

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

Attention, astronomical year style is used: The year -900 in astronomical counting style is the year 901 BCE in historical counting style.

direct	-900 Feb 04 j 19:31	16° <del>8</del> 37'15	conjunction	-894 Jun 03 j 13:59	2° <del>II</del> 34'27	-1°11'52
evening set	-900 May 03 j 17:10	18° <del>8</del> 32'16	minimum elong	-894 Jun 03 j 13:59	2° <del>II</del> 34'27	1°11'52
			max. Earth dist.	-894 Jun 03 j 12:38	2° <del>II</del> 34'20	30.92476 AU
conjunction	-900 May 20 j 00:26	19° <del>8</del> 08'23 -1°31'34	morning rise	-894 Jun 19 j 21:44	3° <del>II</del> 10'36	
minimum elong	-900 May 20 j 00:26	19° <del>8</del> 08'23 1°31'33	retrograde	-894 Sep 16 j 22:01	5° <del>II</del> 05'58	
max. Earth dist.	-900 May 20 j 03:12	19° <del>8</del> 08'39 30.86897 AU	opposition	-894 Dec 03 j 15:54	3° <del>II</del> 42'04	-1°14'53
morning rise	-900 Jun 05 j 08:12	19° <del>8</del> 44'33	min. Earth dist.	-894 Dec 03 j 17:13	3° <del>II</del> 41'58	28.93042 AU
retrograde	-900 Sep 03 j 01:48	21° <del>8</del> 40'49	direct	-893 Feb 20 j 05:21	2° <del>II</del> 17'14	
opposition	-900 Nov 20 j 01:26	20° <del>8</del> 16'21 -1°36'20	evening set	-893 May 20 j 19:51	4° <del>II</del> 12'42	
min. Earth dist.	-900 Nov 19 j 22:33	20° <del>8</del> 16'33 28.87272 AU				
direct	-899 Feb 06 j 07:04	18° <del>8</del> 51'35	conjunction	-893 Jun 06 j 04:15	4° <del>II</del> 48'51	-1°08'11
evening set	-899 May 06 j 07:10	20° <del>8</del> 46'39	minimum elong	-893 Jun 06 j 04:16	4° <del>II</del> 48'51	1°08'10
			max. Earth dist.	-893 Jun 06 j 01:06	4° <del>II</del> 48'33	30.93499 AU
conjunction	-899 May 22 j 14:49	21° <del>8</del> 22'47 -1°28'36	morning rise	-893 Jun 22 j 12:01	5° <del>II</del> 24'58	
minimum elong	-899 May 22 j 14:49	21° <del>8</del> 22'47 1°28'35	retrograde	-893 Sep 19 j 09:55	7° <del>II</del> 20'12	
max. Earth dist.	-899 May 22 j 18:01	21° <del>8</del> 23'05 30.87522 AU	opposition	-893 Dec 06 j 02:20	5° <del>II</del> 56'22	-1°10'53
morning rise	-899 Jun 07 j 22:27	21° <del>8</del> 58'57	min. Earth dist.	-893 Dec 06 j 05:24	5° <del>II</del> 56'09	28.94028 AU
retrograde	-899 Sep 05 j 12:41	23° <del>8</del> 55'03	direct	-892 Feb 22 j 17:06	4° <del>II</del> 31'29	
opposition	-899 Nov 22 j 11:51	22° <del>8</del> 30'38 -1°33'06	evening set	-892 May 22 j 10:00	6° <del>II</del> 27'00	
min. Earth dist.	-899 Nov 22 j 09:50	22° <del>8</del> 30'47 28.87960 AU				
direct	-898 Feb 08 j 19:00	21° <del>8</del> 05'50	conjunction	-892 Jun 07 j 18:39	7° <del>II</del> 03'10	-1°04'23
evening set	-898 May 08 j 21:16	23° <del>8</del> 00'58	minimum elong	-892 Jun 07 j 18:39	7° <del>II</del> 03'10	1°04'23
			max. Earth dist.	-892 Jun 07 j 15:01	7° <del>II</del> 02'49	30.94442 AU
conjunction	-898 May 25 j 04:59	23° <del>8</del> 37'06 -1°25'30	morning rise	-892 Jun 24 j 02:14	7° <del>II</del> 39'16	
minimum elong	-898 May 25 j 04:59	23° <del>8</del> 37'06 1°25'30	retrograde	-892 Sep 20 j 21:44	9° <del>II</del> 34'18	
max. Earth dist.	-898 May 25 j 06:30	23° <del>8</del> 37'14 30.88302 AU	opposition	-892 Dec 07 j 12:45	8° <del>II</del> 10'33	-1°06'46
morning rise	-898 Jun 10 j 12:50	24° <del>8</del> 13'16	min. Earth dist.	-892 Dec 07 j 16:28	8° <del>II</del> 10'17	28.94909 AU
retrograde	-898 Sep 08 j 00:39	26° <del>8</del> 09'12	direct	-891 Feb 24 j 06:38	6° <del>II</del> 45'38	
opposition	-898 Nov 24 j 22:15	24° <del>8</del> 44'52 -1°29'43	evening set	-891 May 25 j 00:15	8° <del>II</del> 41'10	
min. Earth dist.	-898 Nov 24 j 20:10	24° <del>8</del> 45'01 28.88815 AU				
direct	-897 Feb 11 j 06:15	23° <del>8</del> 20'03	conjunction	-891 Jun 10 j 08:45	9° <del>II</del> 17'19	-1°00'30
evening set	-897 May 11 j 11:08	25° <del>8</del> 15'14	minimum elong	-891 Jun 10 j 08:46	9° <del>II</del> 17'19	1°00'29
			max. Earth dist.	-891 Jun 10 j 02:50	9° <del>II</del> 16'46	30.95288 AU
conjunction	-897 May 27 j 19:09	25° <del>8</del> 51'23 -1°22'17	morning rise	-891 Jun 26 j 16:22	9° <del>II</del> 53'24	
minimum elong	-897 May 27 j 19:09	25° <del>8</del> 51'23 1°22'16	retrograde	-891 Sep 23 j 10:53	11° <del>II</del> 48'16	
max. Earth dist.	-897 May 27 j 20:50	25° <del>8</del> 51'32 30.89228 AU	opposition	-891 Dec 09 j 23:07	10° <del>II</del> 24'33	-1°02'35
morning rise	-897 Jun 13 j 02:56	26° <del>8</del> 27'32	min. Earth dist.	-891 Dec 10 j 03:53	10° <del>II</del> 24'13	28.95725 AU
retrograde	-897 Sep 10 j 10:30	28° <del>8</del> 23'20	direct	-890 Feb 26 j 19:14	8° <del>II</del> 59'34	
opposition	-897 Nov 27 j 08:44	26° <del>8</del> 59'07 -1°26'12	evening set	-890 May 27 j 14:14	10° <del>II</del> 55'08	
min. Earth dist.	-897 Nov 27 j 08:05	26° <del>8</del> 59'09 28.89799 AU				
direct	-896 Feb 13 j 17:21	25° <del>8</del> 34'17	conjunction	-890 Jun 12 j 22:56	11° <del>II</del> 31'17	-0°56'32
evening set	-896 May 13 j 01:17	27° <del>8</del> 29'32	minimum elong	-890 Jun 12 j 22:56	11° <del>II</del> 31'17	0°56'32
			max. Earth dist.	-890 Jun 12 j 17:05	11° <del>II</del> 30'44	30.96081 AU
conjunction	-896 May 29 j 09:26	28° <del>8</del> 05'41 -1°18'56	morning rise	-890 Jun 29 j 06:15	12° <del>II</del> 07'20	
minimum elong	-896 May 29 j 09:26	28° <del>8</del> 05'41 1°18'56	retrograde	-890 Sep 25 j 21:14	14° <del>II</del> 02'01	
max. Earth dist.	-896 May 29 j 09:42	28° <del>8</del> 05'43 30.90281 AU	opposition	-890 Dec 12 j 09:28	12° <del>II</del> 38'21	-0°58'18
morning rise	-896 Jun 14 j 17:19	28° <del>8</del> 41'51	min. Earth dist.	-890 Dec 12 j 15:28	12° <del>II</del> 37'55	28.96496 AU
	-896 Jul 26 j 00:50	0° <del>II</del>	direct	-889 Mar 01 j 08:20	11° <del>II</del> 13'19	
retrograde	-896 Sep 11 j 23:30	0° <del>II</del> 37'30	evening set	-889 May 30 j 04:10	13° <del>II</del> 08'53	
	-896 Oct 30 j 18:29	30° <del>8</del>				
opposition	-896 Nov 28 j 18:58	29° <del>8</del> 13'23 -1°22'33	conjunction	-889 Jun 15 j 12:44	13° <del>II</del> 45'01	-0°52'29
min. Earth dist.	-896 Nov 28 j 18:11	29° <del>8</del> 13'27 28.90878 AU	minimum elong	-889 Jun 15 j 12:44	13° <del>II</del> 45'01	0°52'28
direct	-895 Feb 15 j 04:32	27° <del>8</del> 48'33	max. Earth dist.	-889 Jun 15 j 04:55	13° <del>II</del> 44'18	30.96861 AU
evening set	-895 May 15 j 15:31	29° <del>8</del> 43'54	morning rise	-889 Jul 01 j 20:06	14° <del>II</del> 21'03	
	-895 May 22 j 23:31	0° <del>II</del>	retrograde	-889 Sep 28 j 09:08	16° <del>II</del> 15'33	
			opposition	-889 Dec 14 j 19:42	14° <del>II</del> 51'55	-0°53'56
conjunction	-895 May 31 j 23:47	0° <del>II</del> 20'03 -1°15'28	min. Earth dist.	-889 Dec 15 j 01:54	14° <del>II</del> 51'29	28.97280 AU
minimum elong	-895 May 31 j 23:47	0° <del>II</del> 20'03 1°15'26	direct	-888 Mar 02 j 20:28	13° <del>II</del> 26'49	
max. Earth dist.	-895 May 31 j 23:16	0° <del>II</del> 20'00 30.91379 AU	evening set	-888 May 31 j 18:04	15° <del>II</del> 22'25	
morning rise	-895 Jun 17 j 07:36	0° <del>II</del> 56'12				
retrograde	-895 Sep 14 j 09:47	2° <del>II</del> 51'43	conjunction	-888 Jun 17 j 02:43	15° <del>II</del> 58'33	-0°48'22
opposition	-895 Dec 01 j 05:30	1° <del>II</del> 27'43 -1°18'46	minimum elong	-888 Jun 17 j 02:43	15° <del>II</del> 58'33	0°48'21
min. Earth dist.	-895 Dec 01 j 06:40	1° <del>II</del> 27'38 28.91982 AU	max. Earth dist.	-888 Jun 16 j 18:57	15° <del>II</del> 57'50	30.97657 AU
direct	-894 Feb 17 j 15:22	0° <del>II</del> 02'54	morning rise	-888 Jul 03 j 09:45	16° <del>II</del> 34'33	
evening set	-894 May 18 j 05:34	1° <del>II</del> 58'18	retrograde	-888 Sep 29 j 18:41	18° <del>II</del> 28'52	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 2

Attention, astronomical year style is used: The year -888 in astronomical counting style is the year 889 BCE in historical counting style.

opposition	-888 Dec 16 j 05:57	17° $\Pi$ 05'18	-0°49'29	conjunction	-881 Jul 04 j 01:30	1° $\mathfrak{C}$ 31'07	-0°17'55
min. Earth dist.	-888 Dec 16 j 13:41	17° $\Pi$ 04'45	28.98103 AU	minimum elong	-881 Jul 04 j 01:30	1° $\mathfrak{C}$ 31'07	0°17'53
direct	-887 Mar 05 j 08:00	15° $\Pi$ 40'08		max. Earth dist.	-881 Jul 03 j 12:37	1° $\mathfrak{C}$ 29'56	31.05646 AU
evening set	-887 Jun 03 j 07:56	17° $\Pi$ 35'46		morning rise	-881 Jul 20 j 06:33	2° $\mathfrak{C}$ 06'56	
				retrograde	-881 Oct 16 j 01:13	4° $\mathfrak{C}$ 00'23	
conjunction	-887 Jun 19 j 16:26	18° $\Pi$ 11'53	-0°44'11	opposition	-880 Jan 01 j 05:50	2° $\mathfrak{C}$ 37'30	-0°16'45
minimum elong	-887 Jun 19 j 16:26	18° $\Pi$ 11'53	0°44'10	min. Earth dist.	-880 Jan 01 j 18:15	2° $\mathfrak{C}$ 36'37	29.06227 AU
max. Earth dist.	-887 Jun 19 j 07:17	18° $\Pi$ 11'02	30.98531 AU	direct	-880 Mar 20 j 20:42	1° $\mathfrak{C}$ 12'23	
morning rise	-887 Jul 05 j 23:22	18° $\Pi$ 47'52		evening set	-880 Jun 19 j 07:41	3° $\mathfrak{C}$ 08'27	
retrograde	-887 Oct 02 j 06:41	20° $\Pi$ 42'00					
opposition	-887 Dec 18 j 16:09	19° $\Pi$ 18'30	-0°44'58	conjunction	-880 Jul 05 j 14:53	3° $\mathfrak{C}$ 44'26	-0°13'25
min. Earth dist.	-887 Dec 18 j 23:27	19° $\Pi$ 17'59	28.99023 AU	minimum elong	-880 Jul 05 j 14:53	3° $\mathfrak{C}$ 44'26	0°13'24
direct	-886 Mar 07 j 19:31	17° $\Pi$ 53'18		behind sun begin	-880 Jul 05 j 11:17	3° $\mathfrak{C}$ 44'07	
evening set	-886 Jun 05 j 21:30	19° $\Pi$ 48'58		behind sun end	-880 Jul 05 j 18:29	3° $\mathfrak{C}$ 44'45	
				max. Earth dist.	-880 Jul 04 j 23:49	3° $\mathfrak{C}$ 43'03	31.06760 AU
conjunction	-886 Jun 22 j 05:56	20° $\Pi$ 25'03	-0°39'56	morning rise	-880 Jul 21 j 19:43	4° $\mathfrak{C}$ 20'13	
minimum elong	-886 Jun 22 j 05:56	20° $\Pi$ 25'04	0°39'55	retrograde	-880 Oct 17 j 13:27	6° $\mathfrak{C}$ 13'32	
max. Earth dist.	-886 Jun 21 j 20:29	20° $\Pi$ 24'11	30.99504 AU	opposition	-879 Jan 02 j 16:07	4° $\mathfrak{C}$ 50'45	-0°11'55
morning rise	-886 Jul 08 j 12:33	21° $\Pi$ 01'01		min. Earth dist.	-879 Jan 03 j 04:51	4° $\mathfrak{C}$ 49'51	29.07284 AU
retrograde	-886 Oct 04 j 15:48	22° $\Pi$ 55'01		direct	-879 Mar 23 j 09:00	3° $\mathfrak{C}$ 25'36	
opposition	-886 Dec 21 j 02:31	21° $\Pi$ 31'36	-0°40'24	evening set	-879 Jun 21 j 21:17	5° $\mathfrak{C}$ 21'43	
min. Earth dist.	-886 Dec 21 j 11:17	21° $\Pi$ 30'59	29.00066 AU				
direct	-885 Mar 10 j 06:19	20° $\Pi$ 06'23		conjunction	-879 Jul 08 j 04:21	5° $\mathfrak{C}$ 57'41	-0°08'54
evening set	-885 Jun 08 j 11:09	22° $\Pi$ 02'06		minimum elong	-879 Jul 08 j 04:20	5° $\mathfrak{C}$ 57'41	0°08'54
				behind sun begin	-879 Jul 07 j 22:43	5° $\mathfrak{C}$ 57'11	
conjunction	-885 Jun 24 j 19:30	22° $\Pi$ 38'11	-0°35'37	behind sun end	-879 Jul 08 j 09:58	5° $\mathfrak{C}$ 58'11	
minimum elong	-885 Jun 24 j 19:30	22° $\Pi$ 38'11	0°35'36	max. Earth dist.	-879 Jul 07 j 13:11	5° $\mathfrak{C}$ 56'17	31.07749 AU
max. Earth dist.	-885 Jun 24 j 09:35	22° $\Pi$ 37'16	31.00620 AU	morning rise	-879 Jul 24 j 08:36	6° $\mathfrak{C}$ 33'25	
morning rise	-885 Jul 11 j 01:55	23° $\Pi$ 14'07		retrograde	-879 Oct 19 j 23:31	8° $\mathfrak{C}$ 26'37	
retrograde	-885 Oct 07 j 02:55	25° $\Pi$ 07'59		opposition	-878 Jan 05 j 02:40	7° $\mathfrak{C}$ 03'52	-0°07'05
opposition	-885 Dec 23 j 12:33	23° $\Pi$ 44'39	-0°35'45	min. Earth dist.	-878 Jan 05 j 17:06	7° $\mathfrak{C}$ 02'52	29.08217 AU
min. Earth dist.	-885 Dec 23 j 21:04	23° $\Pi$ 44'03	29.01230 AU	direct	-878 Mar 25 j 21:07	5° $\mathfrak{C}$ 38'43	
direct	-884 Mar 11 j 19:20	22° $\Pi$ 19'27		evening set	-878 Jun 24 j 10:41	7° $\mathfrak{C}$ 34'49	
evening set	-884 Jun 10 j 00:55	24° $\Pi$ 15'14					
				conjunction	-878 Jul 10 j 17:20	8° $\mathfrak{C}$ 10'46	-0°04'24
conjunction	-884 Jun 26 j 09:03	24° $\Pi$ 51'18	-0°31'15	minimum elong	-878 Jul 10 j 17:20	8° $\mathfrak{C}$ 10'46	0°04'24
minimum elong	-884 Jun 26 j 09:03	24° $\Pi$ 51'18	0°31'15	behind sun begin	-878 Jul 10 j 10:53	8° $\mathfrak{C}$ 10'11	
max. Earth dist.	-884 Jun 25 j 21:59	24° $\Pi$ 50'17	31.01839 AU	behind sun end	-878 Jul 10 j 23:48	8° $\mathfrak{C}$ 11'20	
morning rise	-884 Jul 12 j 15:13	25° $\Pi$ 27'13		max. Earth dist.	-878 Jul 10 j 00:33	8° $\mathfrak{C}$ 09'13	31.08639 AU
retrograde	-884 Oct 08 j 14:12	27° $\Pi$ 20'58		morning rise	-878 Jul 26 j 21:21	8° $\mathfrak{C}$ 46'28	
opposition	-884 Dec 24 j 22:52	25° $\Pi$ 57'46	-0°31'04	retrograde	-878 Oct 22 j 11:09	10° $\mathfrak{C}$ 39'31	
min. Earth dist.	-884 Dec 25 j 08:38	25° $\Pi$ 57'04	29.02495 AU	opposition	-877 Jan 07 j 12:57	9° $\mathfrak{C}$ 16'49	-0°02'15
direct	-883 Mar 14 j 06:05	24° $\Pi$ 32'35		min. Earth dist.	-877 Jan 08 j 03:13	9° $\mathfrak{C}$ 15'49	29.09059 AU
evening set	-883 Jun 12 j 14:31	26° $\Pi$ 28'27		direct	-877 Mar 28 j 09:16	7° $\mathfrak{C}$ 51'37	
				evening set	-877 Jun 27 j 00:05	9° $\mathfrak{C}$ 47'44	
conjunction	-883 Jun 28 j 22:34	27° $\Pi$ 04'30	-0°26'51	asc. node	-877 Jun 27 j 06:26	9° $\mathfrak{C}$ 48'19	
minimum elong	-883 Jun 28 j 22:34	27° $\Pi$ 04'30	0°26'49				
max. Earth dist.	-883 Jun 28 j 11:32	27° $\Pi$ 03'29	31.03131 AU	conjunction	-877 Jul 13 j 06:29	10° $\mathfrak{C}$ 23'38	0°00'12
morning rise	-883 Jul 15 j 04:19	27° $\Pi$ 40'23		minimum elong	-877 Jul 13 j 06:29	10° $\mathfrak{C}$ 23'38	0°00'13
retrograde	-883 Oct 11 j 01:34	29° $\Pi$ 34'02		behind sun begin	-877 Jul 12 j 23:58	10° $\mathfrak{C}$ 23'04	
opposition	-883 Dec 27 j 09:06	28° $\Pi$ 10'57	-0°26'20	behind sun end	-877 Jul 13 j 12:59	10° $\mathfrak{C}$ 24'13	
min. Earth dist.	-883 Dec 27 j 19:17	28° $\Pi$ 10'14	29.03785 AU	max. Earth dist.	-877 Jul 12 j 13:08	10° $\mathfrak{C}$ 22'02	31.09439 AU
direct	-882 Mar 16 j 19:00	26° $\Pi$ 45'48		morning rise	-877 Jul 29 j 09:57	10° $\mathfrak{C}$ 59'19	
evening set	-882 Jun 15 j 04:17	28° $\Pi$ 41'45		retrograde	-877 Oct 24 j 19:12	12° $\mathfrak{C}$ 52'13	
				opposition	-876 Jan 09 j 23:14	11° $\mathfrak{C}$ 29'33	0°02'35
conjunction	-882 Jul 01 j 11:58	29° $\Pi$ 17'47	-0°22'24	min. Earth dist.	-876 Jan 10 j 15:17	11° $\mathfrak{C}$ 28'25	29.09841 AU
minimum elong	-882 Jul 01 j 11:58	29° $\Pi$ 17'47	0°22'23	direct	-876 Mar 29 j 20:31	10° $\mathfrak{C}$ 04'17	
max. Earth dist.	-882 Jun 30 j 23:00	29° $\Pi$ 16'35	31.04418 AU	evening set	-876 Jun 28 j 13:25	12° $\mathfrak{C}$ 00'24	
morning rise	-882 Jul 17 j 17:31	29° $\Pi$ 53'38					
	-882 Jul 20 j 16:21	0° $\mathfrak{C}$		conjunction	-876 Jul 14 j 19:26	12° $\mathfrak{C}$ 36'17	0°04'47
retrograde	-882 Oct 13 j 14:54	1° $\mathfrak{C}$ 47'11		minimum elong	-876 Jul 14 j 19:26	12° $\mathfrak{C}$ 36'17	0°04'48
opposition	-882 Dec 29 j 19:23	0° $\mathfrak{C}$ 24'12	-0°21'33	behind sun begin	-876 Jul 14 j 13:02	12° $\mathfrak{C}$ 35'42	
min. Earth dist.	-882 Dec 30 j 06:26	0° $\mathfrak{C}$ 23'26	29.05059 AU	behind sun end	-876 Jul 15 j 01:51	12° $\mathfrak{C}$ 36'51	
	-881 Jan 13 j 08:10	30° $\mathfrak{R}$ $\Pi$		max. Earth dist.	-876 Jul 14 j 01:27	12° $\mathfrak{C}$ 34'37	31.10212 AU
direct	-881 Mar 19 j 07:24	28° $\Pi$ 59'05		morning rise	-876 Jul 30 j 22:31	13° $\mathfrak{C}$ 11'54	
	-881 May 21 j 05:46	0° $\mathfrak{C}$		retrograde	-876 Oct 26 j 05:05	15° $\mathfrak{C}$ 04'39	
evening set	-881 Jun 17 j 17:51	0° $\mathfrak{C}$ 55'06		opposition	-875 Jan 11 j 09:30	13° $\mathfrak{C}$ 42'01	0°07'25

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Attention, astronomical year style is used: The year -875 in astronomical counting style is the year 876 BCE in historical counting style.

min. Earth dist.	-875 Jan 12 j 01:21	13° $\overline{040}$ '55	29.10605 AU	conjunction	-869 Jul 31 j 10:16	28° $\overline{000}$ '06	0°35'43
direct	-875 Apr 01 j 09:16	12° $\overline{016}$ '42		minimum elong	-869 Jul 31 j 10:16	28° $\overline{000}$ '06	0°35'44
evening set	-875 Jul 01 j 02:32	14° $\overline{012}$ '49		max. Earth dist.	-869 Jul 30 j 13:06	27° $\overline{058}$ '08	31.17363 AU
				morning rise	-869 Aug 16 j 09:42	28° $\overline{035}$ '24	
conjunction	-875 Jul 17 j 08:05	14° $\overline{048}$ '39	0°09'16		-869 Oct 01 j 19:47	0° $\Omega$	
minimum elong	-875 Jul 17 j 08:05	14° $\overline{048}$ '39	0°09'17	retrograde	-869 Nov 11 j 08:12	0° $\Omega$ 27'33	
behind sun begin	-875 Jul 17 j 02:35	14° $\overline{048}$ '10			-869 Dec 22 j 15:15	30° $\overline{R}$ $\overline{0}$	
behind sun end	-875 Jul 17 j 13:35	14° $\overline{049}$ '08		opposition	-868 Jan 27 j 09:58	29° $\overline{005}$ '21	0°40'23
max. Earth dist.	-875 Jul 16 j 13:13	14° $\overline{046}$ '55	31.10983 AU	min. Earth dist.	-868 Jan 28 j 04:29	29° $\overline{004}$ '04	29.17942 AU
morning rise	-875 Aug 02 j 10:40	15° $\overline{024}$ '14		direct	-868 Apr 16 j 22:07	27° $\overline{040}$ '04	
retrograde	-875 Oct 28 j 15:06	17° $\overline{016}$ '52		evening set	-868 Jul 16 j 20:15	29° $\overline{036}$ '26	
opposition	-874 Jan 13 j 19:51	15° $\overline{054}$ '15	0°12'13		-868 Jul 27 j 13:27	0° $\Omega$	
min. Earth dist.	-874 Jan 14 j 12:41	15° $\overline{053}$ '04	29.11418 AU				
direct	-874 Apr 03 j 19:28	14° $\overline{028}$ '52		conjunction	-868 Aug 01 j 22:33	0° $\Omega$ 11'59	0°39'59
evening set	-874 Jul 03 j 15:27	16° $\overline{025}$ '00		minimum elong	-868 Aug 01 j 22:33	0° $\Omega$ 11'59	0°39'59
				max. Earth dist.	-868 Aug 01 j 01:02	0° $\Omega$ 10'00	31.18429 AU
conjunction	-874 Jul 19 j 20:42	17° $\overline{000}$ '47	0°13'45	morning rise	-868 Aug 17 j 21:15	0° $\Omega$ 47'15	
minimum elong	-874 Jul 19 j 20:43	17° $\overline{000}$ '47	0°13'45	retrograde	-868 Nov 12 j 16:58	2° $\Omega$ 39'21	
behind sun begin	-874 Jul 19 j 17:20	17° $\overline{000}$ '29		opposition	-867 Jan 28 j 20:41	1° $\Omega$ 17'13	0°44'55
behind sun end	-874 Jul 20 j 00:05	17° $\overline{001}$ '05		min. Earth dist.	-867 Jan 29 j 16:49	1° $\Omega$ 15'49	29.18967 AU
max. Earth dist.	-874 Jul 19 j 02:13	16° $\overline{059}$ '05	31.11833 AU		-867 Mar 27 j 21:03	30° $\overline{R}$ $\overline{0}$	
morning rise	-874 Aug 04 j 22:44	17° $\overline{036}$ '19		direct	-867 Apr 19 j 09:02	29° $\overline{051}$ '58	
retrograde	-874 Oct 31 j 00:51	19° $\overline{028}$ '50			-867 May 11 j 16:19	0° $\Omega$	
opposition	-873 Jan 16 j 06:05	18° $\overline{006}$ '15	0°17'00	evening set	-867 Jul 19 j 08:48	1° $\Omega$ 48'20	
min. Earth dist.	-873 Jan 16 j 22:56	18° $\overline{005}$ '04	29.12312 AU				
direct	-873 Apr 06 j 08:50	16° $\overline{040}$ '51		conjunction	-867 Aug 04 j 10:31	2° $\Omega$ 23'51	0°44'11
evening set	-873 Jul 06 j 04:26	18° $\overline{036}$ '59		minimum elong	-867 Aug 04 j 10:31	2° $\Omega$ 23'51	0°44'11
				max. Earth dist.	-867 Aug 03 j 12:27	2° $\Omega$ 21'48	31.19391 AU
conjunction	-873 Jul 22 j 09:08	19° $\overline{012}$ '44	0°18'12	morning rise	-867 Aug 20 j 08:40	2° $\Omega$ 59'04	
minimum elong	-873 Jul 22 j 09:08	19° $\overline{012}$ '44	0°18'13	retrograde	-867 Nov 15 j 02:48	4° $\Omega$ 51'07	
max. Earth dist.	-873 Jul 21 j 13:16	19° $\overline{010}$ '54	31.12783 AU	opposition	-866 Jan 31 j 07:17	3° $\Omega$ 29'02	0°49'22
morning rise	-873 Aug 07 j 10:47	19° $\overline{048}$ '13		min. Earth dist.	-866 Feb 01 j 03:13	3° $\Omega$ 27'39	29.19863 AU
retrograde	-873 Nov 02 j 12:45	21° $\overline{040}$ '38		direct	-866 Apr 21 j 21:22	2° $\Omega$ 03'47	
opposition	-872 Jan 18 j 16:23	20° $\overline{018}$ '06	0°21'46	evening set	-866 Jul 21 j 21:24	4° $\Omega$ 00'11	
min. Earth dist.	-872 Jan 19 j 09:25	20° $\overline{016}$ '54	29.13328 AU				
direct	-872 Apr 07 j 20:49	18° $\overline{052}$ '41		conjunction	-866 Aug 06 j 22:31	4° $\Omega$ 35'39	0°48'19
evening set	-872 Jul 07 j 17:14	20° $\overline{048}$ '52		minimum elong	-866 Aug 06 j 22:31	4° $\Omega$ 35'39	0°48'19
				max. Earth dist.	-866 Aug 05 j 23:26	4° $\Omega$ 33'31	31.20222 AU
conjunction	-872 Jul 23 j 21:38	21° $\overline{024}$ '35	0°22'38	morning rise	-866 Aug 22 j 20:04	5° $\Omega$ 10'49	
minimum elong	-872 Jul 23 j 21:38	21° $\overline{024}$ '35	0°22'39	retrograde	-866 Nov 17 j 12:51	7° $\Omega$ 02'49	
max. Earth dist.	-872 Jul 23 j 02:34	21° $\overline{022}$ '49	31.13849 AU	opposition	-865 Feb 02 j 17:50	5° $\Omega$ 40'46	0°53'44
morning rise	-872 Aug 08 j 22:35	22° $\overline{000}$ '01		min. Earth dist.	-865 Feb 03 j 14:53	5° $\Omega$ 39'19	29.20654 AU
retrograde	-872 Nov 03 j 22:15	23° $\overline{052}$ '21		direct	-865 Apr 24 j 07:03	4° $\Omega$ 15'30	
opposition	-871 Jan 20 j 02:45	22° $\overline{029}$ '53	0°26'29	evening set	-865 Jul 24 j 09:48	6° $\Omega$ 11'54	
min. Earth dist.	-871 Jan 20 j 20:34	22° $\overline{028}$ '38	29.14438 AU	max. Earth dist.	-865 Aug 08 j 11:34	6° $\Omega$ 45'12	31.20957 AU
direct	-871 Apr 10 j 09:33	21° $\overline{004}$ '30					
evening set	-871 Jul 10 j 06:08	23° $\overline{000}$ '43		conjunction	-865 Aug 09 j 10:28	6° $\Omega$ 47'20	0°52'22
				minimum elong	-865 Aug 09 j 10:28	6° $\Omega$ 47'20	0°52'23
conjunction	-871 Jul 26 j 09:54	23° $\overline{036}$ '23	0°27'02	morning rise	-865 Aug 25 j 07:21	7° $\Omega$ 22'27	
minimum elong	-871 Jul 26 j 09:54	23° $\overline{036}$ '23	0°27'03	retrograde	-865 Nov 19 j 22:10	9° $\Omega$ 14'23	
max. Earth dist.	-871 Jul 25 j 13:28	23° $\overline{034}$ '30	31.15008 AU	opposition	-864 Feb 05 j 04:28	7° $\Omega$ 52'22	0°58'02
morning rise	-871 Aug 11 j 10:28	24° $\overline{011}$ '47		min. Earth dist.	-864 Feb 06 j 01:46	7° $\Omega$ 50'53	29.21335 AU
retrograde	-871 Nov 06 j 10:31	26° $\overline{004}$ '03		direct	-864 Apr 25 j 20:30	6° $\Omega$ 27'05	
opposition	-870 Jan 22 j 13:07	24° $\overline{041}$ '40	0°31'10	evening set	-864 Jul 25 j 22:12	8° $\Omega$ 23'29	
min. Earth dist.	-870 Jan 23 j 06:34	24° $\overline{040}$ '27	29.15630 AU				
direct	-870 Apr 12 j 21:31	23° $\overline{016}$ '19		conjunction	-864 Aug 10 j 22:07	8° $\Omega$ 58'51	0°56'20
evening set	-870 Jul 12 j 18:40	25° $\overline{012}$ '35		minimum elong	-864 Aug 10 j 22:06	8° $\Omega$ 58'51	0°56'21
				max. Earth dist.	-864 Aug 09 j 21:48	8° $\Omega$ 56'36	31.21602 AU
conjunction	-870 Jul 28 j 22:06	25° $\overline{048}$ '13	0°31'24	morning rise	-864 Aug 26 j 18:29	9° $\Omega$ 33'55	
minimum elong	-870 Jul 28 j 22:05	25° $\overline{048}$ '13	0°31'25	retrograde	-864 Nov 21 j 09:37	11° $\Omega$ 25'48	
max. Earth dist.	-870 Jul 28 j 02:15	25° $\overline{046}$ '23	31.16199 AU	opposition	-863 Feb 06 j 15:04	10° $\Omega$ 03'47	1°02'14
morning rise	-870 Aug 13 j 21:57	26° $\overline{023}$ '34		min. Earth dist.	-863 Feb 07 j 12:34	10° $\Omega$ 02'18	29.21971 AU
retrograde	-870 Nov 08 j 20:40	28° $\overline{015}$ '47		direct	-863 Apr 28 j 08:09	8° $\Omega$ 38'29	
opposition	-869 Jan 24 j 23:38	26° $\overline{053}$ '30	0°35'48	evening set	-863 Jul 28 j 10:16	10° $\Omega$ 34'52	
min. Earth dist.	-869 Jan 25 j 18:31	26° $\overline{052}$ '11	29.16816 AU	max. Earth dist.	-863 Aug 12 j 10:21	11° $\Omega$ 08'02	31.22222 AU
direct	-869 Apr 15 j 09:45	25° $\overline{028}$ '11					
evening set	-869 Jul 15 j 07:29	27° $\overline{024}$ '30		conjunction	-863 Aug 13 j 09:45	11° $\Omega$ 10'12	1°00'14

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 4

Attention, astronomical year style is used: The year -863 in astronomical counting style is the year 864 BCE in historical counting style.

minimum elong	-863 Aug 13 j 09:44	11°Ω10'12	1°00'15	min. Earth dist.	-856 Feb 23 j 16:18	25°Ω19'15	29.27914 AU
morning rise	-863 Aug 29 j 05:20	11°Ω45'13		direct	-856 May 13 j 19:06	23°Ω55'41	
retrograde	-863 Nov 23 j 18:33	13°Ω37'02		evening set	-856 Aug 12 j 20:20	25°Ω52'06	
opposition	-862 Feb 09 j 01:47	12°Ω15'01	1°06'21				
min. Earth dist.	-862 Feb 09 j 23:58	12°Ω13'29	29.22598 AU	conjunction	-856 Aug 28 j 15:22	26°Ω27'06	1°24'42
direct	-862 Apr 30 j 20:32	10°Ω49'42		minimum elong	-856 Aug 28 j 15:21	26°Ω27'06	1°24'42
evening set	-862 Jul 30 j 22:12	12°Ω46'05		max. Earth dist.	-856 Aug 27 j 16:09	26°Ω24'56	31.28278 AU
				morning rise	-856 Sep 13 j 06:31	27°Ω01'47	
conjunction	-862 Aug 15 j 20:55	13°Ω21'21	1°04'02	retrograde	-856 Dec 08 j 16:38	28°Ω53'32	
minimum elong	-862 Aug 15 j 20:55	13°Ω21'21	1°04'02	opposition	-855 Feb 24 j 05:19	27°Ω31'49	1°32'05
max. Earth dist.	-862 Aug 14 j 20:30	13°Ω19'05	31.22868 AU	min. Earth dist.	-855 Feb 25 j 03:26	27°Ω30'18	29.28797 AU
morning rise	-862 Aug 31 j 16:04	13°Ω56'19		direct	-855 May 16 j 08:01	26°Ω06'47	
	-862 Oct 03 j 02:46	15°Ω		evening set	-855 Aug 15 j 07:58	28°Ω03'11	
retrograde	-862 Nov 26 j 06:20	15°Ω48'06		max. Earth dist.	-855 Aug 30 j 01:45	28°Ω35'52	31.29102 AU
	-861 Jan 21 j 11:12	15°RΩ					
opposition	-861 Feb 11 j 12:21	14°Ω26'05	1°10'21	conjunction	-855 Aug 31 j 02:11	28°Ω38'08	1°27'44
min. Earth dist.	-861 Feb 12 j 09:47	14°Ω24'36	29.23284 AU	minimum elong	-855 Aug 31 j 02:11	28°Ω38'08	1°27'44
direct	-861 May 03 j 08:59	13°Ω00'46		morning rise	-855 Sep 15 j 16:50	29°Ω12'46	
evening set	-861 Aug 02 j 10:02	14°Ω57'08			-855 Oct 08 j 19:14	0°R	
	-861 Aug 03 j 17:41	15°Ω		retrograde	-855 Dec 11 j 03:48	1°R04'32	
max. Earth dist.	-861 Aug 17 j 08:51	15°Ω30'11	31.23584 AU		-854 Feb 16 j 04:39	30°RΩ	
				opposition	-854 Feb 26 j 16:23	29°Ω42'51	1°35'16
conjunction	-861 Aug 18 j 08:16	15°Ω32'22	1°07'44	min. Earth dist.	-854 Feb 27 j 14:29	29°Ω41'20	29.29574 AU
minimum elong	-861 Aug 18 j 08:16	15°Ω32'21	1°07'44	direct	-854 May 18 j 18:12	28°Ω17'50	
morning rise	-861 Sep 03 j 02:36	16°Ω07'16			-854 Aug 11 j 04:03	0°R	
retrograde	-861 Nov 28 j 16:18	17°Ω59'00		evening set	-854 Aug 17 j 19:14	0°R14'14	
opposition	-860 Feb 13 j 23:02	16°Ω37'01	1°14'16				
min. Earth dist.	-860 Feb 14 j 21:19	16°Ω35'29	29.24057 AU	conjunction	-854 Sep 02 j 13:01	0°R49'08	1°30'39
direct	-860 May 04 j 21:58	15°Ω11'43		minimum elong	-854 Sep 02 j 13:01	0°R49'08	1°30'40
evening set	-860 Aug 03 j 21:55	17°Ω08'06		max. Earth dist.	-854 Sep 01 j 13:27	0°R46'56	31.29800 AU
				morning rise	-854 Sep 18 j 02:55	1°R23'43	
conjunction	-860 Aug 19 j 19:24	17°Ω43'16	1°11'21	retrograde	-854 Dec 13 j 12:55	3°R15'30	
minimum elong	-860 Aug 19 j 19:24	17°Ω43'16	1°11'21	opposition	-853 Mar 01 j 03:38	1°R53'49	1°38'18
max. Earth dist.	-860 Aug 18 j 19:26	17°Ω41'02	31.24417 AU	min. Earth dist.	-853 Mar 02 j 02:34	1°R52'14	29.30198 AU
morning rise	-860 Sep 04 j 13:14	18°Ω18'08		direct	-853 May 21 j 06:05	0°R28'50	
retrograde	-860 Nov 30 j 03:21	20°Ω09'51		evening set	-853 Aug 20 j 06:43	2°R25'12	
opposition	-859 Feb 15 j 09:44	18°Ω47'54	1°18'04				
min. Earth dist.	-859 Feb 16 j 06:50	18°Ω46'27	29.24945 AU	conjunction	-853 Sep 04 j 23:41	3°R00'03	1°33'26
direct	-859 May 07 j 10:44	17°Ω22'38		minimum elong	-853 Sep 04 j 23:41	3°R00'03	1°33'26
evening set	-859 Aug 06 j 09:29	19°Ω19'02		max. Earth dist.	-853 Sep 03 j 22:54	2°R57'44	31.30353 AU
max. Earth dist.	-859 Aug 21 j 06:54	19°Ω51'58	31.25346 AU	morning rise	-853 Sep 20 j 13:08	3°R34'35	
				retrograde	-853 Dec 16 j 00:39	5°R26'22	
conjunction	-859 Aug 22 j 06:24	19°Ω54'09	1°14'51	opposition	-852 Mar 02 j 14:40	4°R04'40	1°41'12
minimum elong	-859 Aug 22 j 06:23	19°Ω54'09	1°14'51	min. Earth dist.	-852 Mar 03 j 13:00	4°R03'09	29.30689 AU
morning rise	-859 Sep 06 j 23:29	20°Ω28'58		direct	-852 May 22 j 18:33	2°R39'41	
retrograde	-859 Dec 02 j 11:57	22°Ω20'41		evening set	-852 Aug 21 j 17:55	4°R36'02	
opposition	-858 Feb 17 j 20:36	20°Ω58'48	1°21'45	max. Earth dist.	-852 Sep 05 j 10:27	5°R08'36	31.30775 AU
min. Earth dist.	-858 Feb 18 j 18:36	20°Ω57'17	29.25924 AU				
direct	-858 May 09 j 21:26	19°Ω33'36		conjunction	-852 Sep 06 j 10:24	5°R10'50	1°36'05
evening set	-858 Aug 08 j 21:07	21°Ω30'00		minimum elong	-852 Sep 06 j 10:24	5°R10'50	1°36'06
				morning rise	-852 Sep 21 j 23:06	5°R45'19	
conjunction	-858 Aug 24 j 17:24	22°Ω05'05	1°18'15	retrograde	-852 Dec 17 j 10:42	7°R37'06	
minimum elong	-858 Aug 24 j 17:23	22°Ω05'05	1°18'15	opposition	-851 Mar 05 j 02:04	6°R15'23	1°43'58
max. Earth dist.	-858 Aug 23 j 18:04	22°Ω02'55	31.26351 AU	min. Earth dist.	-851 Mar 06 j 01:23	6°R13'48	29.31065 AU
morning rise	-858 Sep 09 j 09:55	22°Ω39'51		direct	-851 May 25 j 07:29	4°R50'25	
retrograde	-858 Dec 04 j 21:44	24°Ω31'34		evening set	-851 Aug 24 j 04:56	6°R46'42	
opposition	-857 Feb 20 j 07:15	23°Ω09'45	1°25'19				
min. Earth dist.	-857 Feb 21 j 04:39	23°Ω08'17	29.26931 AU	conjunction	-851 Sep 08 j 20:41	7°R21'27	1°38'36
direct	-857 May 12 j 09:32	21°Ω44'37		minimum elong	-851 Sep 08 j 20:41	7°R21'27	1°38'36
evening set	-857 Aug 11 j 08:48	23°Ω41'01		max. Earth dist.	-851 Sep 07 j 20:16	7°R19'10	31.31114 AU
max. Earth dist.	-857 Aug 26 j 04:33	24°Ω13'51	31.27343 AU	morning rise	-851 Sep 24 j 08:56	7°R55'54	
				retrograde	-851 Dec 19 j 21:28	9°R47'41	
conjunction	-857 Aug 27 j 04:24	24°Ω16'04	1°21'32	opposition	-850 Mar 07 j 13:14	8°R25'56	1°46'34
minimum elong	-857 Aug 27 j 04:24	24°Ω16'04	1°21'32	min. Earth dist.	-850 Mar 08 j 11:25	8°R24'25	29.31375 AU
morning rise	-857 Sep 11 j 20:18	24°Ω50'48		direct	-850 May 27 j 20:36	7°R00'58	
retrograde	-857 Dec 07 j 07:54	26°Ω42'32		evening set	-850 Aug 26 j 15:50	8°R57'12	
opposition	-856 Feb 22 j 18:14	25°Ω20'46	1°28'46	max. Earth dist.	-850 Sep 10 j 07:03	9°R29'40	31.31401 AU

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -850 in astronomical counting style is the year 851 BCE in historical counting style.

