}$ 10'05	-15°23'59	morning rise	-2811 Apr 12 j 02:02	22° $\text{H}$ 31'53	
min. Earth dist.	-2818 Oct 01 j 08:14	16° $\text{H}$ 10'26	47.86328 AU	retrograde	-2811 Jul 17 j 08:52	23° $\text{H}$ 52'50	
direct	-2818 Dec 22 j 00:49	15° $\text{H}$ 10'55		opposition	-2811 Oct 07 j 22:46	22° $\text{H}$ 53'03	-14°19'14
evening set	-2817 Mar 28 j 04:40	16° $\text{H}$ 33'33		min. Earth dist.	-2811 Oct 08 j 00:52	22° $\text{H}$ 52'57	47.53080 AU

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -2811 in astronomical counting style is the year 2812 BCE in historical counting style.

direct	-2811 Dec 28 j 08:47	21° $\text{H}$ 53'36				-2804 May 23 j 08:29	0° $\text{Y}$	
evening set	-2810 Mar 31 j 08:13	23° $\text{H}$ 11'40			retrograde	-2804 Jul 23 j 21:12	0° $\text{Y}$ 37'29	
						-2804 Sep 24 j 07:56	30° $\text{R}$ $\text{H}$	
conjunction	-2810 Apr 07 j 00:32	23° $\text{H}$ 20'46	-13°40'00		opposition	-2804 Oct 14 j 06:40	29° $\text{H}$ 37'37	-13°01'57
minimum elong	-2810 Apr 07 j 00:44	23° $\text{H}$ 20'47	13°40'01		min. Earth dist.	-2804 Oct 14 j 16:47	29° $\text{H}$ 37'08	47.01769 AU
max. Earth dist.	-2810 Apr 06 j 22:38	23° $\text{H}$ 20'40	49.44080 AU		direct	-2803 Jan 03 j 20:52	28° $\text{H}$ 37'54	
morning rise	-2810 Apr 13 j 17:33	23° $\text{H}$ 29'54			evening set	-2803 Apr 04 j 16:46	29° $\text{H}$ 53'26	
retrograde	-2810 Jul 18 j 12:01	24° $\text{H}$ 50'18				-2803 Apr 09 j 12:22	0° $\text{Y}$	
opposition	-2810 Oct 09 j 03:09	23° $\text{H}$ 50'30	-14°08'59					
min. Earth dist.	-2810 Oct 09 j 05:12	23° $\text{H}$ 50'24	47.46761 AU		conjunction	-2803 Apr 13 j 19:28	0° $\text{Y}$ 05'53	-12°24'35
direct	-2810 Dec 29 j 15:02	22° $\text{H}$ 51'00			minimum elong	-2803 Apr 13 j 19:41	0° $\text{Y}$ 05'54	12°24'35
evening set	-2809 Apr 01 j 04:39	24° $\text{H}$ 08'37			max. Earth dist.	-2803 Apr 13 j 08:11	0° $\text{Y}$ 05'15	48.92426 AU
					morning rise	-2803 Apr 22 j 22:57	0° $\text{Y}$ 18'24	
conjunction	-2809 Apr 08 j 06:13	24° $\text{H}$ 18'14	-13°29'59		retrograde	-2803 Jul 25 j 02:00	1° $\text{Y}$ 35'58	
minimum elong	-2809 Apr 08 j 06:26	24° $\text{H}$ 18'15	13°29'59		opposition	-2803 Oct 15 j 11:22	0° $\text{Y}$ 36'04	-12°49'56
max. Earth dist.	-2809 Apr 08 j 02:29	24° $\text{H}$ 18'01	49.37762 AU		min. Earth dist.	-2803 Oct 15 j 22:48	0° $\text{Y}$ 35'31	46.92620 AU
morning rise	-2809 Apr 15 j 08:39	24° $\text{H}$ 27'54				-2803 Nov 18 j 00:50	30° $\text{R}$ $\text{H}$	
retrograde	-2809 Jul 19 j 16:09	25° $\text{H}$ 47'49			direct	-2802 Jan 05 j 02:56	29° $\text{H}$ 36'16	
opposition	-2809 Oct 10 j 07:43	24° $\text{H}$ 47'59	-13°58'27			-2802 Feb 21 j 15:13	0° $\text{Y}$	
min. Earth dist.	-2809 Oct 10 j 11:23	24° $\text{H}$ 47'48	47.40166 AU		evening set	-2802 Apr 05 j 15:59	0° $\text{Y}$ 51'31	
direct	-2809 Dec 30 j 20:58	23° $\text{H}$ 48'27						
evening set	-2808 Apr 01 j 01:42	25° $\text{H}$ 05'38			conjunction	-2802 Apr 15 j 01:51	1° $\text{Y}$ 04'24	-12°12'52
					minimum elong	-2802 Apr 15 j 02:03	1° $\text{Y}$ 04'25	12°12'51
conjunction	-2808 Apr 08 j 12:17	25° $\text{H}$ 15'46	-13°19'41		max. Earth dist.	-2802 Apr 14 j 12:04	1° $\text{Y}$ 03'37	48.83180 AU
minimum elong	-2808 Apr 08 j 12:29	25° $\text{H}$ 15'47	13°19'42		morning rise	-2802 Apr 24 j 12:41	1° $\text{Y}$ 17'21	
max. Earth dist.	-2808 Apr 08 j 08:31	25° $\text{H}$ 15'33	49.31168 AU		retrograde	-2802 Jul 26 j 10:25	2° $\text{Y}$ 34'35	
morning rise	-2808 Apr 15 j 23:33	25° $\text{H}$ 25'57			opposition	-2802 Oct 16 j 16:10	1° $\text{Y}$ 34'37	-12°37'41
retrograde	-2808 Jul 19 j 20:59	26° $\text{H}$ 45'24			min. Earth dist.	-2802 Oct 17 j 04:41	1° $\text{Y}$ 34'01	46.82968 AU
opposition	-2808 Oct 10 j 12:08	25° $\text{H}$ 45'34	-13°47'40		direct	-2801 Jan 06 j 05:30	0° $\text{Y}$ 34'45	
min. Earth dist.	-2808 Oct 10 j 16:41	25° $\text{H}$ 45'21	47.33271 AU		evening set	-2801 Apr 06 j 15:07	1° $\text{Y}$ 49'43	
direct	-2808 Dec 31 j 02:36	24° $\text{H}$ 46'00						
evening set	-2807 Apr 01 j 23:18	26° $\text{H}$ 02'48			conjunction	-2801 Apr 16 j 08:11	2° $\text{Y}$ 03'01	-12°00'55
					minimum elong	-2801 Apr 16 j 08:24	2° $\text{Y}$ 03'02	12°00'55
conjunction	-2807 Apr 09 j 18:19	26° $\text{H}$ 13'26	-13°09'09		max. Earth dist.	-2801 Apr 15 j 17:12	2° $\text{Y}$ 02'10	48.73431 AU
minimum elong	-2807 Apr 09 j 18:32	26° $\text{H}$ 13'26	13°09'10		morning rise	-2801 Apr 26 j 02:10	2° $\text{Y}$ 16'23	
max. Earth dist.	-2807 Apr 09 j 12:28	26° $\text{H}$ 13'06	49.24273 AU		retrograde	-2801 Jul 27 j 17:23	3° $\text{Y}$ 33'18	
morning rise	-2807 Apr 17 j 14:14	26° $\text{H}$ 24'07			opposition	-2801 Oct 17 j 21:06	2° $\text{Y}$ 33'16	-12°25'10
retrograde	-2807 Jul 21 j 05:48	27° $\text{H}$ 43'08			min. Earth dist.	-2801 Oct 18 j 11:43	2° $\text{Y}$ 32'34	46.72837 AU
opposition	-2807 Oct 11 j 16:39	26° $\text{H}$ 43'18	-13°36'37		direct	-2800 Jan 07 j 09:56	1° $\text{Y}$ 33'18	
min. Earth dist.	-2807 Oct 11 j 21:52	26° $\text{H}$ 43'03	47.26056 AU		evening set	-2800 Apr 06 j 14:48	2° $\text{Y}$ 48'01	
direct	-2806 Jan 01 j 04:09	25° $\text{H}$ 43'42						
evening set	-2806 Apr 02 j 20:59	27° $\text{H}$ 00'09			conjunction	-2800 Apr 16 j 14:44	3° $\text{Y}$ 01'44	-11°48'43
					minimum elong	-2800 Apr 16 j 14:56	3° $\text{Y}$ 01'45	11°48'42
conjunction	-2806 Apr 11 j 00:23	27° $\text{H}$ 11'16	-12°58'22		max. Earth dist.	-2800 Apr 15 j 22:40	3° $\text{Y}$ 00'49	48.63251 AU
minimum elong	-2806 Apr 11 j 00:35	27° $\text{H}$ 11'16	12°58'22		morning rise	-2800 Apr 26 j 15:32	3° $\text{Y}$ 15'30	
max. Earth dist.	-2806 Apr 10 j 17:34	27° $\text{H}$ 10'52	49.17009 AU		retrograde	-2800 Jul 27 j 22:16	4° $\text{Y}$ 32'06	
morning rise	-2806 Apr 19 j 04:38	27° $\text{H}$ 22'25			opposition	-2800 Oct 18 j 01:47	3° $\text{Y}$ 32'01	-12°12'25
retrograde	-2806 Jul 22 j 11:59	28° $\text{H}$ 41'03			min. Earth dist.	-2800 Oct 18 j 16:39	3° $\text{Y}$ 31'18	46.62297 AU
opposition	-2806 Oct 12 j 21:17	27° $\text{H}$ 41'13	-13°25'18		direct	-2799 Jan 07 j 16:12	2° $\text{Y}$ 31'57	
min. Earth dist.	-2806 Oct 13 j 04:41	27° $\text{H}$ 40'52	47.18440 AU		evening set	-2799 Apr 07 j 14:38	3° $\text{Y}$ 46'26	
direct	-2805 Jan 02 j 08:08	26° $\text{H}$ 41'35						
evening set	-2805 Apr 03 j 19:18	27° $\text{H}$ 57'43			conjunction	-2799 Apr 17 j 21:16	4° $\text{Y}$ 00'33	-11°36'17
					minimum elong	-2799 Apr 17 j 21:28	4° $\text{Y}$ 00'34	11°36'17
conjunction	-2805 Apr 12 j 06:39	28° $\text{H}$ 09'17	-12°47'20		max. Earth dist.	-2799 Apr 17 j 03:03	3° $\text{Y}$ 59'30	48.52674 AU
minimum elong	-2805 Apr 12 j 06:52	28° $\text{H}$ 09'18	12°47'20		morning rise	-2799 Apr 28 j 04:55	4° $\text{Y}$ 14'43	
max. Earth dist.	-2805 Apr 11 j 22:43	28° $\text{H}$ 08'50	49.09328 AU		retrograde	-2799 Jul 29 j 02:44	5° $\text{Y}$ 31'02	
morning rise	-2805 Apr 20 j 18:49	28° $\text{H}$ 20'54			opposition	-2799 Oct 19 j 06:46	4° $\text{Y}$ 30'53	-11°59'23
retrograde	-2805 Jul 23 j 15:59	29° $\text{H}$ 39'10			min. Earth dist.	-2799 Oct 19 j 23:35	4° $\text{Y}$ 30'04	46.51400 AU
opposition	-2805 Oct 14 j 01:50	28° $\text{H}$ 39'19	-13°13'45		direct	-2798 Jan 08 j 22:42	3° $\text{Y}$ 30'43	
min. Earth dist.	-2805 Oct 14 j 09:46	28° $\text{H}$ 38'56	47.10365 AU		evening set	-2798 Apr 08 j 14:30	4° $\text{Y}$ 44'59	
direct	-2804 Jan 03 j 15:01	27° $\text{H}$ 39'39			max. Earth dist.	-2798 Apr 18 j 09:31	4° $\text{Y}$ 58'26	48.41764 AU
evening set	-2804 Apr 03 j 17:50	28° $\text{H}$ 55'29						
					conjunction	-2798 Apr 19 j 03:48	4° $\text{Y}$ 59'29	-11°23'35
conjunction	-2804 Apr 12 j 12:55	29° $\text{H}$ 07'30	-12°36'04		minimum elong	-2798 Apr 19 j 04:01	4° $\text{Y}$ 59'30	11°23'34
minimum elong	-2804 Apr 12 j 13:07	29° $\text{H}$ 07'31	12°36'03		morning rise	-2798 Apr 29 j 17:51	5° $\text{Y}$ 14'03	
max. Earth dist.	-2804 Apr 12 j 02:19	29° $\text{H}$ 06'54	49.01145 AU		retrograde	-2798 Jul 30 j 06:41	6° $\text{Y}$ 30'06	
morning rise	-2804 Apr 21 j 09:00	29° $\text{H}$ 19'35			opposition	-2798 Oct 20 j 11:43	5° $\text{Y}$ 29'53	-11°46'05

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8

Attention, astronomical year style is used: The year -2798 in astronomical counting style is the year 2799 BCE in historical counting style.

min. Earth dist.	-2798 Oct 21 j 05:07	5° $\Upsilon$ 29°03	46.40182 AU	morning rise	-2791 May 08 j 12:20	12° $\Upsilon$ 15°42	
direct	-2797 Jan 10 j 05:52	4° $\Upsilon$ 29°38		retrograde	-2791 Aug 06 j 07:43	13° $\Upsilon$ 30°25	
evening set	-2797 Apr 09 j 14:46	5° $\Upsilon$ 43°41		opposition	-2791 Oct 27 j 00:51	12° $\Upsilon$ 29°45	-10°05'23
				min. Earth dist.	-2791 Oct 28 j 03:19	12° $\Upsilon$ 28°27	45.52249 AU
conjunction	-2797 Apr 20 j 10:19	5° $\Upsilon$ 58°35	-11°10'38	direct	-2790 Jan 16 j 17:04	11° $\Upsilon$ 28°47	
minimum elong	-2797 Apr 20 j 10:31	5° $\Upsilon$ 58°35	11°10'38	evening set	-2790 Apr 14 j 23:36	12° $\Upsilon$ 41°58	
max. Earth dist.	-2797 Apr 19 j 14:00	5° $\Upsilon$ 57°24	48.30567 AU	max. Earth dist.	-2790 Apr 26 j 06:18	12° $\Upsilon$ 57°41	47.42298 AU
morning rise	-2797 May 01 j 06:53	6° $\Upsilon$ 13°32					
retrograde	-2797 Jul 31 j 15:53	7° $\Upsilon$ 29°21		conjunction	-2790 Apr 27 j 11:57	12° $\Upsilon$ 59°25	-9°32'38
opposition	-2797 Oct 21 j 16:41	6° $\Upsilon$ 29°04	-11°32'31	minimum elong	-2790 Apr 27 j 12:09	12° $\Upsilon$ 59°26	9°32'38
min. Earth dist.	-2797 Oct 22 j 10:44	6° $\Upsilon$ 28°12	46.28696 AU	morning rise	-2790 May 10 j 01:00	13° $\Upsilon$ 16°56	
direct	-2796 Jan 11 j 07:44	5° $\Upsilon$ 28°43		retrograde	-2790 Aug 07 j 15:57	14° $\Upsilon$ 31°30	
evening set	-2796 Apr 09 j 15:06	6° $\Upsilon$ 42°36		opposition	-2790 Oct 28 j 06:30	13° $\Upsilon$ 30°43	-9°49'57
				min. Earth dist.	-2790 Oct 29 j 09:23	13° $\Upsilon$ 29°24	45.37875 AU
conjunction	-2796 Apr 20 j 17:03	6° $\Upsilon$ 57°53	-10°57'24	direct	-2789 Jan 17 j 22:34	12° $\Upsilon$ 29°36	
minimum elong	-2796 Apr 20 j 17:16	6° $\Upsilon$ 57°53	10°57'23	evening set	-2789 Apr 16 j 01:55	13° $\Upsilon$ 42°42	
max. Earth dist.	-2796 Apr 19 j 20:03	6° $\Upsilon$ 56°40	48.19088 AU	max. Earth dist.	-2789 Apr 27 j 11:30	13° $\Upsilon$ 58°37	47.27845 AU
morning rise	-2796 May 01 j 19:52	7° $\Upsilon$ 13°13					
retrograde	-2796 Jul 31 j 23:46	8° $\Upsilon$ 28°49		conjunction	-2789 Apr 28 j 19:27	14° $\Upsilon$ 00°30	-9°17'39
opposition	-2796 Oct 21 j 21:53	7° $\Upsilon$ 28°29	-11°18'40	minimum elong	-2789 Apr 28 j 19:38	14° $\Upsilon$ 00°30	9°17'37
min. Earth dist.	-2796 Oct 22 j 17:40	7° $\Upsilon$ 27°31	46.16918 AU	morning rise	-2789 May 11 j 13:49	14° $\Upsilon$ 18°21	
direct	-2795 Jan 11 j 10:58	6° $\Upsilon$ 28°03		retrograde	-2789 Aug 08 j 21:49	15° $\Upsilon$ 32°47	
evening set	-2795 Apr 10 j 15:53	7° $\Upsilon$ 41°46		opposition	-2789 Oct 29 j 12:15	14° $\Upsilon$ 31°52	-9°34'14
				min. Earth dist.	-2789 Oct 30 j 17:23	14° $\Upsilon$ 30°26	45.23062 AU
conjunction	-2795 Apr 21 j 23:54	7° $\Upsilon$ 57°26	-10°43'54	direct	-2788 Jan 19 j 05:31	13° $\Upsilon$ 30°35	
minimum elong	-2795 Apr 22 j 00:05	7° $\Upsilon$ 57°27	10°43'54	evening set	-2788 Apr 16 j 04:24	14° $\Upsilon$ 43°37	
max. Earth dist.	-2795 Apr 21 j 01:59	7° $\Upsilon$ 56°10	48.07325 AU	max. Earth dist.	-2788 Apr 27 j 18:51	14° $\Upsilon$ 59°50	47.12980 AU
morning rise	-2795 May 03 j 08:44	8° $\Upsilon$ 13°09					
retrograde	-2795 Aug 02 j 05:11	9° $\Upsilon$ 28°32		conjunction	-2788 Apr 29 j 03:11	15° $\Upsilon$ 01°44	-9°02'23
opposition	-2795 Oct 23 j 02:55	8° $\Upsilon$ 28°09	-11°04'32	minimum elong	-2788 Apr 29 j 03:22	15° $\Upsilon$ 01°45	9°02'23
min. Earth dist.	-2795 Oct 23 j 22:54	8° $\Upsilon$ 27°11	46.04833 AU	morning rise	-2788 May 12 j 02:28	15° $\Upsilon$ 19°56	
direct	-2794 Jan 12 j 17:59	7° $\Upsilon$ 27°38		retrograde	-2788 Aug 09 j 01:28	16° $\Upsilon$ 34°14	
evening set	-2794 Apr 11 j 16:52	8° $\Upsilon$ 41°15		opposition	-2788 Oct 29 j 18:05	15° $\Upsilon$ 33°11	-9°18'16
max. Earth dist.	-2794 Apr 22 j 06:44	8° $\Upsilon$ 55°53	47.95220 AU	min. Earth dist.	-2788 Oct 30 j 23:53	15° $\Upsilon$ 31°43	45.07853 AU
				direct	-2787 Jan 19 j 14:43	14° $\Upsilon$ 31°45	
conjunction	-2794 Apr 23 j 06:47	8° $\Upsilon$ 57°16	-10°30'09	evening set	-2787 Apr 17 j 07:17	15° $\Upsilon$ 44°43	
minimum elong	-2794 Apr 23 j 07:00	8° $\Upsilon$ 57°17	10°30'09	max. Earth dist.	-2787 Apr 29 j 00:17	16° $\Upsilon$ 01°09	46.97750 AU
morning rise	-2794 May 04 j 21:42	9° $\Upsilon$ 13°22					
retrograde	-2794 Aug 03 j 10:22	10° $\Upsilon$ 28°34		conjunction	-2787 Apr 30 j 10:50	16° $\Upsilon$ 03°11	-8°46'52
opposition	-2794 Oct 24 j 08:16	9° $\Upsilon$ 28°08	-10°50'08	minimum elong	-2787 Apr 30 j 11:01	16° $\Upsilon$ 03°11	8°46'50
min. Earth dist.	-2794 Oct 25 j 06:16	9° $\Upsilon$ 27°03	45.92390 AU	morning rise	-2787 May 13 j 15:11	16° $\Upsilon$ 21°42	
direct	-2793 Jan 14 j 00:54	8° $\Upsilon$ 27°31		retrograde	-2787 Aug 10 j 09:38	17° $\Upsilon$ 35°54	
evening set	-2793 Apr 12 j 17:57	9° $\Upsilon$ 41°01		opposition	-2787 Oct 30 j 23:58	16° $\Upsilon$ 34°44	-9°02'00
				min. Earth dist.	-2787 Nov 01 j 06:43	16° $\Upsilon$ 33°12	44.92323 AU
conjunction	-2793 Apr 24 j 13:49	9° $\Upsilon$ 57°25	-10°16'09	direct	-2786 Jan 20 j 19:31	15° $\Upsilon$ 33°07	
minimum elong	-2793 Apr 24 j 14:01	9° $\Upsilon$ 57°25	10°16'07	evening set	-2786 Apr 18 j 10:11	16° $\Upsilon$ 46°03	
max. Earth dist.	-2793 Apr 23 j 13:27	9° $\Upsilon$ 56°00	47.82720 AU	max. Earth dist.	-2786 Apr 30 j 07:34	17° $\Upsilon$ 02°46	46.82209 AU
morning rise	-2793 May 06 j 10:22	10° $\Upsilon$ 13°52					
retrograde	-2793 Aug 04 j 14:54	11° $\Upsilon$ 28°55		conjunction	-2786 May 01 j 18:41	17° $\Upsilon$ 04°51	-8°31'05
opposition	-2793 Oct 25 j 13:41	10° $\Upsilon$ 28°25	-10°35'28	minimum elong	-2786 May 01 j 18:52	17° $\Upsilon$ 04°52	8°31'03
min. Earth dist.	-2793 Oct 26 j 12:41	10° $\Upsilon$ 27°17	45.79503 AU	morning rise	-2786 May 15 j 03:42	17° $\Upsilon$ 23°42	
direct	-2792 Jan 15 j 08:34	9° $\Upsilon$ 27°42		retrograde	-2786 Aug 11 j 17:53	18° $\Upsilon$ 37°50	
evening set	-2792 Apr 12 j 19:42	10° $\Upsilon$ 41°05		opposition	-2786 Nov 01 j 06:08	17° $\Upsilon$ 36°31	-8°45'27
				min. Earth dist.	-2786 Nov 02 j 14:25	17° $\Upsilon$ 34°55	44.76508 AU
conjunction	-2792 Apr 24 j 21:04	10° $\Upsilon$ 57°50	-10°01'53	direct	-2785 Jan 22 j 00:10	16° $\Upsilon$ 34°45	
minimum elong	-2792 Apr 24 j 21:16	10° $\Upsilon$ 57°51	10°01'52	evening set	-2785 Apr 19 j 13:20	17° $\Upsilon$ 47°41	
max. Earth dist.	-2792 Apr 23 j 18:09	10° $\Upsilon$ 56°16	47.69754 AU	max. Earth dist.	-2785 May 01 j 14:29	18° $\Upsilon$ 04°40	46.66424 AU
morning rise	-2792 May 06 j 23:24	11° $\Upsilon$ 14°39					
retrograde	-2792 Aug 04 j 23:13	12° $\Upsilon$ 29°32		conjunction	-2785 May 03 j 02:28	18° $\Upsilon$ 06°48	-8°15'00
opposition	-2792 Oct 25 j 19:06	11° $\Upsilon$ 28°58	-10°20'33	minimum elong	-2785 May 03 j 02:39	18° $\Upsilon$ 06°49	8°14'58
min. Earth dist.	-2792 Oct 26 j 19:29	11° $\Upsilon$ 27°46	45.66137 AU	morning rise	-2785 May 16 j 16:08	18° $\Upsilon$ 25°59	
direct	-2791 Jan 15 j 12:39	10° $\Upsilon$ 28°08		retrograde	-2785 Aug 13 j 02:04	19° $\Upsilon$ 40°03	
evening set	-2791 Apr 13 j 21:33	11° $\Upsilon$ 41°25		opposition	-2785 Nov 02 j 12:18	18° $\Upsilon$ 38°38	-8°28'37
max. Earth dist.	-2791 Apr 25 j 00:16	11° $\Upsilon$ 56°52	47.56274 AU	min. Earth dist.	-2785 Nov 03 j 20:31	18° $\Upsilon$ 37°02	44.60457 AU
				direct	-2784 Jan 23 j 06:29	17° $\Upsilon$ 36°43	
conjunction	-2791 Apr 26 j 04:35	11° $\Upsilon$ 58°31	-9°47'23	evening set	-2784 Apr 19 j 16:55	18° $\Upsilon$ 49°40	
minimum elong	-2791 Apr 26 j 04:46	11° $\Upsilon$ 58°32	9°47'22	max. Earth dist.	-2784 May 01 j 20:43	19° $\Upsilon$ 06°52	46.50391 AU



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Attention, astronomical year style is used: The year -2784 in astronomical counting style is the year 2785 BCE in historical counting style.

conjunction	-2784 May 03 j 10:34	19° $\Upsilon$ 09'07	-7°58'39	evening set	-2777 Apr 27 j 03:07	26° $\Upsilon$ 17'15	
minimum elong	-2784 May 03 j 10:44	19° $\Upsilon$ 09'07	7°58'38	max. Earth dist.	-2777 May 10 j 00:43	26° $\Upsilon$ 35'56	45.28646 AU
morning rise	-2784 May 17 j 04:49	19° $\Upsilon$ 28'37					
retrograde	-2784 Aug 13 j 09:33	20° $\Upsilon$ 42'39		conjunction	-2777 May 12 j 00:25	26° $\Upsilon$ 38'51	-5°56'30
opposition	-2784 Nov 02 j 18:39	19° $\Upsilon$ 41'07	-8°11'28	minimum elong	-2777 May 12 j 00:34	26° $\Upsilon$ 38'52	5°56'28
min. Earth dist.	-2784 Nov 04 j 04:41	19° $\Upsilon$ 39'26	44.44172 AU	morning rise	-2777 May 26 j 21:56	27° $\Upsilon$ 00'30	
direct	-2783 Jan 23 j 13:48	18° $\Upsilon$ 39'04		retrograde	-2777 Aug 21 j 19:37	28° $\Upsilon$ 14'51	
evening set	-2783 Apr 20 j 20:45	19° $\Upsilon$ 52'05		opposition	-2777 Nov 10 j 19:53	27° $\Upsilon$ 12'27	-6°03'19
max. Earth dist.	-2783 May 03 j 05:08	20° $\Upsilon$ 09'36	46.34123 AU	min. Earth dist.	-2777 Nov 12 j 14:23	27° $\Upsilon$ 10'17	43.20130 AU
				direct	-2776 Jan 31 j 17:09	26° $\Upsilon$ 09'13	
conjunction	-2783 May 04 j 18:56	20° $\Upsilon$ 11'51	-7°42'01	evening set	-2776 Apr 27 j 09:21	27° $\Upsilon$ 23'02	
minimum elong	-2783 May 04 j 19:07	20° $\Upsilon$ 11'52	7°42'00	max. Earth dist.	-2776 May 10 j 09:49	27° $\Upsilon$ 41'58	45.09550 AU
morning rise	-2783 May 18 j 17:23	20° $\Upsilon$ 31'40					
retrograde	-2783 Aug 14 j 15:04	21° $\Upsilon$ 45'42		conjunction	-2776 May 12 j 10:10	27° $\Upsilon$ 44'56	-5°37'57
opposition	-2783 Nov 04 j 01:11	20° $\Upsilon$ 44'05	-7°54'02	minimum elong	-2776 May 12 j 10:18	27° $\Upsilon$ 44'57	5°37'54
min. Earth dist.	-2783 Nov 05 j 11:36	20° $\Upsilon$ 42'22	44.27625 AU	morning rise	-2776 May 27 j 10:46	28° $\Upsilon$ 06'51	
direct	-2782 Jan 24 j 22:48	19° $\Upsilon$ 41'54		retrograde	-2776 Aug 22 j 03:52	29° $\Upsilon$ 21'18	
evening set	-2782 Apr 22 j 00:54	20° $\Upsilon$ 54'59		opposition	-2776 Nov 11 j 03:34	28° $\Upsilon$ 18'43	-5°43'52
max. Earth dist.	-2782 May 04 j 11:13	21° $\Upsilon$ 12'41	46.17572 AU	min. Earth dist.	-2776 Nov 12 j 23:37	28° $\Upsilon$ 16'28	43.00740 AU
				direct	-2775 Feb 01 j 00:40	27° $\Upsilon$ 15'15	
conjunction	-2782 May 06 j 03:09	21° $\Upsilon$ 15'04	-7°25'07	evening set	-2775 Apr 28 j 16:03	28° $\Upsilon$ 29'15	
minimum elong	-2782 May 06 j 03:19	21° $\Upsilon$ 15'05	7°25'05	max. Earth dist.	-2775 May 11 j 18:11	28° $\Upsilon$ 48'21	44.90118 AU
morning rise	-2782 May 20 j 05:57	21° $\Upsilon$ 35'13					
retrograde	-2782 Aug 15 j 23:58	22° $\Upsilon$ 49'17		conjunction	-2775 May 13 j 19:57	28° $\Upsilon$ 51'25	-5°19'08
opposition	-2782 Nov 05 j 07:51	21° $\Upsilon$ 47'34	-7°36'17	minimum elong	-2775 May 13 j 20:05	28° $\Upsilon$ 51'25	5°19'06
min. Earth dist.	-2782 Nov 06 j 19:31	21° $\Upsilon$ 45'47	44.10780 AU	morning rise	-2775 May 28 j 23:45	29° $\Upsilon$ 13'37	
direct	-2781 Jan 26 j 04:12	20° $\Upsilon$ 45'15			-2775 Jul 04 j 05:22	0° $\mathcal{B}$	
evening set	-2781 Apr 23 j 05:22	21° $\Upsilon$ 58'26		retrograde	-2775 Aug 23 j 15:05	0° $\mathcal{B}$ 28'10	
max. Earth dist.	-2781 May 05 j 19:08	22° $\Upsilon$ 16'23	46.00670 AU		-2775 Oct 13 j 12:56	30° $\mathcal{R}\Upsilon$	
				opposition	-2775 Nov 12 j 11:27	29° $\Upsilon$ 25'23	-5°24'06
conjunction	-2781 May 07 j 11:52	22° $\Upsilon$ 18'50	-7°07'56	min. Earth dist.	-2775 Nov 14 j 07:46	29° $\Upsilon$ 23'08	42.81049 AU
minimum elong	-2781 May 07 j 12:02	22° $\Upsilon$ 18'50	7°07'54	direct	-2774 Feb 02 j 06:55	28° $\Upsilon$ 21'41	
morning rise	-2781 May 21 j 18:35	22° $\Upsilon$ 39'17		evening set	-2774 Apr 29 j 22:51	29° $\Upsilon$ 35'52	
retrograde	-2781 Aug 17 j 09:16	23° $\Upsilon$ 53'24		max. Earth dist.	-2774 May 13 j 02:25	29° $\Upsilon$ 55'09	44.70387 AU
opposition	-2781 Nov 06 j 14:40	22° $\Upsilon$ 51'35	-7°18'16				
min. Earth dist.	-2781 Nov 08 j 04:07	22° $\Upsilon$ 49'42	43.93548 AU	conjunction	-2774 May 15 j 05:44	29° $\Upsilon$ 58'19	-5°00'02
direct	-2780 Jan 27 j 09:36	21° $\Upsilon$ 49'07		minimum elong	-2774 May 15 j 05:52	29° $\Upsilon$ 58'19	4°59'59
evening set	-2780 Apr 23 j 10:21	23° $\Upsilon$ 02'24			-2774 May 16 j 09:01	0° $\mathcal{B}$	
max. Earth dist.	-2780 May 06 j 02:28	23° $\Upsilon$ 20'34	45.83363 AU	morning rise	-2774 May 30 j 12:27	0° $\mathcal{B}$ 20'47	
				retrograde	-2774 Aug 25 j 02:19	1° $\mathcal{B}$ 35'29	
conjunction	-2780 May 07 j 20:46	23° $\Upsilon$ 23'07	-6°50'28	opposition	-2774 Nov 13 j 19:39	0° $\mathcal{B}$ 32'30	-5°04'01
minimum elong	-2780 May 07 j 20:55	23° $\Upsilon$ 23'08	6°50'26	min. Earth dist.	-2774 Nov 15 j 17:46	0° $\mathcal{B}$ 30'08	42.61100 AU
morning rise	-2780 May 22 j 07:26	23° $\Upsilon$ 43'53			-2774 Dec 11 j 12:08	30° $\mathcal{R}\Upsilon$	
retrograde	-2780 Aug 17 j 20:59	24° $\Upsilon$ 58'03		direct	-2773 Feb 03 j 14:38	29° $\Upsilon$ 28'34	
opposition	-2780 Nov 06 j 21:41	23° $\Upsilon$ 56'06	-6°59'58		-2773 Mar 29 j 05:56	0° $\mathcal{B}$	
min. Earth dist.	-2780 Nov 08 j 11:40	23° $\Upsilon$ 54'12	43.75880 AU	evening set	-2773 May 01 j 06:05	0° $\mathcal{B}$ 42'58	
direct	-2779 Jan 27 j 14:42	22° $\Upsilon$ 53'29		max. Earth dist.	-2773 May 14 j 12:35	1° $\mathcal{B}$ 02'30	44.50428 AU
evening set	-2779 Apr 24 j 15:41	24° $\Upsilon$ 06'54					
max. Earth dist.	-2779 May 07 j 09:18	24° $\Upsilon$ 25'14	45.65578 AU	conjunction	-2773 May 16 j 15:55	1° $\mathcal{B}$ 05'41	-4°40'39
				minimum elong	-2773 May 16 j 16:02	1° $\mathcal{B}$ 05'41	4°40'37
conjunction	-2779 May 09 j 05:51	24° $\Upsilon$ 27'55	-6°32'45	morning rise	-2773 Jun 01 j 01:19	1° $\mathcal{B}$ 28'25	
minimum elong	-2779 May 09 j 06:01	24° $\Upsilon$ 27'56	6°32'43	retrograde	-2773 Aug 26 j 11:15	2° $\mathcal{B}$ 43'15	
morning rise	-2779 May 23 j 20:16	24° $\Upsilon$ 48'58		opposition	-2773 Nov 15 j 03:52	1° $\mathcal{B}$ 40'05	-4°43'39
retrograde	-2779 Aug 19 j 06:08	26° $\Upsilon$ 03'12		min. Earth dist.	-2773 Nov 17 j 02:00	1° $\mathcal{B}$ 37'42	42.40935 AU
opposition	-2779 Nov 08 j 04:58	25° $\Upsilon$ 01'07	-6°41'22	direct	-2772 Feb 05 j 01:15	0° $\mathcal{B}$ 35'55	
min. Earth dist.	-2779 Nov 09 j 21:22	24° $\Upsilon$ 59'05	43.57739 AU	evening set	-2772 May 01 j 13:54	1° $\mathcal{B}$ 50'34	
direct	-2778 Jan 28 j 21:50	23° $\Upsilon$ 58'19		max. Earth dist.	-2772 May 14 j 20:49	2° $\mathcal{B}$ 10'13	44.30262 AU
evening set	-2778 Apr 25 j 21:13	25° $\Upsilon$ 11'52					
max. Earth dist.	-2778 May 08 j 18:00	25° $\Upsilon$ 30'26	45.47333 AU	conjunction	-2772 May 17 j 02:17	2° $\mathcal{B}$ 13'33	-4°20'58
				minimum elong	-2772 May 17 j 02:24	2° $\mathcal{B}$ 13'34	4°20'56
conjunction	-2778 May 10 j 15:10	25° $\Upsilon$ 33'10	-6°14'45	morning rise	-2772 Jun 01 j 14:24	2° $\mathcal{B}$ 36'33	
minimum elong	-2778 May 10 j 15:19	25° $\Upsilon$ 33'11	6°14'43	retrograde	-2772 Aug 26 j 21:01	3° $\mathcal{B}$ 51'35	
morning rise	-2778 May 25 j 09:03	25° $\Upsilon$ 54'32		opposition	-2772 Nov 15 j 12:27	2° $\mathcal{B}$ 48'13	-4°22'57
retrograde	-2778 Aug 20 j 11:40	27° $\Upsilon$ 08'48		min. Earth dist.	-2772 Nov 17 j 11:56	2° $\mathcal{B}$ 45'46	42.20580 AU
opposition	-2778 Nov 09 j 12:20	26° $\Upsilon$ 06'34	-6°22'30	direct	-2771 Feb 05 j 09:46	1° $\mathcal{B}$ 43'50	
min. Earth dist.	-2778 Nov 11 j 05:17	26° $\Upsilon$ 04'30	43.39141 AU	evening set	-2771 May 02 j 21:58	2° $\mathcal{B}$ 58'46	
direct	-2777 Jan 30 j 08:52	25° $\Upsilon$ 03'34		max. Earth dist.	-2771 May 16 j 07:20	3° $\mathcal{B}$ 18'39	44.09884 AU

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10

Attention, astronomical year style is used: The year -2771 in astronomical counting style is the year 2772 BCE in historical counting style.

conjunction	-2771 May 18 j 12:59	3°822'01	-4°01'00	evening set	-2764 May 10 j 20:41	11°816'04	
minimum elong	-2771 May 18 j 13:05	3°822'01	4°00'58	max. Earth dist.	-2764 May 24 j 07:53	11°836'50	42.57957 AU
morning rise	-2771 Jun 03 j 03:19	3°845'16					
retrograde	-2771 Aug 28 j 04:48	5°800'31		conjunction	-2764 May 26 j 23:42	11°840'59	-1°33'18
opposition	-2771 Nov 16 j 21:16	3°856'59	-4°01'57	minimum elong	-2764 May 26 j 23:45	11°840'59	1°33'15
min. Earth dist.	-2771 Nov 18 j 21:44	3°854'29	42.00002 AU	morning rise	-2764 Jun 12 j 01:25	12°805'52	
direct	-2770 Feb 06 j 19:46	2°852'23		retrograde	-2764 Sep 05 j 16:10	13°823'21	
evening set	-2770 May 04 j 06:37	4°807'37		opposition	-2764 Nov 24 j 18:37	12°818'20	-1°26'22
max. Earth dist.	-2770 May 17 j 16:44	4°827'39	43.89282 AU	min. Earth dist.	-2764 Nov 27 j 04:00	12°815'16	40.46386 AU
				direct	-2763 Feb 14 j 13:57	11°811'53	
conjunction	-2770 May 19 j 23:49	4°831'08	-3°40'45	evening set	-2763 May 12 j 08:44	12°829'59	
minimum elong	-2770 May 19 j 23:55	4°831'08	3°40'42	max. Earth dist.	-2763 May 25 j 20:14	12°850'54	42.34802 AU
morning rise	-2770 Jun 04 j 16:31	4°854'38					
retrograde	-2770 Aug 29 j 17:16	6°810'09		conjunction	-2763 May 28 j 12:35	12°855'06	-1°11'05
opposition	-2770 Nov 18 j 06:14	5°806'27	-3°40'38	minimum elong	-2763 May 28 j 12:37	12°855'06	1°11'01
min. Earth dist.	-2770 Nov 20 j 07:08	5°803'54	41.79182 AU	morning rise	-2763 Jun 13 j 15:05	13°820'11	
direct	-2769 Feb 08 j 02:21	4°801'37		retrograde	-2763 Sep 07 j 06:54	14°838'04	
evening set	-2769 May 05 j 15:37	5°817'12		opposition	-2763 Nov 26 j 05:33	13°832'47	-1°02'56
max. Earth dist.	-2769 May 19 j 02:24	5°837'23	43.68376 AU	min. Earth dist.	-2763 Nov 28 j 14:54	13°829'43	40.23076 AU
				direct	-2762 Feb 16 j 00:39	12°826'01	
conjunction	-2769 May 21 j 11:00	5°840'57	-3°20'13	evening set	-2762 May 13 j 21:21	13°844'38	
minimum elong	-2769 May 21 j 11:05	5°840'58	3°20'10	max. Earth dist.	-2762 May 27 j 07:28	14°805'36	42.11410 AU
morning rise	-2769 Jun 06 j 05:40	6°804'43					
retrograde	-2769 Aug 31 j 05:58	7°820'31		conjunction	-2762 May 30 j 01:45	14°809'57	-0°48'35
opposition	-2769 Nov 19 j 15:40	6°816'37	-3°19'01	minimum elong	-2762 May 30 j 01:46	14°809'57	0°48'32
min. Earth dist.	-2769 Nov 21 j 18:48	6°813'57	41.58030 AU	morning rise	-2762 Jun 15 j 04:50	14°835'13	
direct	-2768 Feb 09 j 09:22	5°811'34			-2762 Jul 02 j 00:28	15°8	
evening set	-2768 May 06 j 01:17	6°827'31		retrograde	-2762 Sep 08 j 20:10	15°853'33	
max. Earth dist.	-2768 May 19 j 13:20	6°847'53	43.47111 AU		-2762 Nov 18 j 08:35	15°8	
				opposition	-2762 Nov 27 j 16:54	14°847'59	-0°39'11
conjunction	-2768 May 21 j 22:39	6°851'32	-2°59'23	min. Earth dist.	-2762 Nov 30 j 03:59	14°844'49	39.99585 AU
minimum elong	-2768 May 21 j 22:44	6°851'32	2°59'20	direct	-2761 Feb 17 j 11:45	13°840'54	
morning rise	-2768 Jun 06 j 19:06	7°815'32		evening set	-2761 May 15 j 10:18	15°800'05	
retrograde	-2768 Aug 31 j 17:09	8°831'37			-2761 May 15 j 09:06	15°8	
opposition	-2768 Nov 20 j 01:12	7°827'32	-2°57'06	max. Earth dist.	-2761 May 28 j 21:12	15°821'12	41.87856 AU
min. Earth dist.	-2768 Nov 22 j 04:44	7°824'50	41.36490 AU				
direct	-2767 Feb 09 j 20:59	6°822'14		conjunction	-2761 May 31 j 15:16	15°825'35	-0°25'50
evening set	-2767 May 07 j 11:34	7°838'35		minimum elong	-2761 May 31 j 15:17	15°825'35	0°25'45
max. Earth dist.	-2767 May 20 j 22:32	7°859'00	43.25428 AU	morning rise	-2761 Jun 16 j 18:33	15°851'01	
				retrograde	-2761 Sep 10 j 06:52	17°809'49	
conjunction	-2767 May 23 j 10:30	8°802'50	-2°38'17	opposition	-2761 Nov 29 j 04:36	16°804'00	-0°15'09
minimum elong	-2767 May 23 j 10:34	8°802'51	2°38'14	min. Earth dist.	-2761 Dec 01 j 15:51	16°800'48	39.75950 AU
morning rise	-2767 Jun 08 j 08:41	8°827'04			-2760 Feb 02 j 08:01	15°8	
retrograde	-2767 Sep 02 j 04:49	9°843'28		direct	-2760 Feb 19 j 02:27	14°856'36	
opposition	-2767 Nov 21 j 11:13	8°839'11	-2°34'52		-2760 Mar 06 j 16:48	15°8	
min. Earth dist.	-2767 Nov 23 j 16:43	8°836'22	41.14541 AU	evening set	-2760 May 16 j 00:11	16°816'21	
direct	-2766 Feb 11 j 07:42	7°833'37		max. Earth dist.	-2760 May 29 j 09:17	16°837'31	41.64179 AU
evening set	-2766 May 08 j 21:57	8°850'22					
max. Earth dist.	-2766 May 22 j 10:12	9°810'58	43.03322 AU	conjunction	-2760 Jun 01 j 05:08	16°842'02	-0°02'50
				minimum elong	-2760 Jun 01 j 05:07	16°842'02	0°02'47
conjunction	-2766 May 24 j 22:35	9°814'51	-2°16'54	behind sun begin	-2760 May 31 j 22:36	16°841'38	
minimum elong	-2766 May 24 j 22:39	9°814'52	2°16'51	behind sun end	-2760 Jun 01 j 11:38	16°842'27	
morning rise	-2766 Jun 09 j 22:01	9°839'19		morning rise	-2760 Jun 17 j 08:35	17°807'39	
retrograde	-2766 Sep 03 j 14:30	10°856'03		asc. node	-2760 Jul 14 j 23:30	17°847'16	
opposition	-2766 Nov 22 j 21:29	9°851'32	-2°12'20	retrograde	-2760 Sep 10 j 20:08	18°826'58	
min. Earth dist.	-2766 Nov 25 j 04:05	9°848'39	40.92172 AU	opposition	-2760 Nov 29 j 16:32	17°820'53	0°09'11
direct	-2765 Feb 12 j 19:32	8°845'42		min. Earth dist.	-2760 Dec 02 j 04:26	17°817'38	39.52225 AU
evening set	-2765 May 10 j 09:07	10°802'52		direct	-2759 Feb 19 j 14:00	16°813'10	
max. Earth dist.	-2765 May 23 j 20:28	10°823'32	42.80822 AU	evening set	-2759 May 17 j 14:31	17°833'33	
				max. Earth dist.	-2759 May 30 j 23:20	17°854'50	41.40395 AU
conjunction	-2765 May 26 j 10:56	10°827'34	-1°55'14				
minimum elong	-2765 May 26 j 10:59	10°827'34	1°55'11	conjunction	-2759 Jun 02 j 19:29	17°859'25	0°20'34
morning rise	-2765 Jun 11 j 11:45	10°852'15		minimum elong	-2759 Jun 02 j 19:28	17°859'25	0°20'38
retrograde	-2765 Sep 05 j 02:57	12°809'20		morning rise	-2759 Jun 18 j 22:33	18°825'11	
opposition	-2765 Nov 24 j 07:48	11°804'35	-1°49'30	retrograde	-2759 Sep 12 j 09:21	19°845'04	
min. Earth dist.	-2765 Nov 26 j 15:19	11°801'38	40.69444 AU	opposition	-2759 Dec 01 j 05:04	18°838'44	0°33'49
direct	-2764 Feb 14 j 04:40	9°858'27		min. Earth dist.	-2759 Dec 03 j 18:12	18°835'23	39.28399 AU

