

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

Attention, astronomical year style is used: The year -8900 in astronomical counting style is the year 8901 BCE in historical counting style.

direct	-8900 Jan 21 j 04:10	5° $\text{H}$ 14'27		minimum elong	-8894 May 14 j 21:48	16° $\text{H}$ 18'55	5°46'44
evening set	-8900 Apr 19 j 06:18	6° $\text{H}$ 42'33		morning rise	-8894 May 29 j 14:00	16° $\text{H}$ 45'24	
max. Earth dist.	-8900 May 01 j 12:19	7° $\text{H}$ 03'26	39.21952 AU	retrograde	-8894 Aug 23 j 23:37	18° $\text{H}$ 17'09	
				opposition	-8894 Nov 10 j 04:08	17° $\text{H}$ 06'25	6°20'05
conjunction	-8900 May 04 j 23:52	7° $\text{H}$ 09'26	3°10'26	min. Earth dist.	-8894 Nov 13 j 11:00	17° $\text{H}$ 01'46	35.55147 AU
minimum elong	-8900 May 04 j 23:45	7° $\text{H}$ 09'25	3°10'09	direct	-8893 Jan 31 j 08:49	15° $\text{H}$ 52'25	
morning rise	-8900 May 20 j 13:48	7° $\text{H}$ 36'07		evening set	-8893 May 02 j 05:03	17° $\text{H}$ 28'33	
retrograde	-8900 Aug 13 j 23:15	9° $\text{H}$ 01'39		max. Earth dist.	-8893 May 13 j 03:58	17° $\text{H}$ 48'26	37.40999 AU
opposition	-8900 Oct 31 j 12:58	7° $\text{H}$ 53'12	3°33'52				
min. Earth dist.	-8900 Nov 03 j 17:16	7° $\text{H}$ 48'51	37.09628 AU	conjunction	-8893 May 16 j 19:33	17° $\text{H}$ 55'07	6°13'30
direct	-8899 Jan 21 j 20:39	6° $\text{H}$ 41'45		minimum elong	-8893 May 16 j 19:19	17° $\text{H}$ 55'06	6°13'19
evening set	-8899 Apr 21 j 03:28	8° $\text{H}$ 10'52		morning rise	-8893 May 31 j 06:21	18° $\text{H}$ 21'26	
max. Earth dist.	-8899 May 03 j 06:31	8° $\text{H}$ 31'43	38.96526 AU	retrograde	-8893 Aug 25 j 20:50	19° $\text{H}$ 54'26	
				opposition	-8893 Nov 12 j 00:52	18° $\text{H}$ 43'18	6°48'20
conjunction	-8899 May 06 j 18:19	8° $\text{H}$ 37'47	3°36'03	min. Earth dist.	-8893 Nov 15 j 08:47	18° $\text{H}$ 38'33	35.29407 AU
minimum elong	-8899 May 06 j 18:11	8° $\text{H}$ 37'47	3°35'47	direct	-8892 Feb 02 j 04:53	17° $\text{H}$ 28'51	
morning rise	-8899 May 22 j 05:33	9° $\text{H}$ 04'30		evening set	-8892 May 03 j 08:33	19° $\text{H}$ 06'22	
retrograde	-8899 Aug 15 j 16:05	10° $\text{H}$ 30'57		max. Earth dist.	-8892 May 14 j 02:57	19° $\text{H}$ 26'05	37.15156 AU
opposition	-8899 Nov 02 j 06:00	9° $\text{H}$ 22'11	4°01'03				
min. Earth dist.	-8899 Nov 05 j 10:12	9° $\text{H}$ 17'49	36.84193 AU	conjunction	-8892 May 17 j 17:29	19° $\text{H}$ 32'45	6°40'08
direct	-8898 Jan 23 j 15:21	8° $\text{H}$ 10'21		minimum elong	-8892 May 17 j 17:13	19° $\text{H}$ 32'44	6°39'57
evening set	-8898 Apr 23 j 01:36	9° $\text{H}$ 40'31		morning rise	-8892 May 31 j 22:45	19° $\text{H}$ 58'54	
max. Earth dist.	-8898 May 04 j 23:34	10° $\text{H}$ 01'11	38.70884 AU	retrograde	-8892 Aug 26 j 18:11	21° $\text{H}$ 33'13	
				opposition	-8892 Nov 12 j 22:07	20° $\text{H}$ 21'41	7°16'39
conjunction	-8898 May 08 j 13:19	10° $\text{H}$ 07'27	4°01'53	min. Earth dist.	-8892 Nov 16 j 05:06	20° $\text{H}$ 16'57	35.03834 AU
minimum elong	-8898 May 08 j 13:10	10° $\text{H}$ 07'27	4°01'38	direct	-8891 Feb 03 j 03:01	19° $\text{H}$ 06'48	
morning rise	-8898 May 23 j 21:30	10° $\text{H}$ 34'10		evening set	-8891 May 05 j 13:20	20° $\text{H}$ 45'47	
retrograde	-8898 Aug 17 j 10:45	12° $\text{H}$ 01'36		max. Earth dist.	-8891 May 16 j 00:34	21° $\text{H}$ 05'09	36.89481 AU
opposition	-8898 Nov 03 j 23:47	10° $\text{H}$ 52'28	4°28'29				
min. Earth dist.	-8898 Nov 07 j 05:34	10° $\text{H}$ 47'59	36.58573 AU	conjunction	-8891 May 19 j 16:09	21° $\text{H}$ 11'58	7°06'48
direct	-8897 Jan 25 j 07:19	9° $\text{H}$ 40'14		minimum elong	-8891 May 19 j 15:53	21° $\text{H}$ 11'57	7°06'39
evening set	-8897 Apr 25 j 00:21	11° $\text{H}$ 11'28		morning rise	-8891 Jun 02 j 15:30	21° $\text{H}$ 37'55	
max. Earth dist.	-8897 May 06 j 19:25	11° $\text{H}$ 32'06	38.45057 AU	retrograde	-8891 Aug 28 j 18:00	23° $\text{H}$ 13'36	
				opposition	-8891 Nov 14 j 19:57	22° $\text{H}$ 01'41	7°45'02
conjunction	-8897 May 10 j 08:45	11° $\text{H}$ 38'24	4°27'55	min. Earth dist.	-8891 Nov 18 j 03:33	21° $\text{H}$ 56'54	34.78462 AU
minimum elong	-8897 May 10 j 08:35	11° $\text{H}$ 38'23	4°27'40	direct	-8890 Feb 04 j 21:52	20° $\text{H}$ 46'23	
morning rise	-8897 May 25 j 13:20	12° $\text{H}$ 05'06		evening set	-8890 May 07 j 19:12	22° $\text{H}$ 26'56	
retrograde	-8897 Aug 19 j 05:14	13° $\text{H}$ 33'32		max. Earth dist.	-8890 May 18 j 01:12	22° $\text{H}$ 46'04	36.63987 AU
opposition	-8897 Nov 05 j 18:07	12° $\text{H}$ 24'01	4°56'07				
min. Earth dist.	-8897 Nov 09 j 00:09	12° $\text{H}$ 19'29	36.32788 AU	conjunction	-8890 May 21 j 15:36	22° $\text{H}$ 52'52	7°33'29
direct	-8896 Jan 27 j 00:51	11° $\text{H}$ 11'22		minimum elong	-8890 May 21 j 15:18	22° $\text{H}$ 52'50	7°33'20
evening set	-8896 Apr 26 j 00:12	12° $\text{H}$ 43'44		morning rise	-8890 Jun 04 j 08:17	23° $\text{H}$ 18'34	
max. Earth dist.	-8896 May 07 j 13:46	13° $\text{H}$ 04'09	38.19093 AU	retrograde	-8890 Aug 30 j 17:07	24° $\text{H}$ 55'44	
				opposition	-8890 Nov 16 j 18:44	23° $\text{H}$ 43'26	8°13'25
conjunction	-8896 May 11 j 04:37	13° $\text{H}$ 10'37	4°54'06	min. Earth dist.	-8890 Nov 20 j 02:06	23° $\text{H}$ 38'38	34.53263 AU
minimum elong	-8896 May 11 j 04:26	13° $\text{H}$ 10'36	4°53'52	direct	-8889 Feb 06 j 19:27	22° $\text{H}$ 27'44	
morning rise	-8896 May 26 j 05:32	13° $\text{H}$ 37'16		evening set	-8889 May 10 j 02:14	24° $\text{H}$ 09'54	
retrograde	-8896 Aug 20 j 03:03	15° $\text{H}$ 06'46		max. Earth dist.	-8889 May 20 j 00:23	24° $\text{H}$ 28'38	36.38653 AU
opposition	-8896 Nov 06 j 12:45	13° $\text{H}$ 56'51	5°23'57				
min. Earth dist.	-8896 Nov 09 j 19:22	13° $\text{H}$ 52'16	36.06920 AU	conjunction	-8889 May 23 j 15:24	24° $\text{H}$ 35'33	8°00'09
direct	-8895 Jan 27 j 17:26	12° $\text{H}$ 43'45		minimum elong	-8889 May 23 j 15:06	24° $\text{H}$ 35'31	8°00'02
evening set	-8895 Apr 28 j 00:47	14° $\text{H}$ 17'19		morning rise	-8889 Jun 06 j 01:15	25° $\text{H}$ 00'57	
max. Earth dist.	-8895 May 09 j 10:22	14° $\text{H}$ 37'37	37.93042 AU	retrograde	-8889 Sep 01 j 20:04	26° $\text{H}$ 39'41	
				opposition	-8889 Nov 18 j 18:07	25° $\text{H}$ 27'01	8°41'48
conjunction	-8895 May 13 j 01:09	14° $\text{H}$ 44'07	5°20'27	min. Earth dist.	-8889 Nov 22 j 01:18	25° $\text{H}$ 22'12	34.28228 AU
minimum elong	-8895 May 13 j 00:58	14° $\text{H}$ 44'06	5°20'15	direct	-8888 Feb 08 j 16:16	24° $\text{H}$ 10'54	
morning rise	-8895 May 27 j 21:41	15° $\text{H}$ 10'41		evening set	-8888 May 11 j 10:28	25° $\text{H}$ 54'47	
retrograde	-8895 Aug 22 j 00:35	16° $\text{H}$ 41'17		max. Earth dist.	-8888 May 21 j 01:37	26° $\text{H}$ 13'09	36.13428 AU
opposition	-8895 Nov 08 j 08:13	15° $\text{H}$ 30'58	5°51'57				
min. Earth dist.	-8895 Nov 11 j 15:48	15° $\text{H}$ 26'18	35.81007 AU	conjunction	-8888 May 24 j 16:10	26° $\text{H}$ 20'06	8°26'46
direct	-8894 Jan 29 j 12:38	14° $\text{H}$ 17'25		minimum elong	-8888 May 24 j 15:51	26° $\text{H}$ 20'04	8°26'39
evening set	-8894 Apr 30 j 02:29	15° $\text{H}$ 52'14		morning rise	-8888 Jun 06 j 18:21	26° $\text{H}$ 45'09	
max. Earth dist.	-8894 May 11 j 06:57	16° $\text{H}$ 12'20	37.66991 AU	retrograde	-8888 Sep 02 j 22:22	28° $\text{H}$ 25'32	
				opposition	-8888 Nov 19 j 18:17	27° $\text{H}$ 12'28	9°10'08
conjunction	-8894 May 14 j 22:01	16° $\text{H}$ 18'56	5°46'55	min. Earth dist.	-8888 Nov 23 j 02:22	27° $\text{H}$ 07'34	34.03296 AU

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Attention, astronomical year style is used: The year -8887 in astronomical counting style is the year 8888 BCE in historical counting style.

direct	-8887 Feb 09 j 14:45	25° $\text{H}$ 55'57		max. Earth dist.	-8881 Jun 04 j 04:42	9° $\text{Y}$ 17'05	34.40546 AU
evening set	-8887 May 13 j 20:09	27° $\text{H}$ 41'37					
max. Earth dist.	-8887 May 23 j 02:57	27° $\text{H}$ 59'31	35.88301 AU	conjunction	-8881 Jun 07 j 16:41	9° $\text{Y}$ 24'19	11°28'28
				minimum elong	-8881 Jun 07 j 16:16	9° $\text{Y}$ 24'16	11°28'30
conjunction	-8887 May 26 j 17:34	28° $\text{H}$ 06'31	8°53'18	morning rise	-8881 Jun 17 j 20:40	9° $\text{Y}$ 45'15	
minimum elong	-8887 May 26 j 17:13	28° $\text{H}$ 06'30	8°53'13	retrograde	-8881 Sep 17 j 05:54	11° $\text{Y}$ 39'12	
morning rise	-8887 Jun 08 j 11:45	28° $\text{H}$ 31'12		opposition	-8881 Dec 03 j 18:20	10° $\text{Y}$ 23'02	12°23'34
	-8887 Aug 06 j 10:01	0° $\text{Y}$		min. Earth dist.	-8881 Dec 07 j 00:25	10° $\text{Y}$ 18'02	32.33173 AU
retrograde	-8887 Sep 05 j 02:07	0° $\text{Y}$ 13'16		direct	-8880 Feb 23 j 05:06	9° $\text{Y}$ 03'15	
	-8887 Oct 05 j 03:38	30° $\text{R}$ $\text{H}$		evening set	-8880 May 30 j 05:35	11° $\text{Y}$ 03'37	
opposition	-8887 Nov 21 j 19:16	28° $\text{H}$ 59'49	9°38'23	max. Earth dist.	-8880 Jun 05 j 11:58	11° $\text{Y}$ 16'37	34.17059 AU
min. Earth dist.	-8887 Nov 25 j 02:31	28° $\text{H}$ 54'56	33.78456 AU				
direct	-8886 Feb 11 j 15:35	27° $\text{H}$ 42'51		conjunction	-8880 Jun 08 j 22:55	11° $\text{Y}$ 23'50	11°53'06
evening set	-8886 May 16 j 07:02	29° $\text{H}$ 30'23		minimum elong	-8880 Jun 08 j 22:29	11° $\text{Y}$ 23'48	11°53'08
max. Earth dist.	-8886 May 25 j 04:33	29° $\text{H}$ 47'43	35.63234 AU	morning rise	-8880 Jun 18 j 13:58	11° $\text{Y}$ 43'52	
				retrograde	-8880 Sep 18 j 15:21	13° $\text{Y}$ 40'08	
conjunction	-8886 May 28 j 19:43	29° $\text{H}$ 54'51	9°19'44	opposition	-8880 Dec 05 j 00:52	12° $\text{Y}$ 23'31	12°49'44
minimum elong	-8886 May 28 j 19:21	29° $\text{H}$ 54'49	9°19'39	min. Earth dist.	-8880 Dec 08 j 05:05	12° $\text{Y}$ 18'36	32.10257 AU
	-8886 May 31 j 10:47	0° $\text{Y}$		direct	-8879 Feb 24 j 11:46	11° $\text{Y}$ 03'16	
morning rise	-8886 Jun 10 j 05:10	0° $\text{Y}$ 19'04		evening set	-8879 Jun 02 j 02:41	13° $\text{Y}$ 06'09	
retrograde	-8886 Sep 07 j 05:39	2° $\text{Y}$ 02'55		max. Earth dist.	-8879 Jun 07 j 20:06	13° $\text{Y}$ 18'09	33.94088 AU
opposition	-8886 Nov 23 j 21:10	0° $\text{Y}$ 49'02	10°06'32				
min. Earth dist.	-8886 Nov 27 j 05:27	0° $\text{Y}$ 44'04	33.53705 AU	conjunction	-8879 Jun 11 j 06:05	13° $\text{Y}$ 25'21	12°17'12
	-8886 Dec 29 j 13:32	30° $\text{R}$ $\text{H}$		minimum elong	-8879 Jun 11 j 05:38	13° $\text{Y}$ 25'19	12°17'16
direct	-8885 Feb 13 j 16:44	29° $\text{H}$ 31'38		morning rise	-8879 Jun 20 j 07:11	13° $\text{Y}$ 44'22	
	-8885 Mar 30 j 18:41	0° $\text{Y}$		retrograde	-8879 Sep 21 j 01:09	15° $\text{Y}$ 43'05	
evening set	-8885 May 18 j 19:20	1° $\text{Y}$ 21'06		opposition	-8879 Dec 07 j 08:36	14° $\text{Y}$ 26'02	13°15'20
max. Earth dist.	-8885 May 27 j 08:28	1° $\text{Y}$ 37'55	35.38274 AU	min. Earth dist.	-8879 Dec 10 j 12:43	14° $\text{Y}$ 21'06	31.87886 AU
				direct	-8878 Feb 26 j 17:49	13° $\text{Y}$ 05'22	
conjunction	-8885 May 30 j 22:35	1° $\text{Y}$ 45'02	9°46'00	evening set	-8878 Jun 05 j 01:44	15° $\text{Y}$ 10'53	
minimum elong	-8885 May 30 j 22:13	1° $\text{Y}$ 45'00	9°45'57	max. Earth dist.	-8878 Jun 10 j 05:55	15° $\text{Y}$ 21'51	33.71688 AU
morning rise	-8885 Jun 11 j 22:41	2° $\text{Y}$ 08'45					
retrograde	-8885 Sep 09 j 09:20	3° $\text{Y}$ 54'26		conjunction	-8878 Jun 13 j 13:52	15° $\text{Y}$ 28'56	12°40'42
opposition	-8885 Nov 25 j 23:47	2° $\text{Y}$ 40'08	10°34'31	minimum elong	-8878 Jun 13 j 13:25	15° $\text{Y}$ 28'54	12°40'47
min. Earth dist.	-8885 Nov 29 j 07:07	2° $\text{Y}$ 35'10	33.29080 AU	morning rise	-8878 Jun 21 j 23:55	15° $\text{Y}$ 46'50	
direct	-8884 Feb 15 j 19:56	1° $\text{Y}$ 22'16		retrograde	-8878 Sep 23 j 10:56	17° $\text{Y}$ 48'08	
evening set	-8884 May 20 j 08:50	3° $\text{Y}$ 13'44		opposition	-8878 Dec 09 j 17:10	16° $\text{Y}$ 30'41	13°40'16
max. Earth dist.	-8884 May 28 j 11:05	3° $\text{Y}$ 29'50	35.13453 AU	min. Earth dist.	-8878 Dec 12 j 19:00	16° $\text{Y}$ 25'52	31.66080 AU
				direct	-8877 Mar 01 j 02:14	15° $\text{Y}$ 09'36	
conjunction	-8884 Jun 01 j 02:00	3° $\text{Y}$ 37'05	10°12'04	evening set	-8877 Jun 08 j 02:39	17° $\text{Y}$ 17'54	
minimum elong	-8884 Jun 01 j 01:37	3° $\text{Y}$ 37'03	10°12'02	max. Earth dist.	-8877 Jun 12 j 15:05	17° $\text{Y}$ 27'35	33.49846 AU
morning rise	-8884 Jun 12 j 16:17	4° $\text{Y}$ 00'13					
retrograde	-8884 Sep 10 j 13:51	5° $\text{Y}$ 47'50		conjunction	-8877 Jun 15 j 22:30	17° $\text{Y}$ 34'41	13°03'32
opposition	-8884 Nov 27 j 03:08	4° $\text{Y}$ 33'05	11°02'17	minimum elong	-8877 Jun 15 j 22:03	17° $\text{Y}$ 34'39	13°03'39
min. Earth dist.	-8884 Nov 30 j 10:57	4° $\text{Y}$ 28'04	33.04642 AU	morning rise	-8877 Jun 23 j 16:30	17° $\text{Y}$ 51'19	
direct	-8883 Feb 16 j 20:51	3° $\text{Y}$ 14'44		retrograde	-8877 Sep 25 j 22:08	19° $\text{Y}$ 55'21	
evening set	-8883 May 22 j 23:49	5° $\text{Y}$ 08'17		opposition	-8877 Dec 12 j 02:41	18° $\text{Y}$ 37'29	14°04'28
max. Earth dist.	-8883 May 30 j 16:53	5° $\text{Y}$ 23'46	34.88834 AU	min. Earth dist.	-8877 Dec 15 j 04:14	18° $\text{Y}$ 32'40	31.44840 AU
				direct	-8876 Mar 02 j 09:17	17° $\text{Y}$ 16'02	
conjunction	-8883 Jun 03 j 06:19	5° $\text{Y}$ 30'58	10°37'53	evening set	-8876 Jun 10 j 05:56	19° $\text{Y}$ 27'15	
minimum elong	-8883 Jun 03 j 05:54	5° $\text{Y}$ 30'56	10°37'53	max. Earth dist.	-8876 Jun 14 j 03:05	19° $\text{Y}$ 35'40	33.28556 AU
morning rise	-8883 Jun 14 j 09:48	5° $\text{Y}$ 53'27					
retrograde	-8883 Sep 12 j 16:50	7° $\text{Y}$ 43'04		conjunction	-8876 Jun 17 j 07:56	19° $\text{Y}$ 42'37	13°25'39
opposition	-8883 Nov 29 j 07:18	6° $\text{Y}$ 27'52	11°29'45	minimum elong	-8876 Jun 17 j 07:29	19° $\text{Y}$ 42'34	13°25'46
min. Earth dist.	-8883 Dec 02 j 14:32	6° $\text{Y}$ 22'51	32.80445 AU	morning rise	-8876 Jun 24 j 08:12	19° $\text{Y}$ 57'49	
direct	-8882 Feb 19 j 00:07	5° $\text{Y}$ 09'02		retrograde	-8876 Sep 27 j 09:10	22° $\text{Y}$ 04'44	
evening set	-8882 May 25 j 16:20	7° $\text{Y}$ 04'45		opposition	-8876 Dec 13 j 13:09	20° $\text{Y}$ 46'30	14°27'54
max. Earth dist.	-8882 Jun 01 j 21:32	7° $\text{Y}$ 19'25	34.64506 AU	min. Earth dist.	-8876 Dec 16 j 13:02	20° $\text{Y}$ 41'45	31.24119 AU
				direct	-8875 Mar 04 j 19:18	19° $\text{Y}$ 24'40	
conjunction	-8882 Jun 05 j 11:09	7° $\text{Y}$ 26'43	11°03'22	evening set	-8875 Jun 13 j 11:49	21° $\text{Y}$ 39'01	
minimum elong	-8882 Jun 05 j 10:44	7° $\text{Y}$ 26'41	11°03'22	max. Earth dist.	-8875 Jun 16 j 13:35	21° $\text{Y}$ 45'44	33.07780 AU
morning rise	-8882 Jun 16 j 03:24	7° $\text{Y}$ 48'27					
retrograde	-8882 Sep 14 j 23:52	9° $\text{Y}$ 40'11		conjunction	-8875 Jun 19 j 18:09	21° $\text{Y}$ 52'44	13°46'58
opposition	-8882 Dec 01 j 12:19	8° $\text{Y}$ 24'30	11°56'52	minimum elong	-8875 Jun 19 j 17:43	21° $\text{Y}$ 52'42	13°47'07
min. Earth dist.	-8882 Dec 04 j 18:39	8° $\text{Y}$ 19'31	32.56600 AU	morning rise	-8875 Jun 25 j 23:02	22° $\text{Y}$ 06'19	
direct	-8881 Feb 21 j 01:52	7° $\text{Y}$ 05'11		retrograde	-8875 Sep 29 j 21:55	24° $\text{Y}$ 16'20	
evening set	-8881 May 28 j 10:02	9° $\text{Y}$ 03'11		opposition	-8875 Dec 16 j 00:32	22° $\text{Y}$ 57'42	14°50'27

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 3

Attention, astronomical year style is used: The year -8875 in astronomical counting style is the year 8876 BCE in historical counting style.

min. Earth dist.	-8875 Dec 18 j 23:32	22° $\Upsilon$ 52'59	31.03917 AU	max. Earth dist.	-8867 Jul 05 j 19:55	10° $\text{8}$ 20'13	31.63543 AU
direct	-8874 Mar 07 j 03:46	21° $\Upsilon$ 35'28					
evening set	-8874 Jun 16 j 21:12	23° $\Upsilon$ 53'12		conjunction	-8867 Jul 08 j 06:39	10° $\text{8}$ 25'58	15°59'41
max. Earth dist.	-8874 Jun 19 j 03:15	23° $\Upsilon$ 58'10	32.87515 AU	minimum elong	-8867 Jul 08 j 06:20	10° $\text{8}$ 25'56	16°00'00
				retrograde	-8867 Oct 19 j 03:40	13° $\text{8}$ 00'14	
conjunction	-8874 Jun 22 j 05:24	24° $\Upsilon$ 05'01	14°07'25	opposition	-8866 Jan 04 j 04:37	11° $\text{8}$ 38'32	17°09'17
minimum elong	-8874 Jun 22 j 04:57	24° $\Upsilon$ 04'58	14°07'35	min. Earth dist.	-8866 Jan 06 j 11:53	11° $\text{8}$ 34'44	29.64667 AU
morning rise	-8874 Jun 27 j 12:14	24° $\Upsilon$ 16'42		direct	-8866 Mar 25 j 19:19	10° $\text{8}$ 13'38	
retrograde	-8874 Oct 02 j 09:03	26° $\Upsilon$ 30'03		max. Earth dist.	-8866 Jul 08 j 14:19	12° $\text{8}$ 47'43	31.49244 AU
opposition	-8874 Dec 18 j 13:06	25° $\Upsilon$ 11'01	15°12'04				
min. Earth dist.	-8874 Dec 21 j 10:54	25° $\Upsilon$ 06'22	30.84216 AU	conjunction	-8866 Jul 10 j 23:03	12° $\text{8}$ 53'18	16°10'12
direct	-8873 Mar 09 j 14:30	23° $\Upsilon$ 48'26		minimum elong	-8866 Jul 10 j 22:45	12° $\text{8}$ 53'16	16°10'32
evening set	-8873 Jun 20 j 11:04	26° $\Upsilon$ 09'53			-8866 Sep 11 j 07:53	15° $\text{8}$	
max. Earth dist.	-8873 Jun 21 j 15:41	26° $\Upsilon$ 12'33	32.67785 AU	retrograde	-8866 Oct 21 j 22:46	15° $\text{8}$ 28'44	
					-8866 Dec 03 j 01:33	15° $\text{R}$ 8	
conjunction	-8873 Jun 24 j 17:05	26° $\Upsilon$ 19'23	14°26'57	opposition	-8865 Jan 06 j 23:54	14° $\text{8}$ 06'45	17°19'57
minimum elong	-8873 Jun 24 j 16:39	26° $\Upsilon$ 19'21	14°27'08	min. Earth dist.	-8865 Jan 09 j 04:38	14° $\text{8}$ 03'07	29.51052 AU
morning rise	-8873 Jun 28 j 21:59	26° $\Upsilon$ 28'47		direct	-8865 Mar 28 j 11:34	12° $\text{8}$ 41'39	
retrograde	-8873 Oct 04 j 23:47	28° $\Upsilon$ 45'51			-8865 Jul 04 j 06:10	15° $\text{8}$	
opposition	-8873 Dec 21 j 02:23	27° $\Upsilon$ 26'25	15°32'40	max. Earth dist.	-8865 Jul 11 j 11:31	15° $\text{8}$ 17'07	31.35963 AU
min. Earth dist.	-8873 Dec 23 j 22:17	27° $\Upsilon$ 21'52	30.65058 AU				
direct	-8872 Mar 11 j 01:00	26° $\Upsilon$ 03'27		conjunction	-8865 Jul 13 j 16:02	15° $\text{8}$ 22'20	16°19'06
evening set	-8872 Jun 23 j 10:00	28° $\Upsilon$ 29'25		minimum elong	-8865 Jul 13 j 15:47	15° $\text{8}$ 22'18	16°19'28
max. Earth dist.	-8872 Jun 23 j 06:38	28° $\Upsilon$ 29'07	32.48606 AU	retrograde	-8865 Oct 24 j 17:22	17° $\text{8}$ 58'52	
				opposition	-8864 Jan 09 j 19:56	16° $\text{8}$ 36'39	17°28'52
conjunction	-8872 Jun 26 j 05:49	28° $\Upsilon$ 35'48	14°45'28	min. Earth dist.	-8864 Jan 11 j 21:49	16° $\text{8}$ 33'11	29.38410 AU
minimum elong	-8872 Jun 26 j 05:24	28° $\Upsilon$ 35'45	14°45'39	direct	-8864 Mar 30 j 06:22	15° $\text{8}$ 11'23	
morning rise	-8872 Jun 29 j 00:41	28° $\Upsilon$ 42'05		max. Earth dist.	-8864 Jul 13 j 07:01	17° $\text{8}$ 47'57	31.23687 AU
	-8872 Aug 04 j 19:37	0° $\text{8}$					
retrograde	-8872 Oct 06 j 13:12	1° $\text{8}$ 03'39		conjunction	-8864 Jul 15 j 09:32	17° $\text{8}$ 53'00	16°26'20
	-8872 Dec 12 j 14:26	30° $\text{R}$ 9		minimum elong	-8864 Jul 15 j 09:18	17° $\text{8}$ 52'58	16°26'42
opposition	-8872 Dec 22 j 16:35	29° $\Upsilon$ 43'49	15°52'08	retrograde	-8864 Oct 26 j 14:58	20° $\text{8}$ 30'34	
min. Earth dist.	-8872 Dec 25 j 11:48	29° $\Upsilon$ 39'17	30.46464 AU	opposition	-8863 Jan 11 j 16:25	19° $\text{8}$ 08'08	17°35'56
direct	-8871 Mar 13 j 12:14	28° $\Upsilon$ 20'28		min. Earth dist.	-8863 Jan 13 j 15:11	19° $\text{8}$ 04'53	29.26740 AU
	-8871 Jun 04 j 10:13	0° $\text{8}$		direct	-8863 Apr 02 j 00:04	17° $\text{8}$ 42'44	
max. Earth dist.	-8871 Jun 25 j 21:40	0° $\text{8}$ 47'35	32.30051 AU	max. Earth dist.	-8863 Jul 16 j 05:12	20° $\text{8}$ 20'31	31.12383 AU
conjunction	-8871 Jun 28 j 19:08	0° $\text{8}$ 54'10	15°02'53	conjunction	-8863 Jul 18 j 03:44	20° $\text{8}$ 25'12	16°31'50
minimum elong	-8871 Jun 28 j 18:43	0° $\text{8}$ 54'08	15°03'07	minimum elong	-8863 Jul 18 j 03:33	20° $\text{8}$ 25'11	16°32'14
retrograde	-8871 Oct 09 j 05:33	3° $\text{8}$ 23'23		retrograde	-8863 Oct 29 j 09:39	23° $\text{8}$ 03'43	
opposition	-8871 Dec 25 j 07:38	2° $\text{8}$ 03'08	16°10'25	opposition	-8862 Jan 14 j 13:56	21° $\text{8}$ 41'05	17°41'07
min. Earth dist.	-8871 Dec 28 j 00:13	1° $\text{8}$ 58'46	30.28510 AU	min. Earth dist.	-8862 Jan 16 j 10:30	21° $\text{8}$ 37'58	29.15997 AU
direct	-8870 Mar 16 j 03:06	0° $\text{8}$ 39'26		direct	-8862 Apr 04 j 19:31	20° $\text{8}$ 15'34	
max. Earth dist.	-8870 Jun 28 j 13:38	3° $\text{8}$ 07'59	32.12170 AU	max. Earth dist.	-8862 Jul 19 j 02:01	22° $\text{8}$ 54'19	31.02042 AU
conjunction	-8870 Jul 01 j 09:04	3° $\text{8}$ 14'25	15°19'06	conjunction	-8862 Jul 20 j 22:08	22° $\text{8}$ 58'46	16°35'34
minimum elong	-8870 Jul 01 j 08:40	3° $\text{8}$ 14'23	15°19'21	minimum elong	-8862 Jul 20 j 21:58	22° $\text{8}$ 58'45	16°35'58
retrograde	-8870 Oct 11 j 21:40	5° $\text{8}$ 44'58		retrograde	-8862 Nov 01 j 06:59	25° $\text{8}$ 38'09	
opposition	-8870 Dec 27 j 23:46	4° $\text{8}$ 24'19	16°27'22	opposition	-8861 Jan 17 j 11:57	24° $\text{8}$ 15'19	17°44'23
min. Earth dist.	-8870 Dec 30 j 15:19	4° $\text{8}$ 20'00	30.11268 AU	min. Earth dist.	-8861 Jan 19 j 04:48	24° $\text{8}$ 12'28	29.06180 AU
direct	-8869 Mar 18 j 17:01	3° $\text{8}$ 00'16		direct	-8861 Apr 07 j 15:32	22° $\text{8}$ 49'42	
max. Earth dist.	-8869 Jul 01 j 07:09	5° $\text{8}$ 30'17	31.95076 AU	max. Earth dist.	-8861 Jul 22 j 00:43	25° $\text{8}$ 29'25	30.92637 AU
conjunction	-8869 Jul 03 j 23:39	5° $\text{8}$ 36'30	15°34'02	conjunction	-8861 Jul 23 j 17:12	25° $\text{8}$ 33'31	16°37'29
minimum elong	-8869 Jul 03 j 23:17	5° $\text{8}$ 36'28	15°34'19	minimum elong	-8861 Jul 23 j 17:06	25° $\text{8}$ 33'31	16°37'55
retrograde	-8869 Oct 14 j 14:45	8° $\text{8}$ 08'20		retrograde	-8861 Nov 04 j 03:26	28° $\text{8}$ 13'40	
opposition	-8869 Dec 30 j 16:29	6° $\text{8}$ 47'18	16°42'54	opposition	-8860 Jan 20 j 10:29	26° $\text{8}$ 50'38	17°45'41
min. Earth dist.	-8868 Jan 02 j 04:45	6° $\text{8}$ 43'11	29.94832 AU	min. Earth dist.	-8860 Jan 22 j 01:27	26° $\text{8}$ 47'55	28.97270 AU
direct	-8868 Mar 20 j 09:21	5° $\text{8}$ 22'55		direct	-8860 Apr 09 j 10:37	25° $\text{8}$ 24'57	
max. Earth dist.	-8868 Jul 03 j 00:12	7° $\text{8}$ 54'17	31.78837 AU	max. Earth dist.	-8860 Jul 23 j 22:50	28° $\text{8}$ 05'25	30.84190 AU
conjunction	-8868 Jul 05 j 14:48	8° $\text{8}$ 00'21	15°47'36	conjunction	-8860 Jul 25 j 12:28	28° $\text{8}$ 09'15	16°37'34
minimum elong	-8868 Jul 05 j 14:27	8° $\text{8}$ 00'19	15°47'53	minimum elong	-8860 Jul 25 j 12:23	28° $\text{8}$ 09'15	16°38'00
retrograde	-8868 Oct 16 j 09:10	10° $\text{8}$ 33'26			-8860 Sep 13 j 11:05	0° $\text{II}$	
opposition	-8867 Jan 01 j 10:10	9° $\text{8}$ 12'03	16°56'54	retrograde	-8860 Nov 06 j 01:02	0° $\text{II}$ 50'03	
min. Earth dist.	-8867 Jan 03 j 20:44	9° $\text{8}$ 08'02	29.79280 AU		-8859 Jan 02 j 01:01	30° $\text{R}$ 8	
direct	-8867 Mar 23 j 00:48	7° $\text{8}$ 47'23		opposition	-8859 Jan 22 j 09:24	29° $\text{8}$ 26'50	17°45'00

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 4

Attention, astronomical year style is used: The year -8859 in astronomical counting style is the year 8860 BCE in historical counting style.

min. Earth dist.	-8859 Jan 23 j 20:14	29° <b>8</b> 24'24	28.89277 AU	conjunction	-8851 Aug 17 j 19:50	21° <b>II</b> 42'36	15°12'18
direct	-8859 Apr 12 j 09:10	28° <b>8</b> 01'04		minimum elong	-8851 Aug 17 j 20:08	21° <b>II</b> 42'37	15°12'51
	-8859 Jul 09 j 09:14	0° <b>II</b>		max. Earth dist.	-8851 Aug 17 j 15:51	21° <b>II</b> 42'11	30.57392 AU
max. Earth dist.	-8859 Jul 26 j 21:34	0° <b>II</b> 42'14	30.76691 AU	retrograde	-8851 Nov 30 j 02:58	24° <b>II</b> 24'27	
				opposition	-8850 Feb 16 j 07:25	23° <b>II</b> 00'42	16°05'32
conjunction	-8859 Jul 28 j 08:00	0° <b>II</b> 45'44	16°35'47	min. Earth dist.	-8850 Feb 16 j 09:02	23° <b>II</b> 00'35	28.66078 AU
minimum elong	-8859 Jul 28 j 07:59	0° <b>II</b> 45'44	16°36'15	direct	-8850 May 06 j 23:21	21° <b>II</b> 35'36	
retrograde	-8859 Nov 08 j 21:50	3° <b>II</b> 27'04		evening set	-8850 Aug 18 j 20:39	24° <b>II</b> 14'10	
opposition	-8858 Jan 25 j 08:51	2° <b>II</b> 03'40	17°42'16				
min. Earth dist.	-8858 Jan 26 j 17:33	2° <b>II</b> 01'23	28.82230 AU	conjunction	-8850 Aug 20 j 14:43	24° <b>II</b> 18'28	14°53'31
direct	-8858 Apr 15 j 06:36	0° <b>II</b> 37'50		minimum elong	-8850 Aug 20 j 15:01	24° <b>II</b> 18'30	14°54'05
max. Earth dist.	-8858 Jul 29 j 20:57	3° <b>II</b> 19'36	30.70211 AU	max. Earth dist.	-8850 Aug 20 j 15:21	24° <b>II</b> 18'32	30.60365 AU
				morning rise	-8850 Aug 22 j 09:24	24° <b>II</b> 22'49	
conjunction	-8858 Jul 31 j 03:40	3° <b>II</b> 22'45	16°32'06	retrograde	-8850 Dec 02 j 22:48	26° <b>II</b> 59'57	
minimum elong	-8858 Jul 31 j 03:40	3° <b>II</b> 22'45	16°32'34	opposition	-8849 Feb 19 j 06:53	25° <b>II</b> 36'19	15°44'31
retrograde	-8858 Nov 11 j 19:43	6° <b>II</b> 04'29		min. Earth dist.	-8849 Feb 19 j 05:48	25° <b>II</b> 36'23	28.69287 AU
opposition	-8857 Jan 28 j 08:27	4° <b>II</b> 40'56	17°37'28	direct	-8849 May 09 j 21:24	24° <b>II</b> 11'29	
min. Earth dist.	-8857 Jan 29 j 12:47	4° <b>II</b> 38'57	28.76181 AU	evening set	-8849 Aug 19 j 16:39	26° <b>II</b> 44'38	
direct	-8857 Apr 18 j 05:48	3° <b>II</b> 15'03					
				conjunction	-8849 Aug 23 j 09:07	26° <b>II</b> 53'37	14°33'05
conjunction	-8857 Aug 02 j 23:18	6° <b>II</b> 00'04	16°26'29	minimum elong	-8849 Aug 23 j 09:28	26° <b>II</b> 53'39	14°33'38
minimum elong	-8857 Aug 02 j 23:22	6° <b>II</b> 00'05	16°26'59	max. Earth dist.	-8849 Aug 23 j 12:43	26° <b>II</b> 53'59	30.64432 AU
max. Earth dist.	-8857 Aug 01 j 19:42	5° <b>II</b> 57'15	30.64783 AU	morning rise	-8849 Aug 27 j 02:15	27° <b>II</b> 02'41	
retrograde	-8857 Nov 14 j 17:30	8° <b>II</b> 42'08		retrograde	-8849 Dec 05 j 19:21	29° <b>II</b> 34'39	
opposition	-8856 Jan 31 j 08:18	7° <b>II</b> 18'25	17°30'34	opposition	-8848 Feb 22 j 05:51	28° <b>II</b> 11'09	15°21'46
min. Earth dist.	-8856 Feb 01 j 09:59	7° <b>II</b> 16'37	28.71196 AU	min. Earth dist.	-8848 Feb 22 j 00:09	28° <b>II</b> 11'32	28.73537 AU
direct	-8856 Apr 20 j 03:47	5° <b>II</b> 52'30		direct	-8848 May 11 j 19:53	26° <b>II</b> 46'34	
				evening set	-8848 Aug 20 j 04:06	29° <b>II</b> 15'50	
conjunction	-8856 Aug 04 j 19:02	8° <b>II</b> 37'31	16°18'55				
minimum elong	-8856 Aug 04 j 19:07	8° <b>II</b> 37'32	16°19'25	conjunction	-8848 Aug 25 j 03:17	29° <b>II</b> 27'54	14°11'04
max. Earth dist.	-8856 Aug 03 j 19:58	8° <b>II</b> 35'10	30.60486 AU	minimum elong	-8848 Aug 25 j 03:38	29° <b>II</b> 27'56	14°11'38
retrograde	-8856 Nov 16 j 15:14	11° <b>II</b> 19'46		max. Earth dist.	-8848 Aug 25 j 10:42	29° <b>II</b> 28'39	30.69520 AU
opposition	-8855 Feb 02 j 08:04	9° <b>II</b> 55'56	17°21'34	morning rise	-8848 Aug 30 j 03:05	29° <b>II</b> 40'01	
min. Earth dist.	-8855 Feb 03 j 05:27	9° <b>II</b> 54'27	28.67328 AU		-8848 Sep 07 j 10:17	0° <b>III</b>	
direct	-8855 Apr 23 j 04:37	8° <b>II</b> 30'03		retrograde	-8848 Dec 07 j 13:00	2° <b>III</b> 08'23	
				opposition	-8847 Feb 24 j 04:31	0° <b>III</b> 45'00	14°57'21
conjunction	-8855 Aug 07 j 14:38	11° <b>II</b> 14'58	16°09'25	min. Earth dist.	-8847 Feb 23 j 20:26	0° <b>III</b> 45'33	28.78783 AU
minimum elong	-8855 Aug 07 j 14:48	11° <b>II</b> 14'59	16°09'55		-8847 Mar 24 j 20:54	30° <b>R</b> <b>II</b>	
max. Earth dist.	-8855 Aug 06 j 18:41	11° <b>II</b> 12'55	30.57376 AU	direct	-8847 May 14 j 17:11	29° <b>II</b> 20'42	
retrograde	-8855 Nov 19 j 13:15	13° <b>II</b> 57'19			-8847 Jul 02 j 00:18	0° <b>III</b>	
opposition	-8854 Feb 05 j 08:08	12° <b>II</b> 33'24	17°10'27	evening set	-8847 Aug 21 j 20:55	1° <b>III</b> 46'36	
min. Earth dist.	-8854 Feb 06 j 01:54	12° <b>II</b> 32'10	28.64662 AU				
direct	-8854 Apr 26 j 02:42	11° <b>II</b> 07'35		conjunction	-8847 Aug 27 j 21:00	2° <b>III</b> 01'07	13°47'34
				minimum elong	-8847 Aug 27 j 21:23	2° <b>III</b> 01'09	13°48'07
conjunction	-8854 Aug 10 j 10:12	13° <b>II</b> 52'16	15°57'58	max. Earth dist.	-8847 Aug 28 j 07:41	2° <b>III</b> 02'11	30.75620 AU
minimum elong	-8854 Aug 10 j 10:22	13° <b>II</b> 52'17	15°58'28	morning rise	-8847 Sep 02 j 21:47	2° <b>III</b> 15'42	
max. Earth dist.	-8854 Aug 09 j 19:17	13° <b>II</b> 50'45	30.55517 AU	retrograde	-8847 Dec 10 j 08:10	4° <b>III</b> 40'55	
retrograde	-8854 Nov 22 j 10:21	16° <b>II</b> 34'38		opposition	-8846 Feb 27 j 02:41	3° <b>III</b> 17'41	14°31'22
opposition	-8853 Feb 08 j 08:12	15° <b>II</b> 10'42	16°57'14	min. Earth dist.	-8846 Feb 26 j 14:09	3° <b>III</b> 18'33	28.85005 AU
min. Earth dist.	-8853 Feb 08 j 21:51	15° <b>II</b> 09'45	28.63210 AU	direct	-8846 May 17 j 14:41	1° <b>III</b> 53'39	
direct	-8853 Apr 29 j 02:54	13° <b>II</b> 45'00		evening set	-8846 Aug 23 j 16:08	4° <b>III</b> 16'26	
conjunction	-8853 Aug 13 j 05:35	16° <b>II</b> 29'23	15°44'35	conjunction	-8846 Aug 30 j 14:06	4° <b>III</b> 33'03	13°22'40
minimum elong	-8853 Aug 13 j 05:49	16° <b>II</b> 29'24	15°45'07	minimum elong	-8846 Aug 30 j 14:29	4° <b>III</b> 33'06	13°23'14
max. Earth dist.	-8853 Aug 12 j 17:38	16° <b>II</b> 28'09	30.54917 AU	max. Earth dist.	-8846 Aug 31 j 04:03	4° <b>III</b> 34'27	30.82693 AU
retrograde	-8853 Nov 25 j 09:24	19° <b>II</b> 11'40		morning rise	-8846 Sep 06 j 12:47	4° <b>III</b> 49'46	
opposition	-8852 Feb 11 j 07:56	17° <b>II</b> 47'45	16°41'58	retrograde	-8846 Dec 13 j 01:45	7° <b>III</b> 12'08	
min. Earth dist.	-8852 Feb 11 j 17:24	17° <b>II</b> 47'05	28.62995 AU	min. Earth dist.	-8845 Mar 01 j 09:22	5° <b>III</b> 50'03	28.92204 AU
direct	-8852 May 01 j 01:34	16° <b>II</b> 22'13		opposition	-8845 Mar 02 j 00:26	5° <b>III</b> 49'01	14°03'55
				direct	-8845 May 20 j 10:49	4° <b>III</b> 25'15	
conjunction	-8852 Aug 15 j 00:57	19° <b>II</b> 06'12	15°29'21	evening set	-8845 Aug 25 j 13:17	6° <b>III</b> 45'06	
minimum elong	-8852 Aug 15 j 01:12	19° <b>II</b> 06'13	15°29'53				
max. Earth dist.	-8852 Aug 14 j 17:58	19° <b>II</b> 05'29	30.55557 AU	conjunction	-8845 Sep 02 j 06:46	7° <b>III</b> 03'34	12°56'26
retrograde	-8852 Nov 27 j 05:13	21° <b>II</b> 48'18		minimum elong	-8845 Sep 02 j 07:11	7° <b>III</b> 03'36	12°57'00
opposition	-8851 Feb 13 j 07:47	20° <b>II</b> 24'27	16°24'43	max. Earth dist.	-8845 Sep 03 j 00:35	7° <b>III</b> 05'21	30.90761 AU
min. Earth dist.	-8851 Feb 13 j 13:58	20° <b>II</b> 24'01	28.63960 AU	morning rise	-8845 Sep 10 j 00:56	7° <b>III</b> 22'08	
direct	-8851 May 04 j 00:53	18° <b>II</b> 59'08		retrograde	-8845 Dec 15 j 18:47	9° <b>III</b> 41'47	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -8844 in astronomical counting style is the year 8845 BCE in historical counting style.

opposition	-8844 Mar 03 j 21:12	8°☾18'50	13°35'05	max. Earth dist.	-8838 Sep 20 j 01:15	23°☾53'47	31.76422 AU
min. Earth dist.	-8844 Mar 03 j 02:06	8°☾20'08	29.00384 AU	morning rise	-8838 Sep 30 j 06:34	24°☾17'01	
direct	-8844 May 22 j 09:00	6°☾55'20		retrograde	-8837 Jan 01 j 04:11	26°☾20'52	
evening set	-8844 Aug 26 j 11:22	9°☾12'22		min. Earth dist.	-8837 Mar 20 j 08:55	25°☾02'27	29.87034 AU
				opposition	-8837 Mar 22 j 04:13	24°☾59'36	9°43'00
conjunction	-8844 Sep 03 j 22:39	9°☾32'30	12°28'58	direct	-8837 Jun 09 j 16:57	23°☾38'41	
minimum elong	-8844 Sep 03 j 23:03	9°☾32'32	12°29'33	evening set	-8837 Sep 08 j 12:12	25°☾38'58	
max. Earth dist.	-8844 Sep 04 j 19:16	9°☾34'32	30.99828 AU				
morning rise	-8844 Sep 12 j 10:50	9°☾52'43		conjunction	-8837 Sep 20 j 19:34	26°☾06'44	8°49'50
retrograde	-8844 Dec 17 j 12:09	12°☾09'49		minimum elong	-8837 Sep 20 j 19:56	26°☾06'46	8°50'21
opposition	-8843 Mar 06 j 17:34	10°☾47'00	13°04'58	max. Earth dist.	-8837 Sep 22 j 15:45	26°☾10'54	31.92536 AU
min. Earth dist.	-8843 Mar 05 j 19:14	10°☾48'31	29.09600 AU	morning rise	-8837 Oct 03 j 04:22	26°☾34'37	
direct	-8843 May 25 j 03:37	9°☾23'47		retrograde	-8836 Jan 03 j 14:17	28°☾36'34	
evening set	-8843 Aug 28 j 10:09	11°☾38'07		min. Earth dist.	-8836 Mar 21 j 22:21	27°☾18'35	30.03223 AU
				opposition	-8836 Mar 23 j 19:19	27°☾15'38	9°06'52
conjunction	-8843 Sep 06 j 13:53	11°☾59'44	12°00'21	direct	-8836 Jun 11 j 07:14	25°☾55'09	
minimum elong	-8843 Sep 06 j 14:18	11°☾59'46	12°00'54	evening set	-8836 Sep 09 j 13:28	27°☾53'24	
max. Earth dist.	-8843 Sep 07 j 14:57	12°☾02'12	31.09949 AU				
morning rise	-8843 Sep 15 j 18:22	12°☾21'26		conjunction	-8836 Sep 22 j 06:19	28°☾21'49	8°15'55
retrograde	-8843 Dec 20 j 03:27	14°☾36'05		minimum elong	-8836 Sep 22 j 06:39	28°☾21'51	8°16'26
min. Earth dist.	-8842 Mar 08 j 11:13	13°☾15'12	29.19870 AU	max. Earth dist.	-8836 Sep 24 j 05:03	28°☾26'12	32.09418 AU
opposition	-8842 Mar 09 j 13:14	13°☾13'27	12°33'39	morning rise	-8836 Oct 05 j 00:33	28°☾50'22	
direct	-8842 May 28 j 00:21	11°☾50'33			-8836 Nov 08 j 24:00	0°☾	
evening set	-8842 Aug 30 j 09:41	14°☾02'17		retrograde	-8835 Jan 05 j 00:44	0°☾50'29	
					-8835 Mar 06 j 17:10	30°☾	
conjunction	-8842 Sep 09 j 04:27	14°☾25'13	11°30'40	min. Earth dist.	-8835 Mar 24 j 09:25	29°☾33'02	30.20140 AU
minimum elong	-8842 Sep 09 j 04:51	14°☾25'16	11°31'14	opposition	-8835 Mar 26 j 09:40	29°☾29'53	8°30'18
max. Earth dist.	-8842 Sep 10 j 08:03	14°☾27'56	31.21148 AU	direct	-8835 Jun 13 j 21:59	28°☾09'50	
morning rise	-8842 Sep 19 j 00:16	14°☾48'16			-8835 Sep 08 j 19:19	0°☾	
retrograde	-8842 Dec 22 j 20:53	17°☾00'34		evening set	-8835 Sep 11 j 14:49	0°☾06'08	
min. Earth dist.	-8841 Mar 11 j 02:08	15°☾40'09	29.31248 AU				
opposition	-8841 Mar 12 j 08:04	15°☾38'08	12°01'15	conjunction	-8835 Sep 24 j 16:12	0°☾35'06	7°41'38
direct	-8841 May 30 j 19:06	14°☾15'35		minimum elong	-8835 Sep 24 j 16:31	0°☾35'08	7°42'08
evening set	-8841 Sep 01 j 09:30	16°☾24'50		max. Earth dist.	-8835 Sep 26 j 17:04	0°☾39'39	32.26969 AU
				morning rise	-8835 Oct 07 j 19:19	1°☾04'14	
conjunction	-8841 Sep 11 j 18:28	16°☾48'59	11°00'01	retrograde	-8834 Jan 07 j 11:23	3°☾02'36	
minimum elong	-8841 Sep 11 j 18:53	16°☾49'01	11°00'34	min. Earth dist.	-8834 Mar 26 j 21:11	1°☾45'34	30.37732 AU
max. Earth dist.	-8841 Sep 13 j 02:38	16°☾52'07	31.33438 AU	opposition	-8834 Mar 28 j 23:26	1°☾42'19	7°53'26
morning rise	-8841 Sep 22 j 04:18	17°☾13'13		direct	-8834 Jun 16 j 09:34	0°☾22'41	
retrograde	-8841 Dec 25 j 10:42	19°☾23'16		evening set	-8834 Sep 13 j 16:15	2°☾17'06	
min. Earth dist.	-8840 Mar 12 j 17:25	18°☾03'17	29.43694 AU				
opposition	-8840 Mar 14 j 02:13	18°☾01'05	11°27'52	conjunction	-8834 Sep 27 j 01:41	2°☾46'33	7°07'05
direct	-8840 Jun 01 j 14:04	16°☾38'55		minimum elong	-8834 Sep 27 j 01:59	2°☾46'35	7°07'36
evening set	-8840 Sep 02 j 09:50	18°☾45'47		max. Earth dist.	-8834 Sep 29 j 05:25	2°☾51'20	32.45150 AU
				morning rise	-8834 Oct 10 j 12:39	3°☾16'09	
conjunction	-8840 Sep 13 j 07:39	19°☾11'00	10°28'30	retrograde	-8833 Jan 09 j 20:16	5°☾12'50	
minimum elong	-8840 Sep 13 j 08:03	19°☾11'02	10°29'04	min. Earth dist.	-8833 Mar 29 j 07:32	3°☾56'16	30.55932 AU
max. Earth dist.	-8840 Sep 14 j 18:12	19°☾14'20	31.46786 AU	opposition	-8833 Mar 31 j 12:06	3°☾52'52	7°16'20
morning rise	-8840 Sep 24 j 06:40	19°☾36'19		direct	-8833 Jun 18 j 23:44	2°☾33'38	
retrograde	-8840 Dec 27 j 01:47	21°☾44'13		evening set	-8833 Sep 15 j 17:48	4°☾26'16	
min. Earth dist.	-8839 Mar 15 j 06:27	20°☾24'47	29.57188 AU				
opposition	-8839 Mar 16 j 19:33	20°☾22'19	10°53'38	conjunction	-8833 Sep 29 j 10:14	4°☾56'06	6°32'21
direct	-8839 Jun 04 j 07:03	19°☾00'33		minimum elong	-8833 Sep 29 j 10:30	4°☾56'08	6°32'51
evening set	-8839 Sep 04 j 10:19	21°☾05'08		max. Earth dist.	-8833 Oct 01 j 15:11	5°☾00'57	32.63909 AU
				morning rise	-8833 Oct 13 j 04:38	5°☾26'07	
conjunction	-8839 Sep 15 j 20:19	21°☾31'18	9°56'14	retrograde	-8832 Jan 12 j 06:57	7°☾21'09	
minimum elong	-8839 Sep 15 j 20:43	21°☾31'20	9°56'46	min. Earth dist.	-8832 Mar 30 j 17:00	6°☾05'01	30.74738 AU
max. Earth dist.	-8839 Sep 17 j 11:02	21°☾35'01	31.61135 AU	opposition	-8832 Apr 02 j 00:03	6°☾01'29	6°39'06
morning rise	-8839 Sep 27 j 07:26	21°☾57'35		direct	-8832 Jun 20 j 10:31	4°☾42'39	
retrograde	-8839 Dec 29 j 14:22	24°☾03'25		evening set	-8832 Sep 16 j 19:03	6°☾33'33	
min. Earth dist.	-8838 Mar 17 j 21:01	22°☾44'26	29.71661 AU				
opposition	-8838 Mar 19 j 12:20	22°☾41'49	10°18'38	conjunction	-8832 Sep 30 j 18:04	7°☾03'43	5°57'29
direct	-8838 Jun 07 j 00:35	21°☾20'29		minimum elong	-8832 Sep 30 j 18:19	7°☾03'44	5°57'59
evening set	-8838 Sep 06 j 11:07	23°☾22'52		max. Earth dist.	-8832 Oct 03 j 02:17	7°☾08'49	32.83244 AU
				morning rise	-8832 Oct 14 j 18:53	7°☾34'03	
conjunction	-8838 Sep 18 j 08:12	23°☾49'53	9°23'18	retrograde	-8831 Jan 13 j 14:00	9°☾27'32	
minimum elong	-8838 Sep 18 j 08:34	23°☾49'55	9°23'51	min. Earth dist.	-8831 Apr 02 j 02:35	8°☾11'46	30.94138 AU