conjunction	-850 Sep 11 j 07:02	9° <u>൬</u> 31'54	1°40'58	evening set	-843 Sep 10 j 17:45	24° <u>൬</u> 10'04	
minimum elong	-850 Sep 11 j 07:02	9° <u>൬</u> 31'54	1°40'58	max. Earth dist.	-843 Sep 25 j 08:16	24° <u>൬</u> 42'35	31.34521 AU
morning rise	-850 Sep 26 j 18:39	10° <u>൬</u> 06'18					
retrograde	-850 Dec 22 j 06:21	11° <u>൬</u> 58'05		conjunction	-843 Sep 26 j 04:56	24° <u>൬</u> 44'31	1°53'19
opposition	-849 Mar 10 j 00:26	10° <u>൬</u> 36'19	1°49'02	minimum elong	-843 Sep 26 j 04:56	24° <u>൬</u> 44'31	1°53'19
min. Earth dist.	-849 Mar 10 j 23:23	10° <u>൬</u> 34'45	29.31677 AU	morning rise	-843 Oct 11 j 12:51	25° <u>൬</u> 18'42	
direct	-849 May 30 j 08:00	9° <u>൬</u> 11'21		retrograde	-842 Jan 06 j 05:47	27° <u>൬</u> 10'56	
evening set	-849 Aug 29 j 02:41	11° <u>൬</u> 07'33		opposition	-842 Mar 25 j 09:02	25° <u>൬</u> 49'16	2°01'39
				min. Earth dist.	-842 Mar 26 j 05:40	25° <u>൬</u> 47'52	29.34817 AU
conjunction	-849 Sep 13 j 17:16	11° <u>൬</u> 42'12	1°43'11	direct	-842 Jun 14 j 15:19	24° <u>൬</u> 24'46	
minimum elong	-849 Sep 13 j 17:16	11° <u>൬</u> 42'12	1°43'11	evening set	-842 Sep 13 j 04:13	26° <u>൬</u> 20'49	
max. Earth dist.	-849 Sep 12 j 17:51	11° <u>൬</u> 40'01	31.31717 AU				
morning rise	-849 Sep 29 j 04:19	12° <u>൬</u> 16'34		conjunction	-842 Sep 28 j 14:46	26° <u>൬</u> 55'13	1°54'27
retrograde	-849 Dec 24 j 15:46	14° <u>൬</u> 08'22		minimum elong	-842 Sep 28 j 14:46	26° <u>൬</u> 55'13	1°54'27
opposition	-848 Mar 11 j 11:44	12° <u>൬</u> 46'35	1°51'19	max. Earth dist.	-842 Sep 27 j 17:44	26° <u>൬</u> 53'15	31.34796 AU
min. Earth dist.	-848 Mar 12 j 09:34	12° <u>൬</u> 45'06	29.32016 AU	morning rise	-842 Oct 13 j 22:22	27° <u>൬</u> 29'23	
direct	-848 May 31 j 20:58	11° <u>൬</u> 21'39		retrograde	-841 Jan 08 j 16:56	29° <u>൬</u> 21'41	
evening set	-848 Aug 30 j 13:23	13° <u>൬</u> 17'48		opposition	-841 Mar 27 j 20:38	28° <u>൬</u> 00'01	2°02'46
max. Earth dist.	-848 Sep 14 j 03:54	13° <u>൬</u> 50'14	31.32088 AU	min. Earth dist.	-841 Mar 28 j 16:07	27° <u>൬</u> 58'42	29.35012 AU
				direct	-841 Jun 17 j 03:48	26° <u>൬</u> 35'33	
conjunction	-848 Sep 15 j 03:17	13° <u>൬</u> 52'25	1°45'16	evening set	-841 Sep 15 j 14:36	28° <u>൬</u> 31'34	
minimum elong	-848 Sep 15 j 03:16	13° <u>൬</u> 52'25	1°45'16	max. Earth dist.	-841 Sep 30 j 03:51	29° <u>൬</u> 03'59	31.34905 AU
morning rise	-848 Sep 30 j 13:48	14° <u>൬</u> 26'45					
retrograde	-848 Dec 26 j 01:47	16° <u>൬</u> 18'36		conjunction	-841 Oct 01 j 00:41	29° <u>൬</u> 05'56	1°55'25
opposition	-847 Mar 13 j 23:10	14° <u>൬</u> 56'49	1°53'28	minimum elong	-841 Oct 01 j 00:41	29° <u>൬</u> 05'56	1°55'25
min. Earth dist.	-847 Mar 14 j 20:53	14° <u>൬</u> 55'20	29.32445 AU	morning rise	-841 Oct 16 j 07:47	29° <u>൬</u> 40'04	
direct	-847 Jun 03 j 06:55	13° <u>൬</u> 31'55			-841 Oct 25 j 14:24	0° <u>᠙</u>	
evening set	-847 Sep 01 j 23:57	15° <u>൬</u> 28'03		retrograde	-840 Jan 11 j 02:53	1° <u>᠙</u> 32'26	
				opposition	-840 Mar 29 j 08:37	0° <u>᠙</u> 10'44	2°03'43
conjunction	-847 Sep 17 j 13:22	16° <u>൬</u> 02'38	1°47'11	min. Earth dist.	-840 Mar 30 j 04:53	0° <u>᠙</u> 09'22	29.35053 AU
minimum elong	-847 Sep 17 j 13:22	16° <u>൬</u> 02'38	1°47'11		-840 Apr 04 j 23:26	30° <u>᠙</u> <u>൬</u>	
max. Earth dist.	-847 Sep 16 j 15:22	16° <u>൬</u> 00'34	31.32558 AU	direct	-840 Jun 18 j 15:47	28° <u>൬</u> 46'19	
morning rise	-847 Oct 02 j 23:16	16° <u>൬</u> 36'56			-840 Aug 27 j 16:11	0° <u>᠙</u>	
retrograde	-847 Dec 28 j 10:14	18° <u>൬</u> 28'50		evening set	-840 Sep 17 j 00:46	0° <u>᠙</u> 42'15	
opposition	-846 Mar 16 j 10:32	17° <u>൬</u> 07'05	1°55'26				
min. Earth dist.	-846 Mar 17 j 07:40	17° <u>൬</u> 05'38	29.32945 AU	conjunction	-840 Oct 02 j 10:22	1° <u>᠙</u> 16'35	1°56'14
direct	-846 Jun 05 j 19:12	15° <u>൬</u> 42'16		minimum elong	-840 Oct 02 j 10:22	1° <u>᠙</u> 16'35	1°56'14
evening set	-846 Sep 04 j 10:30	17° <u>൬</u> 38'22		max. Earth dist.	-840 Oct 01 j 14:07	1° <u>᠙</u> 14'42	31.34873 AU
				morning rise	-840 Oct 17 j 17:03	1° <u>᠙</u> 50'42	
conjunction	-846 Sep 19 j 23:14	18° <u>൬</u> 12'55	1°48'57	retrograde	-839 Jan 12 j 13:04	3° <u>᠙</u> 43'07	
minimum elong	-846 Sep 19 j 23:13	18° <u>൬</u> 12'55	1°48'58	opposition	-839 Mar 31 j 20:32	2° <u>᠙</u> 21'22	2°04'30
max. Earth dist.	-846 Sep 19 j 00:39	18° <u>൬</u> 10'48	31.33087 AU	min. Earth dist.	-839 Apr 01 j 15:51	2° <u>᠙</u> 20'04	29.34941 AU
morning rise	-846 Oct 05 j 08:46	18° <u>൬</u> 47'11		direct	-839 Jun 21 j 05:49	0° <u>᠙</u> 56'57	
retrograde	-846 Dec 30 j 21:26	20° <u>൬</u> 39'10		evening set	-839 Sep 19 j 10:56	2° <u>᠙</u> 52'48	
opposition	-845 Mar 18 j 21:56	19° <u>൬</u> 17'27	1°57'15				
min. Earth dist.	-845 Mar 19 j 18:25	19° <u>൬</u> 16'03	29.33494 AU	conjunction	-839 Oct 04 j 20:01	3° <u>᠙</u> 27'07	1°56'52
direct	-845 Jun 08 j 04:31	17° <u>൬</u> 52'42		minimum elong	-839 Oct 04 j 20:01	3° <u>᠙</u> 27'07	1°56'52
evening set	-845 Sep 06 j 20:56	19° <u>൬</u> 48'49		max. Earth dist.	-839 Oct 03 j 23:30	3° <u>᠙</u> 25'12	31.34703 AU
				morning rise	-839 Oct 20 j 02:24	4° <u>᠙</u> 01'12	
conjunction	-845 Sep 22 j 09:14	20° <u>൬</u> 23'20	1°50'34	retrograde	-838 Jan 14 j 23:07	5° <u>᠙</u> 53'40	
minimum elong	-845 Sep 22 j 09:14	20° <u>൬</u> 23'20	1°50'34	opposition	-838 Apr 03 j 08:22	4° <u>᠙</u> 31'51	2°05'06
max. Earth dist.	-845 Sep 21 j 12:07	20° <u>൬</u> 21'21	31.33626 AU	min. Earth dist.	-838 Apr 04 j 03:46	4° <u>᠙</u> 30'32	29.34734 AU
morning rise	-845 Oct 07 j 18:06	20° <u>൬</u> 57'34		direct	-838 Jun 23 j 16:39	3° <u>᠙</u> 07'26	
retrograde	-844 Jan 02 j 06:38	22° <u>൬</u> 49'38		evening set	-838 Sep 21 j 20:45	5° <u>᠙</u> 03'12	
opposition	-844 Mar 20 j 09:32	21° <u>൬</u> 27'57	1°58'53	max. Earth dist.	-838 Oct 06 j 10:26	5° <u>᠙</u> 35'41	31.34457 AU
min. Earth dist.	-844 Mar 21 j 06:26	21° <u>൬</u> 26'31	29.34014 AU				
direct	-844 Jun 09 j 15:21	20° <u>൬</u> 03'18		conjunction	-838 Oct 07 j 05:33	5° <u>᠙</u> 37'28	1°57'21
evening set	-844 Sep 08 j 07:30	21° <u>൬</u> 59'24		minimum elong	-838 Oct 07 j 05:33	5° <u>᠙</u> 37'28	1°57'21
				morning rise	-838 Oct 22 j 11:31	6° <u>᠙</u> 11'32	
conjunction	-844 Sep 23 j 19:05	22° <u>൬</u> 33'52	1°52'02	retrograde	-837 Jan 17 j 06:51	8° <u>᠙</u> 04'02	
minimum elong	-844 Sep 23 j 19:04	22° <u>൬</u> 33'52	1°52'02	opposition	-837 Apr 05 j 20:17	6° <u>᠙</u> 42'09	2°05'31
max. Earth dist.	-844 Sep 22 j 21:20	22° <u>൬</u> 31'50	31.34124 AU	min. Earth dist.	-837 Apr 06 j 15:04	6° <u>᠙</u> 40'53	29.34457 AU
morning rise	-844 Oct 09 j 03:37	23° <u>൬</u> 08'05		direct	-837 Jun 26 j 05:37	5° <u>᠙</u> 17'44	
retrograde	-843 Jan 03 j 18:56	25° <u>൬</u> 00'14		evening set	-837 Sep 24 j 06:37	7° <u>᠙</u> 13'23	
opposition	-843 Mar 22 j 21:11	23° <u>൬</u> 38'34	2°00'21				
min. Earth dist.	-843 Mar 23 j 16:59	23° <u>൬</u> 37'13	29.34476 AU	conjunction	-837 Oct 09 j 14:49	7° <u>᠙</u> 47'38	1°57'39
direct	-843 Jun 12 j 03:10	22° <u>൬</u> 13'59		minimum elong	-837 Oct 09 j 14:49	7° <u>᠙</u> 47'38	1°57'39

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6

Attention, astronomical year style is used: The year -837 in astronomical counting style is the year 838 BCE in historical counting style.

max. Earth dist.	-837 Oct 08 j 19:20	7° <u>♂</u> 45'49	31.34180 AU	conjunction	-830 Oct 24 j 07:14	22° <u>♂</u> 58'18	1°55'08
morning rise	-837 Oct 24 j 20:34	8° <u>♂</u> 21'41		minimum elong	-830 Oct 24 j 07:14	22° <u>♂</u> 58'18	1°55'08
retrograde	-836 Jan 19 j 17:14	10° <u>♂</u> 14'14		max. Earth dist.	-830 Oct 23 j 17:16	22° <u>♂</u> 56'59	31.33540 AU
opposition	-836 Apr 07 j 08:12	8° <u>♂</u> 52'17	2°05'46	morning rise	-830 Nov 08 j 11:20	23° <u>♂</u> 32'17	
min. Earth dist.	-836 Apr 08 j 01:55	8° <u>♂</u> 51'05	29.34202 AU	retrograde	-829 Feb 03 j 20:34	25° <u>♂</u> 25'34	
direct	-836 Jun 27 j 15:39	7° <u>♂</u> 27'51		opposition	-829 Apr 23 j 21:19	24° <u>♂</u> 03'27	2°02'28
evening set	-836 Sep 25 j 16:15	9° <u>♂</u> 23'25		min. Earth dist.	-829 Apr 24 j 10:28	24° <u>♂</u> 02'34	29.33559 AU
max. Earth dist.	-836 Oct 10 j 06:36	9° <u>♂</u> 56'00	31.33948 AU	direct	-829 Jul 13 j 23:53	22° <u>♂</u> 39'30	
				evening set	-829 Oct 11 j 10:49	24° <u>♂</u> 34'40	
conjunction	-836 Oct 11 j 00:12	9° <u>♂</u> 57'39	1°57'48				
minimum elong	-836 Oct 11 j 00:12	9° <u>♂</u> 57'39	1°57'48	conjunction	-829 Oct 26 j 16:30	25° <u>♂</u> 08'48	1°54'07
morning rise	-836 Oct 26 j 05:28	10° <u>♂</u> 31'41		minimum elong	-829 Oct 26 j 16:31	25° <u>♂</u> 08'48	1°54'06
retrograde	-835 Jan 21 j 02:08	12° <u>♂</u> 24'18		max. Earth dist.	-829 Oct 26 j 04:00	25° <u>♂</u> 07'37	31.33276 AU
opposition	-835 Apr 09 j 20:18	11° <u>♂</u> 02'17	2°05'50	morning rise	-829 Nov 10 j 20:18	25° <u>♂</u> 42'48	
min. Earth dist.	-835 Apr 10 j 13:48	11° <u>♂</u> 01'06	29.34008 AU	retrograde	-828 Feb 06 j 05:13	27° <u>♂</u> 36'11	
direct	-835 Jun 30 j 03:05	9° <u>♂</u> 37'54		opposition	-828 Apr 25 j 09:49	26° <u>♂</u> 14'02	2°01'17
evening set	-835 Sep 28 j 01:51	11° <u>♂</u> 33'22		min. Earth dist.	-828 Apr 25 j 22:23	26° <u>♂</u> 13'11	29.33215 AU
				direct	-828 Jul 15 j 12:48	24° <u>♂</u> 50'09	
conjunction	-835 Oct 13 j 09:16	12° <u>♂</u> 07'34	1°57'47	evening set	-828 Oct 12 j 20:23	26° <u>♂</u> 45'14	
minimum elong	-835 Oct 13 j 09:16	12° <u>♂</u> 07'34	1°57'46				
max. Earth dist.	-835 Oct 12 j 15:42	12° <u>♂</u> 05'55	31.33807 AU	conjunction	-828 Oct 28 j 01:41	27° <u>♂</u> 19'22	1°52'55
morning rise	-835 Oct 28 j 14:25	12° <u>♂</u> 41'35		minimum elong	-828 Oct 28 j 01:41	27° <u>♂</u> 19'22	1°52'56
retrograde	-834 Jan 23 j 13:37	14° <u>♂</u> 34'18		max. Earth dist.	-828 Oct 27 j 12:34	27° <u>♂</u> 18'08	31.32872 AU
opposition	-834 Apr 12 j 08:14	13° <u>♂</u> 12'14	2°05'43	morning rise	-828 Nov 12 j 05:31	27° <u>♂</u> 53'22	
min. Earth dist.	-834 Apr 12 j 23:59	13° <u>♂</u> 11'10	29.33907 AU	retrograde	-827 Feb 07 j 16:29	29° <u>♂</u> 46'52	
direct	-834 Jul 02 j 14:03	11° <u>♂</u> 47'54		opposition	-827 Apr 27 j 22:18	28° <u>♂</u> 24'40	1°59'56
evening set	-834 Sep 30 j 11:22	13° <u>♂</u> 43'19		min. Earth dist.	-827 Apr 28 j 09:57	28° <u>♂</u> 23'53	29.32746 AU
				direct	-827 Jul 17 j 22:57	27° <u>♂</u> 00'48	
conjunction	-834 Oct 15 j 18:33	14° <u>♂</u> 17'30	1°57'35	evening set	-827 Oct 15 j 05:36	28° <u>♂</u> 55'48	
minimum elong	-834 Oct 15 j 18:33	14° <u>♂</u> 17'30	1°57'35				
max. Earth dist.	-834 Oct 15 j 02:31	14° <u>♂</u> 16'00	31.33740 AU	conjunction	-827 Oct 30 j 10:53	29° <u>♂</u> 29'56	1°51'35
morning rise	-834 Oct 30 j 23:19	14° <u>♂</u> 51'30		minimum elong	-827 Oct 30 j 10:53	29° <u>♂</u> 29'56	1°51'34
retrograde	-833 Jan 26 j 00:08	16° <u>♂</u> 44'19		max. Earth dist.	-827 Oct 29 j 23:20	29° <u>♂</u> 28'50	31.32335 AU
opposition	-833 Apr 14 j 20:15	15° <u>♂</u> 22'14	2°05'26		-827 Nov 12 j 19:47	0° <u>♂</u>	
min. Earth dist.	-833 Apr 15 j 12:14	15° <u>♂</u> 21'09	29.33871 AU	morning rise	-827 Nov 14 j 14:30	0° <u>♂</u> 03'56	
direct	-833 Jul 05 j 00:52	13° <u>♂</u> 57'58		retrograde	-826 Feb 10 j 01:47	1° <u>♂</u> 57'32	
evening set	-833 Oct 02 j 20:57	15° <u>♂</u> 53'20		opposition	-826 Apr 30 j 10:51	0° <u>♂</u> 35'16	1°58'25
				min. Earth dist.	-826 Apr 30 j 22:38	0° <u>♂</u> 34'28	29.32140 AU
conjunction	-833 Oct 18 j 03:43	16° <u>♂</u> 27'30	1°57'14		-826 May 22 j 22:19	30° <u>♂</u>	
minimum elong	-833 Oct 18 j 03:43	16° <u>♂</u> 27'30	1°57'13	direct	-826 Jul 20 j 10:44	29° <u>♂</u> 11'26	
max. Earth dist.	-833 Oct 17 j 12:09	16° <u>♂</u> 26'03	31.33736 AU		-826 Sep 14 j 00:10	0° <u>♂</u>	
morning rise	-833 Nov 02 j 08:20	17° <u>♂</u> 01'30		evening set	-826 Oct 17 j 14:58	1° <u>♂</u> 06'20	
retrograde	-832 Jan 28 j 11:34	18° <u>♂</u> 54'25					
opposition	-832 Apr 16 j 08:22	17° <u>♂</u> 32'20	2°04'57	conjunction	-826 Nov 01 j 19:56	1° <u>♂</u> 40'27	1°50'05
min. Earth dist.	-832 Apr 16 j 22:32	17° <u>♂</u> 31'23	29.33866 AU	minimum elong	-826 Nov 01 j 19:56	1° <u>♂</u> 40'27	1°50'04
direct	-832 Jul 06 j 12:33	16° <u>♂</u> 08'09		max. Earth dist.	-826 Nov 01 j 08:15	1° <u>♂</u> 39'20	31.31695 AU
evening set	-832 Oct 04 j 06:22	18° <u>♂</u> 03'29		morning rise	-826 Nov 16 j 23:38	2° <u>♂</u> 14'28	
				retrograde	-825 Feb 12 j 13:11	4° <u>♂</u> 08'08	
conjunction	-832 Oct 19 j 12:48	18° <u>♂</u> 37'38	1°56'42	opposition	-825 May 02 j 23:10	2° <u>♂</u> 45'48	1°56'44
minimum elong	-832 Oct 19 j 12:48	18° <u>♂</u> 37'38	1°56'42	min. Earth dist.	-825 May 03 j 09:22	2° <u>♂</u> 45'06	29.31461 AU
max. Earth dist.	-832 Oct 18 j 21:56	18° <u>♂</u> 36'14	31.33726 AU	direct	-825 Jul 22 j 21:41	1° <u>♂</u> 21'58	
morning rise	-832 Nov 03 j 17:12	19° <u>♂</u> 11'37		evening set	-825 Oct 20 j 00:07	3° <u>♂</u> 16'46	
retrograde	-831 Jan 29 j 22:32	21° <u>♂</u> 04'40					
opposition	-831 Apr 18 j 20:45	19° <u>♂</u> 42'34	2°04'18	conjunction	-825 Nov 04 j 05:00	3° <u>♂</u> 50'53	1°48'25
min. Earth dist.	-831 Apr 19 j 11:11	19° <u>♂</u> 41'36	29.33846 AU	minimum elong	-825 Nov 04 j 05:00	3° <u>♂</u> 50'53	1°48'24
direct	-831 Jul 08 j 24:00	18° <u>♂</u> 18'29		max. Earth dist.	-825 Nov 03 j 18:45	3° <u>♂</u> 49'55	31.30998 AU
evening set	-831 Oct 06 j 15:51	20° <u>♂</u> 13'45		morning rise	-825 Nov 19 j 08:34	4° <u>♂</u> 24'54	
				retrograde	-824 Feb 14 j 23:51	6° <u>♂</u> 18'40	
conjunction	-831 Oct 21 j 22:03	20° <u>♂</u> 47'54	1°56'00	opposition	-824 May 04 j 11:50	4° <u>♂</u> 56'14	1°54'53
minimum elong	-831 Oct 21 j 22:03	20° <u>♂</u> 47'54	1°56'00	min. Earth dist.	-824 May 04 j 22:06	4° <u>♂</u> 55'32	29.30767 AU
max. Earth dist.	-831 Oct 21 j 08:18	20° <u>♂</u> 46'36	31.33682 AU	direct	-824 Jul 24 j 08:05	3° <u>♂</u> 32'25	
morning rise	-831 Nov 06 j 02:13	21° <u>♂</u> 21'53		evening set	-824 Oct 21 j 09:08	5° <u>♂</u> 27'07	
retrograde	-830 Feb 01 j 09:24	23° <u>♂</u> 15'02					
opposition	-830 Apr 21 j 08:54	21° <u>♂</u> 52'57	2°03'28	conjunction	-824 Nov 05 j 13:50	6° <u>♂</u> 01'13	1°46'37
min. Earth dist.	-830 Apr 21 j 22:10	21° <u>♂</u> 52'03	29.33753 AU	minimum elong	-824 Nov 05 j 13:51	6° <u>♂</u> 01'13	1°46'36
direct	-830 Jul 11 j 13:18	20° <u>♂</u> 28'55		max. Earth dist.	-824 Nov 05 j 04:28	6° <u>♂</u> 00'20	31.30333 AU
evening set	-830 Oct 09 j 01:25	22° <u>♂</u> 24'09		morning rise	-824 Nov 20 j 17:26	6° <u>♂</u> 35'15	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -823 in astronomical counting style is the year 824 BCE in historical counting style.

retrograde	-823 Feb 16 j 11:09	8° <b>ℳ</b> 29'07		min. Earth dist.	-817 May 21 j 07:44	20° <b>ℳ</b> 10'12	29.27472 AU
opposition	-823 May 07 j 00:19	7° <b>ℳ</b> 06'36	1°52'52	direct	-817 Aug 09 j 17:43	18° <b>ℳ</b> 47'02	
min. Earth dist.	-823 May 07 j 08:25	7° <b>ℳ</b> 06'04	29.30127 AU	evening set	-817 Nov 06 j 00:29	20° <b>ℳ</b> 41'14	
direct	-823 Jul 26 j 19:27	5° <b>ℳ</b> 42'49					
evening set	-823 Oct 23 j 18:13	7° <b>ℳ</b> 37'26		conjunction	-817 Nov 21 j 04:46	21° <b>ℳ</b> 15'23	1°29'48
				minimum elong	-817 Nov 21 j 04:47	21° <b>ℳ</b> 15'23	1°29'47
conjunction	-823 Nov 07 j 22:46	8° <b>ℳ</b> 11'31	1°44'39	max. Earth dist.	-817 Nov 21 j 01:39	21° <b>ℳ</b> 15'05	31.27123 AU
minimum elong	-823 Nov 07 j 22:47	8° <b>ℳ</b> 11'31	1°44'39	morning rise	-817 Dec 06 j 08:57	21° <b>ℳ</b> 49'33	
max. Earth dist.	-823 Nov 07 j 14:13	8° <b>ℳ</b> 10'43	31.29733 AU	retrograde	-816 Mar 03 j 17:00	23° <b>ℳ</b> 44'18	
morning rise	-823 Nov 23 j 02:24	8° <b>ℳ</b> 45'34		opposition	-816 May 22 j 17:16	22° <b>ℳ</b> 21'31	1°34'22
retrograde	-822 Feb 18 j 22:43	10° <b>ℳ</b> 39'33		min. Earth dist.	-816 May 22 j 19:05	22° <b>ℳ</b> 21'24	29.26882 AU
opposition	-822 May 09 j 12:47	9° <b>ℳ</b> 16'58	1°50'41	direct	-816 Aug 11 j 04:22	20° <b>ℳ</b> 58'11	
min. Earth dist.	-822 May 09 j 20:44	9° <b>ℳ</b> 16'26	29.29580 AU	evening set	-816 Nov 07 j 09:35	22° <b>ℳ</b> 52'17	
direct	-822 Jul 29 j 06:55	7° <b>ℳ</b> 53'13					
evening set	-822 Oct 26 j 03:12	9° <b>ℳ</b> 47'45		conjunction	-816 Nov 22 j 13:58	23° <b>ℳ</b> 26'28	1°26'50
				minimum elong	-816 Nov 22 j 13:58	23° <b>ℳ</b> 26'28	1°26'50
conjunction	-822 Nov 10 j 07:46	10° <b>ℳ</b> 21'52	1°42'33	max. Earth dist.	-816 Nov 22 j 11:52	23° <b>ℳ</b> 26'16	31.26459 AU
minimum elong	-822 Nov 10 j 07:46	10° <b>ℳ</b> 21'52	1°42'33	morning rise	-816 Dec 07 j 18:15	24° <b>ℳ</b> 00'39	
max. Earth dist.	-822 Nov 10 j 00:52	10° <b>ℳ</b> 21'13	31.29241 AU	retrograde	-815 Mar 06 j 04:00	25° <b>ℳ</b> 55'32	
morning rise	-822 Nov 25 j 11:22	10° <b>ℳ</b> 55'55		opposition	-815 May 25 j 06:23	24° <b>ℳ</b> 32'41	1°31'08
retrograde	-821 Feb 21 j 10:26	12° <b>ℳ</b> 50'00		min. Earth dist.	-815 May 25 j 08:36	24° <b>ℳ</b> 32'32	29.26144 AU
opposition	-821 May 12 j 01:19	11° <b>ℳ</b> 27'23	1°48'21	direct	-815 Aug 13 j 14:36	23° <b>ℳ</b> 09'23	
min. Earth dist.	-821 May 12 j 07:30	11° <b>ℳ</b> 26'58	29.29116 AU	evening set	-815 Nov 09 j 18:50	25° <b>ℳ</b> 03'24	
direct	-821 Jul 31 j 20:01	10° <b>ℳ</b> 03'42					
evening set	-821 Oct 28 j 12:11	11° <b>ℳ</b> 58'10		conjunction	-815 Nov 24 j 23:18	25° <b>ℳ</b> 37'35	1°23'45
				minimum elong	-815 Nov 24 j 23:18	25° <b>ℳ</b> 37'35	1°23'44
conjunction	-821 Nov 12 j 16:33	12° <b>ℳ</b> 32'17	1°40'17	max. Earth dist.	-815 Nov 24 j 21:43	25° <b>ℳ</b> 37'26	31.25657 AU
minimum elong	-821 Nov 12 j 16:33	12° <b>ℳ</b> 32'17	1°40'16	morning rise	-815 Dec 10 j 03:47	26° <b>ℳ</b> 11'48	
max. Earth dist.	-821 Nov 12 j 09:55	12° <b>ℳ</b> 31'39	31.28820 AU	retrograde	-814 Mar 08 j 15:55	28° <b>ℳ</b> 06'47	
morning rise	-821 Nov 27 j 20:19	13° <b>ℳ</b> 06'21		opposition	-814 May 27 j 19:09	26° <b>ℳ</b> 43'52	1°27'47
	-820 Feb 17 j 23:54	15° <b>ℳ</b>		min. Earth dist.	-814 May 27 j 19:42	26° <b>ℳ</b> 43'50	29.25257 AU
retrograde	-820 Feb 23 j 21:50	15° <b>ℳ</b> 00'34		direct	-814 Aug 16 j 02:08	25° <b>ℳ</b> 20'34	
	-820 Feb 29 j 17:59	15° <b>ℳ</b>		evening set	-814 Nov 12 j 04:05	27° <b>ℳ</b> 14'30	
opposition	-820 May 13 j 14:01	13° <b>ℳ</b> 37'55	1°45'52				
min. Earth dist.	-820 May 13 j 19:32	13° <b>ℳ</b> 37'33	29.28726 AU	conjunction	-814 Nov 27 j 08:33	27° <b>ℳ</b> 48'42	1°20'33
direct	-820 Aug 02 j 06:12	12° <b>ℳ</b> 14'19		minimum elong	-814 Nov 27 j 08:33	27° <b>ℳ</b> 48'42	1°20'33
evening set	-820 Oct 29 j 21:07	14° <b>ℳ</b> 08'43		max. Earth dist.	-814 Nov 27 j 07:11	27° <b>ℳ</b> 48'34	31.24707 AU
				morning rise	-814 Dec 12 j 13:18	28° <b>ℳ</b> 22'57	
conjunction	-820 Nov 14 j 01:35	14° <b>ℳ</b> 42'50	1°37'52		-813 Feb 06 j 01:21	0° <b>♂</b>	
minimum elong	-820 Nov 14 j 01:35	14° <b>ℳ</b> 42'50	1°37'52	retrograde	-813 Mar 11 j 04:13	0° <b>♂</b> 18'02	
max. Earth dist.	-820 Nov 13 j 20:58	14° <b>ℳ</b> 42'24	31.28451 AU		-813 Apr 14 j 05:45	30° <b>♂</b> <b>ℳ</b>	
	-820 Nov 21 j 15:32	15° <b>ℳ</b>		opposition	-813 May 30 j 08:14	28° <b>ℳ</b> 55'01	1°24'18
morning rise	-820 Nov 29 j 05:17	15° <b>ℳ</b> 16'56		min. Earth dist.	-813 May 30 j 09:00	28° <b>ℳ</b> 54'58	29.24254 AU
retrograde	-819 Feb 25 j 07:21	17° <b>ℳ</b> 11'17		direct	-813 Aug 18 j 13:20	27° <b>ℳ</b> 31'43	
opposition	-819 May 16 j 02:44	15° <b>ℳ</b> 48'36	1°43'13	evening set	-813 Nov 14 j 13:02	29° <b>ℳ</b> 25'33	
min. Earth dist.	-819 May 16 j 07:16	15° <b>ℳ</b> 48'18	29.28351 AU				
	-819 Jun 17 j 03:45	15° <b>♂</b> <b>ℳ</b>		conjunction	-813 Nov 29 j 17:42	29° <b>ℳ</b> 59'45	1°17'14
direct	-819 Aug 04 j 19:12	14° <b>ℳ</b> 25'04		minimum elong	-813 Nov 29 j 17:43	29° <b>ℳ</b> 59'45	1°17'13
	-819 Sep 20 j 07:24	15° <b>ℳ</b>			-813 Nov 29 j 20:16	0° <b>♂</b>	
evening set	-819 Nov 01 j 06:11	16° <b>ℳ</b> 19'24		max. Earth dist.	-813 Nov 29 j 17:57	29° <b>ℳ</b> 59'47	31.23673 AU
				morning rise	-813 Dec 14 j 22:34	0° <b>♂</b> 34'01	
conjunction	-819 Nov 16 j 10:29	16° <b>ℳ</b> 53'32	1°35'19	retrograde	-812 Mar 12 j 16:07	2° <b>♂</b> 29'12	
minimum elong	-819 Nov 16 j 10:29	16° <b>ℳ</b> 53'32	1°35'18	opposition	-812 May 31 j 21:12	1° <b>♂</b> 06'05	1°20'42
max. Earth dist.	-819 Nov 16 j 05:40	16° <b>ℳ</b> 53'05	31.28080 AU	min. Earth dist.	-812 May 31 j 20:23	1° <b>♂</b> 06'09	29.23184 AU
morning rise	-819 Dec 01 j 14:28	17° <b>ℳ</b> 27'40			-812 Jul 17 j 22:07	30° <b>♂</b> <b>ℳ</b>	
retrograde	-818 Feb 27 j 19:29	19° <b>ℳ</b> 22'08		direct	-812 Aug 20 j 02:20	29° <b>ℳ</b> 42'48	
opposition	-818 May 18 j 15:28	17° <b>ℳ</b> 59'26	1°40'24		-812 Sep 21 j 08:25	0° <b>♂</b>	
min. Earth dist.	-818 May 18 j 18:51	17° <b>ℳ</b> 59'13	29.27957 AU	evening set	-812 Nov 15 j 22:11	1° <b>♂</b> 36'32	
direct	-818 Aug 07 j 05:56	16° <b>ℳ</b> 35'59					
evening set	-818 Nov 03 j 15:13	18° <b>ℳ</b> 30'15		conjunction	-812 Dec 01 j 02:48	2° <b>♂</b> 10'45	1°13'49
				minimum elong	-812 Dec 01 j 02:49	2° <b>♂</b> 10'45	1°13'49
conjunction	-818 Nov 18 j 19:38	19° <b>ℳ</b> 04'24	1°32'37	max. Earth dist.	-812 Dec 01 j 03:09	2° <b>♂</b> 10'47	31.22607 AU
minimum elong	-818 Nov 18 j 19:38	19° <b>ℳ</b> 04'24	1°32'37	morning rise	-812 Dec 16 j 08:04	2° <b>♂</b> 45'03	
max. Earth dist.	-818 Nov 18 j 16:30	19° <b>ℳ</b> 04'06	31.27646 AU	retrograde	-811 Mar 15 j 04:09	4° <b>♂</b> 40'20	
morning rise	-818 Dec 03 j 23:34	19° <b>ℳ</b> 38'32		opposition	-811 Jun 03 j 10:08	3° <b>♂</b> 17'07	1°16'59
retrograde	-817 Mar 02 j 05:19	21° <b>ℳ</b> 33'09		min. Earth dist.	-811 Jun 03 j 08:43	3° <b>♂</b> 17'13	29.22140 AU
opposition	-817 May 21 j 04:20	20° <b>ℳ</b> 10'25	1°37'27	direct	-811 Aug 22 j 12:38	1° <b>♂</b> 53'50	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8

Attention, astronomical year style is used: The year -811 in astronomical counting style is the year 812 BCE in historical counting style.

evening set	-811 Nov 18 j 07:07	3°♂47'29		opposition	-804 Jun 19 j 05:09	18°♂37'35	0°48'03
				min. Earth dist.	-804 Jun 18 j 21:20	18°♂38'06	29.16291 AU
conjunction	-811 Dec 03 j 12:03	4°♂21'43	1°10'17	direct	-804 Sep 06 j 17:57	17°♂14'39	
minimum elong	-811 Dec 03 j 12:03	4°♂21'43	1°10'16	evening set	-804 Dec 02 j 23:39	19°♂07'57	
max. Earth dist.	-811 Dec 03 j 14:28	4°♂21'57	31.21586 AU				
morning rise	-811 Dec 18 j 17:24	4°♂56'03		conjunction	-804 Dec 18 j 05:48	19°♂42'23	0°42'55
retrograde	-810 Mar 17 j 14:23	6°♂51'27		minimum elong	-804 Dec 18 j 05:48	19°♂42'23	0°42'55
opposition	-810 Jun 05 j 23:02	5°♂28'09	1°13'09	max. Earth dist.	-804 Dec 18 j 14:31	19°♂43'12	31.15801 AU
min. Earth dist.	-810 Jun 05 j 20:25	5°♂28'19	29.21146 AU	morning rise	-803 Jan 02 j 13:18	20°♂16'57	
direct	-810 Aug 25 j 01:57	4°♂04'53		retrograde	-803 Apr 02 j 03:03	22°♂13'23	
evening set	-810 Nov 20 j 16:15	5°♂58'28		opposition	-803 Jun 21 j 18:10	20°♂49'48	0°43'34
				min. Earth dist.	-803 Jun 21 j 09:08	20°♂50'24	29.15317 AU
conjunction	-810 Dec 05 j 21:07	6°♂32'44	1°06'39	direct	-803 Sep 09 j 05:44	19°♂26'53	
minimum elong	-810 Dec 05 j 21:07	6°♂32'44	1°06'38	evening set	-803 Dec 05 j 09:18	21°♂20'09	
max. Earth dist.	-810 Dec 05 j 23:35	6°♂32'58	31.20644 AU				
morning rise	-810 Dec 21 j 02:52	7°♂07'05		conjunction	-803 Dec 20 j 15:33	21°♂54'35	0°38'42
retrograde	-809 Mar 20 j 03:10	9°♂02'37		minimum elong	-803 Dec 20 j 15:33	21°♂54'35	0°38'41
opposition	-809 Jun 08 j 11:54	7°♂39'15	1°09'13	max. Earth dist.	-803 Dec 20 j 23:47	21°♂55'22	31.14761 AU
min. Earth dist.	-809 Jun 08 j 07:46	7°♂39'32	29.20248 AU	morning rise	-802 Jan 04 j 23:35	22°♂29'13	
direct	-809 Aug 27 j 12:57	6°♂16'02		retrograde	-802 Apr 04 j 16:06	24°♂25'45	
evening set	-809 Nov 23 j 01:17	8°♂09'33		opposition	-802 Jun 24 j 07:23	23°♂02'05	0°39'02
				min. Earth dist.	-802 Jun 23 j 22:16	23°♂02'42	29.14209 AU
conjunction	-809 Dec 08 j 06:26	8°♂43'51	1°02'55	direct	-802 Sep 11 j 15:59	21°♂39'10	
minimum elong	-809 Dec 08 j 06:26	8°♂43'51	1°02'54	evening set	-802 Dec 07 j 18:47	23°♂32'22	
max. Earth dist.	-809 Dec 08 j 10:52	8°♂44'16	31.19789 AU				
morning rise	-809 Dec 23 j 12:20	9°♂18'15		conjunction	-802 Dec 23 j 01:25	24°♂06'50	0°34'25
retrograde	-808 Mar 21 j 13:24	11°♂13'55		minimum elong	-802 Dec 23 j 01:26	24°♂06'50	0°34'25
opposition	-808 Jun 10 j 00:57	9°♂50'31	1°05'10	max. Earth dist.	-802 Dec 23 j 11:14	24°♂07'46	31.13581 AU
min. Earth dist.	-808 Jun 09 j 20:22	9°♂50'49	29.19429 AU	morning rise	-801 Jan 07 j 09:39	24°♂41'30	
direct	-808 Aug 29 j 00:37	8°♂27'22		retrograde	-801 Apr 07 j 04:01	26°♂38'08	
evening set	-808 Nov 24 j 10:21	10°♂20'49		opposition	-801 Jun 26 j 20:32	25°♂14'22	0°34'26
				min. Earth dist.	-801 Jun 26 j 10:43	25°♂15'01	29.12960 AU
conjunction	-808 Dec 09 j 15:36	10°♂55'08	0°59'05	direct	-801 Sep 14 j 05:50	23°♂51'26	
minimum elong	-808 Dec 09 j 15:36	10°♂55'08	0°59'05	evening set	-801 Dec 10 j 04:27	25°♂44'32	
max. Earth dist.	-808 Dec 09 j 20:34	10°♂55'36	31.19017 AU				
morning rise	-808 Dec 24 j 21:55	11°♂29'34		conjunction	-801 Dec 25 j 11:12	26°♂19'02	0°30'06
retrograde	-807 Mar 24 j 01:10	13°♂25'23		minimum elong	-801 Dec 25 j 11:12	26°♂19'02	0°30'05
opposition	-807 Jun 12 j 13:53	12°♂01'58	1°01'01	max. Earth dist.	-801 Dec 25 j 20:40	26°♂19'56	31.12300 AU
min. Earth dist.	-807 Jun 12 j 07:27	12°♂02'24	29.18672 AU	morning rise	-800 Jan 09 j 19:59	26°♂53'44	
direct	-807 Aug 31 j 11:06	10°♂38'52		retrograde	-800 Apr 08 j 17:57	28°♂50'27	
evening set	-807 Nov 26 j 19:35	12°♂32'17		opposition	-800 Jun 28 j 09:39	27°♂26'34	0°29'47
				min. Earth dist.	-800 Jun 27 j 22:48	27°♂27'18	29.11649 AU
conjunction	-807 Dec 12 j 01:03	13°♂06'38	0°55'10	direct	-800 Sep 15 j 17:33	26°♂03'36	
minimum elong	-807 Dec 12 j 01:03	13°♂06'38	0°55'09	evening set	-800 Dec 11 j 13:54	27°♂56'37	
max. Earth dist.	-807 Dec 12 j 07:10	13°♂07'13	31.18268 AU				
morning rise	-807 Dec 27 j 07:39	13°♂41'06		conjunction	-800 Dec 26 j 21:03	28°♂31'09	0°25'44
retrograde	-806 Mar 26 j 12:24	15°♂37'05		minimum elong	-800 Dec 26 j 21:04	28°♂31'09	0°25'43
opposition	-806 Jun 15 j 02:50	14°♂13'37	0°56'47	max. Earth dist.	-800 Dec 27 j 08:09	28°♂32'11	31.10968 AU
min. Earth dist.	-806 Jun 14 j 20:37	14°♂14'03	29.17924 AU	morning rise	-799 Jan 11 j 06:08	29°♂05'52	
direct	-806 Sep 02 j 20:33	12°♂50'36			-799 Feb 06 j 14:09	0°♂	
evening set	-806 Nov 29 j 04:51	14°♂43'59		retrograde	-799 Apr 11 j 04:11	1°♂02'41	
					-799 Jun 17 j 17:01	30°♂♂	
conjunction	-806 Dec 14 j 10:32	15°♂18'21	0°51'09	opposition	-799 Jun 30 j 22:46	29°♂38'40	0°25'06
minimum elong	-806 Dec 14 j 10:32	15°♂18'21	0°51'09	min. Earth dist.	-799 Jun 30 j 11:43	29°♂39'25	29.10317 AU
max. Earth dist.	-806 Dec 14 j 17:35	15°♂19'01	31.17520 AU	direct	-799 Sep 18 j 05:45	28°♂15'40	
morning rise	-806 Dec 29 j 17:25	15°♂52'51			-799 Dec 10 j 01:29	0°♂	
retrograde	-805 Mar 29 j 00:59	17°♂48'59		evening set	-799 Dec 13 j 23:34	0°♂08'37	
opposition	-805 Jun 17 j 15:51	16°♂25'30	0°52'28				
min. Earth dist.	-805 Jun 17 j 07:47	16°♂26'03	29.17144 AU	conjunction	-799 Dec 29 j 06:56	0°♂43'09	0°21'20
direct	-805 Sep 05 j 07:36	15°♂02'32		minimum elong	-799 Dec 29 j 06:55	0°♂43'09	0°21'19
evening set	-805 Dec 01 j 14:11	16°♂55'53		max. Earth dist.	-799 Dec 29 j 18:28	0°♂44'15	31.09664 AU
				morning rise	-798 Jan 13 j 16:26	1°♂17'55	
conjunction	-805 Dec 16 j 19:58	17°♂30'16	0°47'04	retrograde	-798 Apr 13 j 16:03	3°♂14'48	
minimum elong	-805 Dec 16 j 19:59	17°♂30'16	0°47'03	opposition	-798 Jul 03 j 11:33	1°♂50'42	0°20'23
max. Earth dist.	-805 Dec 17 j 03:16	17°♂30'57	31.16705 AU	min. Earth dist.	-798 Jul 02 j 22:46	1°♂51'34	29.09048 AU
morning rise	-804 Jan 01 j 03:16	18°♂04'49		direct	-798 Sep 20 j 17:23	0°♂27'40	
retrograde	-804 Mar 30 j 14:09	20°♂01'07		evening set	-798 Dec 16 j 09:12	2°♂20'33	



Attention, astronomical year style is used: The year -798 in astronomical counting style is the year 799 BCE in historical counting style.