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 11

Attention, astronomical year style is used: The year -2758 in astronomical counting style is the year 2759 BCE in historical counting style.

direct	-2758 Feb 21 j 00:49	17° <del>8</del> 30'43		retrograde	-2752 Sep 22 j 02:44	29° <del>8</del> 21'36	
evening set	-2758 May 19 j 05:25	18° <del>8</del> 51'46		opposition	-2752 Dec 10 j 07:33	28° <del>8</del> 13'11	3°33'54
max. Earth dist.	-2758 Jun 01 j 13:11	19° <del>8</del> 13'07	41.16509 AU	min. Earth dist.	-2752 Dec 13 j 03:49	28° <del>8</del> 09'19	37.55927 AU
				direct	-2751 Mar 01 j 23:45	27° <del>8</del> 02'38	
conjunction	-2758 Jun 04 j 09:56	19° <del>8</del> 17'46	0°44'07	evening set	-2751 May 29 j 11:23	28° <del>8</del> 29'29	
minimum elong	-2758 Jun 04 j 09:54	19° <del>8</del> 17'46	0°44'10	max. Earth dist.	-2751 Jun 11 j 00:45	28° <del>8</del> 50'41	39.42863 AU
morning rise	-2758 Jun 20 j 12:39	19° <del>8</del> 43'42					
retrograde	-2758 Sep 14 j 01:31	21° <del>8</del> 04'11		conjunction	-2751 Jun 14 j 04:57	28° <del>8</del> 56'07	3°35'54
opposition	-2758 Dec 02 j 17:47	19° <del>8</del> 57'36	0°58'43	minimum elong	-2751 Jun 14 j 04:49	28° <del>8</del> 56'06	3°35'58
min. Earth dist.	-2758 Dec 05 j 06:53	19° <del>8</del> 54'14	39.04455 AU	morning rise	-2751 Jun 29 j 19:59	29° <del>8</del> 22'38	
direct	-2757 Feb 22 j 12:09	18° <del>8</del> 49'16			-2751 Jul 23 j 18:41	0° <del>II</del>	
evening set	-2757 May 20 j 21:11	20° <del>8</del> 11'03		retrograde	-2751 Sep 23 j 21:29	0° <del>II</del> 48'15	
max. Earth dist.	-2757 Jun 03 j 02:31	20° <del>8</del> 32'24	40.92451 AU		-2751 Nov 26 j 17:37	30° <del>R</del> <del>8</del>	
				opposition	-2751 Dec 11 j 23:24	29° <del>8</del> 39'28	4°00'38
conjunction	-2757 Jun 06 j 01:01	20° <del>8</del> 37'11	1°07'56	min. Earth dist.	-2751 Dec 14 j 19:25	29° <del>8</del> 35'35	37.30471 AU
minimum elong	-2757 Jun 06 j 00:59	20° <del>8</del> 37'11	1°08'00	direct	-2750 Mar 03 j 16:24	28° <del>8</del> 28'30	
morning rise	-2757 Jun 22 j 02:58	21° <del>8</del> 03'15		evening set	-2750 May 31 j 08:19	29° <del>8</del> 56'20	
retrograde	-2757 Sep 15 j 19:25	22° <del>8</del> 24'22			-2750 Jun 02 j 12:39	0° <del>II</del>	
opposition	-2757 Dec 04 j 06:55	21° <del>8</del> 17'32	1°23'55	max. Earth dist.	-2750 Jun 12 j 16:57	0° <del>II</del> 17'24	39.17265 AU
min. Earth dist.	-2757 Dec 06 j 22:01	21° <del>8</del> 14'03	38.80329 AU				
direct	-2756 Feb 23 j 23:36	20° <del>8</del> 08'53		conjunction	-2750 Jun 15 j 22:53	0° <del>II</del> 22'59	4°01'18
evening set	-2756 May 21 j 13:41	21° <del>8</del> 31'26		minimum elong	-2750 Jun 15 j 22:45	0° <del>II</del> 22'58	4°01'22
max. Earth dist.	-2756 Jun 03 j 18:04	21° <del>8</del> 52'52	40.68174 AU	morning rise	-2750 Jul 01 j 11:02	0° <del>II</del> 49'30	
				retrograde	-2750 Sep 25 j 17:43	2° <del>II</del> 16'02	
conjunction	-2756 Jun 06 j 16:40	21° <del>8</del> 57'42	1°32'01	opposition	-2750 Dec 13 j 15:46	1° <del>II</del> 06'52	4°27'35
minimum elong	-2756 Jun 06 j 16:38	21° <del>8</del> 57'42	1°32'04	min. Earth dist.	-2750 Dec 16 j 13:08	1° <del>II</del> 02'54	37.04971 AU
morning rise	-2756 Jun 22 j 17:30	22° <del>8</del> 23'52			-2749 Feb 14 j 17:26	30° <del>R</del> <del>8</del>	
retrograde	-2756 Sep 16 j 11:16	23° <del>8</del> 45'40		direct	-2749 Mar 05 j 08:16	29° <del>8</del> 55'29	
opposition	-2756 Dec 04 j 20:35	22° <del>8</del> 38'33	1°49'23		-2749 Mar 23 j 22:53	0° <del>II</del>	
min. Earth dist.	-2756 Dec 07 j 11:57	22° <del>8</del> 35'02	38.55957 AU	evening set	-2749 Jun 02 j 06:06	1° <del>II</del> 24'22	
direct	-2755 Feb 24 j 14:53	21° <del>8</del> 29'33		max. Earth dist.	-2749 Jun 14 j 12:11	1° <del>II</del> 45'25	38.91639 AU
evening set	-2755 May 23 j 06:59	22° <del>8</del> 52'55					
max. Earth dist.	-2755 Jun 05 j 07:41	23° <del>8</del> 14'15	40.43623 AU	conjunction	-2749 Jun 17 j 17:33	1° <del>II</del> 51'01	4°26'53
				minimum elong	-2749 Jun 17 j 17:24	1° <del>II</del> 51'00	4°26'57
conjunction	-2755 Jun 08 j 08:33	23° <del>8</del> 19'17	1°56'20	morning rise	-2749 Jul 03 j 02:15	2° <del>II</del> 17'30	
minimum elong	-2755 Jun 08 j 08:29	23° <del>8</del> 19'17	1°56'24	retrograde	-2749 Sep 27 j 10:56	3° <del>II</del> 44'59	
morning rise	-2755 Jun 24 j 08:09	23° <del>8</del> 45'34		opposition	-2749 Dec 15 j 08:32	2° <del>II</del> 35'29	4°54'43
retrograde	-2755 Sep 18 j 03:09	25° <del>8</del> 08'03		min. Earth dist.	-2749 Dec 18 j 05:57	2° <del>II</del> 31'28	36.79475 AU
opposition	-2755 Dec 06 j 10:41	24° <del>8</del> 00'38	2°15'08	direct	-2748 Mar 06 j 02:25	1° <del>II</del> 23'41	
min. Earth dist.	-2755 Dec 09 j 03:34	23° <del>8</del> 57'01	38.31321 AU	evening set	-2748 Jun 03 j 05:00	2° <del>II</del> 53'41	
direct	-2754 Feb 26 j 04:43	22° <del>8</del> 51'17		max. Earth dist.	-2748 Jun 15 j 05:59	3° <del>II</del> 14'32	38.66046 AU
evening set	-2754 May 25 j 00:52	24° <del>8</del> 15'27					
max. Earth dist.	-2754 Jun 06 j 23:45	24° <del>8</del> 36'50	40.18785 AU	conjunction	-2748 Jun 18 j 12:37	3° <del>II</del> 20'17	4°52'37
				minimum elong	-2748 Jun 18 j 12:27	3° <del>II</del> 20'16	4°52'41
conjunction	-2754 Jun 10 j 01:04	24° <del>8</del> 41'56	2°20'53	morning rise	-2748 Jul 03 j 17:45	3° <del>II</del> 46'44	
minimum elong	-2754 Jun 10 j 00:59	24° <del>8</del> 41'56	2°20'57	retrograde	-2748 Sep 28 j 05:59	5° <del>II</del> 15'14	
morning rise	-2754 Jun 25 j 22:51	25° <del>8</del> 08'18		opposition	-2748 Dec 16 j 01:57	4° <del>II</del> 05'23	5°22'01
retrograde	-2754 Sep 19 j 16:38	26° <del>8</del> 31'31		min. Earth dist.	-2748 Dec 18 j 23:38	4° <del>II</del> 01'20	36.54056 AU
opposition	-2754 Dec 08 j 01:14	25° <del>8</del> 23'47	2°41'08	direct	-2747 Mar 07 j 19:12	2° <del>II</del> 53'10	
min. Earth dist.	-2754 Dec 10 j 19:17	25° <del>8</del> 20'04	38.06409 AU	evening set	-2747 Jun 05 j 04:33	4° <del>II</del> 24'21	
direct	-2753 Feb 27 j 20:45	24° <del>8</del> 14'03		max. Earth dist.	-2747 Jun 17 j 01:40	4° <del>II</del> 45'07	38.40514 AU
evening set	-2753 May 26 j 19:36	25° <del>8</del> 39'04					
max. Earth dist.	-2753 Jun 08 j 14:59	26° <del>8</del> 00'22	39.93692 AU	conjunction	-2747 Jun 20 j 08:15	4° <del>II</del> 50'54	5°18'29
				minimum elong	-2747 Jun 20 j 08:04	4° <del>II</del> 50'53	5°18'33
conjunction	-2753 Jun 11 j 17:49	26° <del>8</del> 05'37	2°45'41	morning rise	-2747 Jul 05 j 09:06	5° <del>II</del> 17'18	
minimum elong	-2753 Jun 11 j 17:44	26° <del>8</del> 05'37	2°45'45	retrograde	-2747 Sep 30 j 00:21	6° <del>II</del> 46'53	
morning rise	-2753 Jun 27 j 13:51	26° <del>8</del> 32'03		opposition	-2747 Dec 17 j 20:00	5° <del>II</del> 36'42	5°49'29
retrograde	-2753 Sep 21 j 09:37	27° <del>8</del> 56'02		min. Earth dist.	-2747 Dec 20 j 18:35	5° <del>II</del> 32'34	36.28715 AU
opposition	-2753 Dec 09 j 16:08	26° <del>8</del> 47'57	3°07'24	direct	-2746 Mar 09 j 11:36	4° <del>II</del> 24'06	
min. Earth dist.	-2753 Dec 12 j 10:32	26° <del>8</del> 44'13	37.81265 AU	evening set	-2746 Jun 07 j 05:16	5° <del>II</del> 56'32	
direct	-2752 Feb 29 j 10:15	25° <del>8</del> 37'50		max. Earth dist.	-2746 Jun 18 j 21:32	6° <del>II</del> 17'08	38.15070 AU
evening set	-2752 May 27 j 15:07	27° <del>8</del> 03'44					
max. Earth dist.	-2752 Jun 09 j 07:06	27° <del>8</del> 24'58	39.68356 AU	conjunction	-2746 Jun 22 j 04:23	6° <del>II</del> 22'59	5°44'28
				minimum elong	-2746 Jun 22 j 04:11	6° <del>II</del> 22'59	5°44'32
conjunction	-2752 Jun 12 j 11:12	27° <del>8</del> 30'20	3°10'41	morning rise	-2746 Jul 07 j 00:50	6° <del>II</del> 49'18	
minimum elong	-2752 Jun 12 j 11:06	27° <del>8</del> 30'20	3°10'45	retrograde	-2746 Oct 01 j 21:38	8° <del>II</del> 20'03	
morning rise	-2752 Jun 28 j 04:51	27° <del>8</del> 56'49		opposition	-2746 Dec 19 j 14:24	7° <del>II</del> 09'32	6°17'05

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 12

Attention, astronomical year style is used: The year -2746 in astronomical counting style is the year 2747 BCE in historical counting style.

min. Earth dist.	-2746 Dec 22 j 12:29	7°II05'25	36.03458 AU	morning rise	-2739 Jul 16 j 19:32	18°II17'43	
direct	-2745 Mar 11 j 03:33	5°II56'33		retrograde	-2739 Oct 13 j 17:25	19°II58'15	
evening set	-2745 Jun 09 j 06:58	7°II30'18		opposition	-2739 Dec 30 j 18:42	18°II45'06	9°32'15
max. Earth dist.	-2745 Jun 20 j 17:15	7°II50'40	37.89657 AU	min. Earth dist.	-2738 Jan 02 j 20:47	18°II40'33	34.26145 AU
				direct	-2738 Mar 22 j 03:17	17°II29'01	
conjunction	-2745 Jun 24 j 01:13	7°II56'39	6°10'33	evening set	-2738 Jun 23 j 03:02	19°II13'49	
minimum elong	-2745 Jun 24 j 01:00	7°II56'38	6°10'38	max. Earth dist.	-2738 Jul 02 j 09:21	19°II31'29	36.10811 AU
morning rise	-2745 Jul 08 j 16:43	8°II22'50					
retrograde	-2745 Oct 03 j 20:09	9°II54'49		conjunction	-2738 Jul 05 j 21:02	19°II38'11	9°14'07
opposition	-2745 Dec 21 j 09:38	8°II43'58	6°44'48	minimum elong	-2738 Jul 05 j 20:44	19°II38'10	9°14'12
min. Earth dist.	-2745 Dec 24 j 09:20	8°II39'44	35.78224 AU	morning rise	-2738 Jul 18 j 12:22	20°II02'23	
direct	-2744 Mar 11 j 20:57	7°II30'36		retrograde	-2738 Oct 15 j 19:53	21°II44'35	
evening set	-2744 Jun 10 j 09:50	9°II05'46		opposition	-2737 Jan 01 j 18:34	20°II30'59	10°00'03
max. Earth dist.	-2744 Jun 21 j 15:12	9°II25'56	37.64233 AU	min. Earth dist.	-2737 Jan 04 j 21:47	20°II26'20	34.00982 AU
				direct	-2737 Mar 24 j 01:01	19°II14'24	
conjunction	-2744 Jun 24 j 22:45	9°II31'57	6°36'43	evening set	-2737 Jun 25 j 14:10	21°II01'04	
minimum elong	-2744 Jun 24 j 22:32	9°II31'56	6°36'48	max. Earth dist.	-2737 Jul 04 j 12:29	21°II18'16	35.85486 AU
morning rise	-2744 Jul 09 j 08:48	9°II57'59					
retrograde	-2744 Oct 04 j 19:49	11°II31'14		conjunction	-2737 Jul 07 j 23:02	21°II24'57	9°40'05
opposition	-2744 Dec 22 j 05:25	10°II20'03	7°12'36	minimum elong	-2737 Jul 07 j 22:42	21°II24'55	9°40'10
min. Earth dist.	-2744 Dec 25 j 04:58	10°II15'49	35.52961 AU	morning rise	-2737 Jul 20 j 05:10	21°II48'38	
direct	-2743 Mar 13 j 17:39	9°II06'17		retrograde	-2737 Oct 17 j 22:56	23°II32'35	
evening set	-2743 Jun 12 j 13:55	10°II42'54		opposition	-2736 Jan 03 j 19:14	22°II18'33	10°27'40
max. Earth dist.	-2743 Jun 23 j 11:28	11°II02'42	37.38752 AU	min. Earth dist.	-2736 Jan 06 j 21:33	22°II13'56	33.76043 AU
				direct	-2736 Mar 25 j 02:06	21°II01'27	
conjunction	-2743 Jun 26 j 20:52	11°II08'55	7°02'57	evening set	-2736 Jun 27 j 02:38	22°II50'05	
minimum elong	-2743 Jun 26 j 20:37	11°II08'53	7°03'02	max. Earth dist.	-2736 Jul 05 j 14:12	23°II06'36	35.60413 AU
morning rise	-2743 Jul 11 j 01:10	11°II34'44					
retrograde	-2743 Oct 06 j 20:12	13°II09'21		conjunction	-2736 Jul 09 j 01:36	23°II13'24	10°05'51
opposition	-2743 Dec 24 j 01:59	11°II57'48	7°40'30	minimum elong	-2736 Jul 09 j 01:16	23°II13'23	10°05'57
min. Earth dist.	-2743 Dec 27 j 02:43	11°II53'28	35.27653 AU	morning rise	-2736 Jul 20 j 22:08	23°II36'34	
direct	-2742 Mar 15 j 13:12	10°II43'37		retrograde	-2736 Oct 19 j 03:22	25°II22'20	
evening set	-2742 Jun 14 j 18:49	12°II21'45		opposition	-2735 Jan 04 j 20:40	24°II07'52	10°55'05
max. Earth dist.	-2742 Jun 25 j 10:30	12°II41'16	37.13198 AU	min. Earth dist.	-2735 Jan 07 j 23:18	24°II03'12	33.51416 AU
				direct	-2735 Mar 27 j 01:51	22°II50'17	
conjunction	-2742 Jun 28 j 19:36	12°II47'31	7°29'14	evening set	-2735 Jun 29 j 16:28	24°II40'58	
minimum elong	-2742 Jun 28 j 19:21	12°II47'30	7°29'19	max. Earth dist.	-2735 Jul 07 j 19:02	24°II56'55	35.35664 AU
morning rise	-2742 Jul 12 j 17:26	13°II13'07					
retrograde	-2742 Oct 08 j 17:49	14°II49'07		conjunction	-2735 Jul 11 j 05:03	25°II03'41	10°31'23
opposition	-2742 Dec 25 j 23:15	13°II37'12	8°08'26	minimum elong	-2735 Jul 11 j 04:42	25°II03'39	10°31'27
min. Earth dist.	-2742 Dec 29 j 00:29	13°II32'47	35.02274 AU	morning rise	-2735 Jul 22 j 15:00	25°II26'13	
direct	-2741 Mar 17 j 11:16	12°II22'34		retrograde	-2735 Oct 21 j 07:20	27°II13'55	
evening set	-2741 Jun 17 j 01:13	14°II02'16		opposition	-2734 Jan 06 j 22:59	25°II59'02	11°22'14
max. Earth dist.	-2741 Jun 27 j 08:34	14°II21'20	36.87586 AU	min. Earth dist.	-2734 Jan 10 j 01:10	25°II54'22	33.27134 AU
				direct	-2734 Mar 29 j 05:17	24°II41'00	
conjunction	-2741 Jun 30 j 19:00	14°II27'46	7°55'31	evening set	-2734 Jul 02 j 07:43	26°II33'50	
minimum elong	-2741 Jun 30 j 18:43	14°II27'44	7°55'35	max. Earth dist.	-2734 Jul 09 j 22:37	26°II49'00	35.11282 AU
morning rise	-2741 Jul 14 j 10:09	14°II53'05					
retrograde	-2741 Oct 10 j 17:28	16°II30'31		conjunction	-2734 Jul 13 j 08:57	26°II55'51	10°56'36
opposition	-2741 Dec 27 j 20:55	15°II18'13	8°36'24	minimum elong	-2734 Jul 13 j 08:35	26°II55'50	10°56'41
min. Earth dist.	-2741 Dec 30 j 22:26	15°II13'46	34.76869 AU	morning rise	-2734 Jul 24 j 07:56	27°II17'42	
direct	-2740 Mar 18 j 08:31	14°II03'06		retrograde	-2734 Oct 23 j 13:56	29°II07'27	
evening set	-2740 Jun 18 j 08:39	15°II44'27		opposition	-2733 Jan 09 j 01:56	27°II52'10	11°49'03
max. Earth dist.	-2740 Jun 28 j 08:26	16°II03'07	36.61936 AU	min. Earth dist.	-2733 Jan 12 j 03:27	27°II47'30	33.03226 AU
				direct	-2733 Mar 31 j 07:23	26°II33'41	
conjunction	-2740 Jul 01 j 19:12	16°II09'37	8°21'47	evening set	-2733 Jul 05 j 00:33	28°II28'48	
minimum elong	-2740 Jul 01 j 18:55	16°II09'36	8°21'52	max. Earth dist.	-2733 Jul 12 j 04:23	28°II43'11	34.87236 AU
morning rise	-2740 Jul 15 j 02:51	16°II34'37					
retrograde	-2740 Oct 11 j 16:42	18°II13'34		conjunction	-2733 Jul 15 j 13:57	28°II50'03	11°21'28
opposition	-2740 Dec 28 j 19:33	17°II00'51	9°04'22	minimum elong	-2733 Jul 15 j 13:34	28°II50'01	11°21'32
min. Earth dist.	-2740 Dec 31 j 22:21	16°II56'17	34.51466 AU	morning rise	-2733 Jul 26 j 00:55	29°II11'07	
direct	-2739 Mar 20 j 04:47	15°II45'16			-2733 Aug 20 j 20:58	0°☾	
evening set	-2739 Jun 20 j 17:16	17°II28'18		retrograde	-2733 Oct 25 j 17:59	1°☾03'01	
max. Earth dist.	-2739 Jun 30 j 08:59	17°II46'31	36.36327 AU		-2732 Jan 02 j 22:23	30°☾II	
				opposition	-2732 Jan 11 j 05:49	29°II47'21	12°15'30
conjunction	-2739 Jul 03 j 19:45	17°II53'06	8°48'00	min. Earth dist.	-2732 Jan 14 j 07:54	29°II42'37	32.79651 AU
minimum elong	-2739 Jul 03 j 19:26	17°II53'04	8°48'04	direct	-2732 Apr 01 j 09:21	28°II28'25	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 13

Attention, astronomical year style is used: The year -2732 in astronomical counting style is the year 2733 BCE in historical counting style.

	-2732 Jun 23 j 16:07	0°☾		retrograde	-2726 Nov 09 j 11:24	15°☾30'44	
evening set	-2732 Jul 06 j 19:14	0°☾25'56		opposition	-2725 Jan 25 j 10:06	14°☾12'09	15°05'13
max. Earth dist.	-2732 Jul 13 j 10:35	0°☾39'25	34.63521 AU	min. Earth dist.	-2725 Jan 28 j 09:12	14°☾07'25	31.23578 AU
				direct	-2725 Apr 16 j 06:01	12°☾50'01	
conjunction	-2732 Jul 16 j 19:37	0°☾46'19	11°45'57	evening set	-2725 Jul 27 j 17:44	15°☾08'22	
minimum elong	-2732 Jul 16 j 19:14	0°☾46'17	11°46'02	max. Earth dist.	-2725 Jul 29 j 04:56	15°☾11'35	33.06558 AU
morning rise	-2732 Jul 26 j 17:54	1°☾06'32					
retrograde	-2732 Oct 27 j 00:28	3°☾00'41		conjunction	-2725 Aug 01 j 09:35	15°☾18'34	14°21'24
opposition	-2731 Jan 12 j 10:34	1°☾44'38	12°41'31	minimum elong	-2725 Aug 01 j 09:11	15°☾18'32	14°21'28
min. Earth dist.	-2731 Jan 15 j 11:35	1°☾39'57	32.56391 AU	morning rise	-2725 Aug 06 j 00:22	15°☾28'40	
direct	-2731 Apr 03 j 12:49	0°☾25'16		retrograde	-2725 Nov 12 j 01:12	17°☾42'48	
evening set	-2731 Jul 09 j 15:22	2°☾25'17		opposition	-2724 Jan 27 j 20:54	16°☾23'48	15°26'21
max. Earth dist.	-2731 Jul 15 j 16:48	2°☾37'43	34.40084 AU	min. Earth dist.	-2724 Jan 30 j 18:08	16°☾19'10	31.03048 AU
				direct	-2724 Apr 17 j 16:08	15°☾01'13	
conjunction	-2731 Jul 19 j 02:02	2°☾44'42	12°09'59	evening set	-2724 Jul 30 j 13:31	17°☾23'53	
minimum elong	-2731 Jul 19 j 01:38	2°☾44'40	12°10'03	max. Earth dist.	-2724 Jul 30 j 18:32	17°☾24'21	32.86043 AU
morning rise	-2731 Jul 28 j 10:39	3°☾03'57					
retrograde	-2731 Oct 29 j 07:46	5°☾00'30		conjunction	-2724 Aug 02 j 21:31	17°☾31'15	14°40'27
opposition	-2730 Jan 14 j 16:22	3°☾44'02	13°07'03	minimum elong	-2724 Aug 02 j 21:08	17°☾31'13	14°40'32
min. Earth dist.	-2730 Jan 17 j 18:11	3°☾39'16	32.33418 AU	morning rise	-2724 Aug 06 j 04:35	17°☾38'31	
direct	-2730 Apr 05 j 14:57	2°☾24'13		retrograde	-2724 Nov 13 j 12:23	19°☾56'51	
evening set	-2730 Jul 12 j 13:38	4°☾26'51		opposition	-2723 Jan 29 j 08:57	18°☾37'27	15°46'25
max. Earth dist.	-2730 Jul 18 j 01:21	4°☾38'14	34.16938 AU	min. Earth dist.	-2723 Feb 01 j 05:46	18°☾32'49	30.83188 AU
				direct	-2723 Apr 20 j 01:33	17°☾14'27	
conjunction	-2730 Jul 21 j 09:23	4°☾45'11	12°33'31	max. Earth dist.	-2723 Aug 02 j 09:05	19°☾39'08	32.66265 AU
minimum elong	-2730 Jul 21 j 08:59	4°☾45'09	12°33'36	evening set	-2723 Aug 04 j 11:27	19°☾43'49	
morning rise	-2730 Jul 30 j 03:11	5°☾03'23					
retrograde	-2730 Oct 31 j 16:09	7°☾02'25		conjunction	-2723 Aug 05 j 09:55	19°☾45'55	14°58'27
opposition	-2729 Jan 16 j 22:49	5°☾45'33	13°32'04	minimum elong	-2723 Aug 05 j 09:33	19°☾45'53	14°58'30
min. Earth dist.	-2729 Jan 19 j 23:30	5°☾40'50	32.10727 AU	morning rise	-2723 Aug 06 j 07:40	19°☾47'56	
direct	-2729 Apr 07 j 21:00	4°☾25'17		retrograde	-2723 Nov 16 j 01:38	22°☾12'53	
evening set	-2729 Jul 15 j 13:49	6°☾30'40		opposition	-2722 Jan 31 j 21:41	20°☾53'07	16°05'19
max. Earth dist.	-2729 Jul 20 j 08:48	6°☾40'43	33.94077 AU	min. Earth dist.	-2722 Feb 03 j 15:53	20°☾48'37	30.64078 AU
				direct	-2722 Apr 22 j 13:37	19°☾29'43	
conjunction	-2729 Jul 23 j 17:32	6°☾47'47	12°56'30	max. Earth dist.	-2722 Aug 04 j 23:40	21°☾55'54	32.47263 AU
minimum elong	-2729 Jul 23 j 17:08	6°☾47'45	12°56'34				
morning rise	-2729 Jul 31 j 19:32	7°☾04'47		conjunction	-2722 Aug 07 j 23:16	22°☾02'37	15°15'18
retrograde	-2729 Nov 03 j 02:52	9°☾06'26		minimum elong	-2722 Aug 07 j 22:55	22°☾02'35	15°15'22
opposition	-2728 Jan 19 j 06:20	7°☾49'09	13°56'28	retrograde	-2722 Nov 18 j 15:56	24°☾30'57	
min. Earth dist.	-2728 Jan 22 j 07:21	7°☾44'23	31.88347 AU	opposition	-2721 Feb 03 j 11:14	23°☾10'49	16°22'58
direct	-2728 Apr 09 j 02:57	6°☾28'25		min. Earth dist.	-2721 Feb 06 j 04:52	23°☾06'21	30.45754 AU
evening set	-2728 Jul 17 j 16:19	8°☾36'42		direct	-2721 Apr 24 j 23:10	21°☾47'03	
max. Earth dist.	-2728 Jul 21 j 19:31	8°☾45'28	33.71541 AU	max. Earth dist.	-2721 Aug 07 j 16:34	24°☾14'52	32.29075 AU
conjunction	-2728 Jul 25 j 02:31	8°☾52'27	13°18'51	conjunction	-2721 Aug 10 j 13:25	24°☾21'23	15°30'56
minimum elong	-2728 Jul 25 j 02:07	8°☾52'25	13°18'57	minimum elong	-2721 Aug 10 j 13:04	24°☾21'21	15°31'00
morning rise	-2728 Aug 01 j 11:02	9°☾08'05		retrograde	-2721 Nov 21 j 07:07	26°☾51'03	
retrograde	-2728 Nov 04 j 12:53	11°☾12'31		opposition	-2720 Feb 06 j 01:47	25°☾30'36	16°39'17
opposition	-2727 Jan 20 j 14:45	9°☾54'48	14°20'11	min. Earth dist.	-2720 Feb 08 j 16:53	25°☾26'17	30.28209 AU
min. Earth dist.	-2727 Jan 23 j 15:02	9°☾50'03	31.66307 AU	direct	-2720 Apr 26 j 12:56	24°☾06'31	
direct	-2727 Apr 11 j 12:10	8°☾33'36		max. Earth dist.	-2720 Aug 09 j 08:16	26°☾35'43	32.11672 AU
evening set	-2727 Jul 20 j 21:17	10°☾44'58					
max. Earth dist.	-2727 Jul 24 j 04:55	10°☾52'05	33.49393 AU	conjunction	-2720 Aug 12 j 04:08	26°☾42'12	15°45'17
				minimum elong	-2720 Aug 12 j 03:50	26°☾42'10	15°45'22
conjunction	-2727 Jul 27 j 12:08	10°☾59'10	13°40'31	retrograde	-2720 Nov 23 j 00:06	29°☾13'11	
minimum elong	-2727 Jul 27 j 11:44	10°☾59'08	13°40'35	opposition	-2719 Feb 07 j 17:17	27°☾52'25	16°54'11
morning rise	-2727 Aug 03 j 01:35	11°☾13'14		min. Earth dist.	-2719 Feb 10 j 07:20	27°☾48'09	30.11439 AU
retrograde	-2727 Nov 07 j 00:42	13°☾20'38		direct	-2719 Apr 29 j 02:20	26°☾28'02	
opposition	-2726 Jan 22 j 23:56	12°☾02'29	14°43'08	max. Earth dist.	-2719 Aug 12 j 03:02	28°☾58'49	31.95051 AU
min. Earth dist.	-2726 Jan 25 j 23:27	11°☾57'45	31.44701 AU				
direct	-2726 Apr 13 j 20:01	10°☾40'49		conjunction	-2719 Aug 14 j 19:45	29°☾05'02	15°58'16
evening set	-2726 Jul 24 j 05:19	12°☾55'30		minimum elong	-2719 Aug 14 j 19:27	29°☾05'00	15°58'20
max. Earth dist.	-2726 Jul 26 j 17:05	13°☾00'53	33.27700 AU				
				retrograde	-2719 Sep 08 j 03:27	0°♂	
conjunction	-2726 Jul 29 j 22:31	13°☾07'52	14°01'24				
minimum elong	-2726 Jul 29 j 22:08	13°☾07'50	14°01'29	opposition	-2718 Feb 10 j 09:39	0°♂16'12	17°07'37
morning rise	-2726 Aug 04 j 14:24	13°☾20'09		min. Earth dist.	-2718 Feb 12 j 21:47	0°♂12'04	29.95409 AU
					-2718 Feb 20 j 06:01	30°♂☾	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 14

Attention, astronomical year style is used: The year -2718 in astronomical counting style is the year 2719 BCE in historical counting style.

direct	-2718 May 01 j 18:24	28° $\mathring{\text{O}}$ 51'32		min. Earth dist.	-2710 Mar 04 j 16:38	20° $\mathring{\text{O}}$ 18'12	28.96384 AU
	-2718 Jul 07 j 08:32	0° $\mathring{\text{O}}$		direct	-2710 May 21 j 23:47	18° $\mathring{\text{O}}$ 54'46	
max. Earth dist.	-2718 Aug 14 j 20:06	1° $\mathring{\text{O}}$ 23'36	31.79193 AU	max. Earth dist.	-2710 Sep 04 j 22:38	21° $\mathring{\text{O}}$ 35'30	30.83217 AU
conjunction	-2718 Aug 17 j 11:53	1° $\mathring{\text{O}}$ 29'47	16°09'50	conjunction	-2710 Sep 06 j 15:51	21° $\mathring{\text{O}}$ 39'40	16°43'10
minimum elong	-2718 Aug 17 j 11:37	1° $\mathring{\text{O}}$ 29'45	16°09'54	minimum elong	-2710 Sep 06 j 15:53	21° $\mathring{\text{O}}$ 39'41	16°43'13
retrograde	-2718 Nov 28 j 11:44	4° $\mathring{\text{O}}$ 03'14		retrograde	-2710 Dec 19 j 00:55	24° $\mathring{\text{O}}$ 19'54	
opposition	-2717 Feb 13 j 02:48	2° $\mathring{\text{O}}$ 41'51	17°19'29	opposition	-2709 Mar 05 j 20:34	22° $\mathring{\text{O}}$ 56'35	17°49'43
min. Earth dist.	-2717 Feb 15 j 13:12	2° $\mathring{\text{O}}$ 37'49	29.80124 AU	min. Earth dist.	-2709 Mar 07 j 10:52	22° $\mathring{\text{O}}$ 53'53	28.88492 AU
direct	-2717 May 04 j 09:32	1° $\mathring{\text{O}}$ 16'54		direct	-2709 May 24 j 21:06	21° $\mathring{\text{O}}$ 30'08	
max. Earth dist.	-2717 Aug 17 j 16:05	3° $\mathring{\text{O}}$ 50'23	31.64086 AU	max. Earth dist.	-2709 Sep 07 j 21:01	24° $\mathring{\text{O}}$ 11'30	30.75980 AU
conjunction	-2717 Aug 20 j 04:53	3° $\mathring{\text{O}}$ 56'19	16°19'55	conjunction	-2709 Sep 09 j 11:42	24° $\mathring{\text{O}}$ 15'26	16°39'00
minimum elong	-2717 Aug 20 j 04:38	3° $\mathring{\text{O}}$ 56'18	16°19'58	minimum elong	-2709 Sep 09 j 11:45	24° $\mathring{\text{O}}$ 15'26	16°39'03
retrograde	-2717 Dec 01 j 05:58	6° $\mathring{\text{O}}$ 30'54		retrograde	-2709 Dec 21 j 22:01	26° $\mathring{\text{O}}$ 56'09	
opposition	-2716 Feb 15 j 20:50	5° $\mathring{\text{O}}$ 09'13	17°29'44	opposition	-2708 Mar 07 j 18:59	25° $\mathring{\text{O}}$ 32'45	17°44'25
min. Earth dist.	-2716 Feb 18 j 05:46	5° $\mathring{\text{O}}$ 05'17	29.65566 AU	min. Earth dist.	-2708 Mar 09 j 06:29	25° $\mathring{\text{O}}$ 30'15	28.81762 AU
direct	-2716 May 06 j 03:58	3° $\mathring{\text{O}}$ 44'00		direct	-2708 May 26 j 17:30	24° $\mathring{\text{O}}$ 06'17	
max. Earth dist.	-2716 Aug 19 j 10:53	6° $\mathring{\text{O}}$ 18'40	31.49766 AU	max. Earth dist.	-2708 Sep 09 j 21:45	26° $\mathring{\text{O}}$ 48'25	30.69933 AU
conjunction	-2716 Aug 21 j 22:20	6° $\mathring{\text{O}}$ 24'30	16°28'26	conjunction	-2708 Sep 11 j 07:52	26° $\mathring{\text{O}}$ 51'53	16°32'53
minimum elong	-2716 Aug 21 j 22:08	6° $\mathring{\text{O}}$ 24'29	16°28'30	minimum elong	-2708 Sep 11 j 07:59	26° $\mathring{\text{O}}$ 51'54	16°32'56
retrograde	-2716 Dec 03 j 02:11	9° $\mathring{\text{O}}$ 00'08		retrograde	-2708 Dec 23 j 18:32	29° $\mathring{\text{O}}$ 33'00	
opposition	-2715 Feb 17 j 15:36	7° $\mathring{\text{O}}$ 38'10	17°38'17	opposition	-2707 Mar 10 j 17:49	28° $\mathring{\text{O}}$ 09'33	17°37'00
min. Earth dist.	-2715 Feb 19 j 21:51	7° $\mathring{\text{O}}$ 34'24	29.51787 AU	min. Earth dist.	-2707 Mar 12 j 02:02	28° $\mathring{\text{O}}$ 07'17	28.76160 AU
direct	-2715 May 08 j 22:32	6° $\mathring{\text{O}}$ 12'42		direct	-2707 May 29 j 16:08	26° $\mathring{\text{O}}$ 43'08	
max. Earth dist.	-2715 Aug 22 j 07:48	8° $\mathring{\text{O}}$ 48'36	31.36254 AU	max. Earth dist.	-2707 Sep 12 j 20:08	29° $\mathring{\text{O}}$ 25'41	30.65037 AU
conjunction	-2715 Aug 24 j 16:19	8° $\mathring{\text{O}}$ 54'11	16°35'20	conjunction	-2707 Sep 14 j 03:52	29° $\mathring{\text{O}}$ 28'55	16°24'48
minimum elong	-2715 Aug 24 j 16:08	8° $\mathring{\text{O}}$ 54'09	16°35'23	minimum elong	-2707 Sep 14 j 03:59	29° $\mathring{\text{O}}$ 28'55	16°24'51
retrograde	-2715 Dec 05 j 20:24	11° $\mathring{\text{O}}$ 30'47		retrograde	-2707 Sep 26 j 22:42	0° $\mathring{\text{O}}$	
opposition	-2714 Feb 20 j 11:08	10° $\mathring{\text{O}}$ 08'32	17°45'04	retrograde	-2707 Dec 26 j 17:02	2° $\mathring{\text{O}}$ 10'20	
min. Earth dist.	-2714 Feb 22 j 16:08	10° $\mathring{\text{O}}$ 04'50	29.38811 AU	opposition	-2706 Mar 13 j 16:48	0° $\mathring{\text{O}}$ 46'51	17°27'28
direct	-2714 May 11 j 16:44	8° $\mathring{\text{O}}$ 42'49		min. Earth dist.	-2706 Mar 14 j 21:37	0° $\mathring{\text{O}}$ 44'49	28.71667 AU
max. Earth dist.	-2714 Aug 25 j 04:30	11° $\mathring{\text{O}}$ 19'47	31.23620 AU		-2706 Apr 11 j 23:03	30° $\mathring{\text{R}}$ 0	
conjunction	-2714 Aug 27 j 10:44	11° $\mathring{\text{O}}$ 25'11	16°40'33	direct	-2706 Jun 01 j 12:56	29° $\mathring{\text{O}}$ 20'30	
minimum elong	-2714 Aug 27 j 10:36	11° $\mathring{\text{O}}$ 25'10	16°40'37		-2706 Jul 20 j 03:29	0° $\mathring{\text{O}}$	
retrograde	-2714 Dec 08 j 17:08	14° $\mathring{\text{O}}$ 02'39		max. Earth dist.	-2706 Sep 15 j 20:53	2° $\mathring{\text{O}}$ 03'33	30.61248 AU
opposition	-2713 Feb 23 j 06:58	12° $\mathring{\text{O}}$ 40'09	17°49'59	conjunction	-2706 Sep 17 j 00:14	2° $\mathring{\text{O}}$ 06'21	16°14'47
min. Earth dist.	-2713 Feb 25 j 08:46	12° $\mathring{\text{O}}$ 36'40	29.26707 AU	minimum elong	-2706 Sep 17 j 00:26	2° $\mathring{\text{O}}$ 06'22	16°14'49
direct	-2713 May 14 j 12:47	11° $\mathring{\text{O}}$ 14'12		retrograde	-2706 Dec 29 j 13:46	4° $\mathring{\text{O}}$ 47'57	
max. Earth dist.	-2713 Aug 28 j 02:12	13° $\mathring{\text{O}}$ 52'13	31.11909 AU	opposition	-2705 Mar 16 j 15:57	3° $\mathring{\text{O}}$ 24'27	17°15'51
conjunction	-2713 Aug 30 j 05:40	13° $\mathring{\text{O}}$ 57'21	16°44'00	min. Earth dist.	-2705 Mar 17 j 18:12	3° $\mathring{\text{O}}$ 22'36	28.68220 AU
minimum elong	-2713 Aug 30 j 05:33	13° $\mathring{\text{O}}$ 57'21	16°44'03	direct	-2705 Jun 04 j 12:15	1° $\mathring{\text{O}}$ 58'13	
	-2713 Sep 26 j 00:56	15° $\mathring{\text{O}}$		conjunction	-2705 Sep 19 j 20:28	4° $\mathring{\text{O}}$ 43'59	16°02'52
retrograde	-2713 Dec 11 j 12:35	16° $\mathring{\text{O}}$ 35'38		minimum elong	-2705 Sep 19 j 20:40	4° $\mathring{\text{O}}$ 44'00	16°02'54
opposition	-2712 Feb 26 j 03:43	15° $\mathring{\text{O}}$ 12'52	17°52'59	max. Earth dist.	-2705 Sep 18 j 19:21	4° $\mathring{\text{O}}$ 41'25	30.58535 AU
min. Earth dist.	-2712 Feb 28 j 03:59	15° $\mathring{\text{O}}$ 09'29	29.15546 AU	retrograde	-2704 Jan 01 j 12:45	7° $\mathring{\text{O}}$ 25'39	
	-2712 Mar 04 j 19:44	15° $\mathring{\text{R}}$ 0		opposition	-2704 Mar 18 j 15:16	6° $\mathring{\text{O}}$ 02'10	17°02'12
direct	-2712 May 16 j 07:16	13° $\mathring{\text{O}}$ 46'44		min. Earth dist.	-2704 Mar 19 j 13:40	6° $\mathring{\text{O}}$ 00'36	28.65812 AU
	-2712 Jul 23 j 03:08	15° $\mathring{\text{O}}$		direct	-2704 Jun 06 j 11:53	4° $\mathring{\text{O}}$ 36'02	
max. Earth dist.	-2712 Aug 30 j 00:39	16° $\mathring{\text{O}}$ 25'44	31.01225 AU	conjunction	-2704 Sep 21 j 16:39	7° $\mathring{\text{O}}$ 21'37	15°49'05
conjunction	-2712 Sep 01 j 00:43	16° $\mathring{\text{O}}$ 30'33	16°45'37	minimum elong	-2704 Sep 21 j 16:55	7° $\mathring{\text{O}}$ 21'38	15°49'06
minimum elong	-2712 Sep 01 j 00:40	16° $\mathring{\text{O}}$ 30'33	16°45'41	max. Earth dist.	-2704 Sep 20 j 19:45	7° $\mathring{\text{O}}$ 19'29	30.56865 AU
retrograde	-2712 Dec 13 j 08:16	19° $\mathring{\text{O}}$ 09'34		retrograde	-2703 Jan 03 j 08:45	10° $\mathring{\text{O}}$ 03'15	
opposition	-2711 Feb 28 j 00:54	17° $\mathring{\text{O}}$ 46'35	17°53'58	opposition	-2703 Mar 21 j 14:47	8° $\mathring{\text{O}}$ 39'46	16°46'32
min. Earth dist.	-2711 Mar 01 j 21:16	17° $\mathring{\text{O}}$ 43'27	29.05410 AU	min. Earth dist.	-2703 Mar 22 j 10:59	8° $\mathring{\text{O}}$ 38'21	28.64406 AU
direct	-2711 May 19 j 04:53	16° $\mathring{\text{O}}$ 20'17		direct	-2703 Jun 09 j 10:30	7° $\mathring{\text{O}}$ 13'46	
max. Earth dist.	-2711 Sep 01 j 22:46	19° $\mathring{\text{O}}$ 00'07	30.91633 AU	conjunction	-2703 Sep 24 j 12:41	9° $\mathring{\text{O}}$ 59'00	15°33'27
conjunction	-2711 Sep 03 j 20:09	19° $\mathring{\text{O}}$ 04'42	16°45'22	minimum elong	-2703 Sep 24 j 12:56	9° $\mathring{\text{O}}$ 59'02	15°33'29
minimum elong	-2711 Sep 03 j 20:06	19° $\mathring{\text{O}}$ 04'41	16°45'24	max. Earth dist.	-2703 Sep 23 j 18:20	9° $\mathring{\text{O}}$ 57'08	30.56236 AU
retrograde	-2711 Dec 16 j 04:26	21° $\mathring{\text{O}}$ 44'21		retrograde	-2702 Jan 06 j 07:17	12° $\mathring{\text{O}}$ 40'28	
opposition	-2710 Mar 02 j 22:32	20° $\mathring{\text{O}}$ 21'10	17°52'54	opposition	-2702 Mar 24 j 13:52	11° $\mathring{\text{O}}$ 17'01	16°28'56