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6

Attention, astronomical year style is used: The year -8831 in astronomical counting style is the year 8832 BCE in historical counting style.

opposition	-8831 Apr 04 j 11:09	8°Ω08'10	6°01'48	evening set	-8825 Sep 30 j 02:55	20°Ω34'45	
direct	-8831 Jun 22 j 22:22	6°Ω49'43					
evening set	-8831 Sep 18 j 20:26	8°Ω38'58		conjunction	-8825 Oct 15 j 05:19	21°Ω05'26	1°55'30
				minimum elong	-8825 Oct 15 j 05:24	21°Ω05'27	1°55'54
conjunction	-8831 Oct 03 j 01:05	9°Ω09'22	5°22'35	max. Earth dist.	-8825 Oct 18 j 03:54	21°Ω11'28	34.35501 AU
minimum elong	-8831 Oct 03 j 01:19	9°Ω09'24	5°23'03	morning rise	-8825 Oct 30 j 10:11	21°Ω36'21	
max. Earth dist.	-8831 Oct 05 j 10:35	9°Ω14'33	33.03181 AU	retrograde	-8824 Jan 28 j 00:21	23°Ω20'58	
morning rise	-8831 Oct 17 j 07:53	9°Ω39'58		min. Earth dist.	-8824 Apr 15 j 19:29	22°Ω08'23	32.47375 AU
retrograde	-8830 Jan 15 j 22:38	11°Ω31'57		opposition	-8824 Apr 18 j 18:08	22°Ω04'03	1°44'27
min. Earth dist.	-8830 Apr 04 j 09:34	10°Ω16'41	31.14188 AU	direct	-8824 Jul 07 j 07:39	20°Ω48'35	
opposition	-8830 Apr 06 j 21:24	10°Ω12'53	5°24'30	evening set	-8824 Oct 01 j 03:50	22°Ω28'31	
direct	-8830 Jun 25 j 08:47	8°Ω54'50					
evening set	-8830 Sep 20 j 21:36	10°Ω42'31		conjunction	-8824 Oct 16 j 07:43	22°Ω59'05	1°21'53
				minimum elong	-8824 Oct 16 j 07:46	22°Ω59'05	1°22'17
conjunction	-8830 Oct 05 j 07:27	11°Ω13'07	4°47'41	max. Earth dist.	-8824 Oct 19 j 06:38	23°Ω05'05	34.59216 AU
minimum elong	-8830 Oct 05 j 07:39	11°Ω13'08	4°48'10	morning rise	-8824 Oct 31 j 14:25	23°Ω29'52	
max. Earth dist.	-8830 Oct 07 j 20:11	11°Ω18'31	33.23742 AU	retrograde	-8823 Jan 29 j 05:33	25°Ω13'29	
morning rise	-8830 Oct 19 j 19:25	11°Ω43'53		min. Earth dist.	-8823 Apr 17 j 22:28	24°Ω01'22	32.71194 AU
retrograde	-8829 Jan 18 j 04:31	13°Ω34'28		opposition	-8823 Apr 20 j 23:05	23°Ω56'56	1°08'55
min. Earth dist.	-8829 Apr 06 j 17:49	12°Ω19'35	31.34891 AU	direct	-8823 Jul 09 j 10:55	22°Ω41'52	
opposition	-8829 Apr 09 j 06:53	12°Ω15'43	4°47'17	evening set	-8823 Oct 03 j 04:43	24°Ω20'46	
direct	-8829 Jun 27 j 20:06	10°Ω58'04					
evening set	-8829 Sep 22 j 22:51	12°Ω44'16		conjunction	-8823 Oct 18 j 09:50	24°Ω51'10	0°48'39
				minimum elong	-8823 Oct 18 j 09:52	24°Ω51'11	0°49'01
conjunction	-8829 Oct 07 j 13:09	13°Ω14'59	4°12'52	max. Earth dist.	-8823 Oct 21 j 11:01	24°Ω57'19	34.83199 AU
minimum elong	-8829 Oct 07 j 13:20	13°Ω15'00	4°13'19	morning rise	-8823 Nov 02 j 17:38	25°Ω21'48	
max. Earth dist.	-8829 Oct 10 j 03:21	13°Ω20'29	33.44948 AU	retrograde	-8822 Jan 31 j 07:42	27°Ω04'28	
morning rise	-8829 Oct 22 j 05:40	13°Ω45'54		min. Earth dist.	-8822 Apr 20 j 02:44	25°Ω52'40	32.95258 AU
	-8829 Dec 02 j 16:08	15°Ω		opposition	-8822 Apr 23 j 03:24	25°Ω48'15	0°33'50
retrograde	-8828 Jan 20 j 11:02	15°Ω35'07		direct	-8822 Jul 11 j 15:12	24°Ω33'36	
	-8828 Mar 11 j 06:37	15°℞Ω		evening set	-8822 Oct 05 j 05:31	26°Ω11'30	
min. Earth dist.	-8828 Apr 07 j 22:58	14°Ω20'46	31.56250 AU				
opposition	-8828 Apr 10 j 15:15	14°Ω16'43	4°10'12	conjunction	-8822 Oct 20 j 11:18	26°Ω41'42	0°15'50
direct	-8828 Jun 29 j 05:40	12°Ω59'29		minimum elong	-8822 Oct 20 j 11:19	26°Ω41'42	0°16'12
evening set	-8828 Sep 24 j 00:01	14°Ω44'18		behind sun begin	-8822 Oct 20 j 10:57	26°Ω41'40	
	-8828 Oct 01 j 13:47	15°Ω		behind sun end	-8822 Oct 20 j 11:40	26°Ω41'43	
				max. Earth dist.	-8822 Oct 23 j 12:39	26°Ω47'48	35.07383 AU
conjunction	-8828 Oct 08 j 18:07	15°Ω15'05	3°38'12	morning rise	-8822 Nov 04 j 19:53	27°Ω12'07	
minimum elong	-8828 Oct 08 j 18:16	15°Ω15'06	3°38'39	retrograde	-8821 Feb 02 j 09:52	28°Ω53'52	
max. Earth dist.	-8828 Oct 11 j 10:44	15°Ω20'45	33.66773 AU	desc. node	-8821 Apr 17 j 01:06	27°Ω49'55	
morning rise	-8828 Oct 23 j 14:39	15°Ω46'04		min. Earth dist.	-8821 Apr 22 j 04:13	27°Ω42'31	33.19507 AU
retrograde	-8827 Jan 21 j 14:13	17°Ω34'02		opposition	-8821 Apr 25 j 06:56	27°Ω38'00	-0°00'46
min. Earth dist.	-8827 Apr 10 j 05:41	16°Ω20'06	31.78248 AU	direct	-8821 Jul 13 j 19:36	26°Ω23'43	
opposition	-8827 Apr 12 j 23:12	16°Ω15'59	3°33'19	evening set	-8821 Oct 07 j 06:17	28°Ω00'39	
	-8827 Jun 24 j 07:39	15°℞Ω					
direct	-8827 Jul 01 j 13:15	14°Ω59'12		conjunction	-8821 Oct 22 j 12:13	28°Ω30'37	-0°16'38
	-8827 Jul 08 j 15:08	15°Ω		minimum elong	-8821 Oct 22 j 12:12	28°Ω30'37	0°16'17
evening set	-8827 Sep 26 j 00:54	16°Ω42'40		max. Earth dist.	-8821 Oct 25 j 14:57	28°Ω36'47	35.31699 AU
				morning rise	-8821 Nov 06 j 21:04	29°Ω00'49	
conjunction	-8827 Oct 10 j 22:24	17°Ω13'29	3°03'42		-8821 Dec 11 j 05:59	0°℞	
minimum elong	-8827 Oct 10 j 22:32	17°Ω13'29	3°04'08	retrograde	-8820 Feb 04 j 09:38	0°℞41'40	
max. Earth dist.	-8827 Oct 13 j 17:15	17°Ω19'18	33.89196 AU		-8820 Apr 02 j 01:54	30°℞Ω	
morning rise	-8827 Oct 25 j 22:13	17°Ω44'29		min. Earth dist.	-8820 Apr 23 j 07:12	29°Ω30'36	33.43906 AU
retrograde	-8826 Jan 23 j 17:12	19°Ω31'16		opposition	-8820 Apr 26 j 09:48	29°Ω26'07	-0°34'53
min. Earth dist.	-8826 Apr 12 j 10:17	18°Ω17'50	32.00814 AU	direct	-8820 Jul 15 j 00:17	28°Ω12'12	
opposition	-8826 Apr 15 j 06:16	18°Ω13'36	2°56'42	evening set	-8820 Oct 08 j 06:45	29°Ω48'13	
direct	-8826 Jul 03 j 21:04	16°Ω57'15			-8820 Oct 14 j 09:11	0°℞	
evening set	-8826 Sep 28 j 02:00	18°Ω39'29					
				conjunction	-8820 Oct 23 j 12:33	0°℞17'55	-0°48'33
conjunction	-8826 Oct 13 j 02:04	19°Ω10'15	2°29'27	minimum elong	-8820 Oct 23 j 12:31	0°℞17'55	0°48'13
minimum elong	-8826 Oct 13 j 02:10	19°Ω10'16	2°29'54	max. Earth dist.	-8820 Oct 26 j 16:06	0°℞24'06	35.56160 AU
max. Earth dist.	-8826 Oct 15 j 22:15	19°Ω16'08	34.12126 AU	morning rise	-8820 Nov 07 j 21:05	0°℞47'50	
morning rise	-8826 Oct 28 j 04:51	19°Ω41'14		retrograde	-8819 Feb 05 j 08:29	2°℞27'52	
retrograde	-8825 Jan 25 j 21:47	21°Ω26'54		min. Earth dist.	-8819 Apr 25 j 07:48	1°℞17'10	33.68459 AU
min. Earth dist.	-8825 Apr 14 j 15:00	20°Ω13'54	32.23894 AU	opposition	-8819 Apr 28 j 11:56	1°℞12'36	-1°08'27
opposition	-8825 Apr 17 j 12:33	20°Ω09'36	2°20'24		-8819 Jul 09 j 00:25	30°℞Ω	
direct	-8825 Jul 06 j 01:02	18°Ω53'42		direct	-8819 Jul 17 j 04:32	29°Ω59'02	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -8819 in astronomical counting style is the year 8820 BCE in historical counting style.

	-8819 Jul 25 j 04:04	0° $\mathring{\mu}$	retrograde	-8812 Feb 17 j 16:41	14° $\mathring{\mu}$ 09'53	
evening set	-8819 Oct 10 j 07:03	1° $\mathring{\mu}$ 34'11	min. Earth dist.	-8812 May 06 j 23:05	13° $\mathring{\mu}$ 01'36	35.46373 AU
			opposition	-8812 May 10 j 09:08	12° $\mathring{\mu}$ 56'51	-4°46'51
conjunction	-8819 Oct 25 j 12:02	2° $\mathring{\mu}$ 03'34 -1°20'00	direct	-8812 Jul 29 j 03:28	11° $\mathring{\mu}$ 45'45	
minimum elong	-8819 Oct 25 j 11:59	2° $\mathring{\mu}$ 03'34 1°19'41	evening set	-8812 Oct 22 j 05:10	13° $\mathring{\mu}$ 16'26	
max. Earth dist.	-8819 Oct 28 j 16:17	2° $\mathring{\mu}$ 09'46 35.80764 AU				
morning rise	-8819 Nov 09 j 20:06	2° $\mathring{\mu}$ 33'12	conjunction	-8812 Nov 05 j 18:45	13° $\mathring{\mu}$ 43'07	-4°44'59
retrograde	-8818 Feb 07 j 07:22	4° $\mathring{\mu}$ 12'27	minimum elong	-8812 Nov 05 j 18:35	13° $\mathring{\mu}$ 43'06	4°44'46
min. Earth dist.	-8818 Apr 27 j 08:44	3° $\mathring{\mu}$ 02'03 33.93210 AU	max. Earth dist.	-8812 Nov 09 j 05:12	13° $\mathring{\mu}$ 49'28	37.58643 AU
opposition	-8818 Apr 30 j 13:33	2° $\mathring{\mu}$ 57'29 -1°41'28	morning rise	-8812 Nov 20 j 11:21	14° $\mathring{\mu}$ 10'01	
direct	-8818 Jul 19 j 05:40	1° $\mathring{\mu}$ 44'14	retrograde	-8811 Feb 18 j 12:16	15° $\mathring{\mu}$ 45'15	
evening set	-8818 Oct 12 j 07:10	3° $\mathring{\mu}$ 18'34	min. Earth dist.	-8811 May 08 j 20:22	14° $\mathring{\mu}$ 37'17	35.72369 AU
			opposition	-8811 May 12 j 06:35	14° $\mathring{\mu}$ 32'33	-5°15'32
conjunction	-8818 Oct 27 j 11:14	3° $\mathring{\mu}$ 47'38 -1°50'57	direct	-8811 Jul 31 j 00:21	13° $\mathring{\mu}$ 21'49	
minimum elong	-8818 Oct 27 j 11:10	3° $\mathring{\mu}$ 47'38 1°50'38	evening set	-8811 Oct 24 j 04:20	14° $\mathring{\mu}$ 52'03	
max. Earth dist.	-8818 Oct 30 j 17:22	3° $\mathring{\mu}$ 53'56 36.05566 AU				
morning rise	-8818 Nov 11 j 18:05	4° $\mathring{\mu}$ 16'56	conjunction	-8811 Nov 07 j 14:32	15° $\mathring{\mu}$ 18'16	-5°11'57
retrograde	-8817 Feb 09 j 04:34	5° $\mathring{\mu}$ 55'27	minimum elong	-8811 Nov 07 j 14:21	15° $\mathring{\mu}$ 18'16	5°11'45
min. Earth dist.	-8817 Apr 29 j 08:38	4° $\mathring{\mu}$ 45'23 34.18176 AU	max. Earth dist.	-8811 Nov 11 j 02:15	15° $\mathring{\mu}$ 24'40	37.84476 AU
opposition	-8817 May 02 j 14:11	4° $\mathring{\mu}$ 40'46 -2°13'54	morning rise	-8811 Nov 22 j 03:23	15° $\mathring{\mu}$ 44'43	
direct	-8817 Jul 21 j 07:23	3° $\mathring{\mu}$ 27'51	retrograde	-8810 Feb 20 j 07:04	17° $\mathring{\mu}$ 19'33	
evening set	-8817 Oct 14 j 07:16	5° $\mathring{\mu}$ 01'27	min. Earth dist.	-8810 May 10 j 17:32	16° $\mathring{\mu}$ 11'52	35.98309 AU
			opposition	-8810 May 14 j 03:27	16° $\mathring{\mu}$ 07'11	-5°43'34
conjunction	-8817 Oct 29 j 09:42	5° $\mathring{\mu}$ 30'10 -2°21'22	direct	-8810 Aug 01 j 21:23	14° $\mathring{\mu}$ 56'47	
minimum elong	-8817 Oct 29 j 09:37	5° $\mathring{\mu}$ 30'09 2°21'04	evening set	-8810 Oct 26 j 03:44	16° $\mathring{\mu}$ 26'36	
max. Earth dist.	-8817 Nov 01 j 15:50	5° $\mathring{\mu}$ 36'25 36.30586 AU				
morning rise	-8817 Nov 13 j 15:13	5° $\mathring{\mu}$ 59'07	conjunction	-8810 Nov 09 j 09:57	16° $\mathring{\mu}$ 52'21	-5°38'21
retrograde	-8816 Feb 11 j 04:41	7° $\mathring{\mu}$ 36'57	minimum elong	-8810 Nov 09 j 09:46	16° $\mathring{\mu}$ 52'20	5°38'10
min. Earth dist.	-8816 Apr 30 j 07:05	6° $\mathring{\mu}$ 27'15 34.43401 AU	max. Earth dist.	-8810 Nov 12 j 20:43	16° $\mathring{\mu}$ 58'38	38.10215 AU
opposition	-8816 May 03 j 14:22	6° $\mathring{\mu}$ 22'35 -2°45'45	morning rise	-8810 Nov 23 j 19:00	17° $\mathring{\mu}$ 18'18	
direct	-8816 Jul 22 j 05:31	5° $\mathring{\mu}$ 10'00	retrograde	-8809 Feb 22 j 03:57	18° $\mathring{\mu}$ 52'46	
evening set	-8816 Oct 15 j 06:58	6° $\mathring{\mu}$ 42'54	min. Earth dist.	-8809 May 12 j 12:57	17° $\mathring{\mu}$ 45'25	36.24149 AU
			opposition	-8809 May 15 j 23:41	17° $\mathring{\mu}$ 40'42	-6°10'58
conjunction	-8816 Oct 30 j 07:37	7° $\mathring{\mu}$ 11'15 -2°51'14	direct	-8809 Aug 03 j 15:46	16° $\mathring{\mu}$ 30'37	
minimum elong	-8816 Oct 30 j 07:31	7° $\mathring{\mu}$ 11'15 2°50'57	evening set	-8809 Oct 28 j 02:50	18° $\mathring{\mu}$ 00'03	
max. Earth dist.	-8816 Nov 02 j 15:52	7° $\mathring{\mu}$ 17'37 36.55843 AU				
morning rise	-8816 Nov 14 j 11:09	7° $\mathring{\mu}$ 39'50	conjunction	-8809 Nov 11 j 04:58	18° $\mathring{\mu}$ 25'19	-6°04'10
retrograde	-8815 Feb 12 j 02:04	9° $\mathring{\mu}$ 17'03	minimum elong	-8809 Nov 11 j 04:46	18° $\mathring{\mu}$ 25'18	6°03'58
min. Earth dist.	-8815 May 02 j 06:43	8° $\mathring{\mu}$ 07'39 34.68866 AU	max. Earth dist.	-8809 Nov 14 j 16:42	18° $\mathring{\mu}$ 31'37	38.35814 AU
opposition	-8815 May 05 j 14:00	8° $\mathring{\mu}$ 03'00 -3°16'58	morning rise	-8809 Nov 25 j 09:46	18° $\mathring{\mu}$ 50'47	
direct	-8815 Jul 24 j 05:22	6° $\mathring{\mu}$ 50'47	retrograde	-8808 Feb 23 j 23:01	20° $\mathring{\mu}$ 24'53	
evening set	-8815 Oct 17 j 06:41	8° $\mathring{\mu}$ 23'03	min. Earth dist.	-8808 May 13 j 09:57	19° $\mathring{\mu}$ 17'44	36.49840 AU
			opposition	-8808 May 16 j 19:35	19° $\mathring{\mu}$ 13'06	-6°37'44
conjunction	-8815 Nov 01 j 05:06	8° $\mathring{\mu}$ 51'01 -3°20'32	direct	-8808 Aug 04 j 12:08	18° $\mathring{\mu}$ 03'19	
minimum elong	-8815 Nov 01 j 04:59	8° $\mathring{\mu}$ 51'00 3°20'15	evening set	-8808 Oct 29 j 01:41	19° $\mathring{\mu}$ 32'23	
max. Earth dist.	-8815 Nov 04 j 13:30	8° $\mathring{\mu}$ 57'20 36.81334 AU				
morning rise	-8815 Nov 16 j 06:26	9° $\mathring{\mu}$ 19'12	conjunction	-8808 Nov 11 j 23:24	19° $\mathring{\mu}$ 57'09	-6°29'23
retrograde	-8814 Feb 14 j 00:41	10° $\mathring{\mu}$ 55'51	minimum elong	-8808 Nov 11 j 23:12	19° $\mathring{\mu}$ 57'08	6°29'13
min. Earth dist.	-8814 May 04 j 03:44	9° $\mathring{\mu}$ 46'52 34.94558 AU	max. Earth dist.	-8808 Nov 15 j 10:32	20° $\mathring{\mu}$ 03'21	38.61269 AU
opposition	-8814 May 07 j 12:55	9° $\mathring{\mu}$ 42'07 -3°47'34	morning rise	-8808 Nov 25 j 23:40	20° $\mathring{\mu}$ 22'06	
direct	-8814 Jul 26 j 04:54	8° $\mathring{\mu}$ 30'17	retrograde	-8807 Feb 24 j 18:29	21° $\mathring{\mu}$ 55'50	
evening set	-8814 Oct 19 j 06:16	10° $\mathring{\mu}$ 01'58	min. Earth dist.	-8807 May 15 j 04:19	20° $\mathring{\mu}$ 49'00	36.75392 AU
			opposition	-8807 May 18 j 14:56	20° $\mathring{\mu}$ 44'20	-7°03'52
conjunction	-8814 Nov 03 j 02:05	10° $\mathring{\mu}$ 29'32 -3°49'16	direct	-8807 Aug 06 j 08:21	19° $\mathring{\mu}$ 34'50	
minimum elong	-8814 Nov 03 j 01:57	10° $\mathring{\mu}$ 29'31 3°49'00	evening set	-8807 Oct 31 j 00:30	21° $\mathring{\mu}$ 03'33	
max. Earth dist.	-8814 Nov 06 j 11:52	10° $\mathring{\mu}$ 35'55 37.07002 AU				
morning rise	-8814 Nov 18 j 00:53	10° $\mathring{\mu}$ 57'18	conjunction	-8807 Nov 13 j 17:26	21° $\mathring{\mu}$ 27'48	-6°54'01
retrograde	-8813 Feb 15 j 21:50	12° $\mathring{\mu}$ 33'26	minimum elong	-8807 Nov 13 j 17:13	21° $\mathring{\mu}$ 27'47	6°53'51
min. Earth dist.	-8813 May 06 j 02:27	11° $\mathring{\mu}$ 24'45 35.20420 AU	max. Earth dist.	-8807 Nov 17 j 04:57	21° $\mathring{\mu}$ 33'59	38.86584 AU
opposition	-8813 May 09 j 11:25	11° $\mathring{\mu}$ 20'03 -4°17'32	morning rise	-8807 Nov 27 j 13:04	21° $\mathring{\mu}$ 52'13	
direct	-8813 Jul 28 j 04:02	10° $\mathring{\mu}$ 08'35	retrograde	-8806 Feb 26 j 11:57	23° $\mathring{\mu}$ 25'39	
evening set	-8813 Oct 21 j 05:42	11° $\mathring{\mu}$ 39'45	min. Earth dist.	-8806 May 16 j 23:55	22° $\mathring{\mu}$ 18'59	37.00850 AU
			opposition	-8806 May 20 j 09:48	22° $\mathring{\mu}$ 14'23	-7°29'21
conjunction	-8813 Nov 04 j 22:42	12° $\mathring{\mu}$ 06'53 -4°17'25	direct	-8806 Aug 08 j 03:54	21° $\mathring{\mu}$ 05'09	
minimum elong	-8813 Nov 04 j 22:32	12° $\mathring{\mu}$ 06'52 4°17'11	evening set	-8806 Nov 01 j 23:02	22° $\mathring{\mu}$ 33'33	
max. Earth dist.	-8813 Nov 08 j 09:07	12° $\mathring{\mu}$ 13'16 37.32800 AU				
morning rise	-8813 Nov 19 j 18:25	12° $\mathring{\mu}$ 34'13	conjunction	-8806 Nov 15 j 11:10	22° $\mathring{\mu}$ 57'16	-7°18'03

# Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8

Attention, astronomical year style is used: The year -8806 in astronomical counting style is the year 8807 BCE in historical counting style.

minimum elong	-8806 Nov 15 j 10:58	22° <u>൬</u> 57'15	7°17'55	morning rise	-8800 Dec 05 j 16:02	1° <u>൧</u> 53'01	
max. Earth dist.	-8806 Nov 18 j 23:15	23° <u>൬</u> 03'28	39.11826 AU	retrograde	-8799 Mar 08 j 03:17	3° <u>൧</u> 25'06	
morning rise	-8806 Nov 29 j 01:37	23° <u>൬</u> 21'10		min. Earth dist.	-8799 May 26 j 22:41	2° <u>൧</u> 20'13	38.78184 AU
retrograde	-8805 Feb 28 j 01:58	24° <u>൬</u> 54'17		opposition	-8799 May 30 j 09:07	2° <u>൧</u> 15'43	-10°09'38
min. Earth dist.	-8805 May 18 j 17:42	23° <u>൬</u> 47'54	37.26243 AU	direct	-8799 Aug 18 j 06:03	1° <u>൧</u> 08'25	
opposition	-8805 May 22 j 04:03	23° <u>൬</u> 43'16	-7°54'11	evening set	-8799 Nov 13 j 09:41	2° <u>൧</u> 35'34	
direct	-8805 Aug 10 j 01:03	22° <u>൬</u> 34'18					
evening set	-8805 Nov 03 j 21:34	24° <u>൬</u> 02'24		conjunction	-8799 Nov 25 j 04:17	2° <u>൧</u> 55'22	-9°49'31
				minimum elong	-8799 Nov 25 j 04:02	2° <u>൧</u> 55'21	9°49'27
conjunction	-8805 Nov 17 j 04:17	24° <u>൬</u> 25'35	-7°41'28	max. Earth dist.	-8799 Nov 28 j 17:26	3° <u>൧</u> 01'22	40.87551 AU
minimum elong	-8805 Nov 17 j 04:03	24° <u>൬</u> 25'34	7°41'21	morning rise	-8799 Dec 07 j 00:33	3° <u>൧</u> 15'18	
max. Earth dist.	-8805 Nov 20 j 15:47	24° <u>൬</u> 31'42	39.37016 AU	retrograde	-8798 Mar 09 j 15:40	4° <u>൧</u> 47'19	
morning rise	-8805 Nov 30 j 13:33	24° <u>൬</u> 48'57		min. Earth dist.	-8798 May 28 j 14:45	3° <u>൧</u> 42'40	39.03082 AU
retrograde	-8804 Feb 29 j 18:12	26° <u>൬</u> 21'49		opposition	-8798 Jun 01 j 00:32	3° <u>൧</u> 38'13	-10°30'02
min. Earth dist.	-8804 May 19 j 11:08	25° <u>൬</u> 15'40	37.51631 AU	direct	-8798 Aug 19 j 23:48	2° <u>൧</u> 31'11	
opposition	-8804 May 22 j 21:54	25° <u>൬</u> 11'03	-8°18'22	evening set	-8798 Nov 15 j 07:42	3° <u>൧</u> 58'17	
direct	-8804 Aug 10 j 19:01	24° <u>൬</u> 02'21					
evening set	-8804 Nov 04 j 19:46	25° <u>൬</u> 30'12		conjunction	-8798 Nov 26 j 19:19	4° <u>൧</u> 17'29	-10°08'51
				minimum elong	-8798 Nov 26 j 19:03	4° <u>൧</u> 17'28	10°08'49
conjunction	-8804 Nov 17 j 21:10	25° <u>൬</u> 52'50	-8°04'18	max. Earth dist.	-8798 Nov 30 j 06:51	4° <u>൧</u> 23'21	41.12108 AU
minimum elong	-8804 Nov 17 j 20:56	25° <u>൬</u> 52'49	8°04'12	morning rise	-8798 Dec 08 j 08:44	4° <u>൧</u> 36'50	
max. Earth dist.	-8804 Nov 21 j 10:06	25° <u>൬</u> 59'01	39.62213 AU	retrograde	-8797 Mar 11 j 07:50	6° <u>൧</u> 08'47	
morning rise	-8804 Dec 01 j 00:46	26° <u>൬</u> 15'38		min. Earth dist.	-8797 May 30 j 05:56	5° <u>൧</u> 04'23	39.27701 AU
retrograde	-8803 Mar 02 j 09:47	27° <u>൬</u> 48'17		opposition	-8797 Jun 02 j 15:45	4° <u>൧</u> 59'57	-10°49'51
min. Earth dist.	-8803 May 21 j 05:04	26° <u>൬</u> 42'22	37.77022 AU	direct	-8797 Aug 21 j 13:37	3° <u>൧</u> 53'11	
opposition	-8803 May 24 j 15:21	26° <u>൬</u> 37'47	-8°41'54	evening set	-8797 Nov 17 j 05:27	5° <u>൧</u> 20'14	
direct	-8803 Aug 12 j 12:46	25° <u>൬</u> 29'21					
evening set	-8803 Nov 06 j 17:56	26° <u>൬</u> 57'00		conjunction	-8797 Nov 28 j 10:04	5° <u>൧</u> 38'51	-10°27'38
				minimum elong	-8797 Nov 28 j 09:50	5° <u>൧</u> 38'50	10°27'37
conjunction	-8803 Nov 19 j 13:33	27° <u>൬</u> 19'05	-8°26'31	max. Earth dist.	-8797 Dec 01 j 22:01	5° <u>൧</u> 44'42	41.36347 AU
minimum elong	-8803 Nov 19 j 13:18	27° <u>൬</u> 19'04	8°26'25	morning rise	-8797 Dec 09 j 16:16	5° <u>൧</u> 57'35	
max. Earth dist.	-8803 Nov 23 j 01:47	27° <u>൬</u> 25'10	39.87418 AU	retrograde	-8796 Mar 11 j 22:18	7° <u>൧</u> 29'31	
morning rise	-8803 Dec 02 j 11:24	27° <u>൬</u> 41'19		min. Earth dist.	-8796 May 30 j 22:28	6° <u>൧</u> 25'15	39.51979 AU
retrograde	-8802 Mar 04 j 03:54	29° <u>൬</u> 13'47		opposition	-8796 Jun 03 j 06:37	6° <u>൧</u> 20'55	-11°09'07
min. Earth dist.	-8802 May 22 j 20:54	28° <u>൬</u> 08'10	38.02420 AU	direct	-8796 Aug 22 j 04:14	5° <u>൧</u> 14'24	
opposition	-8802 May 26 j 08:22	28° <u>൬</u> 03'33	-9°04'47	evening set	-8796 Nov 18 j 03:15	6° <u>൧</u> 41'25	
direct	-8802 Aug 14 j 04:20	26° <u>൬</u> 55'24					
evening set	-8802 Nov 08 j 16:00	28° <u>൬</u> 22'52		conjunction	-8796 Nov 29 j 00:32	6° <u>൧</u> 59'26	-10°45'54
				minimum elong	-8796 Nov 29 j 00:17	6° <u>൧</u> 59'25	10°45'54
conjunction	-8802 Nov 21 j 05:43	28° <u>൬</u> 44'24	-8°48'08	max. Earth dist.	-8796 Dec 02 j 11:13	7° <u>൧</u> 05'09	41.60261 AU
minimum elong	-8802 Nov 21 j 05:29	28° <u>൬</u> 44'23	8°48'04	morning rise	-8796 Dec 09 j 23:14	7° <u>൧</u> 17'33	
max. Earth dist.	-8802 Nov 24 j 18:52	28° <u>൬</u> 50'30	40.12599 AU	retrograde	-8795 Mar 13 j 13:21	8° <u>൧</u> 49'26	
morning rise	-8802 Dec 03 j 21:36	29° <u>൬</u> 06'05		min. Earth dist.	-8795 Jun 01 j 12:32	7° <u>൧</u> 45'25	39.75931 AU
	-8801 Jan 08 j 07:16	0° <u>൧</u>		opposition	-8795 Jun 04 j 21:04	7° <u>൧</u> 41'05	-11°27'48
retrograde	-8801 Mar 05 j 20:39	0° <u>൧</u> 38'22		direct	-8795 Aug 23 j 18:40	6° <u>൧</u> 34'46	
	-8801 May 03 j 06:29	30° <u>൫</u> <u>൬</u>		evening set	-8795 Nov 20 j 00:50	8° <u>൧</u> 01'47	
min. Earth dist.	-8801 May 24 j 14:29	29° <u>൬</u> 32'58	38.27782 AU				
opposition	-8801 May 28 j 00:56	29° <u>൬</u> 28'25	-9°27'01	conjunction	-8795 Nov 30 j 14:34	8° <u>൧</u> 19'11	-11°03'38
direct	-8801 Aug 15 j 20:46	28° <u>൬</u> 20'33		minimum elong	-8795 Nov 30 j 14:19	8° <u>൧</u> 19'10	11°03'39
evening set	-8801 Nov 10 j 13:59	29° <u>൬</u> 47'53		max. Earth dist.	-8795 Dec 04 j 00:54	8° <u>൧</u> 24'51	41.83848 AU
	-8801 Nov 17 j 17:34	0° <u>൧</u>		morning rise	-8795 Dec 11 j 05:47	8° <u>൧</u> 36'41	
				retrograde	-8794 Mar 15 j 03:10	10° <u>൧</u> 08'33	
conjunction	-8801 Nov 22 j 21:35	0° <u>൧</u> 08'51	-9°09'10	min. Earth dist.	-8794 Jun 03 j 04:06	9° <u>൧</u> 04'39	39.99585 AU
minimum elong	-8801 Nov 22 j 21:21	0° <u>൧</u> 08'50	9°09'05	opposition	-8794 Jun 06 j 11:17	9° <u>൧</u> 00'24	-11°45'56
max. Earth dist.	-8801 Nov 26 j 10:30	0° <u>൧</u> 14'54	40.37730 AU	direct	-8794 Aug 25 j 09:41	7° <u>൧</u> 54'19	
morning rise	-8801 Dec 05 j 07:04	0° <u>൧</u> 29'57		evening set	-8794 Nov 21 j 22:26	9° <u>൧</u> 21'21	
retrograde	-8800 Mar 06 j 12:32	2° <u>൧</u> 02'07					
min. Earth dist.	-8800 May 25 j 06:00	0° <u>൧</u> 57'01	38.53053 AU	conjunction	-8794 Dec 02 j 04:29	9° <u>൧</u> 38'07	-11°20'51
opposition	-8800 May 28 j 17:06	0° <u>൧</u> 52'27	-9°48'38	minimum elong	-8794 Dec 02 j 04:14	9° <u>൧</u> 38'06	11°20'53
	-8800 Jul 13 j 02:57	30° <u>൫</u> <u>൬</u>		max. Earth dist.	-8794 Dec 05 j 14:44	9° <u>൧</u> 43'45	42.07167 AU
direct	-8800 Aug 16 j 13:45	29° <u>൬</u> 44'52		morning rise	-8794 Dec 12 j 11:40	9° <u>൧</u> 54'58	
	-8800 Sep 19 j 08:52	0° <u>൧</u>		retrograde	-8793 Mar 16 j 14:01	11° <u>൧</u> 26'51	
evening set	-8800 Nov 11 j 11:49	1° <u>൧</u> 12'06		min. Earth dist.	-8793 Jun 04 j 17:54	10° <u>൧</u> 23'09	40.22980 AU
				opposition	-8793 Jun 08 j 00:48	10° <u>൧</u> 18'55	-12°03'29
conjunction	-8800 Nov 23 j 12:53	1° <u>൧</u> 32'29	-9°29'37	direct	-8793 Aug 27 j 02:08	9° <u>൧</u> 13'02	
minimum elong	-8800 Nov 23 j 12:38	1° <u>൧</u> 32'28	9°29'35	evening set	-8793 Nov 23 j 20:03	10° <u>൧</u> 40'07	
max. Earth dist.	-8800 Nov 27 j 01:31	1° <u>൧</u> 38'29	40.62730 AU				



## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 9

Attention, astronomical year style is used: The year -8793 in astronomical counting style is the year 8794 BCE in historical counting style.

conjunction	-8793 Dec 03 j 17:54	10° <u>0</u> 56'14	-11°37'31	direct	-8786 Sep 04 j 20:51	18° <u>0</u> 05'20	
minimum elong	-8793 Dec 03 j 17:40	10° <u>0</u> 56'13	11°37'33	evening set	-8786 Dec 05 j 03:25	19° <u>0</u> 33'31	
max. Earth dist.	-8793 Dec 07 j 03:02	11° <u>0</u> 01'46	42.30257 AU				
morning rise	-8793 Dec 13 j 17:04	11° <u>0</u> 12'28		conjunction	-8786 Dec 12 j 09:29	19° <u>0</u> 44'56	-13°19'41
retrograde	-8792 Mar 17 j 02:33	12° <u>0</u> 44'23		minimum elong	-8786 Dec 12 j 09:15	19° <u>0</u> 44'55	13°19'48
min. Earth dist.	-8792 Jun 05 j 07:29	11° <u>0</u> 40'52	40.46191 AU	max. Earth dist.	-8786 Dec 15 j 15:13	19° <u>0</u> 50'02	43.86651 AU
opposition	-8792 Jun 08 j 14:16	11° <u>0</u> 36'40	-12°20'29	morning rise	-8786 Dec 19 j 16:00	19° <u>0</u> 56'23	
direct	-8792 Aug 27 j 15:46	10° <u>0</u> 31'00		retrograde	-8785 Mar 26 j 15:02	21° <u>0</u> 29'21	
evening set	-8792 Nov 24 j 17:16	11° <u>0</u> 58'07		min. Earth dist.	-8785 Jun 15 j 01:19	20° <u>0</u> 27'08	42.03052 AU
				opposition	-8785 Jun 18 j 03:57	20° <u>0</u> 23'15	-14°04'15
				direct	-8785 Sep 06 j 07:43	19° <u>0</u> 19'06	
				evening set	-8785 Dec 07 j 01:43	20° <u>0</u> 47'33	
conjunction	-8792 Dec 04 j 07:01	12° <u>0</u> 13'37	-11°53'39				
minimum elong	-8792 Dec 04 j 06:46	12° <u>0</u> 13'36	11°53'42	conjunction	-8785 Dec 13 j 21:16	20° <u>0</u> 58'14	-13°32'22
max. Earth dist.	-8792 Dec 07 j 17:02	12° <u>0</u> 19'10	42.53179 AU	minimum elong	-8785 Dec 13 j 21:03	20° <u>0</u> 58'13	13°32'31
morning rise	-8792 Dec 13 j 21:45	12° <u>0</u> 29'12		max. Earth dist.	-8785 Dec 17 j 02:48	21° <u>0</u> 03'18	44.07769 AU
retrograde	-8791 Mar 18 j 14:27	14° <u>0</u> 01'11		morning rise	-8785 Dec 20 j 17:10	21° <u>0</u> 08'56	
min. Earth dist.	-8791 Jun 06 j 21:36	12° <u>0</u> 57'49	40.69233 AU	retrograde	-8784 Mar 27 j 03:56	22° <u>0</u> 42'10	
opposition	-8791 Jun 10 j 03:24	12° <u>0</u> 53'40	-12°36'55	min. Earth dist.	-8784 Jun 15 j 14:43	21° <u>0</u> 40'01	42.24130 AU
direct	-8791 Aug 29 j 05:44	11° <u>0</u> 48'13		opposition	-8784 Jun 18 j 15:19	21° <u>0</u> 36'14	-14°17'05
evening set	-8791 Nov 26 j 14:51	13° <u>0</u> 15'26		direct	-8784 Sep 06 j 17:54	20° <u>0</u> 32'16	
				evening set	-8784 Dec 08 j 00:21	22° <u>0</u> 01'01	
conjunction	-8791 Dec 05 j 19:59	13° <u>0</u> 30'17	-12°09'15				
minimum elong	-8791 Dec 05 j 19:45	13° <u>0</u> 30'17	12°09'19	conjunction	-8784 Dec 14 j 08:43	22° <u>0</u> 10'56	-13°44'36
max. Earth dist.	-8791 Dec 09 j 04:44	13° <u>0</u> 35'44	42.75954 AU	minimum elong	-8784 Dec 14 j 08:31	22° <u>0</u> 10'55	13°44'44
morning rise	-8791 Dec 15 j 02:04	13° <u>0</u> 45'13		max. Earth dist.	-8784 Dec 17 j 12:51	22° <u>0</u> 15'53	44.28454 AU
retrograde	-8790 Mar 20 j 05:38	15° <u>0</u> 17'17		morning rise	-8784 Dec 20 j 17:18	22° <u>0</u> 20'51	
min. Earth dist.	-8790 Jun 08 j 09:40	14° <u>0</u> 14'10	40.92129 AU	retrograde	-8783 Mar 28 j 16:07	23° <u>0</u> 54'21	
opposition	-8790 Jun 11 j 16:04	14° <u>0</u> 10'01	-12°52'47	min. Earth dist.	-8783 Jun 17 j 01:51	22° <u>0</u> 52'21	42.44758 AU
direct	-8790 Aug 30 j 16:00	13° <u>0</u> 04'47		opposition	-8783 Jun 20 j 02:19	22° <u>0</u> 48'36	-14°29'28
evening set	-8790 Nov 28 j 12:17	14° <u>0</u> 32'08		direct	-8783 Sep 08 j 04:10	21° <u>0</u> 44'47	
				evening set	-8783 Dec 09 j 23:27	23° <u>0</u> 13'53	
conjunction	-8790 Dec 07 j 08:42	14° <u>0</u> 46'20	-12°24'20				
minimum elong	-8790 Dec 07 j 08:27	14° <u>0</u> 46'19	12°24'24	conjunction	-8783 Dec 15 j 20:00	23° <u>0</u> 22'59	-13°56'25
max. Earth dist.	-8790 Dec 10 j 17:39	14° <u>0</u> 51'45	42.98567 AU	minimum elong	-8783 Dec 15 j 19:47	23° <u>0</u> 22'58	13°56'34
morning rise	-8790 Dec 16 j 06:01	15° <u>0</u> 00'35		max. Earth dist.	-8783 Dec 18 j 22:50	23° <u>0</u> 27'49	44.48696 AU
retrograde	-8789 Mar 21 j 18:44	16° <u>0</u> 32'47		morning rise	-8783 Dec 21 j 16:45	23° <u>0</u> 32'05	
min. Earth dist.	-8789 Jun 09 j 23:43	15° <u>0</u> 29'49	41.14853 AU	retrograde	-8782 Mar 30 j 01:57	25° <u>0</u> 05'53	
opposition	-8789 Jun 13 j 04:40	15° <u>0</u> 25'45	-13°08'06	min. Earth dist.	-8782 Jun 18 j 14:13	24° <u>0</u> 03'58	42.64977 AU
direct	-8789 Sep 01 j 03:41	14° <u>0</u> 20'45		opposition	-8782 Jun 21 j 13:03	24° <u>0</u> 00'18	-14°41'23
evening set	-8789 Nov 30 j 09:47	15° <u>0</u> 48'16		direct	-8782 Sep 09 j 16:20	22° <u>0</u> 56'38	
				evening set	-8782 Dec 11 j 23:14	24° <u>0</u> 26'07	
conjunction	-8789 Dec 08 j 21:09	16° <u>0</u> 01'47	-12°38'54				
minimum elong	-8789 Dec 08 j 20:55	16° <u>0</u> 01'46	12°39'00	conjunction	-8782 Dec 17 j 07:10	24° <u>0</u> 34'21	-14°07'47
max. Earth dist.	-8789 Dec 12 j 05:48	16° <u>0</u> 07'10	43.21003 AU	minimum elong	-8782 Dec 17 j 06:59	24° <u>0</u> 34'20	14°07'57
morning rise	-8789 Dec 17 j 09:10	16° <u>0</u> 15'21		max. Earth dist.	-8782 Dec 20 j 09:59	24° <u>0</u> 39'11	44.68558 AU
retrograde	-8788 Mar 22 j 05:48	17° <u>0</u> 47'42		morning rise	-8782 Dec 22 j 15:08	24° <u>0</u> 42'36	
min. Earth dist.	-8788 Jun 10 j 11:43	16° <u>0</u> 44'58	41.37360 AU	retrograde	-8781 Mar 31 j 08:52	26° <u>0</u> 16'46	
opposition	-8788 Jun 13 j 16:48	16° <u>0</u> 40'55	-13°22'54	min. Earth dist.	-8781 Jun 20 j 01:29	25° <u>0</u> 14'56	42.84824 AU
direct	-8788 Sep 01 j 17:56	15° <u>0</u> 36'08		opposition	-8781 Jun 22 j 23:26	25° <u>0</u> 11'20	-14°52'51
evening set	-8788 Dec 01 j 07:25	17° <u>0</u> 03'51		direct	-8781 Sep 11 j 06:26	24° <u>0</u> 07'48	
				evening set	-8781 Dec 13 j 23:41	25° <u>0</u> 37'44	
conjunction	-8788 Dec 09 j 09:19	17° <u>0</u> 16'42	-12°52'58				
minimum elong	-8788 Dec 09 j 09:05	17° <u>0</u> 16'41	12°53'04	conjunction	-8781 Dec 18 j 17:47	25° <u>0</u> 45'04	-14°18'42
max. Earth dist.	-8788 Dec 12 j 16:49	17° <u>0</u> 21'58	43.43200 AU	minimum elong	-8781 Dec 18 j 17:35	25° <u>0</u> 45'03	14°18'54
morning rise	-8788 Dec 17 j 11:58	17° <u>0</u> 29'34		max. Earth dist.	-8781 Dec 21 j 18:48	25° <u>0</u> 49'45	44.88088 AU
retrograde	-8787 Mar 23 j 17:04	19° <u>0</u> 02'06		morning rise	-8781 Dec 23 j 11:54	25° <u>0</u> 52'23	
min. Earth dist.	-8787 Jun 12 j 00:36	17° <u>0</u> 59'33	41.59617 AU	retrograde	-8780 Mar 31 j 19:01	27° <u>0</u> 27'00	
opposition	-8787 Jun 15 j 04:50	17° <u>0</u> 55'33	-13°37'10	min. Earth dist.	-8780 Jun 20 j 11:47	26° <u>0</u> 25'19	43.04382 AU
direct	-8787 Sep 03 j 06:57	16° <u>0</u> 51'00		opposition	-8780 Jun 23 j 09:38	26° <u>0</u> 21'43	-15°03'51
evening set	-8787 Dec 03 j 05:12	18° <u>0</u> 18'57		direct	-8780 Sep 11 j 17:00	25° <u>0</u> 18'19	
				evening set	-8780 Dec 15 j 01:24	26° <u>0</u> 48'50	
conjunction	-8787 Dec 10 j 21:30	18° <u>0</u> 31'05	-13°06'34				
minimum elong	-8787 Dec 10 j 21:17	18° <u>0</u> 31'04	13°06'41	conjunction	-8780 Dec 19 j 04:23	26° <u>0</u> 55'09	-14°29'11
max. Earth dist.	-8787 Dec 14 j 05:15	18° <u>0</u> 36'21	43.65110 AU	minimum elong	-8780 Dec 19 j 04:12	26° <u>0</u> 55'09	14°29'23
morning rise	-8787 Dec 18 j 14:17	18° <u>0</u> 43'15		max. Earth dist.	-8780 Dec 22 j 05:44	26° <u>0</u> 59'50	45.07353 AU
retrograde	-8786 Mar 25 j 02:42	20° <u>0</u> 16'00		morning rise	-8780 Dec 23 j 07:17	27° <u>0</u> 01'28	
min. Earth dist.	-8786 Jun 13 j 13:42	19° <u>0</u> 13'35	41.81529 AU				
opposition	-8786 Jun 16 j 16:34	19° <u>0</u> 09'40	-13°50'57				

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10

Attention, astronomical year style is used: The year -8779 in astronomical counting style is the year 8780 BCE in historical counting style.