conjunction	-798 Dec 31 j 16:50	2°35'07 0°16'54	min. Earth dist.	-792 Jul 16 j 00:10	15°30'59 29.03364 AU
minimum elong	-798 Dec 31 j 16:50	2°35'07 0°16'54	direct	-792 Oct 03 j 10:11	13°34'56
max. Earth dist.	-797 Jan 01 j 05:30	2°35'19 31.08433 AU	evening set	-792 Dec 28 j 20:34	15°34'44
morning rise	-797 Jan 16 j 02:43	3°32'55			
retrograde	-797 Apr 16 j 03:24	5°32'55	conjunction	-791 Jan 13 j 06:01	16°30'29 -0°10'10
min. Earth dist.	-797 Jul 05 j 11:50	4°30'35 29.07877 AU	minimum elong	-791 Jan 13 j 06:01	16°30'29 0°10'11
opposition	-797 Jul 06 j 00:38	4°30'242 0°15'37	behind sun begin	-791 Jan 13 j 00:51	16°30'01
direct	-797 Sep 23 j 03:55	2°33'41	behind sun end	-791 Jan 13 j 11:11	16°30'57
evening set	-797 Dec 18 j 18:44	4°33'30	max. Earth dist.	-791 Jan 13 j 23:09	16°31'06 31.02920 AU
			morning rise	-791 Jan 28 j 18:26	16°34'31
conjunction	-796 Jan 03 j 02:43	5°30'07 0°12'27	retrograde	-791 Apr 29 j 11:06	18°34'219
minimum elong	-796 Jan 03 j 02:43	5°30'07 0°12'26	opposition	-791 Jul 19 j 06:24	17°31'53 -0°13'17
behind sun begin	-796 Jan 02 j 22:27	5°30'643	min. Earth dist.	-791 Jul 18 j 12:30	17°31'06 29.02484 AU
behind sun end	-796 Jan 03 j 06:58	5°30'729	direct	-791 Oct 05 j 21:14	15°35'02
max. Earth dist.	-796 Jan 03 j 16:40	5°30'825 31.07328 AU	evening set	-791 Dec 31 j 06:58	17°34'51
morning rise	-796 Jan 18 j 12:57	5°34'56			
retrograde	-796 Apr 17 j 15:34	7°33'03	conjunction	-790 Jan 15 j 16:49	18°32'38 -0°14'40
opposition	-796 Jul 07 j 13:34	6°31'47 0°10'50	minimum elong	-790 Jan 15 j 16:49	18°32'38 0°14'41
min. Earth dist.	-796 Jul 06 j 22:40	6°31'548 29.06825 AU	behind sun begin	-790 Jan 15 j 14:01	18°32'23
direct	-796 Sep 24 j 15:17	4°35'145	behind sun end	-790 Jan 15 j 19:37	18°32'53
evening set	-796 Dec 20 j 04:33	6°34'33	max. Earth dist.	-790 Jan 16 j 11:01	18°32'421 31.01978 AU
			morning rise	-790 Jan 31 j 05:32	18°35'43
conjunction	-795 Jan 04 j 12:43	7°31'11 0°07'59	retrograde	-790 May 01 j 22:42	20°35'38
minimum elong	-795 Jan 04 j 12:43	7°31'11 0°07'59	opposition	-790 Jul 21 j 19:20	19°33'09 -0°18'05
behind sun begin	-795 Jan 04 j 06:58	7°31'839	min. Earth dist.	-790 Jul 21 j 01:45	19°33'21 29.01492 AU
behind sun end	-795 Jan 04 j 18:29	7°31'942	direct	-790 Oct 08 j 09:05	18°30'819
max. Earth dist.	-795 Jan 05 j 03:02	7°32'031 31.06328 AU	evening set	-789 Jan 02 j 17:31	20°30'07
morning rise	-795 Jan 19 j 23:29	7°35'403			
retrograde	-795 Apr 20 j 04:07	9°35'118	conjunction	-789 Jan 18 j 03:41	20°35'56 -0°19'08
min. Earth dist.	-795 Jul 09 j 11:38	8°32'759 29.05885 AU	minimum elong	-789 Jan 18 j 03:40	20°35'56 0°19'08
opposition	-795 Jul 10 j 02:29	8°32'658 0°06'02	max. Earth dist.	-789 Jan 18 j 21:47	20°37'39 31.00942 AU
direct	-795 Sep 27 j 00:46	7°30'359	morning rise	-789 Feb 02 j 16:52	21°31'03
evening set	-795 Dec 22 j 14:18	8°35'645	retrograde	-789 May 04 j 12:23	23°30'04
			opposition	-789 Jul 24 j 08:21	21°34'32 -0°22'51
conjunction	-794 Jan 06 j 22:56	9°31'25 0°03'30	min. Earth dist.	-789 Jul 23 j 13:37	21°34'549 29.00401 AU
minimum elong	-794 Jan 06 j 22:57	9°31'25 0°03'29	direct	-789 Oct 10 j 21:13	20°32'141
behind sun begin	-794 Jan 06 j 16:35	9°30'50	evening set	-788 Jan 05 j 03:58	22°31'427
behind sun end	-794 Jan 07 j 05:19	9°32'00			
max. Earth dist.	-794 Jan 07 j 15:01	9°32'56 31.05433 AU	conjunction	-788 Jan 20 j 14:28	22°34'18 -0°23'35
morning rise	-794 Jan 22 j 09:59	10°30'620	minimum elong	-788 Jan 20 j 14:28	22°34'18 0°23'36
retrograde	-794 Apr 22 j 16:46	12°30'342	max. Earth dist.	-788 Jan 21 j 09:02	22°35'04 30.99794 AU
opposition	-794 Jul 12 j 15:22	10°33'921 0°01'12	morning rise	-788 Feb 05 j 04:07	23°32'427
min. Earth dist.	-794 Jul 11 j 23:00	10°34'028 29.05016 AU	retrograde	-788 May 06 j 00:51	25°32'34
direct	-794 Sep 29 j 11:51	9°31'623	opposition	-788 Jul 25 j 21:26	23°35'57 -0°27'36
desc. node	-794 Oct 12 j 10:10	9°31'915	min. Earth dist.	-788 Jul 25 j 03:22	23°35'11 28.99220 AU
evening set	-794 Dec 25 j 00:14	11°30'910	direct	-788 Oct 12 j 08:24	22°35'04
			evening set	-787 Jan 06 j 14:31	24°32'748
conjunction	-793 Jan 09 j 09:01	11°34'352 -0°01'08			
minimum elong	-793 Jan 09 j 09:01	11°34'352 0°01'08	conjunction	-787 Jan 22 j 01:29	25°30'241 -0°28'00
behind sun begin	-793 Jan 09 j 02:36	11°34'317	minimum elong	-787 Jan 22 j 01:28	25°30'241 0°28'00
behind sun end	-793 Jan 09 j 15:25	11°34'426	max. Earth dist.	-787 Jan 22 j 20:48	25°30'431 30.98598 AU
max. Earth dist.	-793 Jan 10 j 00:56	11°34'522 31.04591 AU	morning rise	-787 Feb 06 j 15:31	25°33'52
morning rise	-793 Jan 24 j 20:37	12°31'849	retrograde	-787 May 08 j 12:44	27°33'603
retrograde	-793 Apr 25 j 06:43	14°31'621	opposition	-787 Jul 28 j 10:06	26°31'121 -0°32'18
min. Earth dist.	-793 Jul 14 j 11:50	12°35'305 29.04197 AU	min. Earth dist.	-787 Jul 27 j 14:34	26°31'241 28.98015 AU
opposition	-793 Jul 15 j 04:25	12°35'157 -0°03'38	direct	-787 Oct 14 j 20:20	24°34'825
direct	-793 Oct 01 j 21:28	11°32'903	evening set	-786 Jan 09 j 01:12	26°34'08
evening set	-793 Dec 27 j 10:16	13°32'150			
conjunction	-792 Jan 11 j 19:30	13°35'633 -0°05'41	conjunction	-786 Jan 24 j 12:23	27°31'602 -0°32'22
minimum elong	-792 Jan 11 j 19:30	13°35'633 0°05'42	minimum elong	-786 Jan 24 j 12:23	27°31'602 0°32'23
behind sun begin	-792 Jan 11 j 13:20	13°35'600	max. Earth dist.	-786 Jan 25 j 07:36	27°31'751 30.97394 AU
behind sun end	-792 Jan 12 j 01:40	13°35'707	morning rise	-786 Feb 09 j 02:58	27°35'115
max. Earth dist.	-792 Jan 12 j 13:09	13°35'813 31.03769 AU	retrograde	-786 May 11 j 00:34	29°34'931
morning rise	-792 Jan 27 j 07:21	14°31'33	opposition	-786 Jul 30 j 22:59	28°32'443 -0°36'58
retrograde	-792 Apr 26 j 19:56	16°32'913	min. Earth dist.	-786 Jul 30 j 03:50	28°32'602 28.96849 AU
opposition	-792 Jul 16 j 17:24	15°30'448 -0°08'27	direct	-786 Oct 17 j 06:07	27°30'145
			evening set	-785 Jan 11 j 11:40	28°35'427

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10

Attention, astronomical year style is used: The year -785 in astronomical counting style is the year 786 BCE in historical counting style.

conjunction	-785 Jan 26 j 23:21	29° $\overline{3}$ 29'22	-0°36'42		-779 Apr 16 j 21:32	15° $\approx$	
minimum elong	-785 Jan 26 j 23:21	29° $\overline{3}$ 29'22	0°36'42	retrograde	-779 May 26 j 23:35	15° $\approx$ 25'37	
max. Earth dist.	-785 Jan 27 j 20:15	29° $\overline{3}$ 31'21	30.96263 AU		-779 Jul 06 j 22:11	15° $\approx$	
	-785 Feb 09 j 12:22	0° $\approx$		opposition	-779 Aug 15 j 15:45	14° $\approx$ 00'33	-1°07'44
morning rise	-785 Feb 11 j 14:11	0° $\approx$ 04'37		min. Earth dist.	-779 Aug 14 j 17:37	14° $\approx$ 02'05	28.91486 AU
retrograde	-785 May 13 j 12:42	2° $\approx$ 02'58		direct	-779 Nov 01 j 12:41	12° $\approx$ 37'35	
opposition	-785 Aug 02 j 11:43	0° $\approx$ 38'05	-0°41'34	evening set	-778 Jan 26 j 17:26	14° $\approx$ 30'26	
min. Earth dist.	-785 Aug 01 j 15:06	0° $\approx$ 39'30	28.95769 AU		-778 Feb 08 j 21:01	15° $\approx$	
	-785 Aug 26 j 09:49	30° $\approx$					
direct	-785 Oct 19 j 17:05	29° $\overline{3}$ 15'05		conjunction	-778 Feb 11 j 07:42	15° $\approx$ 05'34	-1°05'13
	-785 Dec 10 j 14:52	0° $\approx$		minimum elong	-778 Feb 11 j 07:42	15° $\approx$ 05'34	1°05'14
evening set	-784 Jan 13 j 22:30	1° $\approx$ 07'46		max. Earth dist.	-778 Feb 12 j 07:36	15° $\approx$ 07'49	30.91100 AU
				morning rise	-778 Feb 27 j 01:32	15° $\approx$ 41'02	
conjunction	-784 Jan 29 j 10:23	1° $\approx$ 42'43	-0°40'59	retrograde	-778 May 29 j 12:49	17° $\approx$ 39'59	
minimum elong	-784 Jan 29 j 10:22	1° $\approx$ 42'43	0°41'00	min. Earth dist.	-778 Aug 17 j 05:14	16° $\approx$ 16'31	28.90818 AU
max. Earth dist.	-784 Jan 30 j 06:58	1° $\approx$ 44'40	30.95242 AU	opposition	-778 Aug 18 j 04:22	16° $\approx$ 14'54	-1°11'47
morning rise	-784 Feb 14 j 01:49	2° $\approx$ 18'00			-778 Oct 13 j 03:21	15° $\approx$	
retrograde	-784 May 15 j 02:31	4° $\approx$ 16'26		direct	-778 Nov 04 j 00:48	14° $\approx$ 51'56	
min. Earth dist.	-784 Aug 03 j 03:44	2° $\approx$ 52'55	28.94825 AU		-778 Nov 25 j 11:37	15° $\approx$	
opposition	-784 Aug 04 j 00:27	2° $\approx$ 51'29	-0°46'07	evening set	-777 Jan 29 j 05:07	16° $\approx$ 44'48	
direct	-784 Oct 21 j 02:56	1° $\approx$ 28'28					
evening set	-783 Jan 15 j 09:14	3° $\approx$ 21'10		conjunction	-777 Feb 13 j 19:38	17° $\approx$ 19'57	-1°08'58
				minimum elong	-777 Feb 13 j 19:38	17° $\approx$ 19'57	1°08'57
conjunction	-783 Jan 30 j 21:40	3° $\approx$ 56'08	-0°45'12	max. Earth dist.	-777 Feb 14 j 18:48	17° $\approx$ 22'09	30.90373 AU
minimum elong	-783 Jan 30 j 21:39	3° $\approx$ 56'08	0°45'12	morning rise	-777 Mar 01 j 14:00	17° $\approx$ 55'28	
max. Earth dist.	-783 Jan 31 j 19:59	3° $\approx$ 58'15	30.94351 AU	retrograde	-777 Jun 01 j 01:37	19° $\approx$ 54'29	
morning rise	-783 Feb 15 j 13:23	4° $\approx$ 31'27		opposition	-777 Aug 20 j 17:13	18° $\approx$ 29'22	-1°15'44
retrograde	-783 May 17 j 15:31	6° $\approx$ 29'58		min. Earth dist.	-777 Aug 19 j 19:05	18° $\approx$ 30'54	28.90048 AU
opposition	-783 Aug 06 j 13:07	5° $\approx$ 04'58	-0°50'35	direct	-777 Nov 06 j 11:07	17° $\approx$ 06'23	
min. Earth dist.	-783 Aug 05 j 15:38	5° $\approx$ 06'27	28.93995 AU	evening set	-776 Jan 31 j 16:52	18° $\approx$ 59'15	
direct	-783 Oct 23 j 15:09	3° $\approx$ 41'57					
evening set	-782 Jan 17 j 20:14	5° $\approx$ 34'40		conjunction	-776 Feb 16 j 07:58	19° $\approx$ 34'26	-1°12'36
				minimum elong	-776 Feb 16 j 07:58	19° $\approx$ 34'26	1°12'37
conjunction	-782 Feb 02 j 08:53	6° $\approx$ 09'40	-0°49'21	max. Earth dist.	-776 Feb 17 j 07:59	19° $\approx$ 36'43	30.89548 AU
minimum elong	-782 Feb 02 j 08:52	6° $\approx$ 09'40	0°49'22	morning rise	-776 Mar 03 j 02:36	20° $\approx$ 09'58	
max. Earth dist.	-782 Feb 03 j 06:48	6° $\approx$ 11'45	30.93583 AU	retrograde	-776 Jun 02 j 14:21	22° $\approx$ 09'02	
morning rise	-782 Feb 18 j 01:08	6° $\approx$ 45'01		min. Earth dist.	-776 Aug 21 j 06:55	20° $\approx$ 45'27	28.89173 AU
retrograde	-782 May 20 j 06:15	8° $\approx$ 43'37		opposition	-776 Aug 22 j 05:42	20° $\approx$ 43'52	-1°19'34
min. Earth dist.	-782 Aug 08 j 03:29	7° $\approx$ 20'08	28.93289 AU	direct	-776 Nov 07 j 22:48	19° $\approx$ 20'49	
opposition	-782 Aug 09 j 01:43	7° $\approx$ 18'36	-0°55'00	evening set	-775 Feb 02 j 04:50	21° $\approx$ 13'43	
direct	-782 Oct 26 j 01:31	5° $\approx$ 55'35					
evening set	-781 Jan 20 j 07:15	7° $\approx$ 48'19		conjunction	-775 Feb 17 j 20:11	21° $\approx$ 48'55	-1°16'08
				minimum elong	-775 Feb 17 j 20:10	21° $\approx$ 48'55	1°16'08
conjunction	-781 Feb 04 j 20:21	8° $\approx$ 23'21	-0°53'27	max. Earth dist.	-775 Feb 18 j 19:06	21° $\approx$ 51'05	30.88634 AU
minimum elong	-781 Feb 04 j 20:20	8° $\approx$ 23'21	0°53'27	morning rise	-775 Mar 05 j 15:26	22° $\approx$ 24'29	
max. Earth dist.	-781 Feb 05 j 19:35	8° $\approx$ 25'33	30.92913 AU	retrograde	-775 Jun 05 j 03:37	24° $\approx$ 23'34	
morning rise	-781 Feb 20 j 12:56	8° $\approx$ 58'44		opposition	-775 Aug 24 j 18:17	22° $\approx$ 58'21	-1°23'16
retrograde	-781 May 22 j 18:57	10° $\approx$ 57'26		min. Earth dist.	-775 Aug 23 j 20:10	22° $\approx$ 59'53	28.88242 AU
opposition	-781 Aug 11 j 14:28	9° $\approx$ 32'23	-0°59'20	direct	-775 Nov 10 j 09:09	21° $\approx$ 35'15	
min. Earth dist.	-781 Aug 10 j 16:20	9° $\approx$ 33'55	28.92662 AU	evening set	-774 Feb 04 j 16:39	23° $\approx$ 28'09	
direct	-781 Oct 28 j 13:03	8° $\approx$ 09'24					
evening set	-780 Jan 22 j 18:22	10° $\approx$ 02'10		conjunction	-774 Feb 20 j 08:31	24° $\approx$ 03'23	-1°19'32
				minimum elong	-774 Feb 20 j 08:31	24° $\approx$ 03'23	1°19'34
conjunction	-780 Feb 07 j 07:51	10° $\approx$ 37'14	-0°57'27	max. Earth dist.	-774 Feb 21 j 08:37	24° $\approx$ 05'39	30.87681 AU
minimum elong	-780 Feb 07 j 07:51	10° $\approx$ 37'14	0°57'28	morning rise	-774 Mar 08 j 04:00	24° $\approx$ 38'58	
max. Earth dist.	-780 Feb 08 j 07:09	10° $\approx$ 39'26	30.92322 AU	retrograde	-774 Jun 07 j 15:44	26° $\approx$ 38'04	
morning rise	-780 Feb 23 j 00:56	11° $\approx$ 12'38		min. Earth dist.	-774 Aug 26 j 08:15	25° $\approx$ 14'20	28.87297 AU
retrograde	-780 May 24 j 10:21	13° $\approx$ 11'25		opposition	-774 Aug 27 j 06:37	25° $\approx$ 12'47	-1°26'52
min. Earth dist.	-780 Aug 12 j 04:00	11° $\approx$ 47'58	28.92085 AU	direct	-774 Nov 12 j 21:18	23° $\approx$ 49'37	
opposition	-780 Aug 13 j 03:07	11° $\approx$ 46'22	-1°03'34	evening set	-773 Feb 07 j 04:38	25° $\approx$ 42'33	
direct	-780 Oct 30 j 01:26	10° $\approx$ 23'24					
evening set	-779 Jan 24 j 05:52	12° $\approx$ 16'12		conjunction	-773 Feb 22 j 20:47	26° $\approx$ 17'48	-1°22'50
				minimum elong	-773 Feb 22 j 20:47	26° $\approx$ 17'48	1°22'50
conjunction	-779 Feb 08 j 19:41	12° $\approx$ 51'18	-1°01'23	max. Earth dist.	-773 Feb 23 j 20:04	26° $\approx$ 20'00	30.86765 AU
minimum elong	-779 Feb 08 j 19:40	12° $\approx$ 51'18	1°01'23	morning rise	-773 Mar 10 j 16:49	26° $\approx$ 53'24	
max. Earth dist.	-779 Feb 09 j 19:15	12° $\approx$ 53'32	30.91727 AU	retrograde	-773 Jun 10 j 06:09	28° $\approx$ 52'33	
morning rise	-779 Feb 24 j 13:11	13° $\approx$ 26'45		opposition	-773 Aug 29 j 18:58	27° $\approx$ 27'12	-1°30'19

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 11

Attention, astronomical year style is used: The year -773 in astronomical counting style is the year 774 BCE in historical counting style.

min. Earth dist.	-773 Aug 28 j 20:16	27° $\approx$ 28'46	28.86429 AU	conjunction	-766 Mar 10 j 13:52	12° $\mathbb{H}$ 00'56	-1°42'08
direct	-773 Nov 15 j 07:40	26° $\approx$ 03'58		minimum elong	-766 Mar 10 j 13:52	12° $\mathbb{H}$ 00'56	1°42'09
evening set	-772 Feb 09 j 16:34	27° $\approx$ 56'56		max. Earth dist.	-766 Mar 11 j 13:39	12° $\mathbb{H}$ 03'11	30.83210 AU
				morning rise	-766 Mar 26 j 12:43	12° $\mathbb{H}$ 36'45	
conjunction	-772 Feb 25 j 09:14	28° $\approx$ 32'13	-1°26'00	retrograde	-766 Jun 26 j 05:22	14° $\mathbb{H}$ 36'05	
minimum elong	-772 Feb 25 j 09:13	28° $\approx$ 32'13	1°26'01	min. Earth dist.	-766 Sep 13 j 10:03	13° $\mathbb{H}$ 12'16	28.83175 AU
max. Earth dist.	-772 Feb 26 j 09:31	28° $\approx$ 34'30	30.85927 AU	opposition	-766 Sep 14 j 08:07	13° $\mathbb{H}$ 10'44	-1°50'25
morning rise	-772 Mar 12 j 05:35	29° $\approx$ 07'51		direct	-766 Nov 30 j 16:14	11° $\mathbb{H}$ 47'26	
	-772 Apr 06 j 13:03	0° $\mathbb{H}$		evening set	-765 Feb 25 j 07:41	13° $\mathbb{H}$ 40'49	
retrograde	-772 Jun 11 j 18:51	1° $\mathbb{H}$ 07'01					
	-772 Aug 20 j 05:39	30° $\mathbb{R}$		conjunction	-765 Mar 13 j 03:17	14° $\mathbb{H}$ 16'17	-1°44'18
min. Earth dist.	-772 Aug 30 j 08:53	29° $\approx$ 43'11	28.85649 AU	minimum elong	-765 Mar 13 j 03:17	14° $\mathbb{H}$ 16'17	1°44'18
opposition	-772 Aug 31 j 07:18	29° $\approx$ 41'37	-1°33'38	max. Earth dist.	-765 Mar 14 j 03:43	14° $\mathbb{H}$ 18'36	30.82867 AU
direct	-772 Nov 16 j 19:29	28° $\approx$ 18'22		morning rise	-765 Mar 29 j 02:21	14° $\mathbb{H}$ 52'07	
	-771 Feb 05 j 23:51	0° $\mathbb{H}$		retrograde	-765 Jun 28 j 17:17	16° $\mathbb{H}$ 51'28	
evening set	-771 Feb 11 j 04:44	0° $\mathbb{H}$ 11'22		opposition	-765 Sep 16 j 20:11	15° $\mathbb{H}$ 26'06	-1°52'39
				min. Earth dist.	-765 Sep 15 j 22:23	15° $\mathbb{H}$ 27'38	28.82792 AU
conjunction	-771 Feb 26 j 21:47	0° $\mathbb{H}$ 46'40	-1°29'03	direct	-765 Dec 03 j 03:51	14° $\mathbb{H}$ 02'47	
minimum elong	-771 Feb 26 j 21:46	0° $\mathbb{H}$ 46'40	1°29'02	evening set	-764 Feb 27 j 20:43	15° $\mathbb{H}$ 56'12	
max. Earth dist.	-771 Feb 27 j 21:50	0° $\mathbb{H}$ 48'56	30.85211 AU				
morning rise	-771 Mar 14 j 18:34	1° $\mathbb{H}$ 22'20		conjunction	-764 Mar 14 j 16:40	16° $\mathbb{H}$ 31'43	-1°46'19
retrograde	-771 Jun 14 j 10:25	3° $\mathbb{H}$ 21'31		minimum elong	-764 Mar 14 j 16:40	16° $\mathbb{H}$ 31'43	1°46'19
opposition	-771 Sep 02 j 19:20	1° $\mathbb{H}$ 56'05	-1°36'49	max. Earth dist.	-764 Mar 15 j 15:27	16° $\mathbb{H}$ 33'51	30.82442 AU
min. Earth dist.	-771 Sep 01 j 20:03	1° $\mathbb{H}$ 57'43	28.85002 AU	morning rise	-764 Mar 30 j 16:18	17° $\mathbb{H}$ 07'33	
direct	-771 Nov 19 j 08:05	0° $\mathbb{H}$ 32'48		retrograde	-764 Jun 30 j 07:49	19° $\mathbb{H}$ 06'53	
evening set	-770 Feb 13 j 16:56	2° $\mathbb{H}$ 25'52		min. Earth dist.	-764 Sep 17 j 10:53	17° $\mathbb{H}$ 43'00	28.82325 AU
				opposition	-764 Sep 18 j 08:17	17° $\mathbb{H}$ 41'30	-1°54'43
conjunction	-770 Mar 01 j 10:21	3° $\mathbb{H}$ 01'12	-1°31'57	direct	-764 Dec 04 j 14:04	16° $\mathbb{H}$ 18'06	
minimum elong	-770 Mar 01 j 10:21	3° $\mathbb{H}$ 01'12	1°31'57	evening set	-763 Mar 01 j 09:47	18° $\mathbb{H}$ 11'34	
max. Earth dist.	-770 Mar 02 j 10:45	3° $\mathbb{H}$ 03'30	30.84615 AU				
morning rise	-770 Mar 17 j 07:34	3° $\mathbb{H}$ 36'54		conjunction	-763 Mar 17 j 06:15	18° $\mathbb{H}$ 47'06	-1°48'10
retrograde	-770 Jun 16 j 23:26	5° $\mathbb{H}$ 36'07		minimum elong	-763 Mar 17 j 06:15	18° $\mathbb{H}$ 47'06	1°48'09
min. Earth dist.	-770 Sep 04 j 09:08	4° $\mathbb{H}$ 12'15	28.84480 AU	max. Earth dist.	-763 Mar 18 j 05:17	18° $\mathbb{H}$ 49'16	30.81922 AU
opposition	-770 Sep 05 j 07:37	4° $\mathbb{H}$ 10'41	-1°39'51	morning rise	-763 Apr 02 j 06:09	19° $\mathbb{H}$ 22'58	
direct	-770 Nov 21 j 19:29	2° $\mathbb{H}$ 47'24		retrograde	-763 Jul 02 j 19:34	21° $\mathbb{H}$ 22'14	
evening set	-769 Feb 16 j 05:01	4° $\mathbb{H}$ 40'30		opposition	-763 Sep 20 j 20:09	19° $\mathbb{H}$ 56'50	-1°56'36
				min. Earth dist.	-763 Sep 19 j 23:42	19° $\mathbb{H}$ 58'16	28.81773 AU
conjunction	-769 Mar 03 j 22:57	5° $\mathbb{H}$ 15'52	-1°34'43	direct	-763 Dec 07 j 02:18	18° $\mathbb{H}$ 33'21	
minimum elong	-769 Mar 03 j 22:57	5° $\mathbb{H}$ 15'52	1°34'42	evening set	-762 Mar 03 j 22:51	20° $\mathbb{H}$ 26'51	
max. Earth dist.	-769 Mar 04 j 23:49	5° $\mathbb{H}$ 18'13	30.84160 AU				
morning rise	-769 Mar 19 j 20:30	5° $\mathbb{H}$ 51'35		conjunction	-762 Mar 19 j 19:44	21° $\mathbb{H}$ 02'24	-1°49'51
retrograde	-769 Jun 19 j 13:26	7° $\mathbb{H}$ 50'50		minimum elong	-762 Mar 19 j 19:43	21° $\mathbb{H}$ 02'24	1°49'51
opposition	-769 Sep 07 j 19:46	6° $\mathbb{H}$ 25'25	-1°42'44	max. Earth dist.	-762 Mar 20 j 17:48	21° $\mathbb{H}$ 04'28	30.81364 AU
min. Earth dist.	-769 Sep 06 j 20:09	6° $\mathbb{H}$ 27'04	28.84080 AU	morning rise	-762 Apr 04 j 20:04	21° $\mathbb{H}$ 38'16	
direct	-769 Nov 24 j 07:45	5° $\mathbb{H}$ 02'08		retrograde	-762 Jul 05 j 10:13	23° $\mathbb{H}$ 37'29	
evening set	-768 Feb 18 j 17:31	6° $\mathbb{H}$ 55'18		min. Earth dist.	-762 Sep 22 j 11:12	22° $\mathbb{H}$ 13'29	28.81214 AU
				opposition	-762 Sep 23 j 07:59	22° $\mathbb{H}$ 12'01	-1°58'19
conjunction	-768 Mar 05 j 11:45	7° $\mathbb{H}$ 30'42	-1°37'20	direct	-762 Dec 09 j 15:05	20° $\mathbb{H}$ 48'27	
minimum elong	-768 Mar 05 j 11:45	7° $\mathbb{H}$ 30'42	1°37'21	evening set	-761 Mar 06 j 11:49	22° $\mathbb{H}$ 41'58	
max. Earth dist.	-768 Mar 06 j 12:02	7° $\mathbb{H}$ 32'59	30.83799 AU				
morning rise	-768 Mar 21 j 09:50	8° $\mathbb{H}$ 06'27		conjunction	-761 Mar 22 j 09:06	23° $\mathbb{H}$ 17'33	-1°51'22
retrograde	-768 Jun 21 j 03:15	10° $\mathbb{H}$ 05'44		minimum elong	-761 Mar 22 j 09:06	23° $\mathbb{H}$ 17'33	1°51'21
min. Earth dist.	-768 Sep 08 j 09:22	8° $\mathbb{H}$ 41'55	28.83766 AU	max. Earth dist.	-761 Mar 23 j 07:09	23° $\mathbb{H}$ 19'37	30.80807 AU
opposition	-768 Sep 09 j 07:54	8° $\mathbb{H}$ 40'20	-1°45'27	morning rise	-761 Apr 07 j 09:50	23° $\mathbb{H}$ 53'26	
direct	-768 Nov 25 j 18:10	7° $\mathbb{H}$ 17'03		retrograde	-761 Jul 07 j 22:22	25° $\mathbb{H}$ 52'36	
evening set	-767 Feb 20 j 06:03	9° $\mathbb{H}$ 10'18		opposition	-761 Sep 25 j 19:49	24° $\mathbb{H}$ 27'05	-1°59'50
				min. Earth dist.	-761 Sep 25 j 00:18	24° $\mathbb{H}$ 28'27	28.80689 AU
conjunction	-767 Mar 08 j 00:52	9° $\mathbb{H}$ 45'44	-1°39'49	direct	-761 Dec 12 j 02:44	23° $\mathbb{H}$ 03'26	
minimum elong	-767 Mar 08 j 00:52	9° $\mathbb{H}$ 45'44	1°39'49	evening set	-760 Mar 08 j 00:54	24° $\mathbb{H}$ 56'58	
max. Earth dist.	-767 Mar 09 j 01:56	9° $\mathbb{H}$ 48'06	30.83508 AU				
morning rise	-767 Mar 23 j 23:12	10° $\mathbb{H}$ 21'30		conjunction	-760 Mar 23 j 22:44	25° $\mathbb{H}$ 32'34	-1°52'42
retrograde	-767 Jun 23 j 16:41	12° $\mathbb{H}$ 20'49		minimum elong	-760 Mar 23 j 22:43	25° $\mathbb{H}$ 32'34	1°52'43
opposition	-767 Sep 11 j 19:57	10° $\mathbb{H}$ 55'27	-1°48'01	max. Earth dist.	-760 Mar 24 j 20:42	25° $\mathbb{H}$ 34'38	30.80327 AU
min. Earth dist.	-767 Sep 10 j 20:53	10° $\mathbb{H}$ 57'04	28.83479 AU	morning rise	-760 Apr 08 j 23:48	26° $\mathbb{H}$ 08'29	
direct	-767 Nov 28 j 05:57	9° $\mathbb{H}$ 32'10		retrograde	-760 Jul 09 j 12:50	28° $\mathbb{H}$ 07'33	
evening set	-766 Feb 22 j 18:50	11° $\mathbb{H}$ 25'29		min. Earth dist.	-760 Sep 26 j 11:04	26° $\mathbb{H}$ 43'26	28.80258 AU
				opposition	-760 Sep 27 j 07:17	26° $\mathbb{H}$ 42'00	-2°01'11

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 12

Attention, astronomical year style is used: The year -760 in astronomical counting style is the year 761 BCE in historical counting style.

direct	-760 Dec 13 j 15:48	25° $\mathbf{\text{K}}$ 18'17	conjunction	-753 Apr 09 j 23:22	11° $\mathbf{\text{P}}$ 17'59	-1°57'13	
evening set	-759 Mar 10 j 14:11	27° $\mathbf{\text{K}}$ 11'52	minimum elong	-753 Apr 09 j 23:22	11° $\mathbf{\text{P}}$ 17'59	1°57'11	
			max. Earth dist.	-753 Apr 10 j 18:16	11° $\mathbf{\text{P}}$ 19'46	30.80424 AU	
conjunction	-759 Mar 26 j 12:18	27° $\mathbf{\text{K}}$ 47'29	-1°53'53	morning rise	-753 Apr 26 j 02:58	11° $\mathbf{\text{P}}$ 54'02	
minimum elong	-759 Mar 26 j 12:18	27° $\mathbf{\text{K}}$ 47'29	1°53'52	retrograde	-753 Jul 26 j 08:22	13° $\mathbf{\text{P}}$ 52'45	
max. Earth dist.	-759 Mar 27 j 09:28	27° $\mathbf{\text{K}}$ 49'28	30.79947 AU	opposition	-753 Oct 13 j 15:32	12° $\mathbf{\text{P}}$ 27'29	-2°05'19
morning rise	-759 Apr 11 j 13:49	28° $\mathbf{\text{K}}$ 23'25		min. Earth dist.	-753 Oct 12 j 22:15	12° $\mathbf{\text{P}}$ 28'43	28.80673 AU
	-759 Jun 04 j 20:12	0° $\mathbf{\text{P}}$		direct	-753 Dec 29 j 23:06	11° $\mathbf{\text{P}}$ 03'38	
retrograde	-759 Jul 12 j 02:28	0° $\mathbf{\text{P}}$ 22'25		evening set	-752 Mar 26 j 12:31	12° $\mathbf{\text{P}}$ 57'45	
	-759 Aug 18 j 18:35	30° $\mathbf{\text{K}}$					
opposition	-759 Sep 29 j 18:57	28° $\mathbf{\text{K}}$ 56'51	-2°02'21	conjunction	-752 Apr 11 j 13:46	13° $\mathbf{\text{P}}$ 33'34	-1°57'08
min. Earth dist.	-759 Sep 28 j 23:51	28° $\mathbf{\text{K}}$ 58'12	28.79956 AU	minimum elong	-752 Apr 11 j 13:46	13° $\mathbf{\text{P}}$ 33'34	1°57'08
direct	-759 Dec 16 j 03:12	27° $\mathbf{\text{K}}$ 33'05		max. Earth dist.	-752 Apr 12 j 08:03	13° $\mathbf{\text{P}}$ 35'17	30.80616 AU
evening set	-758 Mar 13 j 03:10	29° $\mathbf{\text{K}}$ 26'42		morning rise	-752 Apr 27 j 17:37	14° $\mathbf{\text{P}}$ 09'38	
	-758 Mar 28 j 00:55	0° $\mathbf{\text{P}}$		retrograde	-752 Jul 27 j 20:32	16° $\mathbf{\text{P}}$ 08'16	
				min. Earth dist.	-752 Oct 14 j 11:29	14° $\mathbf{\text{P}}$ 44'09	28.80826 AU
conjunction	-758 Mar 29 j 01:52	0° $\mathbf{\text{P}}$ 02'21	-1°54'53	opposition	-752 Oct 15 j 02:55	14° $\mathbf{\text{P}}$ 43'03	-2°05'09
minimum elong	-758 Mar 29 j 01:52	0° $\mathbf{\text{P}}$ 02'21	1°54'53	direct	-752 Dec 31 j 10:13	13° $\mathbf{\text{P}}$ 19'10	
max. Earth dist.	-758 Mar 29 j 23:43	0° $\mathbf{\text{P}}$ 04'24	30.79717 AU	evening set	-751 Mar 29 j 02:27	15° $\mathbf{\text{P}}$ 13'21	
morning rise	-758 Apr 14 j 03:35	0° $\mathbf{\text{P}}$ 38'17					
retrograde	-758 Jul 14 j 15:26	2° $\mathbf{\text{P}}$ 37'14		conjunction	-751 Apr 14 j 04:10	15° $\mathbf{\text{P}}$ 49'11	-1°56'53
min. Earth dist.	-758 Oct 01 j 10:37	1° $\mathbf{\text{P}}$ 13'05	28.79799 AU	minimum elong	-751 Apr 14 j 04:10	15° $\mathbf{\text{P}}$ 49'11	1°56'52
opposition	-758 Oct 02 j 06:25	1° $\mathbf{\text{P}}$ 11'41	-2°03'19	max. Earth dist.	-751 Apr 14 j 21:29	15° $\mathbf{\text{P}}$ 50'48	30.80737 AU
	-758 Nov 21 j 20:23	30° $\mathbf{\text{K}}$		morning rise	-751 Apr 30 j 08:21	16° $\mathbf{\text{P}}$ 25'16	
direct	-758 Dec 18 j 15:55	29° $\mathbf{\text{K}}$ 47'52		retrograde	-751 Jul 30 j 11:12	18° $\mathbf{\text{P}}$ 23'48	
	-757 Jan 14 j 01:04	0° $\mathbf{\text{P}}$		opposition	-751 Oct 17 j 14:13	16° $\mathbf{\text{P}}$ 58'37	-2°04'47
evening set	-757 Mar 15 j 16:31	1° $\mathbf{\text{P}}$ 41'33		min. Earth dist.	-751 Oct 16 j 22:38	16° $\mathbf{\text{P}}$ 59'43	28.80901 AU
				direct	-750 Jan 02 j 23:46	15° $\mathbf{\text{P}}$ 34'40	
				evening set	-750 Mar 31 j 16:17	17° $\mathbf{\text{P}}$ 28'54	
conjunction	-757 Mar 31 j 15:29	2° $\mathbf{\text{P}}$ 17'13	-1°55'42				
minimum elong	-757 Mar 31 j 15:29	2° $\mathbf{\text{P}}$ 17'13	1°55'42				
max. Earth dist.	-757 Apr 01 j 12:09	2° $\mathbf{\text{P}}$ 19'09	30.79641 AU	conjunction	-750 Apr 16 j 18:19	18° $\mathbf{\text{P}}$ 04'46	-1°56'27
morning rise	-757 Apr 16 j 17:44	2° $\mathbf{\text{P}}$ 53'11		minimum elong	-750 Apr 16 j 18:19	18° $\mathbf{\text{P}}$ 04'46	1°56'27
retrograde	-757 Jul 17 j 04:16	4° $\mathbf{\text{P}}$ 52'05		max. Earth dist.	-750 Apr 17 j 10:21	18° $\mathbf{\text{P}}$ 06'16	30.80779 AU
opposition	-757 Oct 04 j 17:56	3° $\mathbf{\text{P}}$ 26'33	-2°04'06	morning rise	-750 May 02 j 22:52	18° $\mathbf{\text{P}}$ 40'51	
min. Earth dist.	-757 Oct 03 j 22:58	3° $\mathbf{\text{P}}$ 27'54	28.79810 AU	retrograde	-750 Aug 02 j 00:40	20° $\mathbf{\text{P}}$ 39'17	
direct	-757 Dec 21 j 02:07	2° $\mathbf{\text{P}}$ 02'43		min. Earth dist.	-750 Oct 19 j 11:41	19° $\mathbf{\text{P}}$ 15'05	28.80927 AU
evening set	-756 Mar 17 j 05:47	3° $\mathbf{\text{P}}$ 56'28		opposition	-750 Oct 20 j 01:35	19° $\mathbf{\text{P}}$ 14'05	-2°04'13
				direct	-749 Jan 05 j 12:05	17° $\mathbf{\text{P}}$ 50'05	
				evening set	-749 Apr 03 j 06:07	19° $\mathbf{\text{P}}$ 44'21	
conjunction	-756 Apr 02 j 05:23	4° $\mathbf{\text{P}}$ 32'10	-1°56'21				
minimum elong	-756 Apr 02 j 05:23	4° $\mathbf{\text{P}}$ 32'10	1°56'22				
max. Earth dist.	-756 Apr 03 j 02:54	4° $\mathbf{\text{P}}$ 34'12	30.79719 AU	conjunction	-749 Apr 19 j 08:44	20° $\mathbf{\text{P}}$ 20'14	-1°55'51
morning rise	-756 Apr 18 j 07:51	5° $\mathbf{\text{P}}$ 08'10		minimum elong	-749 Apr 19 j 08:44	20° $\mathbf{\text{P}}$ 20'14	1°55'50
retrograde	-756 Jul 18 j 16:24	7° $\mathbf{\text{P}}$ 07'00		max. Earth dist.	-749 Apr 20 j 00:39	20° $\mathbf{\text{P}}$ 21'44	30.80806 AU
min. Earth dist.	-756 Oct 05 j 10:31	5° $\mathbf{\text{P}}$ 42'52	28.79942 AU	morning rise	-749 May 05 j 13:29	20° $\mathbf{\text{P}}$ 56'20	
opposition	-756 Oct 06 j 05:21	5° $\mathbf{\text{P}}$ 41'32	-2°04'42	retrograde	-749 Aug 04 j 13:36	22° $\mathbf{\text{P}}$ 54'37	
direct	-756 Dec 22 j 13:39	4° $\mathbf{\text{P}}$ 17'42		opposition	-749 Oct 22 j 12:35	21° $\mathbf{\text{P}}$ 29'27	-2°03'29
evening set	-755 Mar 19 j 19:21	6° $\mathbf{\text{P}}$ 11'33		min. Earth dist.	-749 Oct 21 j 22:36	21° $\mathbf{\text{P}}$ 30'27	28.80949 AU
				direct	-748 Jan 08 j 01:43	20° $\mathbf{\text{P}}$ 05'22	
				evening set	-748 Apr 04 j 20:08	21° $\mathbf{\text{P}}$ 59'41	
conjunction	-755 Apr 04 j 19:14	6° $\mathbf{\text{P}}$ 47'16	-1°56'49				
minimum elong	-755 Apr 04 j 19:14	6° $\mathbf{\text{P}}$ 47'16	1°56'48				
max. Earth dist.	-755 Apr 05 j 15:13	6° $\mathbf{\text{P}}$ 49'09	30.79910 AU	conjunction	-748 Apr 20 j 23:01	22° $\mathbf{\text{P}}$ 35'34	-1°55'04
morning rise	-755 Apr 20 j 22:11	7° $\mathbf{\text{P}}$ 23'17		minimum elong	-748 Apr 20 j 23:01	22° $\mathbf{\text{P}}$ 35'34	1°55'04
retrograde	-755 Jul 21 j 06:26	9° $\mathbf{\text{P}}$ 22'05		max. Earth dist.	-748 Apr 21 j 13:15	22° $\mathbf{\text{P}}$ 36'54	30.80850 AU
opposition	-755 Oct 08 j 16:42	7° $\mathbf{\text{P}}$ 56'41	-2°05'06	morning rise	-748 May 07 j 04:14	23° $\mathbf{\text{P}}$ 11'42	
min. Earth dist.	-755 Oct 07 j 22:16	7° $\mathbf{\text{P}}$ 57'59	28.80176 AU	retrograde	-748 Aug 06 j 02:40	25° $\mathbf{\text{P}}$ 09'50	
direct	-755 Dec 24 j 23:22	6° $\mathbf{\text{P}}$ 32'51		opposition	-748 Oct 23 j 23:43	23° $\mathbf{\text{P}}$ 44'40	-2°02'33
evening set	-754 Mar 22 j 08:55	8° $\mathbf{\text{P}}$ 26'47		min. Earth dist.	-748 Oct 23 j 10:59	23° $\mathbf{\text{P}}$ 45'34	28.81027 AU
				direct	-747 Jan 09 j 12:47	22° $\mathbf{\text{P}}$ 20'30	
				evening set	-747 Apr 07 j 09:57	24° $\mathbf{\text{P}}$ 14'51	
conjunction	-754 Apr 07 j 09:19	9° $\mathbf{\text{P}}$ 02'32	-1°57'06				
minimum elong	-754 Apr 07 j 09:19	9° $\mathbf{\text{P}}$ 02'32	1°57'07				
max. Earth dist.	-754 Apr 08 j 05:38	9° $\mathbf{\text{P}}$ 04'27	30.80162 AU	conjunction	-747 Apr 23 j 13:22	24° $\mathbf{\text{P}}$ 50'46	-1°54'07
morning rise	-754 Apr 23 j 12:28	9° $\mathbf{\text{P}}$ 38'34		minimum elong	-747 Apr 23 j 13:23	24° $\mathbf{\text{P}}$ 50'46	1°54'06
retrograde	-754 Jul 23 j 17:56	11° $\mathbf{\text{P}}$ 37'20		max. Earth dist.	-747 Apr 24 j 04:07	24° $\mathbf{\text{P}}$ 52'09	30.80964 AU
min. Earth dist.	-754 Oct 10 j 10:45	10° $\mathbf{\text{P}}$ 13'15	28.80436 AU	morning rise	-747 May 09 j 18:40	25° $\mathbf{\text{P}}$ 26'54	
opposition	-754 Oct 11 j 04:08	10° $\mathbf{\text{P}}$ 12'01	-2°05'18	retrograde	-747 Aug 08 j 15:06	27° $\mathbf{\text{P}}$ 24'53	
direct	-754 Dec 27 j 10:57	8° $\mathbf{\text{P}}$ 48'11		opposition	-747 Oct 26 j 10:37	25° $\mathbf{\text{P}}$ 59'45	-2°01'26
evening set	-753 Mar 24 j 22:35	10° $\mathbf{\text{P}}$ 42'13		min. Earth dist.	-747 Oct 25 j 22:11	26° $\mathbf{\text{P}}$ 00'38	28.81186 AU

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 13

Attention, astronomical year style is used: The year -746 in astronomical counting style is the year 747 BCE in historical counting style.