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 15

Attention, astronomical year style is used: The year -2702 in astronomical counting style is the year 2703 BCE in historical counting style.

min. Earth dist.	-2702 Mar 25 j 05:57	11° <u>11</u> 15'53	28.64012 AU	retrograde	-2695 Jan 23 j 18:22	0° <u>0</u> 35'02	
direct	-2702 Jun 12 j 10:46	9° <u>10</u> 51'08			-2695 Mar 12 j 03:42	30° <u>8</u> 11	
				opposition	-2695 Apr 12 j 00:37	29° <u>11</u> 12'12	13°35'46
conjunction	-2702 Sep 27 j 08:32	12° <u>11</u> 35'56	15°16'03	min. Earth dist.	-2695 Apr 11 j 16:07	29° <u>11</u> 12'47	28.91826 AU
minimum elong	-2702 Sep 27 j 08:51	12° <u>11</u> 35'58	15°16'04	direct	-2695 Jun 30 j 21:24	27° <u>11</u> 47'54	
max. Earth dist.	-2702 Sep 26 j 17:57	12° <u>11</u> 34'27	30.56632 AU		-2695 Oct 03 j 07:42	0° <u>0</u>	
retrograde	-2701 Jan 09 j 03:36	15° <u>11</u> 17'07		evening set	-2695 Oct 06 j 01:26	0° <u>0</u> 06'27	
opposition	-2701 Mar 27 j 13:04	13° <u>11</u> 53'40	16°09'24				
min. Earth dist.	-2701 Mar 28 j 02:58	13° <u>11</u> 52'42	28.64627 AU	conjunction	-2695 Oct 14 j 14:26	0° <u>0</u> 26'44	12°29'01
direct	-2701 Jun 15 j 10:01	12° <u>11</u> 27'57		minimum elong	-2695 Oct 14 j 14:50	0° <u>0</u> 26'47	12°29'02
evening set	-2701 Sep 28 j 21:26	15° <u>11</u> 09'03		max. Earth dist.	-2695 Oct 15 j 01:30	0° <u>0</u> 27'50	30.90955 AU
				morning rise	-2695 Oct 23 j 03:42	0° <u>0</u> 47'05	
conjunction	-2701 Sep 30 j 03:54	15° <u>11</u> 12'09	14°56'54	retrograde	-2694 Jan 26 j 09:42	3° <u>0</u> 03'34	
minimum elong	-2701 Sep 30 j 04:13	15° <u>11</u> 12'11	14°56'56	opposition	-2694 Apr 14 j 20:48	1° <u>0</u> 40'59	13°04'53
max. Earth dist.	-2701 Sep 29 j 16:29	15° <u>11</u> 10'59	30.58087 AU	min. Earth dist.	-2694 Apr 14 j 09:29	1° <u>0</u> 41'45	29.00386 AU
morning rise	-2701 Oct 01 j 11:01	15° <u>11</u> 15'18		direct	-2694 Jul 03 j 18:12	0° <u>0</u> 17'02	
retrograde	-2700 Jan 11 j 23:39	17° <u>11</u> 52'57		evening set	-2694 Oct 08 j 00:38	2° <u>0</u> 32'56	
opposition	-2700 Mar 29 j 11:53	16° <u>11</u> 29'32	15°48'02				
min. Earth dist.	-2700 Mar 29 j 21:23	16° <u>11</u> 28'52	28.66287 AU	conjunction	-2694 Oct 17 j 06:17	2° <u>0</u> 54'46	11°59'39
direct	-2700 Jun 17 j 10:13	15° <u>11</u> 03'58		minimum elong	-2694 Oct 17 j 06:42	2° <u>0</u> 54'48	11°59'39
evening set	-2700 Sep 28 j 09:50	17° <u>11</u> 38'51		max. Earth dist.	-2694 Oct 17 j 19:36	2° <u>0</u> 56'05	31.00441 AU
				morning rise	-2694 Oct 26 j 12:23	3° <u>0</u> 16'38	
conjunction	-2700 Oct 01 j 22:53	17° <u>11</u> 47'28	14°36'05	retrograde	-2693 Jan 29 j 03:05	5° <u>0</u> 30'44	
minimum elong	-2700 Oct 01 j 23:15	17° <u>11</u> 47'30	14°36'06	opposition	-2693 Apr 17 j 16:31	4° <u>0</u> 08'23	12°32'47
max. Earth dist.	-2700 Oct 01 j 14:59	17° <u>11</u> 46'40	30.60624 AU	min. Earth dist.	-2693 Apr 17 j 01:09	4° <u>0</u> 09'25	29.09990 AU
morning rise	-2700 Oct 05 j 12:35	17° <u>11</u> 56'09		direct	-2693 Jul 06 j 13:16	2° <u>0</u> 44'48	
retrograde	-2699 Jan 13 j 18:50	20° <u>11</u> 27'47		evening set	-2693 Oct 10 j 00:24	4° <u>0</u> 58'10	
opposition	-2699 Apr 01 j 10:32	19° <u>11</u> 04'25	15°24'52				
min. Earth dist.	-2699 Apr 01 j 17:22	19° <u>11</u> 03'57	28.69055 AU	conjunction	-2693 Oct 19 j 21:36	5° <u>0</u> 21'22	11°29'14
direct	-2699 Jun 20 j 08:02	17° <u>11</u> 39'02		minimum elong	-2693 Oct 19 j 22:01	5° <u>0</u> 21'25	11°29'14
evening set	-2699 Sep 29 j 19:43	20° <u>11</u> 09'51		max. Earth dist.	-2693 Oct 20 j 15:10	5° <u>0</u> 23'06	31.10921 AU
				morning rise	-2693 Oct 29 j 19:03	5° <u>0</u> 44'37	
conjunction	-2699 Oct 04 j 17:20	20° <u>11</u> 21'44	14°13'37	retrograde	-2692 Jan 31 j 17:44	7° <u>0</u> 56'26	
minimum elong	-2699 Oct 04 j 17:42	20° <u>11</u> 21'46	14°13'38	opposition	-2692 Apr 19 j 11:49	6° <u>0</u> 34'20	11°59'36
max. Earth dist.	-2699 Oct 04 j 13:27	20° <u>11</u> 21'20	30.64318 AU	min. Earth dist.	-2692 Apr 18 j 18:18	6° <u>0</u> 35'31	29.20555 AU
morning rise	-2699 Oct 09 j 15:30	20° <u>11</u> 33'40		direct	-2692 Jul 08 j 07:56	5° <u>0</u> 11'09	
retrograde	-2698 Jan 16 j 14:02	23° <u>11</u> 01'28		evening set	-2692 Oct 11 j 01:02	7° <u>0</u> 22'04	
opposition	-2698 Apr 04 j 08:41	21° <u>11</u> 38'11	14°59'58				
min. Earth dist.	-2698 Apr 04 j 11:13	21° <u>11</u> 38'01	28.72966 AU	conjunction	-2692 Oct 21 j 12:18	7° <u>0</u> 46'30	10°57'50
direct	-2698 Jun 23 j 07:35	20° <u>11</u> 13'00		minimum elong	-2692 Oct 21 j 12:42	7° <u>0</u> 46'32	10°57'49
evening set	-2698 Oct 01 j 11:32	22° <u>11</u> 40'23		max. Earth dist.	-2692 Oct 22 j 08:04	7° <u>0</u> 48'26	31.22338 AU
				morning rise	-2692 Oct 31 j 23:59	8° <u>0</u> 10'58	
conjunction	-2698 Oct 07 j 11:21	22° <u>11</u> 54'51	13°49'36	retrograde	-2691 Feb 02 j 10:17	10° <u>0</u> 20'35	
minimum elong	-2698 Oct 07 j 11:45	22° <u>11</u> 54'53	13°49'36	min. Earth dist.	-2691 Apr 21 j 08:39	9° <u>0</u> 00'12	29.32032 AU
max. Earth dist.	-2698 Oct 07 j 10:37	22° <u>11</u> 54'46	30.69185 AU	opposition	-2691 Apr 22 j 06:17	8° <u>0</u> 58'45	11°25'26
morning rise	-2698 Oct 13 j 11:45	23° <u>11</u> 09'21		direct	-2691 Jul 11 j 03:01	7° <u>0</u> 35'57	
retrograde	-2697 Jan 19 j 07:32	25° <u>11</u> 33'57		evening set	-2691 Oct 13 j 01:53	9° <u>0</u> 44'31	
opposition	-2697 Apr 07 j 06:23	24° <u>11</u> 10'46	14°33'26				
min. Earth dist.	-2697 Apr 07 j 05:38	24° <u>11</u> 10'49	28.78071 AU	conjunction	-2691 Oct 24 j 02:25	10° <u>0</u> 10'03	10°25'36
direct	-2697 Jun 26 j 04:14	22° <u>11</u> 45'50		minimum elong	-2691 Oct 24 j 02:48	10° <u>0</u> 10'05	10°25'36
evening set	-2697 Oct 03 j 06:33	25° <u>11</u> 10'05		max. Earth dist.	-2691 Oct 25 j 01:39	10° <u>0</u> 12'18	31.34613 AU
				morning rise	-2691 Nov 04 j 03:14	10° <u>0</u> 35'37	
conjunction	-2697 Oct 10 j 05:00	25° <u>11</u> 26'44	13°24'06	retrograde	-2690 Feb 05 j 00:56	12° <u>0</u> 43'07	
minimum elong	-2697 Oct 10 j 05:23	25° <u>11</u> 26'47	13°24'06	min. Earth dist.	-2690 Apr 24 j 00:45	11° <u>0</u> 23'06	29.44353 AU
max. Earth dist.	-2697 Oct 10 j 08:47	25° <u>11</u> 27'07	30.75269 AU	opposition	-2690 Apr 25 j 00:14	11° <u>0</u> 21'32	10°50'26
morning rise	-2697 Oct 17 j 03:49	25° <u>11</u> 43'26		direct	-2690 Jul 13 j 21:39	9° <u>0</u> 59'07	
retrograde	-2696 Jan 22 j 00:02	28° <u>11</u> 05'08		evening set	-2690 Oct 15 j 03:18	12° <u>0</u> 05'24	
opposition	-2696 Apr 09 j 03:45	26° <u>11</u> 42'07	14°05'19				
min. Earth dist.	-2696 Apr 08 j 23:09	26° <u>11</u> 42'26	28.84361 AU	conjunction	-2690 Oct 26 j 15:50	12° <u>0</u> 31'55	9°52'37
direct	-2696 Jun 28 j 02:20	25° <u>11</u> 17'29		minimum elong	-2690 Oct 26 j 16:13	12° <u>0</u> 31'57	9°52'35
evening set	-2696 Oct 04 j 03:16	27° <u>11</u> 38'48		max. Earth dist.	-2690 Oct 27 j 17:23	12° <u>0</u> 34'22	31.47710 AU
				morning rise	-2690 Nov 07 j 04:43	12° <u>0</u> 58'28	
conjunction	-2696 Oct 11 j 21:51	27° <u>11</u> 57'23	12°57'12	retrograde	-2689 Feb 07 j 15:17	15° <u>0</u> 03'55	
minimum elong	-2696 Oct 11 j 22:16	27° <u>11</u> 57'25	12°57'12	opposition	-2689 Apr 27 j 17:13	13° <u>0</u> 42'35	10°14'42
max. Earth dist.	-2696 Oct 12 j 04:24	27° <u>11</u> 58'02	30.82540 AU	min. Earth dist.	-2689 Apr 26 j 14:02	13° <u>0</u> 44'24	29.57475 AU
morning rise	-2696 Oct 19 j 16:57	28° <u>11</u> 16'00		direct	-2689 Jul 16 j 16:29	12° <u>0</u> 20'33	
	-2696 Dec 09 j 13:19	0° <u>0</u>		evening set	-2689 Oct 17 j 04:51	14° <u>0</u> 24'37	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16

Attention, astronomical year style is used: The year -2689 in astronomical counting style is the year 2690 BCE in historical counting style.

conjunction	-2689 Oct 29 j 04:32	14° <u>♁</u> 52'00	9°18'58	min. Earth dist.	-2682 May 11 j 20:00	29° <u>♁</u> 20'09	30.72706 AU
minimum elong	-2689 Oct 29 j 04:54	14° <u>♁</u> 52'02	9°18'58	opposition	-2682 May 13 j 19:08	29° <u>♁</u> 17'07	5°51'52
max. Earth dist.	-2689 Oct 30 j 08:48	14° <u>♁</u> 54'42	31.61583 AU	direct	-2682 Aug 01 j 21:06	27° <u>♁</u> 57'53	
morning rise	-2689 Nov 10 j 04:41	15° <u>♁</u> 19'25		evening set	-2682 Oct 29 j 17:34	29° <u>♁</u> 48'48	
retrograde	-2688 Feb 10 j 03:34	17° <u>♁</u> 22'53			-2682 Nov 03 j 23:09	0° <u>♁</u>	
min. Earth dist.	-2688 Apr 28 j 04:29	16° <u>♁</u> 03'45	29.71404 AU				
opposition	-2688 Apr 29 j 09:45	16° <u>♁</u> 01'49	9°38'19	conjunction	-2682 Nov 12 j 23:58	0° <u>♁</u> 19'35	5°12'32
direct	-2688 Jul 18 j 08:49	14° <u>♁</u> 40'09		minimum elong	-2682 Nov 13 j 00:11	0° <u>♁</u> 19'36	5°12'29
evening set	-2688 Oct 18 j 06:27	16° <u>♁</u> 42'05		max. Earth dist.	-2682 Nov 14 j 23:49	0° <u>♁</u> 23'55	32.81678 AU
				morning rise	-2682 Nov 27 j 07:10	0° <u>♁</u> 50'27	
conjunction	-2688 Oct 30 j 16:26	17° <u>♁</u> 10'13	8°44'46	retrograde	-2681 Feb 24 j 20:49	2° <u>♁</u> 42'19	
minimum elong	-2688 Oct 30 j 16:47	17° <u>♁</u> 10'15	8°44'44	min. Earth dist.	-2681 May 14 j 05:32	1° <u>♁</u> 26'26	30.92415 AU
max. Earth dist.	-2688 Oct 31 j 23:50	17° <u>♁</u> 13'12	31.76257 AU	opposition	-2681 May 16 j 06:06	1° <u>♁</u> 23'20	5°13'36
morning rise	-2688 Nov 12 j 02:44	17° <u>♁</u> 38'23		direct	-2681 Aug 04 j 07:25	0° <u>♁</u> 04'33	
retrograde	-2687 Feb 11 j 15:11	19° <u>♁</u> 39'57		evening set	-2681 Oct 31 j 19:33	1° <u>♁</u> 53'56	
min. Earth dist.	-2687 Apr 30 j 16:50	18° <u>♁</u> 21'16	29.86137 AU				
opposition	-2687 May 02 j 01:19	18° <u>♁</u> 19'07	9°01'23	conjunction	-2681 Nov 15 j 06:49	2° <u>♁</u> 24'54	4°36'45
direct	-2687 Jul 21 j 03:08	16° <u>♁</u> 57'50		minimum elong	-2681 Nov 15 j 07:01	2° <u>♁</u> 24'55	4°36'43
evening set	-2687 Oct 20 j 08:16	18° <u>♁</u> 57'42		max. Earth dist.	-2681 Nov 17 j 08:28	2° <u>♁</u> 29'22	33.01916 AU
				morning rise	-2681 Nov 29 j 18:57	2° <u>♁</u> 55'57	
conjunction	-2687 Nov 02 j 03:31	19° <u>♁</u> 26'29	8°10'06	retrograde	-2680 Feb 27 j 04:46	4° <u>♁</u> 46'28	
minimum elong	-2687 Nov 02 j 03:51	19° <u>♁</u> 26'31	8°10'05	min. Earth dist.	-2680 May 15 j 12:36	3° <u>♁</u> 31'07	31.12763 AU
max. Earth dist.	-2687 Nov 03 j 13:08	19° <u>♁</u> 29'39	31.91728 AU	opposition	-2680 May 17 j 16:16	3° <u>♁</u> 27'51	4°35'26
morning rise	-2687 Nov 14 j 23:24	19° <u>♁</u> 55'19		direct	-2680 Aug 05 j 17:42	2° <u>♁</u> 09'30	
retrograde	-2686 Feb 14 j 02:34	21° <u>♁</u> 55'03		evening set	-2680 Nov 01 j 21:31	3° <u>♁</u> 57'26	
min. Earth dist.	-2686 May 03 j 04:38	20° <u>♁</u> 36'49	30.01725 AU				
opposition	-2686 May 04 j 15:58	20° <u>♁</u> 34'29	8°24'01	conjunction	-2680 Nov 16 j 12:55	4° <u>♁</u> 28'30	4°01'04
direct	-2686 Jul 23 j 17:37	19° <u>♁</u> 13'34		minimum elong	-2680 Nov 16 j 13:05	4° <u>♁</u> 28'31	4°01'01
evening set	-2686 Oct 22 j 10:04	21° <u>♁</u> 11'29		max. Earth dist.	-2680 Nov 18 j 16:41	4° <u>♁</u> 33'07	33.22715 AU
				morning rise	-2680 Dec 01 j 05:26	4° <u>♁</u> 59'41	
conjunction	-2686 Nov 04 j 14:00	21° <u>♁</u> 40'49	7°35'02	retrograde	-2679 Feb 28 j 11:39	6° <u>♁</u> 48'55	
minimum elong	-2686 Nov 04 j 14:18	21° <u>♁</u> 40'51	7°35'00	min. Earth dist.	-2679 May 17 j 20:47	5° <u>♁</u> 34'00	31.33673 AU
max. Earth dist.	-2686 Nov 06 j 03:17	21° <u>♁</u> 44'19	32.08049 AU	opposition	-2679 May 20 j 01:50	5° <u>♁</u> 30'39	3°57'25
morning rise	-2686 Nov 17 j 18:18	22° <u>♁</u> 10'14		direct	-2679 Aug 08 j 03:34	4° <u>♁</u> 12'45	
retrograde	-2685 Feb 16 j 10:22	24° <u>♁</u> 08'12		evening set	-2679 Nov 03 j 23:32	5° <u>♁</u> 59'17	
min. Earth dist.	-2685 May 05 j 15:58	22° <u>♁</u> 50'24	30.18177 AU				
opposition	-2685 May 07 j 05:56	22° <u>♁</u> 47'55	7°46'17	conjunction	-2679 Nov 18 j 18:38	6° <u>♁</u> 30'25	3°25'32
direct	-2685 Jul 26 j 09:17	21° <u>♁</u> 27'23		minimum elong	-2679 Nov 18 j 18:47	6° <u>♁</u> 30'26	3°25'29
evening set	-2685 Oct 24 j 11:55	23° <u>♁</u> 23'25		max. Earth dist.	-2679 Nov 21 j 00:34	6° <u>♁</u> 35'11	33.44010 AU
				morning rise	-2679 Dec 03 j 14:39	7° <u>♁</u> 01'39	
conjunction	-2685 Nov 06 j 23:25	23° <u>♁</u> 53'14	6°59'40	retrograde	-2678 Mar 02 j 17:11	8° <u>♁</u> 49'40	
minimum elong	-2685 Nov 06 j 23:42	23° <u>♁</u> 53'16	6°59'38	min. Earth dist.	-2678 May 20 j 03:23	7° <u>♁</u> 35'12	31.55041 AU
max. Earth dist.	-2685 Nov 08 j 14:32	23° <u>♁</u> 56'52	32.25228 AU	opposition	-2678 May 22 j 10:22	7° <u>♁</u> 31'44	3°19'37
morning rise	-2685 Nov 20 j 11:41	24° <u>♁</u> 23'07		direct	-2678 Aug 10 j 14:50	6° <u>♁</u> 14'16	
retrograde	-2684 Feb 18 j 19:58	26° <u>♁</u> 19'27		evening set	-2678 Nov 06 j 01:40	7° <u>♁</u> 59'29	
min. Earth dist.	-2684 May 07 j 01:33	25° <u>♁</u> 02'10	30.35521 AU				
opposition	-2684 May 08 j 19:10	24° <u>♁</u> 59'28	7°08'17	conjunction	-2678 Nov 20 j 23:34	8° <u>♁</u> 30'37	2°50'12
direct	-2684 Jul 27 j 21:26	23° <u>♁</u> 39'20		minimum elong	-2678 Nov 20 j 23:41	8° <u>♁</u> 30'38	2°50'09
evening set	-2684 Oct 25 j 13:45	25° <u>♁</u> 33'34		max. Earth dist.	-2678 Nov 23 j 06:27	8° <u>♁</u> 35'26	33.65707 AU
				morning rise	-2678 Dec 05 j 22:46	9° <u>♁</u> 01'52	
conjunction	-2684 Nov 08 j 08:24	26° <u>♁</u> 03'48	6°24'04	retrograde	-2677 Mar 04 j 22:53	10° <u>♁</u> 48'43	
minimum elong	-2684 Nov 08 j 08:40	26° <u>♁</u> 03'49	6°24'02	min. Earth dist.	-2677 May 22 j 09:27	9° <u>♁</u> 34'40	31.76826 AU
max. Earth dist.	-2684 Nov 10 j 03:21	26° <u>♁</u> 07'45	32.43263 AU	opposition	-2677 May 24 j 18:27	9° <u>♁</u> 31'07	2°42'07
morning rise	-2684 Nov 22 j 03:36	26° <u>♁</u> 34'05		direct	-2677 Aug 12 j 22:47	8° <u>♁</u> 14'02	
retrograde	-2683 Feb 20 j 03:35	28° <u>♁</u> 28'51		evening set	-2677 Nov 08 j 03:26	9° <u>♁</u> 57'59	
min. Earth dist.	-2683 May 09 j 12:08	27° <u>♁</u> 11'59	30.53715 AU				
opposition	-2683 May 11 j 07:35	27° <u>♁</u> 09'11	6°30'07	conjunction	-2677 Nov 23 j 03:52	10° <u>♁</u> 29'04	2°15'08
direct	-2683 Jul 30 j 09:42	25° <u>♁</u> 49'30		minimum elong	-2677 Nov 23 j 03:58	10° <u>♁</u> 29'05	2°15'06
evening set	-2683 Oct 27 j 15:41	27° <u>♁</u> 42'01		max. Earth dist.	-2677 Nov 25 j 13:17	10° <u>♁</u> 34'04	33.87771 AU
				morning rise	-2677 Dec 08 j 05:22	11° <u>♁</u> 00'16	
conjunction	-2683 Nov 10 j 16:31	28° <u>♁</u> 12'34	5°48'20	retrograde	-2676 Mar 06 j 00:30	12° <u>♁</u> 46'00	
minimum elong	-2683 Nov 10 j 16:45	28° <u>♁</u> 12'35	5°48'18	min. Earth dist.	-2676 May 23 j 15:48	11° <u>♁</u> 32'20	31.98968 AU
max. Earth dist.	-2683 Nov 12 j 13:08	28° <u>♁</u> 16'38	32.62108 AU	opposition	-2676 May 26 j 01:49	11° <u>♁</u> 28'43	2°04'56
morning rise	-2683 Nov 24 j 18:09	28° <u>♁</u> 43'11		direct	-2676 Aug 14 j 08:06	10° <u>♁</u> 12'03	
	-2682 Jan 05 j 02:16	0° <u>♁</u>		evening set	-2676 Nov 09 j 05:19	11° <u>♁</u> 54'47	
retrograde	-2682 Feb 22 j 12:50	0° <u>♁</u> 36'27					
	-2682 Apr 14 j 10:52	30° <u>♁</u> 8'0		conjunction	-2676 Nov 24 j 07:28	12° <u>♁</u> 25'45	1°40'23



## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 17

Attention, astronomical year style is used: The year -2676 in astronomical counting style is the year 2677 BCE in historical counting style.

minimum elong	-2676 Nov 24 j 07:32	12° <b>ℓ</b> 25'46	1°40'20	max. Earth dist.	-2670 Dec 08 j 12:11	23° <b>ℓ</b> 36'21	35.52611 AU
max. Earth dist.	-2676 Nov 26 j 17:21	12° <b>ℓ</b> 30'45	34.10171 AU	morning rise	-2670 Dec 20 j 19:40	24° <b>ℓ</b> 00'24	
morning rise	-2676 Dec 09 j 11:02	12° <b>ℓ</b> 56'51		retrograde	-2669 Mar 19 j 11:22	25° <b>ℓ</b> 40'03	
retrograde	-2675 Mar 08 j 03:56	14° <b>ℓ</b> 41'32		min. Earth dist.	-2669 Jun 06 j 11:01	24° <b>ℓ</b> 29'10	33.65113 AU
min. Earth dist.	-2675 May 25 j 19:45	13° <b>ℓ</b> 28'17	32.21481 AU	opposition	-2669 Jun 09 j 08:18	24° <b>ℓ</b> 25'02	-2°02'24
opposition	-2675 May 28 j 08:12	13° <b>ℓ</b> 24'33	1°28'09	direct	-2669 Aug 28 j 17:10	23° <b>ℓ</b> 11'06	
direct	-2675 Aug 16 j 14:22	12° <b>ℓ</b> 08'15		evening set	-2669 Nov 22 j 13:52	24° <b>ℓ</b> 47'14	
evening set	-2675 Nov 11 j 06:54	13° <b>ℓ</b> 49'50					
				conjunction	-2669 Dec 07 j 14:46	25° <b>ℓ</b> 16'26	-2°11'03
conjunction	-2675 Nov 26 j 10:26	14° <b>ℓ</b> 20'40	1°05'59	minimum elong	-2669 Dec 07 j 14:41	25° <b>ℓ</b> 16'25	2°11'06
minimum elong	-2675 Nov 26 j 10:28	14° <b>ℓ</b> 20'40	1°05'57	max. Earth dist.	-2669 Dec 10 j 11:39	25° <b>ℓ</b> 22'03	35.77593 AU
max. Earth dist.	-2675 Nov 28 j 22:55	14° <b>ℓ</b> 25'50	34.32918 AU	morning rise	-2669 Dec 22 j 17:33	25° <b>ℓ</b> 45'46	
morning rise	-2675 Dec 11 j 15:17	14° <b>ℓ</b> 51'37		retrograde	-2668 Mar 20 j 11:38	27° <b>ℓ</b> 24'48	
	-2675 Dec 15 j 20:44	15° <b>ℓ</b>		min. Earth dist.	-2668 Jun 07 j 10:48	26° <b>ℓ</b> 14'22	33.90287 AU
retrograde	-2674 Mar 10 j 05:28	16° <b>ℓ</b> 35'18		opposition	-2668 Jun 10 j 10:08	26° <b>ℓ</b> 10'08	-2°35'29
min. Earth dist.	-2674 May 28 j 01:00	15° <b>ℓ</b> 22'22	32.44374 AU	direct	-2668 Aug 29 j 18:45	24° <b>ℓ</b> 56'37	
opposition	-2674 May 30 j 14:01	15° <b>ℓ</b> 18'37	0°51'47	evening set	-2668 Nov 23 j 14:40	26° <b>ℓ</b> 32'03	
	-2674 Jun 12 j 08:05	15° <b>κ</b> <b>ℓ</b>					
direct	-2674 Aug 18 j 20:15	14° <b>ℓ</b> 02'41		conjunction	-2668 Dec 08 j 13:44	27° <b>ℓ</b> 00'53	-2°42'04
	-2674 Oct 21 j 00:42	15° <b>ℓ</b>		minimum elong	-2668 Dec 08 j 13:38	27° <b>ℓ</b> 00'52	2°42'08
evening set	-2674 Nov 13 j 08:20	15° <b>ℓ</b> 43'11		max. Earth dist.	-2668 Dec 11 j 12:41	27° <b>ℓ</b> 06'38	36.02776 AU
				morning rise	-2668 Dec 23 j 14:31	27° <b>ℓ</b> 29'51	
conjunction	-2674 Nov 28 j 12:35	16° <b>ℓ</b> 13'49	0°31'59	retrograde	-2667 Mar 22 j 08:54	29° <b>ℓ</b> 08'18	
minimum elong	-2674 Nov 28 j 12:36	16° <b>ℓ</b> 13'49	0°31'55	min. Earth dist.	-2667 Jun 09 j 12:10	27° <b>ℓ</b> 58'11	34.15635 AU
max. Earth dist.	-2674 Dec 01 j 02:04	16° <b>ℓ</b> 19'02	34.56048 AU	opposition	-2667 Jun 12 j 11:17	27° <b>ℓ</b> 53'59	-3°07'58
morning rise	-2674 Dec 13 j 18:16	16° <b>ℓ</b> 44'35		direct	-2667 Aug 31 j 20:34	26° <b>ℓ</b> 40'52	
retrograde	-2673 Mar 12 j 08:20	18° <b>ℓ</b> 27'21		evening set	-2667 Nov 25 j 15:28	28° <b>ℓ</b> 15'39	
min. Earth dist.	-2673 May 30 j 03:08	17° <b>ℓ</b> 14'52	32.67685 AU				
opposition	-2673 Jun 01 j 18:58	17° <b>ℓ</b> 10'58	0°15'53	conjunction	-2667 Dec 10 j 12:11	28° <b>ℓ</b> 44'04	-3°12'31
direct	-2673 Aug 21 j 01:25	15° <b>ℓ</b> 55'25		minimum elong	-2667 Dec 10 j 12:05	28° <b>ℓ</b> 44'04	3°12'35
desc. node	-2673 Nov 12 j 20:50	17° <b>ℓ</b> 29'57		max. Earth dist.	-2667 Dec 13 j 11:09	28° <b>ℓ</b> 49'47	36.28086 AU
evening set	-2673 Nov 15 j 09:44	17° <b>ℓ</b> 34'54		morning rise	-2667 Dec 25 j 10:42	29° <b>ℓ</b> 12'39	
					-2666 Jan 21 j 18:32	0° <b>♂</b>	
conjunction	-2673 Nov 30 j 14:10	18° <b>ℓ</b> 05'19	-0°01'40	retrograde	-2666 Mar 24 j 08:16	0° <b>♂</b> 50'32	
minimum elong	-2673 Nov 30 j 14:10	18° <b>ℓ</b> 05'19	0°01'43		-2666 May 28 j 14:26	30° <b>κ</b> <b>ℓ</b>	
behind sun begin	-2673 Nov 30 j 07:48	18° <b>ℓ</b> 04'48		min. Earth dist.	-2666 Jun 11 j 11:00	29° <b>ℓ</b> 40'52	34.41078 AU
behind sun end	-2673 Nov 30 j 20:32	18° <b>ℓ</b> 05'49		opposition	-2666 Jun 14 j 11:51	29° <b>ℓ</b> 36'35	-3°39'48
max. Earth dist.	-2673 Dec 03 j 05:45	18° <b>ℓ</b> 10'39	34.79583 AU	direct	-2666 Sep 02 j 20:12	28° <b>ℓ</b> 23'51	
morning rise	-2673 Dec 15 j 20:13	18° <b>ℓ</b> 35'51		evening set	-2666 Nov 27 j 16:07	29° <b>ℓ</b> 58'01	
retrograde	-2672 Mar 13 j 11:17	20° <b>ℓ</b> 17'45			-2666 Nov 28 j 17:36	0° <b>♂</b>	
min. Earth dist.	-2672 May 31 j 06:35	19° <b>ℓ</b> 05'37	32.91446 AU				
opposition	-2672 Jun 02 j 23:25	19° <b>ℓ</b> 01'41	-0°19'31	conjunction	-2666 Dec 12 j 10:04	0° <b>♂</b> 26'01	-3°42'23
direct	-2672 Aug 22 j 05:00	17° <b>ℓ</b> 46'31		minimum elong	-2666 Dec 12 j 09:56	0° <b>♂</b> 26'00	3°42'27
evening set	-2672 Nov 16 j 10:50	19° <b>ℓ</b> 25'04		max. Earth dist.	-2666 Dec 15 j 10:11	0° <b>♂</b> 31'46	36.53427 AU
				morning rise	-2666 Dec 27 j 05:56	0° <b>♂</b> 54'10	
conjunction	-2672 Dec 01 j 15:12	19° <b>ℓ</b> 55'13	-0°34'45	retrograde	-2665 Mar 26 j 08:03	2° <b>♂</b> 31'33	
minimum elong	-2672 Dec 01 j 15:10	19° <b>ℓ</b> 55'13	0°34'49	min. Earth dist.	-2665 Jun 13 j 11:21	1° <b>♂</b> 22'09	34.66550 AU
max. Earth dist.	-2672 Dec 04 j 08:28	20° <b>ℓ</b> 00'40	35.03553 AU	opposition	-2665 Jun 16 j 12:04	1° <b>♂</b> 17'54	-4°10'59
morning rise	-2672 Dec 16 j 21:00	20° <b>ℓ</b> 25'31		direct	-2665 Sep 04 j 18:00	0° <b>♂</b> 05'32	
retrograde	-2671 Mar 15 j 12:46	22° <b>ℓ</b> 06'36		evening set	-2665 Nov 29 j 16:39	1° <b>♂</b> 39'07	
min. Earth dist.	-2671 Jun 02 j 08:08	20° <b>ℓ</b> 54'54	33.15628 AU				
opposition	-2671 Jun 05 j 03:00	20° <b>ℓ</b> 50'52	-0°54'23	conjunction	-2665 Dec 14 j 07:41	2° <b>♂</b> 06'41	-4°11'39
direct	-2671 Aug 24 j 09:26	19° <b>ℓ</b> 36'06		minimum elong	-2665 Dec 14 j 07:33	2° <b>♂</b> 06'40	4°11'43
evening set	-2671 Nov 18 j 12:04	21° <b>ℓ</b> 13'48		max. Earth dist.	-2665 Dec 17 j 08:24	2° <b>♂</b> 12'26	36.78768 AU
				morning rise	-2665 Dec 29 j 00:23	2° <b>♂</b> 34'23	
conjunction	-2671 Dec 03 j 15:36	21° <b>ℓ</b> 43'40	-1°07'22	retrograde	-2664 Mar 27 j 05:14	4° <b>♂</b> 11'16	
minimum elong	-2671 Dec 03 j 15:33	21° <b>ℓ</b> 43'39	1°07'25	min. Earth dist.	-2664 Jun 14 j 09:52	3° <b>♂</b> 02'12	34.91996 AU
max. Earth dist.	-2671 Dec 06 j 09:53	21° <b>ℓ</b> 49'09	35.27905 AU	opposition	-2664 Jun 17 j 11:34	2° <b>♂</b> 57'55	-4°41'31
morning rise	-2671 Dec 18 j 20:56	22° <b>ℓ</b> 13'40		direct	-2664 Sep 05 j 18:42	1° <b>♂</b> 45'53	
retrograde	-2670 Mar 17 j 13:31	23° <b>ℓ</b> 54'00		evening set	-2664 Nov 30 j 17:07	3° <b>♂</b> 18'56	
min. Earth dist.	-2670 Jun 04 j 09:31	22° <b>ℓ</b> 42'44	33.40209 AU				
opposition	-2670 Jun 07 j 05:54	22° <b>ℓ</b> 38'37	-1°28'41	conjunction	-2664 Dec 15 j 04:37	3° <b>♂</b> 46'01	-4°40'19
direct	-2670 Aug 26 j 12:08	21° <b>ℓ</b> 24'17		minimum elong	-2664 Dec 15 j 04:27	3° <b>♂</b> 46'00	4°40'23
evening set	-2670 Nov 20 j 12:59	23° <b>ℓ</b> 01'10		max. Earth dist.	-2664 Dec 18 j 05:16	3° <b>♂</b> 51'43	37.04059 AU
				morning rise	-2664 Dec 29 j 18:08	4° <b>♂</b> 13'16	
conjunction	-2670 Dec 05 j 15:34	23° <b>ℓ</b> 30'42	-1°39'29	retrograde	-2663 Mar 29 j 03:27	5° <b>♂</b> 49'40	
minimum elong	-2670 Dec 05 j 15:30	23° <b>ℓ</b> 30'42	1°39'33	min. Earth dist.	-2663 Jun 16 j 08:23	4° <b>♂</b> 40'53	35.17420 AU

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Attention, astronomical year style is used: The year -2663 in astronomical counting style is the year 2664 BCE in historical counting style.