retrograde	-8779 Apr 02 j 04:41	28° <u>♂</u> 36'38		retrograde	-8772 Apr 10 j 01:25	6° <u>♂</u> 32'11	
min. Earth dist.	-8779 Jun 21 j 23:21	27° <u>♂</u> 35'01	43.23687 AU	min. Earth dist.	-8772 Jun 29 j 21:45	5° <u>♂</u> 31'30	44.51093 AU
opposition	-8779 Jun 24 j 19:34	27° <u>♂</u> 31'31	-15°14'23	opposition	-8772 Jul 02 j 11:32	5° <u>♂</u> 28'23	-16°15'45
direct	-8779 Sep 13 j 03:35	26° <u>♂</u> 28'16		direct	-8772 Sep 20 j 18:56	4° <u>♂</u> 26'18	
evening set	-8779 Dec 17 j 05:19	27° <u>♂</u> 59'30					
				conjunction	-8772 Dec 28 j 11:09	6° <u>♂</u> 00'20	-15°37'46
conjunction	-8779 Dec 20 j 14:46	28° <u>♂</u> 04'41	-14°39'13	minimum elong	-8772 Dec 28 j 11:01	6° <u>♂</u> 00'19	15°38'03
minimum elong	-8779 Dec 20 j 14:34	28° <u>♂</u> 04'40	14°39'25	max. Earth dist.	-8772 Dec 31 j 05:12	6° <u>♂</u> 04'25	46.51662 AU
morning rise	-8779 Dec 24 j 00:01	28° <u>♂</u> 09'51		retrograde	-8771 Apr 11 j 08:44	7° <u>♂</u> 38'43	
max. Earth dist.	-8779 Dec 23 j 14:59	28° <u>♂</u> 09'17	45.26399 AU	min. Earth dist.	-8771 Jul 01 j 06:56	6° <u>♂</u> 38'08	44.67668 AU
retrograde	-8778 Apr 03 j 16:03	29° <u>♂</u> 45'43		opposition	-8771 Jul 03 j 19:54	6° <u>♂</u> 35'04	-16°22'56
min. Earth dist.	-8778 Jun 23 j 08:42	28° <u>♂</u> 44'17	43.42767 AU	direct	-8771 Sep 22 j 05:35	5° <u>♂</u> 33'06	
opposition	-8778 Jun 26 j 05:15	28° <u>♂</u> 40'47	-15°24'27				
direct	-8778 Sep 14 j 12:12	27° <u>♂</u> 37'41		conjunction	-8771 Dec 29 j 20:20	7° <u>♂</u> 06'48	-15°44'38
evening set	-8778 Dec 19 j 13:10	29° <u>♂</u> 09'56		minimum elong	-8771 Dec 29 j 20:12	7° <u>♂</u> 06'48	15°44'54
				max. Earth dist.	-8770 Jan 01 j 12:05	7° <u>♂</u> 10'45	46.67894 AU
conjunction	-8778 Dec 22 j 00:56	29° <u>♂</u> 13'44	-14°48'49	retrograde	-8770 Apr 12 j 16:26	8° <u>♂</u> 44'48	
minimum elong	-8778 Dec 22 j 00:46	29° <u>♂</u> 13'43	14°49'01	min. Earth dist.	-8770 Jul 02 j 16:18	7° <u>♂</u> 44'18	44.83790 AU
morning rise	-8778 Dec 24 j 12:30	29° <u>♂</u> 17'30		opposition	-8770 Jul 05 j 04:12	7° <u>♂</u> 41'18	-16°29'45
max. Earth dist.	-8778 Dec 25 j 00:28	29° <u>♂</u> 18'16	45.45213 AU	direct	-8770 Sep 23 j 15:29	6° <u>♂</u> 39'27	
	-8777 Jan 22 j 15:26	0° <u>♂</u>					
retrograde	-8777 Apr 05 j 03:06	0° <u>♂</u> 54'21		conjunction	-8770 Dec 31 j 05:27	8° <u>♂</u> 12'48	-15°51'08
	-8777 Jun 19 j 01:43	30° <u>♂</u> 5		minimum elong	-8770 Dec 31 j 05:20	8° <u>♂</u> 12'48	15°51'26
min. Earth dist.	-8777 Jun 24 j 19:33	29° <u>♂</u> 53'01	43.61624 AU	max. Earth dist.	-8769 Jan 02 j 21:06	8° <u>♂</u> 16'44	46.83689 AU
opposition	-8777 Jun 27 j 14:44	29° <u>♂</u> 49'35	-15°34'03	retrograde	-8769 Apr 13 j 22:07	9° <u>♂</u> 50'26	
direct	-8777 Sep 15 j 20:47	28° <u>♂</u> 46'40		min. Earth dist.	-8769 Jul 04 j 02:04	8° <u>♂</u> 49'58	44.99490 AU
	-8777 Dec 08 j 13:51	0° <u>♂</u>		opposition	-8769 Jul 06 j 12:09	8° <u>♂</u> 47'03	-16°36'11
evening set	-8777 Dec 22 j 10:30	0° <u>♂</u> 20'48		direct	-8769 Sep 25 j 02:09	7° <u>♂</u> 45'18	
conjunction	-8777 Dec 23 j 11:00	0° <u>♂</u> 22'21	-14°57'58	conjunction	-8768 Jan 01 j 14:16	9° <u>♂</u> 18'20	-15°57'15
minimum elong	-8777 Dec 23 j 10:48	0° <u>♂</u> 22'20	14°58'11	minimum elong	-8768 Jan 01 j 14:09	9° <u>♂</u> 18'19	15°57'33
morning rise	-8777 Dec 24 j 11:09	0° <u>♂</u> 23'52		max. Earth dist.	-8768 Jan 04 j 04:07	9° <u>♂</u> 22'07	46.99118 AU
max. Earth dist.	-8777 Dec 26 j 10:26	0° <u>♂</u> 26'52	45.63812 AU	retrograde	-8768 Apr 14 j 07:15	10° <u>♂</u> 55'36	
retrograde	-8776 Apr 05 j 10:28	2° <u>♂</u> 02'34		min. Earth dist.	-8768 Jul 04 j 09:50	9° <u>♂</u> 55'14	45.14852 AU
min. Earth dist.	-8776 Jun 25 j 05:19	1° <u>♂</u> 01'24	43.80224 AU	opposition	-8768 Jul 06 j 19:57	9° <u>♂</u> 52'20	-16°42'14
opposition	-8776 Jun 27 j 23:59	0° <u>♂</u> 58'01	-15°43'13	direct	-8768 Sep 25 j 09:42	8° <u>♂</u> 50'41	
	-8776 Aug 27 j 10:35	30° <u>♂</u> 5					
direct	-8776 Sep 16 j 08:19	29° <u>♂</u> 55'16		conjunction	-8767 Jan 01 j 22:47	10° <u>♂</u> 23'23	-16°03'01
	-8776 Oct 06 j 02:02	0° <u>♂</u>		minimum elong	-8767 Jan 01 j 22:40	10° <u>♂</u> 23'23	16°03'20
				max. Earth dist.	-8767 Jan 04 j 12:08	10° <u>♂</u> 27'08	47.14223 AU
conjunction	-8776 Dec 23 j 20:40	1° <u>♂</u> 30'36	-15°06'42	retrograde	-8767 Apr 15 j 18:02	12° <u>♂</u> 00'18	
minimum elong	-8776 Dec 23 j 20:31	1° <u>♂</u> 30'35	15°06'56	min. Earth dist.	-8767 Jul 05 j 19:25	10° <u>♂</u> 59'58	45.29916 AU
max. Earth dist.	-8776 Dec 26 j 18:26	1° <u>♂</u> 34'59	45.82142 AU	opposition	-8767 Jul 08 j 03:44	10° <u>♂</u> 57'10	-16°47'54
retrograde	-8775 Apr 06 j 19:05	3° <u>♂</u> 10'27		direct	-8767 Sep 26 j 15:25	9° <u>♂</u> 55'36	
min. Earth dist.	-8775 Jun 26 j 15:08	2° <u>♂</u> 09'26	43.98542 AU				
opposition	-8775 Jun 29 j 09:11	2° <u>♂</u> 06'05	-15°51'57	conjunction	-8766 Jan 03 j 07:26	11° <u>♂</u> 28'01	-16°08'24
direct	-8775 Sep 17 j 18:21	1° <u>♂</u> 03'32		minimum elong	-8766 Jan 03 j 07:20	11° <u>♂</u> 28'01	16°08'43
				max. Earth dist.	-8766 Jan 05 j 20:11	11° <u>♂</u> 31'43	47.29064 AU
conjunction	-8775 Dec 25 j 06:31	2° <u>♂</u> 38'31	-15°15'02	retrograde	-8766 Apr 17 j 01:42	13° <u>♂</u> 04'34	
minimum elong	-8775 Dec 25 j 06:21	2° <u>♂</u> 38'31	15°15'16	min. Earth dist.	-8766 Jul 07 j 02:57	12° <u>♂</u> 04'22	45.44705 AU
max. Earth dist.	-8775 Dec 28 j 04:24	2° <u>♂</u> 42'54	46.00151 AU	opposition	-8766 Jul 09 j 11:05	12° <u>♂</u> 01'34	-16°53'11
retrograde	-8774 Apr 08 j 03:53	4° <u>♂</u> 18'01		direct	-8766 Sep 27 j 23:02	11° <u>♂</u> 00'07	
min. Earth dist.	-8774 Jun 28 j 01:54	3° <u>♂</u> 17'06	44.16494 AU				
opposition	-8774 Jun 30 j 18:03	3° <u>♂</u> 13'51	-16°00'16	conjunction	-8765 Jan 04 j 15:47	12° <u>♂</u> 32'15	-16°13'25
direct	-8774 Sep 19 j 04:16	2° <u>♂</u> 11'28		minimum elong	-8765 Jan 04 j 15:40	12° <u>♂</u> 32'15	16°13'45
				max. Earth dist.	-8765 Jan 07 j 02:51	12° <u>♂</u> 35'50	47.43641 AU
conjunction	-8774 Dec 26 j 16:15	3° <u>♂</u> 46'08	-15°22'59	retrograde	-8765 Apr 18 j 08:36	14° <u>♂</u> 08'29	
minimum elong	-8774 Dec 26 j 16:07	3° <u>♂</u> 46'08	15°23'14	min. Earth dist.	-8765 Jul 08 j 11:24	13° <u>♂</u> 08'21	45.59244 AU
max. Earth dist.	-8774 Dec 29 j 12:12	3° <u>♂</u> 50'23	46.17780 AU	opposition	-8765 Jul 10 j 18:33	13° <u>♂</u> 05'37	-16°58'04
retrograde	-8773 Apr 09 j 15:32	5° <u>♂</u> 25'16		direct	-8765 Sep 29 j 07:39	12° <u>♂</u> 04'17	
min. Earth dist.	-8773 Jun 29 j 10:51	4° <u>♂</u> 24'31	44.34028 AU				
opposition	-8773 Jul 02 j 02:47	4° <u>♂</u> 21'18	-16°08'12	conjunction	-8764 Jan 05 j 23:58	13° <u>♂</u> 36'09	-16°18'04
direct	-8773 Sep 20 j 10:54	3° <u>♂</u> 19'04		minimum elong	-8764 Jan 05 j 23:53	13° <u>♂</u> 36'09	16°18'24
				max. Earth dist.	-8764 Jan 08 j 11:21	13° <u>♂</u> 39'45	47.57962 AU
conjunction	-8773 Dec 28 j 01:40	4° <u>♂</u> 53'25	-15°30'33				
minimum elong	-8773 Dec 28 j 01:30	4° <u>♂</u> 53'25	15°30'49	retrograde	-8764 Apr 18 j 12:53	15° <u>♂</u> 12'05	
max. Earth dist.	-8773 Dec 30 j 20:29	4° <u>♂</u> 57'35	46.34952 AU		-8764 May 22 j 07:07	15° <u>♂</u> 12'05	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 11

Attention, astronomical year style is used: The year -8764 in astronomical counting style is the year 8765 BCE in historical counting style.

min. Earth dist.	-8764 Jul 08 j 19:56	14° <del>ML</del> 12'02	45.73494 AU	min. Earth dist.	-8756 Jul 17 j 10:59	22° <del>ML</del> 32'14	46.72198 AU
opposition	-8764 Jul 11 j 01:48	14° <del>ML</del> 09'21	-17°02'36	opposition	-8756 Jul 19 j 07:08	22° <del>ML</del> 30'05	-17°26'57
direct	-8764 Sep 29 j 18:22	13° <del>ML</del> 08'10		direct	-8756 Oct 08 j 00:41	21° <del>ML</del> 29'39	
conjunction	-8763 Jan 06 j 08:05	14° <del>ML</del> 39'46	-16°22'21	conjunction	-8755 Jan 14 j 22:25	22° <del>ML</del> 59'28	-16°45'24
minimum elong	-8763 Jan 06 j 07:59	14° <del>ML</del> 39'45	16°22'42	minimum elong	-8755 Jan 14 j 22:23	22° <del>ML</del> 59'28	16°45'48
max. Earth dist.	-8763 Jan 08 j 17:31	14° <del>ML</del> 43'14	47.71999 AU	max. Earth dist.	-8755 Jan 16 j 21:00	23° <del>ML</del> 02'12	48.68522 AU
	-8763 Jan 20 j 10:02	15° <del>ML</del>		retrograde	-8755 Apr 28 j 08:33	24° <del>ML</del> 32'55	
retrograde	-8763 Apr 19 j 21:15	16° <del>ML</del> 15'24		min. Earth dist.	-8755 Jul 18 j 18:35	23° <del>ML</del> 33'24	46.82562 AU
min. Earth dist.	-8763 Jul 10 j 03:08	15° <del>ML</del> 15'30	45.87437 AU	opposition	-8755 Jul 20 j 13:14	23° <del>ML</del> 31'20	-17°28'35
opposition	-8763 Jul 12 j 08:49	15° <del>ML</del> 12'50	-17°06'45	direct	-8755 Oct 09 j 07:23	22° <del>ML</del> 30'59	
	-8763 Jul 23 j 06:38	15° <del>RML</del>					
direct	-8763 Oct 01 j 01:14	14° <del>ML</del> 11'46		conjunction	-8754 Jan 16 j 05:49	24° <del>ML</del> 00'35	-16°46'54
	-8763 Dec 07 j 14:03	15° <del>ML</del>		minimum elong	-8754 Jan 16 j 05:47	24° <del>ML</del> 00'35	16°47'19
				max. Earth dist.	-8754 Jan 18 j 04:22	24° <del>ML</del> 03'20	48.78695 AU
conjunction	-8762 Jan 07 j 16:13	15° <del>ML</del> 43'08	-16°26'19	retrograde	-8754 Apr 29 j 11:21	25° <del>ML</del> 33'48	
minimum elong	-8762 Jan 07 j 16:09	15° <del>ML</del> 43'08	16°26'40	min. Earth dist.	-8754 Jul 20 j 01:42	24° <del>ML</del> 34'20	46.92599 AU
max. Earth dist.	-8762 Jan 10 j 01:00	15° <del>ML</del> 46'33	47.85688 AU	opposition	-8754 Jul 21 j 19:13	24° <del>ML</del> 32'19	-17°29'53
retrograde	-8762 Apr 21 j 06:09	17° <del>ML</del> 18'30		direct	-8754 Oct 10 j 17:17	23° <del>ML</del> 32'02	
min. Earth dist.	-8762 Jul 11 j 12:27	16° <del>ML</del> 18'38	46.00997 AU				
opposition	-8762 Jul 13 j 15:52	16° <del>ML</del> 16'06	-17°10'34	conjunction	-8753 Jan 17 j 12:55	25° <del>ML</del> 01'28	-16°48'05
direct	-8762 Oct 02 j 07:24	15° <del>ML</del> 15'09		minimum elong	-8753 Jan 17 j 12:54	25° <del>ML</del> 01'28	16°48'30
				max. Earth dist.	-8753 Jan 19 j 09:21	25° <del>ML</del> 04'05	48.88569 AU
conjunction	-8761 Jan 09 j 00:21	16° <del>ML</del> 46'17	-16°29'56	retrograde	-8753 Apr 30 j 17:21	26° <del>ML</del> 34'27	
minimum elong	-8761 Jan 09 j 00:16	16° <del>ML</del> 46'17	16°30'18	min. Earth dist.	-8753 Jul 21 j 07:43	25° <del>ML</del> 35'05	47.02347 AU
max. Earth dist.	-8761 Jan 11 j 07:58	16° <del>ML</del> 49'37	47.98974 AU	opposition	-8753 Jul 23 j 01:01	25° <del>ML</del> 33'05	-17°30'52
retrograde	-8761 Apr 22 j 14:21	18° <del>ML</del> 21'22		direct	-8753 Oct 12 j 00:11	24° <del>ML</del> 32'53	
min. Earth dist.	-8761 Jul 12 j 19:47	17° <del>ML</del> 21'37	46.14106 AU				
opposition	-8761 Jul 14 j 22:35	17° <del>ML</del> 19'07	-17°14'04	conjunction	-8752 Jan 18 j 19:58	26° <del>ML</del> 02'08	-16°48'58
direct	-8761 Oct 03 j 14:06	16° <del>ML</del> 18'17		minimum elong	-8752 Jan 18 j 19:57	26° <del>ML</del> 02'08	16°49'23
				max. Earth dist.	-8752 Jan 20 j 16:00	26° <del>ML</del> 04'43	48.98149 AU
conjunction	-8760 Jan 10 j 08:17	17° <del>ML</del> 49'13	-16°33'16	retrograde	-8752 May 01 j 00:21	27° <del>ML</del> 34'55	
minimum elong	-8760 Jan 10 j 08:13	17° <del>ML</del> 49'13	16°33'38	min. Earth dist.	-8752 Jul 21 j 15:35	26° <del>ML</del> 35'35	47.11791 AU
max. Earth dist.	-8760 Jan 12 j 13:39	17° <del>ML</del> 52'24	48.11781 AU	opposition	-8752 Jul 23 j 06:53	26° <del>ML</del> 33'40	-17°31'31
retrograde	-8760 Apr 22 j 22:17	19° <del>ML</del> 24'01		direct	-8752 Oct 12 j 06:11	25° <del>ML</del> 33'34	
min. Earth dist.	-8760 Jul 13 j 04:18	18° <del>ML</del> 24'19	46.26725 AU				
opposition	-8760 Jul 15 j 05:27	18° <del>ML</del> 21'54	-17°17'15	conjunction	-8751 Jan 19 j 02:56	27° <del>ML</del> 02'39	-16°49'31
direct	-8760 Oct 03 j 20:56	17° <del>ML</del> 21'11		minimum elong	-8751 Jan 19 j 02:57	27° <del>ML</del> 02'39	16°49'57
				max. Earth dist.	-8751 Jan 20 j 21:58	27° <del>ML</del> 05'10	49.07432 AU
conjunction	-8759 Jan 10 j 16:11	18° <del>ML</del> 51'53	-16°36'17	retrograde	-8751 May 02 j 08:30	28° <del>ML</del> 35'14	
minimum elong	-8759 Jan 10 j 16:07	18° <del>ML</del> 51'53	16°36'39	min. Earth dist.	-8751 Jul 22 j 21:27	27° <del>ML</del> 36'00	47.20898 AU
max. Earth dist.	-8759 Jan 12 j 21:02	18° <del>ML</del> 55'02	48.24084 AU	opposition	-8751 Jul 24 j 12:31	27° <del>ML</del> 34'06	-17°31'52
retrograde	-8759 Apr 24 j 02:55	20° <del>ML</del> 26'25		direct	-8751 Oct 13 j 10:34	26° <del>ML</del> 34'05	
min. Earth dist.	-8759 Jul 14 j 12:45	19° <del>ML</del> 26'45	46.38807 AU				
opposition	-8759 Jul 16 j 12:08	19° <del>ML</del> 24'25	-17°20'08	conjunction	-8750 Jan 20 j 09:54	28° <del>ML</del> 03'02	-16°49'47
direct	-8759 Oct 05 j 06:29	18° <del>ML</del> 23'47		minimum elong	-8750 Jan 20 j 09:53	28° <del>ML</del> 03'02	16°50'14
				max. Earth dist.	-8750 Jan 22 j 02:56	28° <del>ML</del> 05'26	49.16346 AU
conjunction	-8758 Jan 12 j 00:01	19° <del>ML</del> 54'15	-16°39'01	retrograde	-8750 May 03 j 17:16	29° <del>ML</del> 35'24	
minimum elong	-8758 Jan 11 j 23:58	19° <del>ML</del> 54'15	16°39'24	min. Earth dist.	-8750 Jul 24 j 04:53	28° <del>ML</del> 36'12	47.29620 AU
max. Earth dist.	-8758 Jan 14 j 02:24	19° <del>ML</del> 57'15	48.35869 AU	opposition	-8750 Jul 25 j 18:06	28° <del>ML</del> 34'24	-17°31'55
retrograde	-8758 Apr 25 j 09:30	21° <del>ML</del> 28'31		direct	-8750 Oct 14 j 14:17	27° <del>ML</del> 34'29	
min. Earth dist.	-8758 Jul 15 j 19:53	20° <del>ML</del> 28'55	46.50385 AU				
opposition	-8758 Jul 17 j 18:32	20° <del>ML</del> 26'38	-17°22'43	conjunction	-8749 Jan 21 j 16:59	29° <del>ML</del> 03'18	-16°49'46
direct	-8758 Oct 06 j 14:02	19° <del>ML</del> 26'04		minimum elong	-8749 Jan 21 j 17:00	29° <del>ML</del> 03'18	16°50'13
				max. Earth dist.	-8749 Jan 23 j 09:37	29° <del>ML</del> 05'40	49.24849 AU
conjunction	-8757 Jan 13 j 07:43	20° <del>ML</del> 56'19	-16°41'27		-8749 Mar 06 j 08:03	0° <del>XL</del>	
minimum elong	-8757 Jan 13 j 07:40	20° <del>ML</del> 56'18	16°41'50	retrograde	-8749 May 04 j 21:38	0° <del>XL</del> 35'28	
max. Earth dist.	-8757 Jan 15 j 09:12	20° <del>ML</del> 59'15	48.47160 AU		-8749 Jul 04 j 08:17	30° <del>RML</del>	
retrograde	-8757 Apr 26 j 17:51	22° <del>ML</del> 30'18		min. Earth dist.	-8749 Jul 25 j 11:55	29° <del>ML</del> 36'18	47.37880 AU
min. Earth dist.	-8757 Jul 17 j 04:32	21° <del>ML</del> 30'42	46.61495 AU	opposition	-8749 Jul 26 j 23:39	29° <del>ML</del> 34'35	-17°31'41
opposition	-8757 Jul 19 j 00:59	21° <del>ML</del> 28'31	-17°24'59	direct	-8749 Oct 15 j 22:14	28° <del>ML</del> 34'44	
direct	-8757 Oct 07 j 19:50	20° <del>ML</del> 28'02			-8748 Jan 20 j 13:15	0° <del>XL</del>	
conjunction	-8756 Jan 14 j 15:07	21° <del>ML</del> 58'03	-16°43'35	conjunction	-8748 Jan 22 j 23:42	0° <del>XL</del> 03'24	-16°49'29
minimum elong	-8756 Jan 14 j 15:04	21° <del>ML</del> 58'03	16°44'00	minimum elong	-8748 Jan 22 j 23:42	0° <del>XL</del> 03'24	16°49'56
max. Earth dist.	-8756 Jan 16 j 15:28	22° <del>ML</del> 00'54	48.58030 AU	max. Earth dist.	-8748 Jan 24 j 13:48	0° <del>XL</del> 05'37	49.32872 AU
retrograde	-8756 Apr 27 j 01:58	23° <del>ML</del> 31'46		retrograde	-8748 May 05 j 01:54	1° <del>XL</del> 35'23	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 12

Attention, astronomical year style is used: The year -8748 in astronomical counting style is the year 8749 BCE in historical counting style.

min. Earth dist.	-8748 Jul 25 j 18:20	0°♄36'16	47.45643 AU	min. Earth dist.	-8740 Aug 02 j 21:00	8°♄27'02	47.91616 AU
opposition	-8748 Jul 27 j 05:10	0°♄34'35	-17°31'11	direct	-8740 Oct 24 j 01:42	7°♄26'19	
	-8748 Aug 28 j 00:54	30°♄					
direct	-8748 Oct 16 j 05:38	29°♄34'48		conjunction	-8739 Jan 31 j 10:15	8°♄53'50	-16°34'58
	-8748 Dec 03 j 17:45	0°♄		minimum elong	-8739 Jan 31 j 10:18	8°♄53'51	16°35'28
				max. Earth dist.	-8739 Feb 01 j 13:31	8°♄55'24	49.85095 AU
conjunction	-8747 Jan 23 j 06:36	1°♄03'19	-16°48'57	retrograde	-8739 May 14 j 05:24	10°♄24'12	
minimum elong	-8747 Jan 23 j 06:38	1°♄03'19	16°49'25	min. Earth dist.	-8739 Aug 04 j 02:42	9°♄25'09	47.95864 AU
max. Earth dist.	-8747 Jan 24 j 19:42	1°♄05'29	49.40370 AU	opposition	-8739 Aug 05 j 02:17	9°♄24'01	-17°14'21
retrograde	-8747 May 06 j 07:20	2°♄35'07		direct	-8739 Oct 25 j 08:04	8°♄24'33	
min. Earth dist.	-8747 Jul 27 j 02:10	1°♄35'57	47.52864 AU				
opposition	-8747 Jul 28 j 10:35	1°♄34'24	-17°30'26	conjunction	-8738 Feb 01 j 16:29	9°♄52'01	-16°31'57
direct	-8747 Oct 17 j 12:48	0°♄34'39		minimum elong	-8738 Feb 01 j 16:34	9°♄52'01	16°32'28
				max. Earth dist.	-8738 Feb 02 j 17:28	9°♄53'27	49.89229 AU
conjunction	-8746 Jan 24 j 13:29	2°♄03'01	-16°48'09	retrograde	-8738 May 15 j 10:09	11°♄22'17	
minimum elong	-8746 Jan 24 j 13:30	2°♄03'01	16°48'37	min. Earth dist.	-8738 Aug 05 j 08:15	10°♄23'17	47.99755 AU
max. Earth dist.	-8746 Jan 26 j 00:47	2°♄05'03	49.47350 AU	opposition	-8738 Aug 06 j 06:59	10°♄22'11	-17°11'03
retrograde	-8746 May 07 j 15:12	3°♄34'35		direct	-8738 Oct 26 j 13:41	9°♄22'46	
min. Earth dist.	-8746 Jul 28 j 07:58	2°♄35'28	47.59561 AU				
opposition	-8746 Jul 29 j 15:51	2°♄33'56	-17°29'24	conjunction	-8737 Feb 02 j 22:43	10°♄50'12	-16°28'42
direct	-8746 Oct 18 j 16:56	1°♄34'13		minimum elong	-8737 Feb 02 j 22:46	10°♄50'12	16°29'12
				max. Earth dist.	-8737 Feb 03 j 22:55	10°♄51'35	49.92956 AU
conjunction	-8745 Jan 25 j 20:04	3°♄02'26	-16°47'06	retrograde	-8737 May 16 j 14:15	12°♄20'22	
minimum elong	-8745 Jan 25 j 20:06	3°♄02'26	16°47'35	opposition	-8737 Aug 07 j 11:41	11°♄20'22	-17°07'30
max. Earth dist.	-8745 Jan 27 j 05:19	3°♄04'21	49.53817 AU	min. Earth dist.	-8737 Aug 06 j 15:11	11°♄21'21	48.03204 AU
retrograde	-8745 May 08 j 21:59	4°♄33'48		direct	-8737 Oct 27 j 20:42	10°♄21'01	
opposition	-8745 Jul 30 j 21:02	3°♄33'12	-17°28'07				
min. Earth dist.	-8745 Jul 29 j 15:12	3°♄34'38	47.65786 AU	conjunction	-8736 Feb 04 j 04:59	11°♄48'23	-16°25'11
direct	-8745 Oct 19 j 21:28	2°♄33'29		minimum elong	-8736 Feb 04 j 05:05	11°♄48'23	16°25'42
				max. Earth dist.	-8736 Feb 05 j 03:29	11°♄49'40	49.96236 AU
conjunction	-8744 Jan 27 j 02:41	4°♄01'33	-16°45'47	retrograde	-8736 May 16 j 22:02	13°♄18'28	
minimum elong	-8744 Jan 27 j 02:44	4°♄01'33	16°46'16	opposition	-8736 Aug 07 j 16:15	12°♄18'33	-17°03'42
max. Earth dist.	-8744 Jan 28 j 11:35	4°♄03'27	49.59853 AU	min. Earth dist.	-8736 Aug 06 j 20:19	12°♄19'30	48.06165 AU
retrograde	-8744 May 09 j 01:17	5°♄32'42		direct	-8736 Oct 27 j 23:50	11°♄19'14	
min. Earth dist.	-8744 Jul 29 j 21:16	4°♄33'32	47.71592 AU				
opposition	-8744 Jul 31 j 02:03	4°♄32'09	-17°26'33	conjunction	-8735 Feb 04 j 11:09	12°♄46'33	-16°21'26
direct	-8744 Oct 20 j 05:24	3°♄32'28		minimum elong	-8735 Feb 04 j 11:14	12°♄46'33	16°21'57
				max. Earth dist.	-8735 Feb 05 j 07:24	12°♄47'42	49.98995 AU
conjunction	-8743 Jan 27 j 09:02	5°♄00'23	-16°44'11	retrograde	-8735 May 18 j 05:43	14°♄16'31	
minimum elong	-8743 Jan 27 j 09:05	5°♄00'23	16°44'41	opposition	-8735 Aug 08 j 21:00	13°♄16'40	-16°59'39
max. Earth dist.	-8743 Jan 28 j 15:39	5°♄02'09	49.65511 AU	min. Earth dist.	-8735 Aug 08 j 03:22	13°♄17'31	48.08598 AU
retrograde	-8743 May 10 j 05:46	6°♄31'21		direct	-8735 Oct 29 j 02:17	12°♄17'22	
min. Earth dist.	-8743 Jul 31 j 02:53	5°♄32'12	47.77051 AU				
opposition	-8743 Aug 01 j 07:02	5°♄30'51	-17°24'42	conjunction	-8734 Feb 05 j 17:31	13°♄44'39	-16°17'28
direct	-8743 Oct 21 j 12:11	4°♄31'11		minimum elong	-8734 Feb 05 j 17:38	13°♄44'39	16°17'59
				max. Earth dist.	-8734 Feb 06 j 12:59	13°♄45'45	50.01229 AU
conjunction	-8742 Jan 28 j 15:32	5°♄58'58	-16°42'19	retrograde	-8734 May 19 j 09:30	15°♄14'29	
minimum elong	-8742 Jan 28 j 15:35	5°♄58'59	16°42'47	min. Earth dist.	-8734 Aug 09 j 09:07	14°♄15'28	48.10492 AU
max. Earth dist.	-8742 Jan 29 j 21:42	6°♄00'43	49.70832 AU	opposition	-8734 Aug 10 j 01:28	14°♄14'41	-16°55'23
retrograde	-8742 May 11 j 10:20	7°♄29'46		direct	-8734 Oct 30 j 09:24	13°♄15'24	
min. Earth dist.	-8742 Aug 01 j 09:42	6°♄30'35	47.82190 AU				
opposition	-8742 Aug 02 j 11:55	6°♄29'20	-17°22'33	conjunction	-8733 Feb 06 j 23:37	14°♄42'37	-16°13'15
direct	-8742 Oct 22 j 18:45	5°♄29'42		minimum elong	-8733 Feb 06 j 23:43	14°♄42'37	16°13'46
				max. Earth dist.	-8733 Feb 07 j 16:22	14°♄43'34	50.02955 AU
conjunction	-8741 Jan 29 j 21:54	6°♄57'22	-16°40'09	retrograde	-8733 May 20 j 13:07	16°♄12'20	
minimum elong	-8741 Jan 29 j 21:56	6°♄57'22	16°40'38	opposition	-8733 Aug 11 j 05:59	15°♄12'34	-16°50'52
max. Earth dist.	-8741 Jan 31 j 02:55	6°♄59'02	49.75873 AU	min. Earth dist.	-8733 Aug 10 j 14:38	15°♄13'18	48.11911 AU
retrograde	-8741 May 12 j 16:55	8°♄28'00		direct	-8733 Oct 31 j 16:09	14°♄13'16	
opposition	-8741 Aug 03 j 16:44	7°♄27'39	-17°20'06				
min. Earth dist.	-8741 Aug 02 j 14:31	7°♄28'54	47.87044 AU	conjunction	-8732 Feb 08 j 05:34	15°♄40'25	-16°08'47
direct	-8741 Oct 23 j 23:00	6°♄28'03		minimum elong	-8732 Feb 08 j 05:40	15°♄40'26	16°09'20
				max. Earth dist.	-8732 Feb 08 j 21:43	15°♄41'20	50.04220 AU
conjunction	-8740 Jan 31 j 03:55	7°♄55'38	-16°37'42	retrograde	-8732 May 20 j 16:17	17°♄10'02	
minimum elong	-8740 Jan 31 j 04:00	7°♄55'39	16°38'11	opposition	-8732 Aug 11 j 10:30	16°♄10'17	-16°46'06
max. Earth dist.	-8740 Feb 01 j 07:20	7°♄57'12	49.80626 AU	min. Earth dist.	-8732 Aug 10 j 21:17	16°♄10'55	48.12891 AU
retrograde	-8740 May 13 j 01:03	9°♄26'08		direct	-8732 Oct 31 j 23:14	15°♄10'59	
opposition	-8740 Aug 03 j 21:38	8°♄25'51	-17°17'22				

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 13

Attention, astronomical year style is used: The year -8731 in astronomical counting style is the year 8732 BCE in historical counting style.

conjunction	-8731 Feb 08 j 11:36	16°♂38'04	-16°04'05	retrograde	-8723 May 29 j 17:26	25°♂46'04	
minimum elong	-8731 Feb 08 j 11:42	16°♂38'04	16°04'36	opposition	-8723 Aug 20 j 01:14	24°♂46'40	-15°51'14
max. Earth dist.	-8731 Feb 09 j 02:19	16°♂38'54	50.05095 AU	min. Earth dist.	-8723 Aug 19 j 22:35	24°♂46'48	48.05913 AU
retrograde	-8731 May 21 j 21:52	18°♂07'34		direct	-8723 Nov 09 j 16:44	23°♂47'22	
opposition	-8731 Aug 12 j 14:44	17°♂07'51	-16°41'03				
min. Earth dist.	-8731 Aug 12 j 01:41	17°♂08'29	48.13501 AU	conjunction	-8722 Feb 17 j 17:28	25°♂14'28	-15°10'10
direct	-8731 Nov 02 j 03:57	16°♂08'32		minimum elong	-8722 Feb 17 j 17:36	25°♂14'29	15°10'42
				max. Earth dist.	-8722 Feb 17 j 19:27	25°♂14'35	49.97193 AU
conjunction	-8730 Feb 09 j 17:33	17°♂35'34	-15°59'07	retrograde	-8722 May 30 j 20:38	26°♂43'28	
minimum elong	-8730 Feb 09 j 17:40	17°♂35'35	15°59'39	opposition	-8722 Aug 21 j 05:40	25°♂44'05	-15°43'55
max. Earth dist.	-8730 Feb 10 j 06:26	17°♂36'18	50.05613 AU	min. Earth dist.	-8722 Aug 21 j 05:20	25°♂44'06	48.02862 AU
retrograde	-8730 May 23 j 06:03	19°♂04'59		direct	-8722 Nov 10 j 23:49	24°♂44'45	
opposition	-8730 Aug 13 j 19:10	18°♂05'17	-16°35'45				
min. Earth dist.	-8730 Aug 13 j 07:58	18°♂05'49	48.13784 AU	conjunction	-8721 Feb 18 j 23:25	26°♂11'52	-15°03'00
direct	-8730 Nov 03 j 06:04	17°♂05'57		minimum elong	-8721 Feb 18 j 23:35	26°♂11'52	15°03'33
				max. Earth dist.	-8721 Feb 18 j 23:36	26°♂11'52	49.94002 AU
conjunction	-8729 Feb 10 j 23:28	18°♂32'58	-15°53'53	retrograde	-8721 Jun 01 j 01:38	27°♂40'51	
minimum elong	-8729 Feb 10 j 23:36	18°♂32'58	15°54'24	opposition	-8721 Aug 22 j 09:53	26°♂41'27	-15°36'22
max. Earth dist.	-8729 Feb 11 j 12:16	18°♂33'41	50.05828 AU	min. Earth dist.	-8721 Aug 22 j 10:00	26°♂41'27	47.99300 AU
retrograde	-8729 May 24 j 11:04	20°♂02'16		direct	-8721 Nov 12 j 04:53	25°♂42'04	
opposition	-8729 Aug 14 j 23:28	19°♂02'36	-16°30'10	evening set	-8720 Feb 18 j 17:15	27°♂07'10	
min. Earth dist.	-8729 Aug 14 j 12:57	19°♂03'06	48.13756 AU				
direct	-8729 Nov 04 j 10:50	18°♂03'17		conjunction	-8720 Feb 20 j 05:23	27°♂09'13	-14°55'36
				minimum elong	-8720 Feb 20 j 05:32	27°♂09'13	14°56'09
conjunction	-8728 Feb 12 j 05:17	19°♂30'16	-15°48'23	max. Earth dist.	-8720 Feb 20 j 03:26	27°♂09'06	49.90319 AU
minimum elong	-8728 Feb 12 j 05:23	19°♂30'17	15°48'55	morning rise	-8720 Feb 21 j 17:51	27°♂11'16	
max. Earth dist.	-8728 Feb 12 j 15:53	19°♂30'52	50.05755 AU	retrograde	-8720 Jun 01 j 09:01	28°♂38'10	
retrograde	-8728 May 24 j 16:05	20°♂59'30		opposition	-8720 Aug 22 j 14:09	27°♂38'46	-15°28'34
opposition	-8728 Aug 15 j 03:44	19°♂59'53	-16°24'19	min. Earth dist.	-8720 Aug 22 j 16:26	27°♂38'39	47.95287 AU
min. Earth dist.	-8728 Aug 14 j 17:57	20°♂00'21	48.13449 AU	direct	-8720 Nov 12 j 07:32	26°♂39'20	
direct	-8728 Nov 04 j 15:29	19°♂00'34		evening set	-8719 Feb 17 j 21:06	28°♂03'00	
conjunction	-8727 Feb 12 j 11:13	20°♂27'33	-15°42'37	conjunction	-8719 Feb 20 j 11:26	28°♂06'31	-14°47'57
minimum elong	-8727 Feb 12 j 11:22	20°♂27'33	15°43'09	minimum elong	-8719 Feb 20 j 11:36	28°♂06'31	14°48'31
max. Earth dist.	-8727 Feb 12 j 21:19	20°♂28'07	50.05381 AU	max. Earth dist.	-8719 Feb 20 j 09:07	28°♂06'23	49.86220 AU
retrograde	-8727 May 25 j 18:00	21°♂56'44		morning rise	-8719 Feb 23 j 02:07	28°♂10'03	
opposition	-8727 Aug 16 j 08:06	20°♂57'10	-16°18'11	retrograde	-8719 Jun 02 j 14:31	29°♂35'26	
min. Earth dist.	-8727 Aug 16 j 00:12	20°♂57'32	48.12810 AU	opposition	-8719 Aug 23 j 18:22	28°♂36'01	-15°20'32
direct	-8727 Nov 05 j 23:24	19°♂57'51		min. Earth dist.	-8719 Aug 23 j 21:33	28°♂35'52	47.90868 AU
				direct	-8719 Nov 13 j 12:03	27°♂36'33	
conjunction	-8726 Feb 13 j 17:14	21°♂24'51	-15°36'36	evening set	-8718 Feb 18 j 08:31	28°♂59'12	
minimum elong	-8726 Feb 13 j 17:21	21°♂24'51	15°37'08				
max. Earth dist.	-8726 Feb 14 j 01:51	21°♂25'20	50.04672 AU	conjunction	-8718 Feb 21 j 17:21	29°♂03'47	-14°40'03
retrograde	-8726 May 26 j 23:48	22°♂53'59		minimum elong	-8718 Feb 21 j 17:31	29°♂03'47	14°40'36
opposition	-8726 Aug 17 j 12:14	21°♂54'28	-16°11'48	max. Earth dist.	-8718 Feb 21 j 12:40	29°♂03'31	49.81748 AU
min. Earth dist.	-8726 Aug 17 j 04:46	21°♂54'50	48.11801 AU	morning rise	-8718 Feb 25 j 02:36	29°♂08'22	
direct	-8726 Nov 07 j 03:52	20°♂55'11			-8718 Apr 07 j 10:42	0°♂	
				retrograde	-8718 Jun 03 j 20:15	0°♂32'41	
conjunction	-8725 Feb 14 j 23:12	22°♂22'11	-15°30'20		-8718 Jul 31 j 16:13	30°♂♂	
minimum elong	-8725 Feb 14 j 23:21	22°♂22'12	15°30'53	opposition	-8718 Aug 24 j 22:32	29°♂33'16	-15°12'13
max. Earth dist.	-8725 Feb 15 j 05:52	22°♂22'34	50.03551 AU	min. Earth dist.	-8718 Aug 25 j 02:35	29°♂33'04	47.86114 AU
retrograde	-8725 May 28 j 07:52	23°♂51'18		direct	-8718 Nov 14 j 16:23	28°♂33'45	
opposition	-8725 Aug 18 j 16:39	22°♂51'50	-16°05'11	evening set	-8717 Feb 18 j 23:09	29°♂55'36	
min. Earth dist.	-8725 Aug 18 j 11:25	22°♂52'05	48.10359 AU				
direct	-8725 Nov 08 j 05:29	21°♂52'33		conjunction	-8717 Feb 22 j 23:21	0°♂01'02	-14°31'55
				minimum elong	-8717 Feb 22 j 23:31	0°♂01'03	14°32'28
conjunction	-8724 Feb 16 j 05:11	23°♂19'36	-15°23'50		-8717 Feb 22 j 05:00	0°♂	
minimum elong	-8724 Feb 16 j 05:19	23°♂19'36	15°24'22	max. Earth dist.	-8717 Feb 22 j 18:10	0°♂00'45	49.76955 AU
max. Earth dist.	-8724 Feb 16 j 11:07	23°♂19'56	50.01969 AU	morning rise	-8717 Feb 26 j 23:55	0°♂06'30	
retrograde	-8724 May 28 j 12:35	24°♂48'41		retrograde	-8717 Jun 04 j 21:38	1°♂29'57	
opposition	-8724 Aug 18 j 20:59	23°♂49'15	-15°58'19	opposition	-8717 Aug 26 j 02:53	0°♂30'32	-15°03'39
min. Earth dist.	-8724 Aug 18 j 16:54	23°♂49'26	48.08405 AU	min. Earth dist.	-8717 Aug 26 j 08:35	0°♂30'15	47.81050 AU
direct	-8724 Nov 08 j 11:17	22°♂49'58			-8717 Sep 23 j 02:28	30°♂♂	
				direct	-8717 Nov 16 j 00:18	29°♂30'59	
conjunction	-8723 Feb 16 j 11:14	24°♂17'02	-15°17'06		-8716 Jan 08 j 06:33	0°♂	
minimum elong	-8723 Feb 16 j 11:23	24°♂17'02	15°17'39	evening set	-8716 Feb 19 j 15:33	0°♂52'08	
max. Earth dist.	-8723 Feb 16 j 14:20	24°♂17'12	49.99859 AU				

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 14

Attention, astronomical year style is used: The year -8716 in astronomical counting style is the year 8717 BCE in historical counting style.

conjunction	-8716 Feb 24 j 05:08	0°358'20	-14°23'30	direct	-8710 Nov 22 j 09:23	6°314'42	
minimum elong	-8716 Feb 24 j 05:19	0°358'21	14°24'03	evening set	-8709 Feb 23 j 11:31	7°332'32	
max. Earth dist.	-8716 Feb 23 j 22:48	0°357'59	49.71884 AU	max. Earth dist.	-8709 Mar 02 j 07:52	7°341'51	49.25725 AU
morning rise	-8716 Feb 28 j 19:10	1°304'34					
retrograde	-8716 Jun 05 j 02:35	2°327'16		conjunction	-8709 Mar 03 j 00:30	7°342'48	-13°17'39
opposition	-8716 Aug 26 j 07:07	1°327'52	-14°54'48	minimum elong	-8709 Mar 03 j 00:41	7°342'49	13°18'12
min. Earth dist.	-8716 Aug 26 j 12:54	1°327'35	47.75701 AU	morning rise	-8709 Mar 10 j 13:53	7°353'07	
direct	-8716 Nov 16 j 05:33	0°328'17		retrograde	-8709 Jun 12 j 19:27	9°312'05	
evening set	-8715 Feb 19 j 09:15	1°348'50		opposition	-8709 Sep 02 j 13:53	8°312'36	-13°45'45
				min. Earth dist.	-8709 Sep 03 j 05:45	8°311'51	47.27022 AU
conjunction	-8715 Feb 24 j 11:06	1°355'43	-14°14'49	direct	-8709 Nov 23 j 13:20	7°312'40	
minimum elong	-8715 Feb 24 j 11:16	1°355'44	14°15'23	evening set	-8708 Feb 24 j 09:20	8°330'07	
max. Earth dist.	-8715 Feb 24 j 03:01	1°355'16	49.66513 AU	max. Earth dist.	-8708 Mar 02 j 11:24	8°339'47	49.17224 AU
morning rise	-8715 Mar 01 j 13:26	2°302'39					
retrograde	-8715 Jun 06 j 11:13	3°324'42		conjunction	-8708 Mar 03 j 06:38	8°340'53	-13°07'18
opposition	-8715 Aug 27 j 11:22	2°325'18	-14°45'41	minimum elong	-8708 Mar 03 j 06:49	8°340'54	13°07'52
min. Earth dist.	-8715 Aug 27 j 19:09	2°324'56	47.70051 AU	morning rise	-8708 Mar 11 j 04:30	8°351'40	
direct	-8715 Nov 17 j 06:29	1°325'42		retrograde	-8708 Jun 13 j 02:33	10°310'12	
evening set	-8714 Feb 20 j 04:08	2°345'43		opposition	-8708 Sep 02 j 18:23	9°310'40	-13°34'55
				min. Earth dist.	-8708 Sep 03 j 11:31	9°309'50	47.18165 AU
conjunction	-8714 Feb 25 j 17:16	2°353'15	-14°05'54	direct	-8708 Nov 23 j 17:18	8°310'37	
minimum elong	-8714 Feb 25 j 17:28	2°353'15	14°06'27	evening set	-8707 Feb 24 j 07:34	9°327'44	
max. Earth dist.	-8714 Feb 25 j 08:50	2°352'46	49.60832 AU				
morning rise	-8714 Mar 03 j 06:50	3°300'48		conjunction	-8707 Mar 04 j 13:06	9°338'58	-12°56'42
retrograde	-8714 Jun 07 j 16:34	4°322'16		minimum elong	-8707 Mar 04 j 13:17	9°338'58	12°57'15
opposition	-8714 Aug 28 j 15:41	3°322'53	-14°36'18	max. Earth dist.	-8707 Mar 03 j 17:11	9°337'50	49.08303 AU
min. Earth dist.	-8714 Aug 29 j 00:12	3°322'29	47.64047 AU	morning rise	-8707 Mar 12 j 19:02	9°350'13	
direct	-8714 Nov 18 j 11:23	2°323'15		retrograde	-8707 Jun 14 j 04:52	11°308'20	
evening set	-8713 Feb 20 j 23:31	3°342'47		opposition	-8707 Sep 03 j 22:53	10°308'44	-13°23'49
				min. Earth dist.	-8707 Sep 04 j 17:49	10°307'49	47.08912 AU
conjunction	-8713 Feb 26 j 23:11	3°350'55	-13°56'43	direct	-8707 Nov 25 j 00:58	9°308'35	
minimum elong	-8713 Feb 26 j 23:21	3°350'56	13°57'17	evening set	-8706 Feb 25 j 06:13	10°325'22	
max. Earth dist.	-8713 Feb 26 j 12:19	3°350'18	49.54773 AU				
morning rise	-8713 Mar 04 j 23:21	3°359'05		conjunction	-8706 Mar 05 j 19:30	10°337'03	-12°45'51
retrograde	-8713 Jun 08 j 22:19	5°319'59		minimum elong	-8706 Mar 05 j 19:41	10°337'04	12°46'25
opposition	-8713 Aug 29 j 20:00	4°320'37	-14°26'40	max. Earth dist.	-8706 Mar 04 j 22:13	10°335'50	48.99035 AU
min. Earth dist.	-8713 Aug 30 j 05:48	4°320'09	47.57646 AU	morning rise	-8706 Mar 14 j 09:15	10°348'46	
direct	-8713 Nov 19 j 16:04	3°320'58		retrograde	-8706 Jun 15 j 08:38	12°306'29	
evening set	-8712 Feb 21 j 19:42	4°340'02		opposition	-8706 Sep 05 j 03:25	11°306'50	-13°12'26
				min. Earth dist.	-8706 Sep 05 j 22:35	11°305'55	46.99336 AU
conjunction	-8712 Feb 28 j 05:26	4°348'45	-13°47'18	direct	-8706 Nov 26 j 07:50	10°306'36	
minimum elong	-8712 Feb 28 j 05:38	4°348'46	13°47'52	evening set	-8705 Feb 26 j 04:48	11°323'05	
max. Earth dist.	-8712 Feb 27 j 17:45	4°348'05	49.48271 AU	max. Earth dist.	-8705 Mar 06 j 02:49	11°333'53	48.89450 AU
morning rise	-8712 Mar 05 j 15:38	4°357'29					
retrograde	-8712 Jun 09 j 01:11	6°317'53		conjunction	-8705 Mar 07 j 01:44	11°335'12	-12°34'44
opposition	-8712 Aug 30 j 00:25	5°318'30	-14°16'48	minimum elong	-8705 Mar 07 j 01:57	11°335'13	12°35'17
min. Earth dist.	-8712 Aug 30 j 12:24	5°317'56	47.50766 AU	morning rise	-8705 Mar 15 j 23:11	11°347'22	
direct	-8712 Nov 19 j 23:42	4°318'48		retrograde	-8705 Jun 16 j 16:01	13°304'44	
evening set	-8711 Feb 21 j 16:35	5°337'27		opposition	-8705 Sep 06 j 08:09	12°305'02	-13°00'48
				min. Earth dist.	-8705 Sep 07 j 05:06	12°304'01	46.89473 AU
conjunction	-8711 Feb 28 j 11:44	5°346'42	-13°37'38	direct	-8705 Nov 27 j 10:58	11°304'42	
minimum elong	-8711 Feb 28 j 11:54	5°346'43	13°38'12	evening set	-8704 Feb 27 j 03:49	12°320'54	
max. Earth dist.	-8711 Feb 27 j 22:04	5°345'55	49.41284 AU	max. Earth dist.	-8704 Mar 06 j 09:08	12°332'09	48.79605 AU
morning rise	-8711 Mar 07 j 07:22	5°355'59					
retrograde	-8711 Jun 10 j 05:43	7°315'53		conjunction	-8704 Mar 07 j 08:14	12°333'28	-12°23'21
opposition	-8711 Aug 31 j 04:51	6°316'30	-14°06'41	minimum elong	-8704 Mar 07 j 08:26	12°333'29	12°23'55
min. Earth dist.	-8711 Aug 31 j 17:23	6°315'54	47.43369 AU	morning rise	-8704 Mar 16 j 12:58	12°346'04	
direct	-8711 Nov 21 j 05:43	5°316'44		retrograde	-8704 Jun 16 j 21:56	14°303'07	
evening set	-8710 Feb 22 j 13:49	6°334'58		opposition	-8704 Sep 06 j 12:45	13°303'22	-12°48'52
				min. Earth dist.	-8704 Sep 07 j 10:06	13°302'20	46.79341 AU
conjunction	-8710 Mar 01 j 18:05	6°344'44	-13°27'46	direct	-8704 Nov 27 j 15:30	12°302'58	
minimum elong	-8710 Mar 01 j 18:16	6°344'45	13°28'20	evening set	-8703 Feb 27 j 03:10	13°318'55	
max. Earth dist.	-8710 Mar 01 j 02:06	6°343'49	49.33756 AU				
morning rise	-8710 Mar 08 j 22:53	6°354'33		conjunction	-8703 Mar 08 j 14:43	13°331'55	-12°11'42
retrograde	-8710 Jun 11 j 12:40	8°313'58		minimum elong	-8703 Mar 08 j 14:55	13°331'56	12°12'16
opposition	-8710 Sep 01 j 09:23	7°314'33	-13°56'20	max. Earth dist.	-8703 Mar 07 j 13:27	13°330'29	48.69495 AU
min. Earth dist.	-8710 Sep 02 j 00:21	7°313'50	47.35445 AU	morning rise	-8703 Mar 18 j 02:48	13°344'57	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 15