direct	-746 Jan 12 j 01:23	24° $\Upsilon$ 35'32		minimum elong	-740 May 09 j 18:13	10° $\mathcal{B}$ 36'02	1°42'37
evening set	-746 Apr 09 j 23:52	26° $\Upsilon$ 29'54		max. Earth dist.	-740 May 10 j 03:21	10° $\mathcal{B}$ 36'53	30.84987 AU
				morning rise	-740 May 26 j 01:10	11° $\mathcal{B}$ 12'13	
conjunction	-746 Apr 26 j 03:33	27° $\Upsilon$ 05'51	-1°52'59	retrograde	-740 Aug 24 j 05:49	13° $\mathcal{B}$ 09'20	
minimum elong	-746 Apr 26 j 03:33	27° $\Upsilon$ 05'51	1°52'59	opposition	-740 Nov 10 j 14:36	11° $\mathcal{B}$ 44'41	-1°48'31
max. Earth dist.	-746 Apr 26 j 16:36	27° $\Upsilon$ 07'04	30.81195 AU	min. Earth dist.	-740 Nov 10 j 06:51	11° $\mathcal{B}$ 45'14	28.85411 AU
morning rise	-746 May 12 j 09:17	27° $\Upsilon$ 41'59		direct	-739 Jan 27 j 11:57	10° $\mathcal{B}$ 20'17	
retrograde	-746 Aug 11 j 03:44	29° $\Upsilon$ 39'50		evening set	-739 Apr 26 j 02:37	12° $\mathcal{B}$ 15'09	
opposition	-746 Oct 28 j 21:33	28° $\Upsilon$ 14'43	-2°00'08				
min. Earth dist.	-746 Oct 28 j 09:28	28° $\Upsilon$ 15'35	28.81490 AU	conjunction	-739 May 12 j 08:45	12° $\mathcal{B}$ 51'13	-1°40'20
direct	-745 Jan 14 j 11:57	26° $\Upsilon$ 50'26		minimum elong	-739 May 12 j 08:45	12° $\mathcal{B}$ 51'13	1°40'19
evening set	-745 Apr 12 j 13:38	28° $\Upsilon$ 44'52		max. Earth dist.	-739 May 12 j 15:46	12° $\mathcal{B}$ 51'52	30.85617 AU
				morning rise	-739 May 28 j 15:58	13° $\mathcal{B}$ 27'24	
conjunction	-745 Apr 28 j 17:50	29° $\Upsilon$ 20'49	-1°51'41		-739 Jul 19 j 07:18	15° $\mathcal{B}$	
minimum elong	-745 Apr 28 j 17:50	29° $\Upsilon$ 20'49	1°51'40	retrograde	-739 Aug 26 j 19:10	15° $\mathcal{B}$ 24'22	
max. Earth dist.	-745 Apr 29 j 07:20	29° $\Upsilon$ 22'05	30.81566 AU		-739 Oct 04 j 16:30	15° $\mathcal{R}$ $\mathcal{B}$	
morning rise	-745 May 14 j 23:42	29° $\Upsilon$ 56'58		opposition	-739 Nov 13 j 01:29	13° $\mathcal{B}$ 59'47	-1°45'59
	-745 May 16 j 09:03	0° $\mathcal{B}$		min. Earth dist.	-739 Nov 12 j 19:22	14° $\mathcal{B}$ 00'13	28.85995 AU
retrograde	-745 Aug 13 j 14:02	1° $\mathcal{B}$ 54'42		direct	-738 Jan 29 j 23:28	12° $\mathcal{B}$ 35'21	
opposition	-745 Oct 31 j 08:30	0° $\mathcal{B}$ 29'37	-1°58'39	evening set	-738 Apr 28 j 16:51	14° $\mathcal{B}$ 30'16	
min. Earth dist.	-745 Oct 30 j 21:18	0° $\mathcal{B}$ 30'25	28.81928 AU		-738 May 12 j 03:22	15° $\mathcal{B}$	
	-745 Nov 18 j 01:55	30° $\mathcal{R}$ $\Upsilon$					
direct	-744 Jan 16 j 23:45	29° $\Upsilon$ 05'19		conjunction	-738 May 14 j 23:28	15° $\mathcal{B}$ 06'21	-1°37'53
	-744 Mar 15 j 04:32	0° $\mathcal{B}$		minimum elong	-738 May 14 j 23:28	15° $\mathcal{B}$ 06'21	1°37'53
evening set	-744 Apr 14 j 03:39	0° $\mathcal{B}$ 59'47		max. Earth dist.	-738 May 15 j 06:21	15° $\mathcal{B}$ 07'00	30.86158 AU
				morning rise	-738 May 31 j 06:41	15° $\mathcal{B}$ 42'32	
conjunction	-744 Apr 30 j 08:10	1° $\mathcal{B}$ 35'46	-1°50'12	retrograde	-738 Aug 29 j 07:47	17° $\mathcal{B}$ 39'20	
minimum elong	-744 Apr 30 j 08:10	1° $\mathcal{B}$ 35'46	1°50'12	opposition	-738 Nov 15 j 12:12	16° $\mathcal{B}$ 14'48	-1°43'17
max. Earth dist.	-744 Apr 30 j 20:13	1° $\mathcal{B}$ 36'54	30.82091 AU	min. Earth dist.	-738 Nov 15 j 06:55	16° $\mathcal{B}$ 15'10	28.86481 AU
morning rise	-744 May 16 j 14:24	2° $\mathcal{B}$ 11'55			-737 Jan 08 j 09:53	15° $\mathcal{R}$ $\mathcal{B}$	
retrograde	-744 Aug 15 j 03:21	4° $\mathcal{B}$ 09'31		direct	-737 Feb 01 j 12:56	14° $\mathcal{B}$ 50'18	
opposition	-744 Nov 01 j 19:13	2° $\mathcal{B}$ 44'31	-1°56'59		-737 Feb 25 j 09:17	15° $\mathcal{B}$	
min. Earth dist.	-744 Nov 01 j 07:52	2° $\mathcal{B}$ 45'19	28.82517 AU	evening set	-737 May 01 j 07:10	16° $\mathcal{B}$ 45'15	
direct	-743 Jan 18 j 10:54	1° $\mathcal{B}$ 20'10					
evening set	-743 Apr 16 j 17:41	3° $\mathcal{B}$ 14'44		conjunction	-737 May 17 j 13:57	17° $\mathcal{B}$ 21'22	-1°35'18
				minimum elong	-737 May 17 j 13:57	17° $\mathcal{B}$ 21'22	1°35'17
conjunction	-743 May 02 j 22:35	3° $\mathcal{B}$ 50'43	-1°48'34	max. Earth dist.	-737 May 17 j 18:32	17° $\mathcal{B}$ 21'47	30.86623 AU
minimum elong	-743 May 02 j 22:35	3° $\mathcal{B}$ 50'43	1°48'33	morning rise	-737 Jun 02 j 21:31	17° $\mathcal{B}$ 57'33	
max. Earth dist.	-743 May 03 j 10:31	3° $\mathcal{B}$ 51'50	30.82740 AU	retrograde	-737 Aug 31 j 20:13	19° $\mathcal{B}$ 54'10	
morning rise	-743 May 19 j 04:58	4° $\mathcal{B}$ 26'53		opposition	-737 Nov 17 j 22:54	18° $\mathcal{B}$ 29'41	-1°40'27
retrograde	-743 Aug 17 j 14:35	6° $\mathcal{B}$ 24'22		min. Earth dist.	-737 Nov 17 j 18:30	18° $\mathcal{B}$ 29'59	28.86920 AU
opposition	-743 Nov 04 j 06:10	4° $\mathcal{B}$ 59'27	-1°55'08	direct	-736 Feb 04 j 00:30	17° $\mathcal{B}$ 05'07	
min. Earth dist.	-743 Nov 03 j 20:24	5° $\mathcal{B}$ 00'09	28.83216 AU	evening set	-736 May 02 j 21:25	19° $\mathcal{B}$ 00'06	
direct	-742 Jan 20 j 21:11	3° $\mathcal{B}$ 35'06					
evening set	-742 Apr 19 j 07:36	5° $\mathcal{B}$ 29'44		conjunction	-736 May 19 j 04:37	19° $\mathcal{B}$ 36'13	-1°32'34
				minimum elong	-736 May 19 j 04:37	19° $\mathcal{B}$ 36'13	1°32'33
conjunction	-742 May 05 j 12:53	6° $\mathcal{B}$ 05'45	-1°46'45	max. Earth dist.	-736 May 19 j 09:08	19° $\mathcal{B}$ 36'39	30.87046 AU
minimum elong	-742 May 05 j 12:53	6° $\mathcal{B}$ 05'45	1°46'45	morning rise	-736 Jun 04 j 12:07	20° $\mathcal{B}$ 12'24	
max. Earth dist.	-742 May 05 j 23:59	6° $\mathcal{B}$ 06'47	30.83491 AU	retrograde	-736 Sep 02 j 06:31	22° $\mathcal{B}$ 08'51	
morning rise	-742 May 21 j 19:31	6° $\mathcal{B}$ 41'55		opposition	-736 Nov 19 j 09:28	20° $\mathcal{B}$ 44'24	-1°37'27
retrograde	-742 Aug 20 j 03:59	8° $\mathcal{B}$ 39'17		min. Earth dist.	-736 Nov 19 j 06:24	20° $\mathcal{B}$ 44'37	28.87333 AU
opposition	-742 Nov 06 j 16:57	7° $\mathcal{B}$ 14'28	-1°53'06	direct	-735 Feb 05 j 12:47	19° $\mathcal{B}$ 19'46	
min. Earth dist.	-742 Nov 06 j 07:00	7° $\mathcal{B}$ 15'10	28.83979 AU	evening set	-735 May 05 j 11:41	21° $\mathcal{B}$ 14'48	
direct	-741 Jan 23 j 10:36	5° $\mathcal{B}$ 50'06					
evening set	-741 Apr 21 j 21:53	7° $\mathcal{B}$ 44'49		conjunction	-735 May 21 j 19:00	21° $\mathcal{B}$ 50'55	-1°29'42
				minimum elong	-735 May 21 j 19:00	21° $\mathcal{B}$ 50'55	1°29'41
conjunction	-741 May 08 j 03:26	8° $\mathcal{B}$ 20'51	-1°44'46	max. Earth dist.	-735 May 21 j 21:40	21° $\mathcal{B}$ 51'10	30.87487 AU
minimum elong	-741 May 08 j 03:26	8° $\mathcal{B}$ 20'51	1°44'46	morning rise	-735 Jun 07 j 02:45	22° $\mathcal{B}$ 27'06	
max. Earth dist.	-741 May 08 j 13:16	8° $\mathcal{B}$ 21'46	30.84256 AU	retrograde	-735 Sep 04 j 19:24	24° $\mathcal{B}$ 23'22	
morning rise	-741 May 24 j 10:18	8° $\mathcal{B}$ 57'02		opposition	-735 Nov 21 j 19:59	22° $\mathcal{B}$ 58'57	-1°34'19
retrograde	-741 Aug 22 j 16:30	10° $\mathcal{B}$ 54'17		min. Earth dist.	-735 Nov 21 j 16:56	22° $\mathcal{B}$ 59'10	28.87796 AU
opposition	-741 Nov 09 j 03:47	9° $\mathcal{B}$ 29'33	-1°50'54	direct	-734 Feb 08 j 00:06	21° $\mathcal{B}$ 34'15	
min. Earth dist.	-741 Nov 08 j 19:47	9° $\mathcal{B}$ 30'07	28.84734 AU	evening set	-734 May 08 j 01:38	23° $\mathcal{B}$ 29'19	
direct	-740 Jan 25 j 22:17	8° $\mathcal{B}$ 05'11					
evening set	-740 Apr 23 j 12:12	9° $\mathcal{B}$ 59'59		conjunction	-734 May 24 j 09:15	24° $\mathcal{B}$ 05'27	-1°26'42
				minimum elong	-734 May 24 j 09:15	24° $\mathcal{B}$ 05'27	1°26'41
conjunction	-740 May 09 j 18:12	10° $\mathcal{B}$ 36'02	-1°42'38	max. Earth dist.	-734 May 24 j 11:49	24° $\mathcal{B}$ 05'41	30.87981 AU

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 14

Attention, astronomical year style is used: The year -734 in astronomical counting style is the year 735 BCE in historical counting style.

morning rise	-734 Jun 09 j 16:59	24° <b>8</b> 41'38		direct	-727 Feb 23 j 13:25	7° <b>II</b> 14'09	
retrograde	-734 Sep 07 j 05:18	26° <b>8</b> 37'44		evening set	-727 May 24 j 04:24	9° <b>II</b> 09'41	
opposition	-734 Nov 24 j 06:34	25° <b>8</b> 13'22	-1°31'02				
min. Earth dist.	-734 Nov 24 j 05:08	25° <b>8</b> 13'28	28.88335 AU	conjunction	-727 Jun 09 j 13:02	9° <b>II</b> 45'51	-1°02'19
direct	-733 Feb 10 j 10:27	23° <b>8</b> 48'36		minimum elong	-727 Jun 09 j 13:03	9° <b>II</b> 45'51	1°02'19
evening set	-733 May 10 j 15:44	25° <b>8</b> 43'43		max. Earth dist.	-727 Jun 09 j 09:38	9° <b>II</b> 45'33	30.94229 AU
				morning rise	-727 Jun 25 j 20:37	10° <b>II</b> 21'58	
conjunction	-733 May 26 j 23:34	26° <b>8</b> 19'51	-1°23'34	retrograde	-727 Sep 22 j 17:37	12° <b>II</b> 17'02	
minimum elong	-733 May 26 j 23:34	26° <b>8</b> 19'51	1°23'34	opposition	-727 Dec 09 j 07:27	10° <b>II</b> 53'18	-1°04'33
max. Earth dist.	-733 May 27 j 01:07	26° <b>8</b> 20'00	30.88588 AU	min. Earth dist.	-727 Dec 09 j 11:26	10° <b>II</b> 53'01	28.94717 AU
morning rise	-733 Jun 12 j 07:26	26° <b>8</b> 56'01		direct	-726 Feb 26 j 02:02	9° <b>II</b> 28'25	
retrograde	-733 Sep 09 j 17:09	28° <b>8</b> 51'57		evening set	-726 May 26 j 18:29	11° <b>II</b> 23'59	
opposition	-733 Nov 26 j 16:51	27° <b>8</b> 27'40	-1°27'38				
min. Earth dist.	-733 Nov 26 j 15:06	27° <b>8</b> 27'47	28.88995 AU	conjunction	-726 Jun 12 j 03:02	12° <b>II</b> 00'09	-0°58'25
direct	-732 Feb 12 j 23:59	26° <b>8</b> 02'50		minimum elong	-726 Jun 12 j 03:03	12° <b>II</b> 00'09	0°58'24
evening set	-732 May 12 j 05:54	27° <b>8</b> 58'01		max. Earth dist.	-726 Jun 11 j 21:25	11° <b>II</b> 59'38	30.95113 AU
				morning rise	-726 Jun 28 j 10:41	12° <b>II</b> 36'15	
conjunction	-732 May 28 j 13:53	28° <b>8</b> 34'10	-1°20'19	retrograde	-726 Sep 25 j 06:33	14° <b>II</b> 31'09	
minimum elong	-732 May 28 j 13:53	28° <b>8</b> 34'10	1°20'19	opposition	-726 Dec 11 j 17:51	13° <b>II</b> 07'28	-1°00'21
max. Earth dist.	-732 May 28 j 14:35	28° <b>8</b> 34'14	30.89313 AU	min. Earth dist.	-726 Dec 11 j 22:08	13° <b>II</b> 07'10	28.95549 AU
morning rise	-732 Jun 13 j 21:45	29° <b>8</b> 10'20		direct	-725 Feb 28 j 13:55	11° <b>II</b> 42'32	
	-732 Jul 08 j 06:51	0° <b>II</b>		evening set	-725 May 29 j 08:37	13° <b>II</b> 38'08	
retrograde	-732 Sep 11 j 04:18	1° <b>II</b> 06'07					
	-732 Nov 17 j 10:21	30° <b>8</b>		conjunction	-725 Jun 14 j 17:18	14° <b>II</b> 14'18	-0°54'27
opposition	-732 Nov 28 j 03:24	29° <b>8</b> 41'53	-1°24'05	minimum elong	-725 Jun 14 j 17:19	14° <b>II</b> 14'18	0°54'26
min. Earth dist.	-732 Nov 28 j 03:08	29° <b>8</b> 41'54	28.89793 AU	max. Earth dist.	-725 Jun 14 j 11:12	14° <b>II</b> 13'44	30.95898 AU
direct	-731 Feb 14 j 11:13	28° <b>8</b> 17'03		morning rise	-725 Jul 01 j 00:42	14° <b>II</b> 50'22	
	-731 May 09 j 02:25	0° <b>II</b>		retrograde	-725 Sep 27 j 15:45	16° <b>II</b> 45'05	
evening set	-731 May 14 j 19:49	0° <b>II</b> 12'17		opposition	-725 Dec 14 j 04:13	15° <b>II</b> 21'28	-0°56'03
				min. Earth dist.	-725 Dec 14 j 10:31	15° <b>II</b> 21'01	28.96293 AU
conjunction	-731 May 31 j 04:02	0° <b>II</b> 48'26	-1°16'56	direct	-724 Mar 02 j 01:01	13° <b>II</b> 56'28	
minimum elong	-731 May 31 j 04:03	0° <b>II</b> 48'26	1°16'56	evening set	-724 May 30 j 22:45	15° <b>II</b> 52'05	
max. Earth dist.	-731 May 31 j 04:28	0° <b>II</b> 48'29	30.90188 AU				
morning rise	-731 Jun 16 j 11:52	1° <b>II</b> 24'35		conjunction	-724 Jun 16 j 07:22	16° <b>II</b> 28'13	-0°50'23
retrograde	-731 Sep 13 j 16:39	3° <b>II</b> 20'14		minimum elong	-724 Jun 16 j 07:23	16° <b>II</b> 28'13	0°50'23
opposition	-731 Nov 30 j 13:45	1° <b>II</b> 56'07	-1°20'25	max. Earth dist.	-724 Jun 15 j 23:46	16° <b>II</b> 27'31	30.96626 AU
min. Earth dist.	-731 Nov 30 j 13:17	1° <b>II</b> 56'09	28.90715 AU	morning rise	-724 Jul 02 j 14:42	17° <b>II</b> 04'17	
direct	-730 Feb 17 j 00:17	0° <b>II</b> 31'16		retrograde	-724 Sep 29 j 02:39	18° <b>II</b> 58'48	
evening set	-730 May 17 j 09:57	2° <b>II</b> 26'35		opposition	-724 Dec 15 j 14:30	17° <b>II</b> 35'13	-0°51'41
				min. Earth dist.	-724 Dec 15 j 20:45	17° <b>II</b> 34'47	28.96993 AU
conjunction	-730 Jun 02 j 18:11	3° <b>II</b> 02'44	-1°13'27	direct	-723 Mar 04 j 14:16	16° <b>II</b> 10'09	
minimum elong	-730 Jun 02 j 18:11	3° <b>II</b> 02'44	1°13'27	evening set	-723 Jun 02 j 12:37	18° <b>II</b> 05'47	
max. Earth dist.	-730 Jun 02 j 17:03	3° <b>II</b> 02'38	30.91171 AU				
morning rise	-730 Jun 19 j 02:06	3° <b>II</b> 38'53		conjunction	-723 Jun 18 j 21:10	18° <b>II</b> 41'55	-0°46'16
retrograde	-730 Sep 16 j 05:40	5° <b>II</b> 34'24		minimum elong	-723 Jun 18 j 21:11	18° <b>II</b> 41'55	0°46'16
opposition	-730 Dec 03 j 00:08	4° <b>II</b> 10'22	-1°16'37	max. Earth dist.	-723 Jun 18 j 12:43	18° <b>II</b> 41'08	30.97315 AU
min. Earth dist.	-730 Dec 03 j 01:00	4° <b>II</b> 10'18	28.91743 AU	morning rise	-723 Jul 05 j 04:16	19° <b>II</b> 17'56	
direct	-729 Feb 19 j 11:46	2° <b>II</b> 45'31		retrograde	-723 Oct 01 j 12:42	21° <b>II</b> 12'17	
evening set	-729 May 19 j 23:58	4° <b>II</b> 40'55		opposition	-723 Dec 18 j 00:52	19° <b>II</b> 48'44	-0°47'14
				min. Earth dist.	-723 Dec 18 j 08:47	19° <b>II</b> 48'11	28.97694 AU
conjunction	-729 Jun 05 j 08:29	5° <b>II</b> 17'05	-1°09'50	direct	-722 Mar 07 j 00:59	18° <b>II</b> 23'35	
minimum elong	-729 Jun 05 j 08:30	5° <b>II</b> 17'05	1°09'50	evening set	-722 Jun 05 j 02:23	20° <b>II</b> 19'14	
max. Earth dist.	-729 Jun 05 j 07:27	5° <b>II</b> 16'59	30.92224 AU				
morning rise	-729 Jun 21 j 16:16	5° <b>II</b> 53'13		conjunction	-722 Jun 21 j 10:57	20° <b>II</b> 55'21	-0°42'05
retrograde	-729 Sep 18 j 18:09	7° <b>II</b> 48'35		minimum elong	-722 Jun 21 j 10:58	20° <b>II</b> 55'21	0°42'04
opposition	-729 Dec 05 j 10:31	6° <b>II</b> 24'40	-1°12'42	max. Earth dist.	-722 Jun 21 j 02:00	20° <b>II</b> 54'31	30.98041 AU
min. Earth dist.	-729 Dec 05 j 12:10	6° <b>II</b> 24'33	28.92785 AU	morning rise	-722 Jul 07 j 17:50	21° <b>II</b> 31'21	
direct	-728 Feb 22 j 01:47	4° <b>II</b> 59'50		retrograde	-722 Oct 03 j 23:34	23° <b>II</b> 25'31	
evening set	-728 May 21 j 14:17	6° <b>II</b> 55'19		opposition	-722 Dec 20 j 10:56	22° <b>II</b> 02'00	-0°42'44
				min. Earth dist.	-722 Dec 20 j 18:46	22° <b>II</b> 01'27	28.98438 AU
conjunction	-728 Jun 06 j 22:42	7° <b>II</b> 31'28	-1°06'08	direct	-721 Mar 09 j 14:09	20° <b>II</b> 36'47	
minimum elong	-728 Jun 06 j 22:42	7° <b>II</b> 31'28	1°06'07	evening set	-721 Jun 07 j 16:13	22° <b>II</b> 32'28	
max. Earth dist.	-728 Jun 06 j 19:25	7° <b>II</b> 31'10	30.93259 AU				
morning rise	-728 Jun 23 j 06:32	8° <b>II</b> 07'36		conjunction	-721 Jun 24 j 00:36	23° <b>II</b> 08'34	-0°37'50
retrograde	-728 Sep 20 j 06:29	10° <b>II</b> 02'50		minimum elong	-721 Jun 24 j 00:36	23° <b>II</b> 08'34	0°37'50
opposition	-728 Dec 06 j 20:55	8° <b>II</b> 39'01	-1°08'41	max. Earth dist.	-721 Jun 23 j 14:12	23° <b>II</b> 07'36	30.98826 AU
min. Earth dist.	-728 Dec 06 j 23:27	8° <b>II</b> 38'50	28.93796 AU	morning rise	-721 Jul 10 j 07:20	23° <b>II</b> 44'32	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 15

Attention, astronomical year style is used: The year -721 in astronomical counting style is the year 722 BCE in historical counting style.

retrograde	-721 Oct 06 j 11:02	25° $\Pi$ 38'32		retrograde	-715 Oct 19 j 06:03	8° $\ominus$ 55'38	
opposition	-721 Dec 22 j 21:12	24° $\Pi$ 15'04	-0°38'10	opposition	-714 Jan 04 j 10:41	7° $\ominus$ 32'47	-0°09'50
min. Earth dist.	-721 Dec 23 j 06:07	24° $\Pi$ 14'26	28.99281 AU	min. Earth dist.	-714 Jan 04 j 22:52	7° $\ominus$ 31'56	29.06330 AU
direct	-720 Mar 11 j 01:57	22° $\Pi$ 49'48		direct	-714 Mar 25 j 02:56	6° $\ominus$ 07'35	
evening set	-720 Jun 09 j 05:50	24° $\Pi$ 45'31		evening set	-714 Jun 23 j 15:20	8° $\ominus$ 03'41	
conjunction	-720 Jun 25 j 14:12	25° $\Pi$ 21'36	-0°33'32	conjunction	-714 Jul 09 j 22:18	8° $\ominus$ 39'39	-0°06'59
minimum elong	-720 Jun 25 j 14:13	25° $\Pi$ 21'36	0°33'31	minimum elong	-714 Jul 09 j 22:19	8° $\ominus$ 39'40	0°06'58
max. Earth dist.	-720 Jun 25 j 04:11	25° $\Pi$ 20'40	30.99725 AU	behind sun begin	-714 Jul 09 j 16:13	8° $\ominus$ 39'07	
morning rise	-720 Jul 11 j 20:32	25° $\Pi$ 57'32		behind sun end	-714 Jul 10 j 04:24	8° $\ominus$ 40'12	
retrograde	-720 Oct 07 j 21:59	27° $\Pi$ 51'23		max. Earth dist.	-714 Jul 09 j 07:15	8° $\ominus$ 38'16	31.06884 AU
opposition	-720 Dec 24 j 07:23	26° $\Pi$ 27'59	-0°33'33	morning rise	-714 Jul 26 j 02:39	9° $\ominus$ 15'25	
min. Earth dist.	-720 Dec 24 j 16:39	26° $\Pi$ 27'20	29.00237 AU	retrograde	-714 Oct 21 j 16:11	11° $\ominus$ 08'37	
direct	-719 Mar 13 j 15:50	25° $\Pi$ 02'42		opposition	-713 Jan 06 j 21:02	9° $\ominus$ 45'51	-0°05'02
evening set	-719 Jun 11 j 19:32	26° $\Pi$ 58'28		min. Earth dist.	-713 Jan 07 j 11:02	9° $\ominus$ 44'52	29.07442 AU
conjunction	-719 Jun 28 j 03:36	27° $\Pi$ 34'31	-0°29'11	direct	-713 Mar 27 j 12:36	8° $\ominus$ 20'39	
minimum elong	-719 Jun 28 j 03:36	27° $\Pi$ 34'31	0°29'11	evening set	-713 Jun 26 j 04:52	10° $\ominus$ 16'47	
max. Earth dist.	-719 Jun 27 j 15:58	27° $\Pi$ 33'27	31.00760 AU	conjunction	-713 Jul 12 j 11:36	10° $\ominus$ 52'44	-0°02'29
morning rise	-719 Jul 14 j 09:47	28° $\Pi$ 10'26		minimum elong	-713 Jul 12 j 11:36	10° $\ominus$ 52'44	0°02'30
	-719 Sep 24 j 20:31	0° $\ominus$		behind sun begin	-713 Jul 12 j 05:02	10° $\ominus$ 52'09	
retrograde	-719 Oct 10 j 10:00	0° $\ominus$ 04'10		behind sun end	-713 Jul 12 j 18:10	10° $\ominus$ 53'19	
	-719 Oct 25 j 23:59	30° $\kappa$ $\Pi$		max. Earth dist.	-713 Jul 11 j 19:43	10° $\ominus$ 51'16	31.07943 AU
opposition	-719 Dec 26 j 17:35	28° $\Pi$ 40'50	-0°28'52	morning rise	-713 Jul 28 j 15:32	11° $\ominus$ 28'28	
min. Earth dist.	-719 Dec 27 j 03:04	28° $\Pi$ 40'10	29.01349 AU	retrograde	-713 Oct 24 j 02:30	13° $\ominus$ 21'32	
direct	-718 Mar 16 j 03:08	27° $\Pi$ 15'33		opposition	-712 Jan 09 j 07:24	11° $\ominus$ 58'51	-0°00'13
evening set	-718 Jun 14 j 08:54	29° $\Pi$ 11'23		min. Earth dist.	-712 Jan 09 j 21:31	11° $\ominus$ 57'51	29.08438 AU
conjunction	-718 Jun 30 j 16:59	29° $\Pi$ 47'25	-0°24'48	asc. node	-712 Jan 26 j 11:27	11° $\ominus$ 30'29	
minimum elong	-718 Jun 30 j 17:00	29° $\Pi$ 47'26	0°24'47	direct	-712 Mar 29 j 01:36	10° $\ominus$ 33'37	
max. Earth dist.	-718 Jun 30 j 05:57	29° $\Pi$ 46'25	31.01934 AU	evening set	-712 Jun 27 j 18:21	12° $\ominus$ 29'47	
	-718 Jul 06 j 08:34	0° $\ominus$		max. Earth dist.	-712 Jul 13 j 07:10	13° $\ominus$ 04'05	31.08888 AU
morning rise	-718 Jul 16 j 22:45	0° $\ominus$ 23'18		conjunction	-712 Jul 14 j 00:38	13° $\ominus$ 05'42	0°02'08
retrograde	-718 Oct 12 j 20:53	2° $\ominus$ 16'55		minimum elong	-712 Jul 14 j 00:37	13° $\ominus$ 05'42	0°02'09
opposition	-718 Dec 29 j 03:52	0° $\ominus$ 53'43	-0°24'10	behind sun begin	-712 Jul 13 j 18:02	13° $\ominus$ 05'07	
min. Earth dist.	-718 Dec 29 j 14:25	0° $\ominus$ 52'58	29.02565 AU	behind sun end	-712 Jul 14 j 07:12	13° $\ominus$ 06'17	
	-717 Feb 01 j 12:30	30° $\kappa$ $\Pi$		morning rise	-712 Jul 30 j 04:08	13° $\ominus$ 41'23	
direct	-717 Mar 18 j 15:52	29° $\Pi$ 28'27		retrograde	-712 Oct 25 j 13:15	15° $\ominus$ 34'21	
	-717 May 02 j 00:09	0° $\ominus$		opposition	-711 Jan 10 j 17:48	14° $\ominus$ 11'41	0°04'35
evening set	-717 Jun 16 j 22:37	1° $\ominus$ 24'21		min. Earth dist.	-711 Jan 11 j 09:09	14° $\ominus$ 10'37	29.09351 AU
conjunction	-717 Jul 03 j 06:21	2° $\ominus$ 00'23	-0°20'23	direct	-711 Mar 31 j 13:18	12° $\ominus$ 46'26	
minimum elong	-717 Jul 03 j 06:21	2° $\ominus$ 00'23	0°20'23	evening set	-711 Jun 30 j 07:35	14° $\ominus$ 42'37	
max. Earth dist.	-717 Jul 02 j 17:32	1° $\ominus$ 59'12	31.03198 AU	conjunction	-711 Jul 16 j 13:37	15° $\ominus$ 18'30	0°06'37
morning rise	-717 Jul 19 j 11:57	2° $\ominus$ 36'14		minimum elong	-711 Jul 16 j 13:37	15° $\ominus$ 18'30	0°06'37
retrograde	-717 Oct 15 j 09:44	4° $\ominus$ 29'44		behind sun begin	-711 Jul 16 j 07:29	15° $\ominus$ 17'57	
opposition	-717 Dec 31 j 13:56	3° $\ominus$ 06'40	-0°19'25	behind sun end	-711 Jul 16 j 19:46	15° $\ominus$ 19'02	
min. Earth dist.	-716 Jan 01 j 00:27	3° $\ominus$ 05'55	29.03849 AU	max. Earth dist.	-711 Jul 15 j 20:18	15° $\ominus$ 16'54	31.09767 AU
direct	-716 Mar 20 j 03:34	1° $\ominus$ 41'26		morning rise	-711 Aug 01 j 16:36	15° $\ominus$ 54'08	
evening set	-716 Jun 18 j 12:15	3° $\ominus$ 37'24		retrograde	-711 Oct 27 j 23:25	17° $\ominus$ 46'58	
conjunction	-716 Jul 04 j 19:50	4° $\ominus$ 13'25	-0°15'56	opposition	-710 Jan 13 j 04:08	16° $\ominus$ 24'21	0°09'22
minimum elong	-716 Jul 04 j 19:50	4° $\ominus$ 13'25	0°15'55	min. Earth dist.	-710 Jan 13 j 20:07	16° $\ominus$ 23'14	29.10200 AU
max. Earth dist.	-716 Jul 04 j 07:00	4° $\ominus$ 12'15	31.04479 AU	direct	-710 Apr 03 j 03:00	14° $\ominus$ 59'03	
morning rise	-716 Jul 21 j 00:55	4° $\ominus$ 49'15		evening set	-710 Jul 02 j 20:46	16° $\ominus$ 55'15	
retrograde	-716 Oct 16 j 19:09	6° $\ominus$ 42'39		max. Earth dist.	-710 Jul 18 j 07:18	17° $\ominus$ 29'19	31.10606 AU
opposition	-715 Jan 02 j 00:23	5° $\ominus$ 19'42	-0°14'38	conjunction	-710 Jul 19 j 02:18	17° $\ominus$ 31'05	0°11'05
min. Earth dist.	-715 Jan 02 j 12:41	5° $\ominus$ 18'50	29.05121 AU	minimum elong	-710 Jul 19 j 02:18	17° $\ominus$ 31'05	0°11'06
direct	-715 Mar 22 j 14:29	3° $\ominus$ 54'30		behind sun begin	-710 Jul 18 j 21:27	17° $\ominus$ 30'39	
evening set	-715 Jun 21 j 01:45	5° $\ominus$ 50'32		behind sun end	-710 Jul 19 j 07:09	17° $\ominus$ 31'30	
conjunction	-715 Jul 07 j 09:00	6° $\ominus$ 26'32	-0°11'27	morning rise	-710 Aug 04 j 04:58	18° $\ominus$ 06'40	
minimum elong	-715 Jul 07 j 09:00	6° $\ominus$ 26'32	0°11'27	retrograde	-710 Oct 30 j 10:58	19° $\ominus$ 59'23	
behind sun begin	-715 Jul 07 j 04:18	6° $\ominus$ 26'07		opposition	-709 Jan 15 j 14:26	18° $\ominus$ 36'47	0°14'08
behind sun end	-715 Jul 07 j 13:41	6° $\ominus$ 26'57		min. Earth dist.	-709 Jan 16 j 06:45	18° $\ominus$ 35'39	29.11044 AU
max. Earth dist.	-715 Jul 06 j 18:48	6° $\ominus$ 25'13	31.05730 AU	direct	-709 Apr 05 j 14:26	17° $\ominus$ 11'27	
morning rise	-715 Jul 23 j 13:48	7° $\ominus$ 02'19		evening set	-709 Jul 05 j 09:48	19° $\ominus$ 07'39	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16

Attention, astronomical year style is used: The year -709 in astronomical counting style is the year 710 BCE in historical counting style.

conjunction	-709 Jul 21 j 15:05	19° $\overline{43}$ '27	0°15'31	max. Earth dist.	-703 Aug 02 j 19:19	2° $\Omega$ 53'00	31.18089 AU
minimum elong	-709 Jul 21 j 15:05	19° $\overline{43}$ '27	0°15'31	morning rise	-703 Aug 19 j 15:35	3° $\Omega$ 30'16	
behind sun begin	-709 Jul 21 j 13:45	19° $\overline{43}$ '19		retrograde	-703 Nov 14 j 11:05	5° $\Omega$ 22'24	
behind sun end	-709 Jul 21 j 16:25	19° $\overline{43}$ '34		opposition	-702 Jan 30 j 15:22	4° $\Omega$ 00'16	0°46'29
max. Earth dist.	-709 Jul 20 j 20:40	19° $\overline{41}$ '45	31.11449 AU	min. Earth dist.	-702 Jan 31 j 10:42	3° $\Omega$ 58'55	29.18704 AU
morning rise	-709 Aug 06 j 17:05	20° $\overline{18}$ '59		direct	-702 Apr 21 j 02:03	2° $\Omega$ 35'00	
retrograde	-709 Nov 01 j 21:24	22° $\overline{11}$ '34		evening set	-702 Jul 21 j 03:13	4° $\Omega$ 31'24	
opposition	-708 Jan 18 j 00:46	20° $\overline{49}$ '00	0°18'53	max. Earth dist.	-702 Aug 05 j 07:43	5° $\Omega$ 04'56	31.19205 AU
min. Earth dist.	-708 Jan 18 j 18:06	20° $\overline{47}$ '47	29.11906 AU				
direct	-708 Apr 07 j 04:29	19° $\overline{23}$ '38		conjunction	-702 Aug 06 j 05:00	5° $\Omega$ 06'55	0°45'37
evening set	-708 Jul 06 j 22:53	21° $\overline{19}$ '50		minimum elong	-702 Aug 06 j 04:59	5° $\Omega$ 06'55	0°45'39
max. Earth dist.	-708 Jul 22 j 07:43	21° $\overline{53}$ '45	31.12351 AU	morning rise	-702 Aug 22 j 03:05	5° $\Omega$ 42'08	
				retrograde	-702 Nov 16 j 20:56	7° $\Omega$ 34'13	
conjunction	-708 Jul 23 j 03:34	21° $\overline{55}$ '35	0°19'56	opposition	-701 Feb 02 j 02:04	6° $\Omega$ 12'09	0°50'53
minimum elong	-708 Jul 23 j 03:33	21° $\overline{55}$ '35	0°19'57	min. Earth dist.	-701 Feb 02 j 22:04	6° $\Omega$ 10'45	29.19752 AU
morning rise	-708 Aug 08 j 05:12	22° $\overline{31}$ '05		direct	-701 Apr 23 j 14:47	4° $\Omega$ 46'55	
retrograde	-708 Nov 03 j 09:23	24° $\overline{23}$ '33		evening set	-701 Jul 23 j 15:59	6° $\Omega$ 43'20	
opposition	-707 Jan 19 j 11:07	23° $\overline{01}$ '01	0°23'36				
min. Earth dist.	-707 Jan 20 j 03:52	22° $\overline{59}$ '51	29.12858 AU	conjunction	-701 Aug 08 j 17:01	7° $\Omega$ 18'48	0°49'42
direct	-707 Apr 09 j 17:20	21° $\overline{35}$ '37		minimum elong	-701 Aug 08 j 17:01	7° $\Omega$ 18'48	0°49'42
evening set	-707 Jul 09 j 11:33	23° $\overline{31}$ '51		max. Earth dist.	-701 Aug 07 j 18:02	7° $\Omega$ 16'40	31.20183 AU
				morning rise	-701 Aug 24 j 14:36	7° $\Omega$ 53'59	
conjunction	-707 Jul 25 j 15:54	24° $\overline{07}$ '33	0°24'20	retrograde	-701 Nov 19 j 08:34	9° $\Omega$ 46'01	
minimum elong	-707 Jul 25 j 15:53	24° $\overline{07}$ '33	0°24'20	opposition	-700 Feb 04 j 12:42	8° $\Omega$ 24'00	0°55'12
max. Earth dist.	-707 Jul 24 j 20:38	24° $\overline{05}$ '47	31.13345 AU	min. Earth dist.	-700 Feb 05 j 08:59	8° $\Omega$ 22'35	29.20674 AU
morning rise	-707 Aug 10 j 16:50	24° $\overline{43}$ '00		direct	-700 Apr 25 j 01:56	6° $\Omega$ 58'46	
retrograde	-707 Nov 05 j 18:17	26° $\overline{35}$ '23		evening set	-700 Jul 25 j 04:29	8° $\Omega$ 55'13	
opposition	-706 Jan 21 j 21:36	25° $\overline{12}$ '54	0°28'16	max. Earth dist.	-700 Aug 09 j 06:38	9° $\Omega$ 28'33	31.21026 AU
min. Earth dist.	-706 Jan 22 j 15:34	25° $\overline{11}$ '39	29.13915 AU				
direct	-706 Apr 12 j 04:57	23° $\overline{47}$ '31		conjunction	-700 Aug 10 j 05:06	9° $\Omega$ 30'38	0°53'42
evening set	-706 Jul 12 j 00:24	25° $\overline{43}$ '45		minimum elong	-700 Aug 10 j 05:06	9° $\Omega$ 30'38	0°53'43
max. Earth dist.	-706 Jul 27 j 08:09	26° $\overline{17}$ '34	31.14463 AU	morning rise	-700 Aug 26 j 01:54	10° $\Omega$ 05'45	
				retrograde	-700 Nov 20 j 18:55	11° $\Omega$ 57'45	
conjunction	-706 Jul 28 j 04:11	26° $\overline{19}$ '25	0°28'41	opposition	-699 Feb 05 j 23:33	10° $\Omega$ 35'45	0°59'26
minimum elong	-706 Jul 28 j 04:11	26° $\overline{19}$ '25	0°28'42	min. Earth dist.	-699 Feb 06 j 20:59	10° $\Omega$ 34'16	29.21454 AU
morning rise	-706 Aug 13 j 04:43	26° $\overline{54}$ '49		direct	-699 Apr 27 j 15:46	9° $\Omega$ 10'32	
retrograde	-706 Nov 08 j 04:58	28° $\overline{47}$ '06		evening set	-699 Jul 27 j 16:50	11° $\Omega$ 06'59	
opposition	-705 Jan 24 j 07:47	27° $\overline{24}$ '43	0°32'54				
min. Earth dist.	-705 Jan 25 j 01:07	27° $\overline{23}$ '30	29.15077 AU	conjunction	-699 Aug 12 j 16:43	11° $\Omega$ 42'21	0°57'38
direct	-705 Apr 14 j 17:16	25° $\overline{59}$ '20		minimum elong	-699 Aug 12 j 16:43	11° $\Omega$ 42'21	0°57'37
evening set	-705 Jul 14 j 13:13	27° $\overline{55}$ '37		max. Earth dist.	-699 Aug 11 j 16:42	11° $\Omega$ 40'07	31.21749 AU
				morning rise	-699 Aug 28 j 13:05	12° $\Omega$ 17'25	
conjunction	-705 Jul 30 j 16:33	28° $\overline{31}$ '15	0°33'00	retrograde	-699 Nov 23 j 06:46	14° $\Omega$ 09'22	
minimum elong	-705 Jul 30 j 16:33	28° $\overline{31}$ '15	0°33'00	opposition	-698 Feb 08 j 10:12	12° $\Omega$ 47'23	1°03'35
max. Earth dist.	-705 Jul 29 j 20:21	28° $\overline{29}$ '23	31.15658 AU	min. Earth dist.	-698 Feb 09 j 07:13	12° $\Omega$ 45'56	29.22127 AU
morning rise	-705 Aug 15 j 16:26	29° $\overline{06}$ '37		direct	-698 Apr 30 j 04:46	11° $\Omega$ 22'09	
	-705 Sep 11 j 05:33	0° $\Omega$		evening set	-698 Jul 30 j 05:04	13° $\Omega$ 18'36	
retrograde	-705 Nov 10 j 15:01	0° $\Omega$ 58'50		max. Earth dist.	-698 Aug 14 j 04:51	13° $\Omega$ 51'44	31.22366 AU
	-704 Jan 12 j 12:43	30° $\overline{R}$ $\overline{2}$					
opposition	-704 Jan 26 j 18:19	29° $\overline{36}$ '32	0°37'29	conjunction	-698 Aug 15 j 04:30	13° $\Omega$ 53'56	1°01'28
min. Earth dist.	-704 Jan 27 j 12:54	29° $\overline{35}$ '14	29.16307 AU	minimum elong	-698 Aug 15 j 04:30	13° $\Omega$ 53'56	1°01'28
direct	-704 Apr 16 j 03:00	28° $\overline{11}$ '12		morning rise	-698 Aug 31 j 00:06	14° $\Omega$ 28'56	
	-704 Jul 12 j 14:12	0° $\Omega$			-698 Sep 14 j 19:29	15° $\Omega$	
evening set	-704 Jul 16 j 01:53	0° $\Omega$ 07'30		retrograde	-698 Nov 25 j 15:40	16° $\Omega$ 20'50	
max. Earth dist.	-704 Jul 31 j 08:20	0° $\Omega$ 41'13	31.16895 AU	opposition	-697 Feb 10 j 20:52	14° $\Omega$ 58'52	1°07'37
					-697 Feb 10 j 04:26	15° $\overline{R}$ $\overline{\Omega}$	
conjunction	-704 Aug 01 j 04:42	0° $\Omega$ 43'06	0°37'16	min. Earth dist.	-697 Feb 11 j 19:21	14° $\Omega$ 57'18	29.22717 AU
minimum elong	-704 Aug 01 j 04:41	0° $\Omega$ 43'06	0°37'17	direct	-697 May 02 j 16:50	13° $\Omega$ 33'36	
morning rise	-704 Aug 17 j 04:00	1° $\Omega$ 18'25			-697 Jul 18 j 09:46	15° $\Omega$	
retrograde	-704 Nov 12 j 00:36	3° $\Omega$ 10'36		evening set	-697 Aug 01 j 17:16	15° $\Omega$ 30'03	
opposition	-703 Jan 28 j 04:49	1° $\Omega$ 48'23	0°42'01				
min. Earth dist.	-703 Jan 28 j 23:10	1° $\Omega$ 47'06	29.17529 AU	conjunction	-697 Aug 17 j 16:00	16° $\Omega$ 05'19	1°05'12
direct	-703 Apr 18 j 15:43	0° $\Omega$ 23'05		minimum elong	-697 Aug 17 j 16:00	16° $\Omega$ 05'19	1°05'12
evening set	-703 Jul 18 j 14:39	2° $\Omega$ 19'26		max. Earth dist.	-697 Aug 16 j 15:37	16° $\Omega$ 03'03	31.22938 AU
				morning rise	-697 Sep 02 j 11:05	16° $\Omega$ 40'17	
conjunction	-703 Aug 03 j 16:50	2° $\Omega$ 55'00	0°41'29	retrograde	-697 Nov 28 j 02:05	18° $\Omega$ 32'07	
minimum elong	-703 Aug 03 j 16:50	2° $\Omega$ 55'00	0°41'29	opposition	-696 Feb 13 j 07:32	17° $\Omega$ 10'09	1°11'34



## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 17

Attention, astronomical year style is used: The year -696 in astronomical counting style is the year 697 BCE in historical counting style.