opposition	-2663 Jun 19 j 10:36	4°♂36'35	-5°11'23	morning rise	-2656 Jan 08 j 23:03	15°♂08'49	
direct	-2663 Sep 07 j 17:56	3°♂24'52		retrograde	-2656 Apr 08 j 15:15	16°♂42'56	
evening set	-2663 Dec 02 j 17:16	4°♂57'23		min. Earth dist.	-2656 Jun 27 j 05:30	15°♂36'11	36.96751 AU
				opposition	-2656 Jun 30 j 12:07	15°♂31'47	-8°21'16
conjunction	-2663 Dec 17 j 01:12	5°♂24'00	-5°08'23	direct	-2656 Sep 18 j 22:08	14°♂22'12	
minimum elong	-2663 Dec 17 j 01:03	5°♂23'59	5°08'27	evening set	-2656 Dec 14 j 14:08	15°♂52'13	
max. Earth dist.	-2663 Dec 20 j 03:21	5°♂29'46	37.29320 AU				
morning rise	-2663 Dec 31 j 10:49	5°♂50'45		conjunction	-2656 Dec 27 j 11:37	16°♂15'04	-8°07'08
retrograde	-2662 Mar 30 j 21:59	7°♂26'42		minimum elong	-2656 Dec 27 j 11:25	16°♂15'03	8°07'13
min. Earth dist.	-2662 Jun 18 j 06:40	6°♂18'10	35.42825 AU	max. Earth dist.	-2656 Dec 30 j 18:24	16°♂20'56	39.07534 AU
opposition	-2662 Jun 21 j 08:50	6°♂13'53	-5°40'34	morning rise	-2655 Jan 09 j 10:42	16°♂38'03	
direct	-2662 Sep 09 j 19:01	5°♂02'27		retrograde	-2655 Apr 10 j 07:25	18°♂12'00	
evening set	-2662 Dec 04 j 17:22	6°♂34'29		min. Earth dist.	-2655 Jun 29 j 01:04	17°♂05'30	37.22463 AU
				opposition	-2655 Jul 02 j 07:02	17°♂01'09	-8°45'39
conjunction	-2662 Dec 18 j 21:06	7°♂00'36	-5°35'50	direct	-2655 Sep 20 j 18:36	15°♂51'53	
minimum elong	-2662 Dec 18 j 20:55	7°♂00'35	5°35'54	evening set	-2655 Dec 16 j 13:22	17°♂21'43	
max. Earth dist.	-2662 Dec 21 j 22:57	7°♂06'19	37.54586 AU				
morning rise	-2661 Jan 02 j 02:47	7°♂26'51		conjunction	-2655 Dec 29 j 04:44	17°♂43'59	-8°30'09
retrograde	-2661 Apr 01 j 17:42	9°♂02'24		minimum elong	-2655 Dec 29 j 04:32	17°♂43'58	8°30'14
min. Earth dist.	-2661 Jun 20 j 02:50	7°♂54'11	35.68285 AU	max. Earth dist.	-2654 Jan 01 j 10:43	17°♂49'45	39.32983 AU
opposition	-2661 Jun 23 j 06:41	7°♂49'50	-6°09'05	morning rise	-2654 Jan 10 j 21:47	18°♂06'23	
direct	-2661 Sep 11 j 16:57	6°♂38'42		retrograde	-2654 Apr 11 j 23:50	19°♂40'11	
evening set	-2661 Dec 06 j 17:04	8°♂10'17		min. Earth dist.	-2654 Jun 30 j 18:26	18°♂34'01	37.48043 AU
				opposition	-2654 Jul 04 j 01:24	18°♂29'38	-9°09'22
conjunction	-2661 Dec 20 j 16:31	8°♂35'52	-6°02'38	direct	-2654 Sep 22 j 13:32	17°♂20'41	
minimum elong	-2661 Dec 20 j 16:21	8°♂35'52	6°02'43	evening set	-2654 Dec 18 j 12:28	18°♂50'21	
max. Earth dist.	-2661 Dec 23 j 20:09	8°♂41'41	37.79907 AU				
morning rise	-2660 Jan 03 j 17:47	9°♂01'37		conjunction	-2654 Dec 30 j 21:37	19°♂12'01	-8°52'33
retrograde	-2660 Apr 02 j 10:37	10°♂36'48		minimum elong	-2654 Dec 30 j 21:24	19°♂12'00	8°52'37
min. Earth dist.	-2660 Jun 21 j 00:33	9°♂28'49	35.93825 AU	max. Earth dist.	-2653 Jan 03 j 04:20	19°♂17'48	39.58254 AU
opposition	-2660 Jun 24 j 04:03	9°♂24'30	-6°36'55	morning rise	-2653 Jan 12 j 08:23	19°♂33'49	
direct	-2660 Sep 12 j 16:05	8°♂13'39		retrograde	-2653 Apr 13 j 16:29	21°♂07'31	
evening set	-2660 Dec 07 j 16:48	9°♂44'50		min. Earth dist.	-2653 Jul 02 j 13:43	20°♂01'33	37.73427 AU
				opposition	-2653 Jul 05 j 19:38	19°♂57'14	-9°32'26
conjunction	-2660 Dec 21 j 11:37	10°♂09'54	-6°28'49	direct	-2653 Sep 24 j 07:53	18°♂48'36	
minimum elong	-2660 Dec 21 j 11:25	10°♂09'53	6°28'53	evening set	-2653 Dec 20 j 11:25	20°♂18'06	
max. Earth dist.	-2660 Dec 24 j 15:18	10°♂15'41	38.05323 AU				
morning rise	-2659 Jan 04 j 08:11	10°♂35'06		conjunction	-2652 Jan 01 j 14:07	20°♂39'11	-9°14'21
retrograde	-2659 Apr 04 j 05:57	12°♂09'58		minimum elong	-2652 Jan 01 j 13:55	20°♂39'10	9°14'25
min. Earth dist.	-2659 Jun 22 j 19:29	11°♂02'19	36.19462 AU	max. Earth dist.	-2652 Jan 04 j 20:26	20°♂44'54	39.83309 AU
opposition	-2659 Jun 26 j 00:36	10°♂57'56	-7°04'02	morning rise	-2652 Jan 13 j 18:15	21°♂00'22	
direct	-2659 Sep 14 j 12:17	9°♂47'23		retrograde	-2652 Apr 14 j 10:02	22°♂33'58	
evening set	-2659 Dec 09 j 16:24	11°♂18'13		min. Earth dist.	-2652 Jul 03 j 06:53	21°♂28'16	37.98558 AU
				opposition	-2652 Jul 06 j 13:18	21°♂23'57	-9°54'51
conjunction	-2659 Dec 23 j 06:12	11°♂42'45	-6°54'21	direct	-2652 Sep 25 j 00:32	20°♂15'34	
minimum elong	-2659 Dec 23 j 06:01	11°♂42'44	6°54'25	evening set	-2652 Dec 21 j 10:27	21°♂44'57	
max. Earth dist.	-2659 Dec 26 j 10:48	11°♂48'33	38.30818 AU				
morning rise	-2658 Jan 05 j 21:55	12°♂07'25		conjunction	-2651 Jan 02 j 06:19	22°♂05'25	-9°35'33
retrograde	-2658 Apr 06 j 01:50	13°♂41'59		minimum elong	-2651 Jan 02 j 06:06	22°♂05'24	9°35'36
min. Earth dist.	-2658 Jun 24 j 15:50	12°♂34'36	36.45191 AU	max. Earth dist.	-2651 Jan 05 j 12:08	22°♂11'03	40.08093 AU
opposition	-2658 Jun 27 j 20:57	12°♂30'14	-7°30'28	morning rise	-2651 Jan 14 j 03:48	22°♂26'00	
direct	-2658 Sep 16 j 06:48	11°♂20'01		retrograde	-2651 Apr 16 j 03:25	23°♂59'30	
evening set	-2658 Dec 11 j 15:38	12°♂50'32		min. Earth dist.	-2651 Jul 05 j 00:43	22°♂53'59	38.23438 AU
				opposition	-2651 Jul 08 j 06:32	22°♂49'43	-10°16'38
conjunction	-2658 Dec 25 j 00:20	13°♂14'30	-7°19'15	direct	-2651 Sep 26 j 16:46	21°♂41'36	
minimum elong	-2658 Dec 25 j 00:08	13°♂14'29	7°19'19	evening set	-2651 Dec 23 j 09:10	23°♂10'52	
max. Earth dist.	-2658 Dec 28 j 06:00	13°♂20'21	38.56388 AU				
morning rise	-2657 Jan 07 j 10:39	13°♂38'37		conjunction	-2650 Jan 03 j 22:13	23°♂30'43	-9°56'10
retrograde	-2657 Apr 07 j 19:58	15°♂12'57		minimum elong	-2650 Jan 03 j 22:00	23°♂30'42	9°56'14
min. Earth dist.	-2657 Jun 26 j 10:48	14°♂05'53	36.70963 AU	max. Earth dist.	-2650 Jan 07 j 04:43	23°♂36'22	40.32634 AU
opposition	-2657 Jun 29 j 16:43	14°♂01'30	-7°56'13	morning rise	-2650 Jan 15 j 12:31	23°♂50'40	
direct	-2657 Sep 18 j 03:31	12°♂51'36		retrograde	-2650 Apr 17 j 18:19	25°♂24'04	
evening set	-2657 Dec 13 j 15:01	14°♂21'51		min. Earth dist.	-2650 Jul 06 j 17:53	24°♂18'46	38.48075 AU
				opposition	-2650 Jul 09 j 23:20	24°♂14'32	-10°37'48
conjunction	-2657 Dec 26 j 18:05	14°♂45'16	-7°43'31	direct	-2650 Sep 28 j 10:57	23°♂06'39	
minimum elong	-2657 Dec 26 j 17:53	14°♂45'15	7°43'35	evening set	-2650 Dec 25 j 07:46	24°♂35'50	
max. Earth dist.	-2657 Dec 29 j 23:29	14°♂51'03	38.81976 AU				

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Attention, astronomical year style is used: The year -2649 in astronomical counting style is the year 2650 BCE in historical counting style.

conjunction	-2649 Jan 05 j 13:24	24° $\nearrow$ 55'03	-10°16'11	max. Earth dist.	-2643 Jan 16 j 10:22	3° $\oslash$ 08'21	42.00617 AU
minimum elong	-2649 Jan 05 j 13:12	24° $\nearrow$ 55'02	10°16'15	morning rise	-2643 Jan 22 j 09:15	3° $\oslash$ 18'12	
max. Earth dist.	-2649 Jan 08 j 18:56	25° $\nearrow$ 00'36	40.56963 AU	retrograde	-2643 Apr 26 j 21:54	4° $\oslash$ 51'47	
morning rise	-2649 Jan 16 j 20:30	25° $\nearrow$ 14'21		min. Earth dist.	-2643 Jul 16 j 05:31	3° $\oslash$ 48'00	40.17116 AU
retrograde	-2649 Apr 19 j 10:00	26° $\nearrow$ 47'42		opposition	-2643 Jul 19 j 10:34	3° $\oslash$ 43'53	-12°48'15
min. Earth dist.	-2649 Jul 08 j 09:37	25° $\nearrow$ 42'38	38.72548 AU	direct	-2643 Oct 07 j 23:50	2° $\oslash$ 37'44	
opposition	-2649 Jul 11 j 15:50	25° $\nearrow$ 38'23	-10°58'19	evening set	-2642 Jan 05 j 20:15	4° $\oslash$ 07'06	
direct	-2649 Sep 30 j 03:40	24° $\nearrow$ 30'44					
evening set	-2649 Dec 27 j 06:12	25° $\nearrow$ 59'51		conjunction	-2642 Jan 14 j 16:27	4° $\oslash$ 21'40	-12°19'49
				minimum elong	-2642 Jan 14 j 16:15	4° $\oslash$ 21'39	12°19'53
conjunction	-2648 Jan 07 j 04:30	26° $\nearrow$ 18'25	-10°35'36	max. Earth dist.	-2642 Jan 17 j 22:24	4° $\oslash$ 27'02	42.24049 AU
minimum elong	-2648 Jan 07 j 04:18	26° $\nearrow$ 18'24	10°35'41	morning rise	-2642 Jan 23 j 13:28	4° $\oslash$ 36'16	
max. Earth dist.	-2648 Jan 10 j 11:11	26° $\nearrow$ 24'01	40.81146 AU	retrograde	-2642 Apr 28 j 11:02	6° $\oslash$ 10'00	
morning rise	-2648 Jan 18 j 04:03	26° $\nearrow$ 37'05		min. Earth dist.	-2642 Jul 17 j 18:57	5° $\oslash$ 06'28	40.40619 AU
retrograde	-2648 Apr 19 j 22:16	28° $\nearrow$ 10'24		opposition	-2642 Jul 21 j 00:34	5° $\oslash$ 02'21	-13°04'28
min. Earth dist.	-2648 Jul 09 j 02:40	27° $\nearrow$ 05'29	38.96895 AU	direct	-2642 Oct 09 j 13:58	3° $\oslash$ 56'26	
opposition	-2648 Jul 12 j 07:51	27° $\nearrow$ 01'18	-11°18'12	evening set	-2641 Jan 07 j 18:34	5° $\oslash$ 25'57	
direct	-2648 Sep 30 j 21:40	25° $\nearrow$ 53'53					
evening set	-2648 Dec 28 j 04:42	27° $\nearrow$ 22'57		conjunction	-2641 Jan 16 j 05:30	5° $\oslash$ 39'48	-12°35'14
				minimum elong	-2641 Jan 16 j 05:19	5° $\oslash$ 39'47	12°35'18
conjunction	-2647 Jan 07 j 19:14	27° $\nearrow$ 40'53	-10°54'26	max. Earth dist.	-2641 Jan 19 j 11:40	5° $\oslash$ 45'09	42.47184 AU
minimum elong	-2647 Jan 07 j 19:02	27° $\nearrow$ 40'52	10°54'30	morning rise	-2641 Jan 24 j 17:12	5° $\oslash$ 53'42	
max. Earth dist.	-2647 Jan 11 j 01:22	27° $\nearrow$ 46'25	41.05235 AU	retrograde	-2641 Apr 29 j 22:50	7° $\oslash$ 27'36	
morning rise	-2647 Jan 18 j 10:56	27° $\nearrow$ 58'54		min. Earth dist.	-2641 Jul 19 j 10:29	6° $\oslash$ 24'12	40.63797 AU
retrograde	-2647 Apr 21 j 11:53	29° $\nearrow$ 32'13		opposition	-2641 Jul 22 j 14:28	6° $\oslash$ 20'11	-13°20'09
min. Earth dist.	-2647 Jul 10 j 17:06	28° $\nearrow$ 27'34	39.21153 AU	direct	-2641 Oct 11 j 05:18	5° $\oslash$ 14'30	
opposition	-2647 Jul 13 j 23:25	28° $\nearrow$ 23'20	-11°37'27	evening set	-2640 Jan 09 j 17:17	6° $\oslash$ 44'11	
direct	-2647 Oct 02 j 14:29	27° $\nearrow$ 16'10					
evening set	-2647 Dec 30 j 03:00	28° $\nearrow$ 45'14		conjunction	-2640 Jan 17 j 18:34	6° $\oslash$ 57'18	-12°50'08
				minimum elong	-2640 Jan 17 j 18:23	6° $\oslash$ 57'17	12°50'12
conjunction	-2646 Jan 09 j 09:34	29° $\nearrow$ 02'30	-11°12'39	max. Earth dist.	-2640 Jan 21 j 00:03	7° $\oslash$ 02'35	42.69981 AU
minimum elong	-2646 Jan 09 j 09:21	29° $\nearrow$ 02'29	11°12'44	morning rise	-2640 Jan 25 j 20:23	7° $\oslash$ 10'29	
max. Earth dist.	-2646 Jan 12 j 16:07	29° $\nearrow$ 08'01	41.29230 AU	retrograde	-2640 Apr 30 j 12:05	8° $\oslash$ 44'33	
morning rise	-2646 Jan 19 j 17:21	29° $\nearrow$ 19'51		min. Earth dist.	-2640 Jul 19 j 23:53	7° $\oslash$ 41'21	40.86595 AU
	-2646 Feb 14 j 05:55	0° $\oslash$		opposition	-2640 Jul 23 j 03:49	7° $\oslash$ 37'21	-13°35'17
retrograde	-2646 Apr 23 j 04:05	0° $\oslash$ 53'12		direct	-2640 Oct 11 j 18:51	6° $\oslash$ 31'52	
	-2646 Jul 03 j 13:33	30° $\nearrow$		evening set	-2639 Jan 10 j 16:07	8° $\oslash$ 01'44	
min. Earth dist.	-2646 Jul 12 j 09:03	29° $\nearrow$ 48'45	39.45332 AU				
opposition	-2646 Jul 15 j 14:44	29° $\nearrow$ 44'33	-11°56'04	conjunction	-2639 Jan 18 j 07:17	8° $\oslash$ 14'07	-13°04'32
direct	-2646 Oct 04 j 04:17	28° $\nearrow$ 37'38		minimum elong	-2639 Jan 18 j 07:07	8° $\oslash$ 14'07	13°04'37
	-2646 Dec 27 j 23:22	0° $\oslash$		max. Earth dist.	-2639 Jan 21 j 11:35	8° $\oslash$ 19'17	42.92378 AU
evening set	-2645 Jan 01 j 01:16	0° $\oslash$ 06'43		morning rise	-2639 Jan 25 j 23:05	8° $\oslash$ 26'33	
				retrograde	-2639 May 02 j 03:22	10° $\oslash$ 00'49	
conjunction	-2645 Jan 10 j 23:44	0° $\oslash$ 23'20	-11°30'18	min. Earth dist.	-2639 Jul 21 j 14:04	8° $\oslash$ 57'45	41.08998 AU
minimum elong	-2645 Jan 10 j 23:32	0° $\oslash$ 23'19	11°30'22	opposition	-2639 Jul 24 j 17:05	8° $\oslash$ 53'49	-13°49'54
max. Earth dist.	-2645 Jan 14 j 06:43	0° $\oslash$ 28'52	41.53156 AU	direct	-2639 Oct 13 j 05:32	7° $\oslash$ 48'32	
morning rise	-2645 Jan 20 j 23:05	0° $\oslash$ 40'02		evening set	-2638 Jan 12 j 15:02	9° $\oslash$ 18'36	
retrograde	-2645 Apr 24 j 18:23	2° $\oslash$ 13'25					
min. Earth dist.	-2645 Jul 13 j 23:37	1° $\oslash$ 09'13	39.69410 AU	conjunction	-2638 Jan 19 j 19:47	9° $\oslash$ 30'14	-13°18'27
opposition	-2645 Jul 17 j 05:39	1° $\oslash$ 05'02	-12°14'04	minimum elong	-2638 Jan 19 j 19:36	9° $\oslash$ 30'13	13°18'31
	-2645 Sep 24 j 12:43	30° $\nearrow$		max. Earth dist.	-2638 Jan 23 j 00:17	9° $\oslash$ 35'23	43.14388 AU
direct	-2645 Oct 05 j 18:36	29° $\nearrow$ 58'22		morning rise	-2638 Jan 27 j 00:55	9° $\oslash$ 41'52	
	-2645 Oct 16 j 23:54	0° $\oslash$		retrograde	-2638 May 03 j 14:23	11° $\oslash$ 16'22	
evening set	-2644 Jan 02 j 23:29	1° $\oslash$ 27'30		min. Earth dist.	-2638 Jul 23 j 03:52	10° $\oslash$ 13'25	41.31009 AU
				opposition	-2638 Jul 26 j 05:52	10° $\oslash$ 09'33	-14°04'00
conjunction	-2644 Jan 12 j 13:24	1° $\oslash$ 43'27	-11°47'22	direct	-2638 Oct 14 j 19:49	9° $\oslash$ 04'27	
minimum elong	-2644 Jan 12 j 13:11	1° $\oslash$ 43'26	11°47'26	evening set	-2637 Jan 14 j 14:15	10° $\oslash$ 34'46	
max. Earth dist.	-2644 Jan 15 j 19:40	1° $\oslash$ 48'53	41.76965 AU				
morning rise	-2644 Jan 22 j 04:22	1° $\oslash$ 59'27		conjunction	-2637 Jan 21 j 07:53	10° $\oslash$ 45'36	-13°31'52
retrograde	-2644 Apr 25 j 10:03	3° $\oslash$ 32'56		minimum elong	-2637 Jan 21 j 07:43	10° $\oslash$ 45'35	13°31'57
min. Earth dist.	-2644 Jul 14 j 14:16	2° $\oslash$ 28'58	39.93364 AU	max. Earth dist.	-2637 Jan 24 j 10:52	10° $\oslash$ 50'37	43.36049 AU
opposition	-2644 Jul 17 j 20:23	2° $\oslash$ 24'48	-12°31'27	morning rise	-2637 Jan 28 j 01:56	10° $\oslash$ 56'26	
direct	-2644 Oct 06 j 07:52	1° $\oslash$ 18'23		retrograde	-2637 May 05 j 01:44	12° $\oslash$ 31'11	
evening set	-2643 Jan 03 j 21:47	2° $\oslash$ 47'37		min. Earth dist.	-2637 Jul 24 j 16:12	11° $\oslash$ 28'25	41.52710 AU
				opposition	-2637 Jul 27 j 18:25	11° $\oslash$ 24'33	-14°17'35
conjunction	-2643 Jan 13 j 03:07	3° $\oslash$ 02'53	-12°03'52	direct	-2637 Oct 16 j 08:48	10° $\oslash$ 19'37	
minimum elong	-2643 Jan 13 j 02:55	3° $\oslash$ 02'52	12°03'56	evening set	-2636 Jan 16 j 13:37	11° $\oslash$ 50'14	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 20

Attention, astronomical year style is used: The year -2636 in astronomical counting style is the year 2637 BCE in historical counting style.

conjunction	-2636 Jan 22 j 19:46	12° $\overline{3}$ 00'15	-13°44'47	direct	-2630 Oct 24 j 19:39	18° $\overline{3}$ 49'37	
minimum elong	-2636 Jan 22 j 19:35	12° $\overline{3}$ 00'14	13°44'51				
max. Earth dist.	-2636 Jan 25 j 23:18	12° $\overline{3}$ 05'17	43.57415 AU	conjunction	-2629 Jan 31 j 01:00	20° $\overline{3}$ 27'07	-15°01'34
morning rise	-2636 Jan 29 j 02:12	12° $\overline{3}$ 10'16		minimum elong	-2629 Jan 31 j 00:53	20° $\overline{3}$ 27'06	15°01'39
retrograde	-2636 May 05 j 11:29	13° $\overline{3}$ 45'19		max. Earth dist.	-2629 Feb 03 j 00:55	20° $\overline{3}$ 31'46	45.00576 AU
min. Earth dist.	-2636 Jul 25 j 05:57	12° $\overline{3}$ 42'38	41.74138 AU	retrograde	-2629 May 14 j 17:04	22° $\overline{3}$ 09'02	
opposition	-2636 Jul 28 j 06:44	12° $\overline{3}$ 38'51	-14°30'38	min. Earth dist.	-2629 Aug 03 j 16:25	21° $\overline{3}$ 07'31	43.17504 AU
direct	-2636 Oct 16 j 23:13	11° $\overline{3}$ 34'06		opposition	-2629 Aug 06 j 13:19	21° $\overline{3}$ 04'01	-15°47'48
evening set	-2635 Jan 17 j 13:44	13° $\overline{3}$ 05'05		direct	-2629 Oct 26 j 06:06	20° $\overline{3}$ 00'41	
conjunction	-2635 Jan 23 j 07:30	13° $\overline{3}$ 14'13	-13°57'12	conjunction	-2628 Feb 01 j 11:31	21° $\overline{3}$ 37'46	-15°10'44
minimum elong	-2635 Jan 23 j 07:21	13° $\overline{3}$ 14'12	13°57'17	minimum elong	-2628 Feb 01 j 11:25	21° $\overline{3}$ 37'45	15°10'48
max. Earth dist.	-2635 Jan 26 j 10:15	13° $\overline{3}$ 19'11	43.78549 AU	max. Earth dist.	-2628 Feb 04 j 10:54	21° $\overline{3}$ 42'21	45.19764 AU
morning rise	-2635 Jan 29 j 01:27	13° $\overline{3}$ 23'22		retrograde	-2628 May 15 j 03:30	23° $\overline{3}$ 19'16	
retrograde	-2635 May 06 j 22:19	14° $\overline{3}$ 58'46		min. Earth dist.	-2628 Aug 04 j 03:27	22° $\overline{3}$ 17'54	43.36592 AU
min. Earth dist.	-2635 Jul 26 j 17:08	13° $\overline{3}$ 56'19	41.95339 AU	opposition	-2628 Aug 06 j 23:41	22° $\overline{3}$ 14'26	-15°56'58
opposition	-2635 Jul 29 j 18:27	13° $\overline{3}$ 52'30	-14°43'09	direct	-2628 Oct 26 j 16:32	21° $\overline{3}$ 11'16	
direct	-2635 Oct 18 j 11:55	12° $\overline{3}$ 47'56		conjunction	-2627 Feb 01 j 21:47	22° $\overline{3}$ 47'57	-15°19'30
evening set	-2634 Jan 19 j 14:17	14° $\overline{3}$ 19'21		minimum elong	-2627 Feb 01 j 21:40	22° $\overline{3}$ 47'56	15°19'33
conjunction	-2634 Jan 24 j 18:52	14° $\overline{3}$ 27'34	-14°09'08	max. Earth dist.	-2627 Feb 04 j 19:05	22° $\overline{3}$ 52'23	45.38470 AU
minimum elong	-2634 Jan 24 j 18:42	14° $\overline{3}$ 27'34	14°09'11	retrograde	-2627 May 16 j 16:14	24° $\overline{3}$ 29'02	
max. Earth dist.	-2634 Jan 27 j 21:05	14° $\overline{3}$ 32'28	43.99467 AU	min. Earth dist.	-2627 Aug 05 j 14:33	23° $\overline{3}$ 27'46	43.55202 AU
morning rise	-2634 Jan 29 j 23:36	14° $\overline{3}$ 35'48		opposition	-2627 Aug 08 j 09:48	23° $\overline{3}$ 24'21	-16°05'43
retrograde	-2634 May 08 j 11:26	16° $\overline{3}$ 11'39		direct	-2627 Oct 28 j 00:13	22° $\overline{3}$ 21'20	
min. Earth dist.	-2634 Jul 28 j 05:52	15° $\overline{3}$ 09'19	42.16344 AU	conjunction	-2626 Feb 03 j 07:55	23° $\overline{3}$ 57'37	-15°27'51
opposition	-2634 Jul 31 j 06:15	15° $\overline{3}$ 05'34	-14°55'10	minimum elong	-2626 Feb 03 j 07:50	23° $\overline{3}$ 57'36	15°27'55
direct	-2634 Oct 19 j 22:19	14° $\overline{3}$ 01'13		max. Earth dist.	-2626 Feb 06 j 05:19	24° $\overline{3}$ 02'02	45.56701 AU
evening set	-2633 Jan 21 j 15:49	15° $\overline{3}$ 33'08		retrograde	-2626 May 18 j 01:04	25° $\overline{3}$ 38'15	
conjunction	-2633 Jan 26 j 06:00	15° $\overline{3}$ 40'23	-14°20'33	min. Earth dist.	-2626 Aug 07 j 02:15	24° $\overline{3}$ 37'02	43.73334 AU
minimum elong	-2633 Jan 26 j 05:52	15° $\overline{3}$ 40'22	14°20'38	opposition	-2626 Aug 09 j 19:47	24° $\overline{3}$ 33'43	-16°14'04
max. Earth dist.	-2633 Jan 29 j 08:46	15° $\overline{3}$ 45'18	44.20201 AU	direct	-2626 Oct 29 j 11:08	23° $\overline{3}$ 30'50	
morning rise	-2633 Jan 30 j 20:13	15° $\overline{3}$ 47'37		conjunction	-2625 Feb 04 j 17:35	25° $\overline{3}$ 06'41	-15°35'49
retrograde	-2633 May 09 j 23:37	17° $\overline{3}$ 24'00		minimum elong	-2625 Feb 04 j 17:29	25° $\overline{3}$ 06'41	15°35'53
min. Earth dist.	-2633 Jul 29 j 17:41	16° $\overline{3}$ 21'50	42.37135 AU	max. Earth dist.	-2625 Feb 07 j 13:17	25° $\overline{3}$ 11'00	45.74498 AU
opposition	-2633 Aug 01 j 17:43	16° $\overline{3}$ 18'08	-15°06'39	retrograde	-2625 May 19 j 09:08	26° $\overline{3}$ 46'54	
direct	-2633 Oct 21 j 08:30	15° $\overline{3}$ 13'58		min. Earth dist.	-2625 Aug 08 j 11:48	25° $\overline{3}$ 45'49	43.91057 AU
evening set	-2632 Jan 23 j 18:57	16° $\overline{3}$ 46'33		opposition	-2625 Aug 11 j 05:29	25° $\overline{3}$ 42'30	-16°22'00
conjunction	-2632 Jan 27 j 16:57	16° $\overline{3}$ 52'42	-14°31'30	direct	-2625 Oct 30 j 21:35	24° $\overline{3}$ 39'44	
minimum elong	-2632 Jan 27 j 16:49	16° $\overline{3}$ 52'41	14°31'33	conjunction	-2624 Feb 06 j 03:12	26° $\overline{3}$ 15'11	-15°43'23
morning rise	-2632 Jan 31 j 14:59	16° $\overline{3}$ 58'51		minimum elong	-2624 Feb 06 j 03:08	26° $\overline{3}$ 15'10	15°43'27
max. Earth dist.	-2632 Jan 30 j 18:20	16° $\overline{3}$ 57'30	44.40721 AU	max. Earth dist.	-2624 Feb 08 j 22:29	26° $\overline{3}$ 19'26	45.91906 AU
retrograde	-2632 May 10 j 12:41	18° $\overline{3}$ 35'52		retrograde	-2624 May 19 j 16:19	27° $\overline{3}$ 54'59	
min. Earth dist.	-2632 Jul 30 j 04:47	17° $\overline{3}$ 33'55	42.57708 AU	min. Earth dist.	-2624 Aug 08 j 23:03	26° $\overline{3}$ 53'55	44.08427 AU
opposition	-2632 Aug 02 j 04:53	17° $\overline{3}$ 30'13	-15°17'39	opposition	-2624 Aug 11 j 14:56	26° $\overline{3}$ 50'42	-16°29'31
direct	-2632 Oct 21 j 17:40	16° $\overline{3}$ 26'16		direct	-2624 Oct 31 j 09:51	25° $\overline{3}$ 48'02	
evening set	-2631 Jan 25 j 00:47	17° $\overline{3}$ 59'41		conjunction	-2623 Feb 06 j 12:44	27° $\overline{3}$ 23'06	-15°50'32
conjunction	-2631 Jan 28 j 03:52	18° $\overline{3}$ 04'35	-14°41'58	minimum elong	-2623 Feb 06 j 12:38	27° $\overline{3}$ 23'05	15°50'36
minimum elong	-2631 Jan 28 j 03:44	18° $\overline{3}$ 04'34	14°42'03	max. Earth dist.	-2623 Feb 09 j 07:37	27° $\overline{3}$ 27'19	46.09005 AU
morning rise	-2631 Jan 31 j 06:51	18° $\overline{3}$ 09'28		retrograde	-2623 May 21 j 01:24	29° $\overline{3}$ 02'29	
max. Earth dist.	-2631 Jan 31 j 05:43	18° $\overline{3}$ 09'23	44.60995 AU	min. Earth dist.	-2623 Aug 10 j 08:17	28° $\overline{3}$ 01'33	44.25492 AU
retrograde	-2631 May 11 j 20:28	19° $\overline{3}$ 47'19		opposition	-2623 Aug 13 j 00:05	27° $\overline{3}$ 58'20	-16°36'36
min. Earth dist.	-2631 Jul 31 j 17:26	18° $\overline{3}$ 45'30	42.77995 AU	direct	-2623 Nov 01 j 19:57	26° $\overline{3}$ 55'48	
opposition	-2631 Aug 03 j 15:55	18° $\overline{3}$ 41'53	-15°28'09	conjunction	-2622 Feb 07 j 21:46	28° $\overline{3}$ 30'28	-15°57'17
direct	-2631 Oct 23 j 06:59	17° $\overline{3}$ 38'09		minimum elong	-2622 Feb 07 j 21:43	28° $\overline{3}$ 30'28	15°57'21
evening set	-2630 Jan 27 j 12:22	19° $\overline{3}$ 12'47		max. Earth dist.	-2622 Feb 10 j 15:20	28° $\overline{3}$ 34'35	46.25820 AU
conjunction	-2630 Jan 29 j 14:29	19° $\overline{3}$ 16'02	-14°51'59	retrograde	-2622 Apr 23 j 06:45	0° $\overline{0}$	
minimum elong	-2630 Jan 29 j 14:22	19° $\overline{3}$ 16'02	14°52'03	retrograde	-2622 May 22 j 12:52	0° $\overline{0}$ 09'28	
morning rise	-2630 Jan 31 j 16:29	19° $\overline{3}$ 19'18		min. Earth dist.	-2622 Jun 20 j 23:26	30° $\overline{0}$ 0'00	
max. Earth dist.	-2630 Feb 01 j 15:03	19° $\overline{3}$ 20'46	44.80971 AU	opposition	-2622 Aug 11 j 17:59	29° $\overline{3}$ 08'38	44.42300 AU
retrograde	-2630 May 13 j 05:19	20° $\overline{3}$ 58'22		direct	-2622 Aug 14 j 09:10	29° $\overline{3}$ 05'28	-16°43'15
min. Earth dist.	-2630 Aug 02 j 03:57	19° $\overline{3}$ 56'46	42.97946 AU	direct	-2622 Nov 03 j 02:33	28° $\overline{3}$ 03'03	
opposition	-2630 Aug 05 j 02:37	19° $\overline{3}$ 53'09	-15°38'12				

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 21

Attention, astronomical year style is used: The year -2621 in astronomical counting style is the year 2622 BCE in historical counting style.

conjunction	-2621 Feb 09 j 06:55	29° $\text{Z}$ 37'22	-16°03'37	conjunction	-2613 Feb 18 j 03:12	8° $\text{Z}$ 20'23	-16°40'49
minimum elong	-2621 Feb 09 j 06:51	29° $\text{Z}$ 37'22	16°03'40	minimum elong	-2613 Feb 18 j 03:13	8° $\text{Z}$ 20'23	16°40'52
max. Earth dist.	-2621 Feb 12 j 00:54	29° $\text{Z}$ 41'30	46.42396 AU	max. Earth dist.	-2613 Feb 20 j 12:58	8° $\text{Z}$ 23'55	47.62738 AU
	-2621 Feb 24 j 11:45	0° $\text{Z}$		retrograde	-2613 Jun 01 j 12:17	9° $\text{Z}$ 56'27	
retrograde	-2621 May 23 j 21:00	1° $\text{Z}$ 15'59		min. Earth dist.	-2613 Aug 22 j 04:30	8° $\text{Z}$ 56'28	45.78182 AU
min. Earth dist.	-2621 Aug 13 j 03:52	0° $\text{Z}$ 15'14	44.58852 AU	opposition	-2613 Aug 24 j 10:56	8° $\text{Z}$ 53'47	-17°25'37
opposition	-2621 Aug 15 j 17:59	0° $\text{Z}$ 12'08	-16°49'29	direct	-2613 Nov 13 j 09:13	7° $\text{Z}$ 52'36	
	-2621 Aug 25 j 21:19	30° $\text{R}$ 3					
direct	-2621 Nov 04 j 12:02	29° $\text{Z}$ 09'52		conjunction	-2612 Feb 19 j 11:05	9° $\text{Z}$ 24'15	-16°43'56
	-2620 Jan 11 j 05:08	0° $\text{Z}$		minimum elong	-2612 Feb 19 j 11:04	9° $\text{Z}$ 24'15	16°44'00
				max. Earth dist.	-2612 Feb 21 j 19:16	9° $\text{Z}$ 27'40	47.75810 AU
conjunction	-2620 Feb 10 j 15:46	0° $\text{Z}$ 43'51	-16°09'33	retrograde	-2612 Jun 01 j 22:18	11° $\text{Z}$ 00'00	
minimum elong	-2620 Feb 10 j 15:44	0° $\text{Z}$ 43'51	16°09'37	min. Earth dist.	-2612 Aug 22 j 13:26	10° $\text{Z}$ 00'03	45.91129 AU
max. Earth dist.	-2620 Feb 13 j 08:14	0° $\text{Z}$ 47'52	46.58731 AU	opposition	-2612 Aug 24 j 18:24	9° $\text{Z}$ 57'27	-17°28'34
retrograde	-2620 May 24 j 05:00	2° $\text{Z}$ 22'06		direct	-2612 Nov 13 j 15:17	8° $\text{Z}$ 56'21	
min. Earth dist.	-2620 Aug 13 j 12:23	1° $\text{Z}$ 21'31	44.75149 AU				
opposition	-2620 Aug 16 j 02:38	1° $\text{Z}$ 18'24	-16°55'17	conjunction	-2611 Feb 19 j 18:59	10° $\text{Z}$ 27'43	-16°46'43
direct	-2620 Nov 04 j 20:51	0° $\text{Z}$ 16'17		minimum elong	-2611 Feb 19 j 19:01	10° $\text{Z}$ 27'43	16°46'47
				max. Earth dist.	-2611 Feb 22 j 03:14	10° $\text{Z}$ 31'07	47.88531 AU
conjunction	-2619 Feb 11 j 00:36	1° $\text{Z}$ 49'57	-16°15'05	retrograde	-2611 Jun 03 j 05:42	12° $\text{Z}$ 03'10	
minimum elong	-2619 Feb 11 j 00:34	1° $\text{Z}$ 49'57	16°15'08	min. Earth dist.	-2611 Aug 23 j 21:25	11° $\text{Z}$ 03'17	46.03732 AU
max. Earth dist.	-2619 Feb 13 j 16:53	1° $\text{Z}$ 53'57	46.74785 AU	opposition	-2611 Aug 26 j 01:29	11° $\text{Z}$ 00'43	-17°31'10
retrograde	-2619 May 25 j 12:15	3° $\text{Z}$ 27'53		direct	-2611 Nov 14 j 22:46	9° $\text{Z}$ 59'43	
min. Earth dist.	-2619 Aug 14 j 22:39	2° $\text{Z}$ 27'22	44.91147 AU				
opposition	-2619 Aug 17 j 11:06	2° $\text{Z}$ 24'21	-17°00'42	conjunction	-2610 Feb 21 j 02:34	11° $\text{Z}$ 30'49	-16°49'10
direct	-2619 Nov 06 j 06:44	1° $\text{Z}$ 22'23		minimum elong	-2610 Feb 21 j 02:34	11° $\text{Z}$ 30'49	16°49'12
				max. Earth dist.	-2610 Feb 23 j 08:59	11° $\text{Z}$ 34'06	48.00951 AU
conjunction	-2618 Feb 12 j 09:20	2° $\text{Z}$ 55'45	-16°20'14	retrograde	-2610 Jun 04 j 14:08	13° $\text{Z}$ 05'58	
minimum elong	-2618 Feb 12 j 09:18	2° $\text{Z}$ 55'45	16°20'18	min. Earth dist.	-2610 Aug 25 j 04:39	12° $\text{Z}$ 06'11	46.16056 AU
max. Earth dist.	-2618 Feb 15 j 00:53	2° $\text{Z}$ 59'42	46.90537 AU	opposition	-2610 Aug 27 j 08:35	12° $\text{Z}$ 03'39	-17°33'24
retrograde	-2618 May 26 j 20:12	4° $\text{Z}$ 33'22		direct	-2610 Nov 16 j 03:55	11° $\text{Z}$ 02'44	
min. Earth dist.	-2618 Aug 16 j 07:05	3° $\text{Z}$ 33'01	45.06797 AU				
opposition	-2618 Aug 18 j 19:23	3° $\text{Z}$ 30'00	-17°05'44	conjunction	-2609 Feb 22 j 09:59	12° $\text{Z}$ 33'36	-16°51'15
direct	-2618 Nov 07 j 16:04	2° $\text{Z}$ 28'12		minimum elong	-2609 Feb 22 j 10:02	12° $\text{Z}$ 33'36	16°51'18
				max. Earth dist.	-2609 Feb 24 j 16:30	12° $\text{Z}$ 36'52	48.13094 AU
conjunction	-2617 Feb 13 j 17:44	4° $\text{Z}$ 01'17	-16°25'01	retrograde	-2609 Jun 05 j 19:40	14° $\text{Z}$ 08'28	
minimum elong	-2617 Feb 13 j 17:43	4° $\text{Z}$ 01'17	16°25'04	min. Earth dist.	-2609 Aug 26 j 13:25	13° $\text{Z}$ 08'43	46.28101 AU
max. Earth dist.	-2617 Feb 16 j 07:39	4° $\text{Z}$ 05'06	47.05909 AU	opposition	-2609 Aug 28 j 15:38	13° $\text{Z}$ 06'15	-17°35'17
retrograde	-2617 May 28 j 07:21	5° $\text{Z}$ 38'36		direct	-2609 Nov 17 j 12:13	12° $\text{Z}$ 05'27	
min. Earth dist.	-2617 Aug 17 j 16:50	4° $\text{Z}$ 38'19	45.22046 AU				
opposition	-2617 Aug 20 j 03:42	4° $\text{Z}$ 35'24	-17°10'23	conjunction	-2608 Feb 23 j 17:29	13° $\text{Z}$ 36'05	-16°53'00
direct	-2617 Nov 08 j 22:25	3° $\text{Z}$ 33'45		minimum elong	-2608 Feb 23 j 17:30	13° $\text{Z}$ 36'05	16°53'02
				max. Earth dist.	-2608 Feb 25 j 22:59	13° $\text{Z}$ 39'18	48.24979 AU
conjunction	-2616 Feb 15 j 02:25	5° $\text{Z}$ 06'33	-16°29'28		-2608 May 05 j 11:02	15° $\text{Z}$	
minimum elong	-2616 Feb 15 j 02:23	5° $\text{Z}$ 06'33	16°29'31	retrograde	-2608 Jun 06 j 00:32	15° $\text{Z}$ 10'42	
max. Earth dist.	-2616 Feb 17 j 16:13	5° $\text{Z}$ 10'21	47.20847 AU		-2608 Jul 08 j 00:42	15° $\text{R}$ 11	
retrograde	-2616 May 28 j 16:27	6° $\text{Z}$ 43'33		min. Earth dist.	-2608 Aug 26 j 19:54	14° $\text{Z}$ 11'04	46.39865 AU
min. Earth dist.	-2616 Aug 18 j 02:24	5° $\text{Z}$ 43'21	45.36813 AU	opposition	-2608 Aug 28 j 22:17	14° $\text{Z}$ 08'37	-17°36'49
opposition	-2616 Aug 20 j 11:40	5° $\text{Z}$ 40'31	-17°14'42	direct	-2608 Nov 17 j 21:00	13° $\text{Z}$ 07'55	
direct	-2616 Nov 09 j 05:34	4° $\text{Z}$ 39'00					
				conjunction	-2607 Feb 24 j 00:47	14° $\text{Z}$ 38'19	-16°54'25
conjunction	-2615 Feb 15 j 10:52	6° $\text{Z}$ 11'31	-16°33'34	minimum elong	-2607 Feb 24 j 00:50	14° $\text{Z}$ 38'19	16°54'29
minimum elong	-2615 Feb 15 j 10:52	6° $\text{Z}$ 11'31	16°33'37	max. Earth dist.	-2607 Feb 26 j 04:56	14° $\text{Z}$ 41'26	48.36569 AU
max. Earth dist.	-2615 Feb 17 j 22:20	6° $\text{Z}$ 15'09	47.35300 AU		-2607 Mar 11 j 06:25	15° $\text{Z}$	
retrograde	-2615 May 30 j 01:40	7° $\text{Z}$ 48'12		retrograde	-2607 Jun 07 j 08:31	16° $\text{Z}$ 12'42	
min. Earth dist.	-2615 Aug 19 j 10:45	6° $\text{Z}$ 48'07	45.51084 AU	min. Earth dist.	-2607 Aug 28 j 04:19	15° $\text{Z}$ 13'07	46.51326 AU
opposition	-2615 Aug 21 j 19:37	6° $\text{Z}$ 45'18	-17°18'40	opposition	-2607 Aug 30 j 05:07	15° $\text{Z}$ 10'44	-17°38'01
direct	-2615 Nov 10 j 12:17	5° $\text{Z}$ 43'54			-2607 Sep 08 j 10:36	15° $\text{R}$ 11	
				direct	-2607 Nov 19 j 04:12	14° $\text{Z}$ 10'10	
conjunction	-2614 Feb 16 j 19:03	7° $\text{Z}$ 16'08	-16°37'21		-2606 Jan 27 j 03:47	15° $\text{Z}$	
minimum elong	-2614 Feb 16 j 19:02	7° $\text{Z}$ 16'08	16°37'25				
max. Earth dist.	-2614 Feb 19 j 05:53	7° $\text{Z}$ 19'44	47.49245 AU	conjunction	-2606 Feb 25 j 08:00	15° $\text{Z}$ 40'21	-16°55'30
retrograde	-2614 May 31 j 06:10	8° $\text{Z}$ 52'31		minimum elong	-2606 Feb 25 j 08:03	15° $\text{Z}$ 40'21	16°55'33
min. Earth dist.	-2614 Aug 20 j 20:47	7° $\text{Z}$ 52'26	45.64854 AU	max. Earth dist.	-2606 Feb 27 j 12:13	15° $\text{Z}$ 43'28	48.47837 AU
opposition	-2614 Aug 23 j 03:28	7° $\text{Z}$ 49'44	-17°22'19	retrograde	-2606 Jun 08 j 17:02	17° $\text{Z}$ 14'30	
direct	-2614 Nov 11 j 23:19	6° $\text{Z}$ 48'27		min. Earth dist.	-2606 Aug 29 j 11:50	16° $\text{Z}$ 15'00	46.62417 AU
				opposition	-2606 Aug 31 j 11:41	16° $\text{Z}$ 12'41	-17°38'53

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22

Attention, astronomical year style is used: The year -2606 in astronomical counting style is the year 2607 BCE in historical counting style.