Attention, astronomical year style is used: The year -8703 in astronomical counting style is the year 8704 BCE in historical counting style.

retrograde	-8703 Jun 18 j 05:18	15° $\overline{3}$ 01'42		conjunction	-8696 Mar 15 j 15:24	20° $\overline{3}$ 28'56	-10°42'58
opposition	-8703 Sep 07 j 17:32	14° $\overline{3}$ 01'55	-12°36'39	minimum elong	-8696 Mar 15 j 15:36	20° $\overline{3}$ 28'57	10°43'30
min. Earth dist.	-8703 Sep 08 j 15:57	14° $\overline{3}$ 00'50	46.68940 AU	morning rise	-8696 Mar 27 j 00:56	20° $\overline{3}$ 44'46	
direct	-8703 Nov 28 j 19:37	13° $\overline{3}$ 01'27		retrograde	-8696 Jun 24 j 22:48	21° $\overline{3}$ 59'52	
evening set	-8702 Feb 28 j 02:40	14° $\overline{3}$ 17'12		opposition	-8696 Sep 14 j 05:21	20° $\overline{3}$ 59'45	-11°03'48
				min. Earth dist.	-8696 Sep 15 j 13:11	20° $\overline{3}$ 58'11	45.84385 AU
conjunction	-8702 Mar 09 j 21:25	14° $\overline{3}$ 30'38	-11°59'47	direct	-8696 Dec 05 j 13:27	19° $\overline{3}$ 58'37	
minimum elong	-8702 Mar 09 j 21:37	14° $\overline{3}$ 30'38	12°00'21	evening set	-8695 Mar 05 j 07:27	21° $\overline{3}$ 13'15	
max. Earth dist.	-8702 Mar 08 j 19:42	14° $\overline{3}$ 29'09	48.59085 AU	max. Earth dist.	-8695 Mar 15 j 09:19	21° $\overline{3}$ 27'15	47.74019 AU
morning rise	-8702 Mar 19 j 16:27	14° $\overline{3}$ 44'05					
retrograde	-8702 Jun 19 j 09:07	16° $\overline{3}$ 00'33		conjunction	-8695 Mar 16 j 22:45	21° $\overline{3}$ 29'26	-10°29'17
opposition	-8702 Sep 08 j 22:24	15° $\overline{3}$ 00'45	-12°24'10	minimum elong	-8695 Mar 16 j 22:58	21° $\overline{3}$ 29'26	10°29'50
min. Earth dist.	-8702 Sep 09 j 22:32	14° $\overline{3}$ 59'35	46.58213 AU	morning rise	-8695 Mar 28 j 14:14	21° $\overline{3}$ 45'37	
direct	-8702 Nov 30 j 03:16	14° $\overline{3}$ 00'14		retrograde	-8695 Jun 26 j 05:36	23° $\overline{3}$ 00'33	
evening set	-8701 Mar 01 j 02:38	15° $\overline{3}$ 15'48		opposition	-8695 Sep 15 j 10:53	22° $\overline{3}$ 00'19	-10°49'28
max. Earth dist.	-8701 Mar 10 j 00:50	15° $\overline{3}$ 28'03	48.48343 AU	min. Earth dist.	-8695 Sep 16 j 20:54	21° $\overline{3}$ 58'39	45.70475 AU
				direct	-8695 Dec 06 j 18:58	20° $\overline{3}$ 59'02	
conjunction	-8701 Mar 11 j 04:07	15° $\overline{3}$ 29'38	-11°47'36	evening set	-8694 Mar 06 j 09:06	22° $\overline{3}$ 13'33	
minimum elong	-8701 Mar 11 j 04:20	15° $\overline{3}$ 29'38	11°48'10	max. Earth dist.	-8694 Mar 16 j 16:24	22° $\overline{3}$ 27'53	47.60084 AU
morning rise	-8701 Mar 21 j 06:00	15° $\overline{3}$ 43'29					
retrograde	-8701 Jun 20 j 14:23	16° $\overline{3}$ 59'43		conjunction	-8694 Mar 18 j 06:11	22° $\overline{3}$ 30'05	-10°15'20
opposition	-8701 Sep 10 j 03:16	15° $\overline{3}$ 59'54	-12°11'25	minimum elong	-8694 Mar 18 j 06:23	22° $\overline{3}$ 30'06	10°15'52
min. Earth dist.	-8701 Sep 11 j 03:45	15° $\overline{3}$ 58'43	46.47119 AU	morning rise	-8694 Mar 30 j 03:13	22° $\overline{3}$ 46'39	
direct	-8701 Dec 01 j 09:19	14° $\overline{3}$ 59'19		retrograde	-8694 Jun 27 j 12:39	24° $\overline{3}$ 01'24	
evening set	-8700 Mar 01 j 02:36	16° $\overline{3}$ 14'42		opposition	-8694 Sep 16 j 16:23	23° $\overline{3}$ 01'04	-10°34'52
max. Earth dist.	-8700 Mar 10 j 05:35	16° $\overline{3}$ 27'15	48.37179 AU	min. Earth dist.	-8694 Sep 18 j 02:44	22° $\overline{3}$ 59'23	45.56218 AU
				direct	-8694 Dec 07 j 23:47	21° $\overline{3}$ 59'38	
conjunction	-8700 Mar 11 j 10:51	16° $\overline{3}$ 28'57	-11°35'10	evening set	-8693 Mar 07 j 10:59	23° $\overline{3}$ 14'02	
minimum elong	-8700 Mar 11 j 11:03	16° $\overline{3}$ 28'57	11°35'43	max. Earth dist.	-8693 Mar 17 j 21:34	23° $\overline{3}$ 28'36	47.45832 AU
morning rise	-8700 Mar 21 j 19:30	16° $\overline{3}$ 43'13					
retrograde	-8700 Jun 20 j 21:43	17° $\overline{3}$ 59'13		conjunction	-8693 Mar 19 j 13:33	23° $\overline{3}$ 30'56	-10°01'06
opposition	-8700 Sep 10 j 08:24	16° $\overline{3}$ 59'23	-11°58'25	minimum elong	-8693 Mar 19 j 13:45	23° $\overline{3}$ 30'57	10°01'39
min. Earth dist.	-8700 Sep 11 j 11:19	16° $\overline{3}$ 58'04	46.35575 AU	morning rise	-8693 Mar 31 j 16:19	23° $\overline{3}$ 47'52	
direct	-8700 Dec 01 j 13:25	15° $\overline{3}$ 58'43		retrograde	-8693 Jun 28 j 21:46	25° $\overline{3}$ 02'27	
evening set	-8699 Mar 02 j 03:09	17° $\overline{3}$ 13'56		opposition	-8693 Sep 17 j 22:04	24° $\overline{3}$ 02'00	-10°19'58
max. Earth dist.	-8699 Mar 11 j 11:58	17° $\overline{3}$ 26'50	48.25542 AU	min. Earth dist.	-8693 Sep 19 j 09:38	24° $\overline{3}$ 00'16	45.41681 AU
				direct	-8693 Dec 09 j 03:55	23° $\overline{3}$ 00'26	
conjunction	-8699 Mar 12 j 17:59	17° $\overline{3}$ 28'34	-11°22'29	evening set	-8692 Mar 07 j 12:51	24° $\overline{3}$ 14'46	
minimum elong	-8699 Mar 12 j 18:12	17° $\overline{3}$ 28'35	11°23'02	max. Earth dist.	-8692 Mar 18 j 04:52	24° $\overline{3}$ 29'40	47.31301 AU
morning rise	-8699 Mar 23 j 08:59	17° $\overline{3}$ 43'15					
retrograde	-8699 Jun 22 j 05:41	18° $\overline{3}$ 59'01		conjunction	-8692 Mar 19 j 21:06	24° $\overline{3}$ 32'02	-9°46'36
opposition	-8699 Sep 11 j 13:29	17° $\overline{3}$ 59'08	-11°45'09	minimum elong	-8692 Mar 19 j 21:18	24° $\overline{3}$ 32'02	9°47'08
min. Earth dist.	-8699 Sep 12 j 17:20	17° $\overline{3}$ 57'47	46.23522 AU	morning rise	-8692 Apr 01 j 05:08	24° $\overline{3}$ 49'19	
direct	-8699 Dec 02 j 17:37	16° $\overline{3}$ 58'23		retrograde	-8692 Jun 29 j 03:33	26° $\overline{3}$ 03'45	
evening set	-8698 Mar 03 j 04:00	18° $\overline{3}$ 13'26		opposition	-8692 Sep 18 j 03:55	25° $\overline{3}$ 03'12	-10°04'47
max. Earth dist.	-8698 Mar 12 j 16:08	18° $\overline{3}$ 26'35	48.13389 AU	min. Earth dist.	-8692 Sep 19 j 16:47	25° $\overline{3}$ 01'23	45.26864 AU
				direct	-8692 Dec 09 j 11:57	24° $\overline{3}$ 01'30	
conjunction	-8698 Mar 14 j 01:04	18° $\overline{3}$ 28'29	-11°09'34	evening set	-8691 Mar 08 j 15:20	25° $\overline{3}$ 15'46	
minimum elong	-8698 Mar 14 j 01:15	18° $\overline{3}$ 28'29	11°10'06	max. Earth dist.	-8691 Mar 19 j 11:01	25° $\overline{3}$ 30'56	47.16514 AU
morning rise	-8698 Mar 24 j 22:31	18° $\overline{3}$ 43'33					
retrograde	-8698 Jun 23 j 14:52	19° $\overline{3}$ 59'05		conjunction	-8691 Mar 21 j 04:47	25° $\overline{3}$ 33'24	-9°31'49
opposition	-8698 Sep 12 j 18:45	18° $\overline{3}$ 59'08	-11°31'37	minimum elong	-8691 Mar 21 j 04:58	25° $\overline{3}$ 33'24	9°32'21
min. Earth dist.	-8698 Sep 14 j 00:09	18° $\overline{3}$ 57'43	46.10962 AU	morning rise	-8691 Apr 02 j 18:11	25° $\overline{3}$ 51'02	
direct	-8698 Dec 03 j 21:17	17° $\overline{3}$ 58'16		retrograde	-8691 Jun 30 j 09:41	27° $\overline{3}$ 05'20	
evening set	-8697 Mar 04 j 04:47	19° $\overline{3}$ 13'11		opposition	-8691 Sep 19 j 09:41	26° $\overline{3}$ 04'43	-9°49'17
max. Earth dist.	-8697 Mar 13 j 22:27	19° $\overline{3}$ 26'40	48.00722 AU	min. Earth dist.	-8691 Sep 20 j 22:45	26° $\overline{3}$ 02'53	45.11786 AU
				direct	-8691 Dec 10 j 19:28	25° $\overline{3}$ 02'52	
conjunction	-8697 Mar 15 j 08:11	19° $\overline{3}$ 28'37	-10°56'23	evening set	-8690 Mar 09 j 17:59	26° $\overline{3}$ 17'07	
minimum elong	-8697 Mar 15 j 08:24	19° $\overline{3}$ 28'37	10°56'57	max. Earth dist.	-8690 Mar 20 j 17:28	26° $\overline{3}$ 32'32	47.01434 AU
morning rise	-8697 Mar 26 j 11:42	19° $\overline{3}$ 44'04					
retrograde	-8697 Jun 24 j 19:16	20° $\overline{3}$ 59'23		conjunction	-8690 Mar 22 j 12:41	26° $\overline{3}$ 35'05	-9°16'45
opposition	-8697 Sep 14 j 00:09	19° $\overline{3}$ 59'21	-11°17'50	minimum elong	-8690 Mar 22 j 12:53	26° $\overline{3}$ 35'06	9°17'17
min. Earth dist.	-8697 Sep 15 j 07:26	19° $\overline{3}$ 57'50	45.97894 AU	morning rise	-8690 Apr 04 j 07:14	26° $\overline{3}$ 53'04	
direct	-8697 Dec 05 j 04:48	18° $\overline{3}$ 58'22		retrograde	-8690 Jul 01 j 16:00	28° $\overline{3}$ 07'18	
evening set	-8696 Mar 04 j 06:04	20° $\overline{3}$ 13'08		opposition	-8690 Sep 20 j 15:50	27° $\overline{3}$ 06'35	-9°33'30
max. Earth dist.	-8696 Mar 14 j 03:54	20° $\overline{3}$ 26'52	47.87589 AU	min. Earth dist.	-8690 Sep 22 j 07:01	27° $\overline{3}$ 04'39	44.96406 AU
				direct	-8690 Dec 12 j 02:05	26° $\overline{3}$ 04'37	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16

Attention, astronomical year style is used: The year -8689 in astronomical counting style is the year 8690 BCE in historical counting style.

evening set	-8689 Mar 10 j 20:47	27° $\text{Z}$ 18'51		conjunction	-8683 Mar 30 j 00:07	3° $\approx$ 57'46	-7°23'36
max. Earth dist.	-8689 Mar 22 j 00:59	27° $\text{Z}$ 34'35	46.86037 AU	minimum elong	-8683 Mar 30 j 00:18	3° $\approx$ 57'47	7°24'06
				morning rise	-8683 Apr 13 j 02:37	4° $\approx$ 18'04	
conjunction	-8689 Mar 23 j 20:35	27° $\text{Z}$ 37'10	-9°01'24	retrograde	-8683 Jul 09 j 01:31	5° $\approx$ 32'04	
minimum elong	-8689 Mar 23 j 20:46	27° $\text{Z}$ 37'10	9°01'56	opposition	-8683 Sep 27 j 14:16	4° $\approx$ 30'28	-7°34'56
morning rise	-8689 Apr 05 j 20:02	27° $\text{Z}$ 55'29		min. Earth dist.	-8683 Sep 29 j 14:35	4° $\approx$ 28'02	43.76700 AU
retrograde	-8689 Jul 02 j 23:35	29° $\text{Z}$ 09'39		direct	-8683 Dec 19 j 00:11	3° $\approx$ 27'18	
opposition	-8689 Sep 21 j 22:00	28° $\text{Z}$ 08'51	-9°17'25	evening set	-8682 Mar 17 j 01:59	4° $\approx$ 41'49	
min. Earth dist.	-8689 Sep 23 j 13:39	28° $\text{Z}$ 06'53	44.80668 AU	max. Earth dist.	-8682 Mar 29 j 02:58	4° $\approx$ 59'10	45.65804 AU
direct	-8689 Dec 13 j 08:12	27° $\text{Z}$ 06'45					
evening set	-8688 Mar 11 j 00:07	28° $\text{Z}$ 20'59		conjunction	-8682 Mar 31 j 09:17	5° $\approx$ 02'27	-7°06'20
max. Earth dist.	-8688 Mar 22 j 06:30	28° $\text{Z}$ 36'54	46.70244 AU	minimum elong	-8682 Mar 31 j 09:27	5° $\approx$ 02'28	7°06'50
				morning rise	-8682 Apr 14 j 15:35	5° $\approx$ 23'03	
conjunction	-8688 Mar 24 j 04:43	28° $\text{Z}$ 39'39	-8°45'47	retrograde	-8682 Jul 10 j 10:12	6° $\approx$ 37'04	
minimum elong	-8688 Mar 24 j 04:55	28° $\text{Z}$ 39'40	8°46'18	opposition	-8682 Sep 28 j 21:37	5° $\approx$ 35'19	-7°16'48
morning rise	-8688 Apr 06 j 09:10	28° $\text{Z}$ 58'19		min. Earth dist.	-8682 Sep 30 j 22:59	5° $\approx$ 32'49	43.57976 AU
	-8688 May 30 j 22:29	0° $\approx$		direct	-8682 Dec 20 j 08:28	4° $\approx$ 31'56	
retrograde	-8688 Jul 03 j 10:34	0° $\approx$ 12'26		evening set	-8681 Mar 18 j 07:12	5° $\approx$ 46'34	
	-8688 Aug 05 j 22:30	30° $\text{R}$ $\text{Z}$		max. Earth dist.	-8681 Mar 30 j 10:21	6° $\approx$ 04'07	45.47086 AU
opposition	-8688 Sep 22 j 04:14	29° $\text{Z}$ 11'32	-9°01'03				
min. Earth dist.	-8688 Sep 23 j 21:38	29° $\text{Z}$ 09'29	44.64516 AU	conjunction	-8681 Apr 01 j 18:14	6° $\approx$ 07'31	-6°48'46
direct	-8688 Dec 13 j 11:35	28° $\text{Z}$ 09'17		minimum elong	-8681 Apr 01 j 18:24	6° $\approx$ 07'31	6°49'15
evening set	-8687 Mar 12 j 03:42	29° $\text{Z}$ 23'32		morning rise	-8681 Apr 16 j 04:28	6° $\approx$ 28'25	
max. Earth dist.	-8687 Mar 23 j 14:17	29° $\text{Z}$ 39'45	46.53995 AU	retrograde	-8681 Jul 11 j 19:24	7° $\approx$ 42'29	
				opposition	-8681 Sep 30 j 04:59	6° $\approx$ 40'34	-6°58'22
conjunction	-8687 Mar 25 j 13:16	29° $\text{Z}$ 42'33	-8°29'53	min. Earth dist.	-8681 Oct 02 j 06:34	6° $\approx$ 38'03	43.39011 AU
minimum elong	-8687 Mar 25 j 13:27	29° $\text{Z}$ 42'33	8°30'24	direct	-8681 Dec 21 j 16:58	5° $\approx$ 36'59	
	-8687 Apr 06 j 19:44	0° $\approx$		evening set	-8680 Mar 18 j 12:45	6° $\approx$ 51'45	
morning rise	-8687 Apr 07 j 22:16	0° $\approx$ 01'33		max. Earth dist.	-8680 Mar 30 j 18:43	7° $\approx$ 09'32	45.28124 AU
retrograde	-8687 Jul 04 j 18:14	1° $\approx$ 15'37					
opposition	-8687 Sep 23 j 10:52	0° $\approx$ 14'36	-8°44'25	conjunction	-8680 Apr 02 j 03:38	7° $\approx$ 13'01	-6°30'54
min. Earth dist.	-8687 Sep 25 j 05:59	0° $\approx$ 12'27	44.47875 AU	minimum elong	-8680 Apr 02 j 03:47	7° $\approx$ 13'01	6°31'24
	-8687 Oct 05 j 18:54	30° $\text{R}$ $\text{Z}$		morning rise	-8680 Apr 16 j 17:27	7° $\approx$ 34'14	
direct	-8687 Dec 14 j 18:58	29° $\text{Z}$ 12'12		retrograde	-8680 Jul 12 j 02:05	8° $\approx$ 48'21	
	-8686 Feb 21 j 12:34	0° $\approx$		opposition	-8680 Sep 30 j 12:34	7° $\approx$ 46'17	-6°39'37
evening set	-8686 Mar 13 j 07:43	0° $\approx$ 26'29		min. Earth dist.	-8680 Oct 02 j 16:01	7° $\approx$ 43'40	43.19824 AU
max. Earth dist.	-8686 Mar 24 j 20:43	0° $\approx$ 42'54	46.37258 AU	direct	-8680 Dec 22 j 02:01	6° $\approx$ 42'30	
				evening set	-8679 Mar 19 j 18:47	7° $\approx$ 57'26	
conjunction	-8686 Mar 26 j 21:45	0° $\approx$ 45'50	-8°13'44	max. Earth dist.	-8679 Apr 01 j 04:02	8° $\approx$ 15'29	45.08963 AU
minimum elong	-8686 Mar 26 j 21:57	0° $\approx$ 45'50	8°14'15				
morning rise	-8686 Apr 09 j 11:24	1° $\approx$ 05'10		conjunction	-8679 Apr 03 j 13:16	8° $\approx$ 19'00	-6°12'44
retrograde	-8686 Jul 06 j 00:47	2° $\approx$ 19'11		minimum elong	-8679 Apr 03 j 13:26	8° $\approx$ 19'00	6°13'13
opposition	-8686 Sep 24 j 17:29	1° $\approx$ 18'03	-8°27'29	morning rise	-8679 Apr 18 j 06:34	8° $\approx$ 40'31	
min. Earth dist.	-8686 Sep 26 j 13:22	1° $\approx$ 15'52	44.30747 AU	retrograde	-8679 Jul 13 j 09:48	9° $\approx$ 54'45	
direct	-8686 Dec 16 j 03:50	0° $\approx$ 15'28		opposition	-8679 Oct 01 j 20:22	8° $\approx$ 52'32	-6°20'32
evening set	-8685 Mar 14 j 11:52	1° $\approx$ 29'48		min. Earth dist.	-8679 Oct 03 j 23:44	8° $\approx$ 49'55	43.00431 AU
max. Earth dist.	-8685 Mar 26 j 03:29	1° $\approx$ 46'25	46.20023 AU	direct	-8679 Dec 23 j 10:46	7° $\approx$ 48'34	
				evening set	-8678 Mar 21 j 01:09	9° $\approx$ 03'41	
conjunction	-8685 Mar 28 j 06:28	1° $\approx$ 49'28	-7°57'18	max. Earth dist.	-8678 Apr 02 j 11:38	9° $\approx$ 21'53	44.89579 AU
minimum elong	-8685 Mar 28 j 06:38	1° $\approx$ 49'29	7°57'49				
morning rise	-8685 Apr 11 j 00:29	2° $\approx$ 09'08		conjunction	-8678 Apr 04 j 22:58	9° $\approx$ 25'33	-5°54'16
retrograde	-8685 Jul 07 j 07:24	3° $\approx$ 23'08		minimum elong	-8678 Apr 04 j 23:07	9° $\approx$ 25'33	5°54'45
opposition	-8685 Sep 26 j 00:22	2° $\approx$ 21'51	-8°10'15	morning rise	-8678 Apr 19 j 19:41	9° $\approx$ 47'21	
min. Earth dist.	-8685 Sep 27 j 22:31	2° $\approx$ 19'32	44.13144 AU	retrograde	-8678 Jul 14 j 22:07	11° $\approx$ 01'44	
direct	-8685 Dec 17 j 11:59	1° $\approx$ 19'05		opposition	-8678 Oct 03 j 04:23	9° $\approx$ 59'22	-6°01'08
evening set	-8684 Mar 14 j 16:12	2° $\approx$ 33'27		min. Earth dist.	-8678 Oct 05 j 09:19	9° $\approx$ 56'40	42.80817 AU
max. Earth dist.	-8684 Mar 26 j 11:34	2° $\approx$ 50'21	46.02343 AU	direct	-8678 Dec 24 j 15:07	8° $\approx$ 55'12	
				evening set	-8677 Mar 22 j 07:49	10° $\approx$ 10'32	
conjunction	-8684 Mar 28 j 15:13	2° $\approx$ 53'27	-7°40'36	max. Earth dist.	-8677 Apr 03 j 21:44	10° $\approx$ 29'02	44.69945 AU
minimum elong	-8684 Mar 28 j 15:24	2° $\approx$ 53'28	7°41'06				
morning rise	-8684 Apr 11 j 13:29	3° $\approx$ 13'26		conjunction	-8677 Apr 06 j 09:04	10° $\approx$ 32'42	-5°35'30
retrograde	-8684 Jul 07 j 15:12	4° $\approx$ 27'25		minimum elong	-8677 Apr 06 j 09:13	10° $\approx$ 32'43	5°35'58
opposition	-8684 Sep 26 j 07:16	3° $\approx$ 25'59	-7°52'45	morning rise	-8677 Apr 21 j 08:48	10° $\approx$ 54'49	
min. Earth dist.	-8684 Sep 28 j 05:51	3° $\approx$ 23'39	43.95105 AU	retrograde	-8677 Jul 16 j 08:25	12° $\approx$ 09'20	
direct	-8684 Dec 17 j 18:55	2° $\approx$ 23'01		opposition	-8677 Oct 04 j 12:38	11° $\approx$ 06'49	-5°41'25
evening set	-8683 Mar 15 j 21:02	3° $\approx$ 37'27		min. Earth dist.	-8677 Oct 06 j 18:33	11° $\approx$ 04'04	42.60920 AU
max. Earth dist.	-8683 Mar 27 j 18:03	3° $\approx$ 54'30	45.84247 AU	direct	-8677 Dec 25 j 22:22	10° $\approx$ 02'29	



## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 17

Attention, astronomical year style is used: The year -8676 in astronomical counting style is the year 8677 BCE in historical counting style.

evening set	-8676 Mar 22 j 15:00	11° $\approx$ 18'04		conjunction	-8670 Apr 14 j 14:16	18° $\approx$ 39'54	-3°15'53
max. Earth dist.	-8676 Apr 04 j 05:55	11° $\approx$ 36'42	44.50004 AU	minimum elong	-8670 Apr 14 j 14:21	18° $\approx$ 39'54	3°16'18
				morning rise	-8670 Apr 30 j 07:16	19° $\approx$ 03'52	
conjunction	-8676 Apr 06 j 19:12	11° $\approx$ 40'31	-5°16'27	retrograde	-8670 Jul 24 j 11:30	20° $\approx$ 19'53	
minimum elong	-8676 Apr 06 j 19:21	11° $\approx$ 40'31	5°16'54	opposition	-8670 Oct 12 j 05:23	19° $\approx$ 15'55	-3°14'33
morning rise	-8676 Apr 21 j 22:08	12° $\approx$ 02'54		min. Earth dist.	-8670 Oct 14 j 20:01	19° $\approx$ 12'38	41.11103 AU
retrograde	-8676 Jul 16 j 19:43	13° $\approx$ 17'36		direct	-8669 Jan 02 j 17:35	18° $\approx$ 09'47	
opposition	-8676 Oct 04 j 21:04	12° $\approx$ 14'56	-5°21'23	evening set	-8669 Mar 31 j 05:13	19° $\approx$ 27'28	
min. Earth dist.	-8676 Oct 07 j 03:52	12° $\approx$ 12'07	42.40689 AU	max. Earth dist.	-8669 Apr 13 j 04:24	19° $\approx$ 47'17	42.99588 AU
direct	-8676 Dec 26 j 07:06	11° $\approx$ 10'23					
evening set	-8675 Mar 23 j 22:39	12° $\approx$ 26'13		conjunction	-8669 Apr 16 j 02:10	19° $\approx$ 51'47	-2°54'45
max. Earth dist.	-8675 Apr 05 j 15:13	12° $\approx$ 45'03	44.29670 AU	minimum elong	-8669 Apr 16 j 02:15	19° $\approx$ 51'47	2°55'10
				morning rise	-8669 May 01 j 20:58	20° $\approx$ 15'59	
conjunction	-8675 Apr 08 j 05:53	12° $\approx$ 48'58	-4°57'05	retrograde	-8669 Jul 25 j 21:11	21° $\approx$ 32'17	
minimum elong	-8675 Apr 08 j 06:02	12° $\approx$ 48'59	4°57'32	opposition	-8669 Oct 13 j 15:33	20° $\approx$ 28'05	-2°52'16
morning rise	-8675 Apr 23 j 11:30	13° $\approx$ 11'38		min. Earth dist.	-8669 Oct 16 j 06:02	20° $\approx$ 24'47	40.88503 AU
retrograde	-8675 Jul 18 j 04:13	14° $\approx$ 26'31		direct	-8668 Jan 04 j 06:13	19° $\approx$ 21'39	
opposition	-8675 Oct 06 j 05:53	13° $\approx$ 23'41	-5°01'02	evening set	-8668 Mar 31 j 15:46	20° $\approx$ 39'44	
min. Earth dist.	-8675 Oct 08 j 14:49	13° $\approx$ 20'44	42.20049 AU	max. Earth dist.	-8668 Apr 13 j 14:54	20° $\approx$ 59'40	42.76964 AU
direct	-8675 Dec 27 j 18:35	12° $\approx$ 18'54					
evening set	-8674 Mar 25 j 06:47	13° $\approx$ 35'00		conjunction	-8668 Apr 16 j 14:19	21° $\approx$ 04'18	-2°33'19
max. Earth dist.	-8674 Apr 07 j 01:03	13° $\approx$ 54'02	44.08927 AU	minimum elong	-8668 Apr 16 j 14:24	21° $\approx$ 04'18	2°33'42
				morning rise	-8668 May 02 j 10:38	21° $\approx$ 28'45	
conjunction	-8674 Apr 09 j 16:44	13° $\approx$ 58'02	-4°37'26	retrograde	-8668 Jul 26 j 08:32	22° $\approx$ 45'23	
minimum elong	-8674 Apr 09 j 16:52	13° $\approx$ 58'03	4°37'53	opposition	-8668 Oct 14 j 02:11	21° $\approx$ 40'57	-2°29'41
morning rise	-8674 Apr 25 j 01:02	14° $\approx$ 20'59		min. Earth dist.	-8668 Oct 16 j 18:15	21° $\approx$ 37'33	40.65753 AU
	-8674 May 23 j 23:59	15° $\approx$		direct	-8667 Jan 04 j 16:12	20° $\approx$ 34'14	
retrograde	-8674 Jul 19 j 12:48	15° $\approx$ 36'03		evening set	-8667 Apr 02 j 02:52	21° $\approx$ 52'45	
	-8674 Sep 15 j 03:39	15° $\approx$		max. Earth dist.	-8667 Apr 15 j 03:48	22° $\approx$ 12'54	42.54200 AU
opposition	-8674 Oct 07 j 14:55	14° $\approx$ 33'01	-4°40'23				
min. Earth dist.	-8674 Oct 10 j 00:08	14° $\approx$ 30'03	41.98990 AU	conjunction	-8667 Apr 18 j 02:55	22° $\approx$ 17'33	-2°11'35
direct	-8674 Dec 29 j 05:25	13° $\approx$ 28'00		minimum elong	-8667 Apr 18 j 02:59	22° $\approx$ 17'33	2°11'59
evening set	-8673 Mar 26 j 15:10	14° $\approx$ 44'23		morning rise	-8667 May 04 j 00:25	22° $\approx$ 42'13	
	-8673 Apr 06 j 01:57	15° $\approx$		retrograde	-8667 Jul 27 j 20:15	23° $\approx$ 59'14	
max. Earth dist.	-8673 Apr 08 j 09:37	15° $\approx$ 03'31	43.87752 AU	opposition	-8667 Oct 15 j 13:04	22° $\approx$ 54'35	-2°06'46
				min. Earth dist.	-8667 Oct 18 j 05:12	22° $\approx$ 51'09	40.42865 AU
conjunction	-8673 Apr 11 j 03:38	15° $\approx$ 07'41	-4°17'29	direct	-8666 Jan 06 j 02:30	21° $\approx$ 47'36	
minimum elong	-8673 Apr 11 j 03:45	15° $\approx$ 07'41	4°17'56	evening set	-8666 Apr 03 j 14:39	23° $\approx$ 06'36	
morning rise	-8673 Apr 26 j 14:28	15° $\approx$ 30'54		max. Earth dist.	-8666 Apr 16 j 14:49	23° $\approx$ 26'50	42.31301 AU
retrograde	-8673 Jul 20 j 23:50	16° $\approx$ 46'11					
opposition	-8673 Oct 09 j 00:14	15° $\approx$ 42'56	-4°19'24	conjunction	-8666 Apr 19 j 15:42	23° $\approx$ 31'37	-1°49'33
min. Earth dist.	-8673 Oct 11 j 11:34	15° $\approx$ 39'51	41.77523 AU	minimum elong	-8666 Apr 19 j 15:45	23° $\approx$ 31'37	1°49'56
	-8673 Nov 15 j 13:54	15° $\approx$		morning rise	-8666 May 05 j 14:24	23° $\approx$ 56'31	
direct	-8673 Dec 30 j 13:18	14° $\approx$ 37'39		retrograde	-8666 Jul 29 j 11:28	25° $\approx$ 13'57	
	-8672 Feb 13 j 02:09	15° $\approx$		opposition	-8666 Oct 17 j 00:18	24° $\approx$ 09'04	-1°43'31
evening set	-8672 Mar 26 j 23:59	15° $\approx$ 54'19		min. Earth dist.	-8666 Oct 19 j 17:21	24° $\approx$ 05'36	40.19851 AU
max. Earth dist.	-8672 Apr 08 j 20:42	16° $\approx$ 13'40	43.66180 AU	direct	-8665 Jan 07 j 11:14	23° $\approx$ 01'50	
				evening set	-8665 Apr 05 j 02:40	24° $\approx$ 21'21	
conjunction	-8672 Apr 11 j 15:01	16° $\approx$ 17'52	-3°57'15	max. Earth dist.	-8665 Apr 18 j 03:48	24° $\approx$ 41'47	42.08230 AU
minimum elong	-8672 Apr 11 j 15:07	16° $\approx$ 17'53	3°57'41				
morning rise	-8672 Apr 27 j 04:01	16° $\approx$ 41'21		conjunction	-8665 Apr 21 j 04:49	24° $\approx$ 46'36	-1°27'13
retrograde	-8672 Jul 21 j 11:00	17° $\approx$ 56'51		minimum elong	-8665 Apr 21 j 04:52	24° $\approx$ 46'36	1°27'36
opposition	-8672 Oct 09 j 09:37	16° $\approx$ 53'23	-3°58'06	morning rise	-8665 May 07 j 04:13	25° $\approx$ 11'42	
min. Earth dist.	-8672 Oct 11 j 21:48	16° $\approx$ 50'14	41.55675 AU	retrograde	-8665 Jul 31 j 01:21	26° $\approx$ 29'36	
direct	-8672 Dec 30 j 22:26	15° $\approx$ 47'49		opposition	-8665 Oct 18 j 11:58	25° $\approx$ 24'30	-1°19'57
evening set	-8671 Mar 28 j 09:26	17° $\approx$ 04'47		min. Earth dist.	-8665 Oct 21 j 06:20	25° $\approx$ 20'57	39.96641 AU
max. Earth dist.	-8671 Apr 10 j 06:00	17° $\approx$ 24'15	43.44257 AU	direct	-8664 Jan 08 j 23:20	24° $\approx$ 17'01	
				evening set	-8664 Apr 05 j 15:37	25° $\approx$ 37'06	
conjunction	-8671 Apr 13 j 02:31	17° $\approx$ 28'37	-3°36'43	max. Earth dist.	-8664 Apr 18 j 16:08	25° $\approx$ 57'38	41.84944 AU
minimum elong	-8671 Apr 13 j 02:38	17° $\approx$ 28'37	3°37'09				
morning rise	-8671 Apr 28 j 17:48	17° $\approx$ 52'20		conjunction	-8664 Apr 21 j 18:22	26° $\approx$ 02'34	-1°04'36
retrograde	-8671 Jul 23 j 00:50	19° $\approx$ 08'05		minimum elong	-8664 Apr 21 j 18:24	26° $\approx$ 02'34	1°04'57
opposition	-8671 Oct 10 j 19:18	18° $\approx$ 04'22	-3°36'29	morning rise	-8664 May 07 j 18:30	26° $\approx$ 27'52	
min. Earth dist.	-8671 Oct 13 j 08:21	18° $\approx$ 01'10	41.33521 AU	retrograde	-8664 Jul 31 j 16:12	27° $\approx$ 46'15	
direct	-8670 Jan 01 j 06:40	16° $\approx$ 58'31		opposition	-8664 Oct 18 j 23:44	26° $\approx$ 40'56	-0°56'04
evening set	-8670 Mar 29 j 19:03	18° $\approx$ 15'50		min. Earth dist.	-8664 Oct 21 j 18:22	26° $\approx$ 37'21	39.73190 AU
max. Earth dist.	-8670 Apr 11 j 17:09	18° $\approx$ 35'29	43.22030 AU	direct	-8663 Jan 09 j 12:00	25° $\approx$ 33'10	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 18

Attention, astronomical year style is used: The year -8663 in astronomical counting style is the year 8664 BCE in historical counting style.

evening set	-8663 Apr 07 j 05:14	26° $\approx$ 53'52		direct	-8657 Jan 17 j 18:25	3° $\mathbb{H}$ 30'10	
max. Earth dist.	-8663 Apr 20 j 04:35	27° $\approx$ 14'27	41.61357 AU	evening set	-8657 Apr 16 j 03:39	4° $\mathbb{H}$ 54'59	
				max. Earth dist.	-8657 Apr 28 j 18:47	5° $\mathbb{H}$ 15'53	40.13400 AU
conjunction	-8663 Apr 23 j 08:28	27° $\approx$ 19'31	-0°41'41				
minimum elong	-8663 Apr 23 j 08:29	27° $\approx$ 19'31	0°42'03	conjunction	-8657 May 02 j 04:05	5° $\mathbb{H}$ 21'34	1°41'42
morning rise	-8663 May 09 j 08:52	27° $\approx$ 45'02		minimum elong	-8657 May 02 j 04:02	5° $\mathbb{H}$ 21'33	1°41'25
retrograde	-8663 Aug 02 j 04:34	29° $\approx$ 03'56		morning rise	-8657 May 18 j 01:13	5° $\mathbb{H}$ 47'57	
opposition	-8663 Oct 20 j 12:14	27° $\approx$ 58'23	-0°31'52	retrograde	-8657 Aug 11 j 00:44	7° $\mathbb{H}$ 10'30	
min. Earth dist.	-8663 Oct 23 j 09:02	27° $\approx$ 54'39	39.49429 AU	opposition	-8657 Oct 28 j 22:40	6° $\mathbb{H}$ 03'08	1°59'49
direct	-8662 Jan 11 j 00:31	26° $\approx$ 50'20		min. Earth dist.	-8657 Oct 31 j 23:57	5° $\mathbb{H}$ 59'02	38.00841 AU
evening set	-8662 Apr 08 j 19:21	28° $\approx$ 11'38		direct	-8656 Jan 19 j 10:56	4° $\mathbb{H}$ 52'57	
max. Earth dist.	-8662 Apr 21 j 18:38	28° $\approx$ 32'20	41.37443 AU	evening set	-8656 Apr 16 j 21:47	6° $\mathbb{H}$ 18'35	
				max. Earth dist.	-8656 Apr 29 j 09:52	6° $\mathbb{H}$ 39'26	39.88073 AU
conjunction	-8662 Apr 24 j 22:49	28° $\approx$ 37'29	-0°18'30				
minimum elong	-8662 Apr 24 j 22:49	28° $\approx$ 37'29	0°18'50	conjunction	-8656 May 02 j 20:40	6° $\mathbb{H}$ 45'16	2°06'31
morning rise	-8662 May 10 j 23:18	29° $\approx$ 03'10		minimum elong	-8656 May 02 j 20:36	6° $\mathbb{H}$ 45'15	2°06'14
	-8662 Jun 22 j 04:57	0° $\mathbb{H}$		morning rise	-8656 May 18 j 16:15	7° $\mathbb{H}$ 11'45	
retrograde	-8662 Aug 03 j 17:01	0° $\mathbb{H}$ 22'37		retrograde	-8656 Aug 11 j 16:08	8° $\mathbb{H}$ 35'03	
	-8662 Sep 15 j 22:43	30° $\mathbb{R}$		opposition	-8656 Oct 29 j 13:48	7° $\mathbb{H}$ 27'20	2°26'06
opposition	-8662 Oct 22 j 01:02	29° $\approx$ 16'49	-0°07'20	min. Earth dist.	-8656 Nov 01 j 16:29	7° $\mathbb{H}$ 23'08	37.75560 AU
min. Earth dist.	-8662 Oct 24 j 22:06	29° $\approx$ 13'03	39.25330 AU	direct	-8655 Jan 20 j 00:47	6° $\mathbb{H}$ 16'47	
direct	-8661 Jan 12 j 13:55	28° $\approx$ 08'27		evening set	-8655 Apr 18 j 16:37	7° $\mathbb{H}$ 43'15	
asc. node	-8661 Feb 07 j 13:25	28° $\approx$ 16'43		max. Earth dist.	-8655 May 01 j 03:41	8° $\mathbb{H}$ 04'12	39.62719 AU
evening set	-8661 Apr 10 j 10:14	29° $\approx$ 30'23					
max. Earth dist.	-8661 Apr 23 j 06:55	29° $\approx$ 51'05	41.13182 AU	conjunction	-8655 May 04 j 13:49	8° $\mathbb{H}$ 10'02	2°31'35
				minimum elong	-8655 May 04 j 13:44	8° $\mathbb{H}$ 10'02	2°31'18
conjunction	-8661 Apr 26 j 13:31	29° $\approx$ 56'25	0°05'05	morning rise	-8655 May 20 j 07:24	8° $\mathbb{H}$ 36'36	
minimum elong	-8661 Apr 26 j 13:31	29° $\approx$ 56'25	0°04'44	retrograde	-8655 Aug 13 j 08:11	10° $\mathbb{H}$ 00'41	
behind sun begin	-8661 Apr 26 j 07:09	29° $\approx$ 56'01		opposition	-8655 Oct 31 j 05:35	8° $\mathbb{H}$ 52'39	2°52'39
behind sun end	-8661 Apr 26 j 19:53	29° $\approx$ 56'49		min. Earth dist.	-8655 Nov 03 j 08:13	8° $\mathbb{H}$ 48'26	37.50268 AU
	-8661 Apr 28 j 18:23	0° $\mathbb{H}$		direct	-8654 Jan 21 j 15:33	7° $\mathbb{H}$ 41'43	
morning rise	-8661 May 12 j 13:58	0° $\mathbb{H}$ 22'16		evening set	-8654 Apr 20 j 12:17	9° $\mathbb{H}$ 09'07	
retrograde	-8661 Aug 05 j 09:26	1° $\mathbb{H}$ 42'17		max. Earth dist.	-8654 May 02 j 19:38	9° $\mathbb{H}$ 29'59	39.37363 AU
opposition	-8661 Oct 23 j 14:06	0° $\mathbb{H}$ 36'12	0°17'29				
min. Earth dist.	-8661 Oct 26 j 12:46	0° $\mathbb{H}$ 32'20	39.00913 AU	conjunction	-8654 May 06 j 07:08	9° $\mathbb{H}$ 35'57	2°56'51
	-8661 Nov 21 j 14:30	30° $\mathbb{R}$		minimum elong	-8654 May 06 j 07:02	9° $\mathbb{H}$ 35'57	2°56'35
direct	-8660 Jan 13 j 23:24	29° $\approx$ 27'30		morning rise	-8654 May 21 j 22:40	10° $\mathbb{H}$ 02'35	
	-8660 Mar 06 j 14:39	0° $\mathbb{H}$		retrograde	-8654 Aug 15 j 03:49	11° $\mathbb{H}$ 27'32	
evening set	-8660 Apr 11 j 01:33	0° $\mathbb{H}$ 50'06		opposition	-8654 Nov 01 j 21:45	10° $\mathbb{H}$ 19'10	3°19'27
max. Earth dist.	-8660 Apr 23 j 21:55	1° $\mathbb{H}$ 10'55	40.88596 AU	min. Earth dist.	-8654 Nov 05 j 00:41	10° $\mathbb{H}$ 14'55	37.24995 AU
				direct	-8653 Jan 23 j 04:21	9° $\mathbb{H}$ 07'52	
conjunction	-8660 Apr 27 j 04:44	1° $\mathbb{H}$ 16'17	0°28'48	evening set	-8653 Apr 22 j 08:39	10° $\mathbb{H}$ 36'15	
minimum elong	-8660 Apr 27 j 04:43	1° $\mathbb{H}$ 16'17	0°28'28	max. Earth dist.	-8653 May 04 j 13:49	10° $\mathbb{H}$ 57'08	39.11991 AU
morning rise	-8660 May 13 j 04:39	1° $\mathbb{H}$ 42'19					
retrograde	-8660 Aug 06 j 00:16	3° $\mathbb{H}$ 02'55		conjunction	-8653 May 08 j 01:12	11° $\mathbb{H}$ 03'08	3°22'21
opposition	-8660 Oct 24 j 03:42	1° $\mathbb{H}$ 56'31	0°42'38	minimum elong	-8653 May 08 j 01:04	11° $\mathbb{H}$ 03'07	3°22'06
min. Earth dist.	-8660 Oct 27 j 03:25	1° $\mathbb{H}$ 52'35	38.76183 AU	morning rise	-8653 May 23 j 14:02	11° $\mathbb{H}$ 29'48	
direct	-8659 Jan 14 j 12:18	0° $\mathbb{H}$ 47'28		retrograde	-8653 Aug 16 j 22:36	12° $\mathbb{H}$ 55'39	
evening set	-8659 Apr 12 j 17:45	2° $\mathbb{H}$ 10'47		opposition	-8653 Nov 03 j 14:26	11° $\mathbb{H}$ 46'58	3°46'30
max. Earth dist.	-8659 Apr 25 j 11:47	2° $\mathbb{H}$ 31'35	40.63729 AU	min. Earth dist.	-8653 Nov 06 j 18:28	11° $\mathbb{H}$ 42'38	36.99699 AU
				direct	-8652 Jan 24 j 20:28	10° $\mathbb{H}$ 35'19	
conjunction	-8659 Apr 28 j 20:10	2° $\mathbb{H}$ 37'06	0°52'50	evening set	-8652 Apr 23 j 06:04	12° $\mathbb{H}$ 04'44	
minimum elong	-8659 Apr 28 j 20:08	2° $\mathbb{H}$ 37'06	0°52'31	max. Earth dist.	-8652 May 05 j 07:45	12° $\mathbb{H}$ 25'33	38.86578 AU
morning rise	-8659 May 14 j 19:33	3° $\mathbb{H}$ 03'16					
retrograde	-8659 Aug 07 j 17:46	4° $\mathbb{H}$ 24'29		conjunction	-8652 May 08 j 19:39	12° $\mathbb{H}$ 31'38	3°48'03
opposition	-8659 Oct 25 j 17:30	3° $\mathbb{H}$ 17'46	1°08'04	minimum elong	-8652 May 08 j 19:31	12° $\mathbb{H}$ 31'38	3°47'49
min. Earth dist.	-8659 Oct 28 j 17:40	3° $\mathbb{H}$ 13'47	38.51221 AU	morning rise	-8652 May 24 j 05:46	12° $\mathbb{H}$ 58'20	
direct	-8658 Jan 16 j 02:42	2° $\mathbb{H}$ 08'21		retrograde	-8652 Aug 17 j 19:09	14° $\mathbb{H}$ 25'08	
evening set	-8658 Apr 14 j 10:26	3° $\mathbb{H}$ 32'24		opposition	-8652 Nov 04 j 07:39	13° $\mathbb{H}$ 16'08	4°13'46
max. Earth dist.	-8658 Apr 27 j 02:49	3° $\mathbb{H}$ 53'14	40.38633 AU	min. Earth dist.	-8652 Nov 07 j 11:30	13° $\mathbb{H}$ 11'46	36.74341 AU
				direct	-8651 Jan 25 j 14:49	12° $\mathbb{H}$ 04'06	
conjunction	-8658 Apr 30 j 12:04	3° $\mathbb{H}$ 58'51	1°17'08	evening set	-8651 Apr 25 j 04:22	13° $\mathbb{H}$ 34'37	
minimum elong	-8658 Apr 30 j 12:02	3° $\mathbb{H}$ 58'51	1°16'50	max. Earth dist.	-8651 May 07 j 01:37	13° $\mathbb{H}$ 55'18	38.61044 AU
morning rise	-8658 May 16 j 10:22	4° $\mathbb{H}$ 25'08					
retrograde	-8658 Aug 09 j 09:55	5° $\mathbb{H}$ 47'00		conjunction	-8651 May 10 j 14:45	14° $\mathbb{H}$ 01'32	4°13'57
opposition	-8658 Oct 27 j 07:57	4° $\mathbb{H}$ 39'58	1°33'48	minimum elong	-8651 May 10 j 14:36	14° $\mathbb{H}$ 01'31	4°13'44
min. Earth dist.	-8658 Oct 30 j 09:42	4° $\mathbb{H}$ 35'52	38.26082 AU	morning rise	-8651 May 25 j 21:30	14° $\mathbb{H}$ 28'13	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 19

Attention, astronomical year style is used: The year -8651 in astronomical counting style is the year 8652 BCE in historical counting style.