min. Earth dist.	-696 Feb 14 j 05:15	17°Ω08'39	29.23280 AU	conjunction	-690 Sep 01 j 21:08	1°♊22'30	1°28'24
direct	-696 May 04 j 05:56	15°Ω44'53		minimum elong	-690 Sep 01 j 21:08	1°♊22'30	1°28'25
evening set	-696 Aug 03 j 05:08	17°Ω41'18		max. Earth dist.	-690 Aug 31 j 20:55	1°♊20'15	31.28250 AU
max. Earth dist.	-696 Aug 18 j 03:03	18°Ω14'17	31.23497 AU	morning rise	-690 Sep 17 j 11:50	1°♊57'09	
				retrograde	-690 Dec 13 j 00:27	3°♊48'58	
conjunction	-696 Aug 19 j 03:16	18°Ω16'32	1°08'50	opposition	-689 Feb 28 j 11:41	2°♊27'14	1°35'56
minimum elong	-696 Aug 19 j 03:15	18°Ω16'32	1°08'51	min. Earth dist.	-689 Mar 01 j 09:23	2°♊25'45	29.28725 AU
morning rise	-696 Sep 03 j 21:38	18°Ω51'27		direct	-689 May 20 j 14:00	1°♊02'13	
retrograde	-696 Nov 29 j 11:43	20°Ω43'14		evening set	-689 Aug 19 j 14:21	2°♊58'40	
opposition	-695 Feb 14 j 18:24	19°Ω21'17	1°15'24	max. Earth dist.	-689 Sep 03 j 08:25	3°♊31'22	31.28967 AU
min. Earth dist.	-695 Feb 15 j 16:58	19°Ω19'43	29.23878 AU				
direct	-695 May 06 j 16:19	17°Ω56'00		conjunction	-689 Sep 04 j 08:04	3°♊33'34	1°31'14
evening set	-695 Aug 05 j 16:55	19°Ω52'24		minimum elong	-689 Sep 04 j 08:04	3°♊33'34	1°31'13
				morning rise	-689 Sep 19 j 21:59	4°♊08'10	
conjunction	-695 Aug 21 j 14:27	20°Ω27'35	1°12'23	retrograde	-689 Dec 15 j 10:08	6°♊00'00	
minimum elong	-695 Aug 21 j 14:26	20°Ω27'35	1°12'22	opposition	-688 Mar 01 j 23:00	4°♊38'18	1°38'53
max. Earth dist.	-695 Aug 20 j 14:36	20°Ω25'22	31.24127 AU	min. Earth dist.	-688 Mar 02 j 21:57	4°♊36'44	29.29388 AU
morning rise	-695 Sep 06 j 08:11	21°Ω02'27		direct	-688 May 22 j 02:00	3°♊13'19	
retrograde	-695 Dec 01 j 20:11	22°Ω54'13		evening set	-688 Aug 21 j 01:41	5°♊09'44	
opposition	-694 Feb 17 j 05:03	21°Ω32'17	1°19'08				
min. Earth dist.	-694 Feb 18 j 02:51	21°Ω30'46	29.24550 AU	conjunction	-688 Sep 05 j 18:40	5°♊44'35	1°33'56
direct	-694 May 09 j 05:10	20°Ω07'01		minimum elong	-688 Sep 05 j 18:40	5°♊44'35	1°33'57
evening set	-694 Aug 08 j 04:40	22°Ω03'24		max. Earth dist.	-688 Sep 04 j 18:29	5°♊42'20	31.29564 AU
max. Earth dist.	-694 Aug 23 j 01:07	22°Ω36'16	31.24845 AU	morning rise	-688 Sep 21 j 08:05	6°♊19'08	
				retrograde	-688 Dec 16 j 21:13	8°♊10'59	
conjunction	-694 Aug 24 j 01:31	22°Ω38'33	1°15'49	opposition	-687 Mar 04 j 10:12	6°♊49'17	1°41'42
minimum elong	-694 Aug 24 j 01:30	22°Ω38'33	1°15'50	min. Earth dist.	-687 Mar 05 j 08:20	6°♊47'46	29.29916 AU
morning rise	-694 Sep 08 j 18:41	23°Ω13'22		direct	-687 May 24 j 15:47	5°♊24'19	
retrograde	-694 Dec 04 j 05:52	25°Ω05'07		evening set	-687 Aug 23 j 12:59	7°♊20'42	
opposition	-693 Feb 19 j 15:53	23°Ω43'12	1°22'44	max. Earth dist.	-687 Sep 07 j 05:08	7°♊53'15	31.30015 AU
min. Earth dist.	-693 Feb 20 j 13:53	23°Ω41'41	29.25330 AU				
direct	-693 May 11 j 14:56	22°Ω17'58		conjunction	-687 Sep 08 j 05:23	7°♊55'31	1°36'31
evening set	-693 Aug 10 j 16:16	24°Ω14'22		minimum elong	-687 Sep 08 j 05:22	7°♊55'31	1°36'30
				morning rise	-687 Sep 23 j 18:08	8°♊30'01	
conjunction	-693 Aug 26 j 12:35	24°Ω49'28	1°19'08	retrograde	-687 Dec 19 j 07:14	10°♊21'52	
minimum elong	-693 Aug 26 j 12:35	24°Ω49'28	1°19'08	opposition	-686 Mar 06 j 21:24	9°♊00'09	1°44'23
max. Earth dist.	-693 Aug 25 j 13:16	24°Ω47'18	31.25664 AU	min. Earth dist.	-686 Mar 07 j 20:32	8°♊58'34	29.30319 AU
morning rise	-693 Sep 11 j 05:00	25°Ω24'15		direct	-686 May 27 j 03:09	7°♊35'11	
retrograde	-693 Dec 06 j 14:59	27°Ω16'00		evening set	-686 Aug 26 j 00:08	9°♊31'32	
opposition	-692 Feb 22 j 02:46	25°Ω54'09	1°26'14				
min. Earth dist.	-692 Feb 23 j 00:46	25°Ω52'38	29.26178 AU	conjunction	-686 Sep 10 j 15:58	10°♊06'18	1°38'56
direct	-692 May 13 j 02:24	24°Ω28'58		minimum elong	-686 Sep 10 j 15:58	10°♊06'17	1°38'57
evening set	-692 Aug 12 j 03:57	26°Ω25'23		max. Earth dist.	-686 Sep 09 j 15:58	10°♊04'03	31.30357 AU
				morning rise	-686 Sep 26 j 04:10	10°♊40'45	
conjunction	-692 Aug 27 j 23:28	27°Ω00'26	1°22'21	retrograde	-686 Dec 21 j 15:38	12°♊32'35	
minimum elong	-692 Aug 27 j 23:28	27°Ω00'25	1°22'22	opposition	-685 Mar 09 j 08:39	11°♊10'51	1°46'54
max. Earth dist.	-692 Aug 26 j 23:16	26°Ω58'10	31.26541 AU	min. Earth dist.	-685 Mar 10 j 07:12	11°♊09'18	29.30600 AU
morning rise	-692 Sep 12 j 15:24	27°Ω35'10		direct	-685 May 29 j 16:25	9°♊45'53	
retrograde	-692 Dec 08 j 02:29	29°Ω26'56		evening set	-685 Aug 28 j 11:11	11°♊42'10	
opposition	-691 Feb 23 j 13:41	28°Ω05'08	1°29'36	max. Earth dist.	-685 Sep 12 j 01:42	12°♊14'35	31.30595 AU
min. Earth dist.	-691 Feb 24 j 11:16	28°Ω03'39	29.27078 AU				
direct	-691 May 15 j 12:48	26°Ω40'01		conjunction	-685 Sep 13 j 02:18	12°♊16'53	1°41'14
evening set	-691 Aug 14 j 15:16	28°Ω36'26		minimum elong	-685 Sep 13 j 02:18	12°♊16'53	1°41'13
max. Earth dist.	-691 Aug 29 j 11:17	29°Ω09'18	31.27424 AU	morning rise	-685 Sep 28 j 13:58	12°♊51'18	
				retrograde	-685 Dec 24 j 01:08	14°♊43'08	
conjunction	-691 Aug 30 j 10:20	29°Ω11'26	1°25'26	opposition	-684 Mar 10 j 19:58	13°♊21'22	1°49'16
minimum elong	-691 Aug 30 j 10:20	29°Ω11'26	1°25'26	min. Earth dist.	-684 Mar 11 j 18:40	13°♊19'48	29.30825 AU
morning rise	-691 Sep 15 j 01:30	29°Ω46'08		direct	-684 May 31 j 02:48	11°♊56'23	
	-691 Sep 21 j 12:23	0°♊		evening set	-684 Aug 29 j 21:58	13°♊52'36	
retrograde	-691 Dec 10 j 12:43	1°♊37'56					
opposition	-690 Feb 26 j 00:46	0°♊16'10	1°32'50	conjunction	-684 Sep 14 j 12:36	14°♊27'17	1°43'22
min. Earth dist.	-690 Feb 26 j 23:10	0°♊14'38	29.27940 AU	minimum elong	-684 Sep 14 j 12:36	14°♊27'17	1°43'23
	-690 Mar 07 j 21:09	30°♊Ω		max. Earth dist.	-684 Sep 13 j 13:16	14°♊25'06	31.30805 AU
direct	-690 May 18 j 01:54	28°Ω51'07		morning rise	-684 Sep 29 j 23:37	15°♊01'39	
	-690 Jul 24 j 20:24	0°♊		retrograde	-684 Dec 25 j 09:40	16°♊53'30	
evening set	-690 Aug 17 j 02:53	0°♊47'33		opposition	-683 Mar 13 j 07:19	15°♊31'41	1°51'29
				min. Earth dist.	-683 Mar 14 j 05:50	15°♊30'08	29.31037 AU

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 18

Attention, astronomical year style is used: The year -683 in astronomical counting style is the year 684 BCE in historical counting style.

direct	-683 Jun 02 j 14:40	14° <u>06</u> '42		morning rise	-677 Oct 15 j 17:19	0° <u>01</u> '13	
evening set	-683 Sep 01 j 08:38	16° <u>02</u> '52		retrograde	-676 Jan 10 j 10:41	2° <u>05</u> '32	
				opposition	-676 Mar 28 j 15:55	0° <u>43</u> '49	2°02'20
conjunction	-683 Sep 16 j 22:32	16° <u>37</u> '29	1°45'22	min. Earth dist.	-676 Mar 29 j 11:10	0° <u>42</u> '30	29.34066 AU
minimum elong	-683 Sep 16 j 22:32	16° <u>37</u> '29	1°45'21		-676 Apr 25 j 21:55	30° <u>08</u> ' <u>00</u>	
max. Earth dist.	-683 Sep 15 j 22:40	16° <u>35</u> '15	31.31037 AU	direct	-676 Jun 18 j 01:09	29° <u>09</u> '19	
morning rise	-683 Oct 02 j 09:10	17° <u>11</u> '50			-676 Aug 08 j 00:09	0° <u>00</u> '	
retrograde	-683 Dec 27 j 20:27	19° <u>03</u> '42		evening set	-676 Sep 16 j 09:26	1° <u>15</u> '20	
opposition	-682 Mar 15 j 18:35	17° <u>41</u> '51	1°53'32				
min. Earth dist.	-682 Mar 16 j 16:11	17° <u>40</u> '22	29.31312 AU	conjunction	-676 Oct 01 j 19:31	1° <u>49</u> '43	1°54'58
direct	-682 Jun 05 j 01:15	16° <u>16</u> '53		minimum elong	-676 Oct 01 j 19:30	1° <u>49</u> '43	1°54'59
evening set	-682 Sep 03 j 19:09	18° <u>13</u> '00		max. Earth dist.	-676 Sep 30 j 22:54	1° <u>47</u> '47	31.34075 AU
max. Earth dist.	-682 Sep 18 j 10:22	18° <u>45</u> '31	31.31343 AU	morning rise	-676 Oct 17 j 02:45	2° <u>23</u> '51	
				retrograde	-675 Jan 11 j 20:51	4° <u>16</u> '15	
conjunction	-682 Sep 19 j 08:38	18° <u>47</u> '35	1°47'12	opposition	-675 Mar 31 j 03:47	2° <u>54</u> '32	2°03'12
minimum elong	-682 Sep 19 j 08:37	18° <u>47</u> '35	1°47'12	min. Earth dist.	-675 Mar 31 j 23:04	2° <u>53</u> '13	29.34336 AU
morning rise	-682 Oct 04 j 18:32	19° <u>21</u> '53		direct	-675 Jun 20 j 11:26	1° <u>30</u> '05	
retrograde	-682 Dec 30 j 05:56	21° <u>13</u> '48		evening set	-675 Sep 18 j 19:32	3° <u>26</u> '03	
opposition	-681 Mar 18 j 05:57	19° <u>51</u> '57	1°55'25	max. Earth dist.	-675 Oct 03 j 09:53	3° <u>58</u> '35	31.34266 AU
min. Earth dist.	-681 Mar 19 j 03:43	19° <u>50</u> '28	29.31667 AU				
direct	-681 Jun 07 j 13:22	18° <u>27</u> '02		conjunction	-675 Oct 04 j 05:18	4° <u>00</u> '25	1°55'42
evening set	-681 Sep 06 j 05:46	20° <u>23</u> '07		minimum elong	-675 Oct 04 j 05:18	4° <u>00</u> '25	1°55'41
				morning rise	-675 Oct 19 j 12:02	4° <u>34</u> '32	
conjunction	-681 Sep 21 j 18:31	20° <u>57</u> '40	1°48'54	retrograde	-674 Jan 14 j 05:54	6° <u>27</u> '00	
minimum elong	-681 Sep 21 j 18:30	20° <u>57</u> '40	1°48'53	opposition	-674 Apr 02 j 15:45	5° <u>05</u> '16	2°03'53
max. Earth dist.	-681 Sep 20 j 19:54	20° <u>55</u> '33	31.31757 AU	min. Earth dist.	-674 Apr 03 j 11:00	5° <u>03</u> '57	29.34441 AU
morning rise	-681 Oct 07 j 04:04	21° <u>31</u> '56		direct	-674 Jun 22 j 23:25	3° <u>40</u> '52	
retrograde	-680 Jan 01 j 17:35	23° <u>23</u> '55		evening set	-674 Sep 21 j 05:49	5° <u>36</u> '45	
opposition	-680 Mar 19 j 17:21	22° <u>02</u> '04	1°57'08				
min. Earth dist.	-680 Mar 20 j 13:34	22° <u>00</u> '41	29.32129 AU	conjunction	-674 Oct 06 j 14:56	6° <u>11</u> '05	1°56'16
direct	-680 Jun 09 j 00:30	20° <u>37</u> '13		minimum elong	-674 Oct 06 j 14:56	6° <u>11</u> '05	1°56'16
evening set	-680 Sep 07 j 16:00	22° <u>33</u> '18		max. Earth dist.	-674 Oct 05 j 18:43	6° <u>09</u> '11	31.34299 AU
max. Earth dist.	-680 Sep 22 j 06:59	23° <u>05</u> '49	31.32251 AU	morning rise	-674 Oct 21 j 21:26	6° <u>45</u> '11	
				retrograde	-673 Jan 16 j 16:41	8° <u>37</u> '43	
conjunction	-680 Sep 23 j 04:19	23° <u>07</u> '49	1°50'26	opposition	-673 Apr 05 j 03:36	7° <u>15</u> '56	2°04'24
minimum elong	-680 Sep 23 j 04:18	23° <u>07</u> '49	1°50'26	min. Earth dist.	-673 Apr 05 j 22:09	7° <u>14</u> '41	29.34407 AU
morning rise	-680 Oct 08 j 13:15	23° <u>42</u> '03		direct	-673 Jun 25 j 10:14	5° <u>51</u> '34	
retrograde	-679 Jan 03 j 03:30	25° <u>34</u> '07		evening set	-673 Sep 23 j 15:49	7° <u>47</u> '22	
opposition	-679 Mar 22 j 04:56	24° <u>12</u> '18	1°58'42	max. Earth dist.	-673 Oct 08 j 05:50	8° <u>19</u> '54	31.34199 AU
min. Earth dist.	-679 Mar 23 j 01:45	24° <u>10</u> '53	29.32655 AU				
direct	-679 Jun 11 j 11:53	22° <u>47</u> '33		conjunction	-673 Oct 09 j 00:40	8° <u>21</u> '40	1°56'40
evening set	-679 Sep 10 j 02:24	24° <u>43</u> '37		minimum elong	-673 Oct 09 j 00:40	8° <u>21</u> '40	1°56'39
				morning rise	-673 Oct 24 j 06:39	8° <u>55</u> '45	
conjunction	-679 Sep 25 j 14:06	25° <u>18</u> '05	1°51'48	retrograde	-672 Jan 19 j 02:02	10° <u>48</u> '20	
minimum elong	-679 Sep 25 j 14:05	25° <u>18</u> '05	1°51'48	opposition	-672 Apr 06 j 15:44	9° <u>26</u> '30	2°04'45
max. Earth dist.	-679 Sep 24 j 16:58	25° <u>16</u> '06	31.32795 AU	min. Earth dist.	-672 Apr 07 j 10:37	9° <u>25</u> '13	29.34251 AU
morning rise	-679 Oct 10 j 22:40	25° <u>52</u> '18		direct	-672 Jun 26 j 21:53	8° <u>02</u> '09	
retrograde	-678 Jan 05 j 14:56	27° <u>44</u> '26		evening set	-672 Sep 25 j 01:40	9° <u>57</u> '51	
opposition	-678 Mar 24 j 16:19	26° <u>22</u> '40	2°00'05				
min. Earth dist.	-678 Mar 25 j 11:52	26° <u>21</u> '20	29.33191 AU	conjunction	-672 Oct 10 j 09:58	10° <u>32</u> '07	1°56'54
direct	-678 Jun 14 j 01:06	24° <u>58</u> '00		minimum elong	-672 Oct 10 j 09:58	10° <u>32</u> '07	1°56'54
evening set	-678 Sep 12 j 12:47	26° <u>54</u> '03		max. Earth dist.	-672 Oct 09 j 14:51	10° <u>30</u> '20	31.34012 AU
				morning rise	-672 Oct 25 j 15:48	11° <u>06</u> '11	
conjunction	-678 Sep 27 j 23:58	27° <u>28</u> '30	1°53'01	retrograde	-671 Jan 20 j 13:16	12° <u>58</u> '50	
minimum elong	-678 Sep 27 j 23:58	27° <u>28</u> '30	1°53'02	opposition	-671 Apr 09 j 03:40	11° <u>36</u> '55	2°04'55
max. Earth dist.	-678 Sep 27 j 03:09	27° <u>26</u> '34	31.33307 AU	min. Earth dist.	-671 Apr 09 j 21:02	11° <u>35</u> '44	29.34037 AU
morning rise	-678 Oct 13 j 08:02	28° <u>02</u> '42		direct	-671 Jun 29 j 08:39	10° <u>12</u> '33	
retrograde	-677 Jan 08 j 01:52	29° <u>54</u> '55		evening set	-671 Sep 27 j 11:24	12° <u>08</u> '10	
opposition	-677 Mar 27 j 04:05	28° <u>33</u> '11	2°01'18				
min. Earth dist.	-677 Mar 28 j 00:12	28° <u>31</u> '49	29.33682 AU	conjunction	-671 Oct 12 j 19:25	12° <u>42</u> '25	1°56'58
direct	-677 Jun 16 j 12:15	27° <u>08</u> '36		minimum elong	-671 Oct 12 j 19:25	12° <u>42</u> '25	1°56'57
evening set	-677 Sep 14 j 23:03	29° <u>04</u> '39		max. Earth dist.	-671 Oct 12 j 01:29	12° <u>40</u> '44	31.33782 AU
				morning rise	-671 Oct 28 j 00:50	13° <u>16</u> '27	
conjunction	-677 Sep 30 j 09:44	29° <u>39</u> '04	1°54'05	retrograde	-670 Jan 22 j 23:16	15° <u>09</u> '09	
minimum elong	-677 Sep 30 j 09:44	29° <u>39</u> '04	1°54'04	opposition	-670 Apr 11 j 15:38	13° <u>47</u> '10	2°04'54
max. Earth dist.	-677 Sep 29 j 13:41	29° <u>37</u> '11	31.33753 AU	min. Earth dist.	-670 Apr 12 j 09:24	13° <u>45</u> '58	29.33820 AU
	-677 Oct 09 j 17:45	0° <u>00</u> '		direct	-670 Jul 01 j 20:31	12° <u>22</u> '49	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 19

Attention, astronomical year style is used: The year -670 in astronomical counting style is the year 671 BCE in historical counting style.

evening set	-670 Sep 29 j 21:10	14° <u>♂</u> 18'21		retrograde	-663 Feb 07 j 00:15	0° <u>♂</u> 21'19	
max. Earth dist.	-670 Oct 14 j 11:27	14° <u>♂</u> 50'56	31.33592 AU		-663 Mar 15 j 23:31	30° <u>♂</u> ♂	
				opposition	-663 Apr 27 j 05:23	28° <u>♂</u> 59'11	1°59'50
conjunction	-670 Oct 15 j 04:43	14° <u>♂</u> 52'34	1°56'52	min. Earth dist.	-663 Apr 27 j 18:00	28° <u>♂</u> 58'20	29.33282 AU
minimum elong	-670 Oct 15 j 04:43	14° <u>♂</u> 52'34	1°56'52	direct	-663 Jul 17 j 06:04	27° <u>♂</u> 35'18	
morning rise	-670 Oct 30 j 09:54	15° <u>♂</u> 26'35		evening set	-663 Oct 14 j 15:36	29° <u>♂</u> 30'23	
retrograde	-669 Jan 25 j 10:47	17° <u>♂</u> 19'20			-663 Oct 27 j 21:07	0° <u>♂</u> ♂	
opposition	-669 Apr 14 j 03:39	15° <u>♂</u> 57'18	2°04'43				
min. Earth dist.	-669 Apr 14 j 19:37	15° <u>♂</u> 56'13	29.33654 AU	conjunction	-663 Oct 29 j 21:03	0° <u>♂</u> 04'31	1°51'32
direct	-669 Jul 04 j 09:54	14° <u>♂</u> 32'59		minimum elong	-663 Oct 29 j 21:04	0° <u>♂</u> 04'31	1°51'31
evening set	-669 Oct 02 j 06:44	16° <u>♂</u> 28'26		max. Earth dist.	-663 Oct 29 j 08:32	0° <u>♂</u> 03'20	31.33010 AU
				morning rise	-663 Nov 14 j 01:00	0° <u>♂</u> 38'32	
conjunction	-669 Oct 17 j 13:53	17° <u>♂</u> 02'37	1°56'37	retrograde	-662 Feb 09 j 12:03	2° <u>♂</u> 32'03	
minimum elong	-669 Oct 17 j 13:53	17° <u>♂</u> 02'37	1°56'36	opposition	-662 Apr 29 j 17:42	1° <u>♂</u> 09'52	1°58'25
max. Earth dist.	-669 Oct 16 j 21:21	17° <u>♂</u> 01'04	31.33462 AU	min. Earth dist.	-662 Apr 30 j 04:52	1° <u>♂</u> 09'07	29.32937 AU
morning rise	-669 Nov 01 j 18:48	17° <u>♂</u> 36'38			-662 Jun 19 j 17:02	30° <u>♂</u> ♂	
retrograde	-668 Jan 27 j 21:45	19° <u>♂</u> 29'29		direct	-662 Jul 19 j 16:22	29° <u>♂</u> 46'03	
opposition	-668 Apr 15 j 15:53	18° <u>♂</u> 07'23	2°04'21		-662 Aug 18 j 01:59	0° <u>♂</u> ♂	
min. Earth dist.	-668 Apr 16 j 07:42	18° <u>♂</u> 06'19	29.33575 AU	evening set	-662 Oct 17 j 01:05	1° <u>♂</u> 41'04	
direct	-668 Jul 05 j 21:01	16° <u>♂</u> 43'07					
evening set	-668 Oct 03 j 16:15	18° <u>♂</u> 38'31		conjunction	-662 Nov 01 j 06:24	2° <u>♂</u> 15'12	1°50'08
				minimum elong	-662 Nov 01 j 06:24	2° <u>♂</u> 15'12	1°50'08
conjunction	-668 Oct 18 j 23:10	19° <u>♂</u> 12'41	1°56'11	max. Earth dist.	-662 Oct 31 j 18:42	2° <u>♂</u> 14'05	31.32583 AU
minimum elong	-668 Oct 18 j 23:10	19° <u>♂</u> 12'41	1°56'11	morning rise	-662 Nov 16 j 10:10	2° <u>♂</u> 49'13	
max. Earth dist.	-668 Oct 18 j 08:04	19° <u>♂</u> 11'16	31.33427 AU	retrograde	-661 Feb 11 j 22:59	4° <u>♂</u> 42'50	
morning rise	-668 Nov 03 j 03:47	19° <u>♂</u> 46'41		opposition	-661 May 02 j 06:26	3° <u>♂</u> 20'37	1°56'49
retrograde	-667 Jan 29 j 06:55	21° <u>♂</u> 39'37		min. Earth dist.	-661 May 02 j 18:10	3° <u>♂</u> 19'49	29.32432 AU
opposition	-667 Apr 18 j 03:55	20° <u>♂</u> 17'31	2°03'48	direct	-661 Jul 22 j 03:56	1° <u>♂</u> 56'50	
min. Earth dist.	-667 Apr 18 j 18:20	20° <u>♂</u> 16'33	29.33558 AU	evening set	-661 Oct 19 j 10:25	3° <u>♂</u> 51'46	
direct	-667 Jul 08 j 09:47	18° <u>♂</u> 53'19					
evening set	-667 Oct 06 j 01:45	20° <u>♂</u> 48'39		conjunction	-661 Nov 03 j 15:33	4° <u>♂</u> 25'53	1°48'34
				minimum elong	-661 Nov 03 j 15:33	4° <u>♂</u> 25'53	1°48'33
conjunction	-667 Oct 21 j 08:15	21° <u>♂</u> 22'49	1°55'35	max. Earth dist.	-661 Nov 03 j 04:26	4° <u>♂</u> 24'50	31.32014 AU
minimum elong	-667 Oct 21 j 08:15	21° <u>♂</u> 22'49	1°55'34	morning rise	-661 Nov 18 j 19:17	4° <u>♂</u> 59'55	
max. Earth dist.	-667 Oct 20 j 17:04	21° <u>♂</u> 21'23	31.33435 AU	retrograde	-660 Feb 14 j 11:08	6° <u>♂</u> 53'38	
morning rise	-667 Nov 05 j 12:49	21° <u>♂</u> 56'49		opposition	-660 May 03 j 19:03	5° <u>♂</u> 31'20	1°55'04
retrograde	-666 Jan 31 j 17:49	23° <u>♂</u> 49'51		min. Earth dist.	-660 May 04 j 05:13	5° <u>♂</u> 30'39	29.31782 AU
opposition	-666 Apr 20 j 16:07	22° <u>♂</u> 27'44	2°03'05	direct	-660 Jul 23 j 16:59	4° <u>♂</u> 07'34	
min. Earth dist.	-666 Apr 21 j 06:00	22° <u>♂</u> 26'48	29.33578 AU	evening set	-660 Oct 20 j 19:46	6° <u>♂</u> 02'25	
direct	-666 Jul 10 j 20:35	21° <u>♂</u> 03'37					
evening set	-666 Oct 08 j 11:09	22° <u>♂</u> 58'53		conjunction	-660 Nov 05 j 00:42	6° <u>♂</u> 36'32	1°46'50
				minimum elong	-660 Nov 05 j 00:43	6° <u>♂</u> 36'32	1°46'51
conjunction	-666 Oct 23 j 17:30	23° <u>♂</u> 33'03	1°54'49	max. Earth dist.	-660 Nov 04 j 13:53	6° <u>♂</u> 35'31	31.31309 AU
minimum elong	-666 Oct 23 j 17:30	23° <u>♂</u> 33'03	1°54'49	morning rise	-660 Nov 20 j 04:28	7° <u>♂</u> 10'34	
max. Earth dist.	-666 Oct 23 j 04:05	23° <u>♂</u> 31'47	31.33446 AU	retrograde	-659 Feb 15 j 22:40	9° <u>♂</u> 04'23	
morning rise	-666 Nov 07 j 21:42	24° <u>♂</u> 07'03		opposition	-659 May 06 j 07:37	7° <u>♂</u> 41'59	1°53'09
retrograde	-665 Feb 03 j 03:11	26° <u>♂</u> 00'12		min. Earth dist.	-659 May 06 j 17:57	7° <u>♂</u> 41'18	29.31040 AU
opposition	-665 Apr 23 j 04:25	24° <u>♂</u> 38'05	2°02'10	direct	-659 Jul 26 j 03:56	6° <u>♂</u> 18'14	
min. Earth dist.	-665 Apr 23 j 17:53	24° <u>♂</u> 37'11	29.33559 AU	evening set	-659 Oct 23 j 04:53	8° <u>♂</u> 12'59	
direct	-665 Jul 13 j 08:46	23° <u>♂</u> 14'04					
evening set	-665 Oct 10 j 20:43	25° <u>♂</u> 09'16		conjunction	-659 Nov 07 j 09:49	8° <u>♂</u> 47'06	1°44'58
				minimum elong	-659 Nov 07 j 09:49	8° <u>♂</u> 47'06	1°44'57
conjunction	-665 Oct 26 j 02:37	25° <u>♂</u> 43'25	1°53'53	max. Earth dist.	-659 Nov 07 j 00:29	8° <u>♂</u> 46'13	31.30544 AU
minimum elong	-665 Oct 26 j 02:37	25° <u>♂</u> 43'25	1°53'52	morning rise	-659 Nov 22 j 13:29	9° <u>♂</u> 21'08	
max. Earth dist.	-665 Oct 25 j 12:51	25° <u>♂</u> 42'07	31.33408 AU	retrograde	-658 Feb 18 j 08:10	11° <u>♂</u> 15'02	
morning rise	-665 Nov 10 j 06:49	26° <u>♂</u> 17'25		opposition	-658 May 08 j 20:09	9° <u>♂</u> 52'33	1°51'05
retrograde	-664 Feb 05 j 14:28	28° <u>♂</u> 10'41		min. Earth dist.	-658 May 09 j 05:03	9° <u>♂</u> 51'57	29.30249 AU
opposition	-664 Apr 24 j 16:49	26° <u>♂</u> 48'34	2°01'05	direct	-658 Jul 28 j 17:16	8° <u>♂</u> 28'48	
min. Earth dist.	-664 Apr 25 j 05:09	26° <u>♂</u> 47'44	29.33483 AU	evening set	-658 Oct 25 j 14:01	10° <u>♂</u> 23'27	
direct	-664 Jul 14 j 19:01	25° <u>♂</u> 24'37					
evening set	-664 Oct 12 j 06:02	27° <u>♂</u> 19'46		conjunction	-658 Nov 09 j 18:40	10° <u>♂</u> 57'34	1°42'57
				minimum elong	-658 Nov 09 j 18:40	10° <u>♂</u> 57'34	1°42'57
conjunction	-664 Oct 27 j 11:50	27° <u>♂</u> 53'55	1°52'48	max. Earth dist.	-658 Nov 09 j 09:21	10° <u>♂</u> 56'41	31.29765 AU
minimum elong	-664 Oct 27 j 11:50	27° <u>♂</u> 53'55	1°52'48	morning rise	-658 Nov 24 j 22:28	11° <u>♂</u> 31'37	
max. Earth dist.	-664 Oct 26 j 23:38	27° <u>♂</u> 52'46	31.33273 AU	retrograde	-657 Feb 20 j 19:27	13° <u>♂</u> 25'36	
morning rise	-664 Nov 11 j 15:46	28° <u>♂</u> 27'55		opposition	-657 May 11 j 08:47	12° <u>♂</u> 03'03	1°48'51
	-663 Jan 02 j 07:21	0° <u>♂</u> ♂		min. Earth dist.	-657 May 11 j 16:48	12° <u>♂</u> 02'30	29.29499 AU

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 20

Attention, astronomical year style is used: The year -657 in astronomical counting style is the year 658 BCE in historical counting style.

direct	-657 Jul 31 j 04:55	10° <b>ℓ</b> 39'19		minimum elong	-651 Nov 24 j 09:46	26° <b>ℓ</b> 12'16	1°24'50
evening set	-657 Oct 27 j 23:00	12° <b>ℓ</b> 33'52		max. Earth dist.	-651 Nov 24 j 07:21	26° <b>ℓ</b> 12'02	31.25788 AU
				morning rise	-651 Dec 09 j 14:14	26° <b>ℓ</b> 46'28	
conjunction	-657 Nov 12 j 03:43	13° <b>ℓ</b> 07'59	1°40'48	retrograde	-650 Mar 08 j 01:31	28° <b>ℓ</b> 41'21	
minimum elong	-657 Nov 12 j 03:43	13° <b>ℓ</b> 07'59	1°40'46	opposition	-650 May 27 j 01:57	27° <b>ℓ</b> 18'29	1°29'00
max. Earth dist.	-657 Nov 11 j 20:33	13° <b>ℓ</b> 07'19	31.29051 AU	min. Earth dist.	-650 May 27 j 03:54	27° <b>ℓ</b> 18'21	29.25514 AU
morning rise	-657 Nov 27 j 07:23	13° <b>ℓ</b> 42'04		direct	-650 Aug 15 j 08:59	25° <b>ℓ</b> 55'08	
	-656 Jan 07 j 03:33	15° <b>ℓ</b>		evening set	-650 Nov 11 j 14:23	27° <b>ℓ</b> 49'11	
retrograde	-656 Feb 23 j 05:08	15° <b>ℓ</b> 36'09					
	-656 Apr 12 j 09:56	15° <b>ℓ</b>		conjunction	-650 Nov 26 j 18:59	28° <b>ℓ</b> 23'23	1°21'44
opposition	-656 May 12 j 21:27	14° <b>ℓ</b> 13'31	1°46'28	minimum elong	-650 Nov 26 j 18:59	28° <b>ℓ</b> 23'23	1°21'44
min. Earth dist.	-656 May 13 j 04:30	14° <b>ℓ</b> 13'03	29.28820 AU	max. Earth dist.	-650 Nov 26 j 18:01	28° <b>ℓ</b> 23'17	31.25071 AU
direct	-656 Aug 01 j 17:32	12° <b>ℓ</b> 49'50		morning rise	-650 Dec 11 j 23:30	28° <b>ℓ</b> 57'36	
evening set	-656 Oct 29 j 08:01	14° <b>ℓ</b> 44'18			-649 Jan 12 j 00:48	0° <b>♊</b>	
	-656 Nov 05 j 09:09	15° <b>ℓ</b>		retrograde	-649 Mar 10 j 12:32	0° <b>♊</b> 52'36	
					-649 May 10 j 10:04	30° <b>ℓ</b>	
conjunction	-656 Nov 13 j 12:31	15° <b>ℓ</b> 18'25	1°38'29	opposition	-649 May 29 j 14:55	29° <b>ℓ</b> 29'40	1°25'36
minimum elong	-656 Nov 13 j 12:31	15° <b>ℓ</b> 18'25	1°38'29	min. Earth dist.	-649 May 29 j 15:35	29° <b>ℓ</b> 29'38	29.24717 AU
max. Earth dist.	-656 Nov 13 j 05:30	15° <b>ℓ</b> 17'45	31.28430 AU	direct	-649 Aug 17 j 22:27	28° <b>ℓ</b> 06'22	
morning rise	-656 Nov 28 j 16:25	15° <b>ℓ</b> 52'31		evening set	-649 Nov 13 j 23:42	0° <b>♊</b> 00'20	
retrograde	-655 Feb 24 j 15:58	17° <b>ℓ</b> 46'43			-649 Nov 13 j 20:09	0° <b>♊</b>	
opposition	-655 May 15 j 10:02	16° <b>ℓ</b> 24'03	1°43'55				
min. Earth dist.	-655 May 15 j 15:28	16° <b>ℓ</b> 23'41	29.28240 AU	conjunction	-649 Nov 29 j 04:13	0° <b>♊</b> 34'32	1°18'30
direct	-655 Aug 04 j 03:56	15° <b>ℓ</b> 00'24		minimum elong	-649 Nov 29 j 04:13	0° <b>♊</b> 34'32	1°18'29
evening set	-655 Oct 31 j 16:58	16° <b>ℓ</b> 54'47		max. Earth dist.	-649 Nov 29 j 02:49	0° <b>♊</b> 34'24	31.24217 AU
				morning rise	-649 Dec 14 j 09:06	1° <b>♊</b> 08'47	
conjunction	-655 Nov 15 j 21:33	17° <b>ℓ</b> 28'56	1°36'02	retrograde	-648 Mar 12 j 01:32	3° <b>♊</b> 03'53	
minimum elong	-655 Nov 15 j 21:33	17° <b>ℓ</b> 28'56	1°36'01	opposition	-648 May 31 j 03:55	1° <b>♊</b> 40'52	1°22'06
max. Earth dist.	-655 Nov 15 j 16:25	17° <b>ℓ</b> 28'27	31.27883 AU	min. Earth dist.	-648 May 31 j 04:06	1° <b>♊</b> 40'51	29.23802 AU
morning rise	-655 Dec 01 j 01:23	18° <b>ℓ</b> 03'02		direct	-648 Aug 19 j 09:59	0° <b>♊</b> 17'35	
retrograde	-654 Feb 27 j 01:18	19° <b>ℓ</b> 57'22		evening set	-648 Nov 15 j 08:43	2° <b>♊</b> 11'26	
opposition	-654 May 17 j 22:39	18° <b>ℓ</b> 34'40	1°41'13				
min. Earth dist.	-654 May 18 j 03:52	18° <b>ℓ</b> 34'19	29.27716 AU	conjunction	-648 Nov 30 j 13:31	2° <b>♊</b> 45'40	1°15'10
direct	-654 Aug 06 j 14:45	17° <b>ℓ</b> 11'06		minimum elong	-648 Nov 30 j 13:31	2° <b>♊</b> 45'40	1°15'10
evening set	-654 Nov 03 j 02:03	19° <b>ℓ</b> 05'24		max. Earth dist.	-648 Nov 30 j 13:52	2° <b>♊</b> 45'42	31.23242 AU
				morning rise	-648 Dec 15 j 18:29	3° <b>♊</b> 19'57	
conjunction	-654 Nov 18 j 06:30	19° <b>ℓ</b> 39'33	1°33'26	retrograde	-647 Mar 14 j 11:41	5° <b>♊</b> 15'08	
minimum elong	-654 Nov 18 j 06:30	19° <b>ℓ</b> 39'33	1°33'26	opposition	-647 Jun 02 j 16:52	3° <b>♊</b> 52'01	1°18'28
max. Earth dist.	-654 Nov 18 j 01:46	19° <b>ℓ</b> 39'06	31.27397 AU	min. Earth dist.	-647 Jun 02 j 16:32	3° <b>♊</b> 52'03	29.22762 AU
morning rise	-654 Dec 03 j 10:33	20° <b>ℓ</b> 13'41		direct	-647 Aug 21 j 22:56	2° <b>♊</b> 28'44	
retrograde	-653 Mar 01 j 13:22	22° <b>ℓ</b> 08'09		evening set	-647 Nov 17 j 17:54	4° <b>♊</b> 22'29	
opposition	-653 May 20 j 11:22	20° <b>ℓ</b> 45'25	1°38'23				
min. Earth dist.	-653 May 20 j 14:35	20° <b>ℓ</b> 45'12	29.27231 AU	conjunction	-647 Dec 02 j 22:39	4° <b>♊</b> 56'43	1°11'43
direct	-653 Aug 09 j 00:46	19° <b>ℓ</b> 21'55		minimum elong	-647 Dec 02 j 22:39	4° <b>♊</b> 56'43	1°11'41
evening set	-653 Nov 05 j 10:59	21° <b>ℓ</b> 16'09		max. Earth dist.	-647 Dec 02 j 22:52	4° <b>♊</b> 56'45	31.22180 AU
				morning rise	-647 Dec 18 j 04:00	5° <b>♊</b> 31'02	
conjunction	-653 Nov 20 j 15:27	21° <b>ℓ</b> 50'19	1°30'42	retrograde	-646 Mar 16 j 23:03	7° <b>♊</b> 26'19	
minimum elong	-653 Nov 20 j 15:27	21° <b>ℓ</b> 50'19	1°30'41	opposition	-646 Jun 05 j 05:41	6° <b>♊</b> 03'06	1°14'44
max. Earth dist.	-653 Nov 20 j 11:54	21° <b>ℓ</b> 49'59	31.26909 AU	min. Earth dist.	-646 Jun 05 j 04:01	6° <b>♊</b> 03'12	29.21678 AU
morning rise	-653 Dec 05 j 19:34	22° <b>ℓ</b> 24'29		direct	-646 Aug 24 j 10:04	4° <b>♊</b> 39'47	
retrograde	-652 Mar 03 j 00:38	24° <b>ℓ</b> 19'06		evening set	-646 Nov 20 j 02:55	6° <b>♊</b> 33'27	
opposition	-652 May 22 j 00:19	22° <b>ℓ</b> 56'19	1°35'23				
min. Earth dist.	-652 May 22 j 03:45	22° <b>ℓ</b> 56'05	29.26731 AU	conjunction	-646 Dec 05 j 07:54	7° <b>♊</b> 07'42	1°08'10
direct	-652 Aug 10 j 11:32	21° <b>ℓ</b> 32'53		minimum elong	-646 Dec 05 j 07:54	7° <b>♊</b> 07'42	1°08'09
evening set	-652 Nov 06 j 20:06	23° <b>ℓ</b> 27'04		max. Earth dist.	-646 Dec 05 j 09:53	7° <b>♊</b> 07'53	31.21091 AU
				morning rise	-646 Dec 20 j 13:23	7° <b>♊</b> 42'02	
conjunction	-652 Nov 22 j 00:36	24° <b>ℓ</b> 01'14	1°27'51	retrograde	-645 Mar 19 j 08:44	9° <b>♊</b> 37'26	
minimum elong	-652 Nov 22 j 00:36	24° <b>ℓ</b> 01'14	1°27'51	opposition	-645 Jun 07 j 18:45	8° <b>♊</b> 14'06	1°10'53
max. Earth dist.	-652 Nov 21 j 22:03	24° <b>ℓ</b> 00'59	31.26395 AU	min. Earth dist.	-645 Jun 07 j 16:46	8° <b>♊</b> 14'14	29.20603 AU
morning rise	-652 Dec 07 j 04:51	24° <b>ℓ</b> 35'24		direct	-645 Aug 26 j 21:45	6° <b>♊</b> 50'49	
retrograde	-651 Mar 05 j 13:10	26° <b>ℓ</b> 30'09		evening set	-645 Nov 22 j 11:55	8° <b>♊</b> 44'21	
opposition	-651 May 24 j 12:59	25° <b>ℓ</b> 07'20	1°32'16				
min. Earth dist.	-651 May 24 j 14:45	25° <b>ℓ</b> 07'13	29.26172 AU	conjunction	-645 Dec 07 j 16:57	9° <b>♊</b> 18'38	1°04'31
direct	-651 Aug 12 j 23:02	23° <b>ℓ</b> 43'57		minimum elong	-645 Dec 07 j 16:58	9° <b>♊</b> 18'38	1°04'30
evening set	-651 Nov 09 j 05:19	25° <b>ℓ</b> 38'05		max. Earth dist.	-645 Dec 07 j 19:36	9° <b>♊</b> 18'53	31.20060 AU
				morning rise	-645 Dec 22 j 22:47	9° <b>♊</b> 53'00	
conjunction	-651 Nov 24 j 09:46	26° <b>ℓ</b> 12'16	1°24'51	retrograde	-644 Mar 20 j 20:49	11° <b>♊</b> 48'30	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 21

Attention, astronomical year style is used: The year -644 in astronomical counting style is the year 645 BCE in historical counting style.