direct	-2606 Nov 20 j 09:54	15° $\approx$ 12'13		minimum elong	-2597 Mar 06 j 22:20	24° $\approx$ 47'49	16°52'28
				max. Earth dist.	-2597 Mar 08 j 14:32	24° $\approx$ 50'10	49.28803 AU
conjunction	-2605 Feb 26 j 15:11	16° $\approx$ 42'12	-16°56'17	retrograde	-2597 Jun 18 j 01:17	26° $\approx$ 19'55	
minimum elong	-2605 Feb 26 j 15:14	16° $\approx$ 42'12	16°56'21	min. Earth dist.	-2597 Sep 08 j 05:26	25° $\approx$ 20'42	47.41377 AU
max. Earth dist.	-2605 Feb 28 j 17:12	16° $\approx$ 45'10	48.58721 AU	opposition	-2597 Sep 09 j 18:25	25° $\approx$ 18'55	-17°33'36
retrograde	-2605 Jun 10 j 02:57	18° $\approx$ 16'06		direct	-2597 Nov 29 j 20:43	24° $\approx$ 19'06	
min. Earth dist.	-2605 Aug 30 j 19:04	17° $\approx$ 16'42	46.73099 AU				
opposition	-2605 Sep 01 j 18:09	17° $\approx$ 14'25	-17°39'26	conjunction	-2596 Mar 07 j 04:49	25° $\approx$ 47'23	-16°50'39
direct	-2605 Nov 21 j 13:36	16° $\approx$ 14'04		minimum elong	-2596 Mar 07 j 04:56	25° $\approx$ 47'24	16°50'41
				max. Earth dist.	-2596 Mar 08 j 21:05	25° $\approx$ 49'44	49.35871 AU
conjunction	-2604 Feb 27 j 22:30	17° $\approx$ 43'51	-16°56'47	retrograde	-2596 Jun 18 j 08:12	27° $\approx$ 19'20	
minimum elong	-2604 Feb 27 j 22:33	17° $\approx$ 43'52	16°56'49	min. Earth dist.	-2596 Sep 08 j 11:34	26° $\approx$ 20'11	47.48248 AU
max. Earth dist.	-2604 Feb 29 j 23:53	17° $\approx$ 46'47	48.69147 AU	opposition	-2596 Sep 09 j 23:57	26° $\approx$ 18'26	-17°31'32
retrograde	-2604 Jun 10 j 08:00	19° $\approx$ 17'32		direct	-2596 Nov 30 j 02:27	25° $\approx$ 18'41	
min. Earth dist.	-2604 Aug 31 j 03:50	18° $\approx$ 18'08	46.83280 AU				
opposition	-2604 Sep 02 j 00:40	18° $\approx$ 15'57	-17°39'43	conjunction	-2595 Mar 08 j 11:09	26° $\approx$ 46'51	-16°48'34
direct	-2604 Nov 21 j 21:30	17° $\approx$ 15'42		minimum elong	-2595 Mar 08 j 11:15	26° $\approx$ 46'51	16°48'36
				max. Earth dist.	-2595 Mar 10 j 01:16	26° $\approx$ 49'04	49.42625 AU
conjunction	-2603 Feb 28 j 05:44	18° $\approx$ 45'17	-16°57'00	retrograde	-2595 Jun 19 j 17:52	28° $\approx$ 18'38	
minimum elong	-2603 Feb 28 j 05:47	18° $\approx$ 45'17	16°57'02	min. Earth dist.	-2595 Sep 09 j 17:42	27° $\approx$ 19'33	47.54802 AU
max. Earth dist.	-2603 Mar 02 j 05:26	18° $\approx$ 48'07	48.79067 AU	opposition	-2595 Sep 11 j 05:23	27° $\approx$ 17'50	-17°29'10
retrograde	-2603 Jun 11 j 12:05	20° $\approx$ 18'43		direct	-2595 Dec 01 j 04:18	26° $\approx$ 18'10	
min. Earth dist.	-2603 Sep 01 j 10:32	19° $\approx$ 19'24	46.92929 AU				
opposition	-2603 Sep 03 j 06:51	19° $\approx$ 17'15	-17°39'42	conjunction	-2594 Mar 09 j 17:32	27° $\approx$ 46'14	-16°46'12
direct	-2603 Nov 23 j 06:17	18° $\approx$ 17'03		minimum elong	-2594 Mar 09 j 17:39	27° $\approx$ 46'14	16°46'15
				max. Earth dist.	-2594 Mar 11 j 07:26	27° $\approx$ 48'26	49.49040 AU
conjunction	-2602 Mar 01 j 12:45	19° $\approx$ 46'27	-16°56'56	retrograde	-2594 Jun 20 j 23:23	29° $\approx$ 17'52	
minimum elong	-2602 Mar 01 j 12:50	19° $\approx$ 46'27	16°56'58	min. Earth dist.	-2594 Sep 11 j 01:04	28° $\approx$ 18'48	47.60983 AU
max. Earth dist.	-2602 Mar 03 j 10:35	19° $\approx$ 49'09	48.88450 AU	opposition	-2594 Sep 12 j 10:52	28° $\approx$ 17'11	-17°26'30
retrograde	-2602 Jun 12 j 19:04	21° $\approx$ 19'39		direct	-2594 Dec 02 j 09:49	27° $\approx$ 17'36	
min. Earth dist.	-2602 Sep 02 j 18:53	20° $\approx$ 20'18	47.02055 AU				
opposition	-2602 Sep 04 j 13:12	20° $\approx$ 18'15	-17°39'25	conjunction	-2593 Mar 10 j 23:48	28° $\approx$ 45'33	-16°43'34
direct	-2602 Nov 24 j 13:18	19° $\approx$ 18'08		minimum elong	-2593 Mar 10 j 23:55	28° $\approx$ 45'34	16°43'36
				max. Earth dist.	-2593 Mar 12 j 12:12	28° $\approx$ 47'40	49.55073 AU
conjunction	-2601 Mar 02 j 19:41	20° $\approx$ 47'18	-16°56'36		-2593 May 12 j 10:44	0° $\approx$	
minimum elong	-2601 Mar 02 j 19:45	20° $\approx$ 47'19	16°56'39	retrograde	-2593 Jun 22 j 02:50	0° $\approx$ 17'03	
max. Earth dist.	-2601 Mar 04 j 17:03	20° $\approx$ 49'59	48.97334 AU		-2593 Aug 02 j 05:16	30° $\approx$	
retrograde	-2601 Jun 14 j 01:10	22° $\approx$ 20'16		min. Earth dist.	-2593 Sep 12 j 06:45	29° $\approx$ 18'04	47.66738 AU
min. Earth dist.	-2601 Sep 04 j 02:00	21° $\approx$ 20'57	47.10682 AU	opposition	-2593 Sep 13 j 16:10	29° $\approx$ 16'28	-17°23'35
opposition	-2601 Sep 05 j 19:16	21° $\approx$ 18'57	-17°38'51	direct	-2593 Dec 03 j 17:25	28° $\approx$ 16'58	
direct	-2601 Nov 25 j 20:21	20° $\approx$ 18'53					
				conjunction	-2592 Mar 11 j 06:11	29° $\approx$ 44'49	-16°40'41
conjunction	-2600 Mar 03 j 02:31	21° $\approx$ 47'51	-16°56'00	minimum elong	-2592 Mar 11 j 06:18	29° $\approx$ 44'50	16°40'43
minimum elong	-2600 Mar 03 j 02:36	21° $\approx$ 47'51	16°56'02	max. Earth dist.	-2592 Mar 12 j 16:46	29° $\approx$ 46'49	49.60631 AU
max. Earth dist.	-2600 Mar 04 j 21:38	21° $\approx$ 50'23	49.05756 AU		-2592 Mar 22 j 05:44	0° $\approx$	
retrograde	-2600 Jun 14 j 09:54	23° $\approx$ 20'34		retrograde	-2592 Jun 22 j 07:54	1° $\approx$ 16'10	
min. Earth dist.	-2600 Sep 04 j 08:43	22° $\approx$ 21'17	47.18886 AU	opposition	-2592 Sep 13 j 21:29	0° $\approx$ 15'41	-17°20'24
opposition	-2600 Sep 06 j 01:07	22° $\approx$ 19'20	-17°37'59	min. Earth dist.	-2592 Sep 12 j 14:24	0° $\approx$ 17'10	47.71998 AU
direct	-2600 Nov 26 j 00:03	21° $\approx$ 19'19			-2592 Sep 27 j 16:59	30° $\approx$	
				direct	-2592 Dec 04 j 00:29	29° $\approx$ 16'15	
conjunction	-2599 Mar 04 j 09:18	22° $\approx$ 48'06	-16°55'06		-2591 Feb 07 j 08:32	0° $\approx$	
minimum elong	-2599 Mar 04 j 09:22	22° $\approx$ 48'06	16°55'09				
max. Earth dist.	-2599 Mar 06 j 04:09	22° $\approx$ 50'37	49.13772 AU	conjunction	-2591 Mar 12 j 12:39	0° $\approx$ 43'59	-16°37'33
retrograde	-2599 Jun 15 j 15:26	24° $\approx$ 20'36		minimum elong	-2591 Mar 12 j 12:47	0° $\approx$ 44'00	16°37'34
min. Earth dist.	-2599 Sep 05 j 16:27	23° $\approx$ 21'17	47.26704 AU	max. Earth dist.	-2591 Mar 13 j 22:28	0° $\approx$ 45'57	49.65680 AU
opposition	-2599 Sep 07 j 07:01	23° $\approx$ 19'25	-17°36'50	retrograde	-2591 Jun 23 j 13:14	2° $\approx$ 15'12	
direct	-2599 Nov 27 j 06:35	22° $\approx$ 19'28		min. Earth dist.	-2591 Sep 13 j 20:35	1° $\approx$ 16'13	47.76712 AU
				opposition	-2591 Sep 15 j 02:43	1° $\approx$ 14'47	-17°16'58
conjunction	-2598 Mar 05 j 15:46	23° $\approx$ 48'04	-16°53'55	direct	-2591 Dec 05 j 07:03	0° $\approx$ 15'23	
minimum elong	-2598 Mar 05 j 15:53	23° $\approx$ 48'04	16°53'57				
max. Earth dist.	-2598 Mar 07 j 09:23	23° $\approx$ 50'30	49.21447 AU	conjunction	-2590 Mar 13 j 18:42	1° $\approx$ 43'00	-16°34'10
retrograde	-2598 Jun 16 j 19:36	25° $\approx$ 20'21		minimum elong	-2590 Mar 13 j 18:49	1° $\approx$ 43'01	16°34'13
min. Earth dist.	-2598 Sep 06 j 21:59	24° $\approx$ 21'08	47.34191 AU	max. Earth dist.	-2590 Mar 15 j 01:58	1° $\approx$ 44'49	49.70188 AU
opposition	-2598 Sep 08 j 12:43	24° $\approx$ 19'16	-17°35'22	retrograde	-2590 Jun 24 j 22:01	3° $\approx$ 14'04	
direct	-2598 Nov 28 j 13:33	23° $\approx$ 19'22		min. Earth dist.	-2590 Sep 15 j 03:10	2° $\approx$ 15'04	47.80896 AU
				opposition	-2590 Sep 16 j 07:58	2° $\approx$ 13'42	-17°13'18
conjunction	-2597 Mar 06 j 22:15	24° $\approx$ 47'49	-16°52'26	direct	-2590 Dec 06 j 10:02	1° $\approx$ 14'20	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 23

Attention, astronomical year style is used: The year -2589 in astronomical counting style is the year 2590 BCE in historical counting style.

conjunction	-2589 Mar 15 j 00:59	2° $\mathbf{\text{H}}$ 41'50	-16°30'34	retrograde	-2581 Jul 03 j 19:07	11° $\mathbf{\text{H}}$ 55'17	
minimum elong	-2589 Mar 15 j 01:08	2° $\mathbf{\text{H}}$ 41'50	16°30'35	min. Earth dist.	-2581 Sep 24 j 08:05	10° $\mathbf{\text{H}}$ 56'13	48.01187 AU
max. Earth dist.	-2589 Mar 16 j 07:40	2° $\mathbf{\text{H}}$ 43'36	49.74174 AU	opposition	-2581 Sep 25 j 03:03	10° $\mathbf{\text{H}}$ 55'19	-16°28'15
retrograde	-2589 Jun 26 j 04:17	4° $\mathbf{\text{H}}$ 12'43		direct	-2581 Dec 15 j 11:03	9° $\mathbf{\text{H}}$ 56'09	
min. Earth dist.	-2589 Sep 16 j 10:13	3° $\mathbf{\text{H}}$ 13'40	47.84573 AU				
opposition	-2589 Sep 17 j 13:02	3° $\mathbf{\text{H}}$ 12'23	-17°09'23	conjunction	-2580 Mar 23 j 06:06	11° $\mathbf{\text{H}}$ 22'59	-15°46'15
direct	-2589 Dec 07 j 14:35	2° $\mathbf{\text{H}}$ 13'02		minimum elong	-2580 Mar 23 j 06:16	11° $\mathbf{\text{H}}$ 22'59	15°46'16
				max. Earth dist.	-2580 Mar 24 j 01:31	11° $\mathbf{\text{H}}$ 24'05	49.93613 AU
conjunction	-2588 Mar 15 j 07:07	3° $\mathbf{\text{H}}$ 40'25	-16°26'42	retrograde	-2580 Jul 04 j 03:14	12° $\mathbf{\text{H}}$ 52'53	
minimum elong	-2588 Mar 15 j 07:15	3° $\mathbf{\text{H}}$ 40'25	16°26'44	opposition	-2580 Sep 25 j 07:44	11° $\mathbf{\text{H}}$ 52'59	-16°21'55
max. Earth dist.	-2588 Mar 16 j 12:02	3° $\mathbf{\text{H}}$ 42'04	49.77700 AU	min. Earth dist.	-2580 Sep 24 j 14:14	11° $\mathbf{\text{H}}$ 53'48	48.01617 AU
retrograde	-2588 Jun 26 j 09:01	5° $\mathbf{\text{H}}$ 11'08		direct	-2580 Dec 15 j 13:48	10° $\mathbf{\text{H}}$ 53'51	
opposition	-2588 Sep 17 j 17:56	4° $\mathbf{\text{H}}$ 10'50	-17°05'12				
min. Earth dist.	-2588 Sep 16 j 15:23	4° $\mathbf{\text{H}}$ 12'05	47.87810 AU	conjunction	-2579 Mar 24 j 12:03	12° $\mathbf{\text{H}}$ 20'39	-15°40'04
direct	-2588 Dec 07 j 19:53	3° $\mathbf{\text{H}}$ 11'28		minimum elong	-2579 Mar 24 j 12:13	12° $\mathbf{\text{H}}$ 20'40	15°40'05
				max. Earth dist.	-2579 Mar 25 j 06:44	12° $\mathbf{\text{H}}$ 21'43	49.93875 AU
conjunction	-2587 Mar 16 j 13:06	4° $\mathbf{\text{H}}$ 38'44	-16°22'35	retrograde	-2579 Jul 05 j 09:40	13° $\mathbf{\text{H}}$ 50'30	
minimum elong	-2587 Mar 16 j 13:15	4° $\mathbf{\text{H}}$ 38'45	16°22'37	opposition	-2579 Sep 26 j 12:23	12° $\mathbf{\text{H}}$ 50'38	-16°15'22
max. Earth dist.	-2587 Mar 17 j 16:34	4° $\mathbf{\text{H}}$ 40'19	49.80802 AU	min. Earth dist.	-2579 Sep 25 j 20:53	12° $\mathbf{\text{H}}$ 51'22	48.01511 AU
retrograde	-2587 Jun 27 j 12:00	6° $\mathbf{\text{H}}$ 09'18		direct	-2579 Dec 16 j 17:35	11° $\mathbf{\text{H}}$ 51'32	
opposition	-2587 Sep 18 j 22:51	5° $\mathbf{\text{H}}$ 09'01	-17°00'45				
min. Earth dist.	-2587 Sep 17 j 22:18	5° $\mathbf{\text{H}}$ 10'12	47.90664 AU	conjunction	-2578 Mar 25 j 17:56	13° $\mathbf{\text{H}}$ 18'19	-15°33'38
direct	-2587 Dec 09 j 03:32	4° $\mathbf{\text{H}}$ 09'41		minimum elong	-2578 Mar 25 j 18:07	13° $\mathbf{\text{H}}$ 18'20	15°33'39
				max. Earth dist.	-2578 Mar 26 j 10:35	13° $\mathbf{\text{H}}$ 19'16	49.93621 AU
conjunction	-2586 Mar 17 j 19:06	5° $\mathbf{\text{H}}$ 36'49	-16°18'12	retrograde	-2578 Jul 06 j 15:23	14° $\mathbf{\text{H}}$ 48'05	
minimum elong	-2586 Mar 17 j 19:14	5° $\mathbf{\text{H}}$ 36'50	16°18'13	opposition	-2578 Sep 27 j 16:55	13° $\mathbf{\text{H}}$ 48'16	-16°08'34
max. Earth dist.	-2586 Mar 18 j 22:22	5° $\mathbf{\text{H}}$ 38'23	49.83564 AU	min. Earth dist.	-2578 Sep 27 j 01:54	13° $\mathbf{\text{H}}$ 48'58	48.00882 AU
retrograde	-2586 Jun 28 j 15:44	7° $\mathbf{\text{H}}$ 07'15		direct	-2578 Dec 17 j 21:48	12° $\mathbf{\text{H}}$ 49'09	
min. Earth dist.	-2586 Sep 19 j 03:29	6° $\mathbf{\text{H}}$ 08'09	47.93185 AU				
opposition	-2586 Sep 20 j 03:36	6° $\mathbf{\text{H}}$ 07'00	-16°56'02	conjunction	-2577 Mar 26 j 23:43	14° $\mathbf{\text{H}}$ 15'55	-15°27'00
direct	-2586 Dec 10 j 10:49	5° $\mathbf{\text{H}}$ 07'40		minimum elong	-2577 Mar 26 j 23:53	14° $\mathbf{\text{H}}$ 15'56	15°27'01
				max. Earth dist.	-2577 Mar 27 j 14:34	14° $\mathbf{\text{H}}$ 16'46	49.92838 AU
conjunction	-2585 Mar 19 j 00:50	6° $\mathbf{\text{H}}$ 34'43	-16°13'33	retrograde	-2577 Jul 07 j 18:48	15° $\mathbf{\text{H}}$ 45'38	
minimum elong	-2585 Mar 19 j 01:00	6° $\mathbf{\text{H}}$ 34'44	16°13'34	opposition	-2577 Sep 28 j 21:35	14° $\mathbf{\text{H}}$ 45'49	-16°01'33
max. Earth dist.	-2585 Mar 20 j 02:02	6° $\mathbf{\text{H}}$ 36'10	49.86018 AU	min. Earth dist.	-2577 Sep 28 j 08:58	14° $\mathbf{\text{H}}$ 46'25	47.99745 AU
retrograde	-2585 Jun 30 j 00:15	8° $\mathbf{\text{H}}$ 05'01		direct	-2577 Dec 19 j 04:30	13° $\mathbf{\text{H}}$ 46'43	
min. Earth dist.	-2585 Sep 20 j 09:06	7° $\mathbf{\text{H}}$ 05'55	47.95418 AU				
opposition	-2585 Sep 21 j 08:25	7° $\mathbf{\text{H}}$ 04'48	-16°51'02	conjunction	-2576 Mar 27 j 05:40	15° $\mathbf{\text{H}}$ 13'27	-15°20'07
direct	-2585 Dec 11 j 13:09	6° $\mathbf{\text{H}}$ 05'29		minimum elong	-2576 Mar 27 j 05:51	15° $\mathbf{\text{H}}$ 13'27	15°20'08
				max. Earth dist.	-2576 Mar 27 j 19:54	15° $\mathbf{\text{H}}$ 14'15	49.91582 AU
conjunction	-2584 Mar 19 j 06:49	7° $\mathbf{\text{H}}$ 32'28	-16°08'37	retrograde	-2576 Jul 07 j 21:37	16° $\mathbf{\text{H}}$ 43'06	
minimum elong	-2584 Mar 19 j 06:57	7° $\mathbf{\text{H}}$ 32'28	16°08'38	opposition	-2576 Sep 29 j 01:54	15° $\mathbf{\text{H}}$ 43'18	-15°54'17
max. Earth dist.	-2584 Mar 20 j 07:50	7° $\mathbf{\text{H}}$ 33'53	49.88183 AU	min. Earth dist.	-2576 Sep 28 j 13:55	15° $\mathbf{\text{H}}$ 43'52	47.98147 AU
retrograde	-2584 Jun 30 j 06:14	9° $\mathbf{\text{H}}$ 02'39		direct	-2576 Dec 19 j 12:00	14° $\mathbf{\text{H}}$ 44'10	
opposition	-2584 Sep 21 j 13:06	8° $\mathbf{\text{H}}$ 02'29	-16°45'44				
min. Earth dist.	-2584 Sep 20 j 15:21	8° $\mathbf{\text{H}}$ 03'31	47.97352 AU	conjunction	-2575 Mar 28 j 11:21	16° $\mathbf{\text{H}}$ 10'53	-15°13'00
direct	-2584 Dec 11 j 17:27	7° $\mathbf{\text{H}}$ 03'12		minimum elong	-2575 Mar 28 j 11:31	16° $\mathbf{\text{H}}$ 10'53	15°13'01
				max. Earth dist.	-2575 Mar 28 j 23:11	16° $\mathbf{\text{H}}$ 11'33	49.89899 AU
conjunction	-2583 Mar 20 j 12:39	8° $\mathbf{\text{H}}$ 30'07	-16°03'25	retrograde	-2575 Jul 09 j 05:50	17° $\mathbf{\text{H}}$ 40'28	
minimum elong	-2583 Mar 20 j 12:49	8° $\mathbf{\text{H}}$ 30'07	16°03'27	opposition	-2575 Sep 30 j 06:23	16° $\mathbf{\text{H}}$ 40'41	-15°46'47
max. Earth dist.	-2583 Mar 21 j 12:22	8° $\mathbf{\text{H}}$ 31'28	49.90070 AU	min. Earth dist.	-2575 Sep 29 j 19:35	16° $\mathbf{\text{H}}$ 41'12	47.96164 AU
retrograde	-2583 Jul 01 j 10:35	10° $\mathbf{\text{H}}$ 00'12		direct	-2575 Dec 20 j 14:13	15° $\mathbf{\text{H}}$ 41'32	
opposition	-2583 Sep 22 j 17:45	9° $\mathbf{\text{H}}$ 00'06	-16°40'11				
min. Earth dist.	-2583 Sep 21 j 20:04	9° $\mathbf{\text{H}}$ 01'08	47.98992 AU	conjunction	-2574 Mar 29 j 16:58	17° $\mathbf{\text{H}}$ 08'14	-15°05'39
direct	-2583 Dec 12 j 22:36	8° $\mathbf{\text{H}}$ 00'51		minimum elong	-2574 Mar 29 j 17:10	17° $\mathbf{\text{H}}$ 08'15	15°05'39
				max. Earth dist.	-2574 Mar 30 j 04:40	17° $\mathbf{\text{H}}$ 08'54	49.87847 AU
conjunction	-2582 Mar 21 j 18:15	9° $\mathbf{\text{H}}$ 27'43	-15°57'57	retrograde	-2574 Jul 10 j 12:25	18° $\mathbf{\text{H}}$ 37'47	
minimum elong	-2582 Mar 21 j 18:25	9° $\mathbf{\text{H}}$ 27'43	15°57'58	opposition	-2574 Oct 01 j 10:52	17° $\mathbf{\text{H}}$ 38'00	-15°39'00
max. Earth dist.	-2582 Mar 22 j 16:35	9° $\mathbf{\text{H}}$ 28'59	49.91635 AU	min. Earth dist.	-2574 Oct 01 j 01:34	17° $\mathbf{\text{H}}$ 38'27	47.93826 AU
retrograde	-2582 Jul 02 j 14:42	10° $\mathbf{\text{H}}$ 57'44		direct	-2574 Dec 21 j 17:32	16° $\mathbf{\text{H}}$ 38'51	
opposition	-2582 Sep 23 j 22:33	9° $\mathbf{\text{H}}$ 57'41	-16°34'21	evening set	-2573 Mar 29 j 21:09	18° $\mathbf{\text{H}}$ 04'05	
min. Earth dist.	-2582 Sep 23 j 02:47	9° $\mathbf{\text{H}}$ 58'38	48.00293 AU				
direct	-2582 Dec 14 j 04:49	8° $\mathbf{\text{H}}$ 58'29		conjunction	-2573 Mar 30 j 22:40	18° $\mathbf{\text{H}}$ 05'32	-14°58'01
				minimum elong	-2573 Mar 30 j 22:51	18° $\mathbf{\text{H}}$ 05'33	14°58'02
conjunction	-2581 Mar 23 j 00:12	10° $\mathbf{\text{H}}$ 25'20	-15°52'13	max. Earth dist.	-2573 Mar 31 j 08:54	18° $\mathbf{\text{H}}$ 06'07	49.85483 AU
minimum elong	-2581 Mar 23 j 00:23	10° $\mathbf{\text{H}}$ 25'20	15°52'15	morning rise	-2573 Apr 01 j 00:35	18° $\mathbf{\text{H}}$ 07'00	
max. Earth dist.	-2581 Mar 23 j 22:08	10° $\mathbf{\text{H}}$ 26'35	49.92843 AU	retrograde	-2573 Jul 11 j 17:05	19° $\mathbf{\text{H}}$ 35'02	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24

Attention, astronomical year style is used: The year -2573 in astronomical counting style is the year 2574 BCE in historical counting style.

opposition	-2573 Oct 02 j 15:07	18° $\mathring{K}$ 35'16	-15°30'58	max. Earth dist.	-2566 Apr 06 j 16:47	24° $\mathring{K}$ 47'45	49.59172 AU
min. Earth dist.	-2573 Oct 02 j 05:56	18° $\mathring{K}$ 35'42	47.91188 AU	morning rise	-2566 Apr 12 j 14:19	24° $\mathring{K}$ 55'47	
direct	-2573 Dec 22 j 21:56	17° $\mathring{K}$ 36'05		retrograde	-2566 Jul 18 j 03:27	26° $\mathring{K}$ 17'13	
evening set	-2572 Mar 28 j 19:15	18° $\mathring{K}$ 59'34		opposition	-2566 Oct 08 j 22:18	25° $\mathring{K}$ 17'32	-14°27'31
				min. Earth dist.	-2566 Oct 08 j 22:13	25° $\mathring{K}$ 17'32	47.62469 AU
conjunction	-2572 Mar 31 j 04:25	19° $\mathring{K}$ 02'49	-14°50'09	direct	-2566 Dec 29 j 10:23	24° $\mathring{K}$ 18'16	
minimum elong	-2572 Mar 31 j 04:38	19° $\mathring{K}$ 02'49	14°50'10	evening set	-2565 Apr 01 j 13:21	25° $\mathring{K}$ 36'42	
max. Earth dist.	-2572 Mar 31 j 13:13	19° $\mathring{K}$ 03'19	49.82813 AU				
morning rise	-2572 Apr 02 j 14:06	19° $\mathring{K}$ 06'05		conjunction	-2565 Apr 07 j 21:31	25° $\mathring{K}$ 45'20	-13°48'08
retrograde	-2572 Jul 11 j 20:15	20° $\mathring{K}$ 32'17		minimum elong	-2565 Apr 07 j 21:44	25° $\mathring{K}$ 45'20	13°48'08
opposition	-2572 Oct 02 j 19:38	19° $\mathring{K}$ 32'32	-15°22'39	max. Earth dist.	-2565 Apr 07 j 20:00	25° $\mathring{K}$ 45'15	49.53508 AU
min. Earth dist.	-2572 Oct 02 j 12:18	19° $\mathring{K}$ 32'53	47.88253 AU	morning rise	-2565 Apr 14 j 06:30	25° $\mathring{K}$ 54'01	
direct	-2572 Dec 23 j 04:36	18° $\mathring{K}$ 33'21		retrograde	-2565 Jul 19 j 09:56	27° $\mathring{K}$ 14'52	
evening set	-2571 Mar 29 j 04:56	19° $\mathring{K}$ 55'43		opposition	-2565 Oct 10 j 02:45	26° $\mathring{K}$ 15'10	-14°17'31
				min. Earth dist.	-2565 Oct 10 j 04:20	26° $\mathring{K}$ 15'05	47.56408 AU
conjunction	-2571 Apr 01 j 10:09	20° $\mathring{K}$ 00'06	-14°42'01	direct	-2565 Dec 30 j 14:35	25° $\mathring{K}$ 15'50	
minimum elong	-2571 Apr 01 j 10:21	20° $\mathring{K}$ 00'07	14°42'01	evening set	-2564 Apr 01 j 09:47	26° $\mathring{K}$ 33'46	
max. Earth dist.	-2571 Apr 01 j 18:44	20° $\mathring{K}$ 00'35	49.79857 AU				
morning rise	-2571 Apr 04 j 15:51	20° $\mathring{K}$ 04'31		conjunction	-2564 Apr 08 j 03:40	26° $\mathring{K}$ 42'57	-13°38'22
retrograde	-2571 Jul 12 j 23:04	21° $\mathring{K}$ 29'34		minimum elong	-2564 Apr 08 j 03:51	26° $\mathring{K}$ 42'57	13°38'23
opposition	-2571 Oct 03 j 23:57	20° $\mathring{K}$ 29'50	-15°14'05	max. Earth dist.	-2564 Apr 08 j 01:30	26° $\mathring{K}$ 42'49	49.47335 AU
min. Earth dist.	-2571 Oct 03 j 16:56	20° $\mathring{K}$ 30'10	47.85009 AU	morning rise	-2564 Apr 14 j 22:13	26° $\mathring{K}$ 52'10	
direct	-2571 Dec 24 j 11:48	19° $\mathring{K}$ 30'40		retrograde	-2564 Jul 19 j 16:19	28° $\mathring{K}$ 12'30	
evening set	-2570 Mar 29 j 18:33	20° $\mathring{K}$ 52'09		opposition	-2564 Oct 10 j 07:18	27° $\mathring{K}$ 12'45	-14°07'16
				min. Earth dist.	-2564 Oct 10 j 10:40	27° $\mathring{K}$ 12'35	47.49856 AU
conjunction	-2570 Apr 02 j 15:49	20° $\mathring{K}$ 57'26	-14°33'37	direct	-2564 Dec 30 j 18:34	26° $\mathring{K}$ 13'21	
minimum elong	-2570 Apr 02 j 16:01	20° $\mathring{K}$ 57'27	14°33'39	evening set	-2563 Apr 02 j 06:39	27° $\mathring{K}$ 30'50	
max. Earth dist.	-2570 Apr 02 j 22:15	20° $\mathring{K}$ 57'48	49.76588 AU				
morning rise	-2570 Apr 06 j 13:40	21° $\mathring{K}$ 02'46		conjunction	-2563 Apr 09 j 09:32	27° $\mathring{K}$ 40'31	-13°28'22
retrograde	-2570 Jul 14 j 06:15	22° $\mathring{K}$ 26'55		minimum elong	-2563 Apr 09 j 09:45	27° $\mathring{K}$ 40'32	13°28'23
opposition	-2570 Oct 05 j 04:22	21° $\mathring{K}$ 27'13	-15°05'14	max. Earth dist.	-2563 Apr 09 j 05:39	27° $\mathring{K}$ 40'18	49.40718 AU
min. Earth dist.	-2570 Oct 04 j 22:40	21° $\mathring{K}$ 27'29	47.81439 AU	morning rise	-2563 Apr 16 j 13:14	27° $\mathring{K}$ 50'16	
direct	-2570 Dec 25 j 14:54	20° $\mathring{K}$ 28'03		retrograde	-2563 Jul 20 j 22:31	29° $\mathring{K}$ 10'05	
evening set	-2569 Mar 30 j 10:19	21° $\mathring{K}$ 48'48		opposition	-2563 Oct 11 j 11:42	28° $\mathring{K}$ 10'18	-13°56'47
				min. Earth dist.	-2563 Oct 11 j 15:23	28° $\mathring{K}$ 10'08	47.42892 AU
conjunction	-2569 Apr 03 j 21:40	21° $\mathring{K}$ 54'53	-14°24'59	direct	-2563 Dec 31 j 22:09	27° $\mathring{K}$ 10'50	
minimum elong	-2569 Apr 03 j 21:52	21° $\mathring{K}$ 54'53	14°24'59	evening set	-2562 Apr 03 j 03:43	28° $\mathring{K}$ 27'53	
max. Earth dist.	-2569 Apr 04 j 03:39	21° $\mathring{K}$ 55'13	49.72951 AU				
morning rise	-2569 Apr 08 j 09:36	22° $\mathring{K}$ 01'00		conjunction	-2562 Apr 10 j 15:28	28° $\mathring{K}$ 38'05	-13°18'08
retrograde	-2569 Jul 15 j 13:22	23° $\mathring{K}$ 24'22		minimum elong	-2562 Apr 10 j 15:40	28° $\mathring{K}$ 38'06	13°18'08
opposition	-2569 Oct 06 j 08:50	22° $\mathring{K}$ 24'42	-14°56'09	max. Earth dist.	-2562 Apr 10 j 09:59	28° $\mathring{K}$ 37'47	49.33705 AU
min. Earth dist.	-2569 Oct 06 j 04:51	22° $\mathring{K}$ 24'53	47.77454 AU	morning rise	-2562 Apr 18 j 04:04	28° $\mathring{K}$ 48'20	
direct	-2569 Dec 26 j 18:10	21° $\mathring{K}$ 25'32			-2562 Jun 25 j 01:10	0° $\mathring{Y}$	
evening set	-2568 Mar 30 j 03:47	22° $\mathring{K}$ 45'37		retrograde	-2562 Jul 22 j 02:32	0° $\mathring{Y}$ 07'41	
					-2562 Aug 18 j 04:22	30° $\mathring{R}$ $\mathring{K}$	
conjunction	-2568 Apr 04 j 03:38	22° $\mathring{K}$ 52'25	-14°16'06	opposition	-2562 Oct 12 j 16:14	29° $\mathring{K}$ 07'51	-13°46'03
minimum elong	-2568 Apr 04 j 03:49	22° $\mathring{K}$ 52'26	14°16'06	min. Earth dist.	-2562 Oct 12 j 21:55	29° $\mathring{K}$ 07'35	47.35568 AU
max. Earth dist.	-2568 Apr 04 j 07:40	22° $\mathring{K}$ 52'39	49.68880 AU	direct	-2561 Jan 02 j 04:25	28° $\mathring{K}$ 08'19	
morning rise	-2568 Apr 09 j 04:05	22° $\mathring{K}$ 59'15		evening set	-2561 Apr 04 j 01:15	29° $\mathring{K}$ 24'59	
retrograde	-2568 Jul 15 j 20:53	24° $\mathring{K}$ 21'55					
opposition	-2568 Oct 06 j 13:08	23° $\mathring{K}$ 22'16	-14°46'50	conjunction	-2561 Apr 11 j 21:29	29° $\mathring{K}$ 35'40	-13°07'38
min. Earth dist.	-2568 Oct 06 j 09:50	23° $\mathring{K}$ 22'25	47.72999 AU	minimum elong	-2561 Apr 11 j 21:43	29° $\mathring{K}$ 35'41	13°07'38
direct	-2568 Dec 26 j 20:57	22° $\mathring{K}$ 23'04		max. Earth dist.	-2561 Apr 11 j 15:47	29° $\mathring{K}$ 35'21	49.26366 AU
evening set	-2567 Mar 30 j 22:11	23° $\mathring{K}$ 42'35		morning rise	-2561 Apr 19 j 18:29	29° $\mathring{K}$ 46'24	
					-2561 Apr 29 j 22:15	0° $\mathring{Y}$	
conjunction	-2567 Apr 05 j 09:37	23° $\mathring{K}$ 50'02	-14°07'00	retrograde	-2561 Jul 23 j 05:14	1° $\mathring{Y}$ 05'19	
minimum elong	-2567 Apr 05 j 09:49	23° $\mathring{K}$ 50'03	14°06'59	opposition	-2561 Oct 13 j 20:42	0° $\mathring{Y}$ 05'27	-13°35'03
max. Earth dist.	-2567 Apr 05 j 11:43	23° $\mathring{K}$ 50'09	49.64293 AU	min. Earth dist.	-2561 Oct 14 j 02:39	0° $\mathring{Y}$ 05'10	47.27918 AU
morning rise	-2567 Apr 10 j 21:43	23° $\mathring{K}$ 57'31			-2561 Oct 18 j 14:47	30° $\mathring{R}$ $\mathring{K}$	
retrograde	-2567 Jul 17 j 01:25	25° $\mathring{K}$ 19'33		direct	-2560 Jan 03 j 11:55	29° $\mathring{K}$ 05'51	
opposition	-2567 Oct 07 j 17:47	24° $\mathring{K}$ 19'54	-14°37'17		-2560 Mar 18 j 03:28	0° $\mathring{Y}$	
min. Earth dist.	-2567 Oct 07 j 16:56	24° $\mathring{K}$ 19'56	47.68012 AU	evening set	-2560 Apr 03 j 23:08	0° $\mathring{Y}$ 22'10	
direct	-2567 Dec 28 j 02:19	23° $\mathring{K}$ 20'40					
evening set	-2566 Mar 31 j 17:24	24° $\mathring{K}$ 39'37		conjunction	-2560 Apr 12 j 03:28	0° $\mathring{Y}$ 33'19	-12°56'53
				minimum elong	-2560 Apr 12 j 03:40	0° $\mathring{Y}$ 33'19	12°56'52
conjunction	-2566 Apr 06 j 15:32	24° $\mathring{K}$ 47'41	-13°57'41	max. Earth dist.	-2560 Apr 11 j 19:32	0° $\mathring{Y}$ 32'52	49.18718 AU
minimum elong	-2566 Apr 06 j 15:44	24° $\mathring{K}$ 47'42	13°57'41	morning rise	-2560 Apr 20 j 08:45	0° $\mathring{Y}$ 44'31	



## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 25

Attention, astronomical year style is used: The year -2560 in astronomical counting style is the year 2561 BCE in historical counting style.

retrograde	-2560 Jul 23 j 11:55	2°♊03'02		minimum elong	-2553 Apr 19 j 23:55	7°♊22'13	11°34'36
opposition	-2560 Oct 14 j 01:12	1°♊03'09	-13°23'46	max. Earth dist.	-2553 Apr 19 j 06:21	7°♊21'13	48.55142 AU
min. Earth dist.	-2560 Oct 14 j 08:24	1°♊02'48	47.19985 AU	morning rise	-2553 Apr 30 j 08:05	7°♊36'26	
direct	-2559 Jan 03 j 15:34	0°♊03'31		retrograde	-2553 Jul 31 j 08:46	8°♊52'44	
evening set	-2559 Apr 04 j 21:12	1°♊19'29		opposition	-2553 Oct 21 j 10:29	7°♊52'39	-11°57'37
				min. Earth dist.	-2553 Oct 22 j 02:18	7°♊51'53	46.53833 AU
conjunction	-2559 Apr 13 j 09:35	1°♊31'05	-12°45'53	direct	-2552 Jan 10 j 22:36	6°♊52'35	
minimum elong	-2559 Apr 13 j 09:48	1°♊31'06	12°45'53	evening set	-2552 Apr 09 j 16:25	8°♊06'46	
max. Earth dist.	-2559 Apr 13 j 01:26	1°♊30'37	49.10784 AU	max. Earth dist.	-2552 Apr 19 j 11:12	8°♊20'13	48.44173 AU
morning rise	-2559 Apr 21 j 22:46	1°♊42'46					
retrograde	-2559 Jul 24 j 18:33	3°♊00'54		conjunction	-2552 Apr 20 j 06:23	8°♊21'19	-11°21'54
opposition	-2559 Oct 15 j 05:51	2°♊01'00	-13°12'13	minimum elong	-2552 Apr 20 j 06:36	8°♊21'20	11°21'53
min. Earth dist.	-2559 Oct 15 j 14:14	2°♊00'36	47.11754 AU	morning rise	-2552 Apr 30 j 21:21	8°♊35'56	
direct	-2558 Jan 04 j 19:24	1°♊01'20		retrograde	-2552 Jul 31 j 14:11	9°♊51'57	
evening set	-2558 Apr 05 j 19:32	2°♊16'59		opposition	-2552 Oct 21 j 15:27	8°♊51'47	-11°44'20
				min. Earth dist.	-2552 Oct 22 j 09:31	8°♊50'54	46.42490 AU
conjunction	-2558 Apr 14 j 15:30	2°♊29'03	-12°34'36	direct	-2551 Jan 11 j 05:02	7°♊51'36	
minimum elong	-2558 Apr 14 j 15:42	2°♊29'03	12°34'36	evening set	-2551 Apr 10 j 16:43	9°♊05'34	
max. Earth dist.	-2558 Apr 14 j 05:55	2°♊28'30	49.02566 AU				
morning rise	-2558 Apr 23 j 12:24	2°♊41'10		conjunction	-2551 Apr 21 j 13:06	9°♊20'30	-11°08'58
retrograde	-2558 Jul 26 j 02:43	3°♊58'58		minimum elong	-2551 Apr 21 j 13:18	9°♊20'31	11°08'57
opposition	-2558 Oct 16 j 10:26	2°♊59'04	-13°00'25	max. Earth dist.	-2551 Apr 20 j 17:24	9°♊19'22	48.32784 AU
min. Earth dist.	-2558 Oct 16 j 19:09	2°♊58'39	47.03217 AU	morning rise	-2551 May 02 j 10:17	9°♊35'29	
direct	-2557 Jan 05 j 21:56	1°♊59'21		retrograde	-2551 Aug 01 j 17:00	10°♊51'14	
evening set	-2557 Apr 06 j 18:14	3°♊14'44		opposition	-2551 Oct 22 j 20:25	9°♊50'59	-11°30'47
				min. Earth dist.	-2551 Oct 23 j 14:49	9°♊50'05	46.30747 AU
conjunction	-2557 Apr 15 j 21:46	3°♊27'14	-12°23'05	direct	-2550 Jan 12 j 13:29	8°♊50'40	
minimum elong	-2557 Apr 15 j 21:59	3°♊27'15	12°23'05	evening set	-2550 Apr 11 j 17:06	10°♊04'27	
max. Earth dist.	-2557 Apr 15 j 10:39	3°♊26'36	48.93996 AU				
morning rise	-2557 Apr 25 j 02:15	3°♊39'48		conjunction	-2550 Apr 22 j 19:35	10°♊19'45	-10°55'46
retrograde	-2557 Jul 27 j 08:48	4°♊57'16		minimum elong	-2550 Apr 22 j 19:48	10°♊19'46	10°55'44
opposition	-2557 Oct 17 j 15:06	3°♊57'22	-12°48'21	max. Earth dist.	-2550 Apr 21 j 21:37	10°♊18'29	48.21020 AU
min. Earth dist.	-2557 Oct 18 j 02:08	3°♊56'50	46.94304 AU	morning rise	-2550 May 03 j 23:08	10°♊35'07	
direct	-2556 Jan 07 j 02:31	2°♊57'36		retrograde	-2550 Aug 02 j 22:56	11°♊50'38	
evening set	-2556 Apr 06 j 17:26	4°♊12'45		opposition	-2550 Oct 24 j 01:31	10°♊50'16	-11°16'57
				min. Earth dist.	-2550 Oct 24 j 21:24	10°♊49'18	46.18669 AU
conjunction	-2556 Apr 16 j 04:15	4°♊25'41	-12°11'19	direct	-2549 Jan 13 j 19:08	9°♊49'50	
minimum elong	-2556 Apr 16 j 04:27	4°♊25'41	12°11'18	evening set	-2549 Apr 12 j 17:45	11°♊03'26	
max. Earth dist.	-2556 Apr 15 j 16:24	4°♊25'00	48.85026 AU	max. Earth dist.	-2549 Apr 23 j 04:13	11°♊17'49	48.08933 AU
morning rise	-2556 Apr 25 j 15:53	4°♊38'40					
retrograde	-2556 Jul 27 j 11:25	5°♊55'50		conjunction	-2549 Apr 24 j 02:28	11°♊19'06	-10°42'18
opposition	-2556 Oct 17 j 19:49	4°♊55'55	-12°36'01	minimum elong	-2549 Apr 24 j 02:40	11°♊19'07	10°42'16
min. Earth dist.	-2556 Oct 18 j 07:25	4°♊55'21	46.84944 AU	morning rise	-2549 May 05 j 11:58	11°♊34'51	
direct	-2555 Jan 07 j 10:34	3°♊56'06		retrograde	-2549 Aug 04 j 04:20	12°♊50'08	
evening set	-2555 Apr 07 j 16:46	5°♊11'00		opposition	-2549 Oct 25 j 06:36	11°♊49'41	-11°02'52
				min. Earth dist.	-2549 Oct 26 j 03:35	11°♊48'40	46.06284 AU
conjunction	-2555 Apr 17 j 10:33	5°♊24'21	-11°59'19	direct	-2548 Jan 15 j 01:13	10°♊49'08	
minimum elong	-2555 Apr 17 j 10:45	5°♊24'21	11°59'19	evening set	-2548 Apr 12 j 18:49	12°♊02'33	
max. Earth dist.	-2555 Apr 16 j 20:02	5°♊23'31	48.75575 AU	max. Earth dist.	-2548 Apr 23 j 09:35	12°♊17'13	47.96576 AU
morning rise	-2555 Apr 27 j 05:23	5°♊37'45					
retrograde	-2555 Jul 28 j 17:24	6°♊54'38		conjunction	-2548 Apr 24 j 09:19	12°♊18'36	-10°28'34
opposition	-2555 Oct 19 j 00:42	5°♊54'40	-12°23'28	minimum elong	-2548 Apr 24 j 09:32	12°♊18'36	10°28'34
min. Earth dist.	-2555 Oct 19 j 14:06	5°♊54'02	46.75092 AU	morning rise	-2548 May 06 j 00:46	12°♊34'42	
direct	-2554 Jan 08 j 15:49	4°♊54'48		retrograde	-2548 Aug 04 j 13:21	13°♊49'46	
evening set	-2554 Apr 08 j 16:22	6°♊09'27		opposition	-2548 Oct 25 j 11:49	12°♊49'15	-10°48'29
				min. Earth dist.	-2548 Oct 26 j 09:03	12°♊48'13	45.93643 AU
conjunction	-2554 Apr 18 j 17:10	6°♊23'12	-11°47'05	direct	-2547 Jan 15 j 04:03	11°♊48'35	
minimum elong	-2554 Apr 18 j 17:22	6°♊23'13	11°47'04	evening set	-2547 Apr 13 j 19:49	13°♊01'52	
max. Earth dist.	-2554 Apr 18 j 01:56	6°♊22'20	48.65611 AU				
morning rise	-2554 Apr 28 j 18:48	6°♊37'02		conjunction	-2547 Apr 25 j 16:09	13°♊18'17	-10°14'34
retrograde	-2554 Jul 30 j 00:27	7°♊53'37		minimum elong	-2547 Apr 25 j 16:20	13°♊18'17	10°14'33
opposition	-2554 Oct 20 j 05:36	6°♊53'36	-12°10'40	max. Earth dist.	-2547 Apr 24 j 15:11	13°♊16'50	47.83951 AU
min. Earth dist.	-2554 Oct 20 j 20:43	6°♊52'53	46.64711 AU	morning rise	-2547 May 07 j 13:23	13°♊34'45	
direct	-2553 Jan 09 j 19:48	5°♊53'39		retrograde	-2547 Aug 05 j 21:35	14°♊49'39	
evening set	-2553 Apr 09 j 16:19	7°♊08'03		opposition	-2547 Oct 26 j 17:14	13°♊49'02	-10°33'49
				min. Earth dist.	-2547 Oct 27 j 16:18	13°♊47'55	45.80741 AU
conjunction	-2553 Apr 19 j 23:43	7°♊22'13	-11°34'37	direct	-2546 Jan 16 j 08:05	12°♊48'16	