retrograde	-8651 Aug 19 j 15:06	15° $\mathbf{\text{H}}$ 56'01		conjunction	-8644 May 21 j 19:29	25° $\mathbf{\text{H}}$ 10'13	7°19'10
opposition	-8651 Nov 06 j 01:34	14° $\mathbf{\text{H}}$ 46'41	4°41'16	minimum elong	-8644 May 21 j 19:12	25° $\mathbf{\text{H}}$ 10'12	7°19'03
min. Earth dist.	-8651 Nov 09 j 07:11	14° $\mathbf{\text{H}}$ 42'12	36.48866 AU	morning rise	-8644 Jun 04 j 16:01	25° $\mathbf{\text{H}}$ 36'03	
direct	-8650 Jan 27 j 08:23	13° $\mathbf{\text{H}}$ 34'16		retrograde	-8644 Aug 30 j 23:49	27° $\mathbf{\text{H}}$ 12'21	
evening set	-8650 Apr 27 j 03:36	15° $\mathbf{\text{H}}$ 05'55		opposition	-8644 Nov 16 j 23:30	26° $\mathbf{\text{H}}$ 00'14	7°58'11
max. Earth dist.	-8650 May 08 j 21:28	15° $\mathbf{\text{H}}$ 26'32	38.35378 AU	min. Earth dist.	-8644 Nov 20 j 07:50	25° $\mathbf{\text{H}}$ 55'24	34.68492 AU
				direct	-8643 Feb 07 j 01:38	24° $\mathbf{\text{H}}$ 44'45	
conjunction	-8650 May 12 j 10:24	15° $\mathbf{\text{H}}$ 32'49	4°40'01	evening set	-8643 May 10 j 01:44	26° $\mathbf{\text{H}}$ 25'55	
minimum elong	-8650 May 12 j 10:13	15° $\mathbf{\text{H}}$ 32'48	4°39'49	max. Earth dist.	-8643 May 20 j 04:19	26° $\mathbf{\text{H}}$ 44'52	36.53818 AU
morning rise	-8650 May 27 j 13:29	15° $\mathbf{\text{H}}$ 59'28					
retrograde	-8650 Aug 21 j 09:20	17° $\mathbf{\text{H}}$ 28'19		conjunction	-8643 May 23 j 19:01	26° $\mathbf{\text{H}}$ 51'43	7°45'52
opposition	-8650 Nov 07 j 20:06	16° $\mathbf{\text{H}}$ 18'38	5°08'58	minimum elong	-8643 May 23 j 18:43	26° $\mathbf{\text{H}}$ 51'41	7°45'47
min. Earth dist.	-8650 Nov 11 j 01:26	16° $\mathbf{\text{H}}$ 14'08	36.23252 AU	morning rise	-8643 Jun 06 j 08:43	27° $\mathbf{\text{H}}$ 17'16	
direct	-8649 Jan 29 j 03:28	15° $\mathbf{\text{H}}$ 05'49		retrograde	-8643 Sep 01 j 21:59	28° $\mathbf{\text{H}}$ 55'03	
evening set	-8649 Apr 29 j 03:43	16° $\mathbf{\text{H}}$ 38'39		opposition	-8643 Nov 18 j 22:24	27° $\mathbf{\text{H}}$ 42'32	8°26'36
max. Earth dist.	-8649 May 10 j 15:42	16° $\mathbf{\text{H}}$ 59'01	38.09557 AU	min. Earth dist.	-8643 Nov 22 j 05:44	27° $\mathbf{\text{H}}$ 37'43	34.43125 AU
				direct	-8642 Feb 09 j 00:43	26° $\mathbf{\text{H}}$ 26'37	
conjunction	-8649 May 14 j 06:25	17° $\mathbf{\text{H}}$ 05'29	5°06'16	evening set	-8642 May 12 j 09:16	28° $\mathbf{\text{H}}$ 09'25	
minimum elong	-8649 May 14 j 06:13	17° $\mathbf{\text{H}}$ 05'28	5°06'05	max. Earth dist.	-8642 May 22 j 03:40	28° $\mathbf{\text{H}}$ 27'56	36.28361 AU
morning rise	-8649 May 29 j 05:35	17° $\mathbf{\text{H}}$ 32'06					
retrograde	-8649 Aug 23 j 05:52	19° $\mathbf{\text{H}}$ 02'03		conjunction	-8642 May 25 j 19:08	28° $\mathbf{\text{H}}$ 34'54	8°12'31
opposition	-8649 Nov 09 j 15:09	17° $\mathbf{\text{H}}$ 51'59	5°36'51	minimum elong	-8642 May 25 j 18:49	28° $\mathbf{\text{H}}$ 34'52	8°12'25
min. Earth dist.	-8649 Nov 12 j 21:44	17° $\mathbf{\text{H}}$ 47'23	35.97508 AU	morning rise	-8642 Jun 08 j 01:42	29° $\mathbf{\text{H}}$ 00'08	
direct	-8648 Jan 30 j 20:04	16° $\mathbf{\text{H}}$ 38'45			-8642 Jul 13 j 12:06	0° $\mathbf{\text{Y}}$	
evening set	-8648 Apr 30 j 04:50	18° $\mathbf{\text{H}}$ 12'49		retrograde	-8642 Sep 03 j 23:22	0° $\mathbf{\text{Y}}$ 39'30	
max. Earth dist.	-8648 May 11 j 12:56	18° $\mathbf{\text{H}}$ 33'04	37.83596 AU		-8642 Oct 28 j 05:45	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	
				opposition	-8642 Nov 20 j 22:00	29° $\mathbf{\text{H}}$ 26'35	8°54'57
conjunction	-8648 May 15 j 03:15	18° $\mathbf{\text{H}}$ 39'34	5°32'39	min. Earth dist.	-8642 Nov 24 j 05:22	29° $\mathbf{\text{H}}$ 21'44	34.18045 AU
minimum elong	-8648 May 15 j 03:03	18° $\mathbf{\text{H}}$ 39'33	5°32'28	direct	-8641 Feb 10 j 20:37	28° $\mathbf{\text{H}}$ 10'14	
morning rise	-8648 May 29 j 21:50	19° $\mathbf{\text{H}}$ 06'05		evening set	-8641 May 14 j 17:47	29° $\mathbf{\text{H}}$ 54'47	
retrograde	-8648 Aug 24 j 02:13	20° $\mathbf{\text{H}}$ 37'11			-8641 May 17 j 11:42	0° $\mathbf{\text{Y}}$	
opposition	-8648 Nov 10 j 10:45	19° $\mathbf{\text{H}}$ 26'44	6°04'54	max. Earth dist.	-8641 May 24 j 05:53	0° $\mathbf{\text{Y}}$ 12'58	36.03168 AU
min. Earth dist.	-8648 Nov 13 j 17:56	19° $\mathbf{\text{H}}$ 22'05	35.71646 AU				
direct	-8647 Jan 31 j 14:21	18° $\mathbf{\text{H}}$ 13'04		conjunction	-8641 May 27 j 19:57	0° $\mathbf{\text{Y}}$ 19'53	8°39'05
evening set	-8647 May 02 j 07:08	19° $\mathbf{\text{H}}$ 48'25		minimum elong	-8641 May 27 j 19:37	0° $\mathbf{\text{Y}}$ 19'52	8°39'02
max. Earth dist.	-8647 May 13 j 08:58	20° $\mathbf{\text{H}}$ 08'24	37.57548 AU	morning rise	-8641 Jun 09 j 18:36	0° $\mathbf{\text{Y}}$ 44'46	
				retrograde	-8641 Sep 06 j 00:20	2° $\mathbf{\text{Y}}$ 25'47	
conjunction	-8647 May 17 j 00:31	20° $\mathbf{\text{H}}$ 15'03	5°59'10	opposition	-8641 Nov 22 j 22:26	1° $\mathbf{\text{Y}}$ 12'29	9°23'14
minimum elong	-8647 May 17 j 00:17	20° $\mathbf{\text{H}}$ 15'02	5°59'01	min. Earth dist.	-8641 Nov 26 j 05:42	1° $\mathbf{\text{Y}}$ 07'37	33.93221 AU
morning rise	-8647 May 31 j 14:24	20° $\mathbf{\text{H}}$ 41'27			-8640 Jan 26 j 07:07	30° $\mathbf{\text{R}}$ $\mathbf{\text{H}}$	
retrograde	-8647 Aug 26 j 01:37	22° $\mathbf{\text{H}}$ 13'46		direct	-8640 Feb 12 j 18:33	29° $\mathbf{\text{H}}$ 55'43	
opposition	-8647 Nov 12 j 06:58	21° $\mathbf{\text{H}}$ 02'54	6°33'06		-8640 Mar 01 j 05:13	0° $\mathbf{\text{Y}}$	
min. Earth dist.	-8647 Nov 15 j 14:13	20° $\mathbf{\text{H}}$ 58'13	35.45748 AU	evening set	-8640 May 16 j 03:54	1° $\mathbf{\text{Y}}$ 42'05	
direct	-8646 Feb 02 j 08:32	19° $\mathbf{\text{H}}$ 48'47		max. Earth dist.	-8640 May 25 j 07:07	1° $\mathbf{\text{Y}}$ 59'45	35.78223 AU
evening set	-8646 May 04 j 10:05	21° $\mathbf{\text{H}}$ 25'29					
max. Earth dist.	-8646 May 15 j 06:41	21° $\mathbf{\text{H}}$ 45'15	37.31460 AU	conjunction	-8640 May 28 j 21:27	2° $\mathbf{\text{Y}}$ 06'46	9°05'32
				minimum elong	-8640 May 28 j 21:06	2° $\mathbf{\text{Y}}$ 06'45	9°05'29
conjunction	-8646 May 18 j 22:16	21° $\mathbf{\text{H}}$ 51'57	6°25'47	morning rise	-8640 Jun 10 j 11:54	2° $\mathbf{\text{Y}}$ 31'14	
minimum elong	-8646 May 18 j 22:02	21° $\mathbf{\text{H}}$ 51'56	6°25'38	retrograde	-8640 Sep 07 j 04:54	4° $\mathbf{\text{Y}}$ 14'00	
morning rise	-8646 Jun 02 j 06:43	22° $\mathbf{\text{H}}$ 18'12		opposition	-8640 Nov 23 j 23:26	3° $\mathbf{\text{Y}}$ 00'19	9°51'23
retrograde	-8646 Aug 28 j 00:21	23° $\mathbf{\text{H}}$ 51'47		min. Earth dist.	-8640 Nov 27 j 06:07	2° $\mathbf{\text{Y}}$ 55'27	33.68644 AU
opposition	-8646 Nov 14 j 03:57	22° $\mathbf{\text{H}}$ 40'30	7°01'24	direct	-8639 Feb 13 j 17:49	1° $\mathbf{\text{Y}}$ 43'08	
min. Earth dist.	-8646 Nov 17 j 12:11	22° $\mathbf{\text{H}}$ 35'44	35.19864 AU	evening set	-8639 May 18 j 15:14	3° $\mathbf{\text{Y}}$ 31'24	
direct	-8645 Feb 04 j 05:57	21° $\mathbf{\text{H}}$ 25'56		max. Earth dist.	-8639 May 27 j 09:58	3° $\mathbf{\text{Y}}$ 48'34	35.53475 AU
evening set	-8645 May 06 j 14:15	23° $\mathbf{\text{H}}$ 04'02					
max. Earth dist.	-8645 May 17 j 05:14	23° $\mathbf{\text{H}}$ 23'35	37.05434 AU	conjunction	-8639 May 30 j 23:53	3° $\mathbf{\text{Y}}$ 55'37	9°31'51
				minimum elong	-8639 May 30 j 23:31	3° $\mathbf{\text{Y}}$ 55'35	9°31'50
conjunction	-8645 May 20 j 20:33	23° $\mathbf{\text{H}}$ 30'20	6°52'28	morning rise	-8639 Jun 12 j 05:16	4° $\mathbf{\text{Y}}$ 19'36	
minimum elong	-8645 May 20 j 20:17	23° $\mathbf{\text{H}}$ 30'19	6°52'20	retrograde	-8639 Sep 09 j 09:34	6° $\mathbf{\text{Y}}$ 04'12	
morning rise	-8645 Jun 03 j 23:20	23° $\mathbf{\text{H}}$ 56'23		opposition	-8639 Nov 26 j 01:35	4° $\mathbf{\text{Y}}$ 50'06	10°19'23
retrograde	-8645 Aug 30 j 00:39	25° $\mathbf{\text{H}}$ 31'17		min. Earth dist.	-8639 Nov 29 j 09:02	4° $\mathbf{\text{Y}}$ 45'10	33.44263 AU
opposition	-8645 Nov 16 j 01:16	24° $\mathbf{\text{H}}$ 19'35	7°29'47	direct	-8638 Feb 15 j 18:41	3° $\mathbf{\text{Y}}$ 32'31	
min. Earth dist.	-8645 Nov 19 j 08:39	24° $\mathbf{\text{H}}$ 14'50	34.94090 AU	evening set	-8638 May 21 j 03:58	5° $\mathbf{\text{Y}}$ 22'46	
direct	-8644 Feb 06 j 04:40	23° $\mathbf{\text{H}}$ 04'33		max. Earth dist.	-8638 May 29 j 13:27	5° $\mathbf{\text{Y}}$ 39'21	35.28917 AU
evening set	-8644 May 07 j 19:26	24° $\mathbf{\text{H}}$ 44'10					
max. Earth dist.	-8644 May 18 j 03:31	25° $\mathbf{\text{H}}$ 03'21	36.79526 AU	conjunction	-8638 Jun 02 j 02:47	5° $\mathbf{\text{Y}}$ 46'26	9°57'58
				minimum elong	-8638 Jun 02 j 02:25	5° $\mathbf{\text{Y}}$ 46'24	9°57'57

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 20

Attention, astronomical year style is used: The year -8638 in astronomical counting style is the year 8639 BCE in historical counting style.

morning rise	-8638 Jun 13 j 22:37	6° $\Upsilon$ 09'52		conjunction	-8631 Jun 15 j 20:48	19° $\Upsilon$ 36'13	12°51'12
retrograde	-8638 Sep 11 j 15:13	7° $\Upsilon$ 56'22		minimum elong	-8631 Jun 15 j 20:21	19° $\Upsilon$ 36'11	12°51'20
opposition	-8638 Nov 28 j 04:26	6° $\Upsilon$ 41'52	10°47'12	morning rise	-8631 Jun 23 j 23:46	19° $\Upsilon$ 53'33	
min. Earth dist.	-8638 Dec 01 j 10:41	6° $\Upsilon$ 36'59	33.20065 AU	retrograde	-8631 Sep 25 j 17:25	21° $\Upsilon$ 55'56	
direct	-8637 Feb 17 j 21:32	5° $\Upsilon$ 23'50		opposition	-8631 Dec 12 j 00:20	20° $\Upsilon$ 38'17	13°51'24
evening set	-8637 May 23 j 18:07	7° $\Upsilon$ 16'09		min. Earth dist.	-8631 Dec 15 j 02:10	20° $\Upsilon$ 33'27	31.58395 AU
max. Earth dist.	-8637 May 31 j 16:51	7° $\Upsilon$ 32'01	35.04514 AU	direct	-8630 Mar 03 j 07:15	19° $\Upsilon$ 17'00	
				evening set	-8630 Jun 10 j 17:41	21° $\Upsilon$ 26'27	
conjunction	-8637 Jun 04 j 06:39	7° $\Upsilon$ 39'12	10°23'51	max. Earth dist.	-8630 Jun 14 j 22:43	21° $\Upsilon$ 35'29	33.42033 AU
minimum elong	-8637 Jun 04 j 06:15	7° $\Upsilon$ 39'10	10°23'52				
morning rise	-8637 Jun 15 j 16:17	8° $\Upsilon$ 02'03		conjunction	-8630 Jun 18 j 05:40	21° $\Upsilon$ 42'35	13°13'46
retrograde	-8637 Sep 13 j 20:13	9° $\Upsilon$ 50'31		minimum elong	-8630 Jun 18 j 05:14	21° $\Upsilon$ 42'32	13°13'54
opposition	-8637 Nov 30 j 08:04	8° $\Upsilon$ 35'36	11°14'46	morning rise	-8630 Jun 25 j 15:50	21° $\Upsilon$ 58'35	
min. Earth dist.	-8637 Dec 03 j 15:15	8° $\Upsilon$ 30'37	32.96047 AU	retrograde	-8630 Sep 28 j 05:00	24° $\Upsilon$ 03'45	
direct	-8636 Feb 19 j 23:37	7° $\Upsilon$ 17'07		opposition	-8630 Dec 14 j 10:17	22° $\Upsilon$ 45'40	14°15'18
evening set	-8636 May 25 j 09:52	9° $\Upsilon$ 11'34		min. Earth dist.	-8630 Dec 17 j 11:41	22° $\Upsilon$ 40'51	31.37219 AU
max. Earth dist.	-8636 Jun 01 j 22:49	9° $\Upsilon$ 26'47	34.80298 AU	direct	-8629 Mar 05 j 15:26	21° $\Upsilon$ 24'00	
				evening set	-8629 Jun 13 j 22:07	23° $\Upsilon$ 36'27	
conjunction	-8636 Jun 05 j 11:18	9° $\Upsilon$ 33'56	10°49'28	max. Earth dist.	-8629 Jun 17 j 10:44	23° $\Upsilon$ 44'07	33.20867 AU
minimum elong	-8636 Jun 05 j 10:54	9° $\Upsilon$ 33'54	10°49'29				
morning rise	-8636 Jun 16 j 09:52	9° $\Upsilon$ 56'05		conjunction	-8629 Jun 20 j 15:24	23° $\Upsilon$ 51'04	13°35'33
retrograde	-8636 Sep 15 j 01:34	11° $\Upsilon$ 46'36		minimum elong	-8629 Jun 20 j 14:56	23° $\Upsilon$ 51'02	13°35'42
opposition	-8636 Dec 01 j 12:37	10° $\Upsilon$ 31'15	11°42'02	morning rise	-8629 Jun 27 j 07:04	24° $\Upsilon$ 05'33	
min. Earth dist.	-8636 Dec 04 j 18:47	10° $\Upsilon$ 26'17	32.72221 AU	retrograde	-8629 Sep 30 j 17:19	26° $\Upsilon$ 13'42	
direct	-8635 Feb 21 j 05:01	9° $\Upsilon$ 12'18		opposition	-8629 Dec 16 j 20:51	24° $\Upsilon$ 55'14	14°38'21
evening set	-8635 May 28 j 02:59	11° $\Upsilon$ 08'59		min. Earth dist.	-8629 Dec 19 j 19:51	24° $\Upsilon$ 50'32	31.16683 AU
max. Earth dist.	-8635 Jun 04 j 03:23	11° $\Upsilon$ 23'18	34.56291 AU	direct	-8628 Mar 07 j 02:05	23° $\Upsilon$ 33'11	
				evening set	-8628 Jun 16 j 05:19	25° $\Upsilon$ 48'53	
conjunction	-8635 Jun 07 j 16:31	11° $\Upsilon$ 30'34	11°14'45	max. Earth dist.	-8628 Jun 18 j 22:07	25° $\Upsilon$ 54'49	33.00339 AU
minimum elong	-8635 Jun 07 j 16:05	11° $\Upsilon$ 30'32	11°14'48				
morning rise	-8635 Jun 18 j 03:30	11° $\Upsilon$ 51'58		conjunction	-8628 Jun 22 j 01:57	26° $\Upsilon$ 01'46	13°56'29
retrograde	-8635 Sep 17 j 08:40	13° $\Upsilon$ 44'38		minimum elong	-8628 Jun 22 j 01:31	26° $\Upsilon$ 01'43	13°56'39
opposition	-8635 Dec 03 j 18:02	12° $\Upsilon$ 28'49	12°08'57	morning rise	-8628 Jun 27 j 21:11	26° $\Upsilon$ 14'31	
min. Earth dist.	-8635 Dec 07 j 00:17	12° $\Upsilon$ 23'50	32.48655 AU	retrograde	-8628 Oct 02 j 06:15	28° $\Upsilon$ 25'52	
direct	-8634 Feb 23 j 07:55	11° $\Upsilon$ 09'24		opposition	-8628 Dec 18 j 08:37	27° $\Upsilon$ 07'02	15°00'28
evening set	-8634 May 30 j 21:42	13° $\Upsilon$ 08'23		min. Earth dist.	-8628 Dec 21 j 07:04	27° $\Upsilon$ 02'21	30.96786 AU
max. Earth dist.	-8634 Jun 06 j 11:13	13° $\Upsilon$ 21'54	34.32563 AU	direct	-8627 Mar 09 j 10:51	25° $\Upsilon$ 44'38	
				evening set	-8627 Jun 19 j 16:26	28° $\Upsilon$ 03'53	
conjunction	-8634 Jun 09 j 22:37	13° $\Upsilon$ 29'07	11°39'39	max. Earth dist.	-8627 Jun 21 j 12:16	28° $\Upsilon$ 07'56	32.80442 AU
minimum elong	-8634 Jun 09 j 22:12	13° $\Upsilon$ 29'05	11°39'42				
morning rise	-8634 Jun 19 j 20:55	13° $\Upsilon$ 49'39		conjunction	-8627 Jun 24 j 13:16	28° $\Upsilon$ 14'42	14°16'30
retrograde	-8634 Sep 19 j 13:44	15° $\Upsilon$ 44'34		minimum elong	-8627 Jun 24 j 12:49	28° $\Upsilon$ 14'39	14°16'43
opposition	-8634 Dec 06 j 00:19	14° $\Upsilon$ 28'17	12°35'25	morning rise	-8627 Jun 29 j 08:50	28° $\Upsilon$ 25'23	
min. Earth dist.	-8634 Dec 09 j 05:50	14° $\Upsilon$ 23'18	32.25403 AU		-8627 Aug 16 j 06:36	0° $\mathcal{B}$	
direct	-8633 Feb 25 j 13:18	13° $\Upsilon$ 08'23		retrograde	-8627 Oct 04 j 19:23	0° $\mathcal{B}$ 40'15	
evening set	-8633 Jun 02 j 17:55	15° $\Upsilon$ 09'47			-8627 Nov 25 j 12:11	30° $\mathcal{R}\Upsilon$	
max. Earth dist.	-8633 Jun 08 j 17:52	15° $\Upsilon$ 22'17	34.09196 AU	opposition	-8627 Dec 20 j 21:24	29° $\Upsilon$ 21'04	15°21'35
				min. Earth dist.	-8627 Dec 23 j 17:53	29° $\Upsilon$ 16'29	30.77491 AU
conjunction	-8633 Jun 12 j 05:09	15° $\Upsilon$ 29'33	12°04'04	direct	-8626 Mar 11 j 23:02	27° $\Upsilon$ 58'21	
minimum elong	-8633 Jun 12 j 04:42	15° $\Upsilon$ 29'31	12°04'10		-8626 Jun 13 j 15:35	0° $\mathcal{B}$	
morning rise	-8633 Jun 21 j 14:11	15° $\Upsilon$ 49'07		evening set	-8626 Jun 23 j 09:27	0° $\mathcal{B}$ 21'39	
retrograde	-8633 Sep 21 j 22:20	17° $\Upsilon$ 46'24		max. Earth dist.	-8626 Jun 24 j 00:59	0° $\mathcal{B}$ 23'06	32.61154 AU
opposition	-8633 Dec 08 j 07:22	16° $\Upsilon$ 29'39	13°01'22				
min. Earth dist.	-8633 Dec 11 j 11:44	16° $\Upsilon$ 24'43	32.02559 AU	conjunction	-8626 Jun 27 j 01:21	0° $\mathcal{B}$ 29'51	14°35'32
direct	-8632 Feb 27 j 17:43	15° $\Upsilon$ 09'16		minimum elong	-8626 Jun 27 j 00:56	0° $\mathcal{B}$ 29'49	14°35'45
evening set	-8632 Jun 04 j 15:55	17° $\Upsilon$ 13'13		morning rise	-8626 Jun 30 j 16:15	0° $\mathcal{B}$ 37'58	
max. Earth dist.	-8632 Jun 10 j 03:08	17° $\Upsilon$ 24'43	33.86254 AU	retrograde	-8626 Oct 07 j 10:52	2° $\mathcal{B}$ 56'52	
				opposition	-8626 Dec 23 j 11:00	1° $\mathcal{B}$ 37'19	15°41'38
conjunction	-8632 Jun 13 j 12:40	17° $\Upsilon$ 31'54	12°27'57	min. Earth dist.	-8626 Dec 26 j 06:12	1° $\mathcal{B}$ 32'48	30.58804 AU
minimum elong	-8632 Jun 13 j 12:14	17° $\Upsilon$ 31'52	12°28'03	direct	-8625 Mar 14 j 09:24	0° $\mathcal{B}$ 14'16	
morning rise	-8632 Jun 22 j 07:10	17° $\Upsilon$ 50'25		evening set	-8625 Jun 27 j 17:26	2° $\mathcal{B}$ 42'57	
retrograde	-8632 Sep 23 j 06:17	19° $\Upsilon$ 50'10		max. Earth dist.	-8625 Jun 26 j 16:39	2° $\mathcal{B}$ 40'37	32.42462 AU
opposition	-8632 Dec 09 j 15:24	18° $\Upsilon$ 32'58	13°26'44				
min. Earth dist.	-8632 Dec 12 j 19:29	18° $\Upsilon$ 28'01	31.80190 AU	conjunction	-8625 Jun 29 j 14:21	2° $\mathcal{B}$ 47'11	14°53'31
direct	-8631 Feb 28 j 22:59	17° $\Upsilon$ 12'08		minimum elong	-8625 Jun 29 j 13:55	2° $\mathcal{B}$ 47'09	14°53'46
evening set	-8631 Jun 07 j 15:54	19° $\Upsilon$ 18'45		morning rise	-8625 Jul 01 j 10:23	2° $\mathcal{B}$ 51'21	
max. Earth dist.	-8631 Jun 12 j 12:32	19° $\Upsilon$ 29'05	33.63849 AU	retrograde	-8625 Oct 09 j 23:59	5° $\mathcal{B}$ 15'37	

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Attention, astronomical year style is used: The year -8625 in astronomical counting style is the year 8626 BCE in historical counting style.

opposition	-8625 Dec 26 j 01:41	3° <b>8</b> 55'43	16°00'32	opposition	-8616 Jan 15 j 04:04	23° <b>8</b> 26'46	17°39'16
min. Earth dist.	-8625 Dec 28 j 19:31	3° <b>8</b> 51'16	30.40686 AU	min. Earth dist.	-8616 Jan 17 j 02:48	23° <b>8</b> 23'32	29.22385 AU
direct	-8624 Mar 15 j 22:30	2° <b>8</b> 32'20		direct	-8616 Apr 04 j 11:11	22° <b>8</b> 01'12	
max. Earth dist.	-8624 Jun 28 j 07:16	5° <b>8</b> 00'05	32.24374 AU	max. Earth dist.	-8616 Jul 18 j 17:17	24° <b>8</b> 39'17	31.08086 AU
conjunction	-8624 Jul 01 j 03:58	5° <b>8</b> 06'37	15°10'23	conjunction	-8616 Jul 20 j 14:59	24° <b>8</b> 43'52	16°34'30
minimum elong	-8624 Jul 01 j 03:34	5° <b>8</b> 06'35	15°10'38	minimum elong	-8616 Jul 20 j 14:49	24° <b>8</b> 43'51	16°34'55
retrograde	-8624 Oct 11 j 16:15	7° <b>8</b> 36'25		retrograde	-8616 Oct 31 j 21:18	27° <b>8</b> 22'36	
opposition	-8624 Dec 27 j 17:07	6° <b>8</b> 16'09	16°18'12	opposition	-8615 Jan 17 j 01:36	25° <b>8</b> 59'45	17°43'41
min. Earth dist.	-8624 Dec 30 j 08:48	6° <b>8</b> 11'50	30.23175 AU	min. Earth dist.	-8615 Jan 18 j 20:56	25° <b>8</b> 56'44	29.11887 AU
direct	-8623 Mar 18 j 11:12	4° <b>8</b> 52'26		direct	-8615 Apr 07 j 08:08	24° <b>8</b> 34'04	
max. Earth dist.	-8623 Jul 01 j 00:22	7° <b>8</b> 21'41	32.06910 AU	max. Earth dist.	-8615 Jul 21 j 14:06	27° <b>8</b> 13'03	30.98070 AU
conjunction	-8623 Jul 03 j 18:30	7° <b>8</b> 28'02	15°26'02	conjunction	-8615 Jul 23 j 09:29	27° <b>8</b> 17'25	16°37'29
minimum elong	-8623 Jul 03 j 18:07	7° <b>8</b> 27'59	15°26'20	minimum elong	-8615 Jul 23 j 09:22	27° <b>8</b> 17'25	16°37'55
retrograde	-8623 Oct 14 j 07:44	9° <b>8</b> 59'09		retrograde	-8615 Nov 03 j 19:55	29° <b>8</b> 56'59	
opposition	-8623 Dec 30 j 09:41	8° <b>8</b> 38'31	16°34'33	opposition	-8614 Jan 19 j 23:40	28° <b>8</b> 33'57	17°46'06
min. Earth dist.	-8622 Jan 02 j 00:22	8° <b>8</b> 34'15	30.06296 AU	min. Earth dist.	-8614 Jan 21 j 15:41	28° <b>8</b> 31'09	29.02448 AU
direct	-8622 Mar 21 j 00:08	7° <b>8</b> 14'28		direct	-8614 Apr 10 j 04:02	27° <b>8</b> 08'11	
max. Earth dist.	-8622 Jul 03 j 17:14	9° <b>8</b> 45'05	31.90141 AU	max. Earth dist.	-8614 Jul 24 j 13:29	29° <b>8</b> 48'11	30.89115 AU
conjunction	-8622 Jul 06 j 09:24	9° <b>8</b> 51'17	15°40'24	conjunction	-8614 Jul 26 j 04:26	29° <b>8</b> 52'08	16°38'36
minimum elong	-8622 Jul 06 j 09:03	9° <b>8</b> 51'15	15°40'42	minimum elong	-8614 Jul 26 j 04:21	29° <b>8</b> 52'07	16°39'02
retrograde	-8622 Oct 17 j 01:23	12° <b>8</b> 23'41			-8614 Jul 29 j 10:08	0° <b>II</b>	
opposition	-8621 Jan 02 j 02:49	11° <b>8</b> 02'40	16°49'28	retrograde	-8614 Nov 06 j 15:41	2° <b>II</b> 32'25	
min. Earth dist.	-8621 Jan 04 j 14:31	10° <b>8</b> 58'35	29.90118 AU	opposition	-8613 Jan 22 j 22:20	1° <b>II</b> 09'13	17°46'31
direct	-8621 Mar 23 j 16:48	9° <b>8</b> 38'18		min. Earth dist.	-8613 Jan 24 j 11:40	1° <b>II</b> 06'37	28.94010 AU
max. Earth dist.	-8621 Jul 06 j 11:13	12° <b>8</b> 10'16	31.74109 AU		-8613 Mar 11 j 21:48	30° <b>R</b> 8	
conjunction	-8621 Jul 09 j 01:06	12° <b>8</b> 16'18	15°53'23	direct	-8613 Apr 13 j 01:14	29° <b>8</b> 43'24	
minimum elong	-8621 Jul 09 j 00:46	12° <b>8</b> 16'16	15°53'43		-8613 May 14 j 06:14	0° <b>II</b>	
retrograde	-8621 Oct 19 j 18:39	14° <b>8</b> 49'54		max. Earth dist.	-8613 Jul 27 j 11:10	2° <b>II</b> 24'06	30.81195 AU
opposition	-8620 Jan 04 j 20:45	13° <b>8</b> 28'30	17°02'52	conjunction	-8613 Jul 28 j 23:40	2° <b>II</b> 27'49	16°37'50
min. Earth dist.	-8620 Jan 07 j 07:19	13° <b>8</b> 24'29	29.74705 AU	minimum elong	-8613 Jul 28 j 23:38	2° <b>II</b> 27'49	16°38'18
direct	-8620 Mar 25 j 08:42	12° <b>8</b> 03'50		retrograde	-8613 Nov 09 j 13:43	5° <b>II</b> 08'44	
max. Earth dist.	-8620 Jul 08 j 06:27	14° <b>8</b> 37'08	31.58920 AU	opposition	-8612 Jan 25 j 21:12	3° <b>II</b> 45'24	17°44'53
conjunction	-8620 Jul 10 j 17:18	14° <b>8</b> 42'54	16°04'53	min. Earth dist.	-8612 Jan 27 j 06:48	3° <b>II</b> 43'03	28.86568 AU
minimum elong	-8620 Jul 10 j 17:00	14° <b>8</b> 42'53	16°05'14	direct	-8612 Apr 14 j 22:21	2° <b>II</b> 19'33	
	-8620 Jul 17 j 23:40	15° <b>8</b>		max. Earth dist.	-8612 Jul 29 j 10:55	5° <b>II</b> 01'02	30.74279 AU
retrograde	-8620 Oct 21 j 13:22	17° <b>8</b> 17'39		conjunction	-8612 Jul 30 j 19:21	5° <b>II</b> 04'20	16°35'11
opposition	-8619 Jan 06 j 15:30	15° <b>8</b> 55'55	17°14'38	minimum elong	-8612 Jul 30 j 19:20	5° <b>II</b> 04'20	16°35'38
min. Earth dist.	-8619 Jan 08 j 22:27	15° <b>8</b> 52'08	29.60146 AU	retrograde	-8612 Nov 11 j 10:32	7° <b>II</b> 45'46	
	-8619 Feb 12 j 12:41	15° <b>R</b> 8		opposition	-8611 Jan 27 j 20:48	6° <b>II</b> 22'19	17°41'13
direct	-8619 Mar 28 j 02:55	14° <b>8</b> 30'57		min. Earth dist.	-8611 Jan 29 j 04:03	6° <b>II</b> 20'08	28.80092 AU
	-8619 May 09 j 07:23	15° <b>8</b>		direct	-8611 Apr 17 j 19:24	4° <b>II</b> 56'27	
max. Earth dist.	-8619 Jul 11 j 01:25	17° <b>8</b> 05'28	31.44643 AU	max. Earth dist.	-8611 Aug 01 j 09:26	7° <b>II</b> 38'26	30.68380 AU
conjunction	-8619 Jul 13 j 09:54	17° <b>8</b> 11'02	16°14'50	conjunction	-8611 Aug 02 j 14:58	7° <b>II</b> 41'28	16°30'37
minimum elong	-8619 Jul 13 j 09:37	17° <b>8</b> 11'00	16°15'13	minimum elong	-8611 Aug 02 j 15:00	7° <b>II</b> 41'28	16°31'06
retrograde	-8619 Oct 24 j 08:46	19° <b>8</b> 46'53		retrograde	-8611 Nov 14 j 08:43	10° <b>II</b> 23'18	
opposition	-8618 Jan 09 j 11:07	18° <b>8</b> 24'48	17°24'41	opposition	-8610 Jan 30 j 20:30	8° <b>II</b> 59'44	17°35'28
min. Earth dist.	-8618 Jan 11 j 16:11	18° <b>8</b> 21'08	29.46534 AU	min. Earth dist.	-8610 Jan 31 j 23:28	8° <b>II</b> 57'51	28.74595 AU
direct	-8618 Mar 30 j 20:14	16° <b>8</b> 59'35		direct	-8610 Apr 20 j 18:00	7° <b>II</b> 33'52	
max. Earth dist.	-8618 Jul 13 j 22:45	19° <b>8</b> 35'24	31.31384 AU	max. Earth dist.	-8610 Aug 04 j 08:58	10° <b>II</b> 16'19	30.63485 AU
conjunction	-8618 Jul 16 j 03:08	19° <b>8</b> 40'37	16°23'08	conjunction	-8610 Aug 05 j 10:53	10° <b>II</b> 18'59	16°24'09
minimum elong	-8618 Jul 16 j 02:54	19° <b>8</b> 40'35	16°23'30	minimum elong	-8610 Aug 05 j 10:57	10° <b>II</b> 18'59	16°24'38
retrograde	-8618 Oct 27 j 04:58	22° <b>8</b> 17'29		retrograde	-8610 Nov 17 j 05:06	13° <b>II</b> 01'07	
opposition	-8617 Jan 12 j 07:14	20° <b>8</b> 55'06	17°32'55	opposition	-8609 Feb 02 j 20:22	11° <b>II</b> 37'27	17°27'40
min. Earth dist.	-8617 Jan 14 j 08:34	20° <b>8</b> 51'41	29.33930 AU	min. Earth dist.	-8609 Feb 03 j 21:02	11° <b>II</b> 35'43	28.70089 AU
direct	-8617 Apr 02 j 16:57	19° <b>8</b> 29'41		direct	-8609 Apr 23 j 16:04	10° <b>II</b> 11'35	
max. Earth dist.	-8617 Jul 16 j 18:39	22° <b>8</b> 06'34	31.19189 AU	max. Earth dist.	-8609 Aug 07 j 08:19	12° <b>II</b> 54'23	30.59643 AU
conjunction	-8617 Jul 18 j 20:47	22° <b>8</b> 11'34	16°29'43	conjunction	-8609 Aug 08 j 06:43	12° <b>II</b> 56'41	16°15'45
minimum elong	-8617 Jul 18 j 20:35	22° <b>8</b> 11'33	16°30'07	minimum elong	-8609 Aug 08 j 06:51	12° <b>II</b> 56'41	16°16'16
retrograde	-8617 Oct 30 j 01:14	24° <b>8</b> 49'25		retrograde	-8609 Nov 20 j 03:00	15° <b>II</b> 38'59	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22

Attention, astronomical year style is used: The year -8608 in astronomical counting style is the year 8609 BCE in historical counting style.

opposition	-8608 Feb 05 j 20:17	14° $\Pi$ 15'13	17°17'47	conjunction	-8601 Aug 28 j 13:45	3° $\ominus$ 44'39	14°02'01
min. Earth dist.	-8608 Feb 06 j 16:29	14° $\Pi$ 13'48	28.66606 AU	minimum elong	-8601 Aug 28 j 14:08	3° $\ominus$ 44'41	14°02'35
direct	-8608 Apr 25 j 15:20	12° $\Pi$ 49'24		max. Earth dist.	-8601 Aug 28 j 23:09	3° $\ominus$ 45'36	30.71449 AU
max. Earth dist.	-8608 Aug 09 j 07:26	15° $\Pi$ 32'23	30.56871 AU	morning rise	-8601 Sep 02 j 23:52	3° $\ominus$ 57'47	
				retrograde	-8601 Dec 11 j 00:36	6° $\ominus$ 24'46	
conjunction	-8608 Aug 10 j 02:23	15° $\Pi$ 34'19	16°05'27	opposition	-8600 Feb 27 j 15:12	5° $\ominus$ 01'25	14°47'16
minimum elong	-8608 Aug 10 j 02:32	15° $\Pi$ 34'20	16°05'59	min. Earth dist.	-8600 Feb 27 j 05:27	5° $\ominus$ 02'05	28.80900 AU
retrograde	-8608 Nov 22 j 00:04	18° $\Pi$ 16'42		direct	-8600 May 17 j 05:34	3° $\ominus$ 37'09	
opposition	-8607 Feb 07 j 20:25	16° $\Pi$ 52'51	17°05'50	evening set	-8600 Aug 23 j 21:53	6° $\ominus$ 01'48	
min. Earth dist.	-8607 Feb 08 j 13:51	16° $\Pi$ 51'38	28.64210 AU				
direct	-8607 Apr 28 j 13:16	15° $\Pi$ 27'06		conjunction	-8600 Aug 30 j 07:00	6° $\ominus$ 17'12	13°37'49
				minimum elong	-8600 Aug 30 j 07:22	6° $\ominus$ 17'15	13°38'23
conjunction	-8607 Aug 12 j 21:59	18° $\Pi$ 11'45	15°53'14	max. Earth dist.	-8600 Aug 30 j 19:07	6° $\ominus$ 18'26	30.78234 AU
minimum elong	-8607 Aug 12 j 22:12	18° $\Pi$ 11'46	15°53'47	morning rise	-8600 Sep 05 j 16:49	6° $\ominus$ 32'40	
max. Earth dist.	-8607 Aug 12 j 07:31	18° $\Pi$ 10'16	30.55256 AU	retrograde	-8600 Dec 12 j 20:25	8° $\ominus$ 56'40	
retrograde	-8607 Nov 24 j 21:33	20° $\Pi$ 54'05		opposition	-8599 Mar 01 j 13:08	7° $\ominus$ 33'29	14°20'32
opposition	-8606 Feb 10 j 20:19	19° $\Pi$ 30'11	16°51'50	min. Earth dist.	-8599 Feb 28 j 22:48	7° $\ominus$ 34'28	28.87829 AU
min. Earth dist.	-8606 Feb 11 j 09:10	19° $\Pi$ 29'17	28.62959 AU	direct	-8599 May 20 j 03:15	6° $\ominus$ 09'32	
direct	-8606 May 01 j 14:07	18° $\Pi$ 04'31		evening set	-8599 Aug 25 j 17:54	8° $\ominus$ 31'10	
conjunction	-8606 Aug 15 j 17:13	20° $\Pi$ 48'47	15°39'09	conjunction	-8599 Sep 02 j 00:01	8° $\ominus$ 48'34	13°12'15
minimum elong	-8606 Aug 15 j 17:27	20° $\Pi$ 48'48	15°39'41	minimum elong	-8599 Sep 02 j 00:25	8° $\ominus$ 48'37	13°12'48
max. Earth dist.	-8606 Aug 15 j 06:02	20° $\Pi$ 47'38	30.54843 AU	max. Earth dist.	-8599 Sep 02 j 16:08	8° $\ominus$ 50'11	30.86025 AU
retrograde	-8606 Nov 27 j 19:02	23° $\Pi$ 30'59		morning rise	-8599 Sep 09 j 06:50	9° $\ominus$ 06'03	
opposition	-8605 Feb 13 j 20:08	22° $\Pi$ 07'04	16°35'47	retrograde	-8599 Dec 15 j 12:29	11° $\ominus$ 27'16	
min. Earth dist.	-8605 Feb 14 j 05:27	22° $\Pi$ 06'25	28.62922 AU	opposition	-8598 Mar 04 j 10:36	10° $\ominus$ 04'17	13°52'23
direct	-8605 May 04 j 12:04	20° $\Pi$ 41'31		min. Earth dist.	-8598 Mar 03 j 17:59	10° $\ominus$ 05'25	28.95738 AU
				direct	-8598 May 22 j 23:41	8° $\ominus$ 40'39	
conjunction	-8605 Aug 18 j 12:26	23° $\Pi$ 25'19	15°23'11	evening set	-8598 Aug 27 j 15:30	10° $\ominus$ 59'24	
minimum elong	-8605 Aug 18 j 12:43	23° $\Pi$ 25'21	15°23'44				
max. Earth dist.	-8605 Aug 18 j 06:09	23° $\Pi$ 24'41	30.55687 AU	conjunction	-8598 Sep 04 j 16:26	11° $\ominus$ 18'35	12°45'24
retrograde	-8605 Nov 30 j 15:18	26° $\Pi$ 07'16		minimum elong	-8598 Sep 04 j 16:49	11° $\ominus$ 18'38	12°45'57
opposition	-8604 Feb 16 j 19:37	24° $\Pi$ 43'24	16°17'45	max. Earth dist.	-8598 Sep 05 j 11:24	11° $\ominus$ 20'29	30.94790 AU
min. Earth dist.	-8604 Feb 17 j 00:40	24° $\Pi$ 43'03	28.64110 AU	morning rise	-8598 Sep 12 j 18:06	11° $\ominus$ 37'50	
direct	-8604 May 06 j 11:44	23° $\Pi$ 18'03		retrograde	-8598 Dec 18 j 06:16	13° $\ominus$ 56'26	
				min. Earth dist.	-8597 Mar 06 j 10:27	12° $\ominus$ 35'03	29.04580 AU
conjunction	-8604 Aug 20 j 07:12	26° $\Pi$ 01'16	15°05'25	opposition	-8597 Mar 07 j 07:20	12° $\ominus$ 33'38	13°22'55
minimum elong	-8604 Aug 20 j 07:29	26° $\Pi$ 01'18	15°05'58	direct	-8597 May 25 j 20:27	11° $\ominus$ 10'19	
max. Earth dist.	-8604 Aug 20 j 03:56	26° $\Pi$ 00'56	30.57800 AU	evening set	-8597 Aug 29 j 14:02	13° $\ominus$ 26'20	
retrograde	-8604 Dec 02 j 13:55	28° $\Pi$ 42'54					
opposition	-8603 Feb 18 j 19:02	27° $\Pi$ 19'06	15°57'48	conjunction	-8597 Sep 07 j 08:15	13° $\ominus$ 47'05	12°17'22
min. Earth dist.	-8603 Feb 18 j 19:55	27° $\Pi$ 19'02	28.66555 AU	minimum elong	-8597 Sep 07 j 08:40	13° $\ominus$ 47'08	12°17'55
direct	-8603 May 09 j 10:26	25° $\Pi$ 53'58		max. Earth dist.	-8597 Sep 08 j 06:30	13° $\ominus$ 49'18	31.04464 AU
evening set	-8603 Aug 20 j 10:08	28° $\Pi$ 30'05		morning rise	-8597 Sep 16 j 03:19	14° $\ominus$ 07'55	
				retrograde	-8597 Dec 20 j 21:56	16° $\ominus$ 24'01	
conjunction	-8603 Aug 23 j 01:44	28° $\Pi$ 36'33	14°45'55	min. Earth dist.	-8596 Mar 08 j 04:21	15° $\ominus$ 02'58	29.14337 AU
minimum elong	-8603 Aug 23 j 02:04	28° $\Pi$ 36'35	14°46'28	opposition	-8596 Mar 09 j 03:32	15° $\ominus$ 01'24	12°52'13
max. Earth dist.	-8603 Aug 23 j 03:36	28° $\Pi$ 36'44	30.61170 AU	direct	-8596 May 27 j 15:00	13° $\ominus$ 38'24	
morning rise	-8603 Aug 25 j 17:59	28° $\Pi$ 43'05		evening set	-8596 Aug 30 j 13:24	15° $\ominus$ 51'45	
	-8603 Sep 27 j 23:03	0° $\ominus$					
retrograde	-8603 Dec 05 j 08:57	1° $\ominus$ 17'46		conjunction	-8596 Sep 08 j 23:30	16° $\ominus$ 13'56	11°48'15
	-8602 Feb 18 j 04:48	30° $\kappa$ $\Pi$		minimum elong	-8596 Sep 08 j 23:54	16° $\ominus$ 13'58	11°48'48
opposition	-8602 Feb 21 j 18:13	29° $\Pi$ 54'05	15°36'00	max. Earth dist.	-8596 Sep 10 j 01:12	16° $\ominus$ 16'27	31.15069 AU
min. Earth dist.	-8602 Feb 21 j 15:36	29° $\Pi$ 54'16	28.70198 AU	morning rise	-8596 Sep 18 j 10:23	16° $\ominus$ 36'12	
direct	-8602 May 12 j 09:36	28° $\Pi$ 29'14		retrograde	-8596 Dec 22 j 13:01	18° $\ominus$ 49'52	
	-8602 Jul 26 j 14:18	0° $\ominus$		opposition	-8595 Mar 11 j 23:00	17° $\ominus$ 27'26	12°20'25
evening set	-8602 Aug 21 j 14:33	1° $\ominus$ 00'46		min. Earth dist.	-8595 Mar 10 j 19:48	17° $\ominus$ 29'17	29.25013 AU
				direct	-8595 May 30 j 11:44	16° $\ominus$ 04'45	
conjunction	-8602 Aug 25 j 19:51	1° $\ominus$ 11'03	14°24'45	evening set	-8595 Sep 01 j 13:06	18° $\ominus$ 15'32	
minimum elong	-8602 Aug 25 j 20:12	1° $\ominus$ 11'05	14°25'18				
max. Earth dist.	-8602 Aug 26 j 00:34	1° $\ominus$ 11'31	30.65742 AU	conjunction	-8595 Sep 11 j 13:51	18° $\ominus$ 38'59	11°18'08
morning rise	-8602 Aug 30 j 01:49	1° $\ominus$ 21'23		minimum elong	-8595 Sep 11 j 14:16	18° $\ominus$ 39'02	11°18'41
retrograde	-8602 Dec 08 j 05:54	3° $\ominus$ 51'46		max. Earth dist.	-8595 Sep 12 j 18:19	18° $\ominus$ 41'46	31.26593 AU
opposition	-8601 Feb 24 j 16:45	2° $\ominus$ 28'14	15°12'27	morning rise	-8595 Sep 25 j 15:40	19° $\ominus$ 02'32	
min. Earth dist.	-8601 Feb 24 j 09:46	2° $\ominus$ 28'43	28.75008 AU	retrograde	-8595 Dec 25 j 04:29	21° $\ominus$ 13'54	
direct	-8601 May 15 j 07:07	1° $\ominus$ 03'39		min. Earth dist.	-8594 Mar 13 j 11:41	19° $\ominus$ 53'41	29.36646 AU
evening set	-8601 Aug 23 j 04:15	3° $\ominus$ 31'34		opposition	-8594 Mar 14 j 17:48	19° $\ominus$ 51'40	11°47'35

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Attention, astronomical year style is used: The year -8594 in astronomical counting style is the year 8595 BCE in historical counting style.