opposition	-644 Jun 09 j 07:38	10°♄25'06	1°06'56	max. Earth dist.	-638 Dec 22 j 19:52	24°♄39'58	31.14615 AU
min. Earth dist.	-644 Jun 09 j 03:29	10°♄25'23	29.19610 AU	morning rise	-637 Jan 06 j 19:00	25°♄13'46	
direct	-644 Aug 28 j 08:27	9°♄01'49		retrograde	-637 Apr 06 j 12:15	27°♄10'17	
evening set	-644 Nov 23 j 21:01	10°♄55'18		opposition	-637 Jun 26 j 02:42	25°♄46'37	0°36'46
				min. Earth dist.	-637 Jun 25 j 16:35	25°♄47'18	29.14184 AU
conjunction	-644 Dec 09 j 02:13	11°♄29'35	1°00'47	direct	-637 Sep 13 j 13:50	24°♄23'43	
minimum elong	-644 Dec 09 j 02:14	11°♄29'36	1°00'47	evening set	-637 Dec 09 j 14:10	26°♄16'56	
max. Earth dist.	-644 Dec 09 j 06:03	11°♄29'57	31.19111 AU				
morning rise	-644 Dec 24 j 08:19	12°♄04'00		conjunction	-637 Dec 24 j 20:49	26°♄51'25	0°32'18
retrograde	-643 Mar 23 j 07:54	13°♄59'38		minimum elong	-637 Dec 24 j 20:49	26°♄51'25	0°32'17
opposition	-643 Jun 11 j 20:29	12°♄36'10	1°02'53	max. Earth dist.	-637 Dec 25 j 06:57	26°♄52'23	31.13681 AU
min. Earth dist.	-643 Jun 11 j 16:17	12°♄36'27	29.18716 AU	morning rise	-636 Jan 09 j 05:09	27°♄26'05	
direct	-643 Aug 30 j 18:44	11°♄12'55		retrograde	-636 Apr 07 j 23:19	29°♄22'44	
evening set	-643 Nov 26 j 06:06	13°♄06'20		opposition	-636 Jun 27 j 15:59	27°♄59'01	0°32'10
				min. Earth dist.	-636 Jun 27 j 06:06	27°♄59'41	29.13180 AU
conjunction	-643 Dec 11 j 11:32	13°♄40'39	0°56'56	direct	-636 Sep 15 j 02:11	26°♄36'08	
minimum elong	-643 Dec 11 j 11:32	13°♄40'39	0°56'56	evening set	-636 Dec 10 j 23:55	28°♄29'17	
max. Earth dist.	-643 Dec 11 j 16:46	13°♄41'09	31.18278 AU				
morning rise	-643 Dec 26 j 17:51	14°♄15'06		conjunction	-636 Dec 26 j 06:48	29°♄03'47	0°27'59
retrograde	-642 Mar 25 j 20:27	16°♄10'52		minimum elong	-636 Dec 26 j 06:48	29°♄03'47	0°27'59
opposition	-642 Jun 14 j 09:21	14°♄47'21	0°58'44	max. Earth dist.	-636 Dec 26 j 17:02	29°♄04'45	31.12621 AU
min. Earth dist.	-642 Jun 14 j 03:02	14°♄47'47	29.17918 AU	morning rise	-635 Jan 10 j 15:33	29°♄38'30	
direct	-642 Sep 02 j 05:35	13°♄24'10			-635 Jan 20 j 13:28	0°♂	
evening set	-642 Nov 28 j 15:11	15°♄17'33		retrograde	-635 Apr 10 j 12:08	1°♂35'15	
				opposition	-635 Jun 30 j 04:55	0°♂11'26	0°27'32
conjunction	-642 Dec 13 j 20:40	15°♄51'54	0°53'01	min. Earth dist.	-635 Jun 29 j 17:32	0°♂12'12	29.12051 AU
minimum elong	-642 Dec 13 j 20:41	15°♄51'54	0°53'01		-635 Jul 07 j 06:13	30°♄♄	
max. Earth dist.	-642 Dec 14 j 02:24	15°♄52'26	31.17522 AU	direct	-635 Sep 17 j 13:41	28°♄48'32	
morning rise	-642 Dec 29 j 03:25	16°♄26'22			-635 Nov 23 j 13:50	0°♂	
retrograde	-641 Mar 28 j 09:16	18°♄22'18		evening set	-635 Dec 13 j 09:37	0°♂41'37	
opposition	-641 Jun 16 j 22:27	16°♄58'45	0°54'30				
min. Earth dist.	-641 Jun 16 j 15:56	16°♄59'12	29.17199 AU	conjunction	-635 Dec 28 j 16:44	1°♂16'09	0°23'37
direct	-641 Sep 04 j 14:42	15°♄35'38		minimum elong	-635 Dec 28 j 16:45	1°♂16'09	0°23'36
evening set	-641 Dec 01 j 00:19	17°♄28'59		max. Earth dist.	-635 Dec 29 j 03:30	1°♂17'10	31.11435 AU
				morning rise	-634 Jan 13 j 01:54	1°♂50'54	
conjunction	-641 Dec 16 j 06:09	18°♄03'21	0°49'01	retrograde	-634 Apr 12 j 22:34	3°♂47'44	
minimum elong	-641 Dec 16 j 06:09	18°♄03'21	0°49'00	opposition	-634 Jul 02 j 18:07	2°♂23'49	0°22'51
max. Earth dist.	-641 Dec 16 j 13:45	18°♄04'04	31.16831 AU	min. Earth dist.	-634 Jul 02 j 07:10	2°♂24'34	29.10828 AU
morning rise	-641 Dec 31 j 13:04	18°♄37'52		direct	-634 Sep 20 j 00:26	1°♂00'54	
retrograde	-640 Mar 29 j 21:28	20°♄33'56		evening set	-634 Dec 15 j 19:09	2°♂53'53	
opposition	-640 Jun 18 j 11:23	19°♄10'23	0°50'10				
min. Earth dist.	-640 Jun 18 j 03:21	19°♄10'55	29.16511 AU	conjunction	-634 Dec 31 j 02:37	3°♂28'27	0°19'14
direct	-640 Sep 06 j 03:22	17°♄47'20		minimum elong	-634 Dec 31 j 02:37	3°♂28'27	0°19'14
evening set	-640 Dec 02 j 09:40	19°♄40'39		max. Earth dist.	-634 Dec 31 j 14:39	3°♂29'35	31.10199 AU
				morning rise	-633 Jan 15 j 12:05	4°♂03'13	
conjunction	-640 Dec 17 j 15:33	20°♄15'03	0°44'56	retrograde	-633 Apr 15 j 10:23	6°♂00'09	
minimum elong	-640 Dec 17 j 15:33	20°♄15'03	0°44'56	opposition	-633 Jul 05 j 07:08	4°♂36'07	0°18'08
max. Earth dist.	-640 Dec 17 j 22:57	20°♄15'45	31.16149 AU	min. Earth dist.	-633 Jul 04 j 18:23	4°♂36'59	29.09582 AU
morning rise	-639 Jan 01 j 22:59	20°♄49'36		direct	-633 Sep 22 j 11:39	3°♂13'10	
retrograde	-639 Apr 01 j 12:05	22°♄45'50		evening set	-633 Dec 18 j 04:54	5°♂06'05	
opposition	-639 Jun 21 j 00:27	21°♄22'15	0°45'46				
min. Earth dist.	-639 Jun 20 j 15:53	21°♄22'49	29.15817 AU	conjunction	-632 Jan 02 j 12:31	5°♂40'40	0°14'49
direct	-639 Sep 08 j 14:19	19°♄59'15		minimum elong	-632 Jan 02 j 12:31	5°♂40'40	0°14'48
evening set	-639 Dec 04 j 19:00	21°♄52'33		behind sun begin	-632 Jan 02 j 09:48	5°♂40'25	
				behind sun end	-632 Jan 02 j 15:14	5°♂40'55	
conjunction	-639 Dec 20 j 01:14	22°♄26'59	0°40'47	max. Earth dist.	-632 Jan 03 j 00:43	5°♂41'49	31.08964 AU
minimum elong	-639 Dec 20 j 01:14	22°♄26'59	0°40'45	morning rise	-632 Jan 17 j 22:30	6°♂15'28	
max. Earth dist.	-639 Dec 20 j 10:24	22°♄27'51	31.15421 AU	retrograde	-632 Apr 16 j 23:03	8°♂12'30	
morning rise	-638 Jan 04 j 08:49	23°♄01'34		opposition	-632 Jul 06 j 20:08	6°♂48'22	0°13'24
retrograde	-638 Apr 03 j 23:19	24°♄57'57		min. Earth dist.	-632 Jul 06 j 07:25	6°♂49'14	29.08387 AU
opposition	-638 Jun 23 j 13:31	23°♄34'21	0°41'18	direct	-632 Sep 23 j 20:59	5°♂25'23	
min. Earth dist.	-638 Jun 23 j 04:28	23°♄34'57	29.15045 AU	evening set	-632 Dec 19 j 14:33	7°♂18'15	
direct	-638 Sep 11 j 02:30	22°♄11'25					
evening set	-638 Dec 07 j 04:38	24°♄04'40		conjunction	-631 Jan 03 j 22:37	7°♂52'51	0°10'23
				minimum elong	-631 Jan 03 j 22:38	7°♂52'51	0°10'23
conjunction	-638 Dec 22 j 10:57	24°♄39'08	0°36'34	behind sun begin	-631 Jan 03 j 17:32	7°♂52'23	
minimum elong	-638 Dec 22 j 10:57	24°♄39'08	0°36'34	behind sun end	-631 Jan 04 j 03:43	7°♂53'19	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22

Attention, astronomical year style is used: The year -631 in astronomical counting style is the year 632 BCE in historical counting style.

max. Earth dist.	-631 Jan 04 j 12:40	7° $\overline{3}$ 54'10	31.07804 AU	evening set	-625 Jan 02 j 02:42	20° $\overline{3}$ 33'27	
morning rise	-631 Jan 19 j 08:52	8° $\overline{3}$ 27'41					
retrograde	-631 Apr 19 j 11:16	10° $\overline{3}$ 24'49		conjunction	-625 Jan 17 j 12:30	21° $\overline{3}$ 08'14	-0°16'32
opposition	-631 Jul 09 j 09:01	9° $\overline{3}$ 00'35	0°08'38	minimum elong	-625 Jan 17 j 12:30	21° $\overline{3}$ 08'14	0°16'31
min. Earth dist.	-631 Jul 08 j 18:44	9° $\overline{3}$ 01'34	29.07267 AU	max. Earth dist.	-625 Jan 18 j 06:28	21° $\overline{3}$ 09'56	31.02415 AU
direct	-631 Sep 26 j 09:42	7° $\overline{3}$ 37'36		morning rise	-625 Feb 02 j 01:18	21° $\overline{3}$ 43'18	
evening set	-631 Dec 22 j 00:23	9° $\overline{3}$ 30'25		retrograde	-625 May 03 j 17:15	23° $\overline{3}$ 41'12	
				opposition	-625 Jul 23 j 15:02	22° $\overline{3}$ 16'44	-0°20'03
conjunction	-630 Jan 06 j 08:34	10° $\overline{3}$ 05'02	0°05'57	min. Earth dist.	-625 Jul 22 j 21:25	22° $\overline{3}$ 17'56	29.01982 AU
minimum elong	-630 Jan 06 j 08:33	10° $\overline{3}$ 05'02	0°05'56	direct	-625 Oct 10 j 04:49	20° $\overline{3}$ 53'55	
behind sun begin	-630 Jan 06 j 02:26	10° $\overline{3}$ 04'29		evening set	-624 Jan 04 j 13:12	22° $\overline{3}$ 46'41	
behind sun end	-630 Jan 06 j 14:41	10° $\overline{3}$ 05'36					
max. Earth dist.	-630 Jan 06 j 22:28	10° $\overline{3}$ 06'21	31.06736 AU	conjunction	-624 Jan 19 j 23:27	23° $\overline{3}$ 21'30	-0°20'58
morning rise	-630 Jan 21 j 19:20	10° $\overline{3}$ 39'55		minimum elong	-624 Jan 19 j 23:27	23° $\overline{3}$ 21'30	0°20'58
retrograde	-630 Apr 22 j 01:47	12° $\overline{3}$ 37'09		max. Earth dist.	-624 Jan 20 j 18:16	23° $\overline{3}$ 23'17	31.01480 AU
opposition	-630 Jul 11 j 21:59	11° $\overline{3}$ 12'51	0°03'52	morning rise	-624 Feb 04 j 12:35	23° $\overline{3}$ 56'37	
min. Earth dist.	-630 Jul 11 j 06:59	11° $\overline{3}$ 13'52	29.06258 AU	retrograde	-624 May 05 j 06:01	25° $\overline{3}$ 54'37	
direct	-630 Sep 28 j 19:54	9° $\overline{3}$ 49'52		min. Earth dist.	-624 Jul 24 j 09:05	24° $\overline{3}$ 31'25	29.00987 AU
evening set	-630 Dec 24 j 10:09	11° $\overline{3}$ 42'39		opposition	-624 Jul 25 j 03:54	24° $\overline{3}$ 30'07	-0°24'47
				direct	-624 Oct 11 j 15:57	23° $\overline{3}$ 07'18	
conjunction	-629 Jan 08 j 18:47	12° $\overline{3}$ 17'19	0°01'27	evening set	-623 Jan 05 j 23:56	25° $\overline{3}$ 00'05	
minimum elong	-629 Jan 08 j 18:48	12° $\overline{3}$ 17'19	0°01'27				
behind sun begin	-629 Jan 08 j 12:23	12° $\overline{3}$ 16'44		conjunction	-623 Jan 21 j 10:24	25° $\overline{3}$ 34'56	-0°25'22
behind sun end	-629 Jan 09 j 01:13	12° $\overline{3}$ 17'54		minimum elong	-623 Jan 21 j 10:24	25° $\overline{3}$ 34'56	0°25'22
max. Earth dist.	-629 Jan 09 j 10:41	12° $\overline{3}$ 18'49	31.05774 AU	max. Earth dist.	-623 Jan 22 j 04:38	25° $\overline{3}$ 36'39	31.00418 AU
morning rise	-629 Jan 24 j 05:50	12° $\overline{3}$ 52'13		morning rise	-623 Feb 06 j 00:06	26° $\overline{3}$ 10'05	
retrograde	-629 Apr 24 j 13:24	14° $\overline{3}$ 49'35		retrograde	-623 May 07 j 19:10	28° $\overline{3}$ 08'12	
desc. node	-629 May 04 j 07:53	14° $\overline{3}$ 48'02		opposition	-623 Jul 27 j 17:01	26° $\overline{3}$ 43'38	-0°29'29
opposition	-629 Jul 14 j 11:00	13° $\overline{3}$ 25'14	-0°00'56	min. Earth dist.	-623 Jul 26 j 22:52	26° $\overline{3}$ 44'53	28.99871 AU
min. Earth dist.	-629 Jul 13 j 19:11	13° $\overline{3}$ 26'19	29.05341 AU	direct	-623 Oct 14 j 01:26	25° $\overline{3}$ 20'48	
direct	-629 Oct 01 j 07:40	12° $\overline{3}$ 02'16		evening set	-622 Jan 08 j 10:27	27° $\overline{3}$ 13'34	
evening set	-629 Dec 26 j 20:05	13° $\overline{3}$ 55'03					
				conjunction	-622 Jan 23 j 21:25	27° $\overline{3}$ 48'26	-0°29'44
conjunction	-628 Jan 11 j 04:58	14° $\overline{3}$ 29'44	-0°03'09	minimum elong	-622 Jan 23 j 21:25	27° $\overline{3}$ 48'26	0°29'45
minimum elong	-628 Jan 11 j 04:57	14° $\overline{3}$ 29'44	0°03'10	max. Earth dist.	-622 Jan 24 j 16:55	27° $\overline{3}$ 50'17	30.99241 AU
behind sun begin	-628 Jan 10 j 22:34	14° $\overline{3}$ 29'09		morning rise	-622 Feb 08 j 11:22	28° $\overline{3}$ 23'37	
behind sun end	-628 Jan 11 j 11:20	14° $\overline{3}$ 30'18			-622 Apr 03 j 12:19	0° $\approx$	
max. Earth dist.	-628 Jan 11 j 20:54	14° $\overline{3}$ 31'14	31.04907 AU	retrograde	-622 May 10 j 07:33	0° $\approx$ 21'49	
morning rise	-628 Jan 26 j 16:33	15° $\overline{3}$ 04'41			-622 Jun 17 j 04:11	30° $\overline{R}$ $\overline{3}$	
retrograde	-628 Apr 26 j 03:45	17° $\overline{3}$ 02'10		min. Earth dist.	-622 Jul 29 j 10:49	28° $\overline{3}$ 58'29	28.98642 AU
opposition	-628 Jul 15 j 23:59	15° $\overline{3}$ 37'47	-0°05'43	opposition	-622 Jul 30 j 05:56	28° $\overline{3}$ 57'10	-0°34'08
min. Earth dist.	-628 Jul 15 j 07:01	15° $\overline{3}$ 38'56	29.04506 AU	direct	-622 Oct 16 j 14:11	27° $\overline{3}$ 34'18	
direct	-628 Oct 02 j 18:56	14° $\overline{3}$ 14'51		evening set	-621 Jan 10 j 21:14	29° $\overline{3}$ 27'03	
evening set	-628 Dec 28 j 06:10	16° $\overline{3}$ 07'37			-621 Jan 25 j 11:49	0° $\approx$	
conjunction	-627 Jan 12 j 15:25	16° $\overline{3}$ 42'20	-0°07'37	conjunction	-621 Jan 26 j 08:24	0° $\approx$ 01'57	-0°34'04
minimum elong	-627 Jan 12 j 15:25	16° $\overline{3}$ 42'20	0°07'37	minimum elong	-621 Jan 26 j 08:24	0° $\approx$ 01'57	0°34'04
behind sun begin	-627 Jan 12 j 09:34	16° $\overline{3}$ 41'49		max. Earth dist.	-621 Jan 27 j 03:13	0° $\approx$ 03'43	30.97989 AU
behind sun end	-627 Jan 12 j 21:15	16° $\overline{3}$ 42'52		morning rise	-621 Feb 10 j 22:58	0° $\approx$ 37'09	
max. Earth dist.	-627 Jan 13 j 08:40	16° $\overline{3}$ 43'58	31.04080 AU	retrograde	-621 May 12 j 22:08	2° $\approx$ 35'27	
morning rise	-627 Jan 28 j 03:21	17° $\overline{3}$ 17'20		opposition	-621 Aug 01 j 18:52	1° $\approx$ 10'42	-0°38'45
retrograde	-627 Apr 28 j 16:01	19° $\overline{3}$ 14'56		min. Earth dist.	-621 Jul 31 j 23:40	1° $\approx$ 12'01	28.97386 AU
opposition	-627 Jul 18 j 12:53	17° $\overline{3}$ 50'32	-0°10'31		-621 Sep 21 j 21:22	30° $\overline{R}$ $\overline{3}$	
min. Earth dist.	-627 Jul 17 j 20:05	17° $\overline{3}$ 51'40	29.03691 AU	direct	-621 Oct 19 j 00:16	29° $\overline{3}$ 47'46	
direct	-627 Oct 05 j 06:53	16° $\overline{3}$ 27'39			-621 Nov 14 j 17:09	0° $\approx$	
evening set	-627 Dec 30 j 16:24	18° $\overline{3}$ 20'25		evening set	-620 Jan 13 j 07:51	1° $\approx$ 40'30	
conjunction	-626 Jan 15 j 01:57	18° $\overline{3}$ 55'10	-0°12'04	conjunction	-620 Jan 28 j 19:32	2° $\approx$ 15'25	-0°38'20
minimum elong	-626 Jan 15 j 01:56	18° $\overline{3}$ 55'10	0°12'05	minimum elong	-620 Jan 28 j 19:32	2° $\approx$ 15'25	0°38'22
behind sun begin	-626 Jan 14 j 21:31	18° $\overline{3}$ 54'46		max. Earth dist.	-620 Jan 29 j 15:57	2° $\approx$ 17'21	30.96725 AU
behind sun end	-626 Jan 15 j 06:22	18° $\overline{3}$ 55'34		morning rise	-620 Feb 13 j 10:23	2° $\approx$ 50'40	
max. Earth dist.	-626 Jan 15 j 19:32	18° $\overline{3}$ 56'50	31.03273 AU	retrograde	-620 May 14 j 09:54	4° $\approx$ 49'02	
morning rise	-626 Jan 30 j 14:18	19° $\overline{3}$ 30'12		min. Earth dist.	-620 Aug 02 j 11:59	3° $\approx$ 25'32	28.96141 AU
retrograde	-626 May 01 j 05:48	21° $\overline{3}$ 27'57		opposition	-620 Aug 03 j 07:39	3° $\approx$ 24'11	-0°43'17
min. Earth dist.	-626 Jul 20 j 07:35	20° $\overline{3}$ 04'46	29.02870 AU	direct	-620 Oct 20 j 12:01	2° $\approx$ 01'12	
opposition	-626 Jul 21 j 01:51	20° $\overline{3}$ 03'31	-0°15'18	evening set	-619 Jan 14 j 18:44	3° $\approx$ 53'55	
direct	-626 Oct 07 j 18:17	18° $\overline{3}$ 40'40					

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 23

Attention, astronomical year style is used: The year -619 in astronomical counting style is the year 620 BCE in historical counting style.

conjunction	-619 Jan 30 j 06:39	4°28'52 -0°42'34	retrograde	-613 May 31 j 05:54	20°25'32	
minimum elong	-619 Jan 30 j 06:38	4°28'52 0°42'34	opposition	-613 Aug 19 j 23:52	19°00'25	-1°12'59
max. Earth dist.	-619 Jan 31 j 02:50	4°30'47 30.95517 AU	min. Earth dist.	-613 Aug 19 j 00:53	19°02'01	28.90365 AU
morning rise	-619 Feb 14 j 22:01	5°04'09	direct	-613 Nov 05 j 19:52	17°37'24	
retrograde	-619 May 17 j 00:52	7°02'34	evening set	-612 Jan 31 j 00:53	19°30'16	
opposition	-619 Aug 05 j 20:14	5°37'39 -0°47'46				
min. Earth dist.	-619 Aug 04 j 23:40	5°39'03 28.94988 AU	conjunction	-612 Feb 15 j 15:24	20°05'25	-1°10'03
direct	-619 Oct 22 j 23:52	4°14'37	minimum elong	-612 Feb 15 j 15:24	20°05'25	1°10'04
evening set	-618 Jan 17 j 05:33	6°07'20	max. Earth dist.	-612 Feb 16 j 14:38	20°07'37	30.89976 AU
			morning rise	-612 Mar 02 j 09:46	20°40'55	
conjunction	-618 Feb 01 j 17:52	6°42'19 -0°46'43	retrograde	-612 Jun 01 j 20:13	22°39'55	
minimum elong	-618 Feb 01 j 17:52	6°42'19 0°46'44	opposition	-612 Aug 21 j 12:33	21°14'47	-1°16'51
max. Earth dist.	-618 Feb 02 j 15:19	6°44'21 30.94405 AU	min. Earth dist.	-612 Aug 20 j 13:56	21°16'21	28.89711 AU
morning rise	-618 Feb 17 j 09:35	7°17'37	direct	-612 Nov 07 j 05:17	19°51'45	
retrograde	-618 May 19 j 13:48	9°16'08	evening set	-611 Feb 01 j 12:41	21°44'39	
opposition	-618 Aug 08 j 08:58	7°51'08 -0°52'11				
min. Earth dist.	-618 Aug 07 j 12:27	7°52'33 28.93948 AU	conjunction	-611 Feb 17 j 03:42	22°19'49	-1°13'37
direct	-618 Oct 25 j 12:14	6°28'06	minimum elong	-611 Feb 17 j 03:41	22°19'49	1°13'36
evening set	-617 Jan 19 j 16:19	8°20'48	max. Earth dist.	-611 Feb 18 j 03:51	22°22'06	30.89263 AU
			morning rise	-611 Mar 04 j 22:17	22°55'21	
conjunction	-617 Feb 04 j 05:01	8°55'49 -0°50'49	retrograde	-611 Jun 04 j 08:40	24°54'25	
minimum elong	-617 Feb 04 j 05:01	8°55'49 0°50'48	min. Earth dist.	-611 Aug 23 j 02:34	23°30'48	28.88952 AU
max. Earth dist.	-617 Feb 05 j 02:55	8°57'53 30.93437 AU	opposition	-611 Aug 24 j 01:02	23°29'14	-1°20'36
morning rise	-617 Feb 19 j 21:11	9°31'09	direct	-611 Nov 09 j 17:01	22°06'11	
retrograde	-617 May 22 j 03:37	11°29'44	evening set	-610 Feb 04 j 00:36	23°59'06	
opposition	-617 Aug 10 j 21:35	10°04'41 -0°56'31				
min. Earth dist.	-617 Aug 09 j 23:30	10°06'13 28.93049 AU	conjunction	-610 Feb 19 j 15:56	24°34'18	-1°17'04
direct	-617 Oct 27 j 23:56	8°41'38	minimum elong	-610 Feb 19 j 15:55	24°34'18	1°17'04
evening set	-616 Jan 22 j 03:25	10°34'22	max. Earth dist.	-610 Feb 20 j 15:08	24°36'30	30.88465 AU
			morning rise	-610 Mar 07 j 11:04	25°09'51	
conjunction	-616 Feb 06 j 16:26	11°09'24 -0°54'50	retrograde	-610 Jun 06 j 23:52	27°08'57	
minimum elong	-616 Feb 06 j 16:26	11°09'24 0°54'50	opposition	-610 Aug 26 j 13:37	25°43'43	-1°24'14
max. Earth dist.	-616 Feb 07 j 14:46	11°11'31 30.92590 AU	min. Earth dist.	-610 Aug 25 j 14:56	25°45'18	28.88117 AU
morning rise	-616 Feb 22 j 09:05	11°44'47	direct	-610 Nov 12 j 04:42	24°20'37	
retrograde	-616 May 23 j 15:28	13°43'26	evening set	-609 Feb 06 j 12:25	26°13'33	
opposition	-616 Aug 12 j 10:08	12°18'22 -1°00'46				
min. Earth dist.	-616 Aug 11 j 12:36	12°19'51 28.92272 AU	conjunction	-609 Feb 22 j 04:13	26°48'47	-1°20'24
direct	-616 Oct 29 j 10:45	10°55'19	minimum elong	-609 Feb 22 j 04:12	26°48'47	1°20'24
evening set	-615 Jan 23 j 14:30	12°48'04	max. Earth dist.	-609 Feb 23 j 04:02	26°51'02	30.87584 AU
			morning rise	-609 Mar 09 j 23:43	27°24'21	
conjunction	-615 Feb 08 j 04:01	13°23'08 -0°58'46	retrograde	-609 Jun 09 j 12:39	29°23'29	
minimum elong	-615 Feb 08 j 04:01	13°23'08 0°58'46	min. Earth dist.	-609 Aug 28 j 04:13	27°59'42	28.87216 AU
max. Earth dist.	-615 Feb 09 j 03:24	13°25'21 30.91869 AU	opposition	-609 Aug 29 j 02:09	27°58'11	-1°27'44
morning rise	-615 Feb 23 j 20:59	13°58'33	direct	-609 Nov 14 j 17:02	26°35'01	
	-615 Mar 26 j 06:31	15°	evening set	-608 Feb 09 j 00:24	28°27'57	
retrograde	-615 May 26 j 05:12	15°57'17				
	-615 Jul 28 j 20:59	15°R	conjunction	-608 Feb 24 j 16:38	29°03'12	-1°23'37
opposition	-615 Aug 14 j 22:38	14°32'12 -1°04'56	minimum elong	-608 Feb 24 j 16:38	29°03'12	1°23'37
min. Earth dist.	-615 Aug 13 j 23:43	14°33'47 28.91594 AU	max. Earth dist.	-608 Feb 25 j 16:12	29°05'26	30.86683 AU
direct	-615 Oct 31 j 22:23	13°09'10	morning rise	-608 Mar 11 j 12:35	29°38'49	
	-614 Jan 25 j 04:35	15°		-608 Mar 21 j 07:44	0°H	
evening set	-614 Jan 26 j 01:46	15°01'57	retrograde	-608 Jun 11 j 03:04	1°H37'56	
			opposition	-608 Aug 30 j 14:19	0°H12'34	-1°31'06
conjunction	-614 Feb 10 j 15:29	15°37'02 -1°02'37	min. Earth dist.	-608 Aug 29 j 15:31	0°H14'10	28.86327 AU
minimum elong	-614 Feb 10 j 15:29	15°37'02 1°02'38		-608 Sep 07 j 03:21	30°R	
max. Earth dist.	-614 Feb 11 j 14:33	15°39'13 30.91218 AU	direct	-608 Nov 16 j 05:10	28°49'20	
morning rise	-614 Feb 26 j 09:00	16°12'29		-607 Jan 21 j 06:58	0°H	
retrograde	-614 May 28 j 17:46	18°11'20	evening set	-607 Feb 10 j 12:29	0°H42'18	
opposition	-614 Aug 17 j 11:22	16°46'13 -1°09'01				
min. Earth dist.	-614 Aug 16 j 13:05	16°47'45 28.90977 AU	conjunction	-607 Feb 26 j 05:03	1°H17'35	-1°26'42
direct	-614 Nov 03 j 07:59	15°23'12	minimum elong	-607 Feb 26 j 05:03	1°H17'35	1°26'42
evening set	-613 Jan 28 j 13:09	17°16'01	max. Earth dist.	-607 Feb 27 j 04:36	1°H19'48	30.85802 AU
			morning rise	-607 Mar 14 j 01:26	1°H53'13	
conjunction	-613 Feb 13 j 03:25	17°51'08 -1°06'23	retrograde	-607 Jun 13 j 15:52	3°H52'21	
minimum elong	-613 Feb 13 j 03:25	17°51'08 1°06'23	min. Earth dist.	-607 Sep 01 j 04:44	2°H28'28	28.85495 AU
max. Earth dist.	-613 Feb 14 j 03:44	17°53'26 30.90608 AU	opposition	-607 Sep 02 j 02:40	2°H26'56	-1°34'20
morning rise	-613 Feb 28 j 21:11	18°26'37	direct	-607 Nov 18 j 16:44	1°H03'39	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24

Attention, astronomical year style is used: The year -606 in astronomical counting style is the year 607 BCE in historical counting style.

evening set	-606 Feb 13 j 00:22	2° <del>✕</del> 56'38		opposition	-600 Sep 17 j 15:12	18° <del>✕</del> 10'11	-1°52'45
				min. Earth dist.	-600 Sep 16 j 17:27	18° <del>✕</del> 11'43	28.82910 AU
conjunction	-606 Feb 28 j 17:26	3° <del>✕</del> 31'56	-1°29'40	direct	-600 Dec 03 j 21:50	16° <del>✕</del> 46'51	
minimum elong	-606 Feb 28 j 17:26	3° <del>✕</del> 31'56	1°29'40	evening set	-599 Feb 28 j 16:02	18° <del>✕</del> 40'18	
max. Earth dist.	-606 Mar 01 j 17:47	3° <del>✕</del> 34'14	30.85020 AU				
morning rise	-606 Mar 16 j 14:08	4° <del>✕</del> 07'36		conjunction	-599 Mar 16 j 12:01	19° <del>✕</del> 15'48	-1°46'22
retrograde	-606 Jun 16 j 06:10	6° <del>✕</del> 06'45		minimum elong	-599 Mar 16 j 12:00	19° <del>✕</del> 15'48	1°46'21
opposition	-606 Sep 04 j 14:51	4° <del>✕</del> 41'17	-1°37'26	max. Earth dist.	-599 Mar 17 j 11:42	19° <del>✕</del> 18'02	30.82678 AU
min. Earth dist.	-606 Sep 03 j 15:41	4° <del>✕</del> 42'54	28.84773 AU	morning rise	-599 Apr 01 j 11:31	19° <del>✕</del> 51'39	
direct	-606 Nov 21 j 05:12	3° <del>✕</del> 17'58		retrograde	-599 Jul 02 j 03:19	21° <del>✕</del> 50'59	
evening set	-605 Feb 15 j 12:37	5° <del>✕</del> 11'00		min. Earth dist.	-599 Sep 19 j 05:06	20° <del>✕</del> 27'11	28.82678 AU
				opposition	-599 Sep 20 j 03:13	20° <del>✕</del> 25'38	-1°54'43
conjunction	-605 Mar 03 j 05:57	5° <del>✕</del> 46'19	-1°32'29	direct	-599 Dec 06 j 09:49	19° <del>✕</del> 02'16	
minimum elong	-605 Mar 03 j 05:56	5° <del>✕</del> 46'19	1°32'29	evening set	-598 Mar 03 j 05:02	20° <del>✕</del> 55'47	
max. Earth dist.	-605 Mar 04 j 05:47	5° <del>✕</del> 48'34	30.84356 AU				
morning rise	-605 Mar 19 j 03:11	6° <del>✕</del> 22'01		conjunction	-598 Mar 19 j 01:22	21° <del>✕</del> 31'18	-1°48'07
retrograde	-605 Jun 18 j 18:20	8° <del>✕</del> 21'11		minimum elong	-598 Mar 19 j 01:22	21° <del>✕</del> 31'18	1°48'07
min. Earth dist.	-605 Sep 06 j 04:39	6° <del>✕</del> 57'16	28.84194 AU	max. Earth dist.	-598 Mar 20 j 00:28	21° <del>✕</del> 33'29	30.82387 AU
opposition	-605 Sep 07 j 03:02	6° <del>✕</del> 55'42	-1°40'23	morning rise	-598 Apr 04 j 01:18	22° <del>✕</del> 07'10	
direct	-605 Nov 23 j 15:11	5° <del>✕</del> 32'22		retrograde	-598 Jul 04 j 17:09	24° <del>✕</del> 06'29	
evening set	-604 Feb 18 j 00:47	7° <del>✕</del> 25'26		opposition	-598 Sep 22 j 15:22	22° <del>✕</del> 41'07	-1°56'31
				min. Earth dist.	-598 Sep 21 j 18:44	22° <del>✕</del> 42'34	28.82345 AU
conjunction	-604 Mar 04 j 18:44	8° <del>✕</del> 00'47	-1°35'10	direct	-598 Dec 08 j 22:16	21° <del>✕</del> 17'43	
minimum elong	-604 Mar 04 j 18:44	8° <del>✕</del> 00'47	1°35'11	evening set	-597 Mar 05 j 18:09	23° <del>✕</del> 11'16	
max. Earth dist.	-604 Mar 05 j 19:44	8° <del>✕</del> 03'09	30.83844 AU				
morning rise	-604 Mar 20 j 16:13	8° <del>✕</del> 36'30		conjunction	-597 Mar 21 j 15:04	23° <del>✕</del> 46'49	-1°49'43
retrograde	-604 Jun 20 j 06:27	10° <del>✕</del> 35'42		minimum elong	-597 Mar 21 j 15:04	23° <del>✕</del> 46'49	1°49'43
opposition	-604 Sep 08 j 15:05	9° <del>✕</del> 10'13	-1°43'10	max. Earth dist.	-597 Mar 22 j 13:57	23° <del>✕</del> 48'59	30.82017 AU
min. Earth dist.	-604 Sep 07 j 15:53	9° <del>✕</del> 11'51	28.83749 AU	morning rise	-597 Apr 06 j 15:19	24° <del>✕</del> 22'42	
direct	-604 Nov 25 j 03:06	7° <del>✕</del> 46'53		retrograde	-597 Jul 07 j 07:54	26° <del>✕</del> 21'58	
evening set	-603 Feb 19 j 13:11	9° <del>✕</del> 40'01		min. Earth dist.	-597 Sep 24 j 06:07	24° <del>✕</del> 58'03	28.81931 AU
				opposition	-597 Sep 25 j 03:09	24° <del>✕</del> 56'35	-1°58'08
conjunction	-603 Mar 07 j 07:22	10° <del>✕</del> 15'23	-1°37'43	direct	-597 Dec 11 j 11:55	23° <del>✕</del> 33'06	
minimum elong	-603 Mar 07 j 07:21	10° <del>✕</del> 15'23	1°37'43	evening set	-596 Mar 07 j 07:27	25° <del>✕</del> 26'41	
max. Earth dist.	-603 Mar 08 j 07:23	10° <del>✕</del> 17'39	30.83465 AU				
morning rise	-603 Mar 23 j 05:24	10° <del>✕</del> 51'08		conjunction	-596 Mar 23 j 04:41	26° <del>✕</del> 02'16	-1°51'09
retrograde	-603 Jun 22 j 20:16	12° <del>✕</del> 50'22		minimum elong	-596 Mar 23 j 04:41	26° <del>✕</del> 02'16	1°51'10
min. Earth dist.	-603 Sep 10 j 04:15	11° <del>✕</del> 26'31	28.83444 AU	max. Earth dist.	-596 Mar 24 j 02:20	26° <del>✕</del> 04'18	30.81572 AU
opposition	-603 Sep 11 j 03:10	11° <del>✕</del> 24'54	-1°45'49	morning rise	-596 Apr 08 j 05:27	26° <del>✕</del> 38'10	
direct	-603 Nov 27 j 12:01	10° <del>✕</del> 01'34		retrograde	-596 Jul 08 j 20:20	28° <del>✕</del> 37'21	
evening set	-602 Feb 22 j 01:34	11° <del>✕</del> 54'46		opposition	-596 Sep 26 j 15:05	27° <del>✕</del> 11'56	-1°59'35
				min. Earth dist.	-596 Sep 25 j 19:30	27° <del>✕</del> 13'19	28.81480 AU
conjunction	-602 Mar 09 j 20:19	12° <del>✕</del> 30'11	-1°40'06	direct	-596 Dec 12 j 22:52	25° <del>✕</del> 48'24	
minimum elong	-602 Mar 09 j 20:18	12° <del>✕</del> 30'11	1°40'07	evening set	-595 Mar 09 j 20:32	27° <del>✕</del> 41'59	
max. Earth dist.	-602 Mar 10 j 21:29	12° <del>✕</del> 32'33	30.83208 AU				
morning rise	-602 Mar 25 j 18:35	13° <del>✕</del> 05'57		conjunction	-595 Mar 25 j 18:21	28° <del>✕</del> 17'35	-1°52'25
retrograde	-602 Jun 25 j 08:34	15° <del>✕</del> 05'13		minimum elong	-595 Mar 25 j 18:21	28° <del>✕</del> 17'35	1°52'25
opposition	-602 Sep 13 j 15:13	13° <del>✕</del> 39'48	-1°48'17	max. Earth dist.	-595 Mar 26 j 16:34	28° <del>✕</del> 19'40	30.81118 AU
min. Earth dist.	-602 Sep 12 j 16:19	13° <del>✕</del> 41'24	28.83233 AU	morning rise	-595 Apr 10 j 19:19	28° <del>✕</del> 53'30	
direct	-602 Nov 29 j 23:15	12° <del>✕</del> 16'28			-595 May 14 j 06:17	0° <del>°</del>	
evening set	-601 Feb 24 j 14:10	14° <del>✕</del> 09'44		retrograde	-595 Jul 11 j 09:13	0° <del>°</del> 52'37	
					-595 Sep 09 j 04:31	30° <del>°</del> 8'8	
conjunction	-601 Mar 12 j 09:15	14° <del>✕</del> 45'11	-1°42'21	min. Earth dist.	-595 Sep 28 j 06:49	29° <del>✕</del> 28'34	28.81037 AU
minimum elong	-601 Mar 12 j 09:14	14° <del>✕</del> 45'11	1°42'21	opposition	-595 Sep 29 j 02:42	29° <del>✕</del> 27'10	-2°00'50
max. Earth dist.	-601 Mar 13 j 09:28	14° <del>✕</del> 47'28	30.83037 AU	direct	-595 Dec 15 j 11:52	28° <del>✕</del> 03'32	
morning rise	-601 Mar 28 j 08:04	15° <del>✕</del> 20'58		evening set	-594 Mar 12 j 09:50	29° <del>✕</del> 57'09	
retrograde	-601 Jun 27 j 23:24	17° <del>✕</del> 20'17			-594 Mar 13 j 16:53	0° <del>°</del>	
min. Earth dist.	-601 Sep 15 j 04:22	15° <del>✕</del> 56'30	28.83084 AU				
opposition	-601 Sep 16 j 03:16	15° <del>✕</del> 54'53	-1°50'36	conjunction	-594 Mar 28 j 07:55	0° <del>°</del> 32'47	-1°53'31
direct	-601 Dec 02 j 10:23	14° <del>✕</del> 31'33		minimum elong	-594 Mar 28 j 07:55	0° <del>°</del> 32'47	1°53'31
evening set	-600 Feb 27 j 03:01	16° <del>✕</del> 24'56		max. Earth dist.	-594 Mar 29 j 04:42	0° <del>°</del> 34'44	30.80708 AU
				morning rise	-594 Apr 13 j 09:25	1° <del>°</del> 08'43	
conjunction	-600 Mar 13 j 22:34	17° <del>✕</del> 00'24	-1°44'26	retrograde	-594 Jul 13 j 22:40	3° <del>°</del> 07'45	
minimum elong	-600 Mar 13 j 22:34	17° <del>✕</del> 00'24	1°44'26	opposition	-594 Oct 01 j 14:23	1° <del>°</del> 42'16	-2°01'55
max. Earth dist.	-600 Mar 14 j 23:09	17° <del>✕</del> 02'43	30.82874 AU	min. Earth dist.	-594 Sep 30 j 19:12	1° <del>°</del> 43'37	28.80678 AU
morning rise	-600 Mar 29 j 21:41	17° <del>✕</del> 36'13		direct	-594 Dec 17 j 21:57	0° <del>°</del> 18'34	
retrograde	-600 Jun 29 j 12:03	19° <del>✕</del> 35'33		evening set	-593 Mar 14 j 22:58	2° <del>°</del> 12'13	



## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 25

Attention, astronomical year style is used: The year -593 in astronomical counting style is the year 594 BCE in historical counting style.