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26

Attention, astronomical year style is used: The year -2546 in astronomical counting style is the year 2547 BCE in historical counting style.

evening set	-2546 Apr 14 j 21:11	14°♈01'28		opposition	-2540 Nov 02 j 09:39	20°♈57'03	-8°43'33
				min. Earth dist.	-2540 Nov 03 j 17:40	20°♈55'28	44.79616 AU
conjunction	-2546 Apr 26 j 23:13	14°♈18'14	-10°00'18	direct	-2539 Jan 23 j 04:50	19°♈55'27	
minimum elong	-2546 Apr 26 j 23:25	14°♈18'14	10°00'18	evening set	-2539 Apr 20 j 15:06	21°♈08'21	
max. Earth dist.	-2546 Apr 25 j 21:55	14°♈16'45	47.71076 AU	max. Earth dist.	-2539 May 02 j 16:50	21°♈25'22	46.69465 AU
morning rise	-2546 May 09 j 01:58	14°♈35'03					
retrograde	-2546 Aug 07 j 01:56	15°♈49'47		conjunction	-2539 May 04 j 04:44	21°♈27'30	-8°13'12
opposition	-2546 Oct 27 j 22:32	14°♈49'07	-10°18'52	minimum elong	-2539 May 04 j 04:55	21°♈27'31	8°13'11
min. Earth dist.	-2546 Oct 28 j 21:43	14°♈48'00	45.67561 AU	morning rise	-2539 May 17 j 18:47	21°♈46'43	
direct	-2545 Jan 17 j 15:47	13°♈48'15		retrograde	-2539 Aug 14 j 02:12	23°♈00'48	
evening set	-2545 Apr 15 j 22:56	15°♈01'22		opposition	-2539 Nov 03 j 15:55	21°♈59'29	-8°26'43
max. Earth dist.	-2545 Apr 27 j 02:47	15°♈16'53	47.57893 AU	min. Earth dist.	-2539 Nov 05 j 00:58	21°♈57'51	44.63367 AU
				direct	-2538 Jan 24 j 12:40	20°♈57'43	
conjunction	-2545 Apr 28 j 06:21	15°♈18'29	-9°45'46	evening set	-2538 Apr 21 j 18:48	22°♈10'37	
minimum elong	-2545 Apr 28 j 06:33	15°♈18'30	9°45'45	max. Earth dist.	-2538 May 03 j 23:04	22°♈27'51	46.53189 AU
morning rise	-2545 May 10 j 14:46	15°♈35'41					
retrograde	-2545 Aug 08 j 07:59	16°♈50'17		conjunction	-2538 May 05 j 12:48	22°♈30'05	-7°56'53
opposition	-2545 Oct 29 j 04:06	15°♈49'33	-10°03'39	minimum elong	-2538 May 05 j 12:58	22°♈30'06	7°56'51
min. Earth dist.	-2545 Oct 30 j 05:00	15°♈48'20	45.54052 AU	morning rise	-2538 May 19 j 07:27	22°♈49'37	
direct	-2544 Jan 18 j 22:04	14°♈48'36		retrograde	-2538 Aug 15 j 12:05	24°♈03'40	
evening set	-2544 Apr 16 j 00:53	16°♈01'39		opposition	-2538 Nov 04 j 22:08	23°♈02'13	-8°09'37
max. Earth dist.	-2544 Apr 27 j 09:49	16°♈17'29	47.44330 AU	min. Earth dist.	-2538 Nov 06 j 07:52	23°♈00'32	44.46787 AU
				direct	-2537 Jan 25 j 16:36	22°♈00'16	
conjunction	-2544 Apr 28 j 13:50	16°♈19'07	-9°30'58	evening set	-2537 Apr 22 j 22:39	23°♈13'12	
minimum elong	-2544 Apr 28 j 14:01	16°♈19'08	9°30'58	max. Earth dist.	-2537 May 05 j 06:08	23°♈30'40	46.36581 AU
morning rise	-2544 May 11 j 03:25	16°♈36'39					
retrograde	-2544 Aug 08 j 14:33	17°♈51'10		conjunction	-2537 May 06 j 21:08	23°♈32'59	-7°40'16
opposition	-2544 Oct 29 j 09:43	16°♈50'22	-9°48'10	minimum elong	-2537 May 06 j 21:19	23°♈33'00	7°40'15
min. Earth dist.	-2544 Oct 30 j 12:06	16°♈49'05	45.40122 AU	morning rise	-2537 May 20 j 20:04	23°♈52'49	
direct	-2543 Jan 19 j 03:54	15°♈49'19		retrograde	-2537 Aug 16 j 22:38	25°♈06'51	
evening set	-2543 Apr 17 j 03:18	17°♈02'18		opposition	-2537 Nov 06 j 04:44	24°♈05'16	-7°52'12
				min. Earth dist.	-2537 Nov 07 j 16:19	24°♈03'29	44.29902 AU
conjunction	-2543 Apr 29 j 21:18	17°♈20'08	-9°15'55	direct	-2536 Jan 26 j 21:01	23°♈03'08	
minimum elong	-2543 Apr 29 j 21:30	17°♈20'08	9°15'53	evening set	-2536 Apr 23 j 02:50	24°♈16'08	
max. Earth dist.	-2543 Apr 28 j 15:09	17°♈18'22	47.30333 AU	max. Earth dist.	-2536 May 05 j 14:03	24°♈33'52	46.19701 AU
morning rise	-2543 May 12 j 16:09	17°♈38'00					
retrograde	-2543 Aug 10 j 00:10	18°♈52'25		conjunction	-2536 May 07 j 05:33	24°♈36'13	-7°23'24
opposition	-2543 Oct 30 j 15:30	17°♈51'33	-9°32'24	minimum elong	-2536 May 07 j 05:43	24°♈36'14	7°23'21
min. Earth dist.	-2543 Oct 31 j 18:38	17°♈50'13	45.25736 AU	morning rise	-2536 May 21 j 08:35	24°♈56'22	
direct	-2542 Jan 20 j 07:01	16°♈50'23		retrograde	-2536 Aug 17 j 05:48	26°♈10'23	
evening set	-2542 Apr 18 j 05:44	18°♈03'20		opposition	-2536 Nov 06 j 11:17	25°♈08'40	-7°34'30
max. Earth dist.	-2542 Apr 29 j 20:58	18°♈19'37	47.15838 AU	min. Earth dist.	-2536 Nov 07 j 22:46	25°♈06'54	44.12758 AU
				direct	-2535 Jan 27 j 04:58	24°♈06'22	
conjunction	-2542 May 01 j 04:54	18°♈21'30	-9°00'38	evening set	-2535 Apr 24 j 07:21	25°♈19'26	
minimum elong	-2542 May 01 j 05:05	18°♈21'31	9°00'36	max. Earth dist.	-2535 May 06 j 20:31	25°♈37'21	46.02570 AU
morning rise	-2542 May 14 j 04:48	18°♈39'43					
retrograde	-2542 Aug 11 j 08:02	19°♈54'02		conjunction	-2535 May 08 j 14:02	25°♈39'51	-7°06'14
opposition	-2542 Oct 31 j 21:34	18°♈53'05	-9°16'23	minimum elong	-2535 May 08 j 14:12	25°♈39'51	7°06'13
min. Earth dist.	-2542 Nov 02 j 03:03	18°♈51'38	45.10842 AU	morning rise	-2535 May 22 j 21:13	26°♈00'18	
direct	-2541 Jan 21 j 13:03	17°♈51'47		retrograde	-2535 Aug 18 j 12:31	27°♈14'20	
evening set	-2541 Apr 19 j 08:40	19°♈04'43		opposition	-2535 Nov 07 j 18:10	26°♈12'29	-7°16'30
max. Earth dist.	-2541 May 01 j 03:59	19°♈21'16	47.00848 AU	min. Earth dist.	-2535 Nov 09 j 07:14	26°♈10'38	43.95382 AU
				direct	-2534 Jan 28 j 13:18	25°♈10'02	
conjunction	-2541 May 02 j 12:49	19°♈23'12	-8°45'04	evening set	-2534 Apr 25 j 11:56	26°♈23'11	
minimum elong	-2541 May 02 j 13:00	19°♈23'13	8°45'03	max. Earth dist.	-2534 May 08 j 05:14	26°♈41'24	45.85196 AU
morning rise	-2541 May 15 j 17:31	19°♈41'46					
retrograde	-2541 Aug 12 j 13:47	20°♈55'59		conjunction	-2534 May 09 j 22:45	26°♈43'54	-6°48'47
opposition	-2541 Nov 02 j 03:27	19°♈54'55	-9°00'06	minimum elong	-2534 May 09 j 22:54	26°♈43'55	6°48'45
min. Earth dist.	-2541 Nov 03 j 09:31	19°♈53'26	44.95453 AU	morning rise	-2534 May 24 j 09:40	27°♈04'40	
direct	-2540 Jan 22 j 21:44	18°♈53'28		retrograde	-2534 Aug 19 j 18:09	28°♈18'45	
evening set	-2540 Apr 19 j 11:56	20°♈06'23		opposition	-2534 Nov 09 j 01:11	27°♈16'46	-6°58'11
max. Earth dist.	-2540 May 01 j 09:13	20°♈23'07	46.85374 AU	min. Earth dist.	-2534 Nov 10 j 15:04	27°♈14'52	43.77739 AU
				direct	-2533 Jan 29 j 22:36	26°♈14'09	
conjunction	-2540 May 02 j 20:45	20°♈25'13	-8°29'16	evening set	-2533 Apr 26 j 17:13	27°♈27'26	
minimum elong	-2540 May 02 j 20:56	20°♈25'13	8°29'15	max. Earth dist.	-2533 May 09 j 12:12	27°♈45'49	45.67545 AU
morning rise	-2540 May 16 j 06:22	20°♈44'06					
retrograde	-2540 Aug 12 j 20:40	21°♈58'14		conjunction	-2533 May 11 j 07:41	27°♈48'27	-6°31'04

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 27

Attention, astronomical year style is used: The year -2533 in astronomical counting style is the year 2534 BCE in historical counting style.

minimum elong	-2533 May 11 j 07:51	27° $\Upsilon$ 48'28	6°31'02	retrograde	-2527 Aug 27 j 12:58	6° $\mathcal{B}$ 03'53	
morning rise	-2533 May 25 j 22:30	28° $\Upsilon$ 09'31		opposition	-2527 Nov 16 j 07:30	5° $\mathcal{B}$ 00'45	-4°41'51
retrograde	-2533 Aug 21 j 04:10	29° $\Upsilon$ 23'40		min. Earth dist.	-2527 Nov 18 j 06:55	4° $\mathcal{B}$ 58'18	42.43269 AU
opposition	-2533 Nov 10 j 08:12	28° $\Upsilon$ 21'35	-6°39'35	direct	-2526 Feb 06 j 03:06	3° $\mathcal{B}$ 56'39	
min. Earth dist.	-2533 Nov 11 j 22:55	28° $\Upsilon$ 19'37	43.59801 AU	evening set	-2526 May 03 j 15:49	5° $\mathcal{B}$ 11'13	
direct	-2532 Jan 31 j 03:41	27° $\Upsilon$ 18'47		max. Earth dist.	-2526 May 16 j 23:14	5° $\mathcal{B}$ 30'53	44.32415 AU
evening set	-2532 Apr 26 j 22:49	28° $\Upsilon$ 32'13					
max. Earth dist.	-2532 May 09 j 20:15	28° $\Upsilon$ 50'49	45.49540 AU	conjunction	-2526 May 19 j 04:28	5° $\mathcal{B}$ 34'12	-4°19'17
				minimum elong	-2526 May 19 j 04:35	5° $\mathcal{B}$ 34'12	4°19'14
conjunction	-2532 May 11 j 17:00	28° $\Upsilon$ 53'32	-6°13'03	morning rise	-2526 Jun 03 j 16:44	5° $\mathcal{B}$ 57'12	
minimum elong	-2532 May 11 j 17:08	28° $\Upsilon$ 53'32	6°13'01	retrograde	-2526 Aug 29 j 00:16	7° $\mathcal{B}$ 12'12	
morning rise	-2532 May 26 j 11:16	29° $\Upsilon$ 14'53		opposition	-2526 Nov 17 j 15:58	6° $\mathcal{B}$ 08'52	-4°21'11
	-2532 Jun 30 j 21:35	0° $\mathcal{B}$		min. Earth dist.	-2526 Nov 19 j 15:26	6° $\mathcal{B}$ 06'25	42.22494 AU
retrograde	-2532 Aug 21 j 14:29	0° $\mathcal{B}$ 29'08		direct	-2525 Feb 07 j 10:48	5° $\mathcal{B}$ 04'30	
	-2532 Oct 12 j 20:11	30° $\mathcal{R}\Upsilon$		evening set	-2525 May 05 j 00:03	6° $\mathcal{B}$ 19'20	
opposition	-2532 Nov 10 j 15:41	29° $\Upsilon$ 26'55	-6°20'42	max. Earth dist.	-2525 May 18 j 07:55	6° $\mathcal{B}$ 39'08	44.11590 AU
min. Earth dist.	-2532 Nov 12 j 08:29	29° $\Upsilon$ 24'51	43.41482 AU				
direct	-2531 Jan 31 j 09:26	28° $\Upsilon$ 23'57		conjunction	-2525 May 20 j 15:06	6° $\mathcal{B}$ 42'35	-3°59'21
evening set	-2531 Apr 28 j 04:39	29° $\Upsilon$ 37'32		minimum elong	-2525 May 20 j 15:12	6° $\mathcal{B}$ 42'35	3°59'18
max. Earth dist.	-2531 May 11 j 04:39	29° $\Upsilon$ 56'21	45.31135 AU	morning rise	-2525 Jun 05 j 05:47	7° $\mathcal{B}$ 05'50	
				retrograde	-2525 Aug 30 j 10:42	8° $\mathcal{B}$ 21'02	
conjunction	-2531 May 13 j 02:18	29° $\Upsilon$ 59'08	-5°54'46	opposition	-2525 Nov 19 j 00:42	7° $\mathcal{B}$ 17'29	-4°00'13
minimum elong	-2531 May 13 j 02:27	29° $\Upsilon$ 59'09	5°54'45	min. Earth dist.	-2525 Nov 21 j 02:03	7° $\mathcal{B}$ 14'55	42.01471 AU
	-2531 May 13 j 16:26	0° $\mathcal{B}$		direct	-2524 Feb 08 j 20:18	6° $\mathcal{B}$ 12'52	
morning rise	-2531 May 27 j 23:58	0° $\mathcal{B}$ 20'47		evening set	-2524 May 05 j 08:34	7° $\mathcal{B}$ 28'00	
retrograde	-2531 Aug 23 j 01:01	1° $\mathcal{B}$ 35'07		max. Earth dist.	-2524 May 18 j 18:59	7° $\mathcal{B}$ 48'02	43.90542 AU
opposition	-2531 Nov 11 j 23:15	0° $\mathcal{B}$ 32'45	-6°01'30				
min. Earth dist.	-2531 Nov 13 j 16:29	0° $\mathcal{B}$ 30'40	43.22732 AU	conjunction	-2524 May 21 j 02:02	7° $\mathcal{B}$ 51'30	-3°39'07
	-2531 Dec 10 j 06:18	30° $\mathcal{R}\Upsilon$		minimum elong	-2524 May 21 j 02:08	7° $\mathcal{B}$ 51'30	3°39'04
direct	-2530 Feb 01 j 17:23	29° $\Upsilon$ 29'36		morning rise	-2524 Jun 05 j 18:47	8° $\mathcal{B}$ 15'00	
	-2530 Mar 26 j 16:10	0° $\mathcal{B}$		retrograde	-2524 Aug 30 j 18:46	9° $\mathcal{B}$ 30'26	
evening set	-2530 Apr 29 j 11:04	0° $\mathcal{B}$ 43'21		opposition	-2524 Nov 19 j 09:45	8° $\mathcal{B}$ 26'40	-3°38'56
max. Earth dist.	-2530 May 12 j 11:38	1° $\mathcal{B}$ 02'18	45.12266 AU	min. Earth dist.	-2524 Nov 21 j 11:18	8° $\mathcal{B}$ 24'05	41.80246 AU
				direct	-2523 Feb 09 j 08:17	7° $\mathcal{B}$ 21'48	
conjunction	-2530 May 14 j 11:56	1° $\mathcal{B}$ 05'15	-5°36'13	evening set	-2523 May 06 j 17:29	8° $\mathcal{B}$ 37'15	
minimum elong	-2530 May 14 j 12:05	1° $\mathcal{B}$ 05'16	5°36'11	max. Earth dist.	-2523 May 20 j 03:56	8° $\mathcal{B}$ 57'24	43.69313 AU
morning rise	-2530 May 29 j 12:56	1° $\mathcal{B}$ 27'11					
retrograde	-2530 Aug 24 j 10:55	2° $\mathcal{B}$ 41'37		conjunction	-2523 May 22 j 12:53	9° $\mathcal{B}$ 01'01	-3°18'36
opposition	-2530 Nov 13 j 07:01	1° $\mathcal{B}$ 39'05	-5°42'02	minimum elong	-2523 May 22 j 12:58	9° $\mathcal{B}$ 01'01	3°18'34
min. Earth dist.	-2530 Nov 15 j 02:30	1° $\mathcal{B}$ 36'52	43.03522 AU	morning rise	-2523 Jun 07 j 07:48	9° $\mathcal{B}$ 24'46	
direct	-2529 Feb 03 j 01:44	0° $\mathcal{B}$ 35'43		retrograde	-2523 Sep 01 j 05:51	10° $\mathcal{B}$ 40'28	
evening set	-2529 Apr 30 j 17:43	1° $\mathcal{B}$ 49'39		opposition	-2523 Nov 20 j 19:00	9° $\mathcal{B}$ 36'30	-3°17'21
max. Earth dist.	-2529 May 13 j 21:01	2° $\mathcal{B}$ 08'50	44.92929 AU	min. Earth dist.	-2523 Nov 22 j 21:21	9° $\mathcal{B}$ 33'52	41.58866 AU
				direct	-2522 Feb 10 j 16:47	8° $\mathcal{B}$ 31'24	
conjunction	-2529 May 15 j 21:57	2° $\mathcal{B}$ 11'50	-5°17'24	evening set	-2522 May 08 j 02:50	9° $\mathcal{B}$ 47'12	
minimum elong	-2529 May 15 j 22:04	2° $\mathcal{B}$ 11'51	5°17'23	max. Earth dist.	-2522 May 21 j 14:58	10° $\mathcal{B}$ 07'34	43.47911 AU
morning rise	-2529 May 31 j 01:53	2° $\mathcal{B}$ 34'02					
retrograde	-2529 Aug 25 j 17:33	3° $\mathcal{B}$ 48'35		conjunction	-2522 May 24 j 00:19	10° $\mathcal{B}$ 11'13	-2°57'48
opposition	-2529 Nov 14 j 15:01	2° $\mathcal{B}$ 45'52	-5°22'16	minimum elong	-2522 May 24 j 00:24	10° $\mathcal{B}$ 11'13	2°57'46
min. Earth dist.	-2529 Nov 16 j 11:27	2° $\mathcal{B}$ 43'36	42.83838 AU	morning rise	-2522 Jun 08 j 20:54	10° $\mathcal{B}$ 35'12	
direct	-2528 Feb 04 j 12:13	1° $\mathcal{B}$ 42'16		retrograde	-2522 Sep 02 j 16:13	11° $\mathcal{B}$ 51'13	
evening set	-2528 May 01 j 00:52	2° $\mathcal{B}$ 56'24		opposition	-2522 Nov 22 j 04:29	10° $\mathcal{B}$ 47'04	-2°55'26
max. Earth dist.	-2528 May 14 j 04:41	3° $\mathcal{B}$ 15'41	44.73141 AU	min. Earth dist.	-2522 Nov 24 j 08:08	10° $\mathcal{B}$ 44'21	41.37307 AU
				direct	-2521 Feb 12 j 01:30	9° $\mathcal{B}$ 41'44	
conjunction	-2528 May 16 j 07:55	3° $\mathcal{B}$ 18'51	-4°58'18	evening set	-2521 May 09 j 12:51	10° $\mathcal{B}$ 57'57	
minimum elong	-2528 May 16 j 08:02	3° $\mathcal{B}$ 18'51	4°58'16	max. Earth dist.	-2521 May 23 j 01:44	11° $\mathcal{B}$ 18'27	43.26330 AU
morning rise	-2528 May 31 j 14:55	3° $\mathcal{B}$ 41'20					
retrograde	-2528 Aug 26 j 02:38	4° $\mathcal{B}$ 56'00		conjunction	-2521 May 25 j 11:59	11° $\mathcal{B}$ 22'11	-2°36'43
opposition	-2528 Nov 14 j 23:07	3° $\mathcal{B}$ 53'05	-5°02'12	minimum elong	-2521 May 25 j 12:04	11° $\mathcal{B}$ 22'11	2°36'40
min. Earth dist.	-2528 Nov 16 j 20:43	3° $\mathcal{B}$ 50'45	42.63740 AU	morning rise	-2521 Jun 10 j 10:18	11° $\mathcal{B}$ 46'25	
direct	-2527 Feb 04 j 20:08	2° $\mathcal{B}$ 49'15		retrograde	-2521 Sep 04 j 06:05	13° $\mathcal{B}$ 02'45	
evening set	-2527 May 02 j 08:11	4° $\mathcal{B}$ 03'35		opposition	-2521 Nov 23 j 14:12	11° $\mathcal{B}$ 58'25	-2°33'14
max. Earth dist.	-2527 May 15 j 13:51	4° $\mathcal{B}$ 23'03	44.52942 AU	min. Earth dist.	-2521 Nov 25 j 18:03	11° $\mathcal{B}$ 55'42	41.15548 AU
				direct	-2520 Feb 13 j 09:20	10° $\mathcal{B}$ 52'51	
conjunction	-2527 May 17 j 18:11	4° $\mathcal{B}$ 26'18	-4°38'56	evening set	-2520 May 09 j 23:22	12° $\mathcal{B}$ 09'31	
minimum elong	-2527 May 17 j 18:18	4° $\mathcal{B}$ 26'19	4°38'54	max. Earth dist.	-2520 May 23 j 11:51	12° $\mathcal{B}$ 30'07	43.04490 AU
morning rise	-2527 Jun 02 j 03:48	4° $\mathcal{B}$ 49'03					

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 28

Attention, astronomical year style is used: The year -2520 in astronomical counting style is the year 2521 BCE in historical counting style.

conjunction	-2520 May 25 j 23:57	12° <del>8</del> 33'59	-2°15'21	behind sun begin	-2514 Jun 03 j 00:18	20° <del>8</del> 01'32	
minimum elong	-2520 May 26 j 00:01	12° <del>8</del> 33'59	2°15'18	behind sun end	-2514 Jun 03 j 13:22	20° <del>8</del> 02'21	
morning rise	-2520 Jun 10 j 23:38	12° <del>8</del> 58'26		morning rise	-2514 Jun 19 j 10:14	20° <del>8</del> 27'33	
retrograde	-2520 Sep 04 j 20:51	14° <del>8</del> 15'09		asc. node	-2514 Jun 23 j 17:57	20° <del>8</del> 34'13	
opposition	-2520 Nov 24 j 00:21	13° <del>8</del> 10'37	-2°10'42	retrograde	-2514 Sep 13 j 01:09	21° <del>8</del> 46'52	
min. Earth dist.	-2520 Nov 26 j 06:19	13° <del>8</del> 07'47	40.93517 AU	opposition	-2514 Dec 01 j 19:33	20° <del>8</del> 40'49	0°10'43
direct	-2519 Feb 13 j 17:41	12° <del>8</del> 04'49		min. Earth dist.	-2514 Dec 04 j 07:29	20° <del>8</del> 37'34	39.54236 AU
evening set	-2519 May 11 j 10:21	13° <del>8</del> 21'56		direct	-2513 Feb 21 j 14:25	19° <del>8</del> 33'09	
max. Earth dist.	-2519 May 24 j 23:55	13° <del>8</del> 42'44	42.82351 AU	evening set	-2513 May 19 j 16:15	20° <del>8</del> 53'29	
				max. Earth dist.	-2513 Jun 01 j 23:59	21° <del>8</del> 14'41	41.42279 AU
conjunction	-2519 May 27 j 12:20	13° <del>8</del> 46'38	-1°53'41				
minimum elong	-2519 May 27 j 12:23	13° <del>8</del> 46'38	1°53'38	conjunction	-2513 Jun 04 j 21:05	21° <del>8</del> 19'18	0°22'01
morning rise	-2519 Jun 12 j 13:07	14° <del>8</del> 11'18		minimum elong	-2513 Jun 04 j 21:04	21° <del>8</del> 19'18	0°22'04
	-2519 Jul 19 j 00:05	15° <del>8</del>		morning rise	-2513 Jun 21 j 00:22	21° <del>8</del> 45'04	
retrograde	-2519 Sep 06 j 07:42	15° <del>8</del> 28'24		retrograde	-2513 Sep 14 j 16:23	23° <del>8</del> 04'55	
	-2519 Oct 26 j 03:00	15° <del>8</del>		opposition	-2513 Dec 03 j 07:57	21° <del>8</del> 58'34	0°35'20
opposition	-2519 Nov 25 j 10:44	14° <del>8</del> 23'41	-1°47'53	min. Earth dist.	-2513 Dec 05 j 21:21	21° <del>8</del> 55'13	39.30132 AU
min. Earth dist.	-2519 Nov 27 j 17:03	14° <del>8</del> 20'48	40.71158 AU	direct	-2512 Feb 23 j 02:55	20° <del>8</del> 50'33	
direct	-2518 Feb 15 j 05:58	13° <del>8</del> 17'37		evening set	-2512 May 20 j 07:06	22° <del>8</del> 11'31	
evening set	-2518 May 12 j 21:58	14° <del>8</del> 35'13		max. Earth dist.	-2512 Jun 02 j 14:48	22° <del>8</del> 32'50	41.18090 AU
max. Earth dist.	-2518 May 26 j 10:01	14° <del>8</del> 56'02	42.59855 AU				
	-2518 May 28 j 22:54	15° <del>8</del>		conjunction	-2512 Jun 05 j 11:41	22° <del>8</del> 37'29	0°45'33
				minimum elong	-2512 Jun 05 j 11:39	22° <del>8</del> 37'29	0°45'36
conjunction	-2518 May 29 j 00:53	15° <del>8</del> 00'08	-1°31'46	morning rise	-2512 Jun 21 j 14:18	23° <del>8</del> 03'24	
minimum elong	-2518 May 29 j 00:56	15° <del>8</del> 00'08	1°31'43	retrograde	-2512 Sep 15 j 03:57	24° <del>8</del> 23'48	
morning rise	-2518 Jun 14 j 02:49	15° <del>8</del> 25'01		opposition	-2512 Dec 03 j 20:43	23° <del>8</del> 17'09	1°00'13
retrograde	-2518 Sep 07 j 19:17	16° <del>8</del> 42'31		min. Earth dist.	-2512 Dec 06 j 10:29	23° <del>8</del> 13'46	39.05913 AU
opposition	-2518 Nov 26 j 21:31	15° <del>8</del> 37'34	-1°24'45	direct	-2511 Feb 23 j 17:33	22° <del>8</del> 08'47	
min. Earth dist.	-2518 Nov 29 j 05:30	15° <del>8</del> 34'35	40.48437 AU	evening set	-2511 May 21 j 22:46	23° <del>8</del> 30'26	
	-2518 Dec 28 j 02:55	15° <del>8</del>		max. Earth dist.	-2511 Jun 04 j 04:20	23° <del>8</del> 51'47	40.93821 AU
direct	-2517 Feb 16 j 17:38	14° <del>8</del> 31'13					
	-2517 Apr 07 j 16:07	15° <del>8</del>		conjunction	-2511 Jun 07 j 02:31	23° <del>8</del> 56'33	1°09'21
evening set	-2517 May 14 j 10:07	15° <del>8</del> 49'18		minimum elong	-2511 Jun 07 j 02:29	23° <del>8</del> 56'33	1°09'24
max. Earth dist.	-2517 May 27 j 22:29	16° <del>8</del> 10'16	42.36969 AU	morning rise	-2511 Jun 23 j 04:32	24° <del>8</del> 22'35	
				retrograde	-2511 Sep 16 j 18:05	25° <del>8</del> 43'36	
conjunction	-2517 May 30 j 14:04	16° <del>8</del> 14'26	-1°09'33	opposition	-2511 Dec 05 j 09:46	24° <del>8</del> 36'40	1°25'23
minimum elong	-2517 May 30 j 14:06	16° <del>8</del> 14'26	1°09'30	min. Earth dist.	-2511 Dec 07 j 23:48	24° <del>8</del> 33'15	38.81647 AU
morning rise	-2517 Jun 15 j 16:34	16° <del>8</del> 39'31		direct	-2510 Feb 25 j 06:02	23° <del>8</del> 27'58	
retrograde	-2517 Sep 09 j 05:41	17° <del>8</del> 57'26		evening set	-2510 May 23 j 14:58	24° <del>8</del> 50'21	
opposition	-2517 Nov 28 j 08:35	16° <del>8</del> 52'14	-1°01'20	max. Earth dist.	-2510 Jun 05 j 19:06	25° <del>8</del> 11'44	40.69482 AU
min. Earth dist.	-2517 Nov 30 j 18:02	16° <del>8</del> 49'09	40.25334 AU				
direct	-2516 Feb 18 j 05:33	15° <del>8</del> 45'35		conjunction	-2510 Jun 08 j 17:54	25° <del>8</del> 16'35	1°33'23
evening set	-2516 May 14 j 22:55	17° <del>8</del> 04'11		minimum elong	-2510 Jun 08 j 17:52	25° <del>8</del> 16'35	1°33'26
max. Earth dist.	-2516 May 28 j 10:06	17° <del>8</del> 25'13	42.13728 AU	morning rise	-2510 Jun 24 j 18:46	25° <del>8</del> 42'45	
				retrograde	-2510 Sep 18 j 09:08	27° <del>8</del> 04'26	
conjunction	-2516 May 31 j 03:22	17° <del>8</del> 29'30	-0°47'05	opposition	-2510 Dec 06 j 23:25	25° <del>8</del> 57'13	1°50'49
minimum elong	-2516 May 31 j 03:23	17° <del>8</del> 29'31	0°47'02	min. Earth dist.	-2510 Dec 09 j 14:52	25° <del>8</del> 53'41	38.57317 AU
morning rise	-2516 Jun 16 j 06:32	17° <del>8</del> 54'47		direct	-2509 Feb 26 j 17:16	24° <del>8</del> 48'10	
retrograde	-2516 Sep 09 j 19:29	19° <del>8</del> 13'08		evening set	-2509 May 25 j 08:05	26° <del>8</del> 11'20	
opposition	-2516 Nov 28 j 19:56	18° <del>8</del> 07'41	-0°37'37	max. Earth dist.	-2509 Jun 07 j 10:36	26° <del>8</del> 32'47	40.45079 AU
min. Earth dist.	-2516 Dec 01 j 05:50	18° <del>8</del> 04'34	40.01904 AU				
direct	-2515 Feb 18 j 14:54	17° <del>8</del> 00'42		conjunction	-2509 Jun 10 j 09:45	26° <del>8</del> 37'42	1°57'40
evening set	-2515 May 16 j 12:00	18° <del>8</del> 19'51		minimum elong	-2509 Jun 10 j 09:41	26° <del>8</del> 37'41	1°57'44
max. Earth dist.	-2515 May 29 j 22:05	18° <del>8</del> 40'55	41.90153 AU	morning rise	-2509 Jun 26 j 09:20	27° <del>8</del> 03'57	
				retrograde	-2509 Sep 20 j 02:08	28° <del>8</del> 26'21	
conjunction	-2515 Jun 01 j 16:52	18° <del>8</del> 45'20	-0°24'20	opposition	-2509 Dec 08 j 13:16	27° <del>8</del> 18'52	2°16'31
minimum elong	-2515 Jun 01 j 16:53	18° <del>8</del> 45'20	0°24'17	min. Earth dist.	-2509 Dec 11 j 04:30	27° <del>8</del> 15'20	38.32910 AU
morning rise	-2515 Jun 17 j 20:15	19° <del>8</del> 10'48		direct	-2508 Feb 28 j 06:17	26° <del>8</del> 09'29	
retrograde	-2515 Sep 11 j 09:57	20° <del>8</del> 29'38		evening set	-2508 May 26 j 02:02	27° <del>8</del> 33'31	
opposition	-2515 Nov 30 j 07:43	19° <del>8</del> 23'52	-0°13'35	max. Earth dist.	-2508 Jun 08 j 01:09	27° <del>8</del> 54'54	40.20553 AU
min. Earth dist.	-2515 Dec 02 j 19:34	19° <del>8</del> 20'38	39.78183 AU				
direct	-2514 Feb 20 j 01:24	18° <del>8</del> 16'34		conjunction	-2508 Jun 11 j 02:03	27° <del>8</del> 59'58	2°22'11
evening set	-2514 May 18 j 01:45	19° <del>8</del> 36'16		minimum elong	-2508 Jun 11 j 01:59	27° <del>8</del> 59'57	2°22'15
max. Earth dist.	-2514 May 31 j 11:51	19° <del>8</del> 57'29	41.66321 AU	morning rise	-2508 Jun 27 j 00:00	28° <del>8</del> 26'19	
				retrograde	-2508 Sep 20 j 20:38	29° <del>8</del> 49'28	
conjunction	-2514 Jun 03 j 06:50	20° <del>8</del> 01'56	-0°01'20	opposition	-2508 Dec 09 j 03:49	28° <del>8</del> 41'42	2°42'29
minimum elong	-2514 Jun 03 j 06:50	20° <del>8</del> 01'56	0°01'18	min. Earth dist.	-2508 Dec 11 j 20:49	28° <del>8</del> 38'04	38.08375 AU

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 29

Attention, astronomical year style is used: The year -2507 in astronomical counting style is the year 2508 BCE in historical counting style.