direct	-8594 Jun 02 j 04:40	18° $\mathring{\text{D}}$ 29'17		minimum elong	-8588 Sep 26 j 23:57	4° $\mathring{\text{N}}$ 43'36	7°27'45
evening set	-8594 Sep 03 j 13:16	20° $\mathring{\text{D}}$ 37'37		max. Earth dist.	-8588 Sep 29 j 01:49	4° $\mathring{\text{N}}$ 48'14	32.33955 AU
				morning rise	-8588 Oct 10 j 06:06	5° $\mathring{\text{N}}$ 12'55	
conjunction	-8594 Sep 14 j 03:44	21° $\mathring{\text{D}}$ 02'13	10°47'07	retrograde	-8587 Jan 09 j 19:07	7° $\mathring{\text{N}}$ 10'34	
minimum elong	-8594 Sep 14 j 04:08	21° $\mathring{\text{D}}$ 02'15	10°47'39	min. Earth dist.	-8587 Mar 29 j 03:54	5° $\mathring{\text{N}}$ 53'45	30.44818 AU
max. Earth dist.	-8594 Sep 15 j 12:11	21° $\mathring{\text{D}}$ 05'22	31.39082 AU	opposition	-8587 Mar 31 j 06:50	5° $\mathring{\text{N}}$ 50'27	7°37'57
morning rise	-8594 Sep 24 j 19:04	21° $\mathring{\text{D}}$ 26'54		direct	-8587 Jun 18 j 19:26	4° $\mathring{\text{N}}$ 31'00	
retrograde	-8594 Dec 27 j 17:57	23° $\mathring{\text{D}}$ 36'01		evening set	-8587 Sep 15 j 20:13	6° $\mathring{\text{N}}$ 24'46	
min. Earth dist.	-8593 Mar 16 j 02:06	22° $\mathring{\text{D}}$ 16'15	29.49248 AU				
opposition	-8593 Mar 17 j 11:32	22° $\mathring{\text{D}}$ 14'01	11°13'51	conjunction	-8587 Sep 29 j 08:39	6° $\mathring{\text{N}}$ 54'24	6°52'32
direct	-8593 Jun 04 j 23:25	20° $\mathring{\text{D}}$ 51'59		minimum elong	-8587 Sep 29 j 08:57	6° $\mathring{\text{N}}$ 54'25	6°53'01
evening set	-8593 Sep 05 j 13:49	22° $\mathring{\text{D}}$ 57'56		max. Earth dist.	-8587 Oct 01 j 13:10	6° $\mathring{\text{N}}$ 59'14	32.52583 AU
				morning rise	-8587 Oct 12 j 22:43	7° $\mathring{\text{N}}$ 24'11	
conjunction	-8593 Sep 16 j 16:44	23° $\mathring{\text{D}}$ 23'34	10°15'17	retrograde	-8586 Jan 12 j 03:22	9° $\mathring{\text{N}}$ 20'12	
minimum elong	-8593 Sep 16 j 17:08	23° $\mathring{\text{D}}$ 23'36	10°15'48	min. Earth dist.	-8586 Mar 31 j 13:18	8° $\mathring{\text{N}}$ 03'55	30.63480 AU
max. Earth dist.	-8593 Sep 18 j 03:32	23° $\mathring{\text{D}}$ 26'55	31.52549 AU	opposition	-8586 Apr 02 j 19:14	8° $\mathring{\text{N}}$ 00'26	7°00'43
morning rise	-8593 Sep 27 j 20:54	23° $\mathring{\text{D}}$ 49'17		direct	-8586 Jun 21 j 08:31	6° $\mathring{\text{N}}$ 41'26	
retrograde	-8593 Dec 30 j 09:14	25° $\mathring{\text{D}}$ 56'16		evening set	-8586 Sep 17 j 21:51	8° $\mathring{\text{N}}$ 33'27	
min. Earth dist.	-8592 Mar 17 j 15:38	24° $\mathring{\text{D}}$ 36'58	29.62864 AU				
opposition	-8592 Mar 19 j 04:44	24° $\mathring{\text{D}}$ 34'30	10°39'17	conjunction	-8586 Oct 01 j 17:02	9° $\mathring{\text{N}}$ 03'27	6°17'41
direct	-8592 Jun 06 j 16:00	23° $\mathring{\text{D}}$ 12'51		minimum elong	-8586 Oct 01 j 17:17	9° $\mathring{\text{N}}$ 03'29	6°18'09
evening set	-8592 Sep 06 j 14:21	25° $\mathring{\text{D}}$ 16'32		max. Earth dist.	-8586 Oct 03 j 23:16	9° $\mathring{\text{N}}$ 08'24	32.71782 AU
				morning rise	-8586 Oct 15 j 14:11	9° $\mathring{\text{N}}$ 33'37	
conjunction	-8592 Sep 18 j 05:05	25° $\mathring{\text{D}}$ 43'05	9°42'43	retrograde	-8585 Jan 14 j 12:00	11° $\mathring{\text{N}}$ 28'04	
minimum elong	-8592 Sep 18 j 05:28	25° $\mathring{\text{D}}$ 43'07	9°43'15	min. Earth dist.	-8585 Apr 02 j 23:16	10° $\mathring{\text{N}}$ 12'12	30.82721 AU
max. Earth dist.	-8592 Sep 19 j 20:15	25° $\mathring{\text{D}}$ 46'49	31.67016 AU	opposition	-8585 Apr 05 j 06:51	10° $\mathring{\text{N}}$ 08'38	6°23'22
morning rise	-8592 Sep 29 j 20:52	26° $\mathring{\text{D}}$ 09'43		direct	-8585 Jun 23 j 17:56	8° $\mathring{\text{N}}$ 50'03	
retrograde	-8592 Dec 31 j 21:55	28° $\mathring{\text{D}}$ 14'40		evening set	-8585 Sep 19 j 23:21	10° $\mathring{\text{N}}$ 40'24	
min. Earth dist.	-8591 Mar 20 j 05:24	26° $\mathring{\text{D}}$ 55'49	29.77470 AU				
opposition	-8591 Mar 21 j 21:12	26° $\mathring{\text{D}}$ 53'11	10°04'01	conjunction	-8585 Oct 04 j 00:50	11° $\mathring{\text{N}}$ 10'42	5°42'44
direct	-8591 Jun 09 j 09:34	25° $\mathring{\text{D}}$ 31'56		minimum elong	-8585 Oct 04 j 01:05	11° $\mathring{\text{N}}$ 10'44	5°43'11
evening set	-8591 Sep 08 j 15:21	27° $\mathring{\text{D}}$ 33'28		max. Earth dist.	-8585 Oct 06 j 09:38	11° $\mathring{\text{N}}$ 15'51	32.91512 AU
				morning rise	-8585 Oct 18 j 04:04	11° $\mathring{\text{N}}$ 41'10	
conjunction	-8591 Sep 20 j 16:43	28° $\mathring{\text{D}}$ 00'48	9°09'33	retrograde	-8584 Jan 16 j 18:59	13° $\mathring{\text{N}}$ 34'06	
minimum elong	-8591 Sep 20 j 17:06	28° $\mathring{\text{D}}$ 00'50	9°10'04	min. Earth dist.	-8584 Apr 04 j 08:09	12° $\mathring{\text{N}}$ 18'41	31.02468 AU
max. Earth dist.	-8591 Sep 22 j 10:01	28° $\mathring{\text{D}}$ 04'43	31.82457 AU	opposition	-8584 Apr 06 j 17:44	12° $\mathring{\text{N}}$ 15'00	5°46'00
morning rise	-8591 Oct 02 j 19:29	28° $\mathring{\text{D}}$ 28'15		direct	-8584 Jun 25 j 05:59	10° $\mathring{\text{N}}$ 56'50	
	-8591 Nov 20 j 06:01	0° $\mathring{\text{N}}$		evening set	-8584 Sep 21 j 00:49	12° $\mathring{\text{N}}$ 45'34	
retrograde	-8590 Jan 03 j 11:28	0° $\mathring{\text{N}}$ 31'15					
	-8590 Feb 18 j 13:34	30° $\mathring{\text{R}}$ $\mathring{\text{D}}$		conjunction	-8584 Oct 05 j 07:38	13° $\mathring{\text{N}}$ 16'05	5°07'46
min. Earth dist.	-8590 Mar 22 j 16:51	29° $\mathring{\text{D}}$ 12'58	29.93048 AU	minimum elong	-8584 Oct 05 j 07:51	13° $\mathring{\text{N}}$ 16'06	5°08'13
opposition	-8590 Mar 24 j 12:41	29° $\mathring{\text{D}}$ 10'05	9°28'08	max. Earth dist.	-8584 Oct 07 j 17:27	13° $\mathring{\text{N}}$ 21'16	33.11715 AU
direct	-8590 Jun 12 j 00:17	27° $\mathring{\text{D}}$ 49'16		morning rise	-8584 Oct 19 j 16:39	13° $\mathring{\text{N}}$ 46'46	
evening set	-8590 Sep 10 j 16:19	29° $\mathring{\text{D}}$ 48'44			-8584 Nov 28 j 14:52	15° $\mathring{\text{N}}$	
	-8590 Sep 15 j 17:24	0° $\mathring{\text{N}}$		retrograde	-8583 Jan 18 j 03:47	15° $\mathring{\text{N}}$ 38'15	
					-8583 Mar 12 j 04:24	15° $\mathring{\text{R}}$ $\mathring{\text{N}}$	
conjunction	-8590 Sep 23 j 03:46	0° $\mathring{\text{N}}$ 16'47	8°35'50	min. Earth dist.	-8583 Apr 06 j 16:03	14° $\mathring{\text{N}}$ 23'15	31.22720 AU
minimum elong	-8590 Sep 23 j 04:06	0° $\mathring{\text{N}}$ 16'49	8°36'22	opposition	-8583 Apr 09 j 03:55	14° $\mathring{\text{N}}$ 19'28	5°08'40
max. Earth dist.	-8590 Sep 25 j 00:55	0° $\mathring{\text{N}}$ 21'02	31.98812 AU	direct	-8583 Jun 27 j 15:00	13° $\mathring{\text{N}}$ 01'40	
morning rise	-8590 Oct 05 j 16:31	0° $\mathring{\text{N}}$ 44'57		evening set	-8583 Sep 23 j 02:10	14° $\mathring{\text{N}}$ 48'52	
retrograde	-8589 Jan 05 j 22:08	2° $\mathring{\text{N}}$ 46'05			-8583 Sep 28 j 09:35	15° $\mathring{\text{N}}$	
min. Earth dist.	-8589 Mar 25 j 05:48	1° $\mathring{\text{N}}$ 28'15	30.09514 AU				
opposition	-8589 Mar 27 j 03:31	1° $\mathring{\text{N}}$ 25'15	8°51'46	conjunction	-8583 Oct 07 j 14:00	15° $\mathring{\text{N}}$ 19'32	4°32'51
direct	-8589 Jun 14 j 16:08	0° $\mathring{\text{N}}$ 04'53		minimum elong	-8583 Oct 07 j 14:12	15° $\mathring{\text{N}}$ 19'33	4°33'17
evening set	-8589 Sep 12 j 17:30	2° $\mathring{\text{N}}$ 02'22		max. Earth dist.	-8583 Oct 10 j 02:48	15° $\mathring{\text{N}}$ 24'56	33.32393 AU
				morning rise	-8583 Oct 22 j 03:50	15° $\mathring{\text{N}}$ 50'23	
conjunction	-8589 Sep 25 j 13:58	2° $\mathring{\text{N}}$ 31'02	8°01'42	retrograde	-8582 Jan 20 j 09:47	17° $\mathring{\text{N}}$ 40'28	
minimum elong	-8589 Sep 25 j 14:18	2° $\mathring{\text{N}}$ 31'04	8°02'12	min. Earth dist.	-8582 Apr 09 j 00:04	16° $\mathring{\text{N}}$ 25'49	31.43462 AU
max. Earth dist.	-8589 Sep 27 j 13:09	2° $\mathring{\text{N}}$ 35'27	32.16010 AU	opposition	-8582 Apr 11 j 13:03	16° $\mathring{\text{N}}$ 21'59	4°31'27
morning rise	-8589 Oct 08 j 11:57	2° $\mathring{\text{N}}$ 59'50		direct	-8582 Jun 30 j 00:56	15° $\mathring{\text{N}}$ 04'33	
retrograde	-8588 Jan 08 j 10:18	4° $\mathring{\text{N}}$ 59'11		evening set	-8582 Sep 25 j 03:30	16° $\mathring{\text{N}}$ 50'17	
min. Earth dist.	-8588 Mar 26 j 15:59	3° $\mathring{\text{N}}$ 41'56	30.26796 AU				
opposition	-8588 Mar 28 j 17:27	3° $\mathring{\text{N}}$ 38'42	8°15'00	conjunction	-8582 Oct 09 j 19:26	17° $\mathring{\text{N}}$ 21'03	3°58'03
direct	-8588 Jun 16 j 06:49	2° $\mathring{\text{N}}$ 18'48		minimum elong	-8582 Oct 09 j 19:36	17° $\mathring{\text{N}}$ 21'03	3°58'29
evening set	-8588 Sep 13 j 18:50	4° $\mathring{\text{N}}$ 14'23		max. Earth dist.	-8582 Oct 12 j 09:09	17° $\mathring{\text{N}}$ 26'29	33.53557 AU
				morning rise	-8582 Oct 24 j 13:43	17° $\mathring{\text{N}}$ 52'00	
conjunction	-8588 Sep 26 j 23:39	4° $\mathring{\text{N}}$ 43'35	7°27'15	retrograde	-8581 Jan 22 j 16:27	19° $\mathring{\text{N}}$ 40'45	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24

Attention, astronomical year style is used: The year -8581 in astronomical counting style is the year 8582 BCE in historical counting style.

min. Earth dist.	-8581 Apr 11 j 05:27	18°Ω26'33	31.64735 AU	conjunction	-8575 Oct 22 j 15:21	0°♄41'40	0°01'39
opposition	-8581 Apr 13 j 21:23	18°Ω22'32	3°54'25	minimum elong	-8575 Oct 22 j 15:21	0°♄41'40	0°01'59
direct	-8581 Jul 02 j 08:56	17°Ω05'29		behind sun begin	-8575 Oct 22 j 08:59	0°♄41'10	
evening set	-8581 Sep 27 j 04:34	18°Ω49'49		behind sun end	-8575 Oct 22 j 21:44	0°♄42'10	
				max. Earth dist.	-8575 Oct 25 j 17:06	0°♄47'47	35.15729 AU
conjunction	-8581 Oct 12 j 00:08	19°Ω20'37	3°23'24	morning rise	-8575 Nov 07 j 00:01	1°♄12'00	
minimum elong	-8581 Oct 12 j 00:17	19°Ω20'38	3°23'48	desc. node	-8575 Nov 09 j 16:47	1°♄17'12	
max. Earth dist.	-8581 Oct 14 j 16:44	19°Ω26'15	33.75232 AU	retrograde	-8574 Feb 04 j 11:32	2°♄53'21	
morning rise	-8581 Oct 26 j 22:02	19°Ω51'37		min. Earth dist.	-8574 Apr 24 j 07:31	1°♄42'05	33.27995 AU
retrograde	-8580 Jan 24 j 20:22	21°Ω39'06		opposition	-8574 Apr 27 j 10:45	1°♄37'33	-0°15'45
min. Earth dist.	-8580 Apr 12 j 12:08	20°Ω25'14	31.86558 AU	direct	-8574 Jul 16 j 00:29	0°♄23'20	
opposition	-8580 Apr 15 j 05:02	20°Ω21'12	3°17'36	evening set	-8574 Oct 09 j 10:12	1°♄59'56	
direct	-8580 Jul 03 j 18:45	19°Ω04'32					
evening set	-8580 Sep 28 j 05:38	20°Ω47'31		conjunction	-8574 Oct 24 j 16:01	2°♄29'47	-0°30'41
				minimum elong	-8574 Oct 24 j 16:00	2°♄29'47	0°30'22
conjunction	-8580 Oct 13 j 04:15	21°Ω18'19	2°48'58	max. Earth dist.	-8574 Oct 27 j 19:48	2°♄36'01	35.40341 AU
minimum elong	-8580 Oct 13 j 04:22	21°Ω18'20	2°49'22	morning rise	-8574 Nov 09 j 00:38	2°♄59'52	
max. Earth dist.	-8580 Oct 15 j 22:14	21°Ω24'02	33.97461 AU	retrograde	-8573 Feb 06 j 12:37	4°♄40'24	
morning rise	-8580 Oct 28 j 05:15	21°Ω49'19		min. Earth dist.	-8573 Apr 26 j 10:18	3°♄29'28	33.52709 AU
retrograde	-8579 Jan 26 j 01:10	23°Ω35'35		opposition	-8573 Apr 29 j 13:24	3°♄24'57	-0°49'41
min. Earth dist.	-8579 Apr 14 j 15:55	22°Ω22'13	32.08953 AU	direct	-8573 Jul 18 j 03:38	2°♄11'09	
opposition	-8579 Apr 17 j 11:46	22°Ω18'00	2°41'04	evening set	-8573 Oct 11 j 10:38	3°♄46'53	
direct	-8579 Jul 06 j 03:05	21°Ω01'44					
evening set	-8579 Sep 30 j 06:36	22°Ω43'29		conjunction	-8573 Oct 26 j 16:00	4°♄16'28	-1°02'27
				minimum elong	-8573 Oct 26 j 15:57	4°♄16'28	1°02'09
conjunction	-8579 Oct 15 j 07:38	23°Ω14'13	2°14'48	max. Earth dist.	-8573 Oct 29 j 19:54	4°♄22'40	35.65102 AU
minimum elong	-8579 Oct 15 j 07:43	23°Ω14'14	2°15'11	morning rise	-8573 Nov 11 j 00:11	4°♄46'16	
max. Earth dist.	-8579 Oct 18 j 03:44	23°Ω20'04	34.20223 AU	retrograde	-8572 Feb 08 j 13:17	6°♄26'02	
morning rise	-8579 Oct 30 j 11:18	23°Ω45'11		min. Earth dist.	-8572 Apr 27 j 10:20	5°♄15'31	33.77555 AU
retrograde	-8578 Jan 28 j 03:23	25°Ω30'20		opposition	-8572 Apr 30 j 15:20	5°♄10'55	-1°23'04
min. Earth dist.	-8578 Apr 16 j 20:58	24°Ω17'20	32.31901 AU	direct	-8572 Jul 19 j 06:06	3°♄57'29	
opposition	-8578 Apr 19 j 17:53	24°Ω13'05	2°04'51	evening set	-8572 Oct 12 j 11:05	5°♄32'25	
direct	-8578 Jul 08 j 09:00	22°Ω57'13					
evening set	-8578 Oct 02 j 07:26	24°Ω37'47		conjunction	-8572 Oct 27 j 15:30	6°♄01'41	-1°33'44
				minimum elong	-8572 Oct 27 j 15:27	6°♄01'41	1°33'27
conjunction	-8578 Oct 17 j 10:32	25°Ω08'26	1°40'56	max. Earth dist.	-8572 Oct 30 j 20:27	6°♄07'55	35.89951 AU
minimum elong	-8578 Oct 17 j 10:36	25°Ω08'26	1°41'19	morning rise	-8572 Nov 11 j 22:55	6°♄31'12	
max. Earth dist.	-8578 Oct 20 j 08:41	25°Ω14'25	34.43501 AU	retrograde	-8571 Feb 09 j 11:07	8°♄10'13	
morning rise	-8578 Nov 01 j 16:04	25°Ω39'17		min. Earth dist.	-8571 Apr 29 j 11:54	6°♄59'59	34.02508 AU
retrograde	-8577 Jan 30 j 04:14	27°Ω23'23		opposition	-8571 May 02 j 16:43	6°♄55'25	-1°55'54
min. Earth dist.	-8577 Apr 18 j 23:58	26°Ω10'52	32.55339 AU	direct	-8571 Jul 21 j 08:41	5°♄42'21	
opposition	-8577 Apr 21 j 22:59	26°Ω06'30	1°29'02	evening set	-8571 Oct 14 j 11:14	7°♄16'30	
direct	-8577 Jul 10 j 15:24	24°Ω51'03					
evening set	-8577 Oct 04 j 08:17	26°Ω30'32		conjunction	-8571 Oct 29 j 14:34	7°♄45'26	-2°04'30
				minimum elong	-8571 Oct 29 j 14:29	7°♄45'26	2°04'13
conjunction	-8577 Oct 19 j 12:38	27°Ω01'02	1°07'26	max. Earth dist.	-8571 Nov 01 j 20:25	7°♄51'42	36.14891 AU
minimum elong	-8577 Oct 19 j 12:41	27°Ω01'02	1°07'47	morning rise	-8571 Nov 13 j 20:37	8°♄14'36	
max. Earth dist.	-8577 Oct 22 j 11:46	27°Ω07'02	34.67221 AU	retrograde	-8570 Feb 11 j 07:49	9°♄52'55	
morning rise	-8577 Nov 03 j 19:50	27°Ω31'45		min. Earth dist.	-8570 May 01 j 11:22	8°♄43'03	34.27547 AU
retrograde	-8576 Feb 01 j 07:17	29°Ω14'53		opposition	-8570 May 04 j 17:17	8°♄38'26	-2°28'08
min. Earth dist.	-8576 Apr 20 j 03:01	28°Ω02'47	32.79229 AU	direct	-8570 Jul 23 j 11:24	7°♄25'42	
opposition	-8576 Apr 23 j 03:41	27°Ω58'21	0°53'38	evening set	-8570 Oct 16 j 11:21	8°♄59'08	
direct	-8576 Jul 11 j 17:59	26°Ω43'19					
evening set	-8576 Oct 05 j 08:49	28°Ω21'46		conjunction	-8570 Oct 31 j 12:51	9°♄27'43	-2°34'44
				minimum elong	-8570 Oct 31 j 12:45	9°♄27'42	2°34'29
conjunction	-8576 Oct 20 j 14:15	28°Ω52'05	0°34'19	max. Earth dist.	-8570 Nov 03 j 18:56	9°♄33'56	36.39908 AU
minimum elong	-8576 Oct 20 j 14:17	28°Ω52'06	0°34'40	morning rise	-8570 Nov 15 j 17:24	9°♄56'31	
max. Earth dist.	-8576 Oct 23 j 15:49	28°Ω58'15	34.91328 AU	retrograde	-8569 Feb 13 j 06:14	11°♄34'11	
morning rise	-8576 Nov 04 j 22:17	29°Ω22'38		min. Earth dist.	-8569 May 03 j 10:31	10°♄24'37	34.52720 AU
	-8576 Nov 25 j 02:44	0°♄		opposition	-8569 May 06 j 17:13	10°♄19'59	-2°59'46
retrograde	-8575 Feb 02 j 08:09	1°♄04'51		direct	-8569 Jul 25 j 10:27	9°♄07'35	
	-8575 Apr 17 j 12:34	30°♄		evening set	-8569 Oct 18 j 11:07	10°♄40'20	
min. Earth dist.	-8575 Apr 22 j 06:15	29°Ω53'08	33.03469 AU				
opposition	-8575 Apr 25 j 07:38	29°Ω48'41	0°18'41	conjunction	-8569 Nov 02 j 10:44	11°♄08'31	-3°04'25
direct	-8575 Jul 13 j 22:30	28°Ω34'04		minimum elong	-8569 Nov 02 j 10:37	11°♄08'31	3°04'11
	-8575 Oct 01 j 08:34	0°♄		max. Earth dist.	-8569 Nov 05 j 18:39	11°♄14'50	36.65067 AU
evening set	-8575 Oct 07 j 09:35	0°♄11'34		morning rise	-8569 Nov 17 j 13:05	11°♄36'57	



## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 25

Attention, astronomical year style is used: The year -8568 in astronomical counting style is the year 8569 BCE in historical counting style.

retrograde	-8568 Feb 15 j 02:42	13° $\mathring{M}$ 14'00		minimum elong	-8562 Nov 13 j 06:01	22° $\mathring{M}$ 19'00	6°15'41
min. Earth dist.	-8568 May 04 j 09:30	12° $\mathring{M}$ 04'44	34.78055 AU	max. Earth dist.	-8562 Nov 16 j 18:53	22° $\mathring{M}$ 25'22	38.45278 AU
opposition	-8568 May 07 j 16:35	12° $\mathring{M}$ 00'06	-3°30'48	morning rise	-8562 Nov 27 j 08:45	22° $\mathring{M}$ 44'15	
direct	-8568 Jul 26 j 10:44	10° $\mathring{M}$ 48'02		retrograde	-8561 Feb 25 j 21:27	24° $\mathring{M}$ 18'15	
evening set	-8568 Oct 19 j 10:47	12° $\mathring{M}$ 20'08		min. Earth dist.	-8561 May 16 j 10:12	23° $\mathring{M}$ 11'15	36.59539 AU
				opposition	-8561 May 19 j 20:40	23° $\mathring{M}$ 06'35	-6°49'50
conjunction	-8568 Nov 03 j 07:53	12° $\mathring{M}$ 47'56	-3°33'32	direct	-8561 Aug 07 j 15:56	21° $\mathring{M}$ 56'55	
minimum elong	-8568 Nov 03 j 07:46	12° $\mathring{M}$ 47'55	3°33'19	evening set	-8561 Nov 01 j 05:14	23° $\mathring{M}$ 25'55	
max. Earth dist.	-8568 Nov 06 j 15:42	12° $\mathring{M}$ 54'11	36.90399 AU				
morning rise	-8568 Nov 18 j 07:58	13° $\mathring{M}$ 15'56		conjunction	-8561 Nov 15 j 00:35	23° $\mathring{M}$ 50'27	-6°40'46
retrograde	-8567 Feb 16 j 02:22	14° $\mathring{M}$ 52'26		minimum elong	-8561 Nov 15 j 00:23	23° $\mathring{M}$ 50'26	6°40'38
min. Earth dist.	-8567 May 06 j 06:36	13° $\mathring{M}$ 43'32	35.03598 AU	max. Earth dist.	-8561 Nov 18 j 12:10	23° $\mathring{M}$ 56'41	38.71053 AU
opposition	-8567 May 09 j 15:22	13° $\mathring{M}$ 38'50	-4°01'11	morning rise	-8561 Nov 28 j 22:33	24° $\mathring{M}$ 15'10	
direct	-8567 Jul 28 j 07:28	12° $\mathring{M}$ 27'06		retrograde	-8560 Feb 27 j 18:00	25° $\mathring{M}$ 48'51	
evening set	-8567 Oct 21 j 10:22	13° $\mathring{M}$ 58'38		min. Earth dist.	-8560 May 17 j 04:34	24° $\mathring{M}$ 42'11	36.85411 AU
				opposition	-8560 May 20 j 15:55	24° $\mathring{M}$ 37'29	-7°15'40
conjunction	-8567 Nov 05 j 04:47	14° $\mathring{M}$ 26'00	-4°02'04	direct	-8560 Aug 08 j 09:04	23° $\mathring{M}$ 28'08	
minimum elong	-8567 Nov 05 j 04:38	14° $\mathring{M}$ 26'00	4°01'51	evening set	-8560 Nov 02 j 04:01	24° $\mathring{M}$ 56'48	
max. Earth dist.	-8567 Nov 08 j 14:28	14° $\mathring{M}$ 32'22	37.15918 AU				
morning rise	-8567 Nov 20 j 02:03	14° $\mathring{M}$ 53'36		conjunction	-8560 Nov 15 j 18:35	25° $\mathring{M}$ 20'49	-7°05'09
retrograde	-8566 Feb 17 j 23:31	16° $\mathring{M}$ 29'34		minimum elong	-8560 Nov 15 j 18:22	25° $\mathring{M}$ 20'48	7°05'03
min. Earth dist.	-8566 May 08 j 05:00	15° $\mathring{M}$ 20'56	35.29336 AU	max. Earth dist.	-8560 Nov 19 j 06:52	25° $\mathring{M}$ 27'03	38.96644 AU
opposition	-8566 May 11 j 13:28	15° $\mathring{M}$ 16'17	-4°30'55	morning rise	-8560 Nov 29 j 11:42	25° $\mathring{M}$ 45'01	
direct	-8566 Jul 30 j 04:48	14° $\mathring{M}$ 04'53		retrograde	-8559 Feb 28 j 11:54	27° $\mathring{M}$ 18'25	
evening set	-8566 Oct 23 j 09:45	15° $\mathring{M}$ 35'54		min. Earth dist.	-8559 May 19 j 00:47	26° $\mathring{M}$ 11'55	37.11086 AU
				opposition	-8559 May 22 j 10:49	26° $\mathring{M}$ 07'19	-7°40'53
conjunction	-8566 Nov 07 j 01:08	16° $\mathring{M}$ 02'50	-4°30'01	direct	-8559 Aug 10 j 03:57	24° $\mathring{M}$ 58'15	
minimum elong	-8566 Nov 07 j 00:59	16° $\mathring{M}$ 02'50	4°29'49	evening set	-8559 Nov 04 j 02:47	26° $\mathring{M}$ 26'38	
max. Earth dist.	-8566 Nov 10 j 11:02	16° $\mathring{M}$ 09'10	37.41626 AU				
morning rise	-8566 Nov 21 j 19:17	16° $\mathring{M}$ 29'59		conjunction	-8559 Nov 17 j 12:20	26° $\mathring{M}$ 50'06	-7°28'56
retrograde	-8565 Feb 19 j 19:39	18° $\mathring{M}$ 05'28		minimum elong	-8559 Nov 17 j 12:07	26° $\mathring{M}$ 50'06	7°28'50
min. Earth dist.	-8565 May 10 j 00:48	16° $\mathring{M}$ 57'16	35.55251 AU	max. Earth dist.	-8559 Nov 21 j 00:08	26° $\mathring{M}$ 56'16	39.22036 AU
opposition	-8565 May 13 j 11:03	16° $\mathring{M}$ 52'31	-5°00'00	morning rise	-8559 Dec 01 j 00:11	27° $\mathring{M}$ 13'46	
direct	-8565 Aug 01 j 03:45	15° $\mathring{M}$ 41'28		retrograde	-8558 Mar 02 j 04:35	28° $\mathring{M}$ 46'53	
evening set	-8565 Oct 25 j 08:56	17° $\mathring{M}$ 12'01		min. Earth dist.	-8558 May 20 j 18:17	27° $\mathring{M}$ 40'40	37.36556 AU
				opposition	-8558 May 24 j 04:56	27° $\mathring{M}$ 36'02	-8°05'28
conjunction	-8565 Nov 08 j 20:49	17° $\mathring{M}$ 38'30	-4°57'22	direct	-8558 Aug 12 j 00:23	26° $\mathring{M}$ 27'14	
minimum elong	-8565 Nov 08 j 20:39	17° $\mathring{M}$ 38'29	4°57'10	evening set	-8558 Nov 06 j 01:24	27° $\mathring{M}$ 55'20	
max. Earth dist.	-8565 Nov 12 j 07:40	17° $\mathring{M}$ 44'51	37.67469 AU				
morning rise	-8565 Nov 23 j 11:38	18° $\mathring{M}$ 05'12		conjunction	-8558 Nov 19 j 05:29	28° $\mathring{M}$ 18'17	-7°52'09
retrograde	-8564 Feb 21 j 14:48	19° $\mathring{M}$ 40'15		minimum elong	-8558 Nov 19 j 05:15	28° $\mathring{M}$ 18'16	7°52'04
min. Earth dist.	-8564 May 10 j 22:09	18° $\mathring{M}$ 32'20	35.81303 AU	max. Earth dist.	-8558 Nov 22 j 17:01	28° $\mathring{M}$ 24'23	39.47222 AU
opposition	-8564 May 14 j 08:20	18° $\mathring{M}$ 27'37	-5°28'26	morning rise	-8558 Dec 02 j 12:03	28° $\mathring{M}$ 41'24	
direct	-8564 Aug 02 j 02:12	17° $\mathring{M}$ 16'56			-8557 Jan 29 j 05:48	0° $\mathring{A}$	
evening set	-8564 Oct 26 j 08:02	18° $\mathring{M}$ 47'02		retrograde	-8557 Mar 03 j 20:47	0° $\mathring{A}$ 14'15	
					-8557 Apr 07 j 01:34	30° $\mathring{R}$ $\mathring{M}$	
conjunction	-8564 Nov 09 j 16:23	19° $\mathring{M}$ 13'03	-5°24'06	min. Earth dist.	-8557 May 22 j 12:44	29° $\mathring{M}$ 08'13	37.61866 AU
minimum elong	-8564 Nov 09 j 16:12	19° $\mathring{M}$ 13'02	5°23'56	opposition	-8557 May 25 j 22:50	29° $\mathring{M}$ 03'39	-8°29'25
max. Earth dist.	-8564 Nov 13 j 04:09	19° $\mathring{M}$ 19'26	37.93418 AU	direct	-8557 Aug 13 j 19:17	27° $\mathring{M}$ 55'06	
morning rise	-8564 Nov 24 j 03:18	19° $\mathring{M}$ 39'17		evening set	-8557 Nov 07 j 23:33	29° $\mathring{M}$ 22'57	
retrograde	-8563 Feb 22 j 08:17	21° $\mathring{M}$ 13'57					
min. Earth dist.	-8563 May 12 j 18:07	20° $\mathring{M}$ 06'23	36.07415 AU	conjunction	-8557 Nov 20 j 22:11	29° $\mathring{M}$ 45'21	-8°14'46
opposition	-8563 May 16 j 04:51	20° $\mathring{M}$ 01'39	-5°56'13	minimum elong	-8557 Nov 20 j 21:58	29° $\mathring{M}$ 45'20	8°14'41
direct	-8563 Aug 04 j 00:48	18° $\mathring{M}$ 51'19		max. Earth dist.	-8557 Nov 24 j 10:30	29° $\mathring{M}$ 51'28	39.72270 AU
evening set	-8563 Oct 28 j 07:14	20° $\mathring{M}$ 21'01			-8557 Nov 29 j 08:40	0° $\mathring{A}$	
				morning rise	-8557 Dec 03 j 22:54	0° $\mathring{A}$ 07'54	
conjunction	-8563 Nov 11 j 11:25	20° $\mathring{M}$ 46'33	-5°50'15	retrograde	-8556 Mar 04 j 10:49	1° $\mathring{A}$ 40'32	
minimum elong	-8563 Nov 11 j 11:13	20° $\mathring{M}$ 46'32	5°50'05	min. Earth dist.	-8556 May 23 j 06:11	0° $\mathring{A}$ 34'44	37.87047 AU
max. Earth dist.	-8563 Nov 14 j 22:50	20° $\mathring{M}$ 52'52	38.19377 AU	opposition	-8556 May 26 j 16:10	0° $\mathring{A}$ 30'10	-8°52'44
morning rise	-8563 Nov 25 j 18:28	21° $\mathring{M}$ 12'17			-8556 Jun 19 j 02:34	30° $\mathring{R}$ $\mathring{M}$	
retrograde	-8562 Feb 24 j 03:39	22° $\mathring{M}$ 46'37		direct	-8556 Aug 14 j 14:52	29° $\mathring{M}$ 21'52	
min. Earth dist.	-8562 May 14 j 13:55	21° $\mathring{M}$ 39'22	36.33527 AU		-8556 Oct 07 j 19:06	0° $\mathring{A}$	
opposition	-8562 May 18 j 01:04	21° $\mathring{M}$ 34'38	-6°23'21	evening set	-8556 Nov 08 j 21:55	0° $\mathring{A}$ 49'31	
direct	-8562 Aug 05 j 20:02	20° $\mathring{M}$ 24'39					
evening set	-8562 Oct 30 j 06:12	21° $\mathring{M}$ 53'58		conjunction	-8556 Nov 21 j 14:34	1° $\mathring{A}$ 11'20	-8°36'47
				minimum elong	-8556 Nov 21 j 14:19	1° $\mathring{A}$ 11'19	8°36'44
conjunction	-8562 Nov 13 j 06:13	22° $\mathring{M}$ 19'01	-6°15'48	max. Earth dist.	-8556 Nov 25 j 02:01	1° $\mathring{A}$ 17'21	39.97214 AU

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26

Attention, astronomical year style is used: The year -8556 in astronomical counting style is the year 8557 BCE in historical counting style.

morning rise	-8556 Dec 04 j 09:28	1° <u>♁</u> 33'20		conjunction	-8549 Dec 02 j 00:24	10° <u>♁</u> 49'35	-10°54'38
retrograde	-8555 Mar 06 j 03:24	3° <u>♁</u> 05'47		minimum elong	-8549 Dec 02 j 00:10	10° <u>♁</u> 49'34	10°54'41
min. Earth dist.	-8555 May 24 j 22:30	2° <u>♁</u> 00'14	38.12168 AU	max. Earth dist.	-8549 Dec 05 j 11:05	10° <u>♁</u> 55'18	41.69219 AU
opposition	-8555 May 28 j 09:03	1° <u>♁</u> 55'40	-9°15'24	morning rise	-8549 Dec 12 j 19:17	11° <u>♁</u> 07'25	
direct	-8555 Aug 16 j 06:57	0° <u>♁</u> 47'37		retrograde	-8548 Mar 15 j 12:10	12° <u>♁</u> 39'26	
evening set	-8555 Nov 10 j 19:59	2° <u>♁</u> 15'05		min. Earth dist.	-8548 Jun 03 j 12:11	11° <u>♁</u> 35'33	39.85037 AU
				opposition	-8548 Jun 06 j 20:54	11° <u>♁</u> 31'13	-11°36'46
conjunction	-8555 Nov 23 j 06:40	2° <u>♁</u> 36'21	-8°58'13	direct	-8548 Aug 25 j 19:24	10° <u>♁</u> 25'04	
minimum elong	-8555 Nov 23 j 06:26	2° <u>♁</u> 36'20	8°58'10	evening set	-8548 Nov 22 j 04:44	11° <u>♁</u> 52'13	
max. Earth dist.	-8555 Nov 26 j 19:22	2° <u>♁</u> 42'25	40.22100 AU				
morning rise	-8555 Dec 05 j 19:22	2° <u>♁</u> 57'46		conjunction	-8548 Dec 02 j 14:33	12° <u>♁</u> 09'20	-11°12'08
retrograde	-8554 Mar 07 j 19:33	4° <u>♁</u> 30'04		minimum elong	-8548 Dec 02 j 14:18	12° <u>♁</u> 09'19	11°12'11
min. Earth dist.	-8554 May 26 j 15:51	3° <u>♁</u> 24'42	38.37230 AU	max. Earth dist.	-8548 Dec 06 j 01:19	12° <u>♁</u> 15'01	41.92881 AU
opposition	-8554 May 30 j 01:34	3° <u>♁</u> 20'12	-9°37'26	morning rise	-8548 Dec 13 j 01:44	12° <u>♁</u> 26'32	
direct	-8554 Aug 17 j 22:57	2° <u>♁</u> 12'25		retrograde	-8547 Mar 17 j 04:01	13° <u>♁</u> 58'34	
evening set	-8554 Nov 12 j 18:00	3° <u>♁</u> 39'45		min. Earth dist.	-8547 Jun 05 j 04:06	12° <u>♁</u> 54'48	40.08727 AU
				opposition	-8547 Jun 08 j 11:00	12° <u>♁</u> 50'35	-11°54'39
conjunction	-8554 Nov 24 j 22:20	4° <u>♁</u> 00'27	-9°19'03	direct	-8547 Aug 27 j 07:51	11° <u>♁</u> 44'39	
minimum elong	-8554 Nov 24 j 22:05	4° <u>♁</u> 00'26	9°19'02	evening set	-8547 Nov 24 j 02:32	13° <u>♁</u> 11'51	
max. Earth dist.	-8554 Nov 28 j 10:17	4° <u>♁</u> 06'25	40.46937 AU				
morning rise	-8554 Dec 07 j 04:34	4° <u>♁</u> 21'17		conjunction	-8547 Dec 04 j 04:28	13° <u>♁</u> 28'20	-11°29'07
retrograde	-8553 Mar 09 j 12:45	5° <u>♁</u> 53'27		minimum elong	-8547 Dec 04 j 04:14	13° <u>♁</u> 28'19	11°29'11
min. Earth dist.	-8553 May 28 j 06:47	4° <u>♁</u> 48'24	38.62240 AU	max. Earth dist.	-8547 Dec 07 j 14:12	13° <u>♁</u> 33'55	42.16185 AU
opposition	-8553 May 31 j 17:35	4° <u>♁</u> 43'52	-9°58'50	morning rise	-8547 Dec 14 j 07:32	13° <u>♁</u> 44'53	
direct	-8553 Aug 19 j 13:25	3° <u>♁</u> 36'21		retrograde	-8546 Mar 18 j 16:49	15° <u>♁</u> 16'56	
evening set	-8553 Nov 14 j 15:53	5° <u>♁</u> 03'36		min. Earth dist.	-8546 Jun 06 j 17:42	14° <u>♁</u> 13'23	40.32040 AU
				opposition	-8546 Jun 10 j 00:41	14° <u>♁</u> 09'11	-12°11'59
conjunction	-8553 Nov 26 j 13:39	5° <u>♁</u> 23'42	-9°39'18	direct	-8546 Aug 28 j 22:36	13° <u>♁</u> 03'27	
minimum elong	-8553 Nov 26 j 13:24	5° <u>♁</u> 23'41	9°39'16	evening set	-8546 Nov 26 j 00:09	14° <u>♁</u> 30'41	
max. Earth dist.	-8553 Nov 30 j 02:01	5° <u>♁</u> 29'40	40.71708 AU				
morning rise	-8553 Dec 08 j 13:23	5° <u>♁</u> 43'57		conjunction	-8546 Dec 05 j 17:49	14° <u>♁</u> 46'31	-11°45'36
retrograde	-8552 Mar 10 j 03:29	7° <u>♁</u> 16'03		minimum elong	-8546 Dec 05 j 17:34	14° <u>♁</u> 46'30	11°45'40
min. Earth dist.	-8552 May 28 j 23:35	6° <u>♁</u> 11'12	38.87181 AU	max. Earth dist.	-8546 Dec 09 j 02:30	14° <u>♁</u> 52'00	42.39118 AU
opposition	-8552 Jun 01 j 09:25	6° <u>♁</u> 06'44	-10°19'36	morning rise	-8546 Dec 15 j 12:43	15° <u>♁</u> 02'26	
direct	-8552 Aug 20 j 06:02	4° <u>♁</u> 59'31		retrograde	-8545 Mar 20 j 04:28	16° <u>♁</u> 34'31	
evening set	-8552 Nov 15 j 13:36	6° <u>♁</u> 26'41		min. Earth dist.	-8545 Jun 08 j 08:16	15° <u>♁</u> 31'05	40.55024 AU
				opposition	-8545 Jun 11 j 14:08	15° <u>♁</u> 26'57	-12°28'47
conjunction	-8552 Nov 27 j 04:45	6° <u>♁</u> 46'13	-9°58'58	direct	-8545 Aug 30 j 14:00	14° <u>♁</u> 21'24	
minimum elong	-8552 Nov 27 j 04:30	6° <u>♁</u> 46'12	9°58'58	evening set	-8545 Nov 27 j 21:41	15° <u>♁</u> 48'42	
max. Earth dist.	-8552 Nov 30 j 17:22	6° <u>♁</u> 52'10	40.96393 AU				
morning rise	-8552 Dec 08 j 21:30	7° <u>♁</u> 05'52		conjunction	-8545 Dec 07 j 07:03	16° <u>♁</u> 03'53	-12°01'33
retrograde	-8551 Mar 11 j 16:21	8° <u>♁</u> 37'54		minimum elong	-8545 Dec 07 j 06:49	16° <u>♁</u> 03'52	12°01'39
min. Earth dist.	-8551 May 30 j 14:44	7° <u>♁</u> 33'20	39.11989 AU	max. Earth dist.	-8545 Dec 10 j 16:09	16° <u>♁</u> 09'22	42.61755 AU
opposition	-8551 Jun 03 j 00:46	7° <u>♁</u> 28'53	-10°39'46	morning rise	-8545 Dec 16 j 17:19	16° <u>♁</u> 19'08	
direct	-8551 Aug 21 j 23:56	6° <u>♁</u> 21'56		retrograde	-8544 Mar 20 j 13:43	17° <u>♁</u> 51'17	
evening set	-8551 Nov 17 j 11:32	7° <u>♁</u> 49'05		min. Earth dist.	-8544 Jun 08 j 22:00	16° <u>♁</u> 47'59	40.77723 AU
				opposition	-8544 Jun 12 j 03:07	16° <u>♁</u> 43'53	-12°45'02
conjunction	-8551 Nov 28 j 19:33	8° <u>♁</u> 08'01	-10°18'04	direct	-8544 Aug 31 j 06:27	15° <u>♁</u> 38'32	
minimum elong	-8551 Nov 28 j 19:19	8° <u>♁</u> 08'00	10°18'05	evening set	-8544 Nov 28 j 19:19	17° <u>♁</u> 05'55	
max. Earth dist.	-8551 Dec 02 j 07:13	8° <u>♁</u> 13'52	41.20910 AU				
morning rise	-8551 Dec 10 j 05:23	8° <u>♁</u> 27'04		conjunction	-8544 Dec 07 j 19:50	17° <u>♁</u> 20'26	-12°17'00
retrograde	-8550 Mar 13 j 07:01	9° <u>♁</u> 59'05		minimum elong	-8544 Dec 07 j 19:36	17° <u>♁</u> 20'25	12°17'06
min. Earth dist.	-8550 Jun 01 j 06:03	8° <u>♁</u> 54'45	39.36619 AU	max. Earth dist.	-8544 Dec 11 j 03:30	17° <u>♁</u> 25'47	42.84144 AU
opposition	-8550 Jun 04 j 15:44	8° <u>♁</u> 50'20	-10°59'20	morning rise	-8544 Dec 16 j 21:20	17° <u>♁</u> 35'01	
direct	-8550 Aug 23 j 15:03	7° <u>♁</u> 43'40		retrograde	-8543 Mar 22 j 02:33	19° <u>♁</u> 07'14	
evening set	-8550 Nov 19 j 09:15	9° <u>♁</u> 10'48		min. Earth dist.	-8543 Jun 10 j 10:28	18° <u>♁</u> 04'08	41.00210 AU
				opposition	-8543 Jun 13 j 15:51	18° <u>♁</u> 00'02	-13°00'44
conjunction	-8550 Nov 30 j 10:13	9° <u>♁</u> 29'08	-10°36'37	direct	-8543 Sep 01 j 19:01	16° <u>♁</u> 54'51	
minimum elong	-8550 Nov 30 j 09:58	9° <u>♁</u> 29'07	10°36'39	evening set	-8543 Nov 30 j 16:52	18° <u>♁</u> 22'21	
max. Earth dist.	-8550 Dec 03 j 22:27	9° <u>♁</u> 35'00	41.45209 AU				
morning rise	-8550 Dec 11 j 12:38	9° <u>♁</u> 47'35		conjunction	-8543 Dec 09 j 08:31	18° <u>♁</u> 36'12	-12°31'55
retrograde	-8549 Mar 14 j 19:49	11° <u>♁</u> 19'36		minimum elong	-8543 Dec 09 j 08:17	18° <u>♁</u> 36'11	12°32'03
min. Earth dist.	-8549 Jun 02 j 21:58	10° <u>♁</u> 15'28	39.60983 AU	max. Earth dist.	-8543 Dec 12 j 16:46	18° <u>♁</u> 41'34	43.06331 AU
opposition	-8549 Jun 06 j 06:27	10° <u>♁</u> 11'07	-11°18'20	morning rise	-8543 Dec 18 j 00:58	18° <u>♁</u> 50'06	
direct	-8549 Aug 25 j 07:01	9° <u>♁</u> 04'44		retrograde	-8542 Mar 23 j 14:34	20° <u>♁</u> 22'26	
evening set	-8549 Nov 21 j 06:59	10° <u>♁</u> 31'52		min. Earth dist.	-8542 Jun 12 j 00:12	19° <u>♁</u> 19'26	41.22509 AU
				opposition	-8542 Jun 15 j 04:08	19° <u>♁</u> 15'25	-13°15'54

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 27

Attention, astronomical year style is used: The year -8542 in astronomical counting style is the year 8543 BCE in historical counting style.

direct	-8542 Sep 03 j 07:37	18° <u>♁</u> 10'26	retrograde	-8535 Mar 31 j 23:51	28° <u>♁</u> 52'13	
evening set	-8542 Dec 02 j 14:33	19° <u>♁</u> 38'04	min. Earth dist.	-8535 Jun 20 j 12:41	27° <u>♁</u> 50'22	42.72318 AU
			opposition	-8535 Jun 23 j 11:40	27° <u>♁</u> 46'42	-14°47'34
conjunction	-8542 Dec 10 j 20:52	19° <u>♁</u> 51'14 -12°46'20	direct	-8535 Sep 11 j 15:19	26° <u>♁</u> 43'07	
minimum elong	-8542 Dec 10 j 20:39	19° <u>♁</u> 51'13 12°46'26	evening set	-8535 Dec 14 j 05:05	28° <u>♁</u> 12'57	
max. Earth dist.	-8542 Dec 14 j 04:11	19° <u>♁</u> 56'31 43.28364 AU				
morning rise	-8542 Dec 19 j 03:49	20° <u>♁</u> 04'27	conjunction	-8535 Dec 19 j 05:45	28° <u>♁</u> 20'44	-14°13'38
retrograde	-8541 Mar 25 j 04:32	21° <u>♁</u> 36'55	minimum elong	-8535 Dec 19 j 05:32	28° <u>♁</u> 20'43	14°13'50
min. Earth dist.	-8541 Jun 13 j 11:38	20° <u>♁</u> 34'08 41.44648 AU	max. Earth dist.	-8535 Dec 22 j 08:27	28° <u>♁</u> 25'32	44.75866 AU
opposition	-8541 Jun 16 j 16:12	20° <u>♁</u> 30'06 -13°30'31	morning rise	-8535 Dec 24 j 06:22	28° <u>♁</u> 28'29	
direct	-8541 Sep 04 j 18:13	19° <u>♁</u> 25'18		-8534 Mar 17 j 02:55	0° <u>♁</u>	
evening set	-8541 Dec 04 j 12:04	20° <u>♁</u> 53'08	retrograde	-8534 Apr 02 j 09:14	0° <u>♁</u> 03'02	
				-8534 Apr 18 j 17:14	30° <u>♁</u>	
conjunction	-8541 Dec 12 j 08:46	21° <u>♁</u> 05'36 -13°00'13	min. Earth dist.	-8534 Jun 21 j 23:35	29° <u>♁</u> 01'20	42.92250 AU
minimum elong	-8541 Dec 12 j 08:33	21° <u>♁</u> 05'36 13°00'22	opposition	-8534 Jun 24 j 21:56	28° <u>♁</u> 57'43	-14°58'47
max. Earth dist.	-8541 Dec 15 j 15:54	21° <u>♁</u> 10'50 43.50230 AU	direct	-8534 Sep 13 j 03:23	27° <u>♁</u> 54'17	
morning rise	-8541 Dec 20 j 06:10	21° <u>♁</u> 18'07	evening set	-8534 Dec 16 j 06:20	29° <u>♁</u> 24'40	
retrograde	-8540 Mar 25 j 17:27	22° <u>♁</u> 50'46				
min. Earth dist.	-8540 Jun 14 j 00:45	21° <u>♁</u> 48'07 41.66624 AU	conjunction	-8534 Dec 20 j 16:28	29° <u>♁</u> 31'28	-14°24'21
opposition	-8540 Jun 17 j 04:10	21° <u>♁</u> 44'10 -13°44'36	minimum elong	-8534 Dec 20 j 16:18	29° <u>♁</u> 31'28	14°24'33
direct	-8540 Sep 05 j 05:06	20° <u>♁</u> 39'34	max. Earth dist.	-8534 Dec 23 j 17:24	29° <u>♁</u> 36'09	44.95425 AU
evening set	-8540 Dec 05 j 09:57	22° <u>♁</u> 07'37	morning rise	-8534 Dec 25 j 02:36	29° <u>♁</u> 38'17	
				-8533 Jan 08 j 11:07	0° <u>♁</u>	
conjunction	-8540 Dec 12 j 20:46	22° <u>♁</u> 19'23 -13°13'37	retrograde	-8533 Apr 03 j 19:15	1° <u>♁</u> 13'20	
minimum elong	-8540 Dec 12 j 20:33	22° <u>♁</u> 19'22 13°13'45	min. Earth dist.	-8533 Jun 23 j 10:49	0° <u>♁</u> 11'44	43.11772 AU
max. Earth dist.	-8540 Dec 16 j 04:00	22° <u>♁</u> 24'36 43.71929 AU	opposition	-8533 Jun 26 j 08:12	0° <u>♁</u> 08'10	-15°09'34
morning rise	-8540 Dec 20 j 08:00	22° <u>♁</u> 31'10		-8533 Jul 02 j 23:53	30° <u>♁</u>	
retrograde	-8539 Mar 27 j 02:11	24° <u>♁</u> 04'02	direct	-8533 Sep 14 j 14:20	29° <u>♁</u> 04'53	
min. Earth dist.	-8539 Jun 15 j 12:28	23° <u>♁</u> 01'35 41.88389 AU		-8533 Nov 24 j 01:34	0° <u>♁</u>	
opposition	-8539 Jun 18 j 15:35	22° <u>♁</u> 57'39 -13°58'09	evening set	-8533 Dec 18 j 09:08	0° <u>♁</u> 35'55	
direct	-8539 Sep 06 j 19:26	21° <u>♁</u> 53'16				
evening set	-8539 Dec 07 j 08:06	23° <u>♁</u> 21'36	conjunction	-8533 Dec 22 j 02:59	0° <u>♁</u> 41'39	-14°34'38
			minimum elong	-8533 Dec 22 j 02:47	0° <u>♁</u> 41'38	14°34'51
conjunction	-8539 Dec 14 j 08:27	23° <u>♁</u> 32'37 -13°26'32	morning rise	-8533 Dec 25 j 20:41	0° <u>♁</u> 47'23	
minimum elong	-8539 Dec 14 j 08:13	23° <u>♁</u> 32'36 13°26'41	max. Earth dist.	-8533 Dec 25 j 04:04	0° <u>♁</u> 46'19	45.14597 AU
max. Earth dist.	-8539 Dec 17 j 14:06	23° <u>♁</u> 37'43 43.93398 AU	retrograde	-8532 Apr 04 j 02:13	2° <u>♁</u> 23'04	
morning rise	-8539 Dec 21 j 09:14	23° <u>♁</u> 43'40	min. Earth dist.	-8532 Jun 23 j 22:12	1° <u>♁</u> 21'33	43.30916 AU
retrograde	-8538 Mar 28 j 12:49	25° <u>♁</u> 16'47	opposition	-8532 Jun 26 j 18:09	1° <u>♁</u> 18'03	-15°19'55
min. Earth dist.	-8538 Jun 17 j 00:18	24° <u>♁</u> 14'31 42.09911 AU	direct	-8532 Sep 15 j 03:14	0° <u>♁</u> 14'56	
opposition	-8538 Jun 20 j 02:57	24° <u>♁</u> 10'38 -14°11'13	evening set	-8532 Dec 19 j 15:06	1° <u>♁</u> 46'48	
direct	-8538 Sep 08 j 07:36	23° <u>♁</u> 06'28				
evening set	-8538 Dec 09 j 06:24	24° <u>♁</u> 35'06	conjunction	-8532 Dec 22 j 13:21	1° <u>♁</u> 51'16	-14°44'30
			minimum elong	-8532 Dec 22 j 13:11	1° <u>♁</u> 51'16	14°44'44
conjunction	-8538 Dec 15 j 19:56	24° <u>♁</u> 45'22 -13°38'58	morning rise	-8532 Dec 25 j 11:27	1° <u>♁</u> 55'44	
minimum elong	-8538 Dec 15 j 19:44	24° <u>♁</u> 45'21 13°39'08	max. Earth dist.	-8532 Dec 25 j 12:40	1° <u>♁</u> 55'49	45.33435 AU
max. Earth dist.	-8538 Dec 19 j 02:02	24° <u>♁</u> 50'28 44.14584 AU	retrograde	-8531 Apr 05 j 13:30	3° <u>♁</u> 32'14	
morning rise	-8538 Dec 22 j 09:46	24° <u>♁</u> 55'39	min. Earth dist.	-8531 Jun 25 j 07:43	2° <u>♁</u> 30'52	43.49756 AU
retrograde	-8537 Mar 29 j 23:08	26° <u>♁</u> 29'04	opposition	-8531 Jun 28 j 03:41	2° <u>♁</u> 27'24	-15°29'48
min. Earth dist.	-8537 Jun 18 j 13:04	25° <u>♁</u> 26'55 42.31106 AU	direct	-8531 Sep 16 j 11:55	1° <u>♁</u> 24'24	
opposition	-8537 Jun 21 j 14:03	25° <u>♁</u> 23'08 -14°23'47	evening set	-8531 Dec 22 j 03:48	2° <u>♁</u> 57'35	
direct	-8537 Sep 09 j 19:36	24° <u>♁</u> 19'10				
evening set	-8537 Dec 11 j 05:20	25° <u>♁</u> 48'10	conjunction	-8531 Dec 23 j 23:32	3° <u>♁</u> 00'21	-14°53'55
			minimum elong	-8531 Dec 23 j 23:21	3° <u>♁</u> 00'20	14°54'10
conjunction	-8537 Dec 17 j 07:20	25° <u>♁</u> 57'38 -13°50'57	morning rise	-8531 Dec 25 j 18:58	3° <u>♁</u> 03'06	
minimum elong	-8537 Dec 17 j 07:07	25° <u>♁</u> 57'37 13°51'09	max. Earth dist.	-8531 Dec 26 j 22:44	3° <u>♁</u> 04'51	45.51984 AU
max. Earth dist.	-8537 Dec 20 j 11:41	26° <u>♁</u> 02'36 44.35431 AU	retrograde	-8530 Apr 07 j 01:17	4° <u>♁</u> 40'53	
morning rise	-8537 Dec 23 j 09:30	26° <u>♁</u> 07'08	min. Earth dist.	-8530 Jun 26 j 18:58	3° <u>♁</u> 39'35	43.68331 AU
retrograde	-8536 Mar 30 j 11:51	27° <u>♁</u> 40'53	opposition	-8530 Jun 29 j 13:13	3° <u>♁</u> 36'13	-15°39'15
min. Earth dist.	-8536 Jun 18 j 23:53	26° <u>♁</u> 38'56 42.51928 AU	direct	-8530 Sep 17 j 19:20	2° <u>♁</u> 33'22	
opposition	-8536 Jun 22 j 00:53	26° <u>♁</u> 35'10 -14°35'54				
direct	-8536 Sep 10 j 05:04	25° <u>♁</u> 31'24	conjunction	-8530 Dec 25 j 09:25	4° <u>♁</u> 08'56	-15°02'55
evening set	-8536 Dec 12 j 04:45	27° <u>♁</u> 00'47	minimum elong	-8530 Dec 25 j 09:15	4° <u>♁</u> 08'56	15°03'11
			max. Earth dist.	-8530 Dec 28 j 08:03	4° <u>♁</u> 13'23	45.70299 AU
conjunction	-8536 Dec 17 j 18:33	27° <u>♁</u> 09'26 -14°02'30	retrograde	-8529 Apr 08 j 10:01	5° <u>♁</u> 49'03	
minimum elong	-8536 Dec 17 j 18:22	27° <u>♁</u> 09'25 14°02'42	min. Earth dist.	-8529 Jun 28 j 03:58	4° <u>♁</u> 47'55	43.86662 AU
max. Earth dist.	-8536 Dec 20 j 22:10	27° <u>♁</u> 14'19 44.55865 AU	opposition	-8529 Jun 30 j 22:24	4° <u>♁</u> 44'33	-15°48'15
morning rise	-8536 Dec 23 j 08:33	27° <u>♁</u> 18'05	direct	-8529 Sep 19 j 05:28	3° <u>♁</u> 41'51	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 28