conjunction	-593 Mar 30 j 21:40	2° $\Upsilon$ 47'51	-1°54'26	direct	-586 Jan 02 j 07:40	16° $\Upsilon$ 04'21	
minimum elong	-593 Mar 30 j 21:40	2° $\Upsilon$ 47'51	1°54'26	evening set	-586 Mar 30 j 21:56	17° $\Upsilon$ 58'31	
max. Earth dist.	-593 Mar 31 j 19:16	2° $\Upsilon$ 49'53	30.80390 AU				
morning rise	-593 Apr 15 j 23:24	3° $\Upsilon$ 23'49		conjunction	-586 Apr 15 j 23:41	18° $\Upsilon$ 34'21	-1°55'53
retrograde	-593 Jul 16 j 09:43	5° $\Upsilon$ 22'46		minimum elong	-586 Apr 15 j 23:41	18° $\Upsilon$ 34'21	1°55'52
min. Earth dist.	-593 Oct 03 j 06:55	3° $\Upsilon$ 58'37	28.80413 AU	max. Earth dist.	-586 Apr 16 j 17:39	18° $\Upsilon$ 36'02	30.81082 AU
opposition	-593 Oct 04 j 01:56	3° $\Upsilon$ 57'16	-2°02'48	morning rise	-586 May 02 j 03:48	19° $\Upsilon$ 10'26	
direct	-593 Dec 20 j 10:10	2° $\Upsilon$ 33'31		retrograde	-586 Aug 01 j 08:12	21° $\Upsilon$ 08'57	
evening set	-592 Mar 16 j 12:23	4° $\Upsilon$ 27'12		opposition	-586 Oct 19 j 09:47	19° $\Upsilon$ 43'47	-2°03'40
				min. Earth dist.	-586 Oct 18 j 18:19	19° $\Upsilon$ 44'52	28.81277 AU
conjunction	-592 Apr 01 j 11:24	5° $\Upsilon$ 02'52	-1°55'10	direct	-585 Jan 04 j 20:59	18° $\Upsilon$ 19'52	
minimum elong	-592 Apr 01 j 11:24	5° $\Upsilon$ 02'52	1°55'10	evening set	-585 Apr 02 j 11:58	20° $\Upsilon$ 14'05	
max. Earth dist.	-592 Apr 02 j 07:43	5° $\Upsilon$ 04'46	30.80194 AU				
morning rise	-592 Apr 17 j 13:38	5° $\Upsilon$ 38'50		conjunction	-585 Apr 18 j 14:00	20° $\Upsilon$ 49'57	-1°55'22
retrograde	-592 Jul 17 j 22:55	7° $\Upsilon$ 37'43		minimum elong	-585 Apr 18 j 14:00	20° $\Upsilon$ 49'57	1°55'22
opposition	-592 Oct 05 j 13:21	6° $\Upsilon$ 12'14	-2°03'30	max. Earth dist.	-585 Apr 19 j 05:50	20° $\Upsilon$ 51'26	30.81183 AU
min. Earth dist.	-592 Oct 04 j 18:21	6° $\Upsilon$ 13'34	28.80290 AU	morning rise	-585 May 04 j 18:38	21° $\Upsilon$ 26'03	
direct	-592 Dec 21 j 20:51	4° $\Upsilon$ 48'25		retrograde	-585 Aug 03 j 21:47	23° $\Upsilon$ 24'28	
evening set	-591 Mar 19 j 01:43	6° $\Upsilon$ 42'10		opposition	-585 Oct 21 j 21:10	21° $\Upsilon$ 59'19	-2°03'02
				min. Earth dist.	-585 Oct 21 j 06:59	22° $\Upsilon$ 00'20	28.81337 AU
conjunction	-591 Apr 04 j 01:15	7° $\Upsilon$ 17'51	-1°55'44	direct	-584 Jan 07 j 07:46	20° $\Upsilon$ 35'21	
minimum elong	-591 Apr 04 j 01:15	7° $\Upsilon$ 17'51	1°55'44	evening set	-584 Apr 04 j 01:55	22° $\Upsilon$ 29'38	
max. Earth dist.	-591 Apr 04 j 22:07	7° $\Upsilon$ 19'49	30.80131 AU				
morning rise	-591 Apr 20 j 03:43	7° $\Upsilon$ 53'50		conjunction	-584 Apr 20 j 04:32	23° $\Upsilon$ 05'31	-1°54'41
retrograde	-591 Jul 20 j 10:45	9° $\Upsilon$ 52'40		minimum elong	-584 Apr 20 j 04:33	23° $\Upsilon$ 05'31	1°54'41
min. Earth dist.	-591 Oct 07 j 06:46	8° $\Upsilon$ 28'29	28.80297 AU	max. Earth dist.	-584 Apr 20 j 20:27	23° $\Upsilon$ 07'00	30.81204 AU
opposition	-591 Oct 08 j 00:53	8° $\Upsilon$ 27'12	-2°04'00	morning rise	-584 May 06 j 09:16	23° $\Upsilon$ 41'38	
direct	-591 Dec 24 j 07:46	7° $\Upsilon$ 03'22		retrograde	-584 Aug 05 j 08:45	25° $\Upsilon$ 39'55	
evening set	-590 Mar 21 j 14:59	8° $\Upsilon$ 57'11		opposition	-584 Oct 23 j 08:16	24° $\Upsilon$ 14'47	-2°02'12
				min. Earth dist.	-584 Oct 22 j 18:50	24° $\Upsilon$ 15'45	28.81324 AU
conjunction	-590 Apr 06 j 14:57	9° $\Upsilon$ 32'53	-1°56'08	direct	-583 Jan 08 j 20:33	22° $\Upsilon$ 50'46	
minimum elong	-590 Apr 06 j 14:58	9° $\Upsilon$ 32'53	1°56'07	evening set	-583 Apr 06 j 15:55	24° $\Upsilon$ 45'04	
max. Earth dist.	-590 Apr 07 j 11:04	9° $\Upsilon$ 34'47	30.80217 AU				
morning rise	-590 Apr 22 j 17:52	10° $\Upsilon$ 08'54		conjunction	-583 Apr 22 j 18:49	25° $\Upsilon$ 20'58	-1°53'50
retrograde	-590 Jul 23 j 01:08	12° $\Upsilon$ 07'40		minimum elong	-583 Apr 22 j 18:49	25° $\Upsilon$ 20'58	1°53'50
opposition	-590 Oct 10 j 12:19	10° $\Upsilon$ 42'15	-2°04'19	max. Earth dist.	-583 Apr 23 j 08:48	25° $\Upsilon$ 22'17	30.81192 AU
min. Earth dist.	-590 Oct 09 j 17:42	10° $\Upsilon$ 43'34	28.80438 AU	morning rise	-583 May 09 j 00:01	25° $\Upsilon$ 57'06	
direct	-590 Dec 26 j 19:37	9° $\Upsilon$ 18'24		retrograde	-583 Aug 07 j 21:32	27° $\Upsilon$ 55'15	
evening set	-589 Mar 24 j 04:36	11° $\Upsilon$ 12'18		opposition	-583 Oct 25 j 19:21	26° $\Upsilon$ 30'08	-2°01'12
				min. Earth dist.	-583 Oct 25 j 06:25	26° $\Upsilon$ 31'03	28.81315 AU
conjunction	-589 Apr 09 j 04:59	11° $\Upsilon$ 48'02	-1°56'20	direct	-582 Jan 11 j 07:22	25° $\Upsilon$ 06'01	
minimum elong	-589 Apr 09 j 04:59	11° $\Upsilon$ 48'02	1°56'20	evening set	-582 Apr 09 j 05:41	27° $\Upsilon$ 00'22	
max. Earth dist.	-589 Apr 10 j 00:43	11° $\Upsilon$ 49'53	30.80401 AU				
morning rise	-589 Apr 25 j 08:14	12° $\Upsilon$ 24'04		conjunction	-582 Apr 25 j 09:07	27° $\Upsilon$ 36'18	-1°52'49
retrograde	-589 Jul 25 j 14:15	14° $\Upsilon$ 22'47		minimum elong	-582 Apr 25 j 09:07	27° $\Upsilon$ 36'18	1°52'48
opposition	-589 Oct 12 j 23:43	12° $\Upsilon$ 57'26	-2°04'27	max. Earth dist.	-582 Apr 25 j 23:20	27° $\Upsilon$ 37'37	30.81192 AU
min. Earth dist.	-589 Oct 12 j 06:37	12° $\Upsilon$ 58'38	28.80662 AU	morning rise	-582 May 11 j 14:29	28° $\Upsilon$ 12'26	
direct	-589 Dec 29 j 07:29	11° $\Upsilon$ 33'34			-582 Jul 16 j 07:58	0° $\mathcal{B}$	
evening set	-588 Mar 25 j 18:17	13° $\Upsilon$ 27'33		retrograde	-582 Aug 10 j 08:44	0° $\mathcal{B}$ 10'27	
					-582 Sep 04 j 15:26	30° $\mathcal{R}\Upsilon$	
conjunction	-588 Apr 10 j 19:11	14° $\Upsilon$ 03'20	-1°56'22	opposition	-582 Oct 28 j 06:26	28° $\Upsilon$ 45'20	-2°00'01
minimum elong	-588 Apr 10 j 19:11	14° $\Upsilon$ 03'20	1°56'22	min. Earth dist.	-582 Oct 27 j 18:46	28° $\Upsilon$ 46'10	28.81335 AU
max. Earth dist.	-588 Apr 11 j 14:33	14° $\Upsilon$ 05'09	30.80655 AU	direct	-581 Jan 13 j 18:11	27° $\Upsilon$ 21'08	
morning rise	-588 Apr 26 j 22:43	14° $\Upsilon$ 39'23		evening set	-581 Apr 11 j 19:40	29° $\Upsilon$ 15'31	
retrograde	-588 Jul 27 j 04:50	16° $\Upsilon$ 38'02					
opposition	-588 Oct 14 j 11:02	15° $\Upsilon$ 12'45	-2°04'23	conjunction	-581 Apr 27 j 23:28	29° $\Upsilon$ 51'28	-1°51'37
min. Earth dist.	-588 Oct 13 j 17:38	15° $\Upsilon$ 13'59	28.80915 AU	minimum elong	-581 Apr 27 j 23:28	29° $\Upsilon$ 51'28	1°51'37
direct	-588 Dec 30 j 20:49	13° $\Upsilon$ 48'54		max. Earth dist.	-581 Apr 28 j 12:23	29° $\Upsilon$ 52'40	30.81264 AU
evening set	-587 Mar 28 j 08:06	15° $\Upsilon$ 42'59			-581 May 01 j 18:42	0° $\mathcal{B}$	
				morning rise	-581 May 14 j 05:12	0° $\mathcal{B}$ 27'37	
conjunction	-587 Apr 13 j 09:16	16° $\Upsilon$ 18'47	-1°56'13	retrograde	-581 Aug 12 j 21:18	2° $\mathcal{B}$ 25'28	
minimum elong	-587 Apr 13 j 09:16	16° $\Upsilon$ 18'47	1°56'13	opposition	-581 Oct 30 j 17:12	1° $\mathcal{B}$ 00'23	-1°58'38
max. Earth dist.	-587 Apr 14 j 03:16	16° $\Upsilon$ 20'28	30.80892 AU	min. Earth dist.	-581 Oct 30 j 05:20	1° $\mathcal{B}$ 01'13	28.81453 AU
morning rise	-587 Apr 29 j 13:12	16° $\Upsilon$ 54'51			-581 Dec 09 j 03:54	30° $\mathcal{R}\Upsilon$	
retrograde	-587 Jul 29 j 18:04	18° $\Upsilon$ 53'27		direct	-580 Jan 16 j 06:19	29° $\Upsilon$ 36'06	
opposition	-587 Oct 16 j 22:32	17° $\Upsilon$ 28'14	-2°04'07		-580 Feb 22 j 23:21	0° $\mathcal{B}$	
min. Earth dist.	-587 Oct 16 j 06:51	17° $\Upsilon$ 29'20	28.81136 AU	evening set	-580 Apr 13 j 09:40	1° $\mathcal{B}$ 30'32	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26

Attention, astronomical year style is used: The year -580 in astronomical counting style is the year 581 BCE in historical counting style.

conjunction	-580 Apr 29 j 13:50	2°806'30	-1°50'15	retrograde	-574 Aug 28 j 15:00	18°809'11	
minimum elong	-580 Apr 29 j 13:50	2°806'30	1°50'14	opposition	-574 Nov 14 j 20:47	16°844'34	-1°44'06
max. Earth dist.	-580 Apr 30 j 02:21	2°807'40	30.81432 AU	min. Earth dist.	-574 Nov 14 j 13:57	16°845'03	28.85528 AU
morning rise	-580 May 15 j 19:47	2°842'39		direct	-573 Jan 31 j 19:24	15°820'05	
retrograde	-580 Aug 14 j 08:37	4°840'22		evening set	-573 Apr 30 j 12:06	17°814'59	
opposition	-580 Nov 01 j 04:12	3°815'18	-1°57'05				
min. Earth dist.	-580 Oct 31 j 17:44	3°816'03	28.81689 AU	conjunction	-573 May 16 j 18:45	17°851'05	-1°36'06
direct	-579 Jan 17 j 18:24	1°850'58		minimum elong	-573 May 16 j 18:45	17°851'05	1°36'06
evening set	-579 Apr 15 j 23:25	3°845'27		max. Earth dist.	-573 May 17 j 01:50	17°851'45	30.85761 AU
				morning rise	-573 Jun 02 j 02:03	18°827'17	
conjunction	-579 May 02 j 04:00	4°821'25	-1°48'43	retrograde	-573 Aug 31 j 01:54	20°824'03	
minimum elong	-579 May 02 j 04:00	4°821'25	1°48'43	opposition	-573 Nov 17 j 07:31	18°859'30	-1°41'22
max. Earth dist.	-579 May 02 j 16:06	4°822'33	30.81751 AU	min. Earth dist.	-573 Nov 17 j 02:24	18°859'52	28.86151 AU
morning rise	-579 May 18 j 10:10	4°857'35		direct	-572 Feb 03 j 06:38	17°834'59	
retrograde	-579 Aug 16 j 21:51	6°855'10		evening set	-572 May 02 j 02:28	19°829'56	
opposition	-579 Nov 03 j 14:59	5°830'08	-1°55'22				
min. Earth dist.	-579 Nov 03 j 03:57	5°830'55	28.82077 AU	conjunction	-572 May 18 j 09:20	20°806'02	-1°33'28
direct	-578 Jan 20 j 07:32	4°805'45		minimum elong	-572 May 18 j 09:20	20°806'02	1°33'27
evening set	-578 Apr 18 j 13:24	6°800'18		max. Earth dist.	-572 May 18 j 14:27	20°806'31	30.86358 AU
				morning rise	-572 Jun 03 j 16:53	20°842'14	
conjunction	-578 May 04 j 18:16	6°836'18	-1°47'01	retrograde	-572 Sep 01 j 14:06	22°838'51	
minimum elong	-578 May 04 j 18:16	6°836'18	1°47'01	opposition	-572 Nov 18 j 18:13	21°814'21	-1°38'28
max. Earth dist.	-578 May 05 j 05:20	6°837'20	30.82218 AU	min. Earth dist.	-572 Nov 18 j 13:17	21°814'42	28.86703 AU
morning rise	-578 May 21 j 00:45	7°812'27		direct	-571 Feb 04 j 18:56	19°849'46	
retrograde	-578 Aug 19 j 10:33	9°809'55		evening set	-571 May 04 j 16:34	21°844'45	
opposition	-578 Nov 06 j 01:48	7°844'56	-1°53'27				
min. Earth dist.	-578 Nov 05 j 16:13	7°845'37	28.82624 AU	conjunction	-571 May 20 j 23:43	22°820'52	-1°30'42
direct	-577 Jan 22 j 18:26	6°820'32		minimum elong	-571 May 20 j 23:43	22°820'52	1°30'42
evening set	-577 Apr 21 j 03:19	8°815'08		max. Earth dist.	-571 May 21 j 04:09	22°821'17	30.86877 AU
				morning rise	-571 Jun 06 j 07:19	22°857'04	
conjunction	-577 May 07 j 08:43	8°851'09	-1°45'09	retrograde	-571 Sep 04 j 00:31	24°853'31	
minimum elong	-577 May 07 j 08:44	8°851'09	1°45'10	opposition	-571 Nov 21 j 04:57	23°829'03	-1°35'26
max. Earth dist.	-577 May 07 j 19:57	8°852'12	30.82843 AU	min. Earth dist.	-571 Nov 21 j 01:52	23°829'16	28.87201 AU
morning rise	-577 May 23 j 15:20	9°827'19		direct	-570 Feb 07 j 06:33	22°804'24	
retrograde	-577 Aug 22 j 00:26	11°824'39		evening set	-570 May 07 j 06:44	23°859'25	
opposition	-577 Nov 08 j 12:31	9°859'46	-1°51'22				
min. Earth dist.	-577 Nov 08 j 02:55	10°800'26	28.83292 AU	conjunction	-570 May 23 j 14:10	24°835'33	-1°27'48
direct	-576 Jan 25 j 08:23	8°835'20		minimum elong	-570 May 23 j 14:10	24°835'33	1°27'47
evening set	-576 Apr 22 j 17:30	10°830'01		max. Earth dist.	-570 May 23 j 17:29	24°835'51	30.87380 AU
				morning rise	-570 Jun 08 j 21:54	25°811'44	
conjunction	-576 May 08 j 23:03	11°806'04	-1°43'08	retrograde	-570 Sep 06 j 13:00	27°808'00	
minimum elong	-576 May 08 j 23:03	11°806'04	1°43'07	opposition	-570 Nov 23 j 15:20	25°843'35	-1°32'16
max. Earth dist.	-576 May 09 j 08:29	11°806'57	30.83563 AU	min. Earth dist.	-570 Nov 23 j 12:10	25°843'49	28.87695 AU
morning rise	-576 May 25 j 05:59	11°842'14		direct	-569 Feb 09 j 19:28	24°818'52	
retrograde	-576 Aug 23 j 13:27	13°839'27		evening set	-569 May 09 j 20:58	26°813'56	
opposition	-576 Nov 09 j 23:15	12°814'38	-1°49'07				
min. Earth dist.	-576 Nov 09 j 14:50	12°815'14	28.84047 AU	conjunction	-569 May 26 j 04:34	26°850'04	-1°24'46
direct	-575 Jan 26 j 19:38	10°850'13		minimum elong	-569 May 26 j 04:34	26°850'04	1°24'46
evening set	-575 Apr 25 j 07:34	12°844'58		max. Earth dist.	-569 May 26 j 06:35	26°850'15	30.87887 AU
				morning rise	-569 Jun 11 j 12:25	27°826'15	
conjunction	-575 May 11 j 13:37	13°821'02	-1°40'56	retrograde	-569 Sep 09 j 00:32	29°822'20	
minimum elong	-575 May 11 j 13:37	13°821'02	1°40'56	opposition	-569 Nov 26 j 01:53	27°857'58	-1°28'57
max. Earth dist.	-575 May 11 j 23:11	13°821'56	30.84334 AU	min. Earth dist.	-569 Nov 26 j 00:26	27°858'04	28.88230 AU
morning rise	-575 May 27 j 20:34	13°857'13		direct	-568 Feb 12 j 06:51	26°833'10	
	-575 Jun 28 j 10:32	15°8		evening set	-568 May 11 j 10:58	28°828'17	
retrograde	-575 Aug 26 j 01:22	15°854'18					
	-575 Oct 25 j 04:13	15°8		conjunction	-568 May 27 j 18:52	29°804'25	-1°21'36
opposition	-575 Nov 12 j 09:59	14°829'35	-1°46'41	minimum elong	-568 May 27 j 18:52	29°804'25	1°21'35
min. Earth dist.	-575 Nov 12 j 02:24	14°830'08	28.84807 AU	max. Earth dist.	-568 May 27 j 20:48	29°804'36	30.88464 AU
direct	-574 Jan 29 j 08:14	13°805'09		morning rise	-568 Jun 13 j 02:40	29°840'35	
evening set	-574 Apr 27 j 21:47	14°859'59			-568 Jun 22 j 04:58	0°II	
	-574 Apr 27 j 22:01	15°8		retrograde	-568 Sep 10 j 13:08	1°II36'30	
conjunction	-574 May 14 j 04:01	15°836'04	-1°38'36	opposition	-568 Nov 27 j 12:14	0°II12'11	-1°25'31
minimum elong	-574 May 14 j 04:01	15°836'04	1°38'34	min. Earth dist.	-568 Nov 27 j 10:48	0°II12'17	28.88842 AU
max. Earth dist.	-574 May 14 j 11:21	15°836'45	30.85086 AU		-568 Dec 04 j 16:10	30°8	
morning rise	-574 May 30 j 11:19	16°812'15		direct	-567 Feb 13 j 21:11	28°847'21	
					-567 Apr 23 j 09:42	0°II	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 27

Attention, astronomical year style is used: The year -567 in astronomical counting style is the year 568 BCE in historical counting style.

evening set	-567 May 14 j 01:05	0° $\Pi$ 42'30	opposition	-561 Dec 13 j 13:01	15° $\Pi$ 51'27	-0°58'06
			min. Earth dist.	-561 Dec 13 j 16:55	15° $\Pi$ 51'11	28.95876 AU
conjunction	-567 May 30 j 09:00	1° $\Pi$ 18'39	-1°18'19	direct	-560 Mar 01 j 06:46	14° $\Pi$ 26'34
minimum elong	-567 May 30 j 09:01	1° $\Pi$ 18'39	1°18'20	evening set	-560 May 30 j 03:44	16° $\Pi$ 22'12
max. Earth dist.	-567 May 30 j 09:17	1° $\Pi$ 18'41	30.89140 AU			
morning rise	-567 Jun 15 j 16:58	1° $\Pi$ 54'49		conjunction	-560 Jun 15 j 12:18	16° $\Pi$ 58'21
retrograde	-567 Sep 13 j 01:22	3° $\Pi$ 50'35		minimum elong	-560 Jun 15 j 12:19	16° $\Pi$ 58'21
opposition	-567 Nov 29 j 22:39	2° $\Pi$ 26'19	-1°21'56	max. Earth dist.	-560 Jun 15 j 06:10	16° $\Pi$ 57'47
min. Earth dist.	-567 Nov 29 j 22:09	2° $\Pi$ 26'21	28.89591 AU	morning rise	-560 Jul 01 j 19:45	17° $\Pi$ 34'27
direct	-566 Feb 16 j 08:45	1° $\Pi$ 01'26		retrograde	-560 Sep 28 j 09:54	19° $\Pi$ 29'13
evening set	-566 May 16 j 14:56	2° $\Pi$ 56'39		opposition	-560 Dec 14 j 23:34	18° $\Pi$ 05'40
				min. Earth dist.	-560 Dec 15 j 05:23	18° $\Pi$ 05'15
conjunction	-566 Jun 01 j 23:14	3° $\Pi$ 32'48	-1°14'56	direct	-559 Mar 03 j 18:30	16° $\Pi$ 40'44
minimum elong	-566 Jun 01 j 23:14	3° $\Pi$ 32'48	1°14'54	evening set	-559 Jun 01 j 17:46	18° $\Pi$ 36'24
max. Earth dist.	-566 Jun 01 j 23:53	3° $\Pi$ 32'52	30.89959 AU			
morning rise	-566 Jun 18 j 07:04	4° $\Pi$ 08'57		conjunction	-559 Jun 18 j 02:27	19° $\Pi$ 12'33
retrograde	-566 Sep 15 j 13:02	6° $\Pi$ 04'33		minimum elong	-559 Jun 18 j 02:27	19° $\Pi$ 12'33
opposition	-566 Dec 02 j 09:03	4° $\Pi$ 40'23	-1°18'15	max. Earth dist.	-559 Jun 17 j 19:41	19° $\Pi$ 11'55
min. Earth dist.	-566 Dec 02 j 09:03	4° $\Pi$ 40'23	28.90467 AU	morning rise	-559 Jul 04 j 09:41	19° $\Pi$ 48'36
direct	-565 Feb 18 j 21:42	3° $\Pi$ 15'30		retrograde	-559 Sep 30 j 21:21	21° $\Pi$ 43'12
evening set	-565 May 19 j 05:07	5° $\Pi$ 10'46		opposition	-559 Dec 17 j 09:52	20° $\Pi$ 19'42
				min. Earth dist.	-559 Dec 17 j 16:07	20° $\Pi$ 19'16
conjunction	-565 Jun 04 j 13:23	5° $\Pi$ 46'56	-1°11'25	direct	-558 Mar 06 j 08:39	18° $\Pi$ 54'42
minimum elong	-565 Jun 04 j 13:23	5° $\Pi$ 46'56	1°11'25	evening set	-558 Jun 04 j 07:52	20° $\Pi$ 50'24
max. Earth dist.	-565 Jun 04 j 12:07	5° $\Pi$ 46'49	30.90917 AU			
morning rise	-565 Jun 20 j 21:22	6° $\Pi$ 23'05		conjunction	-558 Jun 20 j 16:24	21° $\Pi$ 26'32
retrograde	-565 Sep 18 j 02:37	8° $\Pi$ 18'32		minimum elong	-558 Jun 20 j 16:24	21° $\Pi$ 26'32
opposition	-565 Dec 04 j 19:21	6° $\Pi$ 54'28	-1°14'26	max. Earth dist.	-558 Jun 20 j 07:39	21° $\Pi$ 25'44
min. Earth dist.	-565 Dec 04 j 19:42	6° $\Pi$ 54'27	28.91488 AU	morning rise	-558 Jul 06 j 23:35	22° $\Pi$ 02'34
direct	-564 Feb 21 j 09:08	5° $\Pi$ 29'35		retrograde	-558 Oct 03 j 09:05	23° $\Pi$ 57'00
evening set	-564 May 20 j 19:09	7° $\Pi$ 24'56		opposition	-558 Dec 19 j 20:16	22° $\Pi$ 33'32
				min. Earth dist.	-558 Dec 20 j 03:49	22° $\Pi$ 33'00
conjunction	-564 Jun 06 j 03:39	8° $\Pi$ 01'07	-1°07'48	direct	-557 Mar 08 j 20:28	21° $\Pi$ 08'28
minimum elong	-564 Jun 06 j 03:40	8° $\Pi$ 01'07	1°07'47	evening set	-557 Jun 06 j 21:47	23° $\Pi$ 04'11
max. Earth dist.	-564 Jun 06 j 02:42	8° $\Pi$ 01'01	30.91992 AU			
morning rise	-564 Jun 22 j 11:26	8° $\Pi$ 37'15		conjunction	-557 Jun 23 j 06:25	23° $\Pi$ 40'18
retrograde	-564 Sep 19 j 13:10	10° $\Pi$ 32'34		minimum elong	-557 Jun 23 j 06:25	23° $\Pi$ 40'18
opposition	-564 Dec 06 j 05:49	9° $\Pi$ 08'37	-1°10'30	max. Earth dist.	-557 Jun 22 j 21:39	23° $\Pi$ 39'30
min. Earth dist.	-564 Dec 06 j 07:33	9° $\Pi$ 08'30	28.92597 AU	morning rise	-557 Jul 09 j 13:14	24° $\Pi$ 16'19
direct	-563 Feb 22 j 20:20	7° $\Pi$ 43'46		retrograde	-557 Oct 05 j 20:10	26° $\Pi$ 10'32
evening set	-563 May 23 j 09:08	9° $\Pi$ 39'11		opposition	-557 Dec 22 j 06:32	24° $\Pi$ 47'07
				min. Earth dist.	-557 Dec 22 j 14:55	24° $\Pi$ 46'31
conjunction	-563 Jun 08 j 17:37	10° $\Pi$ 15'21	-1°04'04	direct	-556 Mar 10 j 10:14	23° $\Pi$ 21'59
minimum elong	-563 Jun 08 j 17:37	10° $\Pi$ 15'21	1°04'04	evening set	-556 Jun 08 j 11:44	25° $\Pi$ 17'43
max. Earth dist.	-563 Jun 08 j 15:00	10° $\Pi$ 15'07	30.93142 AU			
morning rise	-563 Jun 25 j 01:29	10° $\Pi$ 51'29		conjunction	-556 Jun 24 j 20:05	25° $\Pi$ 53'49
retrograde	-563 Sep 22 j 01:02	12° $\Pi$ 46'41		minimum elong	-556 Jun 24 j 20:05	25° $\Pi$ 53'49
opposition	-563 Dec 08 j 16:10	11° $\Pi$ 22'52	-1°06'28	max. Earth dist.	-556 Jun 24 j 09:19	25° $\Pi$ 52'50
min. Earth dist.	-563 Dec 08 j 17:58	11° $\Pi$ 22'44	28.93749 AU	morning rise	-556 Jul 11 j 02:50	26° $\Pi$ 29'47
direct	-562 Feb 25 j 08:13	9° $\Pi$ 58'00		retrograde	-556 Oct 07 j 09:02	28° $\Pi$ 23'51
evening set	-562 May 25 j 23:18	11° $\Pi$ 53'31		opposition	-556 Dec 23 j 16:49	27° $\Pi$ 00'27
				min. Earth dist.	-556 Dec 24 j 01:31	26° $\Pi$ 59'50
conjunction	-562 Jun 11 j 07:55	12° $\Pi$ 29'41	-1°00'15	direct	-555 Mar 12 j 23:00	25° $\Pi$ 35'15
minimum elong	-562 Jun 11 j 07:55	12° $\Pi$ 29'41	1°00'14	evening set	-555 Jun 11 j 01:14	27° $\Pi$ 31'00
max. Earth dist.	-562 Jun 11 j 04:45	12° $\Pi$ 29'24	30.94277 AU			
morning rise	-562 Jun 27 j 15:35	13° $\Pi$ 05'48		conjunction	-555 Jun 27 j 09:38	28° $\Pi$ 07'05
retrograde	-562 Sep 24 j 11:26	15° $\Pi$ 00'52		minimum elong	-555 Jun 27 j 09:38	28° $\Pi$ 07'05
opposition	-562 Dec 11 j 02:36	13° $\Pi$ 37'10	-1°02'20	max. Earth dist.	-555 Jun 26 j 23:19	28° $\Pi$ 06'08
min. Earth dist.	-562 Dec 11 j 06:24	13° $\Pi$ 36'54	28.94859 AU	morning rise	-555 Jul 13 j 15:59	28° $\Pi$ 43'01
direct	-561 Feb 27 j 18:47	12° $\Pi$ 12'18			-555 Aug 23 j 10:50	0° $\ominus$
evening set	-561 May 28 j 13:33	14° $\Pi$ 07'52		retrograde	-555 Oct 09 j 18:33	0° $\ominus$ 36'55
					-555 Nov 27 j 01:19	30° $\kappa$ $\Pi$
conjunction	-561 Jun 13 j 22:12	14° $\Pi$ 44'03	-0°56'20	opposition	-555 Dec 26 j 03:10	29° $\Pi$ 13'34
minimum elong	-561 Jun 13 j 22:12	14° $\Pi$ 44'03	0°56'20	min. Earth dist.	-555 Dec 26 j 13:08	29° $\Pi$ 12'51
max. Earth dist.	-561 Jun 13 j 17:31	14° $\Pi$ 43'37	30.95354 AU	direct	-554 Mar 15 j 11:31	27° $\Pi$ 48'19
morning rise	-561 Jun 30 j 05:49	15° $\Pi$ 20'09		evening set	-554 Jun 13 j 14:58	29° $\Pi$ 44'05
retrograde	-561 Sep 26 j 23:34	17° $\Pi$ 15'04			-554 Jun 20 j 21:35	0° $\ominus$

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 28

Attention, astronomical year style is used: The year -554 in astronomical counting style is the year 555 BCE in historical counting style.

conjunction	-554 Jun 29 j 23:05	0°02'09" -0°27'04"	minimum elong	-548 Jul 13 j 07:01	13°03'37"50 0°00'26"
minimum elong	-554 Jun 29 j 23:05	0°02'09" 0°27'04"	behind sun begin	-548 Jul 13 j 00:28	13°03'37"15"
max. Earth dist.	-554 Jun 29 j 11:15	0°03'19"03 31.01012 AU	behind sun end	-548 Jul 13 j 13:34	13°03'38"25"
morning rise	-554 Jul 16 j 05:18	0°03'56"03	max. Earth dist.	-548 Jul 12 j 15:41	13°03'36"25 31.07734 AU
retrograde	-554 Oct 12 j 06:07	2°03'49"47	morning rise	-548 Jul 29 j 10:51	14°03'13"33"
opposition	-554 Dec 28 j 13:13	1°03'26"30 -0°26'37"	asc. node	-548 Aug 18 j 06:26	14°03'54"26"
min. Earth dist.	-554 Dec 28 j 22:52	1°03'25"49 29.01496 AU	retrograde	-548 Oct 24 j 22:40	16°03'06"40"
direct	-553 Mar 17 j 23:40	0°03'01"13	opposition	-547 Jan 10 j 03:12	14°03'43"57 0°01'53"
evening set	-553 Jun 16 j 04:35	1°03'57"01	min. Earth dist.	-547 Jan 10 j 17:37	14°03'42"56 29.08246 AU
			direct	-547 Mar 30 j 22:04	13°03'18"44"
			evening set	-547 Jun 29 j 13:45	15°03'14"55"
conjunction	-553 Jul 02 j 12:36	2°03'33"04 -0°22'42"			
minimum elong	-553 Jul 02 j 12:37	2°03'33"04 0°22'42"	conjunction	-547 Jul 15 j 19:57	15°03'50"50 0°04'06"
max. Earth dist.	-553 Jul 02 j 00:50	2°03'31"59 31.01982 AU	minimum elong	-547 Jul 15 j 19:58	15°03'50"50 0°04'06"
morning rise	-553 Jul 18 j 18:23	3°03'08"57	behind sun begin	-547 Jul 15 j 13:29	15°03'50"15"
retrograde	-553 Oct 14 j 16:02	5°03'02"33	behind sun end	-547 Jul 16 j 02:27	15°03'51"24"
opposition	-553 Dec 30 j 23:37	3°03'39"20 -0°21'55"	max. Earth dist.	-547 Jul 15 j 02:31	15°03'49"13 31.08708 AU
min. Earth dist.	-553 Dec 31 j 10:39	3°03'38"33 29.02530 AU	morning rise	-547 Jul 31 j 23:32	16°03'26"30"
direct	-552 Mar 19 j 10:19	2°03'14"03	retrograde	-547 Oct 27 j 11:33	18°03'19"31"
evening set	-552 Jun 17 j 18:04	4°03'09"54	opposition	-546 Jan 12 j 13:36	16°03'56"51 0°06'39"
			min. Earth dist.	-546 Jan 13 j 04:26	16°03'55"49 29.09171 AU
conjunction	-552 Jul 04 j 01:49	4°03'45"56 -0°18'18"	direct	-546 Apr 02 j 11:09	15°03'31"37"
minimum elong	-552 Jul 04 j 01:49	4°03'45"56 0°18'17"	evening set	-546 Jul 02 j 03:06	17°03'27"50"
max. Earth dist.	-552 Jul 03 j 13:13	4°03'44"46 31.03084 AU			
morning rise	-552 Jul 20 j 07:20	5°03'21"47	conjunction	-546 Jul 18 j 09:09	18°03'03"43 0°08'32"
retrograde	-552 Oct 16 j 03:11	7°03'15"16	minimum elong	-546 Jul 18 j 09:08	18°03'03"43 0°08'33"
opposition	-551 Jan 01 j 09:48	5°03'52"09 -0°17'12"	behind sun begin	-546 Jul 18 j 03:25	18°03'03"13"
min. Earth dist.	-551 Jan 01 j 20:21	5°03'51"25 29.03674 AU	behind sun end	-546 Jul 18 j 14:51	18°03'04"13"
direct	-551 Mar 21 j 21:58	4°03'26"53	max. Earth dist.	-546 Jul 17 j 15:49	18°03'02"07 31.09572 AU
evening set	-551 Jun 20 j 07:37	6°03'22"49	morning rise	-546 Aug 03 j 12:04	18°03'39"21"
			retrograde	-546 Oct 29 j 20:56	20°03'32"14"
conjunction	-551 Jul 06 j 15:07	6°03'58"49 -0°13'52"	opposition	-545 Jan 14 j 23:58	19°03'09"38 0°11'24"
minimum elong	-551 Jul 06 j 15:07	6°03'58"49 0°13'52"	min. Earth dist.	-545 Jan 15 j 16:24	19°03'08"29 29.09985 AU
behind sun begin	-551 Jul 06 j 11:52	6°03'58"32	direct	-545 Apr 05 j 00:01	17°03'44"22"
behind sun end	-551 Jul 06 j 18:22	6°03'59"07	evening set	-545 Jul 04 j 16:31	19°03'40"36"
max. Earth dist.	-551 Jul 06 j 01:46	6°03'57"36 31.04266 AU			
morning rise	-551 Jul 22 j 20:15	7°03'34"39	conjunction	-545 Jul 20 j 22:00	20°03'16"26 0°12'58"
retrograde	-551 Oct 18 j 13:03	9°03'28"02	minimum elong	-545 Jul 20 j 22:00	20°03'16"26 0°12'57"
opposition	-550 Jan 03 j 20:03	8°03'05"02 -0°12'26"	behind sun begin	-545 Jul 20 j 18:06	20°03'16"06"
min. Earth dist.	-550 Jan 04 j 08:10	8°03'04"11 29.04888 AU	behind sun end	-545 Jul 21 j 01:55	20°03'16"47"
direct	-550 Mar 24 j 08:42	6°03'39"47	max. Earth dist.	-545 Jul 20 j 02:58	20°03'14"41 31.10355 AU
evening set	-550 Jun 22 j 21:08	8°03'35"47	morning rise	-545 Aug 06 j 00:37	20°03'52"02"
			retrograde	-545 Nov 01 j 08:35	22°03'44"47"
conjunction	-550 Jul 09 j 04:29	9°03'11"47 -0°09'26"	opposition	-544 Jan 17 j 10:19	21°03'22"13 0°16'08"
minimum elong	-550 Jul 09 j 04:28	9°03'11"47 0°09'24"	min. Earth dist.	-544 Jan 18 j 02:32	21°03'21"05 29.10741 AU
behind sun begin	-550 Jul 08 j 23:00	9°03'11"18	direct	-544 Apr 06 j 12:49	19°03'56"54"
behind sun end	-550 Jul 09 j 09:56	9°03'12"16	evening set	-544 Jul 06 j 05:30	21°03'53"09"
max. Earth dist.	-550 Jul 08 j 14:48	9°03'10"31 31.05487 AU			
morning rise	-550 Jul 25 j 09:13	9°03'47"34	conjunction	-544 Jul 22 j 10:41	22°03'28"58 0°17'22"
retrograde	-550 Oct 21 j 00:00	11°03'40"52	minimum elong	-544 Jul 22 j 10:40	22°03'28"58 0°17'22"
opposition	-549 Jan 06 j 06:21	10°03'17"59 -0°07'40"	max. Earth dist.	-544 Jul 21 j 15:45	22°03'27"13 31.11085 AU
min. Earth dist.	-549 Jan 06 j 18:44	10°03'17"06 29.06084 AU	morning rise	-544 Aug 07 j 12:39	23°03'04"30"
direct	-549 Mar 26 j 21:43	8°03'52"45	retrograde	-544 Nov 02 j 18:26	24°03'57"09"
evening set	-549 Jun 25 j 10:50	10°03'48"50	opposition	-543 Jan 18 j 20:46	23°03'34"36 0°20'50"
			min. Earth dist.	-543 Jan 19 j 14:30	23°03'33"21 29.11474 AU
conjunction	-549 Jul 11 j 17:42	11°03'24"48 -0°04'59"	direct	-543 Apr 09 j 00:17	22°03'09"15"
minimum elong	-549 Jul 11 j 17:43	11°03'24"48 0°04'58"	evening set	-543 Jul 08 j 18:29	24°03'05"29"
behind sun begin	-549 Jul 11 j 11:18	11°03'24"14			
behind sun end	-549 Jul 12 j 00:07	11°03'25"22	conjunction	-543 Jul 24 j 23:11	24°03'41"15 0°21'44"
max. Earth dist.	-549 Jul 11 j 02:21	11°03'23"23 31.06651 AU	minimum elong	-543 Jul 24 j 23:11	24°03'41"15 0°21'44"
morning rise	-549 Jul 27 j 22:06	12°03'00"33	max. Earth dist.	-543 Jul 24 j 03:26	24°03'39"25 31.11830 AU
retrograde	-549 Oct 23 j 11:35	13°03'53"46	morning rise	-543 Aug 10 j 00:45	25°03'16"45"
opposition	-548 Jan 08 j 16:44	12°03'30"58 -0°02'54"	retrograde	-543 Nov 05 j 04:25	27°03'09"16"
min. Earth dist.	-548 Jan 09 j 06:16	12°03'30"01 29.07221 AU	opposition	-542 Jan 21 j 06:55	25°03'46"44 0°25'30"
direct	-548 Mar 28 j 08:30	11°03'05"45	min. Earth dist.	-542 Jan 22 j 00:07	25°03'45"32 29.12237 AU
evening set	-548 Jun 27 j 00:19	13°03'01"54	direct	-542 Apr 11 j 12:36	24°03'21"20"
			evening set	-542 Jul 11 j 07:24	26°03'17"35"
conjunction	-548 Jul 13 j 07:02	13°03'37"50 -0°00'27"			

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 29

Attention, astronomical year style is used: The year -542 in astronomical counting style is the year 543 BCE in historical counting style.

conjunction	-542 Jul 27 j 11:39	26° $\mathring{\text{E}}$ 53'19	0°26'05	retrograde	-536 Nov 20 j 05:03	12° $\mathring{\text{N}}$ 31'08	
minimum elong	-542 Jul 27 j 11:39	26° $\mathring{\text{E}}$ 53'19	0°26'06	opposition	-535 Feb 05 j 08:19	11° $\mathring{\text{N}}$ 09'03	0°56'39
max. Earth dist.	-542 Jul 26 j 15:26	26° $\mathring{\text{E}}$ 51'27	31.12618 AU	min. Earth dist.	-535 Feb 06 j 03:53	11° $\mathring{\text{N}}$ 07'41	29.19705 AU
morning rise	-542 Aug 12 j 12:39	27° $\mathring{\text{E}}$ 28'46		direct	-535 Apr 26 j 23:48	9° $\mathring{\text{N}}$ 43'46	
retrograde	-542 Nov 07 j 12:59	29° $\mathring{\text{E}}$ 21'10		evening set	-535 Jul 26 j 23:33	11° $\mathring{\text{N}}$ 40'13	
opposition	-541 Jan 23 j 17:22	27° $\mathring{\text{E}}$ 58'41	0°30'07	max. Earth dist.	-535 Aug 11 j 01:54	12° $\mathring{\text{N}}$ 13'36	31.20141 AU
min. Earth dist.	-541 Jan 24 j 11:39	27° $\mathring{\text{E}}$ 57'24	29.13083 AU				
direct	-541 Apr 13 j 23:30	26° $\mathring{\text{E}}$ 33'15		conjunction	-535 Aug 12 j 00:06	12° $\mathring{\text{N}}$ 15'39	0°55'02
evening set	-541 Jul 13 j 20:08	28° $\mathring{\text{E}}$ 29'30		minimum elong	-535 Aug 12 j 00:06	12° $\mathring{\text{N}}$ 15'39	0°55'02
				morning rise	-535 Aug 27 j 20:55	12° $\mathring{\text{N}}$ 50'46	
conjunction	-541 Jul 29 j 23:56	29° $\mathring{\text{E}}$ 05'12	0°30'23	retrograde	-535 Nov 22 j 15:15	14° $\mathring{\text{N}}$ 42'48	
minimum elong	-541 Jul 29 j 23:56	29° $\mathring{\text{E}}$ 05'12	0°30'23	opposition	-534 Feb 07 j 19:00	13° $\mathring{\text{N}}$ 20'45	1°00'49
max. Earth dist.	-541 Jul 29 j 03:57	29° $\mathring{\text{E}}$ 03'20	31.13515 AU	min. Earth dist.	-534 Feb 08 j 16:09	13° $\mathring{\text{N}}$ 19'17	29.20657 AU
morning rise	-541 Aug 15 j 00:20	29° $\mathring{\text{E}}$ 40'36		direct	-534 Apr 29 j 11:40	11° $\mathring{\text{N}}$ 55'30	
	-541 Aug 24 j 03:16	0° $\mathring{\text{N}}$		evening set	-534 Jul 29 j 12:03	13° $\mathring{\text{N}}$ 51'58	
retrograde	-541 Nov 09 j 22:22	1° $\mathring{\text{N}}$ 32'54					
opposition	-540 Jan 26 j 03:44	0° $\mathring{\text{N}}$ 10'28	0°34'41	conjunction	-534 Aug 14 j 11:58	14° $\mathring{\text{N}}$ 27'21	0°58'54
min. Earth dist.	-540 Jan 26 j 21:40	0° $\mathring{\text{N}}$ 09'13	29.14033 AU	minimum elong	-534 Aug 14 j 11:58	14° $\mathring{\text{N}}$ 27'21	0°58'54
	-540 Feb 01 j 09:43	30° $\mathring{\text{R}}$ $\mathring{\text{E}}$		max. Earth dist.	-534 Aug 13 j 12:49	14° $\mathring{\text{N}}$ 25'12	31.21031 AU
direct	-540 Apr 15 j 11:34	28° $\mathring{\text{E}}$ 45'02			-534 Aug 29 j 05:37	15° $\mathring{\text{N}}$	
	-540 Jun 25 j 07:14	0° $\mathring{\text{N}}$		morning rise	-534 Aug 30 j 08:15	15° $\mathring{\text{N}}$ 02'25	
evening set	-540 Jul 15 j 08:54	0° $\mathring{\text{N}}$ 41'18		retrograde	-534 Nov 25 j 01:28	16° $\mathring{\text{N}}$ 54'23	
				opposition	-533 Feb 10 j 05:43	15° $\mathring{\text{N}}$ 32'23	1°04'54
conjunction	-540 Jul 31 j 12:06	1° $\mathring{\text{N}}$ 16'57	0°34'38	min. Earth dist.	-533 Feb 11 j 02:24	15° $\mathring{\text{N}}$ 30'57	29.21482 AU
minimum elong	-540 Jul 31 j 12:06	1° $\mathring{\text{N}}$ 16'57	0°34'39		-533 Mar 02 j 05:08	15° $\mathring{\text{R}}$ $\mathring{\text{N}}$	
max. Earth dist.	-540 Jul 30 j 15:13	1° $\mathring{\text{N}}$ 15'01	31.14530 AU	direct	-533 May 02 j 00:37	14° $\mathring{\text{N}}$ 07'08	
morning rise	-540 Aug 16 j 12:00	1° $\mathring{\text{N}}$ 52'18			-533 Jun 29 j 16:25	15° $\mathring{\text{N}}$	
retrograde	-540 Nov 11 j 09:13	3° $\mathring{\text{N}}$ 44'33		evening set	-533 Aug 01 j 00:22	16° $\mathring{\text{N}}$ 03'36	
opposition	-539 Jan 27 j 14:09	2° $\mathring{\text{N}}$ 22'10	0°39'13				
min. Earth dist.	-539 Jan 28 j 08:27	2° $\mathring{\text{N}}$ 20'53	29.15122 AU	conjunction	-533 Aug 16 j 23:40	16° $\mathring{\text{N}}$ 38'56	1°02'40
direct	-539 Apr 17 j 21:27	0° $\mathring{\text{N}}$ 56'45		minimum elong	-533 Aug 16 j 23:39	16° $\mathring{\text{N}}$ 38'56	1°02'40
evening set	-539 Jul 17 j 21:19	2° $\mathring{\text{N}}$ 53'03		max. Earth dist.	-533 Aug 15 j 23:56	16° $\mathring{\text{N}}$ 36'44	31.21789 AU
max. Earth dist.	-539 Aug 02 j 04:06	3° $\mathring{\text{N}}$ 26'47	31.15665 AU	morning rise	-533 Sep 01 j 19:16	17° $\mathring{\text{N}}$ 13'57	
				retrograde	-533 Nov 27 j 10:25	19° $\mathring{\text{N}}$ 05'53	
conjunction	-539 Aug 03 j 00:11	3° $\mathring{\text{N}}$ 28'39	0°38'51	opposition	-532 Feb 12 j 16:35	17° $\mathring{\text{N}}$ 43'55	1°08'52
minimum elong	-539 Aug 03 j 00:11	3° $\mathring{\text{N}}$ 28'39	0°38'51	min. Earth dist.	-532 Feb 13 j 14:29	17° $\mathring{\text{N}}$ 42'24	29.22203 AU
morning rise	-539 Aug 18 j 23:26	4° $\mathring{\text{N}}$ 03'58		direct	-532 May 03 j 11:28	16° $\mathring{\text{N}}$ 18'39	
retrograde	-539 Nov 13 j 19:08	5° $\mathring{\text{N}}$ 56'09		evening set	-532 Aug 02 j 12:31	18° $\mathring{\text{N}}$ 15'06	
opposition	-538 Jan 30 j 00:35	4° $\mathring{\text{N}}$ 33'51	0°43'41	max. Earth dist.	-532 Aug 17 j 11:40	18° $\mathring{\text{N}}$ 48'12	31.22467 AU
min. Earth dist.	-538 Jan 30 j 19:19	4° $\mathring{\text{N}}$ 32'33	29.16284 AU				
direct	-538 Apr 20 j 10:40	3° $\mathring{\text{N}}$ 08'28		conjunction	-532 Aug 18 j 11:16	18° $\mathring{\text{N}}$ 50'24	1°06'20
evening set	-538 Jul 20 j 10:03	5° $\mathring{\text{N}}$ 04'49		minimum elong	-532 Aug 18 j 11:16	18° $\mathring{\text{N}}$ 50'24	1°06'21
				morning rise	-532 Sep 03 j 06:14	19° $\mathring{\text{N}}$ 25'22	
conjunction	-538 Aug 05 j 12:12	5° $\mathring{\text{N}}$ 40'23	0°43'00	retrograde	-532 Nov 28 j 19:29	21° $\mathring{\text{N}}$ 17'14	
minimum elong	-538 Aug 05 j 12:12	5° $\mathring{\text{N}}$ 40'22	0°43'00	opposition	-531 Feb 14 j 03:17	19° $\mathring{\text{N}}$ 55'17	1°12'45
max. Earth dist.	-538 Aug 04 j 14:37	5° $\mathring{\text{N}}$ 38'22	31.16849 AU	min. Earth dist.	-531 Feb 15 j 01:03	19° $\mathring{\text{N}}$ 53'46	29.22844 AU
morning rise	-538 Aug 21 j 11:01	6° $\mathring{\text{N}}$ 15'38		direct	-531 May 05 j 23:32	18° $\mathring{\text{N}}$ 30'01	
retrograde	-538 Nov 16 j 07:23	8° $\mathring{\text{N}}$ 07'47		evening set	-531 Aug 05 j 00:33	20° $\mathring{\text{N}}$ 26'27	
opposition	-537 Feb 01 j 10:59	6° $\mathring{\text{N}}$ 45'33	0°48'05				
min. Earth dist.	-537 Feb 02 j 05:40	6° $\mathring{\text{N}}$ 44'15	29.17482 AU	conjunction	-531 Aug 20 j 22:36	21° $\mathring{\text{N}}$ 01'41	1°09'55
direct	-537 Apr 22 j 22:42	5° $\mathring{\text{N}}$ 20'13		minimum elong	-531 Aug 20 j 22:36	21° $\mathring{\text{N}}$ 01'41	1°09'55
evening set	-537 Jul 22 j 22:35	7° $\mathring{\text{N}}$ 16'37		max. Earth dist.	-531 Aug 19 j 22:04	20° $\mathring{\text{N}}$ 59'25	31.23082 AU
max. Earth dist.	-537 Aug 07 j 03:24	7° $\mathring{\text{N}}$ 50'11	31.18025 AU	morning rise	-531 Sep 05 j 17:03	21° $\mathring{\text{N}}$ 36'37	
				retrograde	-531 Dec 01 j 05:53	23° $\mathring{\text{N}}$ 28'27	
conjunction	-537 Aug 08 j 00:20	7° $\mathring{\text{N}}$ 52'08	0°47'05	opposition	-530 Feb 16 j 14:02	22° $\mathring{\text{N}}$ 06'30	1°16'31
minimum elong	-537 Aug 08 j 00:20	7° $\mathring{\text{N}}$ 52'08	0°47'05	min. Earth dist.	-530 Feb 17 j 12:10	22° $\mathring{\text{N}}$ 04'58	29.23462 AU
morning rise	-537 Aug 23 j 22:22	8° $\mathring{\text{N}}$ 27'21		direct	-530 May 08 j 09:40	20° $\mathring{\text{N}}$ 41'13	
retrograde	-537 Nov 18 j 17:00	10° $\mathring{\text{N}}$ 19'27		evening set	-530 Aug 07 j 12:24	22° $\mathring{\text{N}}$ 37'38	
opposition	-536 Feb 03 j 21:42	8° $\mathring{\text{N}}$ 57'18	0°52'24	max. Earth dist.	-530 Aug 22 j 10:23	23° $\mathring{\text{N}}$ 10'38	31.23694 AU
min. Earth dist.	-536 Feb 04 j 17:41	8° $\mathring{\text{N}}$ 55'55	29.18634 AU				
direct	-536 Apr 24 j 10:51	7° $\mathring{\text{N}}$ 32'00		conjunction	-530 Aug 23 j 09:58	23° $\mathring{\text{N}}$ 12'50	1°13'23
evening set	-536 Jul 24 j 11:05	9° $\mathring{\text{N}}$ 28'26		minimum elong	-530 Aug 23 j 09:57	23° $\mathring{\text{N}}$ 12'50	1°13'23
				morning rise	-530 Sep 08 j 03:38	23° $\mathring{\text{N}}$ 47'42	
conjunction	-536 Aug 09 j 12:06	10° $\mathring{\text{N}}$ 03'54	0°51'06	retrograde	-530 Dec 03 j 15:00	25° $\mathring{\text{N}}$ 39'30	
minimum elong	-536 Aug 09 j 12:06	10° $\mathring{\text{N}}$ 03'54	0°51'06	opposition	-529 Feb 19 j 00:50	24° $\mathring{\text{N}}$ 17'33	1°20'10
max. Earth dist.	-536 Aug 08 j 13:47	10° $\mathring{\text{N}}$ 01'50	31.19139 AU	min. Earth dist.	-529 Feb 19 j 23:11	24° $\mathring{\text{N}}$ 16'00	29.24090 AU
morning rise	-536 Aug 25 j 09:40	10° $\mathring{\text{N}}$ 39'04		direct	-529 May 10 j 22:50	22° $\mathring{\text{N}}$ 52'17	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 30