direct	-2507 Feb 28 j 19:46	27° <b>8</b> 32'00		conjunction	-2501 Jun 22 j 10:00	8° <b>II</b> 10'27	5°19'34
evening set	-2507 May 27 j 20:30	28° <b>8</b> 56'56		minimum elong	-2501 Jun 22 j 09:49	8° <b>II</b> 10'26	5°19'37
max. Earth dist.	-2507 Jun 09 j 18:03	29° <b>8</b> 18'21	39.95855 AU	morning rise	-2501 Jul 07 j 10:56	8° <b>II</b> 36'50	
				retrograde	-2501 Oct 02 j 07:20	10° <b>II</b> 06'28	
conjunction	-2507 Jun 12 j 18:46	29° <b>8</b> 23'27	2°46'56	opposition	-2501 Dec 19 j 22:47	8° <b>II</b> 56'22	5°50'37
minimum elong	-2507 Jun 12 j 18:41	29° <b>8</b> 23'27	2°47'00	min. Earth dist.	-2501 Dec 22 j 21:53	8° <b>II</b> 52'13	36.31037 AU
morning rise	-2507 Jun 28 j 14:39	29° <b>8</b> 49'52		direct	-2500 Mar 10 j 12:50	7° <b>II</b> 43'51	
	-2507 Jul 04 j 20:57	0° <b>II</b>		evening set	-2500 Jun 08 j 07:13	9° <b>II</b> 16'16	
retrograde	-2507 Sep 22 j 13:27	1° <b>II</b> 13'50		max. Earth dist.	-2500 Jun 19 j 23:03	9° <b>II</b> 36'50	38.17164 AU
opposition	-2507 Dec 10 j 18:47	0° <b>II</b> 05'47	3°08'42				
min. Earth dist.	-2507 Dec 13 j 12:12	0° <b>II</b> 02'06	37.83640 AU	conjunction	-2500 Jun 23 j 06:20	9° <b>II</b> 42'43	5°45'33
	-2507 Dec 15 j 01:35	30° <b>8</b>		minimum elong	-2500 Jun 23 j 06:08	9° <b>II</b> 42'42	5°45'37
direct	-2506 Mar 02 j 12:38	28° <b>8</b> 55'44		morning rise	-2500 Jul 08 j 02:34	10° <b>II</b> 09'00	
	-2506 May 16 j 02:51	0° <b>II</b>		retrograde	-2500 Oct 03 j 02:57	11° <b>II</b> 39'45	
evening set	-2506 May 29 j 16:09	0° <b>II</b> 21'36		opposition	-2500 Dec 20 j 17:25	10° <b>II</b> 29'15	6°18'13
max. Earth dist.	-2506 Jun 11 j 09:09	0° <b>II</b> 42'54	39.70931 AU	min. Earth dist.	-2500 Dec 23 j 16:38	10° <b>II</b> 25'04	36.05341 AU
				direct	-2499 Mar 12 j 08:54	9° <b>II</b> 16'19	
conjunction	-2506 Jun 14 j 12:03	0° <b>II</b> 48'11	3°11'53	evening set	-2499 Jun 10 j 08:50	10° <b>II</b> 50'01	
minimum elong	-2506 Jun 14 j 11:57	0° <b>II</b> 48'11	3°11'57	max. Earth dist.	-2499 Jun 21 j 18:35	11° <b>II</b> 10'18	37.91349 AU
morning rise	-2506 Jun 30 j 05:48	1° <b>II</b> 14'39					
retrograde	-2506 Sep 24 j 07:39	2° <b>II</b> 39'27		conjunction	-2499 Jun 25 j 02:52	11° <b>II</b> 16'19	6°11'38
opposition	-2506 Dec 12 j 10:06	1° <b>II</b> 31'07	3°35'09	minimum elong	-2499 Jun 25 j 02:39	11° <b>II</b> 16'18	6°11'41
min. Earth dist.	-2506 Dec 15 j 04:46	1° <b>II</b> 27'20	37.58682 AU	morning rise	-2499 Jul 09 j 18:20	11° <b>II</b> 42'29	
direct	-2505 Mar 04 j 03:17	0° <b>II</b> 20'42		retrograde	-2499 Oct 04 j 23:31	13° <b>II</b> 14'25	
evening set	-2505 May 31 j 12:31	1° <b>II</b> 47'32		opposition	-2499 Dec 22 j 12:30	12° <b>II</b> 03'33	6°45'55
max. Earth dist.	-2505 Jun 13 j 02:28	2° <b>II</b> 08'47	39.45746 AU	min. Earth dist.	-2499 Dec 25 j 11:45	11° <b>II</b> 59'21	35.79755 AU
				direct	-2498 Mar 14 j 03:15	10° <b>II</b> 50'10	
conjunction	-2505 Jun 16 j 06:02	2° <b>II</b> 14'10	3°37'04	evening set	-2498 Jun 12 j 11:31	12° <b>II</b> 25'14	
minimum elong	-2505 Jun 16 j 05:55	2° <b>II</b> 14'09	3°37'07	max. Earth dist.	-2498 Jun 23 j 15:57	12° <b>II</b> 45'18	37.65631 AU
morning rise	-2505 Jul 01 j 20:58	2° <b>II</b> 40'40					
retrograde	-2505 Sep 25 j 23:02	4° <b>II</b> 06'20		conjunction	-2498 Jun 27 j 00:20	12° <b>II</b> 51'24	6°37'47
opposition	-2505 Dec 14 j 02:10	2° <b>II</b> 57'41	4°01'50	minimum elong	-2498 Jun 27 j 00:06	12° <b>II</b> 51'23	6°37'51
min. Earth dist.	-2505 Dec 16 j 22:11	2° <b>II</b> 53'48	37.33470 AU	morning rise	-2498 Jul 11 j 10:16	13° <b>II</b> 17'23	
direct	-2504 Mar 04 j 19:20	1° <b>II</b> 46'53		retrograde	-2498 Oct 06 j 19:03	14° <b>II</b> 50'35	
evening set	-2504 Jun 01 j 09:45	3° <b>II</b> 14'44		opposition	-2498 Dec 24 j 08:14	13° <b>II</b> 39'21	7°13'43
max. Earth dist.	-2504 Jun 13 j 19:32	3° <b>II</b> 35'52	39.20326 AU	min. Earth dist.	-2498 Dec 27 j 08:25	13° <b>II</b> 35'03	35.54291 AU
				direct	-2497 Mar 15 j 21:23	12° <b>II</b> 25'33	
conjunction	-2504 Jun 17 j 00:13	3° <b>II</b> 41'22	4°02'26	evening set	-2497 Jun 14 j 15:26	14° <b>II</b> 02'02	
minimum elong	-2504 Jun 17 j 00:05	3° <b>II</b> 41'22	4°02'29	max. Earth dist.	-2497 Jun 25 j 13:57	14° <b>II</b> 21'52	37.40050 AU
morning rise	-2504 Jul 02 j 12:17	4° <b>II</b> 07'53					
retrograde	-2504 Sep 26 j 17:46	5° <b>II</b> 34'29		conjunction	-2497 Jun 28 j 22:19	14° <b>II</b> 28'00	7°03'59
opposition	-2504 Dec 14 j 18:32	4° <b>II</b> 25'29	4°28'45	minimum elong	-2497 Jun 28 j 22:04	14° <b>II</b> 27'59	7°04'02
min. Earth dist.	-2504 Dec 17 j 14:44	4° <b>II</b> 21'34	37.08050 AU	morning rise	-2497 Jul 13 j 02:28	14° <b>II</b> 53'49	
direct	-2503 Mar 06 j 09:56	3° <b>II</b> 14'17		retrograde	-2497 Oct 08 j 17:50	16° <b>II</b> 28'20	
evening set	-2503 Jun 03 j 07:47	4° <b>II</b> 43'11		opposition	-2497 Dec 26 j 04:33	15° <b>II</b> 16'45	7°41'33
max. Earth dist.	-2503 Jun 15 j 12:53	5° <b>II</b> 04'10	38.94691 AU	min. Earth dist.	-2497 Dec 29 j 04:05	15° <b>II</b> 12'28	35.28964 AU
				direct	-2496 Mar 16 j 15:11	14° <b>II</b> 02'31	
conjunction	-2503 Jun 18 j 19:01	5° <b>II</b> 09'49	4°27'59	evening set	-2496 Jun 15 j 20:17	15° <b>II</b> 40'31	
minimum elong	-2503 Jun 18 j 18:52	5° <b>II</b> 09'48	4°28'02	max. Earth dist.	-2496 Jun 26 j 11:31	16° <b>II</b> 00'00	37.14563 AU
morning rise	-2503 Jul 04 j 03:41	5° <b>II</b> 36'19					
retrograde	-2503 Sep 28 j 13:16	7° <b>II</b> 03'53		conjunction	-2496 Jun 29 j 20:50	16° <b>II</b> 06'16	7°30'12
opposition	-2503 Dec 16 j 11:27	5° <b>II</b> 54'31	4°55'51	minimum elong	-2496 Jun 29 j 20:35	16° <b>II</b> 06'14	7°30'17
min. Earth dist.	-2503 Dec 19 j 09:33	5° <b>II</b> 50'29	36.82463 AU	morning rise	-2496 Jul 13 j 18:40	16° <b>II</b> 31'50	
direct	-2502 Mar 07 j 23:43	4° <b>II</b> 42'53		retrograde	-2496 Oct 09 j 17:51	18° <b>II</b> 07'46	
evening set	-2502 Jun 05 j 06:38	6° <b>II</b> 12'55		opposition	-2496 Dec 27 j 01:42	16° <b>II</b> 55'49	8°09'26
max. Earth dist.	-2502 Jun 17 j 08:10	6° <b>II</b> 33'48	38.68916 AU	min. Earth dist.	-2496 Dec 30 j 02:38	16° <b>II</b> 51'26	35.03735 AU
				direct	-2495 Mar 18 j 09:39	15° <b>II</b> 41'10	
conjunction	-2502 Jun 20 j 14:17	6° <b>II</b> 39'30	4°53'42	evening set	-2495 Jun 18 j 02:24	17° <b>II</b> 20'45	
minimum elong	-2502 Jun 20 j 14:07	6° <b>II</b> 39'29	4°53'46	max. Earth dist.	-2495 Jun 28 j 11:29	17° <b>II</b> 39'57	36.89148 AU
morning rise	-2502 Jul 05 j 19:15	7° <b>II</b> 05'57					
retrograde	-2502 Sep 30 j 09:16	8° <b>II</b> 34'32		conjunction	-2495 Jul 01 j 20:09	17° <b>II</b> 46'13	7°56'26
opposition	-2502 Dec 18 j 04:50	7° <b>II</b> 24'48	5°23'09	minimum elong	-2495 Jul 01 j 19:53	17° <b>II</b> 46'12	7°56'29
min. Earth dist.	-2502 Dec 21 j 02:43	7° <b>II</b> 20'45	36.56765 AU	morning rise	-2495 Jul 15 j 11:03	18° <b>II</b> 11'31	
direct	-2501 Mar 09 j 18:40	6° <b>II</b> 12'44		retrograde	-2495 Oct 11 j 18:55	19° <b>II</b> 48'55	
evening set	-2501 Jun 07 j 06:33	7° <b>II</b> 43'55		opposition	-2495 Dec 28 j 23:20	18° <b>II</b> 36'36	8°37'20
max. Earth dist.	-2501 Jun 19 j 02:04	8° <b>II</b> 04'35	38.43046 AU	min. Earth dist.	-2495 Dec 31 j 23:59	18° <b>II</b> 32'12	34.78561 AU
				direct	-2494 Mar 20 j 08:17	17° <b>II</b> 21'31	



























































































































## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 30

Attention, astronomical year style is used: The year -2494 in astronomical counting style is the year 2495 BCE in historical counting style.

evening set	-2494 Jun 20 j 09:50	19°II02'46		minimum elong	-2488 Jul 14 j 10:09	0°☾14'13	10°57'21
max. Earth dist.	-2494 Jun 30 j 09:44	19°II21'27	36.63755 AU	morning rise	-2488 Jul 25 j 09:11	0°☾36'04	
				retrograde	-2488 Oct 24 j 13:29	2°☾25'47	
conjunction	-2494 Jul 03 j 20:06	19°II27'55	8°22'38	opposition	-2487 Jan 10 j 04:20	1°☾10'28	11°49'46
minimum elong	-2494 Jul 03 j 19:49	19°II27'53	8°22'42	min. Earth dist.	-2487 Jan 13 j 06:29	1°☾05'46	33.04356 AU
morning rise	-2494 Jul 17 j 03:48	19°II52'53			-2487 Mar 08 j 16:45	30°☾II	
retrograde	-2494 Oct 13 j 21:54	21°II31'50		direct	-2487 Apr 01 j 08:19	29°II51'56	
opposition	-2494 Dec 30 j 21:50	20°II19'07	9°05'12		-2487 Apr 24 j 19:17	0°☾	
min. Earth dist.	-2493 Jan 02 j 23:29	20°II14'38	34.53412 AU	evening set	-2487 Jul 06 j 02:14	1°☾46'57	
direct	-2493 Mar 22 j 06:14	19°II03'34		max. Earth dist.	-2487 Jul 13 j 04:32	2°☾01'12	34.88180 AU
evening set	-2493 Jun 22 j 18:28	20°II46'34					
max. Earth dist.	-2493 Jul 02 j 11:01	21°II04'51	36.38358 AU	conjunction	-2487 Jul 16 j 15:15	2°☾08'10	11°22'10
				minimum elong	-2487 Jul 16 j 14:52	2°☾08'08	11°22'13
conjunction	-2493 Jul 05 j 20:55	21°II11'20	8°48'46	morning rise	-2487 Jul 27 j 02:06	2°☾29'13	
minimum elong	-2493 Jul 05 j 20:37	21°II11'19	8°48'50	retrograde	-2487 Oct 26 j 20:10	4°☾21'03	
morning rise	-2493 Jul 18 j 20:30	21°II35'56		opposition	-2486 Jan 12 j 08:00	3°☾05'17	12°16'14
retrograde	-2493 Oct 15 j 21:49	23°II16'28		min. Earth dist.	-2486 Jan 15 j 10:13	3°☾00'34	32.80444 AU
opposition	-2492 Jan 01 j 21:08	22°II03'21	9°33'01	direct	-2486 Apr 03 j 10:04	1°☾46'17	
min. Earth dist.	-2492 Jan 04 j 23:12	21°II58'49	34.28266 AU	evening set	-2486 Jul 08 j 20:41	3°☾43'40	
direct	-2492 Mar 23 j 05:55	20°II47'21		max. Earth dist.	-2486 Jul 15 j 11:48	3°☾57'08	34.64171 AU
evening set	-2492 Jun 24 j 04:30	22°II32'08					
max. Earth dist.	-2492 Jul 03 j 11:20	22°II49'50	36.12983 AU	conjunction	-2486 Jul 18 j 20:55	4°☾04'01	11°46'39
				minimum elong	-2486 Jul 18 j 20:31	4°☾03'59	11°46'43
conjunction	-2492 Jul 06 j 22:16	22°II56'28	9°14'50	morning rise	-2486 Jul 28 j 18:51	4°☾24'12	
minimum elong	-2492 Jul 06 j 21:57	22°II56'27	9°14'54	retrograde	-2486 Oct 29 j 02:32	6°☾18'17	
morning rise	-2492 Jul 19 j 13:30	23°II20'38		opposition	-2485 Jan 14 j 12:42	5°☾02'07	12°42'14
retrograde	-2492 Oct 16 j 23:55	25°II02'51		min. Earth dist.	-2485 Jan 17 j 14:13	4°☾57'23	32.56972 AU
opposition	-2491 Jan 02 j 21:04	23°II49'19	10°00'45	direct	-2485 Apr 05 j 15:18	3°☾42'39	
min. Earth dist.	-2491 Jan 05 j 23:08	23°II44'44	34.03175 AU	evening set	-2485 Jul 11 j 16:53	5°☾42'32	
direct	-2491 Mar 25 j 05:28	22°II32'49		max. Earth dist.	-2485 Jul 17 j 18:00	5°☾54'57	34.40632 AU
evening set	-2491 Jun 26 j 15:32	24°II19'27					
max. Earth dist.	-2491 Jul 05 j 13:15	24°II36'36	35.87653 AU	conjunction	-2485 Jul 21 j 03:09	6°☾01'55	12°10'39
				minimum elong	-2485 Jul 21 j 02:46	6°☾01'53	12°10'42
conjunction	-2491 Jul 09 j 00:18	24°II43'19	9°40'45	morning rise	-2485 Jul 30 j 11:31	6°☾21'08	
minimum elong	-2491 Jul 08 j 23:58	24°II43'18	9°40'49	retrograde	-2485 Oct 31 j 11:44	8°☾17'35	
morning rise	-2491 Jul 21 j 06:20	25°II07'00		opposition	-2484 Jan 16 j 18:08	7°☾01'02	13°07'44
retrograde	-2491 Oct 19 j 01:14	26°II50'57		min. Earth dist.	-2484 Jan 19 j 18:41	6°☾56'20	32.33986 AU
opposition	-2490 Jan 04 j 21:50	25°II36'59	10°28'21	direct	-2484 Apr 06 j 19:59	5°☾41'08	
min. Earth dist.	-2490 Jan 08 j 00:59	25°II32'18	33.78162 AU	evening set	-2484 Jul 13 j 14:49	7°☾43'39	
direct	-2490 Mar 27 j 04:28	24°II19'59		max. Earth dist.	-2484 Jul 19 j 02:32	7°☾55'02	34.17560 AU
evening set	-2490 Jun 29 j 04:13	26°II08'35					
max. Earth dist.	-2490 Jul 07 j 16:06	26°II25'06	35.62437 AU	conjunction	-2484 Jul 22 j 10:22	8°☾01'57	12°34'07
				minimum elong	-2484 Jul 22 j 09:58	8°☾01'55	12°34'12
conjunction	-2490 Jul 11 j 03:03	26°II31'53	10°06'31	morning rise	-2484 Jul 31 j 03:56	8°☾20'06	
minimum elong	-2490 Jul 11 j 02:42	26°II31'51	10°06'35	retrograde	-2484 Nov 01 j 19:02	10°☾19'04	
morning rise	-2490 Jul 22 j 23:23	26°II55'00		opposition	-2483 Jan 18 j 00:36	9°☾02'08	13°32'39
retrograde	-2490 Oct 21 j 04:13	28°II40'47		min. Earth dist.	-2483 Jan 21 j 01:19	8°☾57'24	32.11465 AU
opposition	-2489 Jan 06 j 23:04	27°II26'22	10°55'46	direct	-2483 Apr 09 j 00:28	7°☾41'49	
min. Earth dist.	-2489 Jan 10 j 01:25	27°II21'43	33.53302 AU	evening set	-2483 Jul 16 j 14:47	9°☾47'06	
direct	-2489 Mar 29 j 04:48	26°II08'52		max. Earth dist.	-2483 Jul 21 j 11:07	9°☾57'16	33.94955 AU
evening set	-2489 Jul 01 j 18:09	27°II59'30					
max. Earth dist.	-2489 Jul 09 j 18:56	28°II15'17	35.37390 AU	conjunction	-2483 Jul 24 j 18:10	10°☾04'12	12°57'00
				minimum elong	-2483 Jul 24 j 17:46	10°☾04'10	12°57'03
conjunction	-2489 Jul 13 j 06:32	28°II22'10	10°32'02	morning rise	-2483 Aug 01 j 19:52	10°☾21'09	
minimum elong	-2489 Jul 13 j 06:10	28°II22'09	10°32'05	retrograde	-2483 Nov 04 j 03:44	12°☾22'46	
morning rise	-2489 Jul 24 j 16:27	28°II44'41		opposition	-2482 Jan 20 j 07:49	11°☾05'28	13°56'55
	-2489 Sep 06 j 19:07	0°☾		min. Earth dist.	-2482 Jan 23 j 07:07	11°☾00'48	31.89388 AU
retrograde	-2489 Oct 23 j 08:15	0°☾32'23		direct	-2482 Apr 11 j 06:28	9°☾44'44	
	-2489 Dec 10 j 03:52	30°☾II		evening set	-2482 Jul 19 j 17:00	11°☾52'57	
opposition	-2488 Jan 09 j 01:21	29°II17'31	11°22'55	max. Earth dist.	-2482 Jul 23 j 20:14	12°☾01'42	33.72758 AU
min. Earth dist.	-2488 Jan 12 j 04:36	29°II12'47	33.28673 AU				
direct	-2488 Mar 30 j 05:03	27°II59'30		conjunction	-2482 Jul 27 j 03:02	12°☾08'41	13°19'14
evening set	-2488 Jul 03 j 09:25	29°II52'16		minimum elong	-2482 Jul 27 j 02:38	12°☾08'39	13°19'18
	-2488 Jul 07 j 07:10	0°☾		morning rise	-2482 Aug 03 j 11:27	12°☾24'17	
max. Earth dist.	-2488 Jul 11 j 00:22	0°☾07'24	35.12611 AU	retrograde	-2482 Nov 06 j 12:58	14°☾28'42	
				opposition	-2481 Jan 22 j 16:03	13°☾11'01	14°20'30
conjunction	-2488 Jul 14 j 10:31	0°☾14'15	10°57'16	min. Earth dist.	-2481 Jan 25 j 15:55	13°☾06'17	31.67720 AU

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 31

Attention, astronomical year style is used: The year -2481 in astronomical counting style is the year 2482 BCE in historical counting style.

direct	-2481 Apr 13 j 10:58	11°  49'52		min. Earth dist.	-2474 Feb 09 j 19:43	28°  43'15	30.29632 AU
evening set	-2481 Jul 22 j 22:02	14°  01'12		direct	-2474 Apr 28 j 16:23	27°  23'33	
max. Earth dist.	-2481 Jul 26 j 07:23	14°  08'27	33.50979 AU	max. Earth dist.	-2474 Aug 11 j 09:21	29°  52'37	32.12963 AU
conjunction	-2481 Jul 29 j 12:43	14°  15'22	13°40'46	conjunction	-2474 Aug 14 j 05:11	29°  59'05	15°45'19
minimum elong	-2481 Jul 29 j 12:20	14°  15'20	13°40'49	minimum elong	-2474 Aug 14 j 04:52	29°  59'03	15°45'22
morning rise	-2481 Aug 05 j 01:58	14°  29'25			-2474 Aug 14 j 14:48	0° 	
retrograde	-2481 Nov 08 j 23:46	16°  36'49		retrograde	-2474 Nov 25 j 02:50	2°  29'55	
opposition	-2480 Jan 25 j 01:17	15°  18'45	14°43'18	opposition	-2473 Feb 09 j 18:28	1°  09'04	16°54'12
min. Earth dist.	-2480 Jan 27 j 23:31	15°  14'07	31.46456 AU	min. Earth dist.	-2473 Feb 12 j 08:08	1°  04'50	30.12618 AU
direct	-2480 Apr 14 j 18:44	13°  57'11			-2473 Mar 30 j 20:28	30°  R 	
evening set	-2480 Jul 25 j 05:54	16°  11'51		direct	-2473 May 01 j 07:09	29°  54'37	
max. Earth dist.	-2480 Jul 27 j 17:34	16°  17'13	33.29608 AU		-2473 Jun 01 j 01:13	0° 	
conjunction	-2480 Jul 30 j 23:01	16°  24'13	14°01'31	max. Earth dist.	-2473 Aug 14 j 02:58	2°  15'07	31.96156 AU
minimum elong	-2480 Jul 30 j 22:37	16°  24'11	14°01'35	conjunction	-2473 Aug 16 j 20:42	2°  21'26	15°58'19
morning rise	-2480 Aug 05 j 14:55	16°  36'29		minimum elong	-2473 Aug 16 j 20:25	2°  21'24	15°58'21
retrograde	-2480 Nov 10 j 11:49	18°  47'06		retrograde	-2473 Nov 27 j 19:25	4°  25'30	
opposition	-2479 Jan 26 j 11:26	17°  28'38	15°05'16	opposition	-2472 Feb 12 j 10:49	3°  32'20	17°07'37
min. Earth dist.	-2479 Jan 29 j 09:50	17°  23'57	31.25620 AU	min. Earth dist.	-2472 Feb 14 j 23:25	3°  28'09	29.96488 AU
direct	-2479 Apr 17 j 02:48	16°  06'37		direct	-2472 May 02 j 20:17	2°  07'35	
evening set	-2479 Jul 28 j 18:25	18°  24'58		max. Earth dist.	-2472 Aug 15 j 21:49	4°  29'33	31.80277 AU
max. Earth dist.	-2479 Jul 30 j 06:58	18°  28'18	33.08686 AU	conjunction	-2472 Aug 18 j 12:41	4°  24'38	16°09'51
conjunction	-2479 Aug 02 j 10:19	18°  35'10	14°21'26	minimum elong	-2472 Aug 18 j 12:25	4°  24'37	16°09'54
minimum elong	-2479 Aug 02 j 09:56	18°  35'08	14°21'28	retrograde	-2472 Nov 29 j 12:35	7°  18'54	
morning rise	-2479 Aug 07 j 01:06	18°  45'17		opposition	-2471 Feb 14 j 03:49	5°  27'27	17°19'27
retrograde	-2479 Nov 13 j 00:15	20°  59'26		min. Earth dist.	-2471 Feb 16 j 13:22	5°  53'28	29.81246 AU
opposition	-2478 Jan 28 j 22:21	19°  40'34	15°26'18	direct	-2471 May 05 j 12:22	4°  32'26	
min. Earth dist.	-2478 Jan 31 j 19:30	19°  35'57	31.05233 AU	max. Earth dist.	-2471 Aug 18 j 16:13	7°  05'42	31.65298 AU
direct	-2478 Apr 19 j 14:18	18°  18'07		conjunction	-2471 Aug 21 j 05:27	7°  11'41	16°19'51
evening set	-2478 Aug 01 j 14:11	20°  40'47		minimum elong	-2471 Aug 21 j 05:13	7°  11'39	16°19'54
max. Earth dist.	-2478 Aug 01 j 18:52	20°  41'12	32.88255 AU	retrograde	-2471 Dec 02 j 06:14	9°  24'06	
conjunction	-2478 Aug 04 j 22:18	20°  48'09	14°40'25	opposition	-2470 Feb 16 j 21:33	8°  24'24	17°29'36
minimum elong	-2478 Aug 04 j 21:55	20°  48'06	14°40'29	min. Earth dist.	-2470 Feb 19 j 05:57	8°  20'29	29.66884 AU
morning rise	-2478 Aug 08 j 05:31	20°  55'26		direct	-2470 May 08 j 03:26	6°  59'09	
retrograde	-2478 Nov 15 j 14:21	23°  13'47		max. Earth dist.	-2470 Aug 21 j 13:02	9°  33'50	31.51212 AU
opposition	-2477 Jan 31 j 10:13	21°  54'30	15°46'19	conjunction	-2470 Aug 23 j 22:56	9°  39'31	16°28'16
min. Earth dist.	-2477 Feb 03 j 06:36	21°  49'54	30.85370 AU	minimum elong	-2470 Aug 23 j 22:44	9°  39'30	16°28'20
direct	-2477 Apr 22 j 00:28	20°  31'37		retrograde	-2470 Dec 05 j 00:36	12°  15'01	
max. Earth dist.	-2477 Aug 04 j 09:59	22°  56'18	32.68377 AU	opposition	-2469 Feb 19 j 16:14	10°  25'06	17°38'01
evening set	-2477 Aug 06 j 12:08	23°  00'57		min. Earth dist.	-2469 Feb 21 j 22:05	10°  24'21	29.53361 AU
conjunction	-2477 Aug 07 j 11:03	23°  03'04	14°58'24	direct	-2469 May 10 j 21:19	9°  27'39	
minimum elong	-2477 Aug 07 j 10:42	23°  03'02	14°58'27	max. Earth dist.	-2469 Aug 24 j 08:18	12°  03'27	31.37985 AU
morning rise	-2477 Aug 08 j 09:16	23°  05'08		conjunction	-2469 Aug 26 j 16:49	12°  09'02	16°35'04
retrograde	-2477 Nov 18 j 04:02	25°  30'04		minimum elong	-2469 Aug 26 j 16:38	12°  09'01	16°35'06
opposition	-2476 Feb 02 j 23:05	24°  10'22	16°05'14	retrograde	-2469 Dec 07 j 20:49	14°  24'35	
min. Earth dist.	-2476 Feb 05 j 18:26	24°  05'48	30.66081 AU	opposition	-2468 Feb 22 j 11:41	13°  23'25	17°44'40
direct	-2476 Apr 23 j 13:38	22°  47'03		min. Earth dist.	-2468 Feb 24 j 15:43	13°  19'48	29.40680 AU
max. Earth dist.	-2476 Aug 06 j 00:10	25°  13'08	32.49147 AU	direct	-2468 May 12 j 14:00	11°  27'47	
conjunction	-2476 Aug 09 j 00:23	25°  19'54	15°15'16	max. Earth dist.	-2468 Aug 26 j 06:27	14°  34'51	31.25619 AU
minimum elong	-2476 Aug 09 j 00:01	25°  19'52	15°15'20	conjunction	-2468 Aug 28 j 11:26	14°  40'07	16°40'10
retrograde	-2476 Nov 19 j 20:32	27°  48'12		minimum elong	-2468 Aug 28 j 11:19	14°  40'07	16°40'13
opposition	-2475 Feb 04 j 12:38	26°  28'05	16°22'55		-2468 Sep 05 j 19:46	15° 	
min. Earth dist.	-2475 Feb 07 j 05:59	26°  23'39	30.47482 AU	retrograde	-2468 Dec 09 j 16:17	17°  17'36	
direct	-2475 Apr 26 j 03:11	25°  04'22		opposition	-2467 Feb 24 j 07:46	15°  25'13	17°49'28
max. Earth dist.	-2475 Aug 08 j 16:41	27°  31'59	32.30643 AU	min. Earth dist.	-2467 Feb 26 j 09:39	15°  25'14	29.28818 AU
conjunction	-2475 Aug 11 j 14:28	27°  38'35	15°30'56	direct	-2467 Apr 01 j 00:39	15°  R 	
minimum elong	-2475 Aug 11 j 14:07	27°  38'33	15°30'59		-2467 May 15 j 10:20	14°  29'25	
	-2475 Oct 31 j 17:15	0° 			-2467 Jun 27 j 10:51	15° 	
retrograde	-2475 Nov 22 j 10:32	0°  28'09		max. Earth dist.	-2467 Aug 29 j 02:43	17°  27'26	31.14120 AU
	-2475 Dec 14 j 10:22	30°  R 		conjunction	-2467 Aug 31 j 06:20	17°  21'35	16°43'31
opposition	-2474 Feb 07 j 03:14	28°  47'40	16°39'16				

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 32

Attention, astronomical year style is used: The year -2467 in astronomical counting style is the year 2468 BCE in historical counting style.

minimum elong	-2467 Aug 31 j 06:14	17°Ω12'35	16°43'34	max. Earth dist.	-2459 Sep 19 j 21:05	7°♊57'34	30.58653 AU
retrograde	-2467 Dec 12 j 13:52	19°Ω50'55		retrograde	-2458 Jan 02 j 12:49	10°♊41'35	
opposition	-2466 Feb 27 j 04:25	18°Ω28'19	17°52'23	opposition	-2458 Mar 20 j 15:37	9°♊18'01	17°02'08
min. Earth dist.	-2466 Mar 01 j 03:40	18°Ω25'01	29.17804 AU	min. Earth dist.	-2458 Mar 21 j 14:25	9°♊16'24	28.65907 AU
direct	-2466 May 18 j 06:24	17°Ω02'21		direct	-2458 Jun 08 j 14:05	7°♊51'47	
max. Earth dist.	-2466 Sep 01 j 01:45	19°Ω41'26	31.03496 AU				
conjunction	-2466 Sep 03 j 01:50	19°Ω46'15	16°45'06	conjunction	-2458 Sep 23 j 17:37	10°♊37'15	15°49'01
minimum elong	-2466 Sep 03 j 01:46	19°Ω46'15	16°45'09	minimum elong	-2458 Sep 23 j 17:52	10°♊37'16	15°49'02
retrograde	-2466 Dec 15 j 09:28	22°Ω25'20		max. Earth dist.	-2458 Sep 22 j 19:49	10°♊35'01	30.56985 AU
opposition	-2465 Mar 02 j 01:43	21°Ω02'32	17°53'21	retrograde	-2457 Jan 05 j 10:12	13°♊18'43	
min. Earth dist.	-2465 Mar 03 j 23:11	20°Ω59'21	29.07645 AU	opposition	-2457 Mar 23 j 14:49	11°♊55'10	16°46'26
direct	-2465 May 21 j 02:50	19°Ω36'26		min. Earth dist.	-2457 Mar 24 j 10:32	11°♊53'47	28.64576 AU
max. Earth dist.	-2465 Sep 03 j 23:23	22°Ω16'17	30.93807 AU	direct	-2457 Jun 11 j 10:52	10°♊29'05	
conjunction	-2465 Sep 05 j 21:26	22°Ω20'56	16°44'50	conjunction	-2457 Sep 26 j 13:35	13°♊14'14	15°33'20
minimum elong	-2465 Sep 05 j 21:24	22°Ω20'56	16°44'52	minimum elong	-2457 Sep 26 j 13:51	13°♊14'16	15°33'21
retrograde	-2465 Dec 18 j 08:12	25°Ω00'39		max. Earth dist.	-2457 Sep 25 j 20:16	13°♊12'28	30.56479 AU
opposition	-2464 Mar 03 j 23:23	23°Ω37'39	17°52'19	retrograde	-2456 Jan 08 j 05:27	15°♊55'35	
min. Earth dist.	-2464 Mar 05 j 17:25	23°Ω34'42	28.98417 AU	opposition	-2456 Mar 25 j 14:02	14°♊32'05	16°28'46
direct	-2464 May 23 j 01:00	22°Ω11'25		min. Earth dist.	-2456 Mar 26 j 06:23	14°♊30'56	28.64341 AU
max. Earth dist.	-2464 Sep 05 j 22:54	24°Ω52'07	30.85094 AU	direct	-2456 Jun 13 j 10:47	13°♊06'10	
conjunction	-2464 Sep 07 j 17:16	24°Ω56'24	16°42'42	conjunction	-2456 Sep 28 j 09:07	15°♊50'53	15°15'52
minimum elong	-2464 Sep 07 j 17:18	24°Ω56'24	16°42'45	minimum elong	-2456 Sep 28 j 09:26	15°♊50'55	15°15'52
retrograde	-2464 Dec 20 j 04:23	27°Ω36'40		max. Earth dist.	-2456 Sep 27 j 18:11	15°♊49'22	30.57076 AU
opposition	-2463 Mar 06 j 21:34	26°Ω13'29	17°49'14	retrograde	-2455 Jan 10 j 02:35	18°♊31'59	
min. Earth dist.	-2463 Mar 08 j 13:49	26°Ω10'39	28.90168 AU	opposition	-2455 Mar 28 j 13:03	17°♊08'33	16°09'09
direct	-2463 May 25 j 22:35	24°Ω47'09		min. Earth dist.	-2455 Mar 29 j 01:51	17°♊07'39	28.65176 AU
max. Earth dist.	-2463 Sep 08 j 21:43	27°Ω28'28	30.77445 AU	direct	-2455 Jun 16 j 08:28	15°♊42'49	
conjunction	-2463 Sep 10 j 13:12	27°Ω32'29	16°38'39	evening set	-2455 Sep 29 j 20:49	18°♊23'46	
minimum elong	-2463 Sep 10 j 13:15	27°Ω32'29	16°38'40	conjunction	-2455 Oct 01 j 04:41	18°♊27'00	14°56'39
retrograde	-2463 Nov 26 j 01:09	0°♊		minimum elong	-2455 Oct 01 j 05:00	18°♊27'02	14°56'39
opposition	-2463 Dec 23 j 01:50	0°♊13'10		max. Earth dist.	-2455 Sep 30 j 18:04	18°♊25'55	30.58737 AU
min. Earth dist.	-2462 Jan 19 j 15:45	30°♊		morning rise	-2455 Oct 02 j 13:12	18°♊30'18	
direct	-2462 Mar 09 j 19:46	28°Ω49'50	17°44'04	retrograde	-2454 Jan 12 j 21:31	21°♊07'45	
max. Earth dist.	-2462 Mar 11 j 07:53	28°Ω47'17	28.82978 AU	opposition	-2454 Mar 31 j 11:53	19°♊44'24	15°47'43
conjunction	-2462 May 28 j 21:22	27°Ω23'25		min. Earth dist.	-2454 Mar 31 j 22:06	19°♊43'41	28.67025 AU
opposition	-2462 Sep 09 j 16:43	0°♊		direct	-2454 Jun 19 j 06:55	18°♊18'51	
min. Earth dist.	-2462 Sep 11 j 21:23	0°♊05'21	30.70915 AU	evening set	-2454 Sep 30 j 10:10	20°♊53'42	
max. Earth dist.	-2462 Sep 13 j 09:21	0°♊09'00	16°32'39	conjunction	-2454 Oct 03 j 23:47	21°♊02'23	14°35'46
conjunction	-2462 Sep 13 j 09:27	0°♊09'01	16°32'41	minimum elong	-2454 Oct 04 j 00:09	21°♊02'25	14°35'46
minimum elong	-2462 Dec 25 j 22:44	2°♊50'02		max. Earth dist.	-2454 Oct 03 j 15:29	21°♊01'32	30.61436 AU
retrograde	-2461 Mar 12 j 18:36	1°♊26'35	17°36'47	morning rise	-2454 Oct 07 j 14:03	21°♊11'08	
opposition	-2461 Mar 14 j 04:27	1°♊24'11	28.76923 AU	retrograde	-2453 Jan 15 j 18:23	23°♊42'41	
min. Earth dist.	-2461 May 31 j 18:41	0°♊00'09		opposition	-2453 Apr 03 j 10:29	22°♊19'24	15°24'30
direct	-2461 Sep 14 j 21:13	2°♊42'34	30.65596 AU	min. Earth dist.	-2453 Apr 03 j 16:41	22°♊18'59	28.69891 AU
max. Earth dist.	-2461 Sep 16 j 05:22	2°♊45'51	16°24'40	direct	-2453 Jun 22 j 06:03	20°♊54'04	
conjunction	-2461 Sep 16 j 05:30	2°♊45'51	16°24'41	evening set	-2453 Oct 01 j 20:21	23°♊24'55	
minimum elong	-2461 Dec 28 j 20:25	5°♊27'08		conjunction	-2453 Oct 06 j 18:30	23°♊36'50	14°13'17
retrograde	-2460 Mar 14 j 17:31	4°♊03'35	17°27'21	minimum elong	-2453 Oct 06 j 18:52	23°♊36'53	14°13'18
opposition	-2460 Mar 15 j 22:53	4°♊01'31	28.72052 AU	max. Earth dist.	-2453 Oct 06 j 14:26	23°♊36'26	30.65151 AU
min. Earth dist.	-2460 Jun 02 j 17:47	2°♊37'11		morning rise	-2453 Oct 11 j 17:09	23°♊48'49	
direct	-2460 Sep 16 j 20:38	5°♊19'58	30.61503 AU	retrograde	-2452 Jan 18 j 12:41	26°♊16'36	
max. Earth dist.	-2460 Sep 18 j 01:32	5°♊22'54	16°14'43	opposition	-2452 Apr 05 j 08:53	24°♊53'24	14°59'37
conjunction	-2460 Sep 18 j 01:43	5°♊22'56	16°14'45	min. Earth dist.	-2452 Apr 05 j 12:45	24°♊53'08	28.73757 AU
minimum elong	-2460 Dec 30 j 16:15	8°♊04'21		direct	-2452 Jun 24 j 04:54	23°♊28'17	
retrograde	-2459 Mar 17 j 16:31	6°♊40'46	17°15'47	evening set	-2452 Oct 02 j 12:35	25°♊55'42	
opposition	-2459 Mar 18 j 19:17	6°♊38'53	28.68393 AU	conjunction	-2452 Oct 08 j 12:43	26°♊10'11	13°49'17
min. Earth dist.	-2459 Jun 05 j 15:00	5°♊14'26		minimum elong	-2452 Oct 08 j 13:06	26°♊10'13	13°49'17
direct	-2459 Sep 20 j 21:41	8°♊00'05	16°02'49	max. Earth dist.	-2452 Oct 08 j 11:15	26°♊10'02	30.69900 AU
conjunction	-2459 Sep 20 j 21:53	8°♊00'06	16°02'51	morning rise	-2452 Oct 14 j 13:23	26°♊24'44	
minimum elong				retrograde	-2451 Jan 20 j 08:14	28°♊49'18	
				opposition	-2451 Apr 08 j 06:28	27°♊26'12	14°33'07



## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 33

Attention, astronomical year style is used: The year -2451 in astronomical counting style is the year 2452 BCE in historical counting style.

min. Earth dist.	-2451 Apr 08 j 05:59	27° <del>10</del> 26'14	28.78648 AU	conjunction	-2445 Oct 26 j 03:07	13° <del>0</del> 24'09	10°25'33
direct	-2451 Jun 27 j 03:23	26° <del>10</del> 01'18		minimum elong	-2445 Oct 26 j 03:30	13° <del>0</del> 24'11	10°25'33
evening set	-2451 Oct 04 j 07:40	28° <del>10</del> 25'35		max. Earth dist.	-2445 Oct 27 j 01:42	13° <del>0</del> 26'21	31.33954 AU
				morning rise	-2445 Nov 06 j 04:05	13° <del>0</del> 49'43	
conjunction	-2451 Oct 11 j 06:26	28° <del>10</del> 42'16	13°23'51	retrograde	-2444 Feb 06 j 23:39	15° <del>0</del> 57'08	
minimum elong	-2451 Oct 11 j 06:50	28° <del>10</del> 42'18	13°23'51	opposition	-2444 Apr 25 j 23:31	14° <del>0</del> 35'31	10°50'23
max. Earth dist.	-2451 Oct 11 j 08:48	28° <del>10</del> 42'30	30.75688 AU	min. Earth dist.	-2444 Apr 24 j 22:55	14° <del>0</del> 37'10	29.43821 AU
morning rise	-2451 Oct 18 j 05:37	28° <del>10</del> 59'00		direct	-2444 Jul 14 j 22:26	13° <del>0</del> 13'02	
	-2451 Nov 14 j 00:31	0° <del>0</del>		evening set	-2444 Oct 16 j 03:44	15° <del>0</del> 19'20	
retrograde	-2450 Jan 23 j 01:56	1° <del>0</del> 20'39					
	-2450 Apr 09 j 17:57	30° <del>0</del> 8'10		conjunction	-2444 Oct 27 j 16:31	15° <del>0</del> 45'51	9°52'31
opposition	-2450 Apr 11 j 03:52	29° <del>0</del> 17'40	14°05'05	minimum elong	-2444 Oct 27 j 16:54	15° <del>0</del> 45'53	9°52'29
min. Earth dist.	-2450 Apr 11 j 01:01	29° <del>0</del> 17'52	28.84596 AU	max. Earth dist.	-2444 Oct 28 j 19:12	15° <del>0</del> 48'25	31.47347 AU
direct	-2450 Jun 30 j 01:12	28° <del>0</del> 17'33'01		morning rise	-2444 Nov 08 j 05:29	16° <del>0</del> 12'24	
	-2450 Sep 12 j 07:27	0° <del>0</del>		retrograde	-2443 Feb 08 j 11:51	18° <del>0</del> 17'48	
evening set	-2450 Oct 06 j 04:37	0° <del>0</del> 54'21		opposition	-2443 Apr 28 j 16:28	16° <del>0</del> 56'29	10°14'34
				min. Earth dist.	-2443 Apr 27 j 13:45	16° <del>0</del> 58'16	29.57292 AU
conjunction	-2450 Oct 13 j 23:23	1° <del>0</del> 12'56	12°57'02	direct	-2443 Jul 17 j 15:00	15° <del>0</del> 34'26	
minimum elong	-2450 Oct 13 j 23:48	1° <del>0</del> 12'59	12°57'01	evening set	-2443 Oct 18 j 05:21	17° <del>0</del> 38'33	
max. Earth dist.	-2450 Oct 14 j 05:06	1° <del>0</del> 13'31	30.82575 AU				
morning rise	-2450 Oct 21 j 18:34	1° <del>0</del> 31'35		conjunction	-2443 Oct 30 j 05:07	18° <del>0</del> 05'56	9°18'49
retrograde	-2449 Jan 25 j 20:26	3° <del>0</del> 50'32		minimum elong	-2443 Oct 30 j 05:29	18° <del>0</del> 05'58	9°18'48
opposition	-2449 Apr 14 j 00:37	2° <del>0</del> 27'41	13°35'38	max. Earth dist.	-2443 Oct 31 j 09:35	18° <del>0</del> 08'39	31.61605 AU
min. Earth dist.	-2449 Apr 13 j 17:15	2° <del>0</del> 28'12	28.91650 AU	morning rise	-2443 Nov 11 j 05:22	18° <del>0</del> 33'21	
direct	-2449 Jul 03 j 00:05	1° <del>0</del> 03'19		retrograde	-2442 Feb 11 j 01:44	20° <del>0</del> 36'49	
evening set	-2449 Oct 08 j 02:44	3° <del>0</del> 21'51		min. Earth dist.	-2442 Apr 30 j 02:17	19° <del>0</del> 17'50	29.71612 AU
				opposition	-2442 May 01 j 08:48	19° <del>0</del> 15'48	9°38'07
conjunction	-2449 Oct 16 j 15:50	3° <del>0</del> 42'10	12°28'56	direct	-2442 Jul 20 j 06:57	17° <del>0</del> 54'10	
minimum elong	-2449 Oct 16 j 16:14	3° <del>0</del> 42'12	12°28'56	evening set	-2442 Oct 20 j 06:58	19° <del>0</del> 56'11	
max. Earth dist.	-2449 Oct 17 j 01:08	3° <del>0</del> 43'05	30.90588 AU				
morning rise	-2449 Oct 25 j 05:19	4° <del>0</del> 02'30		conjunction	-2442 Nov 01 j 17:05	20° <del>0</del> 24'19	8°44'33
retrograde	-2448 Jan 28 j 12:23	6° <del>0</del> 18'55		minimum elong	-2442 Nov 01 j 17:26	20° <del>0</del> 24'21	8°44'31
opposition	-2448 Apr 15 j 20:53	4° <del>0</del> 56'15	13°04'49	max. Earth dist.	-2442 Nov 03 j 01:08	20° <del>0</del> 27'22	31.76650 AU
min. Earth dist.	-2448 Apr 15 j 10:39	4° <del>0</del> 56'57	28.99863 AU	morning rise	-2442 Nov 14 j 03:31	20° <del>0</del> 52'31	
direct	-2448 Jul 04 j 19:34	3° <del>0</del> 32'11		retrograde	-2441 Feb 13 j 13:28	22° <del>0</del> 54'06	
evening set	-2448 Oct 09 j 01:49	5° <del>0</del> 48'04		min. Earth dist.	-2441 May 02 j 16:25	21° <del>0</del> 35'31	29.86702 AU
				opposition	-2441 May 04 j 00:37	21° <del>0</del> 33'23	9°01'08
conjunction	-2448 Oct 18 j 07:38	6° <del>0</del> 09'54	11°59'38	direct	-2441 Jul 22 j 23:13	20° <del>0</del> 12'11	
minimum elong	-2448 Oct 18 j 08:03	6° <del>0</del> 09'56	11°59'36	evening set	-2441 Oct 22 j 09:00	22° <del>0</del> 12'09	
max. Earth dist.	-2448 Oct 18 j 20:54	6° <del>0</del> 11'13	30.99773 AU				
morning rise	-2448 Oct 27 j 13:42	6° <del>0</del> 31'46		conjunction	-2441 Nov 04 j 04:24	22° <del>0</del> 40'57	8°09'50
retrograde	-2447 Jan 30 j 03:56	8° <del>0</del> 45'45		minimum elong	-2441 Nov 04 j 04:43	22° <del>0</del> 40'59	8°09'49
opposition	-2447 Apr 18 j 16:24	7° <del>0</del> 23'18	12°32'47	max. Earth dist.	-2441 Nov 05 j 14:13	22° <del>0</del> 44'09	31.92433 AU
min. Earth dist.	-2447 Apr 18 j 02:00	7° <del>0</del> 24'17	29.09219 AU	morning rise	-2441 Nov 17 j 00:16	23° <del>0</del> 09'48	
direct	-2447 Jul 07 j 16:44	5° <del>0</del> 59'36		retrograde	-2440 Feb 16 j 01:57	25° <del>0</del> 09'35	
evening set	-2447 Oct 11 j 01:33	8° <del>0</del> 12'56		min. Earth dist.	-2440 May 04 j 03:39	23° <del>0</del> 51'30	30.02517 AU
				opposition	-2440 May 05 j 15:25	23° <del>0</del> 49'10	8°23'43
conjunction	-2447 Oct 20 j 22:45	8° <del>0</del> 36'09	11°29'13	direct	-2440 Jul 24 j 14:21	22° <del>0</del> 28'20	
minimum elong	-2447 Oct 20 j 23:09	8° <del>0</del> 36'11	11°29'13	evening set	-2440 Oct 23 j 10:58	24° <del>0</del> 26'22	
max. Earth dist.	-2447 Oct 21 j 14:53	8° <del>0</del> 37'44	31.10088 AU				
morning rise	-2447 Oct 30 j 20:21	8° <del>0</del> 59'23		conjunction	-2440 Nov 05 j 14:58	24° <del>0</del> 55'44	7°34'45
retrograde	-2446 Feb 01 j 20:02	11° <del>0</del> 11'05		minimum elong	-2440 Nov 05 j 15:17	24° <del>0</del> 55'46	7°34'43
opposition	-2446 Apr 21 j 11:21	9° <del>0</del> 48'53	11°59'36	max. Earth dist.	-2440 Nov 07 j 03:33	24° <del>0</del> 59'09	32.08893 AU
min. Earth dist.	-2446 Apr 20 j 17:36	9° <del>0</del> 50'05	29.19708 AU	morning rise	-2440 Nov 18 j 19:29	25° <del>0</del> 25'09	
direct	-2446 Jul 10 j 10:29	8° <del>0</del> 25'34		retrograde	-2439 Feb 17 j 12:24	27° <del>0</del> 23'11	
evening set	-2446 Oct 13 j 01:53	10° <del>0</del> 36'28		min. Earth dist.	-2439 May 06 j 16:16	26° <del>0</del> 05'28	30.19024 AU
				opposition	-2439 May 08 j 05:36	26° <del>0</del> 03'02	7°45'58
conjunction	-2446 Oct 23 j 13:23	11° <del>0</del> 00'54	10°57'50	direct	-2439 Jul 27 j 04:46	24° <del>0</del> 42'36	
minimum elong	-2446 Oct 23 j 13:47	11° <del>0</del> 00'57	10°57'48	evening set	-2439 Oct 25 j 13:01	26° <del>0</del> 38'44	
max. Earth dist.	-2446 Oct 24 j 09:43	11° <del>0</del> 02'54	31.21510 AU				
morning rise	-2446 Nov 03 j 01:03	11° <del>0</del> 25'22		conjunction	-2439 Nov 08 j 00:47	27° <del>0</del> 08'34	6°59'22
retrograde	-2445 Feb 04 j 09:20	13° <del>0</del> 34'53		minimum elong	-2439 Nov 08 j 01:04	27° <del>0</del> 08'36	6°59'21
min. Earth dist.	-2445 Apr 23 j 08:47	12° <del>0</del> 14'23	29.31259 AU	max. Earth dist.	-2439 Nov 09 j 15:47	27° <del>0</del> 12'11	32.26028 AU
opposition	-2445 Apr 24 j 05:46	12° <del>0</del> 12'58	11°25'26	morning rise	-2439 Nov 21 j 13:01	27° <del>0</del> 38'28	
direct	-2445 Jul 13 j 06:06	10° <del>0</del> 50'04		retrograde	-2438 Feb 19 j 22:44	29° <del>0</del> 34'49	
evening set	-2445 Oct 15 j 02:36	12° <del>0</del> 58'37		min. Earth dist.	-2438 May 09 j 02:22	28° <del>0</del> 17'34	30.36215 AU
				opposition	-2438 May 10 j 18:48	28° <del>0</del> 14'56	7°08'00