Attention, astronomical year style is used: The year -8529 in astronomical counting style is the year 8530 BCE in historical counting style.

conjunction	-8529 Dec 26 j 19:06	5°M.17'04	-15°11'30		-8520 Feb 10 j 13:18	15°M.	
minimum elong	-8529 Dec 26 j 18:56	5°M.17'03	15°11'45	retrograde	-8520 Apr 17 j 13:02	15°M.45'47	
max. Earth dist.	-8529 Dec 29 j 16:24	5°M.21'25	45.88382 AU		-8520 Jun 25 j 09:57	15°R.M.	
retrograde	-8528 Apr 08 j 18:49	6°M.56'47		min. Earth dist.	-8520 Jul 07 j 18:20	14°M.45'29	45.36137 AU
min. Earth dist.	-8528 Jun 28 j 14:03	5°M.55'46	44.04771 AU	opposition	-8520 Jul 10 j 01:53	14°M.42'43	-16°51'05
opposition	-8528 Jul 01 j 07:31	5°M.52'28	-15°56'48	direct	-8520 Sep 28 j 16:23	13°M.41'15	
direct	-8528 Sep 19 j 15:25	4°M.49'56			-8520 Dec 26 j 21:39	15°M.	
conjunction	-8528 Dec 27 j 04:48	6°M.24'48	-15°19'39	conjunction	-8519 Jan 05 j 05:30	15°M.13'34	-16°11'27
minimum elong	-8528 Dec 27 j 04:39	6°M.24'47	15°19'56	minimum elong	-8519 Jan 05 j 05:23	15°M.13'34	16°11'48
max. Earth dist.	-8528 Dec 30 j 02:27	6°M.29'10	46.06236 AU	max. Earth dist.	-8519 Jan 07 j 17:06	15°M.17'12	47.35066 AU
retrograde	-8527 Apr 10 j 01:04	8°M.04'08		retrograde	-8519 Apr 18 j 21:50	16°M.50'03	
min. Earth dist.	-8527 Jun 30 j 00:06	7°M.03'15	44.22609 AU	min. Earth dist.	-8519 Jul 09 j 01:51	15°M.49'52	45.50561 AU
opposition	-8527 Jul 02 j 16:23	7°M.00'00	-16°04'56	opposition	-8519 Jul 11 j 09:20	15°M.47'07	-16°56'15
direct	-8527 Sep 21 j 03:29	5°M.57'38			-8519 Aug 25 j 08:14	15°R.M.	
				direct	-8519 Sep 29 j 23:19	14°M.45'43	
conjunction	-8527 Dec 28 j 14:16	7°M.32'10	-15°27'23		-8519 Nov 04 j 05:36	15°M.	
minimum elong	-8527 Dec 28 j 14:07	7°M.32'09	15°27'40	conjunction	-8518 Jan 06 j 13:52	16°M.17'45	-16°16'22
max. Earth dist.	-8527 Dec 31 j 10:02	7°M.36'24	46.23811 AU	minimum elong	-8518 Jan 06 j 13:47	16°M.17'45	16°16'43
retrograde	-8526 Apr 11 j 10:25	9°M.11'09		max. Earth dist.	-8518 Jan 09 j 00:07	16°M.21'17	47.49228 AU
min. Earth dist.	-8526 Jul 01 j 08:49	8°M.10'26	44.40150 AU	retrograde	-8518 Apr 20 j 06:41	17°M.53'53	
opposition	-8526 Jul 04 j 00:59	8°M.07'12	-16°12'38	min. Earth dist.	-8518 Jul 10 j 10:50	16°M.53'44	45.64656 AU
direct	-8526 Sep 22 j 12:04	7°M.05'00		opposition	-8518 Jul 12 j 16:41	16°M.51'04	-17°01'02
conjunction	-8526 Dec 29 j 23:39	8°M.39'12	-15°34'45	direct	-8518 Oct 01 j 06:09	15°M.49'47	
minimum elong	-8526 Dec 29 j 23:30	8°M.39'12	15°35'03	conjunction	-8517 Jan 07 j 22:11	17°M.21'32	-16°20'54
max. Earth dist.	-8525 Jan 01 j 19:09	8°M.43'24	46.41054 AU	minimum elong	-8517 Jan 07 j 22:05	17°M.21'31	16°21'16
retrograde	-8525 Apr 12 j 20:20	10°M.17'50		max. Earth dist.	-8517 Jan 10 j 08:22	17°M.25'03	47.63098 AU
min. Earth dist.	-8525 Jul 02 j 19:31	9°M.17'12	44.57326 AU	retrograde	-8517 Apr 21 j 11:56	18°M.57'20	
opposition	-8525 Jul 05 j 09:35	9°M.14'04	-16°19'57	min. Earth dist.	-8517 Jul 11 j 18:43	17°M.57'17	45.78452 AU
direct	-8525 Sep 23 j 20:10	8°M.12'02		opposition	-8517 Jul 13 j 23:51	17°M.54'39	-17°05'27
conjunction	-8525 Dec 31 j 08:52	9°M.45'56	-15°41'44	direct	-8517 Oct 02 j 15:51	16°M.53'28	
minimum elong	-8525 Dec 31 j 08:45	9°M.45'55	15°42'02	conjunction	-8516 Jan 09 j 06:07	18°M.24'57	-16°25'05
max. Earth dist.	-8524 Jan 03 j 03:04	9°M.50'02	46.57916 AU	minimum elong	-8516 Jan 09 j 06:03	18°M.24'57	16°25'27
retrograde	-8524 Apr 13 j 07:33	11°M.24'12		max. Earth dist.	-8516 Jan 11 j 14:27	18°M.28'21	47.76690 AU
min. Earth dist.	-8524 Jul 03 j 04:15	10°M.23'42	44.74070 AU	retrograde	-8516 Apr 21 j 19:18	20°M.00'29	
opposition	-8524 Jul 05 j 17:55	10°M.20'37	-16°26'53	min. Earth dist.	-8516 Jul 12 j 02:15	19°M.00'32	45.91978 AU
direct	-8524 Sep 24 j 02:53	9°M.18'43		opposition	-8516 Jul 14 j 06:58	18°M.57'55	-17°09'30
conjunction	-8524 Dec 31 j 18:07	10°M.52'19	-15°48'22	direct	-8516 Oct 02 j 23:24	17°M.56'51	
minimum elong	-8524 Dec 31 j 17:59	10°M.52'18	15°48'41	conjunction	-8515 Jan 09 j 14:14	19°M.28'06	-16°28'55
max. Earth dist.	-8523 Jan 03 j 10:31	10°M.56'17	46.74308 AU	minimum elong	-8515 Jan 09 j 14:09	19°M.28'06	16°29'17
retrograde	-8523 Apr 14 j 17:13	12°M.30'13		max. Earth dist.	-8515 Jan 11 j 22:27	19°M.31'29	47.90002 AU
min. Earth dist.	-8523 Jul 04 j 14:24	11°M.29'47	44.90332 AU	retrograde	-8515 Apr 23 j 01:36	21°M.03'21	
opposition	-8523 Jul 07 j 02:10	11°M.26'48	-16°33'28	min. Earth dist.	-8515 Jul 13 j 10:56	20°M.03'28	46.05204 AU
direct	-8523 Sep 25 j 10:25	10°M.25'01		opposition	-8515 Jul 15 j 13:51	20°M.00'57	-17°13'11
conjunction	-8522 Jan 02 j 03:21	11°M.58'18	-15°54'39	direct	-8515 Oct 04 j 08:01	19°M.00'00	
minimum elong	-8522 Jan 02 j 03:15	11°M.58'18	15°54'57	conjunction	-8514 Jan 10 j 22:11	20°M.31'02	-16°32'24
max. Earth dist.	-8522 Jan 04 j 19:12	12°M.02'14	46.90210 AU	minimum elong	-8514 Jan 10 j 22:08	20°M.31'02	16°32'48
retrograde	-8522 Apr 15 j 22:13	13°M.35'51		max. Earth dist.	-8514 Jan 13 j 04:58	20°M.34'19	48.03023 AU
min. Earth dist.	-8522 Jul 05 j 23:49	12°M.35'29	45.06072 AU	retrograde	-8514 Apr 24 j 11:22	22°M.06'01	
opposition	-8522 Jul 08 j 10:14	12°M.32'33	-16°39'42	min. Earth dist.	-8514 Jul 14 j 17:50	21°M.06'16	46.18109 AU
direct	-8522 Sep 26 j 22:09	11°M.30'54		opposition	-8514 Jul 16 j 20:36	21°M.03'46	-17°16'31
conjunction	-8521 Jan 03 j 12:06	13°M.03'51	-16°00'36	direct	-8514 Oct 05 j 12:57	20°M.02'57	
minimum elong	-8521 Jan 03 j 11:58	13°M.03'51	16°00'56	conjunction	-8513 Jan 12 j 05:49	21°M.33'46	-16°35'34
max. Earth dist.	-8521 Jan 06 j 01:29	13°M.07'37	47.05606 AU	minimum elong	-8513 Jan 12 j 05:46	21°M.33'46	16°35'57
retrograde	-8521 Apr 17 j 05:14	14°M.41'02		max. Earth dist.	-8513 Jan 14 j 11:22	21°M.36'58	48.15689 AU
min. Earth dist.	-8521 Jul 07 j 08:28	13°M.40'45	45.21328 AU	retrograde	-8513 Apr 25 j 21:17	23°M.08'30	
opposition	-8521 Jul 09 j 18:10	13°M.37'52	-16°45'34	min. Earth dist.	-8513 Jul 16 j 02:33	22°M.08'48	46.30642 AU
direct	-8521 Sep 28 j 07:46	12°M.36'19		opposition	-8513 Jul 18 j 03:23	22°M.06'25	-17°19'31
conjunction	-8520 Jan 04 j 20:52	14°M.08'57	-16°06'12	direct	-8513 Oct 06 j 16:59	21°M.05'43	
minimum elong	-8520 Jan 04 j 20:47	14°M.08'56	16°06'32	conjunction	-8512 Jan 13 j 13:42	22°M.36'20	-16°38'24
max. Earth dist.	-8520 Jan 07 j 09:57	14°M.12'41	47.20536 AU				

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Attention, astronomical year style is used: The year -8512 in astronomical counting style is the year 8513 BCE in historical counting style.

minimum elong	-8512 Jan 13 j 13:39	22° $\mathbb{M}$ 36'20	16°38'49	conjunction	-8504 Jan 22 j 00:17	0° $\mathbb{A}$ 47'05	-16°50'28
max. Earth dist.	-8512 Jan 15 j 18:41	22° $\mathbb{M}$ 39'30	48.27963 AU	minimum elong	-8504 Jan 22 j 00:16	0° $\mathbb{A}$ 47'05	16°50'55
retrograde	-8512 Apr 26 j 02:22	24° $\mathbb{M}$ 10'49		max. Earth dist.	-8504 Jan 23 j 18:11	0° $\mathbb{A}$ 49'32	49.09625 AU
min. Earth dist.	-8512 Jul 16 j 10:06	23° $\mathbb{M}$ 11'12	46.42729 AU	retrograde	-8504 May 04 j 03:06	2° $\mathbb{A}$ 19'32	
opposition	-8512 Jul 18 j 09:51	23° $\mathbb{M}$ 08'52	-17°22'12	min. Earth dist.	-8504 Jul 24 j 19:27	1° $\mathbb{A}$ 20'13	47.22959 AU
direct	-8512 Oct 07 j 02:10	22° $\mathbb{M}$ 08'17		opposition	-8504 Jul 26 j 10:02	1° $\mathbb{A}$ 18'20	-17°32'46
				direct	-8504 Oct 15 j 10:47	0° $\mathbb{A}$ 18'16	
conjunction	-8511 Jan 13 j 21:26	23° $\mathbb{M}$ 38'43	-16°40'56				
minimum elong	-8511 Jan 13 j 21:24	23° $\mathbb{M}$ 38'43	16°41'20	conjunction	-8503 Jan 22 j 07:10	1° $\mathbb{A}$ 47'05	-16°50'37
max. Earth dist.	-8511 Jan 15 j 23:48	23° $\mathbb{M}$ 41'43	48.39768 AU	minimum elong	-8503 Jan 22 j 07:11	1° $\mathbb{A}$ 47'05	16°51'04
retrograde	-8511 Apr 27 j 07:53	25° $\mathbb{M}$ 12'56		max. Earth dist.	-8503 Jan 24 j 00:03	1° $\mathbb{A}$ 49'28	49.18260 AU
min. Earth dist.	-8511 Jul 17 j 17:49	24° $\mathbb{M}$ 13'24	46.54328 AU	retrograde	-8503 May 05 j 12:13	3° $\mathbb{A}$ 19'19	
opposition	-8511 Jul 19 j 16:24	24° $\mathbb{M}$ 11'08	-17°24'35	min. Earth dist.	-8503 Jul 26 j 02:59	2° $\mathbb{A}$ 20'01	47.31455 AU
direct	-8511 Oct 08 j 10:42	23° $\mathbb{M}$ 10'39		opposition	-8503 Jul 27 j 15:42	2° $\mathbb{A}$ 18'14	-17°32'41
				direct	-8503 Oct 16 j 13:59	1° $\mathbb{A}$ 18'14	
conjunction	-8510 Jan 15 j 05:09	24° $\mathbb{M}$ 40'52	-16°43'11				
minimum elong	-8510 Jan 15 j 05:06	24° $\mathbb{M}$ 40'52	16°43'36	conjunction	-8502 Jan 23 j 14:00	2° $\mathbb{A}$ 46'54	-16°50'26
max. Earth dist.	-8510 Jan 17 j 06:58	24° $\mathbb{M}$ 43'50	48.51057 AU	minimum elong	-8502 Jan 23 j 14:00	2° $\mathbb{A}$ 46'54	16°50'54
retrograde	-8510 Apr 28 j 13:02	26° $\mathbb{M}$ 14'51		max. Earth dist.	-8502 Jan 25 j 06:23	2° $\mathbb{A}$ 49'15	49.26610 AU
min. Earth dist.	-8510 Jul 19 j 02:26	25° $\mathbb{M}$ 15'19	46.65393 AU	retrograde	-8502 May 06 j 17:38	4° $\mathbb{A}$ 18'56	
opposition	-8510 Jul 20 j 22:46	25° $\mathbb{M}$ 13'08	-17°26'40	min. Earth dist.	-8502 Jul 27 j 08:49	3° $\mathbb{A}$ 19'43	47.39629 AU
direct	-8510 Oct 09 j 19:34	24° $\mathbb{M}$ 12'44		opposition	-8502 Jul 28 j 21:02	3° $\mathbb{A}$ 17'58	-17°32'16
				direct	-8502 Oct 17 j 20:19	2° $\mathbb{A}$ 18'03	
conjunction	-8509 Jan 16 j 12:39	25° $\mathbb{M}$ 42'44	-16°45'09				
minimum elong	-8509 Jan 16 j 12:38	25° $\mathbb{M}$ 42'44	16°45'34	conjunction	-8501 Jan 24 j 20:39	3° $\mathbb{A}$ 46'35	-16°49'59
max. Earth dist.	-8509 Jan 18 j 12:23	25° $\mathbb{M}$ 45'34	48.61844 AU	minimum elong	-8501 Jan 24 j 20:41	3° $\mathbb{A}$ 46'35	16°50'27
retrograde	-8509 Apr 29 j 20:52	27° $\mathbb{M}$ 16'27		max. Earth dist.	-8501 Jan 26 j 10:52	3° $\mathbb{A}$ 48'48	49.34626 AU
min. Earth dist.	-8509 Jul 20 j 08:56	26° $\mathbb{M}$ 17'00	46.75958 AU	retrograde	-8501 May 07 j 23:37	5° $\mathbb{A}$ 18'26	
opposition	-8509 Jul 22 j 04:57	26° $\mathbb{M}$ 14'51	-17°28'28	min. Earth dist.	-8501 Jul 28 j 15:28	4° $\mathbb{A}$ 19'16	47.47453 AU
direct	-8509 Oct 11 j 01:29	25° $\mathbb{M}$ 14'31		opposition	-8501 Jul 30 j 02:26	4° $\mathbb{A}$ 17'35	-17°31'34
				direct	-8501 Oct 19 j 02:11	3° $\mathbb{A}$ 17'45	
conjunction	-8508 Jan 17 j 19:56	26° $\mathbb{M}$ 44'17	-16°46'49				
minimum elong	-8508 Jan 17 j 19:53	26° $\mathbb{M}$ 44'17	16°47'15	conjunction	-8500 Jan 26 j 03:25	4° $\mathbb{A}$ 46'10	-16°49'14
max. Earth dist.	-8508 Jan 19 j 18:08	26° $\mathbb{M}$ 47'01	48.72140 AU	minimum elong	-8500 Jan 26 j 03:27	4° $\mathbb{A}$ 46'10	16°49'42
retrograde	-8508 Apr 30 j 05:36	28° $\mathbb{M}$ 17'44		max. Earth dist.	-8500 Jan 27 j 17:20	4° $\mathbb{A}$ 48'22	49.42250 AU
min. Earth dist.	-8508 Jul 20 j 17:18	27° $\mathbb{M}$ 18'15	46.86063 AU	retrograde	-8500 May 08 j 03:21	6° $\mathbb{A}$ 17'51	
opposition	-8508 Jul 22 j 11:08	27° $\mathbb{M}$ 16'13	-17°29'57	min. Earth dist.	-8500 Jul 28 j 22:50	5° $\mathbb{A}$ 18'42	47.54833 AU
direct	-8508 Oct 11 j 06:15	26° $\mathbb{M}$ 15'55		opposition	-8500 Jul 30 j 07:49	5° $\mathbb{A}$ 17'06	-17°30'36
				direct	-8500 Oct 19 j 10:30	4° $\mathbb{A}$ 17'21	
conjunction	-8507 Jan 18 j 03:20	27° $\mathbb{M}$ 45'29	-16°48'12				
minimum elong	-8507 Jan 18 j 03:20	27° $\mathbb{M}$ 45'29	16°48'38	conjunction	-8499 Jan 26 j 10:13	5° $\mathbb{A}$ 45'39	-16°48'14
max. Earth dist.	-8507 Jan 20 j 01:01	27° $\mathbb{M}$ 48'10	48.82016 AU	minimum elong	-8499 Jan 26 j 10:15	5° $\mathbb{A}$ 45'39	16°48'43
retrograde	-8507 May 01 j 11:42	29° $\mathbb{M}$ 18'39		max. Earth dist.	-8499 Jan 27 j 21:50	5° $\mathbb{A}$ 47'43	49.49415 AU
min. Earth dist.	-8507 Jul 21 j 23:52	28° $\mathbb{M}$ 19'13	46.95759 AU	retrograde	-8499 May 09 j 09:47	7° $\mathbb{A}$ 17'10	
opposition	-8507 Jul 23 j 16:54	28° $\mathbb{M}$ 17'13	-17°31'09	min. Earth dist.	-8499 Jul 30 j 04:35	6° $\mathbb{A}$ 18'05	47.61724 AU
direct	-8507 Oct 12 j 12:53	27° $\mathbb{M}$ 16'58		opposition	-8499 Jul 31 j 12:58	6° $\mathbb{A}$ 16'32	-17°29'21
				direct	-8499 Oct 20 j 16:02	5° $\mathbb{A}$ 16'50	
conjunction	-8506 Jan 19 j 10:26	28° $\mathbb{M}$ 46'20	-16°49'16				
minimum elong	-8506 Jan 19 j 10:24	28° $\mathbb{M}$ 46'20	16°49'42	conjunction	-8498 Jan 27 j 16:57	6° $\mathbb{A}$ 45'01	-16°46'58
max. Earth dist.	-8506 Jan 21 j 05:55	28° $\mathbb{M}$ 48'53	48.91519 AU	minimum elong	-8498 Jan 27 j 17:00	6° $\mathbb{A}$ 45'01	16°47'26
	-8506 Mar 20 j 17:02	0° $\mathbb{A}$		max. Earth dist.	-8498 Jan 29 j 02:53	6° $\mathbb{A}$ 46'59	49.56058 AU
retrograde	-8506 May 02 j 18:01	0° $\mathbb{A}$ 19'14		retrograde	-8498 May 10 j 17:27	8° $\mathbb{A}$ 16'22	
	-8506 Jun 15 j 00:35	30° $\mathbb{R}$ $\mathbb{M}$		opposition	-8498 Aug 01 j 18:20	7° $\mathbb{A}$ 15'49	-17°27'51
min. Earth dist.	-8506 Jul 23 j 06:35	29° $\mathbb{M}$ 19'50	47.05123 AU	min. Earth dist.	-8498 Jul 31 j 12:21	7° $\mathbb{A}$ 17'16	47.68084 AU
opposition	-8506 Jul 24 j 22:46	29° $\mathbb{M}$ 17'53	-17°32'00	direct	-8498 Oct 21 j 20:15	6° $\mathbb{A}$ 16'11	
direct	-8506 Oct 13 j 19:23	28° $\mathbb{M}$ 17'41					
				conjunction	-8497 Jan 28 j 23:30	7° $\mathbb{A}$ 44'14	-16°45'28
conjunction	-8505 Jan 20 j 17:21	29° $\mathbb{M}$ 46'51	-16°50'02	minimum elong	-8497 Jan 28 j 23:32	7° $\mathbb{A}$ 44'14	16°45'57
minimum elong	-8505 Jan 20 j 17:22	29° $\mathbb{M}$ 46'51	16°50'28	max. Earth dist.	-8497 Jan 30 j 08:29	7° $\mathbb{A}$ 46'08	49.62186 AU
max. Earth dist.	-8505 Jan 22 j 12:51	29° $\mathbb{M}$ 49'24	49.00708 AU	retrograde	-8497 May 11 j 23:57	9° $\mathbb{A}$ 15'24	
	-8505 Jan 30 j 02:38	0° $\mathbb{A}$		opposition	-8497 Aug 02 j 23:27	8° $\mathbb{A}$ 14'56	-17°26'06
retrograde	-8505 May 03 j 20:25	1° $\mathbb{A}$ 19'31		min. Earth dist.	-8497 Aug 01 j 18:22	8° $\mathbb{A}$ 16'20	47.73914 AU
min. Earth dist.	-8505 Jul 24 j 13:54	0° $\mathbb{A}$ 20'07	47.14177 AU	direct	-8497 Oct 23 j 01:18	7° $\mathbb{A}$ 15'20	
opposition	-8505 Jul 26 j 04:32	0° $\mathbb{A}$ 18'14	-17°32'33				
	-8505 Aug 11 j 02:01	30° $\mathbb{R}$ $\mathbb{M}$		conjunction	-8496 Jan 30 j 05:59	8° $\mathbb{A}$ 43'17	-16°43'42
direct	-8505 Oct 15 j 04:48	29° $\mathbb{M}$ 18'06		minimum elong	-8496 Jan 30 j 06:03	8° $\mathbb{A}$ 43'17	16°44'11
	-8505 Dec 17 j 16:21	0° $\mathbb{A}$		max. Earth dist.	-8496 Jan 31 j 12:25	8° $\mathbb{A}$ 45'02	49.67804 AU

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Attention, astronomical year style is used: The year -8496 in astronomical counting style is the year 8497 BCE in historical counting style.

retrograde	-8496 May 12 j 06:19	10°♄14'16		direct	-8488 Oct 31 j 03:24	16°♄00'51	
min. Earth dist.	-8496 Aug 02 j 00:47	9°♄15'11	47.79270 AU				
opposition	-8496 Aug 03 j 04:27	9°♄13'51	-17°24'05	conjunction	-8487 Feb 07 j 14:14	17°♄28'06	-16°15'45
direct	-8496 Oct 23 j 06:32	8°♄14'17		minimum elong	-8487 Feb 07 j 14:21	17°♄28'06	16°16'16
				max. Earth dist.	-8487 Feb 08 j 09:58	17°♄29'13	50.01835 AU
conjunction	-8495 Jan 30 j 12:34	9°♄42'06	-16°41'41	retrograde	-8487 May 21 j 06:27	18°♄57'56	
minimum elong	-8495 Jan 30 j 12:37	9°♄42'06	16°42'11	opposition	-8487 Aug 11 j 22:49	17°♄58'10	-16°53'31
max. Earth dist.	-8495 Jan 31 j 18:31	9°♄43'50	49.72967 AU	min. Earth dist.	-8487 Aug 11 j 06:00	17°♄58'58	48.11093 AU
retrograde	-8495 May 13 j 08:25	11°♄12'55		direct	-8487 Nov 01 j 07:00	16°♄58'54	
min. Earth dist.	-8495 Aug 03 j 07:33	10°♄13'49	47.84184 AU				
opposition	-8495 Aug 04 j 09:24	10°♄12'35	-17°21'49	conjunction	-8486 Feb 08 j 20:19	18°♄26'06	-16°11'22
direct	-8495 Oct 24 j 14:57	9°♄13'02		minimum elong	-8486 Feb 08 j 20:25	18°♄26'07	16°11'54
				max. Earth dist.	-8486 Feb 09 j 13:14	18°♄27'04	50.03590 AU
conjunction	-8494 Jan 31 j 18:51	10°♄40'44	-16°39'24	retrograde	-8486 May 22 j 13:49	19°♄55'50	
minimum elong	-8494 Jan 31 j 18:56	10°♄40'44	16°39'54	opposition	-8486 Aug 13 j 03:25	18°♄56'07	-16°48'49
max. Earth dist.	-8494 Feb 01 j 22:56	10°♄42'21	49.77735 AU	min. Earth dist.	-8486 Aug 12 j 12:22	18°♄56'50	48.12505 AU
retrograde	-8494 May 14 j 13:21	12°♄11'23		direct	-8486 Nov 02 j 10:22	17°♄56'51	
opposition	-8494 Aug 05 j 14:11	11°♄11'06	-17°19'15				
min. Earth dist.	-8494 Aug 04 j 12:35	11°♄12'20	47.88730 AU	conjunction	-8485 Feb 10 j 02:34	19°♄24'01	-16°06'45
direct	-8494 Oct 25 j 21:16	10°♄11'35		minimum elong	-8485 Feb 10 j 02:41	19°♄24'01	16°07'17
				max. Earth dist.	-8485 Feb 10 j 18:45	19°♄24'56	50.04802 AU
conjunction	-8493 Feb 02 j 01:04	11°♄39'11	-16°36'50	retrograde	-8485 May 23 j 16:27	20°♄53'38	
minimum elong	-8493 Feb 02 j 01:07	11°♄39'11	16°37'20	opposition	-8485 Aug 14 j 07:56	19°♄53'56	-16°43'54
max. Earth dist.	-8493 Feb 03 j 04:03	11°♄40'44	49.82152 AU	min. Earth dist.	-8485 Aug 13 j 18:46	19°♄54'33	48.13364 AU
retrograde	-8493 May 15 j 21:40	13°♄09'42		direct	-8485 Nov 03 j 17:43	18°♄54'40	
opposition	-8493 Aug 06 j 19:01	12°♄09'28	-17°16'24				
min. Earth dist.	-8493 Aug 05 j 19:22	12°♄10'36	47.92952 AU	conjunction	-8484 Feb 11 j 08:38	20°♄21'46	-16°01'55
direct	-8493 Oct 27 j 00:04	11°♄09'59		minimum elong	-8484 Feb 11 j 08:44	20°♄21'46	16°02'27
				max. Earth dist.	-8484 Feb 11 j 22:28	20°♄22'33	50.05494 AU
conjunction	-8492 Feb 03 j 07:18	12°♄37'29	-16°34'00	retrograde	-8484 May 23 j 19:32	21°♄51'16	
minimum elong	-8492 Feb 03 j 07:23	12°♄37'30	16°34'30	opposition	-8484 Aug 14 j 12:21	20°♄51'35	-16°38'44
max. Earth dist.	-8492 Feb 04 j 09:44	12°♄39'00	49.86275 AU	min. Earth dist.	-8484 Aug 13 j 23:55	20°♄52'11	48.13719 AU
retrograde	-8492 May 16 j 03:27	14°♄07'52		direct	-8484 Nov 04 j 00:54	19°♄52'18	
opposition	-8492 Aug 06 j 23:43	13°♄07'43	-17°13'16				
min. Earth dist.	-8492 Aug 06 j 00:22	13°♄08'50	47.96864 AU	conjunction	-8483 Feb 11 j 14:45	21°♄19'20	-15°56'50
direct	-8492 Oct 27 j 04:23	12°♄08'15		minimum elong	-8483 Feb 11 j 14:53	21°♄19'20	15°57'22
				max. Earth dist.	-8483 Feb 12 j 03:06	21°♄20'02	50.05691 AU
conjunction	-8491 Feb 03 j 13:28	13°♄35'42	-16°30'53	retrograde	-8483 May 25 j 01:26	22°♄48'44	
minimum elong	-8491 Feb 03 j 13:32	13°♄35'42	16°31'22	opposition	-8483 Aug 15 j 16:44	21°♄49'04	-16°33'20
max. Earth dist.	-8491 Feb 04 j 13:44	13°♄37'05	49.90094 AU	min. Earth dist.	-8483 Aug 15 j 06:34	21°♄49'33	48.13616 AU
retrograde	-8491 May 17 j 09:22	15°♄05'56		direct	-8483 Nov 05 j 05:35	20°♄49'45	
min. Earth dist.	-8491 Aug 07 j 06:17	14°♄06'55	48.00481 AU				
opposition	-8491 Aug 08 j 04:23	14°♄05'51	-17°09'51	conjunction	-8482 Feb 12 j 20:47	22°♄16'44	-15°51'30
direct	-8491 Oct 28 j 09:11	13°♄06'27		minimum elong	-8482 Feb 12 j 20:54	22°♄16'45	15°52'03
				max. Earth dist.	-8482 Feb 13 j 08:18	22°♄17'23	50.05480 AU
conjunction	-8490 Feb 04 j 19:43	14°♄33'50	-16°27'29	retrograde	-8482 May 26 j 07:16	23°♄46'02	
minimum elong	-8490 Feb 04 j 19:49	14°♄33'50	16°28'00	opposition	-8482 Aug 16 j 21:02	22°♄46'23	-16°27'40
max. Earth dist.	-8490 Feb 05 j 19:54	14°♄35'13	49.93606 AU	min. Earth dist.	-8482 Aug 16 j 11:14	22°♄46'51	48.13121 AU
retrograde	-8490 May 18 j 11:31	16°♄03'57		direct	-8482 Nov 06 j 09:17	21°♄47'02	
opposition	-8490 Aug 09 j 09:05	15°♄03'58	-17°06'09				
min. Earth dist.	-8490 Aug 08 j 12:32	15°♄04'57	48.03761 AU	conjunction	-8481 Feb 14 j 02:28	23°♄13'59	-15°45'56
direct	-8490 Oct 29 j 17:28	14°♄04'36		minimum elong	-8481 Feb 14 j 02:37	23°♄14'00	15°46'28
				max. Earth dist.	-8481 Feb 14 j 11:55	23°♄14'32	50.04904 AU
conjunction	-8489 Feb 06 j 01:40	15°♄31'56	-16°23'49	retrograde	-8481 May 27 j 13:27	24°♄43'12	
minimum elong	-8489 Feb 06 j 01:45	15°♄31'56	16°24'20	opposition	-8481 Aug 18 j 01:24	23°♄43'34	-16°21'44
max. Earth dist.	-8489 Feb 06 j 23:52	15°♄33'12	49.96781 AU	min. Earth dist.	-8481 Aug 17 j 17:00	23°♄43'58	48.12297 AU
retrograde	-8489 May 19 j 16:28	17°♄01'58		direct	-8481 Nov 07 j 13:12	22°♄44'12	
opposition	-8489 Aug 10 j 13:40	16°♄02'03	-17°02'11				
min. Earth dist.	-8489 Aug 09 j 17:29	16°♄03'01	48.06673 AU	conjunction	-8480 Feb 15 j 08:28	24°♄11'09	-15°40'05
direct	-8489 Oct 30 j 23:06	15°♄02'44		minimum elong	-8480 Feb 15 j 08:35	24°♄11'09	15°40'37
				max. Earth dist.	-8480 Feb 15 j 17:46	24°♄11'41	50.04015 AU
conjunction	-8488 Feb 07 j 07:52	16°♄30'01	-16°19'54	retrograde	-8480 May 27 j 15:45	25°♄40'17	
minimum elong	-8488 Feb 07 j 07:58	16°♄30'02	16°20'26	opposition	-8480 Aug 18 j 05:38	24°♄40'40	-16°15'31
max. Earth dist.	-8488 Feb 08 j 04:42	16°♄31'12	49.99540 AU	min. Earth dist.	-8480 Aug 17 j 22:32	24°♄41'00	48.11159 AU
retrograde	-8488 May 19 j 23:09	17°♄59'58		direct	-8480 Nov 07 j 20:38	23°♄41'19	
opposition	-8488 Aug 10 j 18:15	17°♄00'08	-16°57'58				
min. Earth dist.	-8488 Aug 10 j 00:36	17°♄00'58	48.09140 AU	conjunction	-8479 Feb 15 j 14:22	25°♄08'16	-15°33'58

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Attention, astronomical year style is used: The year -8479 in astronomical counting style is the year 8480 BCE in historical counting style.

minimum elong	-8479 Feb 15 j 14:31	25° $\nearrow$ 08'16	15°34'31	retrograde	-8472 Jun 04 j 11:23	3° $\searrow$ 18'55	
max. Earth dist.	-8479 Feb 15 j 21:45	25° $\nearrow$ 08'41	50.02842 AU	opposition	-8472 Aug 25 j 15:45	2° $\searrow$ 19'33	-15°16'37
retrograde	-8479 May 28 j 20:09	26° $\nearrow$ 37'21		min. Earth dist.	-8472 Aug 25 j 18:46	2° $\searrow$ 19'24	47.88443 AU
opposition	-8479 Aug 19 j 09:53	25° $\nearrow$ 37'46	-16°09'02	direct	-8472 Nov 15 j 09:14	1° $\searrow$ 20'07	
min. Earth dist.	-8479 Aug 19 j 03:01	25° $\nearrow$ 38'06	48.09737 AU	evening set	-8471 Feb 19 j 21:48	2° $\searrow$ 42'25	
direct	-8479 Nov 09 j 02:08	24° $\nearrow$ 38'25					
				conjunction	-8471 Feb 23 j 14:13	2° $\searrow$ 47'24	-14°36'12
conjunction	-8478 Feb 16 j 20:08	26° $\nearrow$ 05'23	-15°27'36	minimum elong	-8471 Feb 23 j 14:22	2° $\searrow$ 47'25	14°36'46
minimum elong	-8478 Feb 16 j 20:16	26° $\nearrow$ 05'23	15°28'08	max. Earth dist.	-8471 Feb 23 j 09:06	2° $\searrow$ 47'07	49.79291 AU
max. Earth dist.	-8478 Feb 17 j 02:29	26° $\nearrow$ 05'45	50.01365 AU	morning rise	-8471 Feb 27 j 07:02	2° $\searrow$ 52'26	
retrograde	-8478 May 30 j 01:52	27° $\nearrow$ 34'28		retrograde	-8471 Jun 05 j 18:11	4° $\searrow$ 16'24	
opposition	-8478 Aug 20 j 14:12	26° $\nearrow$ 34'56	-16°02'17	opposition	-8471 Aug 26 j 20:04	3° $\searrow$ 17'00	-15°08'10
min. Earth dist.	-8478 Aug 20 j 09:23	26° $\nearrow$ 35'09	48.08006 AU	min. Earth dist.	-8471 Aug 27 j 00:53	3° $\searrow$ 16'46	47.83480 AU
direct	-8478 Nov 10 j 06:27	25° $\nearrow$ 35'35		direct	-8471 Nov 16 j 12:31	2° $\searrow$ 17'31	
				evening set	-8470 Feb 20 j 13:27	3° $\searrow$ 39'02	
conjunction	-8477 Feb 18 j 02:03	27° $\nearrow$ 02'35	-15°20'58				
minimum elong	-8477 Feb 18 j 02:12	27° $\nearrow$ 02'35	15°21'32	conjunction	-8470 Feb 24 j 20:11	3° $\searrow$ 44'51	-14°27'56
max. Earth dist.	-8477 Feb 18 j 07:46	27° $\nearrow$ 02'54	49.99583 AU	minimum elong	-8470 Feb 24 j 20:22	3° $\searrow$ 44'51	14°28'29
retrograde	-8477 May 31 j 08:35	28° $\nearrow$ 31'39		max. Earth dist.	-8470 Feb 24 j 14:47	3° $\searrow$ 44'32	49.74246 AU
opposition	-8477 Aug 21 j 18:20	27° $\nearrow$ 32'10	-15°55'16	morning rise	-8470 Mar 01 j 03:21	3° $\searrow$ 50'40	
min. Earth dist.	-8477 Aug 21 j 13:59	27° $\nearrow$ 32'22	48.05928 AU	retrograde	-8470 Jun 06 j 21:00	5° $\searrow$ 13'48	
direct	-8477 Nov 11 j 09:39	26° $\nearrow$ 32'50		opposition	-8470 Aug 28 j 00:19	4° $\searrow$ 14'23	-14°59'28
				min. Earth dist.	-8470 Aug 28 j 06:25	4° $\searrow$ 14'06	47.78119 AU
conjunction	-8476 Feb 19 j 07:55	27° $\nearrow$ 59'54	-15°14'05	direct	-8470 Nov 17 j 19:41	3° $\searrow$ 14'50	
minimum elong	-8476 Feb 19 j 08:04	27° $\nearrow$ 59'54	15°14'38	evening set	-8469 Feb 21 j 06:36	4° $\searrow$ 35'41	
max. Earth dist.	-8476 Feb 19 j 11:08	28° $\nearrow$ 00'05	49.97421 AU				
retrograde	-8476 May 31 j 16:35	29° $\nearrow$ 28'57		conjunction	-8469 Feb 26 j 02:05	4° $\searrow$ 42'13	-14°19'24
opposition	-8476 Aug 21 j 22:38	28° $\nearrow$ 29'31	-15°48'01	minimum elong	-8469 Feb 26 j 02:15	4° $\searrow$ 42'14	14°19'58
min. Earth dist.	-8476 Aug 21 j 19:58	28° $\nearrow$ 29'39	48.03445 AU	max. Earth dist.	-8469 Feb 25 j 18:41	4° $\searrow$ 41'48	49.68852 AU
direct	-8476 Nov 11 j 11:51	27° $\nearrow$ 30'12		morning rise	-8469 Mar 02 j 22:02	4° $\searrow$ 48'47	
				retrograde	-8469 Jun 08 j 00:29	6° $\searrow$ 11'11	
conjunction	-8475 Feb 19 j 14:04	28° $\nearrow$ 57'19	-15°06'58	opposition	-8469 Aug 29 j 04:27	5° $\searrow$ 11'44	-14°50'31
minimum elong	-8475 Feb 19 j 14:14	28° $\nearrow$ 57'20	15°07'31	min. Earth dist.	-8469 Aug 29 j 10:56	5° $\searrow$ 11'25	47.72438 AU
max. Earth dist.	-8475 Feb 19 j 16:43	28° $\nearrow$ 57'28	49.94811 AU	direct	-8469 Nov 19 j 02:07	4° $\searrow$ 12'07	
	-8475 Apr 11 j 15:18	0° $\searrow$		evening set	-8468 Feb 22 j 00:48	5° $\searrow$ 32'22	
retrograde	-8475 Jun 01 j 20:23	0° $\searrow$ 26'22					
	-8475 Jul 23 j 09:25	30° $\nearrow$		conjunction	-8468 Feb 27 j 08:06	5° $\searrow$ 39'34	-14°10'37
opposition	-8475 Aug 23 j 02:53	29° $\nearrow$ 26'58	-15°40'30	minimum elong	-8468 Feb 27 j 08:18	5° $\searrow$ 39'35	14°11'11
min. Earth dist.	-8475 Aug 23 j 02:03	29° $\nearrow$ 27'01	48.00470 AU	max. Earth dist.	-8468 Feb 26 j 23:40	5° $\searrow$ 39'05	49.63140 AU
direct	-8475 Nov 12 j 18:07	28° $\nearrow$ 27'39		morning rise	-8468 Mar 03 j 15:54	5° $\searrow$ 46'48	
				retrograde	-8468 Jun 08 j 04:51	7° $\searrow$ 08'33	
conjunction	-8474 Feb 20 j 20:06	29° $\nearrow$ 54'50	-14°59'37	opposition	-8468 Aug 29 j 08:50	6° $\searrow$ 09'05	-14°41'17
minimum elong	-8474 Feb 20 j 20:16	29° $\nearrow$ 54'50	15°00'09	min. Earth dist.	-8468 Aug 29 j 17:20	6° $\searrow$ 08'40	47.66453 AU
max. Earth dist.	-8474 Feb 20 j 20:20	29° $\nearrow$ 54'50	49.91705 AU	direct	-8468 Nov 19 j 07:51	5° $\searrow$ 09'24	
	-8474 Feb 24 j 15:32	0° $\searrow$		evening set	-8467 Feb 21 j 19:59	6° $\searrow$ 29'07	
retrograde	-8474 Jun 02 j 23:16	1° $\searrow$ 23'52					
opposition	-8474 Aug 24 j 07:11	0° $\searrow$ 24'30	-15°32'46	conjunction	-8467 Feb 27 j 14:11	6° $\searrow$ 36'56	-14°01'35
min. Earth dist.	-8474 Aug 24 j 07:07	0° $\searrow$ 24'30	47.96985 AU	minimum elong	-8467 Feb 27 j 14:21	6° $\searrow$ 36'56	14°02'07
	-8474 Sep 15 j 09:35	30° $\nearrow$		max. Earth dist.	-8467 Feb 27 j 05:07	6° $\searrow$ 36'25	49.57154 AU
direct	-8474 Nov 14 j 00:58	29° $\nearrow$ 25'09		morning rise	-8467 Mar 05 j 08:49	6° $\searrow$ 44'47	
	-8473 Jan 11 j 18:55	0° $\searrow$		retrograde	-8467 Jun 09 j 10:37	8° $\searrow$ 05'56	
evening set	-8473 Feb 19 j 23:55	0° $\searrow$ 49'32		opposition	-8467 Aug 30 j 13:02	7° $\searrow$ 06'27	-14°31'46
				min. Earth dist.	-8467 Aug 30 j 21:39	7° $\searrow$ 06'03	47.60186 AU
conjunction	-8473 Feb 22 j 02:02	0° $\searrow$ 52'22	-14°52'02	direct	-8467 Nov 20 j 12:08	6° $\searrow$ 06'44	
minimum elong	-8473 Feb 22 j 02:11	0° $\searrow$ 52'23	14°52'36	evening set	-8466 Feb 22 j 15:41	7° $\searrow$ 25'57	
max. Earth dist.	-8473 Feb 22 j 00:34	0° $\searrow$ 52'17	49.88065 AU				
morning rise	-8473 Feb 24 j 04:29	0° $\searrow$ 55'14		conjunction	-8466 Feb 28 j 20:09	7° $\searrow$ 34'21	-13°52'16
retrograde	-8473 Jun 04 j 04:30	2° $\searrow$ 21'24		minimum elong	-8466 Feb 28 j 20:21	7° $\searrow$ 34'22	13°52'50
opposition	-8473 Aug 25 j 11:37	1° $\searrow$ 22'02	-15°24'49	max. Earth dist.	-8466 Feb 28 j 08:55	7° $\searrow$ 33'43	49.50884 AU
min. Earth dist.	-8473 Aug 25 j 13:59	1° $\searrow$ 21'56	47.92966 AU	morning rise	-8466 Mar 07 j 01:11	7° $\searrow$ 42'48	
direct	-8473 Nov 15 j 06:23	0° $\searrow$ 22'40		retrograde	-8466 Jun 10 j 19:17	9° $\searrow$ 03'24	
evening set	-8472 Feb 20 j 08:32	1° $\searrow$ 45'51		opposition	-8466 Aug 31 j 17:27	8° $\searrow$ 03'55	-14°22'00
				min. Earth dist.	-8466 Sep 01 j 03:29	8° $\searrow$ 03'27	47.53641 AU
conjunction	-8472 Feb 23 j 08:11	1° $\searrow$ 49'55	-14°44'14	direct	-8466 Nov 21 j 13:36	7° $\searrow$ 04'10	
minimum elong	-8472 Feb 23 j 08:22	1° $\searrow$ 49'55	14°44'47	evening set	-8465 Feb 23 j 11:51	8° $\searrow$ 22'56	
max. Earth dist.	-8472 Feb 23 j 05:36	1° $\searrow$ 49'46	49.83919 AU				
morning rise	-8472 Feb 26 j 08:14	1° $\searrow$ 53'59		conjunction	-8465 Mar 02 j 02:12	8° $\searrow$ 31'54	-13°42'42

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Attention, astronomical year style is used: The year -8465 in astronomical counting style is the year 8466 BCE in historical counting style.