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 34

Attention, astronomical year style is used: The year -2438 in astronomical counting style is the year 2439 BCE in historical counting style.

direct	-2438 Jul 29 j 21:00	26° <u>♏</u> 54'53		minimum elong	-2432 Nov 22 j 00:51	11° <u>♏</u> 45'07	2°49'57
evening set	-2438 Oct 27 j 15:06	28° <u>♏</u> 49'12		max. Earth dist.	-2432 Nov 24 j 07:56	11° <u>♏</u> 49'57	33.65500 AU
				morning rise	-2432 Dec 06 j 23:52	12° <u>♏</u> 16'21	
conjunction	-2438 Nov 10 j 09:45	29° <u>♏</u> 19'26	6°23'48	retrograde	-2431 Mar 05 j 21:19	14° <u>♏</u> 03'08	
minimum elong	-2438 Nov 10 j 10:01	29° <u>♏</u> 19'27	6°23'45	min. Earth dist.	-2431 May 23 j 08:38	12° <u>♏</u> 49'07	31.76726 AU
max. Earth dist.	-2438 Nov 12 j 02:56	29° <u>♏</u> 23'13	32.43837 AU	opposition	-2431 May 25 j 17:59	12° <u>♏</u> 45'32	2°41'54
morning rise	-2438 Nov 24 j 05:09	29° <u>♏</u> 49'43		direct	-2431 Aug 13 j 21:40	11° <u>♏</u> 28'26	
	-2438 Nov 29 j 00:19	0° <u>♏</u>		evening set	-2431 Nov 09 j 04:31	13° <u>♏</u> 12'25	
retrograde	-2437 Feb 22 j 08:30	1° <u>♏</u> 44'27					
min. Earth dist.	-2437 May 11 j 12:35	0° <u>♏</u> 27'37	30.54141 AU	conjunction	-2431 Nov 24 j 04:52	13° <u>♏</u> 43'30	2°14'56
opposition	-2437 May 13 j 07:26	0° <u>♏</u> 24'51	6°29'51	minimum elong	-2431 Nov 24 j 04:57	13° <u>♏</u> 43'31	2°14'53
	-2437 May 29 j 14:12	30° <u>♏</u> <u>♏</u>		max. Earth dist.	-2431 Nov 26 j 14:03	13° <u>♏</u> 48'29	33.87820 AU
direct	-2437 Aug 01 j 09:57	29° <u>♏</u> 05'10		morning rise	-2431 Dec 09 j 06:29	14° <u>♏</u> 14'42	
	-2437 Sep 30 j 07:25	0° <u>♏</u>			-2430 Jan 02 j 02:16	15° <u>♏</u>	
evening set	-2437 Oct 29 j 16:58	0° <u>♏</u> 57'44		retrograde	-2430 Mar 08 j 02:08	16° <u>♏</u> 00'26	
					-2430 May 16 j 16:12	15° <u>♏</u> <u>♏</u>	
conjunction	-2437 Nov 12 j 18:00	1° <u>♏</u> 28'17	5°48'06	min. Earth dist.	-2430 May 25 j 14:57	14° <u>♏</u> 46'49	31.99174 AU
minimum elong	-2437 Nov 12 j 18:14	1° <u>♏</u> 28'18	5°48'04	opposition	-2430 May 28 j 01:19	14° <u>♏</u> 43'12	2°04'43
max. Earth dist.	-2437 Nov 14 j 14:25	1° <u>♏</u> 32'20	32.62371 AU	direct	-2430 Aug 16 j 04:36	13° <u>♏</u> 26'33	
morning rise	-2437 Nov 26 j 19:34	1° <u>♏</u> 58'54			-2430 Nov 06 j 13:47	15° <u>♏</u>	
retrograde	-2436 Feb 24 j 14:34	3° <u>♏</u> 52'06		evening set	-2430 Nov 11 j 06:19	15° <u>♏</u> 09'22	
min. Earth dist.	-2436 May 12 j 21:48	2° <u>♏</u> 35'42	30.72806 AU				
opposition	-2436 May 14 j 19:08	2° <u>♏</u> 32'47	5°51'38	conjunction	-2430 Nov 26 j 08:35	15° <u>♏</u> 40'21	1°40'10
direct	-2436 Aug 02 j 23:39	1° <u>♏</u> 13'30		minimum elong	-2430 Nov 26 j 08:39	15° <u>♏</u> 40'21	1°40'06
evening set	-2436 Oct 30 j 19:06	3° <u>♏</u> 04'25		max. Earth dist.	-2430 Nov 28 j 19:36	15° <u>♏</u> 45'26	34.10536 AU
				morning rise	-2430 Dec 11 j 11:58	16° <u>♏</u> 11'27	
conjunction	-2436 Nov 14 j 01:29	3° <u>♏</u> 35'12	5°12'19	retrograde	-2429 Mar 10 j 06:06	17° <u>♏</u> 56'10	
minimum elong	-2436 Nov 14 j 01:42	3° <u>♏</u> 35'13	5°12'16	min. Earth dist.	-2429 May 27 j 19:41	16° <u>♏</u> 43'00	32.21982 AU
max. Earth dist.	-2436 Nov 15 j 23:26	3° <u>♏</u> 39'22	32.81632 AU	opposition	-2429 May 30 j 07:53	16° <u>♏</u> 39'17	1°27'54
morning rise	-2436 Nov 28 j 08:49	4° <u>♏</u> 06'04		direct	-2429 Aug 18 j 13:27	15° <u>♏</u> 23'04	
retrograde	-2435 Feb 25 j 21:48	5° <u>♏</u> 57'49		evening set	-2429 Nov 13 j 08:10	17° <u>♏</u> 04'47	
min. Earth dist.	-2435 May 15 j 05:30	4° <u>♏</u> 41'54	30.92239 AU				
opposition	-2435 May 17 j 05:52	4° <u>♏</u> 38'48	5°13'24	conjunction	-2429 Nov 28 j 11:33	17° <u>♏</u> 35'38	1°05'45
direct	-2435 Aug 05 j 10:31	3° <u>♏</u> 19'56		minimum elong	-2429 Nov 28 j 11:36	17° <u>♏</u> 35'38	1°05'43
evening set	-2435 Nov 01 j 21:01	5° <u>♏</u> 09'18		max. Earth dist.	-2429 Nov 30 j 23:21	17° <u>♏</u> 40'45	34.33547 AU
				morning rise	-2429 Dec 13 j 16:27	18° <u>♏</u> 06'36	
conjunction	-2435 Nov 16 j 08:25	5° <u>♏</u> 40'16	4°36'34	retrograde	-2428 Mar 11 j 10:27	19° <u>♏</u> 50'21	
minimum elong	-2435 Nov 16 j 08:36	5° <u>♏</u> 40'17	4°36'32	min. Earth dist.	-2428 May 29 j 00:03	18° <u>♏</u> 37'36	32.45092 AU
max. Earth dist.	-2435 Nov 18 j 09:51	5° <u>♏</u> 44'42	33.01626 AU	opposition	-2428 May 31 j 13:51	18° <u>♏</u> 33'49	0°51'32
morning rise	-2435 Nov 30 j 20:30	6° <u>♏</u> 11'18		direct	-2428 Aug 19 j 19:36	17° <u>♏</u> 18'00	
retrograde	-2434 Feb 28 j 03:00	8° <u>♏</u> 01'42		evening set	-2428 Nov 14 j 09:51	18° <u>♏</u> 58'40	
min. Earth dist.	-2434 May 17 j 14:03	6° <u>♏</u> 46'12	31.12401 AU				
opposition	-2434 May 19 j 16:04	6° <u>♏</u> 43'01	4°35'14	conjunction	-2428 Nov 29 j 14:10	19° <u>♏</u> 29'20	0°31'44
direct	-2434 Aug 07 j 21:30	5° <u>♏</u> 24'35		minimum elong	-2428 Nov 29 j 14:11	19° <u>♏</u> 29'20	0°31'41
evening set	-2434 Nov 03 j 22:56	7° <u>♏</u> 12'28		max. Earth dist.	-2428 Dec 02 j 04:01	19° <u>♏</u> 34'35	34.56805 AU
				morning rise	-2428 Dec 14 j 19:42	20° <u>♏</u> 00'07	
conjunction	-2434 Nov 18 j 14:23	7° <u>♏</u> 43'32	4°00'53	retrograde	-2427 Mar 13 j 10:28	21° <u>♏</u> 42'57	
minimum elong	-2434 Nov 18 j 14:33	7° <u>♏</u> 43'33	4°00'50	min. Earth dist.	-2427 May 31 j 04:30	20° <u>♏</u> 30'33	32.68433 AU
max. Earth dist.	-2434 Nov 20 j 17:12	7° <u>♏</u> 48'04	33.22314 AU	opposition	-2427 Jun 02 j 18:55	20° <u>♏</u> 26'45	0°15'37
morning rise	-2434 Dec 03 j 06:52	8° <u>♏</u> 14'43		direct	-2427 Aug 22 j 02:38	19° <u>♏</u> 11'20	
retrograde	-2433 Mar 02 j 09:45	10° <u>♏</u> 03'50		desc. node	-2427 Nov 11 j 03:03	20° <u>♏</u> 40'35	
min. Earth dist.	-2433 May 19 j 19:59	8° <u>♏</u> 48'53	31.33256 AU	evening set	-2427 Nov 16 j 11:31	20° <u>♏</u> 50'59	
opposition	-2433 May 22 j 01:28	8° <u>♏</u> 45'30	3°57'13				
direct	-2433 Aug 10 j 06:18	7° <u>♏</u> 27'30		conjunction	-2427 Dec 01 j 15:57	21° <u>♏</u> 21'25	-0°01'56
evening set	-2433 Nov 06 j 00:47	9° <u>♏</u> 14'00		minimum elong	-2427 Dec 01 j 15:57	21° <u>♏</u> 21'25	0°01'58
				behind sun begin	-2427 Dec 01 j 09:36	21° <u>♏</u> 20'54	
conjunction	-2433 Nov 20 j 19:54	9° <u>♏</u> 45'08	3°25'20	behind sun end	-2427 Dec 01 j 22:18	21° <u>♏</u> 21'55	
minimum elong	-2433 Nov 20 j 20:02	9° <u>♏</u> 45'09	3°25'19	max. Earth dist.	-2427 Dec 04 j 05:58	21° <u>♏</u> 26'39	34.80277 AU
max. Earth dist.	-2433 Nov 23 j 01:47	9° <u>♏</u> 49'54	33.43627 AU	morning rise	-2427 Dec 16 j 21:58	21° <u>♏</u> 51'59	
morning rise	-2433 Dec 05 j 15:58	10° <u>♏</u> 16'22		retrograde	-2426 Mar 15 j 11:31	23° <u>♏</u> 33'56	
retrograde	-2432 Mar 03 j 15:03	12° <u>♏</u> 04'17		min. Earth dist.	-2426 Jun 02 j 06:51	22° <u>♏</u> 21'58	32.92019 AU
min. Earth dist.	-2432 May 21 j 03:35	10° <u>♏</u> 49'45	31.54728 AU	opposition	-2426 Jun 04 j 23:25	22° <u>♏</u> 18'02	-0°19'47
opposition	-2432 May 23 j 10:08	10° <u>♏</u> 46'19	3°19'25	direct	-2426 Aug 24 j 07:29	21° <u>♏</u> 02'59	
direct	-2432 Aug 11 j 14:20	9° <u>♏</u> 28'46		evening set	-2426 Nov 18 j 12:45	22° <u>♏</u> 41'41	
evening set	-2432 Nov 07 j 02:40	11° <u>♏</u> 13'59					
				conjunction	-2426 Dec 03 j 17:03	23° <u>♏</u> 11'51	-0°35'01
conjunction	-2432 Nov 22 j 00:44	11° <u>♏</u> 45'07	2°50'00	minimum elong	-2426 Dec 03 j 17:02	23° <u>♏</u> 11'51	0°35'04

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 35

Attention, astronomical year style is used: The year -2426 in astronomical counting style is the year 2427 BCE in historical counting style.

max. Earth dist.	-2426 Dec 06 j 09:29	23° $\mathbb{M}$ 17'14	35.03971 AU	retrograde	-2419 Mar 27 j 07:05	5° $\mathbb{A}$ 47'32	
morning rise	-2426 Dec 18 j 22:50	23° $\mathbb{M}$ 42'09		min. Earth dist.	-2419 Jun 14 j 10:27	4° $\mathbb{A}$ 38'06	34.65293 AU
retrograde	-2425 Mar 17 j 11:05	25° $\mathbb{M}$ 23'18		opposition	-2419 Jun 17 j 12:02	4° $\mathbb{A}$ 33'48	-4°11'20
min. Earth dist.	-2425 Jun 04 j 10:27	24° $\mathbb{M}$ 11'36	33.15860 AU	direct	-2419 Sep 05 j 22:25	3° $\mathbb{A}$ 21'18	
opposition	-2425 Jun 07 j 03:20	24° $\mathbb{M}$ 07'41	-0°54'40	evening set	-2419 Nov 30 j 18:08	4° $\mathbb{A}$ 54'53	
direct	-2425 Aug 26 j 11:42	22° $\mathbb{M}$ 53'00					
evening set	-2425 Nov 20 j 13:59	24° $\mathbb{M}$ 30'46		conjunction	-2419 Dec 15 j 09:01	5° $\mathbb{A}$ 22'26	-4°11'58
				minimum elong	-2419 Dec 15 j 08:54	5° $\mathbb{A}$ 22'26	4°12'02
conjunction	-2425 Dec 05 j 17:36	25° $\mathbb{M}$ 00'39	-1°07'39	max. Earth dist.	-2419 Dec 18 j 10:12	5° $\mathbb{A}$ 28'14	36.77615 AU
minimum elong	-2425 Dec 05 j 17:33	25° $\mathbb{M}$ 00'38	1°07'42	morning rise	-2419 Dec 30 j 01:40	5° $\mathbb{A}$ 50'08	
max. Earth dist.	-2425 Dec 08 j 10:39	25° $\mathbb{M}$ 06'02	35.27929 AU	retrograde	-2418 Mar 29 j 03:02	7° $\mathbb{A}$ 26'56	
morning rise	-2425 Dec 20 j 22:47	25° $\mathbb{M}$ 30'40		min. Earth dist.	-2418 Jun 16 j 10:19	6° $\mathbb{A}$ 17'47	34.90973 AU
retrograde	-2424 Mar 18 j 12:00	27° $\mathbb{M}$ 11'01		opposition	-2418 Jun 19 j 11:36	6° $\mathbb{A}$ 13'31	-4°41'50
min. Earth dist.	-2424 Jun 05 j 10:55	25° $\mathbb{M}$ 59'45	33.40001 AU	direct	-2418 Sep 07 j 22:45	5° $\mathbb{A}$ 01'24	
opposition	-2424 Jun 08 j 06:13	25° $\mathbb{M}$ 55'42	-1°28'59	evening set	-2418 Dec 02 j 18:22	6° $\mathbb{A}$ 34'27	
direct	-2424 Aug 27 j 14:30	24° $\mathbb{M}$ 41'21					
evening set	-2424 Nov 21 j 15:03	26° $\mathbb{M}$ 18'18		conjunction	-2418 Dec 17 j 05:51	7° $\mathbb{A}$ 01'32	-4°40'37
				minimum elong	-2418 Dec 17 j 05:42	7° $\mathbb{A}$ 01'31	4°40'41
conjunction	-2424 Dec 06 j 17:30	26° $\mathbb{M}$ 47'50	-1°39'47	max. Earth dist.	-2418 Dec 20 j 07:04	7° $\mathbb{A}$ 07'17	37.03192 AU
minimum elong	-2424 Dec 06 j 17:26	26° $\mathbb{M}$ 47'50	1°39'50	morning rise	-2418 Dec 31 j 19:06	7° $\mathbb{A}$ 28'46	
max. Earth dist.	-2424 Dec 09 j 12:19	26° $\mathbb{M}$ 53'20	35.52174 AU	retrograde	-2417 Mar 31 j 00:15	9° $\mathbb{A}$ 05'08	
morning rise	-2424 Dec 21 j 21:40	27° $\mathbb{M}$ 17'32		min. Earth dist.	-2417 Jun 18 j 07:37	7° $\mathbb{A}$ 56'23	35.16699 AU
retrograde	-2423 Mar 20 j 13:00	28° $\mathbb{M}$ 57'10		opposition	-2417 Jun 21 j 10:30	7° $\mathbb{A}$ 52'02	-5°11'41
min. Earth dist.	-2423 Jun 07 j 12:46	27° $\mathbb{M}$ 46'12	33.64471 AU	direct	-2417 Sep 09 j 21:21	6° $\mathbb{A}$ 40'16	
opposition	-2423 Jun 10 j 08:41	27° $\mathbb{M}$ 42'09	-2°02'43	evening set	-2417 Dec 04 j 18:44	8° $\mathbb{A}$ 12'50	
direct	-2423 Aug 29 j 16:08	26° $\mathbb{M}$ 28'09					
evening set	-2423 Nov 23 j 15:49	28° $\mathbb{M}$ 04'19		conjunction	-2417 Dec 19 j 02:24	8° $\mathbb{A}$ 39'26	-5°08'40
				minimum elong	-2417 Dec 19 j 02:15	8° $\mathbb{A}$ 39'25	5°08'43
conjunction	-2423 Dec 08 j 16:48	28° $\mathbb{M}$ 33'30	-2°11'22	max. Earth dist.	-2417 Dec 22 j 04:28	8° $\mathbb{A}$ 45'13	37.28756 AU
minimum elong	-2423 Dec 08 j 16:44	28° $\mathbb{M}$ 33'30	2°11'25	morning rise	-2416 Jan 02 j 12:00	9° $\mathbb{A}$ 06'11	
max. Earth dist.	-2423 Dec 11 j 13:06	28° $\mathbb{M}$ 39'05	35.76743 AU	retrograde	-2416 Mar 31 j 22:27	10° $\mathbb{A}$ 42'09	
morning rise	-2423 Dec 23 j 19:20	29° $\mathbb{M}$ 02'50		min. Earth dist.	-2416 Jun 19 j 06:18	9° $\mathbb{A}$ 33'39	35.42406 AU
	-2422 Jan 26 j 05:40	0° $\mathbb{A}$		opposition	-2416 Jun 22 j 08:52	9° $\mathbb{A}$ 29'21	-5°40'52
retrograde	-2422 Mar 22 j 13:28	0° $\mathbb{A}$ 41'49		direct	-2416 Sep 10 j 17:58	8° $\mathbb{A}$ 17'55	
	-2422 May 19 j 13:22	30° $\mathbb{R}$ $\mathbb{M}$		evening set	-2416 Dec 05 j 18:50	9° $\mathbb{A}$ 50'02	
min. Earth dist.	-2422 Jun 09 j 12:39	29° $\mathbb{M}$ 31'14	33.89261 AU				
opposition	-2422 Jun 12 j 10:24	29° $\mathbb{M}$ 27'06	-2°35'50	conjunction	-2416 Dec 19 j 22:35	10° $\mathbb{A}$ 16'08	-5°36'06
direct	-2422 Aug 31 j 18:03	28° $\mathbb{M}$ 13'28		minimum elong	-2416 Dec 19 j 22:25	10° $\mathbb{A}$ 16'07	5°36'09
evening set	-2422 Nov 25 j 16:39	29° $\mathbb{M}$ 48'55		max. Earth dist.	-2416 Dec 23 j 01:08	10° $\mathbb{A}$ 21'55	37.54268 AU
	-2422 Dec 01 j 12:06	0° $\mathbb{A}$		morning rise	-2415 Jan 03 j 03:59	10° $\mathbb{A}$ 42'23	
				retrograde	-2415 Apr 02 j 18:24	12° $\mathbb{A}$ 17'58	
conjunction	-2422 Dec 10 j 15:33	0° $\mathbb{A}$ 17'44	-2°42'24	min. Earth dist.	-2415 Jun 21 j 03:30	11° $\mathbb{A}$ 09'46	35.68025 AU
minimum elong	-2422 Dec 10 j 15:27	0° $\mathbb{A}$ 17'43	2°42'27	opposition	-2415 Jun 24 j 06:41	11° $\mathbb{A}$ 05'28	-6°09'22
max. Earth dist.	-2422 Dec 13 j 12:42	0° $\mathbb{A}$ 23'19	36.01612 AU	direct	-2415 Sep 12 j 16:12	9° $\mathbb{A}$ 54'20	
morning rise	-2422 Dec 25 j 16:20	0° $\mathbb{A}$ 46'41		evening set	-2415 Dec 07 j 18:50	11° $\mathbb{A}$ 26'01	
retrograde	-2421 Mar 24 j 12:56	2° $\mathbb{A}$ 25'03					
min. Earth dist.	-2421 Jun 11 j 12:28	1° $\mathbb{A}$ 14'51	34.14375 AU	conjunction	-2415 Dec 21 j 18:03	11° $\mathbb{A}$ 51'37	-6°02'54
opposition	-2421 Jun 14 j 11:38	1° $\mathbb{A}$ 10'39	-3°08'19	minimum elong	-2415 Dec 21 j 17:53	11° $\mathbb{A}$ 51'36	6°02'58
	-2421 Aug 20 j 08:18	30° $\mathbb{R}$ $\mathbb{M}$		max. Earth dist.	-2415 Dec 24 j 20:19	11° $\mathbb{A}$ 57'20	37.79672 AU
direct	-2421 Sep 02 j 18:32	29° $\mathbb{M}$ 57'24		morning rise	-2414 Jan 04 j 19:14	12° $\mathbb{A}$ 17'22	
	-2421 Sep 16 j 05:37	0° $\mathbb{A}$		retrograde	-2414 Apr 04 j 14:46	13° $\mathbb{A}$ 52'34	
evening set	-2421 Nov 27 j 17:08	1° $\mathbb{A}$ 32'10		min. Earth dist.	-2414 Jun 23 j 00:26	12° $\mathbb{A}$ 44'39	35.93565 AU
				opposition	-2414 Jun 26 j 04:10	12° $\mathbb{A}$ 40'20	-6°37'12
conjunction	-2421 Dec 12 j 13:53	2° $\mathbb{A}$ 00'35	-3°12'51	direct	-2414 Sep 14 j 13:41	11° $\mathbb{A}$ 29'31	
minimum elong	-2421 Dec 12 j 13:46	2° $\mathbb{A}$ 00'34	3°12'54	evening set	-2414 Dec 09 j 18:33	13° $\mathbb{A}$ 00'48	
max. Earth dist.	-2421 Dec 15 j 13:11	2° $\mathbb{A}$ 06'18	36.26762 AU				
morning rise	-2421 Dec 27 j 12:13	2° $\mathbb{A}$ 29'09		conjunction	-2414 Dec 23 j 13:17	13° $\mathbb{A}$ 25'52	-6°29'06
retrograde	-2420 Mar 25 j 09:12	4° $\mathbb{A}$ 06'56		minimum elong	-2414 Dec 23 j 13:06	13° $\mathbb{A}$ 25'51	6°29'09
min. Earth dist.	-2420 Jun 12 j 12:23	2° $\mathbb{A}$ 57'05	34.39734 AU	max. Earth dist.	-2414 Dec 26 j 17:00	13° $\mathbb{A}$ 31'39	38.04995 AU
opposition	-2420 Jun 15 j 12:11	2° $\mathbb{A}$ 52'52	-3°40'09	morning rise	-2413 Jan 06 j 09:39	13° $\mathbb{A}$ 51'04	
direct	-2420 Sep 03 j 21:56	1° $\mathbb{A}$ 39'59		retrograde	-2413 Apr 06 j 07:35	15° $\mathbb{A}$ 25'57	
evening set	-2420 Nov 28 j 17:44	3° $\mathbb{A}$ 14'08		min. Earth dist.	-2413 Jun 24 j 21:31	14° $\mathbb{A}$ 18'16	36.19034 AU
				opposition	-2413 Jun 28 j 00:59	14° $\mathbb{A}$ 13'58	-7°04'21
conjunction	-2420 Dec 13 j 11:38	3° $\mathbb{A}$ 42'08	-3°42'43	direct	-2413 Sep 16 j 13:15	13° $\mathbb{A}$ 03'26	
minimum elong	-2420 Dec 13 j 11:30	3° $\mathbb{A}$ 42'07	3°42'46	evening set	-2413 Dec 11 j 18:12	14° $\mathbb{A}$ 34'21	
max. Earth dist.	-2420 Dec 16 j 10:53	3° $\mathbb{A}$ 47'49	36.52116 AU				
morning rise	-2420 Dec 28 j 07:25	4° $\mathbb{A}$ 10'16		conjunction	-2413 Dec 25 j 07:52	14° $\mathbb{A}$ 58'53	-6°54'39

## Planetary Phenomena of Pluto from -2900 through -2398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36

Attention, astronomical year style is used: The year -2413 in astronomical counting style is the year 2414 BCE in historical counting style.

minimum elong	-2413 Dec 25 j 07:41	14° $\mathring{\text{A}}$ 58'52	6°54'44	evening set	-2406 Dec 23 j 11:34	25° $\mathring{\text{A}}$ 00'27	
max. Earth dist.	-2413 Dec 28 j 11:04	15° $\mathring{\text{A}}$ 04'35	38.30268 AU				
morning rise	-2412 Jan 07 j 23:23	15° $\mathring{\text{A}}$ 23'33		conjunction	-2405 Jan 04 j 07:17	25° $\mathring{\text{A}}$ 20'54	-9°35'48
retrograde	-2412 Apr 07 j 02:14	16° $\mathring{\text{A}}$ 58'07		minimum elong	-2405 Jan 04 j 07:05	25° $\mathring{\text{A}}$ 20'54	9°35'51
min. Earth dist.	-2412 Jun 25 j 16:20	15° $\mathring{\text{A}}$ 50'45	36.44490 AU	max. Earth dist.	-2405 Jan 07 j 13:52	25° $\mathring{\text{A}}$ 26'37	40.07498 AU
opposition	-2412 Jun 28 j 21:15	15° $\mathring{\text{A}}$ 46'24	-7°30'48	morning rise	-2405 Jan 16 j 04:28	25° $\mathring{\text{A}}$ 41'28	
direct	-2412 Sep 17 j 09:54	14° $\mathring{\text{A}}$ 36'09		retrograde	-2405 Apr 18 j 01:09	27° $\mathring{\text{A}}$ 14'59	
evening set	-2412 Dec 12 j 17:37	16° $\mathring{\text{A}}$ 06'44		min. Earth dist.	-2405 Jul 06 j 23:19	26° $\mathring{\text{A}}$ 09'35	38.23064 AU
				opposition	-2405 Jul 10 j 06:34	26° $\mathring{\text{A}}$ 05'14	-10°16'53
conjunction	-2412 Dec 26 j 02:06	16° $\mathring{\text{A}}$ 30'42	-7°19'35	direct	-2405 Sep 28 j 20:00	24° $\mathring{\text{A}}$ 57'08	
minimum elong	-2412 Dec 26 j 01:54	16° $\mathring{\text{A}}$ 30'41	7°19'39	evening set	-2405 Dec 25 j 10:19	26° $\mathring{\text{A}}$ 26'29	
max. Earth dist.	-2412 Dec 29 j 06:43	16° $\mathring{\text{A}}$ 36'29	38.55530 AU				
morning rise	-2411 Jan 08 j 12:20	16° $\mathring{\text{A}}$ 54'49		conjunction	-2404 Jan 05 j 23:06	26° $\mathring{\text{A}}$ 46'19	-9°56'21
retrograde	-2411 Apr 08 j 18:43	18° $\mathring{\text{A}}$ 29'08		minimum elong	-2404 Jan 05 j 22:53	26° $\mathring{\text{A}}$ 46'19	9°56'26
min. Earth dist.	-2411 Jun 27 j 12:39	17° $\mathring{\text{A}}$ 21'59	36.69967 AU	max. Earth dist.	-2404 Jan 09 j 06:04	26° $\mathring{\text{A}}$ 52'01	40.32491 AU
opposition	-2411 Jun 30 j 17:01	17° $\mathring{\text{A}}$ 17'40	-7°56'35	morning rise	-2404 Jan 17 j 13:21	27° $\mathring{\text{A}}$ 06'17	
direct	-2411 Sep 19 j 06:48	16° $\mathring{\text{A}}$ 07'43		retrograde	-2404 Apr 18 j 17:02	28° $\mathring{\text{A}}$ 39'44	
evening set	-2411 Dec 14 j 16:55	17° $\mathring{\text{A}}$ 38'00		min. Earth dist.	-2404 Jul 07 j 17:34	27° $\mathring{\text{A}}$ 34'32	38.48156 AU
				opposition	-2404 Jul 10 j 23:35	27° $\mathring{\text{A}}$ 30'16	-10°37'58
conjunction	-2411 Dec 27 j 19:56	18° $\mathring{\text{A}}$ 01'25	-7°43'52	direct	-2404 Sep 29 j 13:08	26° $\mathring{\text{A}}$ 22'27	
minimum elong	-2411 Dec 27 j 19:44	18° $\mathring{\text{A}}$ 01'24	7°43'57	evening set	-2404 Dec 26 j 09:06	27° $\mathring{\text{A}}$ 51'43	
max. Earth dist.	-2411 Dec 31 j 00:43	18° $\mathring{\text{A}}$ 07'10	38.80841 AU				
morning rise	-2410 Jan 10 j 00:32	18° $\mathring{\text{A}}$ 24'57		conjunction	-2403 Jan 06 j 14:42	28° $\mathring{\text{A}}$ 10'56	-10°16'19
retrograde	-2410 Apr 10 j 13:15	19° $\mathring{\text{A}}$ 59'03		minimum elong	-2403 Jan 06 j 14:29	28° $\mathring{\text{A}}$ 10'55	10°16'22
min. Earth dist.	-2410 Jun 29 j 06:27	18° $\mathring{\text{A}}$ 52'14	36.95497 AU	max. Earth dist.	-2403 Jan 09 j 21:20	28° $\mathring{\text{A}}$ 16'34	40.57225 AU
opposition	-2410 Jul 02 j 12:18	18° $\mathring{\text{A}}$ 47'52	-8°21'40	morning rise	-2403 Jan 17 j 21:29	28° $\mathring{\text{A}}$ 30'15	
direct	-2410 Sep 21 j 01:23	17° $\mathring{\text{A}}$ 38'13			-2403 Apr 03 j 07:19	0° $\mathring{\text{B}}$	
evening set	-2410 Dec 16 j 16:01	19° $\mathring{\text{A}}$ 08'15		retrograde	-2403 Apr 20 j 09:54	0° $\mathring{\text{B}}$ 03'40	
					-2403 May 07 j 16:27	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$	
conjunction	-2410 Dec 29 j 13:11	19° $\mathring{\text{A}}$ 31'06	-8°07'31	min. Earth dist.	-2403 Jul 09 j 09:48	28° $\mathring{\text{A}}$ 58'43	38.72948 AU
minimum elong	-2410 Dec 29 j 12:58	19° $\mathring{\text{A}}$ 31'05	8°07'34	opposition	-2403 Jul 12 j 15:59	28° $\mathring{\text{A}}$ 54'27	-10°58'26
max. Earth dist.	-2409 Jan 01 j 18:38	19° $\mathring{\text{A}}$ 36'51	39.06194 AU	direct	-2403 Oct 01 j 04:31	27° $\mathring{\text{A}}$ 46'53	
morning rise	-2409 Jan 11 j 12:09	19° $\mathring{\text{A}}$ 54'04		evening set	-2403 Dec 28 j 07:50	29° $\mathring{\text{A}}$ 16'06	
retrograde	-2409 Apr 12 j 09:15	21° $\mathring{\text{A}}$ 27'59					
min. Earth dist.	-2409 Jul 01 j 01:22	20° $\mathring{\text{A}}$ 21'25	37.21085 AU	conjunction	-2402 Jan 08 j 05:51	29° $\mathring{\text{A}}$ 34'41	-10°35'43
opposition	-2409 Jul 04 j 07:19	20° $\mathring{\text{A}}$ 17'05	-8°46'03	minimum elong	-2402 Jan 08 j 05:38	29° $\mathring{\text{A}}$ 34'40	10°35'47
direct	-2409 Sep 22 j 17:23	19° $\mathring{\text{A}}$ 07'44		max. Earth dist.	-2402 Jan 11 j 11:41	29° $\mathring{\text{A}}$ 40'14	40.81648 AU
evening set	-2409 Dec 18 j 15:01	20° $\mathring{\text{A}}$ 37'34		morning rise	-2402 Jan 19 j 05:16	29° $\mathring{\text{A}}$ 53'22	
					-2402 Jan 23 j 04:27	0° $\mathring{\text{B}}$	
conjunction	-2409 Dec 31 j 06:20	20° $\mathring{\text{A}}$ 59'50	-8°30'32	retrograde	-2402 Apr 22 j 02:50	1° $\mathring{\text{B}}$ 26'45	
minimum elong	-2409 Dec 31 j 06:08	20° $\mathring{\text{A}}$ 59'49	8°30'35	min. Earth dist.	-2402 Jul 11 j 02:29	0° $\mathring{\text{B}}$ 21'59	38.97445 AU
max. Earth dist.	-2408 Jan 03 j 12:50	21° $\mathring{\text{A}}$ 05'37	39.31591 AU	opposition	-2402 Jul 14 j 08:18	0° $\mathring{\text{B}}$ 17'46	-11°18'18
morning rise	-2408 Jan 12 j 23:06	21° $\mathring{\text{A}}$ 22'13			-2402 Jul 28 j 03:29	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$	
retrograde	-2408 Apr 13 j 01:31	22° $\mathring{\text{A}}$ 55'59		direct	-2402 Oct 02 j 18:50	29° $\mathring{\text{A}}$ 10'26	
min. Earth dist.	-2408 Jul 01 j 19:17	21° $\mathring{\text{A}}$ 49'43	37.46682 AU		-2402 Dec 05 j 03:38	0° $\mathring{\text{B}}$	
opposition	-2408 Jul 05 j 01:34	21° $\mathring{\text{A}}$ 45'22	-9°09'46	evening set	-2402 Dec 30 j 06:17	0° $\mathring{\text{B}}$ 39'36	
direct	-2408 Sep 23 j 12:54	20° $\mathring{\text{A}}$ 36'20					
evening set	-2408 Dec 19 j 14:02	22° $\mathring{\text{A}}$ 06'01		conjunction	-2401 Jan 09 j 20:45	0° $\mathring{\text{B}}$ 57'32	-10°54'32
				minimum elong	-2401 Jan 09 j 20:33	0° $\mathring{\text{B}}$ 57'31	10°54'35
conjunction	-2408 Dec 31 j 22:57	22° $\mathring{\text{A}}$ 27'41	-8°52'54	max. Earth dist.	-2401 Jan 13 j 03:15	1° $\mathring{\text{B}}$ 03'05	41.05777 AU
minimum elong	-2408 Dec 31 j 22:44	22° $\mathring{\text{A}}$ 27'40	8°52'57	morning rise	-2401 Jan 20 j 12:18	1° $\mathring{\text{B}}$ 15'33	
max. Earth dist.	-2407 Jan 04 j 04:52	22° $\mathring{\text{A}}$ 33'24	39.56975 AU	retrograde	-2401 Apr 23 j 16:08	2° $\mathring{\text{B}}$ 48'55	
morning rise	-2407 Jan 13 j 09:33	22° $\mathring{\text{A}}$ 49'28		min. Earth dist.	-2401 Jul 12 j 19:03	1° $\mathring{\text{B}}$ 44'18	39.21641 AU
retrograde	-2407 Apr 14 j 18:56	24° $\mathring{\text{A}}$ 23'06		opposition	-2401 Jul 16 j 00:04	1° $\mathring{\text{B}}$ 40'09	-11°37'34
min. Earth dist.	-2407 Jul 03 j 12:34	23° $\mathring{\text{A}}$ 17'10	37.72260 AU	direct	-2401 Oct 04 j 12:39	0° $\mathring{\text{B}}$ 33'02	
opposition	-2407 Jul 06 j 19:38	23° $\mathring{\text{A}}$ 12'48	-9°32'47	evening set	-2400 Jan 01 j 04:52	2° $\mathring{\text{B}}$ 02'10	
direct	-2407 Sep 25 j 06:44	22° $\mathring{\text{A}}$ 04'04					
evening set	-2407 Dec 21 j 12:40	23° $\mathring{\text{A}}$ 33'37		conjunction	-2400 Jan 11 j 11:16	2° $\mathring{\text{B}}$ 19'27	-11°12'47
				minimum elong	-2400 Jan 11 j 11:03	2° $\mathring{\text{B}}$ 19'26	11°12'51
conjunction	-2406 Jan 02 j 15:14	23° $\mathring{\text{A}}$ 54'42	-9°14'40	max. Earth dist.	-2400 Jan 14 j 16:27	2° $\mathring{\text{B}}$ 24'53	41.29635 AU
minimum elong	-2406 Jan 02 j 15:01	23° $\mathring{\text{A}}$ 54'41	9°14'44	morning rise	-2400 Jan 21 j 18:49	2° $\mathring{\text{B}}$ 36'48	
max. Earth dist.	-2406 Jan 05 j 22:36	24° $\mathring{\text{A}}$ 00'29	39.82298 AU	retrograde	-2400 Apr 24 j 05:42	4° $\mathring{\text{B}}$ 10'09	
morning rise	-2406 Jan 14 j 19:12	24° $\mathring{\text{A}}$ 15'53		min. Earth dist.	-2400 Jul 13 j 09:43	3° $\mathring{\text{B}}$ 05'45	39.45603 AU
retrograde	-2406 Apr 16 j 09:32	25° $\mathring{\text{A}}$ 49'26		opposition	-2400 Jul 16 j 15:17	3° $\mathring{\text{B}}$ 01'35	-11°56'13
min. Earth dist.	-2406 Jul 05 j 07:06	24° $\mathring{\text{A}}$ 43'44	37.97739 AU	direct	-2400 Oct 05 j 04:58	1° $\mathring{\text{B}}$ 54'40	
opposition	-2406 Jul 08 j 13:22	24° $\mathring{\text{A}}$ 39'25	-9°55'10	evening set	-2399 Jan 02 j 03:13	3° $\mathring{\text{B}}$ 23'50	
direct	-2406 Sep 27 j 02:28	23° $\mathring{\text{A}}$ 31'01					

Attention, astronomical year style is used: The year -2399 in astronomical counting style is the year 2400 BCE in historical counting style.

conjunction	-2399 Jan	12 j 01:29	3° <del>3</del> 40'26	-11°30'28
minimum elong	-2399 Jan	12 j 01:18	3° <del>3</del> 40'25	11°30'32
max. Earth dist.	-2399 Jan	15 j 07:33	3° <del>3</del> 45'53	41.53276 AU
morning rise	-2399 Jan	22 j 00:47	3° <del>3</del> 57'06	
retrograde	-2399 Apr	25 j 17:53	5° <del>3</del> 30'29	
min. Earth dist.	-2399 Jul	15 j 01:58	4° <del>3</del> 26'13	39.69376 AU
opposition	-2399 Jul	18 j 06:21	4° <del>3</del> 22'07	-12°14'16
direct	-2399 Oct	06 j 21:40	3° <del>3</del> 15'25	
evening set	-2398 Jan	04 j 01:28	4° <del>3</del> 44'36	