minimum elong	-8465 Mar 02 j 02:23	8° $\overline{3}$ 1'55	13°43'15	evening set	-8458 Feb 27 j 22:18	15° $\overline{3}$ 06'47	
max. Earth dist.	-8465 Mar 01 j 14:52	8° $\overline{3}$ 31'16	49.44316 AU				
morning rise	-8465 Mar 08 j 16:58	8° $\overline{3}$ 40'54		conjunction	-8458 Mar 08 j 23:04	15° $\overline{3}$ 19'08	-12°29'00
retrograde	-8465 Jun 12 j 00:18	10° $\overline{3}$ 01'00		minimum elong	-8458 Mar 08 j 23:15	15° $\overline{3}$ 19'09	12°29'33
opposition	-8465 Sep 01 j 21:52	9° $\overline{3}$ 01'32	-14°11'57	max. Earth dist.	-8458 Mar 07 j 23:47	15° $\overline{3}$ 17'48	48.85620 AU
min. Earth dist.	-8465 Sep 02 j 09:15	9° $\overline{3}$ 00'59	47.46754 AU	morning rise	-8458 Mar 18 j 00:16	15° $\overline{3}$ 31'31	
direct	-8465 Nov 22 j 19:06	8° $\overline{3}$ 01'45		retrograde	-8458 Jun 18 j 12:38	16° $\overline{3}$ 48'48	
evening set	-8464 Feb 24 j 08:48	9° $\overline{3}$ 20'07		opposition	-8458 Sep 08 j 05:57	15° $\overline{3}$ 49'09	-12°54'47
				min. Earth dist.	-8458 Sep 09 j 03:44	15° $\overline{3}$ 48'06	46.85386 AU
conjunction	-8464 Mar 02 j 08:23	9° $\overline{3}$ 29'37	-13°32'52	direct	-8458 Nov 29 j 09:52	14° $\overline{3}$ 48'52	
minimum elong	-8464 Mar 02 j 08:34	9° $\overline{3}$ 29'38	13°33'26	evening set	-8457 Feb 28 j 21:29	16° $\overline{3}$ 04'59	
max. Earth dist.	-8464 Mar 01 j 18:56	9° $\overline{3}$ 28'51	49.37392 AU	max. Earth dist.	-8457 Mar 09 j 05:29	16° $\overline{3}$ 16'23	48.75401 AU
morning rise	-8464 Mar 09 j 08:30	9° $\overline{3}$ 39'09					
retrograde	-8464 Jun 12 j 04:28	10° $\overline{3}$ 58'47		conjunction	-8457 Mar 10 j 05:31	16° $\overline{3}$ 17'45	-12°17'30
opposition	-8464 Sep 02 j 02:08	9° $\overline{3}$ 59'19	-14°01'39	minimum elong	-8457 Mar 10 j 05:44	16° $\overline{3}$ 17'46	12°18'02
min. Earth dist.	-8464 Sep 02 j 14:19	9° $\overline{3}$ 58'44	47.39481 AU	morning rise	-8457 Mar 19 j 13:57	16° $\overline{3}$ 30'35	
direct	-8464 Nov 23 j 00:54	8° $\overline{3}$ 59'30		retrograde	-8457 Jun 19 j 18:25	17° $\overline{3}$ 47'32	
evening set	-8463 Feb 24 j 06:09	10° $\overline{3}$ 17'30		opposition	-8457 Sep 09 j 10:39	16° $\overline{3}$ 47'49	-12°42'44
				min. Earth dist.	-8457 Sep 10 j 08:36	16° $\overline{3}$ 46'45	46.74838 AU
conjunction	-8463 Mar 03 j 14:45	10° $\overline{3}$ 27'31	-13°22'49	direct	-8457 Nov 30 j 15:00	15° $\overline{3}$ 47'26	
minimum elong	-8463 Mar 03 j 14:57	10° $\overline{3}$ 27'31	13°23'21	evening set	-8456 Feb 29 j 20:58	17° $\overline{3}$ 03'18	
max. Earth dist.	-8463 Mar 02 j 23:44	10° $\overline{3}$ 26'39	49.30025 AU	max. Earth dist.	-8456 Mar 09 j 09:47	17° $\overline{3}$ 14'59	48.64841 AU
morning rise	-8463 Mar 10 j 23:53	10° $\overline{3}$ 37'34					
retrograde	-8463 Jun 13 j 08:53	11° $\overline{3}$ 56'46		conjunction	-8456 Mar 10 j 12:06	17° $\overline{3}$ 16'30	-12°05'45
opposition	-8463 Sep 03 j 06:46	10° $\overline{3}$ 57'18	-13°51'07	minimum elong	-8456 Mar 10 j 12:17	17° $\overline{3}$ 16'31	12°06'17
min. Earth dist.	-8463 Sep 03 j 21:19	10° $\overline{3}$ 56'36	47.31735 AU	morning rise	-8456 Mar 20 j 03:46	17° $\overline{3}$ 29'45	
direct	-8463 Nov 24 j 07:11	9° $\overline{3}$ 57'26		retrograde	-8456 Jun 20 j 03:39	18° $\overline{3}$ 46'24	
evening set	-8462 Feb 25 j 03:54	11° $\overline{3}$ 15'05		opposition	-8456 Sep 09 j 15:25	17° $\overline{3}$ 46'37	-12°30'26
				min. Earth dist.	-8456 Sep 10 j 15:00	17° $\overline{3}$ 45'29	46.63983 AU
conjunction	-8462 Mar 04 j 21:03	11° $\overline{3}$ 25'35	-13°12'31	direct	-8456 Nov 30 j 16:52	16° $\overline{3}$ 46'09	
minimum elong	-8462 Mar 04 j 21:15	11° $\overline{3}$ 25'36	13°13'04	evening set	-8455 Mar 01 j 20:42	18° $\overline{3}$ 01'46	
max. Earth dist.	-8462 Mar 04 j 04:54	11° $\overline{3}$ 24'40	49.22172 AU				
morning rise	-8462 Mar 12 j 14:39	11° $\overline{3}$ 36'08		conjunction	-8455 Mar 11 j 18:53	18° $\overline{3}$ 15'24	-11°53'43
retrograde	-8462 Jun 14 j 15:35	12° $\overline{3}$ 54'55		minimum elong	-8455 Mar 11 j 19:06	18° $\overline{3}$ 15'25	11°54'16
opposition	-8462 Sep 04 j 11:20	11° $\overline{3}$ 55'27	-13°40'20	max. Earth dist.	-8455 Mar 10 j 16:33	18° $\overline{3}$ 13'54	48.53987 AU
min. Earth dist.	-8462 Sep 05 j 02:32	11° $\overline{3}$ 54'43	47.23468 AU	morning rise	-8455 Mar 21 j 17:22	18° $\overline{3}$ 29'04	
direct	-8462 Nov 25 j 11:05	10° $\overline{3}$ 55'31		retrograde	-8455 Jun 21 j 10:02	19° $\overline{3}$ 45'26	
evening set	-8461 Feb 26 j 02:02	12° $\overline{3}$ 12'49		opposition	-8455 Sep 10 j 20:24	18° $\overline{3}$ 45'36	-12°17'50
max. Earth dist.	-8461 Mar 05 j 08:33	12° $\overline{3}$ 22'44	49.13785 AU	min. Earth dist.	-8455 Sep 11 j 20:59	18° $\overline{3}$ 44'25	46.52832 AU
				direct	-8455 Dec 01 j 22:18	17° $\overline{3}$ 45'03	
conjunction	-8461 Mar 06 j 03:25	12° $\overline{3}$ 23'49	-13°01'59	evening set	-8454 Mar 02 j 20:36	19° $\overline{3}$ 00'28	
minimum elong	-8461 Mar 06 j 03:38	12° $\overline{3}$ 23'49	13°02'32	max. Earth dist.	-8454 Mar 11 j 21:10	19° $\overline{3}$ 12'53	48.42857 AU
morning rise	-8461 Mar 14 j 05:25	12° $\overline{3}$ 34'51					
retrograde	-8461 Jun 15 j 23:24	13° $\overline{3}$ 53'14		conjunction	-8454 Mar 13 j 01:24	19° $\overline{3}$ 14'31	-11°41'26
opposition	-8461 Sep 05 j 15:55	12° $\overline{3}$ 53'44	-13°29'19	minimum elong	-8454 Mar 13 j 01:36	19° $\overline{3}$ 14'32	11°41'58
min. Earth dist.	-8461 Sep 06 j 09:12	12° $\overline{3}$ 52'54	47.14677 AU	morning rise	-8454 Mar 23 j 06:41	19° $\overline{3}$ 28'35	
direct	-8461 Nov 26 j 13:43	11° $\overline{3}$ 53'44		retrograde	-8454 Jun 22 j 15:34	20° $\overline{3}$ 44'41	
evening set	-8460 Feb 27 j 00:30	13° $\overline{3}$ 10'42		opposition	-8454 Sep 12 j 01:20	19° $\overline{3}$ 44'49	-12°04'57
				min. Earth dist.	-8454 Sep 13 j 02:21	19° $\overline{3}$ 43'36	46.41405 AU
conjunction	-8460 Mar 06 j 10:02	13° $\overline{3}$ 22'10	-12°51'14	direct	-8454 Dec 03 j 03:53	18° $\overline{3}$ 44'11	
minimum elong	-8460 Mar 06 j 10:13	13° $\overline{3}$ 22'10	12°51'48	evening set	-8453 Mar 03 j 20:43	19° $\overline{3}$ 59'26	
max. Earth dist.	-8460 Mar 05 j 14:22	13° $\overline{3}$ 21'02	49.04874 AU	max. Earth dist.	-8453 Mar 13 j 02:57	20° $\overline{3}$ 12'11	48.31422 AU
morning rise	-8460 Mar 14 j 19:56	13° $\overline{3}$ 33'39					
retrograde	-8460 Jun 16 j 03:56	14° $\overline{3}$ 51'39		conjunction	-8453 Mar 14 j 08:16	20° $\overline{3}$ 13'52	-11°28'52
opposition	-8460 Sep 05 j 20:36	13° $\overline{3}$ 52'06	-13°18'03	minimum elong	-8453 Mar 14 j 08:29	20° $\overline{3}$ 13'53	11°29'25
min. Earth dist.	-8460 Sep 06 j 15:24	13° $\overline{3}$ 51'12	47.05357 AU	morning rise	-8453 Mar 24 j 20:09	20° $\overline{3}$ 28'20	
direct	-8460 Nov 26 j 20:38	12° $\overline{3}$ 52'01		retrograde	-8453 Jun 23 j 18:45	21° $\overline{3}$ 44'13	
evening set	-8459 Feb 26 j 23:24	14° $\overline{3}$ 08'41		opposition	-8453 Sep 13 j 06:21	20° $\overline{3}$ 44'18	-11°51'48
				min. Earth dist.	-8453 Sep 14 j 09:27	20° $\overline{3}$ 42'59	46.29655 AU
conjunction	-8459 Mar 07 j 16:31	14° $\overline{3}$ 20'36	-12°40'14	direct	-8453 Dec 04 j 12:02	19° $\overline{3}$ 43'35	
minimum elong	-8459 Mar 07 j 16:43	14° $\overline{3}$ 20'37	12°40'47	evening set	-8452 Mar 03 j 21:19	20° $\overline{3}$ 58'41	
max. Earth dist.	-8459 Mar 06 j 18:31	14° $\overline{3}$ 19'21	48.95471 AU	max. Earth dist.	-8452 Mar 13 j 09:06	21° $\overline{3}$ 11'46	48.19654 AU
morning rise	-8459 Mar 16 j 10:12	14° $\overline{3}$ 32'33					
retrograde	-8459 Jun 17 j 08:16	15° $\overline{3}$ 50'10		conjunction	-8452 Mar 14 j 15:18	21° $\overline{3}$ 13'31	-11°16'02
opposition	-8459 Sep 07 j 01:09	14° $\overline{3}$ 50'35	-13°06'33	minimum elong	-8452 Mar 14 j 15:30	21° $\overline{3}$ 13'32	11°16'34
min. Earth dist.	-8459 Sep 07 j 20:45	14° $\overline{3}$ 49'38	46.95577 AU	morning rise	-8452 Mar 25 j 09:31	21° $\overline{3}$ 28'23	
direct	-8459 Nov 28 j 03:29	13° $\overline{3}$ 50'24		retrograde	-8452 Jun 24 j 01:12	22° $\overline{3}$ 44'02	



## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 33

Attention, astronomical year style is used: The year -8452 in astronomical counting style is the year 8453 BCE in historical counting style.

opposition	-8452 Sep 13 j 11:27	21° $\overline{3}$ 44'05	-11°38'22	minimum elong	-8445 Mar 22 j 19:11	28° $\overline{3}$ 17'45	9°39'38
min. Earth dist.	-8452 Sep 14 j 14:58	21° $\overline{3}$ 42'45	46.17525 AU	morning rise	-8445 Apr 04 j 05:46	28° $\overline{3}$ 35'11	
direct	-8452 Dec 04 j 17:28	20° $\overline{3}$ 43'17		retrograde	-8445 Jul 02 j 01:56	29° $\overline{3}$ 49'33	
evening set	-8451 Mar 04 j 22:08	21° $\overline{3}$ 58'13		opposition	-8445 Sep 21 j 02:13	28° $\overline{3}$ 48'55	-9°56'57
				min. Earth dist.	-8445 Sep 22 j 15:43	28° $\overline{3}$ 47'05	45.19506 AU
conjunction	-8451 Mar 15 j 22:22	22° $\overline{3}$ 13'27	-11°02'57	direct	-8445 Dec 12 j 09:43	27° $\overline{3}$ 47'07	
minimum elong	-8451 Mar 15 j 22:34	22° $\overline{3}$ 13'28	11°03'30	evening set	-8444 Mar 10 j 10:37	29° $\overline{3}$ 01'18	
max. Earth dist.	-8451 Mar 14 j 13:39	22° $\overline{3}$ 11'33	48.07459 AU	max. Earth dist.	-8444 Mar 21 j 07:45	29° $\overline{3}$ 16'34	47.09006 AU
morning rise	-8451 Mar 26 j 22:58	22° $\overline{3}$ 28'42					
retrograde	-8451 Jun 25 j 10:18	23° $\overline{3}$ 44'09		conjunction	-8444 Mar 23 j 02:42	29° $\overline{3}$ 19'05	-9°24'13
opposition	-8451 Sep 14 j 16:43	22° $\overline{3}$ 44'09	-11°24'41	minimum elong	-8444 Mar 23 j 02:54	29° $\overline{3}$ 19'06	9°24'44
min. Earth dist.	-8451 Sep 15 j 22:22	22° $\overline{3}$ 42'43	46.04955 AU	morning rise	-8444 Apr 04 j 18:49	29° $\overline{3}$ 36'54	
direct	-8451 Dec 05 j 19:38	21° $\overline{3}$ 43'15			-8444 Apr 22 j 01:17	0° $\approx$	
evening set	-8450 Mar 05 j 23:12	22° $\overline{3}$ 58'03		retrograde	-8444 Jul 02 j 10:16	0° $\approx$ 51'08	
max. Earth dist.	-8450 Mar 15 j 20:19	23° $\overline{3}$ 11'44	47.94795 AU		-8444 Sep 13 j 04:37	30° $\overline{R}$ $\overline{3}$	
				opposition	-8444 Sep 21 j 08:07	29° $\overline{3}$ 50'23	-9°41'20
conjunction	-8450 Mar 17 j 05:41	23° $\overline{3}$ 13'40	-10°49'37	min. Earth dist.	-8444 Sep 22 j 22:13	29° $\overline{3}$ 48'30	45.03978 AU
minimum elong	-8450 Mar 17 j 05:53	23° $\overline{3}$ 13'41	10°50'08	direct	-8444 Dec 12 j 15:10	28° $\overline{3}$ 48'25	
morning rise	-8450 Mar 28 j 12:14	23° $\overline{3}$ 29'19			-8443 Mar 09 j 16:44	0° $\approx$	
retrograde	-8450 Jun 26 j 17:06	24° $\overline{3}$ 44'34		evening set	-8443 Mar 11 j 13:14	0° $\approx$ 02'34	
opposition	-8450 Sep 15 j 22:08	23° $\overline{3}$ 44'29	-11°10'44	max. Earth dist.	-8443 Mar 22 j 14:49	0° $\approx$ 18'08	46.93486 AU
min. Earth dist.	-8450 Sep 17 j 05:04	23° $\overline{3}$ 42'59	45.91882 AU				
direct	-8450 Dec 07 j 01:58	22° $\overline{3}$ 43'28		conjunction	-8443 Mar 24 j 10:34	0° $\approx$ 20'43	-9°09'02
evening set	-8449 Mar 07 j 00:31	23° $\overline{3}$ 58'08		minimum elong	-8443 Mar 24 j 10:45	0° $\approx$ 20'43	9°09'32
max. Earth dist.	-8449 Mar 17 j 00:59	24° $\overline{3}$ 12'03	47.81628 AU	morning rise	-8443 Apr 06 j 07:38	0° $\approx$ 38'51	
				retrograde	-8443 Jul 03 j 14:37	1° $\approx$ 53'00	
conjunction	-8449 Mar 18 j 12:52	24° $\overline{3}$ 14'08	-10°36'02	opposition	-8443 Sep 22 j 14:15	0° $\approx$ 52'09	-9°25'25
minimum elong	-8449 Mar 18 j 13:04	24° $\overline{3}$ 14'09	10°36'34	min. Earth dist.	-8443 Sep 24 j 06:00	0° $\approx$ 50'11	44.88193 AU
morning rise	-8449 Mar 30 j 01:29	24° $\overline{3}$ 30'09			-8443 Nov 13 j 18:00	30° $\overline{R}$ $\overline{3}$	
retrograde	-8449 Jun 27 j 23:49	25° $\overline{3}$ 45'11		direct	-8443 Dec 14 j 00:09	29° $\overline{3}$ 50'02	
opposition	-8449 Sep 17 j 03:35	24° $\overline{3}$ 45'02	-10°56'31		-8442 Jan 13 j 02:57	0° $\approx$	
min. Earth dist.	-8449 Sep 18 j 11:36	24° $\overline{3}$ 43'28	45.78302 AU	evening set	-8442 Mar 12 j 16:15	1° $\approx$ 04'10	
direct	-8449 Dec 08 j 08:42	23° $\overline{3}$ 43'52		max. Earth dist.	-8442 Mar 23 j 22:09	1° $\approx$ 20'02	46.77742 AU
evening set	-8448 Mar 07 j 02:06	24° $\overline{3}$ 58'25					
max. Earth dist.	-8448 Mar 17 j 07:04	25° $\overline{3}$ 12'37	47.67940 AU	conjunction	-8442 Mar 25 j 18:31	1° $\approx$ 22'40	-8°53'33
				minimum elong	-8442 Mar 25 j 18:43	1° $\approx$ 22'40	8°54'04
conjunction	-8448 Mar 18 j 20:24	25° $\overline{3}$ 14'48	-10°22'12	morning rise	-8442 Apr 07 j 20:31	1° $\approx$ 41'09	
minimum elong	-8448 Mar 18 j 20:37	25° $\overline{3}$ 14'48	10°22'43	retrograde	-8442 Jul 04 j 20:48	2° $\approx$ 55'13	
morning rise	-8448 Mar 30 j 14:47	25° $\overline{3}$ 31'10		opposition	-8442 Sep 23 j 20:23	1° $\approx$ 54'17	-9°09'12
retrograde	-8448 Jun 28 j 04:32	26° $\overline{3}$ 46'01		min. Earth dist.	-8442 Sep 25 j 12:06	1° $\approx$ 52'18	44.72179 AU
opposition	-8448 Sep 17 j 09:09	25° $\overline{3}$ 45'45	-10°42'02	direct	-8442 Dec 15 j 07:32	0° $\approx$ 52'02	
min. Earth dist.	-8448 Sep 18 j 19:31	25° $\overline{3}$ 44'04	45.64216 AU	evening set	-8441 Mar 13 j 19:25	2° $\approx$ 06'11	
direct	-8448 Dec 08 j 16:38	24° $\overline{3}$ 44'27		max. Earth dist.	-8441 Mar 25 j 04:11	2° $\approx$ 22'15	46.61746 AU
evening set	-8447 Mar 08 j 04:01	25° $\overline{3}$ 58'53					
max. Earth dist.	-8447 Mar 18 j 13:26	26° $\overline{3}$ 13'21	47.53784 AU	conjunction	-8441 Mar 27 j 02:31	2° $\approx$ 25'01	-8°37'47
				minimum elong	-8441 Mar 27 j 02:42	2° $\approx$ 25'01	8°38'17
conjunction	-8447 Mar 20 j 03:58	26° $\overline{3}$ 15'37	-10°08'06	morning rise	-8441 Apr 09 j 09:25	2° $\approx$ 43'50	
minimum elong	-8447 Mar 20 j 04:09	26° $\overline{3}$ 15'37	10°08'38	retrograde	-8441 Jul 06 j 06:33	3° $\approx$ 57'53	
morning rise	-8447 Apr 01 j 03:55	26° $\overline{3}$ 32'21		opposition	-8441 Sep 25 j 02:45	2° $\approx$ 56'51	-8°52'40
retrograde	-8447 Jun 29 j 09:44	27° $\overline{3}$ 47'02		min. Earth dist.	-8441 Sep 26 j 20:20	2° $\approx$ 54'47	44.55902 AU
opposition	-8447 Sep 18 j 14:45	26° $\overline{3}$ 46'39	-10°27'17	direct	-8441 Dec 16 j 10:56	1° $\approx$ 54'29	
min. Earth dist.	-8447 Sep 20 j 01:28	26° $\overline{3}$ 44'57	45.49683 AU	evening set	-8440 Mar 13 j 23:00	3° $\approx$ 08'40	
direct	-8447 Dec 09 j 23:57	25° $\overline{3}$ 45'10		max. Earth dist.	-8440 Mar 25 j 12:25	3° $\approx$ 25'04	46.45458 AU
evening set	-8446 Mar 09 j 05:53	26° $\overline{3}$ 59'30					
max. Earth dist.	-8446 Mar 19 j 18:32	27° $\overline{3}$ 14'12	47.39197 AU	conjunction	-8440 Mar 27 j 10:58	3° $\approx$ 27'50	-8°21'44
				minimum elong	-8440 Mar 27 j 11:10	3° $\approx$ 27'51	8°22'14
conjunction	-8446 Mar 21 j 11:18	27° $\overline{3}$ 16'35	-9°53'45	morning rise	-8440 Apr 09 j 22:21	3° $\approx$ 47'00	
minimum elong	-8446 Mar 21 j 11:31	27° $\overline{3}$ 16'36	9°54'16	retrograde	-8440 Jul 06 j 14:48	5° $\approx$ 01'02	
morning rise	-8446 Apr 02 j 16:53	27° $\overline{3}$ 33'41		opposition	-8440 Sep 25 j 09:10	3° $\approx$ 59'54	-8°35'51
retrograde	-8446 Jun 30 j 18:18	28° $\overline{3}$ 48'12		min. Earth dist.	-8440 Sep 27 j 03:36	3° $\approx$ 57'47	44.39295 AU
opposition	-8446 Sep 19 j 20:30	27° $\overline{3}$ 47'42	-10°12'16	direct	-8440 Dec 16 j 17:35	2° $\approx$ 57'24	
min. Earth dist.	-8446 Sep 21 j 09:05	27° $\overline{3}$ 45'54	45.34763 AU	evening set	-8439 Mar 15 j 03:06	4° $\approx$ 11'39	
direct	-8446 Dec 11 j 04:03	26° $\overline{3}$ 46'03		max. Earth dist.	-8439 Mar 26 j 18:37	4° $\approx$ 28'15	46.28817 AU
evening set	-8445 Mar 10 j 08:01	28° $\overline{3}$ 00'17					
max. Earth dist.	-8445 Mar 21 j 02:06	28° $\overline{3}$ 15'20	47.24252 AU	conjunction	-8439 Mar 28 j 19:27	4° $\approx$ 31'10	-8°05'24
				minimum elong	-8439 Mar 28 j 19:38	4° $\approx$ 31'10	8°05'53
conjunction	-8445 Mar 22 j 19:00	28° $\overline{3}$ 17'44	-9°39'07	morning rise	-8439 Apr 11 j 11:29	4° $\approx$ 50'40	

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Attention, astronomical year style is used: The year -8439 in astronomical counting style is the year 8440 BCE in historical counting style.

retrograde	-8439 Jul 08 j 00:48	6°04'41	conjunction	-8432 Apr 05 j 11:53	12°06'54	-6°03'17
opposition	-8439 Sep 26 j 15:51	5°03'28 -8°18'44	minimum elong	-8432 Apr 05 j 12:02	12°06'54	6°03'43
min. Earth dist.	-8439 Sep 28 j 11:24	5°01'17 44.22314 AU	morning rise	-8432 Apr 20 j 07:05	12°28'34	
direct	-8439 Dec 17 j 23:42	4°00'49	retrograde	-8432 Jul 15 j 10:38	13°42'50	
evening set	-8438 Mar 16 j 07:11	5°15'09	opposition	-8432 Oct 03 j 19:21	12°40'32	-6°10'36
max. Earth dist.	-8438 Mar 28 j 02:13	5°32'00 46.11747 AU	min. Earth dist.	-8432 Oct 05 j 23:15	12°37'53	42.91547 AU
			direct	-8432 Dec 25 j 08:39	11°36'28	
conjunction	-8438 Mar 30 j 04:06	5°35'00 -7°48'48	evening set	-8431 Mar 22 j 22:08	12°51'37	
minimum elong	-8438 Mar 30 j 04:17	5°35'00 7°49'17	max. Earth dist.	-8431 Apr 04 j 10:00	13°09'56	44.80599 AU
morning rise	-8438 Apr 13 j 00:21	5°54'49				
retrograde	-8438 Jul 09 j 08:00	7°08'51	conjunction	-8431 Apr 06 j 21:45	13°13'38	-5°44'40
opposition	-8438 Sep 27 j 22:51	6°07'31 -8°01'19	minimum elong	-8431 Apr 06 j 21:55	13°13'38	5°45'07
min. Earth dist.	-8438 Sep 29 j 20:31	6°05'14 44.04880 AU	morning rise	-8431 Apr 21 j 20:12	13°35'35	
direct	-8438 Dec 19 j 08:40	5°04'43	retrograde	-8431 Jul 16 j 19:23	14°49'59	
evening set	-8437 Mar 17 j 11:52	6°19'08	opposition	-8431 Oct 05 j 03:34	13°47'29	-5°51'03
max. Earth dist.	-8437 Mar 29 j 09:40	6°36'12 45.94226 AU	min. Earth dist.	-8431 Oct 07 j 09:14	13°44'44	42.71636 AU
			direct	-8431 Dec 26 j 16:35	12°43'12	
conjunction	-8437 Mar 31 j 13:00	6°39'18 -7°31'55	evening set	-8430 Mar 24 j 04:48	13°58'33	
minimum elong	-8437 Mar 31 j 13:11	6°39'19 7°32'23	max. Earth dist.	-8430 Apr 05 j 20:02	14°17'09	44.60701 AU
morning rise	-8437 Apr 14 j 13:29	6°59'27				
retrograde	-8437 Jul 10 j 14:20	8°13'29	conjunction	-8430 Apr 08 j 07:42	14°20'51	-5°25'46
opposition	-8437 Sep 29 j 05:44	7°12'02 -7°43'37	minimum elong	-8430 Apr 08 j 07:50	14°20'51	5°26'12
min. Earth dist.	-8437 Oct 01 j 03:50	7°09'43 43.86982 AU	morning rise	-8430 Apr 23 j 09:08	14°43'05	
direct	-8437 Dec 20 j 17:36	6°09'03		-8430 May 05 j 08:20	15°	
evening set	-8436 Mar 17 j 16:54	7°23'33	retrograde	-8430 Jul 18 j 04:28	15°57'38	
max. Earth dist.	-8436 Mar 29 j 16:21	7°40'47 45.76225 AU		-8430 Oct 02 j 09:49	15°R	
			opposition	-8430 Oct 06 j 11:56	14°54'58	-5°31'11
conjunction	-8436 Mar 31 j 22:08	7°44'02 -7°14'45	min. Earth dist.	-8430 Oct 08 j 17:40	14°52'12	42.51521 AU
minimum elong	-8436 Mar 31 j 22:19	7°44'03 7°15'15	direct	-8430 Dec 28 j 01:09	13°50'28	
morning rise	-8436 Apr 15 j 02:44	8°04'30		-8429 Mar 21 j 07:26	15°	
retrograde	-8436 Jul 10 j 23:04	9°18'34	evening set	-8429 Mar 25 j 12:09	15°06'03	
opposition	-8436 Sep 29 j 13:02	8°16'58 -7°25'38	max. Earth dist.	-8429 Apr 07 j 04:16	15°24'47	44.40596 AU
min. Earth dist.	-8436 Oct 01 j 13:24	8°14'32 43.68624 AU				
direct	-8436 Dec 21 j 00:05	7°13'47	conjunction	-8429 Apr 09 j 17:56	15°28'38	-5°06'33
evening set	-8435 Mar 18 j 22:05	8°28'23	minimum elong	-8429 Apr 09 j 18:05	15°28'38	5°07'00
max. Earth dist.	-8435 Mar 31 j 01:17	8°45'53 45.57780 AU	morning rise	-8429 Apr 24 j 22:28	15°51'10	
			retrograde	-8429 Jul 19 j 17:25	17°05'52	
conjunction	-8435 Apr 02 j 07:25	8°49'11 -6°57'19	opposition	-8429 Oct 07 j 20:21	16°03'03	-5°10'59
minimum elong	-8435 Apr 02 j 07:35	8°49'11 6°57'47	min. Earth dist.	-8429 Oct 10 j 03:16	16°00'13	42.31199 AU
morning rise	-8435 Apr 16 j 15:45	9°09'57		-8429 Dec 17 j 08:52	15°R	
retrograde	-8435 Jul 12 j 08:53	10°24'03	direct	-8429 Dec 29 j 06:48	14°58'20	
opposition	-8435 Sep 30 j 20:22	9°22'17 -7°07'20		-8428 Jan 10 j 07:23	15°	
min. Earth dist.	-8435 Oct 02 j 21:32	9°19'48 43.49836 AU	evening set	-8428 Mar 25 j 19:52	16°14'11	
direct	-8435 Dec 22 j 06:16	8°18'53	max. Earth dist.	-8428 Apr 07 j 14:38	16°33'11	44.20241 AU
evening set	-8434 Mar 20 j 03:42	9°33'36				
max. Earth dist.	-8434 Apr 01 j 08:11	9°51'15 45.38941 AU	conjunction	-8428 Apr 10 j 04:40	16°37'03	-4°47'02
			minimum elong	-8428 Apr 10 j 04:48	16°37'04	4°47'28
conjunction	-8434 Apr 03 j 16:42	9°54'42 -6°39'36	morning rise	-8428 Apr 25 j 11:46	16°59'51	
minimum elong	-8434 Apr 03 j 16:51	9°54'43 6°40'05	retrograde	-8428 Jul 20 j 04:38	18°14'46	
morning rise	-8434 Apr 18 j 04:56	10°15'46	opposition	-8428 Oct 08 j 05:16	17°11'47	-4°50'28
retrograde	-8434 Jul 13 j 20:08	11°29'55	min. Earth dist.	-8428 Oct 10 j 13:43	17°08'52	42.10596 AU
opposition	-8434 Oct 02 j 03:48	10°27'58 -6°48'44	direct	-8428 Dec 29 j 15:56	16°06'52	
min. Earth dist.	-8434 Oct 04 j 06:04	10°25'26 43.30701 AU	evening set	-8427 Mar 27 j 04:06	17°23'01	
direct	-8434 Dec 23 j 11:36	9°24'21	max. Earth dist.	-8427 Apr 08 j 23:56	17°42'10	43.99584 AU
evening set	-8433 Mar 21 j 09:21	10°39'11				
max. Earth dist.	-8433 Apr 02 j 17:05	10°57'06 45.19759 AU	conjunction	-8427 Apr 11 j 15:26	17°46'10	-4°27'14
			minimum elong	-8427 Apr 11 j 15:34	17°46'10	4°27'39
conjunction	-8433 Apr 05 j 02:12	11°00'36 -6°21'35	morning rise	-8427 Apr 27 j 01:12	18°09'14	
minimum elong	-8433 Apr 05 j 02:22	11°00'37 6°22'02	retrograde	-8427 Jul 21 j 15:17	19°24'22	
morning rise	-8433 Apr 19 j 17:54	11°21'58	opposition	-8427 Oct 09 j 14:18	18°21'13	-4°29'38
retrograde	-8433 Jul 15 j 03:33	12°36'11	min. Earth dist.	-8427 Oct 11 j 23:07	18°18'16	41.89666 AU
opposition	-8433 Oct 03 j 11:35	11°34'03 -6°29'49	direct	-8427 Dec 31 j 01:49	17°16'05	
min. Earth dist.	-8433 Oct 05 j 15:24	11°31'25 43.11247 AU	evening set	-8426 Mar 28 j 12:47	18°32'32	
direct	-8433 Dec 24 j 21:51	10°30'12	max. Earth dist.	-8426 Apr 10 j 09:16	18°51'50	43.78547 AU
evening set	-8432 Mar 21 j 15:36	11°45'11				
max. Earth dist.	-8432 Apr 03 j 01:46	12°03'19 45.00301 AU	conjunction	-8426 Apr 13 j 02:37	18°55'58	-4°07'07
			minimum elong	-8426 Apr 13 j 02:44	18°55'58	4°07'32

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Attention, astronomical year style is used: The year -8426 in astronomical counting style is the year 8427 BCE in historical counting style.

morning rise	-8426 Apr 28 j 14:43	19° $\approx$ 19'18	conjunction	-8419 Apr 21 j 16:07	27° $\approx$ 23'28	-1°38'06
retrograde	-8426 Jul 23 j 00:22	20° $\approx$ 34'41	minimum elong	-8419 Apr 21 j 16:10	27° $\approx$ 23'28	1°38'27
opposition	-8426 Oct 10 j 23:44	19° $\approx$ 31'21 -4°08'28	morning rise	-8419 May 07 j 15:24	27° $\approx$ 48'28	
min. Earth dist.	-8426 Oct 13 j 10:49	19° $\approx$ 28'16 41.68345 AU	retrograde	-8419 Jul 31 j 11:18	29° $\approx$ 06'07	
direct	-8425 Jan 01 j 12:06	18° $\approx$ 25'59	opposition	-8419 Oct 19 j 01:07	28° $\approx$ 01'07 -1°31'26	
evening set	-8425 Mar 29 j 21:51	19° $\approx$ 42'46	min. Earth dist.	-8419 Oct 21 j 19:20	27° $\approx$ 57'34 40.09025 AU	
max. Earth dist.	-8425 Apr 11 j 20:11	20° $\approx$ 02'16 43.57103 AU	direct	-8418 Jan 09 j 13:19	26° $\approx$ 53'45	
			evening set	-8418 Apr 07 j 02:51	28° $\approx$ 13'28	
conjunction	-8425 Apr 14 j 14:05	20° $\approx$ 06'28 -3°46'43	max. Earth dist.	-8418 Apr 20 j 03:52	28° $\approx$ 33'57 41.97214 AU	
minimum elong	-8425 Apr 14 j 14:12	20° $\approx$ 06'28 3°47'08				
morning rise	-8425 Apr 30 j 04:21	20° $\approx$ 30'04	conjunction	-8418 Apr 23 j 05:30	28° $\approx$ 38'49 -1°15'37	
retrograde	-8425 Jul 24 j 10:28	21° $\approx$ 45'42	minimum elong	-8418 Apr 23 j 05:32	28° $\approx$ 38'49 1°15'58	
opposition	-8425 Oct 12 j 09:24	20° $\approx$ 42'10 -3°47'00	morning rise	-8418 May 09 j 05:21	29° $\approx$ 04'02	
min. Earth dist.	-8425 Oct 14 j 21:03	20° $\approx$ 39'03 41.46591 AU		-8418 Jun 20 j 13:46	0° $\approx$	
direct	-8424 Jan 02 j 22:08	19° $\approx$ 36'33	retrograde	-8418 Aug 02 j 01:15	0° $\approx$ 22'09	
evening set	-8424 Mar 30 j 07:37	20° $\approx$ 53'40		-8418 Sep 14 j 01:25	30° $\approx$	
max. Earth dist.	-8424 Apr 12 j 05:15	21° $\approx$ 13'15 43.35218 AU	opposition	-8418 Oct 20 j 12:48	29° $\approx$ 16'53 -1°07'42	
			min. Earth dist.	-8418 Oct 23 j 07:30	29° $\approx$ 13'17 39.85427 AU	
conjunction	-8424 Apr 15 j 01:49	21° $\approx$ 17'38 -3°26'01	direct	-8417 Jan 10 j 23:18	28° $\approx$ 09'13	
minimum elong	-8424 Apr 15 j 01:55	21° $\approx$ 17'38 3°26'24	evening set	-8417 Apr 08 j 15:57	29° $\approx$ 29'31	
morning rise	-8424 Apr 30 j 18:11	21° $\approx$ 41'29	max. Earth dist.	-8417 Apr 21 j 15:53	29° $\approx$ 50'03 41.73597 AU	
retrograde	-8424 Jul 24 j 23:46	22° $\approx$ 57'24				
opposition	-8424 Oct 12 j 19:17	21° $\approx$ 53'38 -3°25'12	conjunction	-8417 Apr 24 j 19:03	29° $\approx$ 55'03 -0°52'51	
min. Earth dist.	-8424 Oct 15 j 08:41	21° $\approx$ 50'25 41.24424 AU	minimum elong	-8417 Apr 24 j 19:05	29° $\approx$ 55'03 0°53'12	
direct	-8423 Jan 03 j 05:10	20° $\approx$ 47'45		-8417 Apr 27 j 21:15	0° $\approx$	
evening set	-8423 Mar 31 j 17:40	22° $\approx$ 05'15	morning rise	-8417 May 10 j 19:36	0° $\approx$ 20'28	
max. Earth dist.	-8423 Apr 13 j 16:51	22° $\approx$ 25'01 43.12920 AU	retrograde	-8417 Aug 03 j 17:11	1° $\approx$ 39'04	
			opposition	-8417 Oct 22 j 00:48	0° $\approx$ 33'34 -0°43'40	
conjunction	-8423 Apr 16 j 13:56	22° $\approx$ 29'27 -3°05'02	min. Earth dist.	-8417 Oct 24 j 19:52	0° $\approx$ 29'56 39.61723 AU	
minimum elong	-8423 Apr 16 j 14:01	22° $\approx$ 29'27 3°05'26		-8417 Nov 18 j 01:01	30° $\approx$	
morning rise	-8423 May 02 j 07:56	22° $\approx$ 53'33	direct	-8416 Jan 12 j 09:03	29° $\approx$ 25'36	
retrograde	-8423 Jul 26 j 11:35	24° $\approx$ 09'46		-8416 Mar 07 j 01:58	0° $\approx$	
opposition	-8423 Oct 14 j 05:36	23° $\approx$ 05'46 -3°03'06	evening set	-8416 Apr 09 j 05:37	0° $\approx$ 46'30	
min. Earth dist.	-8423 Oct 16 j 20:14	23° $\approx$ 02'28 41.01866 AU	max. Earth dist.	-8416 Apr 22 j 05:23	1° $\approx$ 07'10 41.49828 AU	
direct	-8422 Jan 04 j 15:56	21° $\approx$ 59'36				
evening set	-8422 Apr 02 j 04:05	23° $\approx$ 17'29	conjunction	-8416 Apr 25 j 09:10	1° $\approx$ 12'15 -0°29'48	
max. Earth dist.	-8422 Apr 15 j 03:16	23° $\approx$ 37'22 42.90269 AU	minimum elong	-8416 Apr 25 j 09:11	1° $\approx$ 12'15 0°30'08	
			morning rise	-8416 May 11 j 09:48	1° $\approx$ 37'50	
conjunction	-8422 Apr 18 j 01:56	23° $\approx$ 41'56 -2°43'45	retrograde	-8416 Aug 04 j 06:48	2° $\approx$ 56'58	
minimum elong	-8422 Apr 18 j 02:01	23° $\approx$ 41'56 2°44'07	opposition	-8416 Oct 22 j 13:16	1° $\approx$ 51'13 -0°19'18	
morning rise	-8422 May 03 j 21:43	24° $\approx$ 06'16	min. Earth dist.	-8416 Oct 25 j 09:57	1° $\approx$ 47'29 39.37858 AU	
retrograde	-8422 Jul 28 j 00:23	25° $\approx$ 22'48	direct	-8415 Jan 12 j 23:18	0° $\approx$ 42'59	
opposition	-8422 Oct 15 j 15:58	24° $\approx$ 18'33 -2°40'40	evening set	-8415 Apr 10 j 20:01	2° $\approx$ 04'31	
min. Earth dist.	-8422 Oct 18 j 07:06	24° $\approx$ 15'13 40.78991 AU	max. Earth dist.	-8415 Apr 23 j 19:19	2° $\approx$ 25'18 41.25887 AU	
direct	-8421 Jan 06 j 03:41	23° $\approx$ 12'05				
evening set	-8421 Apr 03 j 15:02	24° $\approx$ 30'23	conjunction	-8415 Apr 26 j 23:35	2° $\approx$ 30'27 -0°06'30	
max. Earth dist.	-8421 Apr 16 j 14:32	24° $\approx$ 50'24 42.67303 AU	minimum elong	-8415 Apr 26 j 23:35	2° $\approx$ 30'27 0°06'49	
			behind sun begin	-8415 Apr 26 j 17:32	2° $\approx$ 30'04	
conjunction	-8421 Apr 19 j 14:28	24° $\approx$ 55'04 -2°22'09	behind sun end	-8415 Apr 27 j 05:39	2° $\approx$ 30'50	
minimum elong	-8421 Apr 19 j 14:32	24° $\approx$ 55'05 2°22'32	morning rise	-8415 May 13 j 00:17	2° $\approx$ 56'13	
morning rise	-8421 May 05 j 11:32	25° $\approx$ 19'38	retrograde	-8415 Aug 05 j 20:38	4° $\approx$ 15'54	
retrograde	-8421 Jul 29 j 11:39	26° $\approx$ 36'30	asc. node	-8415 Aug 05 j 18:30	4° $\approx$ 15'54	
opposition	-8421 Oct 17 j 02:40	25° $\approx$ 32'01 -2°17'54	opposition	-8415 Oct 24 j 02:07	3° $\approx$ 09'54 0°05'22	
min. Earth dist.	-8421 Oct 19 j 19:45	25° $\approx$ 28'33 40.55848 AU	min. Earth dist.	-8415 Oct 26 j 22:46	3° $\approx$ 06'09 39.13799 AU	
direct	-8420 Jan 07 j 15:46	24° $\approx$ 25'15	direct	-8414 Jan 14 j 14:10	2° $\approx$ 01'22	
evening set	-8420 Apr 04 j 02:31	25° $\approx$ 43'59	evening set	-8414 Apr 12 j 10:55	3° $\approx$ 23'34	
max. Earth dist.	-8420 Apr 17 j 03:02	26° $\approx$ 04'11 42.44107 AU	max. Earth dist.	-8414 Apr 25 j 08:07	3° $\approx$ 44'21 41.01694 AU	
conjunction	-8420 Apr 20 j 03:15	26° $\approx$ 08'54 -2°00'16	conjunction	-8414 Apr 28 j 14:16	3° $\approx$ 49'40 0°17'12	
minimum elong	-8420 Apr 20 j 03:18	26° $\approx$ 08'54 2°00'38	minimum elong	-8414 Apr 28 j 14:16	3° $\approx$ 49'40 0°16'54	
morning rise	-8420 May 06 j 01:31	26° $\approx$ 33'41	morning rise	-8414 May 14 j 14:42	4° $\approx$ 15'36	
retrograde	-8420 Jul 29 j 21:57	27° $\approx$ 50'56	retrograde	-8414 Aug 07 j 11:01	5° $\approx$ 35'53	
opposition	-8420 Oct 17 j 13:42	26° $\approx$ 46'11 -1°54'50	opposition	-8414 Oct 25 j 15:26	4° $\approx$ 29'37 0°30'21	
min. Earth dist.	-8420 Oct 20 j 06:35	26° $\approx$ 42'43 40.32506 AU	min. Earth dist.	-8414 Oct 28 j 14:05	4° $\approx$ 25'45 38.89482 AU	
direct	-8419 Jan 08 j 04:12	25° $\approx$ 39'07	direct	-8413 Jan 16 j 02:25	3° $\approx$ 20'46	
evening set	-8419 Apr 05 j 14:28	26° $\approx$ 58'20	evening set	-8413 Apr 14 j 02:36	4° $\approx$ 43'39	
max. Earth dist.	-8419 Apr 18 j 14:07	27° $\approx$ 18'35 42.20725 AU	max. Earth dist.	-8413 Apr 26 j 23:20	5° $\approx$ 04'33 40.77218 AU	

## Planetary Phenomena of Pluto from -8900 through -8398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36

Attention, astronomical year style is used: The year -8413 in astronomical counting style is the year 8414 BCE in historical counting style.

conjunction	-8413 Apr 30 j 05:37	5° <del>✕</del> 09'55	0°41'05	evening set	-8406 Apr 24 j 12:23	14° <del>✕</del> 32'53	
minimum elong	-8413 Apr 30 j 05:36	5° <del>✕</del> 09'55	0°40'48	max. Earth dist.	-8406 May 06 j 16:09	14° <del>✕</del> 53'44	38.99686 AU
morning rise	-8413 May 16 j 05:25	5° <del>✕</del> 36'00					
retrograde	-8413 Aug 09 j 00:40	6° <del>✕</del> 56'54		conjunction	-8406 May 10 j 03:41	14° <del>✕</del> 59'46	3°35'31
opposition	-8413 Oct 27 j 05:04	5° <del>✕</del> 50'21	0°55'38	minimum elong	-8406 May 10 j 03:33	14° <del>✕</del> 59'46	3°35'19
min. Earth dist.	-8413 Oct 30 j 04:11	5° <del>✕</del> 46'26	38.64865 AU	morning rise	-8406 May 25 j 15:16	15° <del>✕</del> 26'27	
direct	-8412 Jan 17 j 16:24	4° <del>✕</del> 41'09		retrograde	-8406 Aug 19 j 00:06	16° <del>✕</del> 52'41	
evening set	-8412 Apr 14 j 19:12	6° <del>✕</del> 04'46		opposition	-8406 Nov 05 j 17:21	15° <del>✕</del> 43'44	4°00'29
max. Earth dist.	-8412 Apr 27 j 12:50	6° <del>✕</del> 25'36	40.52437 AU	min. Earth dist.	-8406 Nov 08 j 21:19	15° <del>✕</del> 39'23	36.87349 AU
				direct	-8405 Jan 27 j 00:49	14° <del>✕</del> 31'49	
conjunction	-8412 Apr 30 j 21:19	6° <del>✕</del> 31'10	1°05'16	evening set	-8405 Apr 26 j 10:11	16° <del>✕</del> 01'38	
minimum elong	-8412 Apr 30 j 21:16	6° <del>✕</del> 31'10	1°04'59	max. Earth dist.	-8405 May 08 j 09:44	16° <del>✕</del> 22'22	38.74115 AU
morning rise	-8412 May 16 j 20:25	6° <del>✕</del> 57'23					
retrograde	-8412 Aug 09 j 18:33	8° <del>✕</del> 18'56		conjunction	-8405 May 11 j 22:16	16° <del>✕</del> 28'32	4°01'19
opposition	-8412 Oct 27 j 19:12	7° <del>✕</del> 12'04	1°21'13	minimum elong	-8405 May 11 j 22:08	16° <del>✕</del> 28'31	4°01'08
min. Earth dist.	-8412 Oct 30 j 19:27	7° <del>✕</del> 08'04	38.39970 AU	morning rise	-8405 May 27 j 06:57	16° <del>✕</del> 55'12	
direct	-8411 Jan 18 j 03:36	6° <del>✕</del> 02'30		retrograde	-8405 Aug 20 j 21:41	18° <del>✕</del> 22'25	
evening set	-8411 Apr 16 j 12:11	7° <del>✕</del> 26'52		opposition	-8405 Nov 07 j 10:36	17° <del>✕</del> 13'08	4°27'51
max. Earth dist.	-8411 Apr 29 j 04:36	7° <del>✕</del> 47'47	40.27363 AU	min. Earth dist.	-8405 Nov 10 j 14:29	17° <del>✕</del> 08'46	36.61919 AU
				direct	-8404 Jan 28 j 16:12	16° <del>✕</del> 00'50	
conjunction	-8411 May 02 j 13:24	7° <del>✕</del> 53'24	1°29'42	evening set	-8404 Apr 27 j 08:47	17° <del>✕</del> 31'47	
minimum elong	-8411 May 02 j 13:21	7° <del>✕</del> 53'24	1°29'26	max. Earth dist.	-8404 May 09 j 05:00	17° <del>✕</del> 52'28	38.48583 AU
morning rise	-8411 May 18 j 11:12	8° <del>✕</del> 19'44					
retrograde	-8411 Aug 11 j 11:04	9° <del>✕</del> 41'58		conjunction	-8404 May 12 j 17:36	17° <del>✕</del> 58'41	4°27'18
opposition	-8411 Oct 29 j 09:52	8° <del>✕</del> 34'46	1°47'06	minimum elong	-8404 May 12 j 17:26	17° <del>✕</del> 58'40	4°27'06
min. Earth dist.	-8411 Nov 01 j 11:30	8° <del>✕</del> 30'40	38.14807 AU	morning rise	-8404 May 27 j 22:41	18° <del>✕</del> 25'21	
direct	-8410 Jan 19 j 17:22	7° <del>✕</del> 24'49		retrograde	-8404 Aug 21 j 17:55	19° <del>✕</del> 53'36	
evening set	-8410 Apr 18 j 06:02	8° <del>✕</del> 49'59		opposition	-8404 Nov 08 j 04:44	18° <del>✕</del> 44'00	4°55'26
max. Earth dist.	-8410 Apr 30 j 19:56	9° <del>✕</del> 10'52	40.02060 AU	min. Earth dist.	-8404 Nov 11 j 09:51	18° <del>✕</del> 39'32	36.36528 AU
				direct	-8403 Jan 29 j 09:06	17° <del>✕</del> 31'20	
conjunction	-8410 May 04 j 05:48	9° <del>✕</del> 16'36	1°54'24	evening set	-8403 Apr 29 j 08:18	19° <del>✕</del> 03'28	
minimum elong	-8410 May 04 j 05:44	9° <del>✕</del> 16'36	1°54'07	max. Earth dist.	-8403 May 11 j 00:40	19° <del>✕</del> 24'03	38.23077 AU
morning rise	-8410 May 20 j 02:22	9° <del>✕</del> 43'03					
retrograde	-8410 Aug 13 j 04:16	11° <del>✕</del> 05'58		conjunction	-8403 May 14 j 13:13	19° <del>✕</del> 30'19	4°53'26
opposition	-8410 Oct 31 j 00:39	9° <del>✕</del> 58'26	2°13'15	minimum elong	-8403 May 14 j 13:02	19° <del>✕</del> 30'18	4°53'16
min. Earth dist.	-8410 Nov 03 j 02:18	9° <del>✕</del> 54'18	37.89456 AU	morning rise	-8403 May 29 j 14:33	19° <del>✕</del> 56'57	
direct	-8409 Jan 21 j 09:07	8° <del>✕</del> 48'05		retrograde	-8403 Aug 23 j 14:09	21° <del>✕</del> 26'18	
evening set	-8409 Apr 20 j 00:29	10° <del>✕</del> 14'05		opposition	-8403 Nov 09 j 23:19	20° <del>✕</del> 16'23	5°23'11
max. Earth dist.	-8409 May 02 j 11:32	10° <del>✕</del> 34'56	39.76565 AU	min. Earth dist.	-8403 Nov 13 j 03:56	20° <del>✕</del> 11'55	36.11147 AU
				direct	-8402 Jan 31 j 05:01	19° <del>✕</del> 03'21	
conjunction	-8409 May 05 j 22:41	10° <del>✕</del> 40'48	2°19'20	evening set	-8402 May 01 j 08:53	20° <del>✕</del> 36'44	
minimum elong	-8409 May 05 j 22:37	10° <del>✕</del> 40'48	2°19'06	max. Earth dist.	-8402 May 12 j 19:41	20° <del>✕</del> 57'06	37.97528 AU
morning rise	-8409 May 21 j 17:29	11° <del>✕</del> 07'19					
retrograde	-8409 Aug 14 j 20:23	12° <del>✕</del> 30'59		conjunction	-8402 May 16 j 09:34	21° <del>✕</del> 03'31	5°19'42
opposition	-8409 Nov 01 j 16:07	11° <del>✕</del> 23'06	2°39'41	minimum elong	-8402 May 16 j 09:22	21° <del>✕</del> 03'31	5°19'33
min. Earth dist.	-8409 Nov 04 j 19:25	11° <del>✕</del> 18'51	37.63963 AU	morning rise	-8402 May 31 j 06:40	21° <del>✕</del> 30'05	
direct	-8408 Jan 23 j 01:39	10° <del>✕</del> 12'21		retrograde	-8402 Aug 25 j 10:56	23° <del>✕</del> 00'35	
evening set	-8408 Apr 20 j 19:43	11° <del>✕</del> 39'13		opposition	-8402 Nov 11 j 18:30	21° <del>✕</del> 50'20	5°51'07
max. Earth dist.	-8408 May 03 j 05:11	12° <del>✕</del> 00'07	39.50962 AU	min. Earth dist.	-8402 Nov 15 j 00:39	21° <del>✕</del> 45'45	35.85726 AU
				direct	-8401 Feb 01 j 23:13	20° <del>✕</del> 36'56	
conjunction	-8408 May 06 j 15:57	12° <del>✕</del> 06'01	2°44'31	evening set	-8401 May 03 j 10:28	22° <del>✕</del> 11'36	
minimum elong	-8408 May 06 j 15:51	12° <del>✕</del> 06'00	2°44'17	max. Earth dist.	-8401 May 14 j 17:12	22° <del>✕</del> 31'50	37.71909 AU
morning rise	-8408 May 22 j 08:41	12° <del>✕</del> 32'36					
retrograde	-8408 Aug 15 j 11:54	13° <del>✕</del> 57'04		conjunction	-8401 May 18 j 06:36	22° <del>✕</del> 38'18	5°46'07
opposition	-8408 Nov 02 j 07:58	12° <del>✕</del> 48'49	3°06'23	minimum elong	-8401 May 18 j 06:23	22° <del>✕</del> 38'17	5°46'00
min. Earth dist.	-8408 Nov 05 j 10:53	12° <del>✕</del> 44'34	37.38402 AU	morning rise	-8401 Jun 01 j 22:59	23° <del>✕</del> 04'46	
direct	-8407 Jan 23 j 18:46	11° <del>✕</del> 37'40		retrograde	-8401 Aug 27 j 07:10	24° <del>✕</del> 36'29	
evening set	-8407 Apr 22 j 15:48	13° <del>✕</del> 05'27		opposition	-8401 Nov 13 j 14:27	23° <del>✕</del> 25'52	6°19'12
max. Earth dist.	-8407 May 04 j 21:21	13° <del>✕</del> 26'16	39.25314 AU	min. Earth dist.	-8401 Nov 16 j 20:30	23° <del>✕</del> 21'16	35.60217 AU
				direct	-8400 Feb 03 j 18:50	22° <del>✕</del> 12'04	
conjunction	-8407 May 08 j 09:36	13° <del>✕</del> 32'18	3°09'55	evening set	-8400 May 04 j 13:15	23° <del>✕</del> 48'05	
minimum elong	-8407 May 08 j 09:29	13° <del>✕</del> 32'18	3°09'43	max. Earth dist.	-8400 May 15 j 13:06	24° <del>✕</del> 08'00	37.46187 AU
morning rise	-8407 May 24 j 00:02	13° <del>✕</del> 58'57					
retrograde	-8407 Aug 17 j 06:15	15° <del>✕</del> 24'16		conjunction	-8400 May 19 j 04:07	24° <del>✕</del> 14'39	6°12'39
opposition	-8407 Nov 04 j 00:23	14° <del>✕</del> 15'40	3°33'19	minimum elong	-8400 May 19 j 03:53	24° <del>✕</del> 14'38	6°12'32
min. Earth dist.	-8407 Nov 07 j 04:14	14° <del>✕</del> 11'20	37.12857 AU	morning rise	-8400 Jun 02 j 15:32	24° <del>✕</del> 40'59	
direct	-8406 Jan 25 j 08:49	13° <del>✕</del> 04'07		retrograde	-8400 Aug 28 j 05:50	26° <del>✕</del> 13'57	

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

opposition	-8400 Nov 14 j 11:00	25° <del>1</del> 02'59	6°47'25
min. Earth dist.	-8400 Nov 17 j 17:55	24° <del>1</del> 58'18	35.34633 AU
direct	-8399 Feb 04 j 12:42	23° <del>1</del> 48'45	
evening set	-8399 May 06 j 16:53	25° <del>1</del> 26'10	
max. Earth dist.	-8399 May 17 j 11:42	25° <del>1</del> 45'53	37.20376 AU
conjunction	-8399 May 21 j 02:23	25° <del>1</del> 52'33	6°39'16
minimum elong	-8399 May 21 j 02:07	25° <del>1</del> 52'32	6°39'10
morning rise	-8399 Jun 04 j 08:06	26° <del>1</del> 18'43	
retrograde	-8399 Aug 30 j 04:28	27° <del>1</del> 53'01	
opposition	-8399 Nov 16 j 08:19	26° <del>1</del> 41'38	7°15'44
min. Earth dist.	-8399 Nov 19 j 15:54	26° <del>1</del> 36'53	35.08984 AU