Attention, astronomical year style is used: The year -529 in astronomical counting style is the year 530 BCE in historical counting style.

evening set	-529 Aug 10 j 00:17	24° $\Omega$ 48'41		conjunction	-523 Sep 07 j 14:13	8° $\eta$ 29'59	1°34'26
				minimum elong	-523 Sep 07 j 14:13	8° $\eta$ 29'59	1°34'26
conjunction	-529 Aug 25 j 21:02	25° $\Omega$ 23'50	1°16'45	max. Earth dist.	-523 Sep 06 j 14:54	8° $\eta$ 27'48	31.29380 AU
minimum elong	-529 Aug 25 j 21:01	25° $\Omega$ 23'50	1°16'45	morning rise	-523 Sep 23 j 03:36	9° $\eta$ 04'32	
max. Earth dist.	-529 Aug 24 j 20:27	25° $\Omega$ 21'32	31.24354 AU	retrograde	-523 Dec 18 j 15:29	10° $\eta$ 56'26	
morning rise	-529 Sep 10 j 14:13	25° $\Omega$ 58'39		opposition	-522 Mar 06 j 05:58	9° $\eta$ 34'46	1°42'11
retrograde	-529 Dec 06 j 02:43	27° $\Omega$ 50'26		min. Earth dist.	-522 Mar 07 j 04:04	9° $\eta$ 33'15	29.29808 AU
opposition	-528 Feb 21 j 11:41	26° $\Omega$ 28'30	1°23'42	direct	-522 May 26 j 10:49	8° $\eta$ 09'51	
min. Earth dist.	-528 Feb 22 j 09:18	26° $\Omega$ 27'00	29.24804 AU	evening set	-522 Aug 25 j 08:33	10° $\eta$ 06'18	
direct	-528 May 12 j 10:22	25° $\Omega$ 03'14		max. Earth dist.	-522 Sep 09 j 00:37	10° $\eta$ 38'51	31.29980 AU
evening set	-528 Aug 11 j 11:43	26° $\Omega$ 59'39					
max. Earth dist.	-528 Aug 26 j 08:43	27° $\Omega$ 32'35	31.25105 AU	conjunction	-522 Sep 10 j 00:53	10° $\eta$ 41'07	1°36'55
				minimum elong	-522 Sep 10 j 00:52	10° $\eta$ 41'07	1°36'55
conjunction	-528 Aug 27 j 08:01	27° $\Omega$ 34'45	1°20'00	morning rise	-522 Sep 25 j 13:43	11° $\eta$ 15'38	
minimum elong	-528 Aug 27 j 08:00	27° $\Omega$ 34'45	1°20'00	retrograde	-522 Dec 21 j 01:52	13° $\eta$ 07'33	
morning rise	-528 Sep 12 j 00:24	28° $\Omega$ 09'31		opposition	-521 Mar 08 j 17:16	11° $\eta$ 45'54	1°44'47
	-528 Nov 28 j 20:02	0° $\eta$		min. Earth dist.	-521 Mar 09 j 15:38	11° $\eta$ 44'22	29.30348 AU
retrograde	-528 Dec 07 j 11:55	0° $\eta$ 01'19		direct	-521 May 28 j 21:15	10° $\eta$ 21'00	
	-528 Dec 16 j 05:36	30° $\kappa$ $\Omega$		evening set	-521 Aug 27 j 19:44	12° $\eta$ 17'25	
opposition	-527 Feb 22 j 22:40	28° $\Omega$ 39'24	1°27'07				
min. Earth dist.	-527 Feb 23 j 20:56	28° $\Omega$ 37'52	29.25607 AU	conjunction	-521 Sep 12 j 11:36	12° $\eta$ 52'11	1°39'16
direct	-527 May 14 j 21:54	27° $\Omega$ 14'12		minimum elong	-521 Sep 12 j 11:35	12° $\eta$ 52'11	1°39'16
evening set	-527 Aug 13 j 23:23	29° $\Omega$ 10'37		max. Earth dist.	-521 Sep 11 j 12:13	12° $\eta$ 50'00	31.30439 AU
				morning rise	-521 Sep 27 j 23:42	13° $\eta$ 26'40	
conjunction	-527 Aug 29 j 18:54	29° $\Omega$ 45'39	1°23'08	retrograde	-521 Dec 23 j 10:24	15° $\eta$ 18'35	
minimum elong	-527 Aug 29 j 18:54	29° $\Omega$ 45'39	1°23'08	opposition	-520 Mar 10 j 04:45	13° $\eta$ 56'55	1°47'13
max. Earth dist.	-527 Aug 28 j 18:55	29° $\Omega$ 43'25	31.25958 AU	min. Earth dist.	-520 Mar 11 j 03:26	13° $\eta$ 55'22	29.30731 AU
	-527 Sep 05 j 04:55	0° $\eta$		direct	-520 May 30 j 09:54	12° $\eta$ 32'03	
morning rise	-527 Sep 14 j 10:50	0° $\eta$ 20'23		evening set	-520 Aug 29 j 06:49	14° $\eta$ 28'23	
retrograde	-527 Dec 09 j 23:54	2° $\eta$ 12'11					
opposition	-526 Feb 25 j 09:21	0° $\eta$ 50'20	1°30'24	conjunction	-520 Sep 13 j 21:55	15° $\eta$ 03'07	1°41'29
min. Earth dist.	-526 Feb 26 j 06:37	0° $\eta$ 48'52	29.26496 AU	minimum elong	-520 Sep 13 j 21:55	15° $\eta$ 03'07	1°41'29
	-526 Mar 29 j 23:41	30° $\kappa$ $\Omega$		max. Earth dist.	-520 Sep 12 j 21:25	15° $\eta$ 00'50	31.30758 AU
direct	-526 May 17 j 10:57	29° $\Omega$ 25'11		morning rise	-520 Sep 29 j 09:39	15° $\eta$ 37'33	
	-526 Jul 03 j 14:49	0° $\eta$		retrograde	-520 Dec 24 j 21:36	17° $\eta$ 29'29	
evening set	-526 Aug 16 j 10:55	1° $\eta$ 21'38		opposition	-519 Mar 12 j 16:04	16° $\eta$ 07'47	1°49'30
max. Earth dist.	-526 Aug 31 j 06:41	1° $\eta$ 54'28	31.26862 AU	min. Earth dist.	-519 Mar 13 j 14:11	16° $\eta$ 06'16	29.30996 AU
				direct	-519 Jun 01 j 20:43	14° $\eta$ 42'54	
conjunction	-526 Sep 01 j 05:55	1° $\eta$ 56'38	1°26'09	evening set	-519 Aug 31 j 17:43	16° $\eta$ 39'11	
minimum elong	-526 Sep 01 j 05:54	1° $\eta$ 56'38	1°26'09	max. Earth dist.	-519 Sep 15 j 08:57	17° $\eta$ 11'41	31.30962 AU
morning rise	-526 Sep 16 j 21:05	2° $\eta$ 31'19					
retrograde	-526 Dec 12 j 10:44	4° $\eta$ 23'08		conjunction	-519 Sep 16 j 08:24	17° $\eta$ 13'52	1°43'33
opposition	-525 Feb 27 j 20:28	3° $\eta$ 01'21	1°33'33	minimum elong	-519 Sep 16 j 08:24	17° $\eta$ 13'52	1°43'33
min. Earth dist.	-525 Feb 28 j 18:44	2° $\eta$ 59'49	29.27418 AU	morning rise	-519 Oct 01 j 19:25	17° $\eta$ 48'16	
direct	-525 May 19 j 23:02	1° $\eta$ 36'16		retrograde	-519 Dec 27 j 06:34	19° $\eta$ 40'12	
evening set	-525 Aug 18 j 22:22	3° $\eta$ 32'44		opposition	-518 Mar 15 j 03:25	18° $\eta$ 18'27	1°51'37
				min. Earth dist.	-518 Mar 16 j 02:24	18° $\eta$ 16'53	29.31162 AU
conjunction	-525 Sep 03 j 16:38	4° $\eta$ 07'41	1°29'03	direct	-518 Jun 04 j 08:29	16° $\eta$ 53'33	
minimum elong	-525 Sep 03 j 16:38	4° $\eta$ 07'41	1°29'03	evening set	-518 Sep 03 j 04:39	18° $\eta$ 49'47	
max. Earth dist.	-525 Sep 02 j 17:12	4° $\eta$ 05'30	31.27778 AU				
morning rise	-525 Sep 19 j 07:16	4° $\eta$ 42'19		conjunction	-518 Sep 18 j 18:35	19° $\eta$ 24'25	1°45'28
retrograde	-525 Dec 14 j 20:48	6° $\eta$ 34'10		minimum elong	-518 Sep 18 j 18:35	19° $\eta$ 24'25	1°45'27
opposition	-524 Mar 01 j 07:32	5° $\eta$ 12'27	1°36'35	max. Earth dist.	-518 Sep 17 j 18:38	19° $\eta$ 22'11	31.31110 AU
min. Earth dist.	-524 Mar 02 j 04:54	5° $\eta$ 10'58	29.28310 AU	morning rise	-518 Oct 04 j 05:13	19° $\eta$ 58'46	
direct	-524 May 21 j 11:55	3° $\eta$ 47'26		retrograde	-518 Dec 29 j 18:08	21° $\eta$ 50'43	
evening set	-524 Aug 20 j 09:48	5° $\eta$ 43'54		opposition	-517 Mar 17 j 14:48	20° $\eta$ 28'55	1°53'35
max. Earth dist.	-524 Sep 04 j 03:47	6° $\eta$ 16'36	31.28626 AU	min. Earth dist.	-517 Mar 18 j 12:32	20° $\eta$ 27'26	29.31303 AU
				direct	-517 Jun 06 j 21:50	19° $\eta$ 04'01	
conjunction	-524 Sep 05 j 03:27	6° $\eta$ 18'49	1°31'48	evening set	-517 Sep 05 j 15:11	21° $\eta$ 00'11	
minimum elong	-524 Sep 05 j 03:26	6° $\eta$ 18'49	1°31'48	max. Earth dist.	-517 Sep 20 j 05:44	21° $\eta$ 32'38	31.31248 AU
morning rise	-524 Sep 20 j 17:26	6° $\eta$ 53'25					
retrograde	-524 Dec 16 j 06:12	8° $\eta$ 45'17		conjunction	-517 Sep 21 j 04:37	21° $\eta$ 34'46	1°47'13
opposition	-523 Mar 03 j 18:42	7° $\eta$ 23'36	1°39'27	minimum elong	-517 Sep 21 j 04:37	21° $\eta$ 34'46	1°47'13
min. Earth dist.	-523 Mar 04 j 17:00	7° $\eta$ 22'04	29.29128 AU	morning rise	-517 Oct 06 j 14:36	22° $\eta$ 09'05	
direct	-523 May 23 j 22:29	5° $\eta$ 58'39		retrograde	-516 Jan 01 j 04:26	24° $\eta$ 01'03	
evening set	-523 Aug 22 j 21:08	7° $\eta$ 55'06		opposition	-516 Mar 19 j 02:24	22° $\eta$ 39'12	1°55'23
				min. Earth dist.	-516 Mar 20 j 00:38	22° $\eta$ 37'41	29.31477 AU

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 31

Attention, astronomical year style is used: The year -516 in astronomical counting style is the year 517 BCE in historical counting style.

direct	-516 Jun 08 j 09:58	21° <u>14</u> '19		max. Earth dist.	-510 Oct 05 j 06:03	6° <u>45</u> '21	31.33459 AU
evening set	-516 Sep 07 j 01:46	23° <u>10</u> '26					
				conjunction	-510 Oct 06 j 01:26	6° <u>47</u> '10	1°55'08
conjunction	-516 Sep 22 j 14:35	23° <u>14</u> '59	1°48'50	minimum elong	-510 Oct 06 j 01:26	6° <u>47</u> '10	1°55'08
minimum elong	-516 Sep 22 j 14:35	23° <u>14</u> '59	1°48'50	morning rise	-510 Oct 21 j 08:12	7° <u>21</u> '19	
max. Earth dist.	-516 Sep 21 j 16:05	23° <u>14</u> '53	31.31459 AU	retrograde	-509 Jan 16 j 02:00	9° <u>13</u> '49	
morning rise	-516 Oct 08 j 00:07	24° <u>19</u> '15		opposition	-509 Apr 04 j 12:06	7° <u>52</u> '02	2°03'15
retrograde	-515 Jan 02 j 14:14	26° <u>11</u> '15		min. Earth dist.	-509 Apr 05 j 07:32	7° <u>50</u> '43	29.33656 AU
opposition	-515 Mar 21 j 13:43	24° <u>49</u> '24	1°57'02	direct	-509 Jun 24 j 16:50	6° <u>27</u> '37	
min. Earth dist.	-515 Mar 22 j 10:26	24° <u>47</u> '59	29.31726 AU	evening set	-509 Sep 23 j 01:48	8° <u>23</u> '31	
direct	-515 Jun 10 j 22:53	23° <u>24</u> '32					
evening set	-515 Sep 09 j 12:14	25° <u>20</u> '37		conjunction	-509 Oct 08 j 10:59	8° <u>57</u> '51	1°55'37
max. Earth dist.	-515 Sep 24 j 02:18	25° <u>53</u> '03	31.31748 AU	minimum elong	-509 Oct 08 j 10:59	8° <u>57</u> '51	1°55'37
				max. Earth dist.	-509 Oct 07 j 15:13	8° <u>56</u> '00	31.33539 AU
conjunction	-515 Sep 25 j 00:30	25° <u>55</u> '08	1°50'17	morning rise	-509 Oct 23 j 17:31	9° <u>31</u> '58	
minimum elong	-515 Sep 25 j 00:30	25° <u>55</u> '08	1°50'17	retrograde	-508 Jan 18 j 14:09	11° <u>24</u> '33	
morning rise	-515 Oct 10 j 09:33	26° <u>29</u> '22		opposition	-508 Apr 06 j 00:04	10° <u>02</u> '45	2°03'41
retrograde	-514 Jan 05 j 00:02	28° <u>21</u> '26		min. Earth dist.	-508 Apr 06 j 18:13	10° <u>01</u> '31	29.33662 AU
opposition	-514 Mar 24 j 01:17	26° <u>59</u> '35	1°58'30	direct	-508 Jun 26 j 05:48	8° <u>38</u> '22	
min. Earth dist.	-514 Mar 24 j 22:11	26° <u>58</u> '09	29.32067 AU	evening set	-508 Sep 24 j 11:53	10° <u>34</u> '13	
direct	-514 Jun 13 j 09:49	25° <u>34</u> '47					
evening set	-514 Sep 11 j 22:34	27° <u>30</u> '50		conjunction	-508 Oct 09 j 20:44	11° <u>08</u> '31	1°55'56
				minimum elong	-508 Oct 09 j 20:44	11° <u>08</u> '31	1°55'56
conjunction	-514 Sep 27 j 10:21	28° <u>05</u> '19	1°51'35	max. Earth dist.	-508 Oct 09 j 01:40	11° <u>06</u> '44	31.33467 AU
minimum elong	-514 Sep 27 j 10:21	28° <u>05</u> '19	1°51'35	morning rise	-508 Oct 25 j 02:51	11° <u>42</u> '37	
max. Earth dist.	-514 Sep 26 j 13:21	28° <u>03</u> '21	31.32124 AU	retrograde	-507 Jan 20 j 01:17	13° <u>35</u> '16	
morning rise	-514 Oct 12 j 18:52	28° <u>39</u> '32		opposition	-507 Apr 08 j 12:00	12° <u>13</u> '25	2°03'56
	-514 Nov 24 j 20:51	0° <u>0</u>		min. Earth dist.	-507 Apr 09 j 06:57	12° <u>12</u> '08	29.33529 AU
retrograde	-513 Jan 07 j 09:12	0° <u>31</u> '39		direct	-507 Jun 28 j 17:20	10° <u>49</u> '04	
	-513 Feb 21 j 12:40	30° <u>11</u> '		evening set	-507 Sep 26 j 21:53	12° <u>44</u> '50	
opposition	-513 Mar 26 j 12:53	29° <u>09</u> '50	1°59'48	max. Earth dist.	-507 Oct 11 j 11:32	13° <u>17</u> '21	31.33278 AU
min. Earth dist.	-513 Mar 27 j 08:53	29° <u>08</u> '28	29.32456 AU				
direct	-513 Jun 15 j 22:15	27° <u>45</u> '07		conjunction	-507 Oct 12 j 06:19	13° <u>19</u> '07	1°56'05
evening set	-513 Sep 14 j 08:58	29° <u>41</u> '09		minimum elong	-507 Oct 12 j 06:19	13° <u>19</u> '07	1°56'06
	-513 Sep 22 j 21:23	0° <u>0</u>		morning rise	-507 Oct 27 j 12:09	13° <u>53</u> '12	
				retrograde	-506 Jan 22 j 11:15	15° <u>45</u> '54	
conjunction	-513 Sep 29 j 20:06	0° <u>15</u> '36	1°52'43	opposition	-506 Apr 10 j 23:58	14° <u>23</u> '59	2°04'01
minimum elong	-513 Sep 29 j 20:06	0° <u>15</u> '36	1°52'43	min. Earth dist.	-506 Apr 11 j 17:33	14° <u>22</u> '48	29.33276 AU
max. Earth dist.	-513 Sep 28 j 22:49	0° <u>13</u> '36	31.32531 AU	direct	-506 Jul 01 j 06:29	12° <u>59</u> '38	
morning rise	-513 Oct 15 j 04:16	0° <u>49</u> '48		evening set	-506 Sep 29 j 07:41	14° <u>55</u> '19	
retrograde	-512 Jan 09 j 20:03	2° <u>42</u> '01					
opposition	-512 Mar 28 j 00:34	1° <u>20</u> '12	2°00'55	conjunction	-506 Oct 14 j 15:41	15° <u>29</u> '35	1°56'05
min. Earth dist.	-512 Mar 28 j 20:12	1° <u>18</u> '52	29.32875 AU	minimum elong	-506 Oct 14 j 15:41	15° <u>29</u> '35	1°56'05
	-512 May 31 j 14:24	30° <u>11</u> '		max. Earth dist.	-506 Oct 13 j 21:03	15° <u>27</u> '50	31.32985 AU
direct	-512 Jun 17 j 08:14	29° <u>55</u> '35		morning rise	-506 Oct 29 j 21:15	16° <u>03</u> '39	
	-512 Jul 03 j 22:03	0° <u>0</u>		retrograde	-505 Jan 24 j 21:39	17° <u>56</u> '24	
evening set	-512 Sep 15 j 19:04	1° <u>51</u> '35		opposition	-505 Apr 13 j 12:07	16° <u>34</u> '25	2°03'55
max. Earth dist.	-512 Sep 30 j 10:05	2° <u>24</u> '09	31.32928 AU	min. Earth dist.	-505 Apr 14 j 05:50	16° <u>33</u> '13	29.32967 AU
				direct	-505 Jul 03 j 18:31	15° <u>10</u> '04	
conjunction	-512 Oct 01 j 05:52	2° <u>26</u> '00	1°53'41	evening set	-505 Oct 01 j 17:19	17° <u>05</u> '39	
minimum elong	-512 Oct 01 j 05:52	2° <u>26</u> '00	1°53'41	max. Earth dist.	-505 Oct 16 j 07:54	17° <u>38</u> '17	31.32673 AU
morning rise	-512 Oct 16 j 13:28	3° <u>00</u> '11					
retrograde	-511 Jan 11 j 04:46	4° <u>52</u> '30		conjunction	-505 Oct 17 j 01:02	17° <u>39</u> '53	1°55'55
opposition	-511 Mar 30 j 12:21	3° <u>30</u> '43	2°01'52	minimum elong	-505 Oct 17 j 01:02	17° <u>39</u> '53	1°55'55
min. Earth dist.	-511 Mar 31 j 07:59	3° <u>29</u> '23	29.33236 AU	morning rise	-505 Nov 01 j 06:15	18° <u>13</u> '56	
direct	-511 Jun 19 j 20:01	2° <u>06</u> '10		retrograde	-504 Jan 27 j 06:59	20° <u>06</u> '44	
evening set	-511 Sep 18 j 05:26	4° <u>02</u> '09		opposition	-504 Apr 15 j 00:09	18° <u>44</u> '41	2°03'39
				min. Earth dist.	-504 Apr 15 j 16:44	18° <u>43</u> '33	29.32659 AU
conjunction	-511 Oct 03 j 15:33	4° <u>36</u> '33	1°54'29	direct	-504 Jul 05 j 08:08	17° <u>20</u> '21	
minimum elong	-511 Oct 03 j 15:33	4° <u>36</u> '33	1°54'29	evening set	-504 Oct 03 j 02:53	19° <u>15</u> '50	
max. Earth dist.	-511 Oct 02 j 18:58	4° <u>34</u> '37	31.33250 AU				
morning rise	-511 Oct 18 j 22:54	5° <u>10</u> '42		conjunction	-504 Oct 18 j 10:07	19° <u>50</u> '03	1°55'35
retrograde	-510 Jan 13 j 16:19	7° <u>03</u> '06		minimum elong	-504 Oct 18 j 10:08	19° <u>50</u> '03	1°55'34
opposition	-510 Apr 02 j 00:02	5° <u>41</u> '20	2°02'39	max. Earth dist.	-504 Oct 17 j 16:58	19° <u>48</u> '26	31.32394 AU
min. Earth dist.	-510 Apr 02 j 18:48	5° <u>40</u> '03	29.33512 AU	morning rise	-504 Nov 02 j 15:14	20° <u>24</u> '05	
direct	-510 Jun 22 j 05:46	4° <u>16</u> '51		retrograde	-503 Jan 28 j 17:16	22° <u>16</u> '57	
evening set	-510 Sep 20 j 15:39	6° <u>12</u> '48		opposition	-503 Apr 17 j 12:14	20° <u>54</u> '50	2°03'13

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 32

Attention, astronomical year style is used: The year -503 in astronomical counting style is the year 504 BCE in historical counting style.

min. Earth dist.	-503 Apr 18 j 03:56	20° <u>♂</u> 53'46	29.32424 AU	conjunction	-497 Nov 03 j 02:16	5° <u>♂</u> 01'54	1°48'39
direct	-503 Jul 07 j 18:39	19° <u>♂</u> 30'31		minimum elong	-497 Nov 03 j 02:16	5° <u>♂</u> 01'54	1°48'39
evening set	-503 Oct 05 j 12:21	21° <u>♂</u> 25'55		max. Earth dist.	-497 Nov 02 j 14:42	5° <u>♂</u> 00'48	31.31765 AU
				morning rise	-497 Nov 18 j 06:13	5° <u>♂</u> 35'56	
conjunction	-503 Oct 20 j 19:24	22° <u>♂</u> 00'07	1°55'05	retrograde	-496 Feb 13 j 20:38	7° <u>♂</u> 29'34	
minimum elong	-503 Oct 20 j 19:24	22° <u>♂</u> 00'07	1°55'04	opposition	-496 May 03 j 02:34	6° <u>♂</u> 07'17	1°55'13
max. Earth dist.	-503 Oct 20 j 04:12	21° <u>♂</u> 58'41	31.32199 AU	min. Earth dist.	-496 May 03 j 13:29	6° <u>♂</u> 06'33	29.31728 AU
morning rise	-503 Nov 05 j 00:05	22° <u>♂</u> 34'08		direct	-496 Jul 23 j 01:06	4° <u>♂</u> 43'29	
retrograde	-502 Jan 31 j 01:08	24° <u>♂</u> 27'05		evening set	-496 Oct 20 j 06:14	6° <u>♂</u> 38'25	
opposition	-502 Apr 20 j 00:18	23° <u>♂</u> 04'55	2°02'36				
min. Earth dist.	-502 Apr 20 j 15:23	23° <u>♂</u> 03'54	29.32269 AU	conjunction	-496 Nov 04 j 11:33	7° <u>♂</u> 12'34	1°47'01
direct	-502 Jul 10 j 06:46	21° <u>♂</u> 40'40		minimum elong	-496 Nov 04 j 11:33	7° <u>♂</u> 12'34	1°47'01
evening set	-502 Oct 07 j 21:55	23° <u>♂</u> 35'59		max. Earth dist.	-496 Nov 04 j 01:18	7° <u>♂</u> 11'36	31.31419 AU
				morning rise	-496 Nov 19 j 15:21	7° <u>♂</u> 46'36	
conjunction	-502 Oct 23 j 04:29	24° <u>♂</u> 10'10	1°54'25	retrograde	-495 Feb 15 j 06:59	9° <u>♂</u> 40'20	
minimum elong	-502 Oct 23 j 04:29	24° <u>♂</u> 10'10	1°54'24	opposition	-495 May 05 j 15:10	8° <u>♂</u> 18'02	1°53'24
max. Earth dist.	-502 Oct 22 j 13:10	24° <u>♂</u> 08'43	31.32105 AU	min. Earth dist.	-495 May 06 j 01:13	8° <u>♂</u> 17'21	29.31290 AU
morning rise	-502 Nov 07 j 09:08	24° <u>♂</u> 44'11		direct	-495 Jul 25 j 14:43	6° <u>♂</u> 54'16	
retrograde	-501 Feb 02 j 12:33	26° <u>♂</u> 37'13		evening set	-495 Oct 22 j 15:42	8° <u>♂</u> 49'08	
opposition	-501 Apr 22 j 12:29	25° <u>♂</u> 15'02	2°01'48				
min. Earth dist.	-501 Apr 23 j 01:54	25° <u>♂</u> 14'08	29.32217 AU	conjunction	-495 Nov 06 j 20:41	9° <u>♂</u> 23'16	1°45'15
direct	-501 Jul 12 j 16:30	23° <u>♂</u> 50'51		minimum elong	-495 Nov 06 j 20:41	9° <u>♂</u> 23'16	1°45'14
evening set	-501 Oct 10 j 07:09	25° <u>♂</u> 46'06		max. Earth dist.	-495 Nov 06 j 09:59	9° <u>♂</u> 22'15	31.30912 AU
				morning rise	-495 Nov 22 j 00:35	9° <u>♂</u> 57'19	
conjunction	-501 Oct 25 j 13:35	26° <u>♂</u> 20'16	1°53'35	retrograde	-494 Feb 17 j 18:08	11° <u>♂</u> 51'09	
minimum elong	-501 Oct 25 j 13:35	26° <u>♂</u> 20'16	1°53'35	opposition	-494 May 08 j 03:45	10° <u>♂</u> 28'46	1°51'25
max. Earth dist.	-501 Oct 25 j 00:05	26° <u>♂</u> 19'00	31.32082 AU	min. Earth dist.	-494 May 08 j 13:16	10° <u>♂</u> 28'08	29.30715 AU
morning rise	-501 Nov 09 j 17:55	26° <u>♂</u> 54'18		direct	-494 Jul 28 j 01:28	9° <u>♂</u> 05'02	
retrograde	-500 Feb 04 j 22:12	28° <u>♂</u> 47'27		evening set	-494 Oct 25 j 00:55	10° <u>♂</u> 59'48	
opposition	-500 Apr 24 j 00:51	27° <u>♂</u> 25'15	2°00'50				
min. Earth dist.	-500 Apr 24 j 14:23	27° <u>♂</u> 24'20	29.32211 AU	conjunction	-494 Nov 09 j 05:57	11° <u>♂</u> 33'56	1°43'19
direct	-500 Jul 14 j 03:25	26° <u>♂</u> 01'09		minimum elong	-494 Nov 09 j 05:58	11° <u>♂</u> 33'56	1°43'18
evening set	-500 Oct 11 j 16:37	27° <u>♂</u> 56'19		max. Earth dist.	-494 Nov 08 j 20:57	11° <u>♂</u> 33'05	31.30281 AU
				morning rise	-494 Nov 24 j 09:41	12° <u>♂</u> 08'00	
conjunction	-500 Oct 26 j 22:41	28° <u>♂</u> 30'29	1°52'36	retrograde	-493 Feb 20 j 02:42	14° <u>♂</u> 01'55	
minimum elong	-500 Oct 26 j 22:41	28° <u>♂</u> 30'29	1°52'35	opposition	-493 May 10 j 16:30	12° <u>♂</u> 39'28	1°49'17
max. Earth dist.	-500 Oct 26 j 09:26	28° <u>♂</u> 29'14	31.32095 AU	min. Earth dist.	-493 May 11 j 01:37	12° <u>♂</u> 38'51	29.30028 AU
morning rise	-500 Nov 11 j 03:00	29° <u>♂</u> 04'30		direct	-493 Jul 30 j 14:13	11° <u>♂</u> 15'45	
	-500 Dec 08 j 10:44	0° <u>♂</u>		evening set	-493 Oct 27 j 10:05	13° <u>♂</u> 10'24	
retrograde	-499 Feb 06 j 10:12	0° <u>♂</u> 57'46					
	-499 Apr 11 j 05:43	30° <u>♂</u> 5'34		conjunction	-493 Nov 11 j 14:52	13° <u>♂</u> 44'33	1°41'15
opposition	-499 Apr 26 j 12:55	29° <u>♂</u> 35'34	1°59'41	minimum elong	-493 Nov 11 j 14:52	13° <u>♂</u> 44'33	1°41'14
min. Earth dist.	-499 Apr 27 j 00:48	29° <u>♂</u> 34'46	29.32210 AU	max. Earth dist.	-493 Nov 11 j 05:43	13° <u>♂</u> 43'41	31.29576 AU
direct	-499 Jul 16 j 14:42	28° <u>♂</u> 11'32		morning rise	-493 Nov 26 j 18:49	14° <u>♂</u> 18'37	
	-499 Oct 11 j 00:43	0° <u>♂</u>			-493 Dec 16 j 12:33	15° <u>♂</u>	
evening set	-499 Oct 14 j 02:03	0° <u>♂</u> 06'41		retrograde	-492 Feb 22 j 14:16	16° <u>♂</u> 12'38	
					-492 May 06 j 01:49	15° <u>♂</u> 5'11	
conjunction	-499 Oct 29 j 07:55	0° <u>♂</u> 40'50	1°51'26	opposition	-492 May 12 j 05:06	14° <u>♂</u> 50'06	1°46'59
minimum elong	-499 Oct 29 j 07:55	0° <u>♂</u> 40'50	1°51'27	min. Earth dist.	-492 May 12 j 12:39	14° <u>♂</u> 49'35	29.29307 AU
max. Earth dist.	-499 Oct 28 j 19:36	0° <u>♂</u> 39'40	31.32071 AU	direct	-492 Aug 01 j 00:38	13° <u>♂</u> 26'23	
morning rise	-499 Nov 13 j 12:02	1° <u>♂</u> 14'51			-492 Oct 19 j 02:07	15° <u>♂</u>	
retrograde	-498 Feb 08 j 21:44	3° <u>♂</u> 08'15		evening set	-492 Oct 28 j 19:09	15° <u>♂</u> 20'57	
opposition	-498 Apr 29 j 01:27	1° <u>♂</u> 46'02	1°58'22				
min. Earth dist.	-498 Apr 29 j 13:45	1° <u>♂</u> 45'12	29.32157 AU	conjunction	-492 Nov 12 j 23:58	15° <u>♂</u> 55'05	1°39'02
direct	-498 Jul 19 j 01:00	0° <u>♂</u> 22'05		minimum elong	-492 Nov 12 j 23:58	15° <u>♂</u> 55'05	1°39'01
evening set	-498 Oct 16 j 11:25	2° <u>♂</u> 17'10		max. Earth dist.	-492 Nov 12 j 16:31	15° <u>♂</u> 54'23	31.28851 AU
				morning rise	-492 Nov 28 j 03:48	16° <u>♂</u> 29'11	
conjunction	-498 Oct 31 j 17:02	2° <u>♂</u> 51'18	1°50'07	retrograde	-491 Feb 23 j 23:42	18° <u>♂</u> 23'17	
minimum elong	-498 Oct 31 j 17:03	2° <u>♂</u> 51'18	1°50'07	opposition	-491 May 14 j 17:39	17° <u>♂</u> 00'40	1°44'33
max. Earth dist.	-498 Oct 31 j 05:30	2° <u>♂</u> 50'13	31.31980 AU	min. Earth dist.	-491 May 15 j 01:11	17° <u>♂</u> 00'10	29.28598 AU
morning rise	-498 Nov 15 j 21:01	3° <u>♂</u> 25'20		direct	-491 Aug 03 j 11:51	15° <u>♂</u> 36'59	
retrograde	-497 Feb 11 j 08:45	5° <u>♂</u> 18'51		evening set	-491 Oct 31 j 04:19	17° <u>♂</u> 31'27	
opposition	-497 May 01 j 13:58	3° <u>♂</u> 56'37	1°56'52				
min. Earth dist.	-497 May 02 j 00:42	3° <u>♂</u> 55'53	29.32002 AU	conjunction	-491 Nov 15 j 08:58	18° <u>♂</u> 05'35	1°36'40
direct	-497 Jul 21 j 13:40	2° <u>♂</u> 32'44		minimum elong	-491 Nov 15 j 08:58	18° <u>♂</u> 05'35	1°36'40
evening set	-497 Oct 18 j 20:55	4° <u>♂</u> 27'45		max. Earth dist.	-491 Nov 15 j 02:07	18° <u>♂</u> 04'56	31.28186 AU
				morning rise	-491 Nov 30 j 12:56	18° <u>♂</u> 39'42	



## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 33

Attention, astronomical year style is used: The year -490 in astronomical counting style is the year 491 BCE in historical counting style.

retrograde	-490 Feb 26 j 11:35	20° $\mathbb{M}$ 33'54		evening set	-484 Nov 14 j 19:54	2° $\mathbb{A}$ 47'56	
opposition	-490 May 17 j 06:16	19° $\mathbb{M}$ 11'14	1°41'58				
min. Earth dist.	-490 May 17 j 11:40	19° $\mathbb{M}$ 10'52	29.27964 AU	conjunction	-484 Nov 30 j 00:34	3° $\mathbb{A}$ 22'10	1°16'25
direct	-490 Aug 05 j 22:49	17° $\mathbb{M}$ 47'36		minimum elong	-484 Nov 30 j 00:34	3° $\mathbb{A}$ 22'10	1°16'24
evening set	-490 Nov 02 j 13:15	19° $\mathbb{M}$ 41'58		max. Earth dist.	-484 Nov 29 j 23:37	3° $\mathbb{A}$ 22'05	31.24397 AU
				morning rise	-484 Dec 15 j 05:33	3° $\mathbb{A}$ 56'26	
conjunction	-490 Nov 17 j 17:52	20° $\mathbb{M}$ 16'07	1°34'10	retrograde	-483 Mar 13 j 21:39	5° $\mathbb{A}$ 51'34	
minimum elong	-490 Nov 17 j 17:52	20° $\mathbb{M}$ 16'07	1°34'10	opposition	-483 Jun 02 j 00:14	4° $\mathbb{A}$ 28'38	1°19'51
max. Earth dist.	-490 Nov 17 j 12:15	20° $\mathbb{M}$ 15'36	31.27592 AU	min. Earth dist.	-483 Jun 01 j 23:46	4° $\mathbb{A}$ 28'39	29.24039 AU
morning rise	-490 Dec 02 j 21:53	20° $\mathbb{M}$ 50'15		direct	-483 Aug 21 j 07:07	3° $\mathbb{A}$ 05'24	
retrograde	-489 Feb 28 j 23:15	22° $\mathbb{M}$ 44'36		evening set	-483 Nov 17 j 05:11	4° $\mathbb{A}$ 59'19	
opposition	-489 May 19 j 19:06	21° $\mathbb{M}$ 21'52	1°39'13				
min. Earth dist.	-489 May 20 j 00:23	21° $\mathbb{M}$ 21'31	29.27415 AU	conjunction	-483 Dec 02 j 10:01	5° $\mathbb{A}$ 33'34	1°13'02
direct	-489 Aug 08 j 08:07	19° $\mathbb{M}$ 58'17		minimum elong	-483 Dec 02 j 10:01	5° $\mathbb{A}$ 33'34	1°13'02
evening set	-489 Nov 04 j 22:15	21° $\mathbb{M}$ 52'36		max. Earth dist.	-483 Dec 02 j 10:16	5° $\mathbb{A}$ 33'35	31.23534 AU
				morning rise	-483 Dec 17 j 15:06	6° $\mathbb{A}$ 07'52	
conjunction	-489 Nov 20 j 02:54	22° $\mathbb{M}$ 26'45	1°31'32	retrograde	-482 Mar 16 j 07:19	8° $\mathbb{A}$ 03'06	
minimum elong	-489 Nov 20 j 02:54	22° $\mathbb{M}$ 26'45	1°31'32	opposition	-482 Jun 04 j 13:26	6° $\mathbb{A}$ 40'05	1°16'11
max. Earth dist.	-489 Nov 19 j 22:38	22° $\mathbb{M}$ 26'21	31.27093 AU	min. Earth dist.	-482 Jun 04 j 13:15	6° $\mathbb{A}$ 40'05	29.23096 AU
morning rise	-489 Dec 05 j 07:00	23° $\mathbb{M}$ 00'54		direct	-482 Aug 23 j 18:47	5° $\mathbb{A}$ 16'52	
retrograde	-488 Mar 02 j 10:39	24° $\mathbb{M}$ 55'22		evening set	-482 Nov 19 j 14:22	7° $\mathbb{A}$ 10'40	
opposition	-488 May 21 j 07:42	23° $\mathbb{M}$ 32'37	1°36'20				
min. Earth dist.	-488 May 21 j 10:58	23° $\mathbb{M}$ 32'24	29.26933 AU	conjunction	-482 Dec 04 j 19:16	7° $\mathbb{A}$ 44'56	1°09'33
direct	-488 Aug 09 j 20:17	22° $\mathbb{M}$ 09'06		minimum elong	-482 Dec 04 j 19:16	7° $\mathbb{A}$ 44'56	1°09'33
evening set	-488 Nov 06 j 07:18	24° $\mathbb{M}$ 03'22		max. Earth dist.	-482 Dec 04 j 19:55	7° $\mathbb{A}$ 44'59	31.22537 AU
				morning rise	-482 Dec 20 j 00:39	8° $\mathbb{A}$ 19'16	
conjunction	-488 Nov 21 j 11:51	24° $\mathbb{M}$ 37'32	1°28'46	retrograde	-481 Mar 18 j 18:54	10° $\mathbb{A}$ 14'36	
minimum elong	-488 Nov 21 j 11:52	24° $\mathbb{M}$ 37'32	1°28'46	opposition	-481 Jun 07 j 02:28	8° $\mathbb{A}$ 51'28	1°12'24
max. Earth dist.	-488 Nov 21 j 07:54	24° $\mathbb{M}$ 37'09	31.26634 AU	min. Earth dist.	-481 Jun 07 j 00:34	8° $\mathbb{A}$ 51'36	29.22029 AU
morning rise	-488 Dec 06 j 16:12	25° $\mathbb{M}$ 11'42		direct	-481 Aug 26 j 06:04	7° $\mathbb{A}$ 28'15	
retrograde	-487 Mar 04 j 23:45	27° $\mathbb{M}$ 06'19		evening set	-481 Nov 21 j 23:35	9° $\mathbb{A}$ 21'57	
opposition	-487 May 23 j 20:31	25° $\mathbb{M}$ 43'31	1°33'18				
min. Earth dist.	-487 May 23 j 23:34	25° $\mathbb{M}$ 43'19	29.26483 AU	conjunction	-481 Dec 07 j 04:37	9° $\mathbb{A}$ 56'13	1°05'59
direct	-487 Aug 12 j 07:18	24° $\mathbb{M}$ 20'05		minimum elong	-481 Dec 07 j 04:37	9° $\mathbb{A}$ 56'13	1°05'59
evening set	-487 Nov 08 j 16:16	26° $\mathbb{M}$ 14'17		max. Earth dist.	-481 Dec 07 j 05:58	9° $\mathbb{A}$ 56'21	31.21422 AU
				morning rise	-481 Dec 22 j 10:17	10° $\mathbb{A}$ 30'35	
conjunction	-487 Nov 23 j 20:56	26° $\mathbb{M}$ 48'28	1°25'52	retrograde	-480 Mar 20 j 06:15	12° $\mathbb{A}$ 26'01	
minimum elong	-487 Nov 23 j 20:57	26° $\mathbb{M}$ 48'28	1°25'51	opposition	-480 Jun 08 j 15:27	11° $\mathbb{A}$ 02'46	1°08'32
max. Earth dist.	-487 Nov 23 j 18:49	26° $\mathbb{M}$ 48'16	31.26182 AU	min. Earth dist.	-480 Jun 08 j 13:51	11° $\mathbb{A}$ 02'53	29.20887 AU
morning rise	-487 Dec 09 j 01:15	27° $\mathbb{M}$ 22'39		direct	-480 Aug 27 j 15:44	9° $\mathbb{A}$ 39'32	
retrograde	-486 Mar 07 j 11:08	29° $\mathbb{M}$ 17'24		evening set	-480 Nov 23 j 08:41	11° $\mathbb{A}$ 33'07	
opposition	-486 May 26 j 09:22	27° $\mathbb{M}$ 54'36	1°30'08				
min. Earth dist.	-486 May 26 j 11:13	27° $\mathbb{M}$ 54'28	29.26002 AU	conjunction	-480 Dec 08 j 13:56	12° $\mathbb{A}$ 07'24	1°02'19
direct	-486 Aug 14 j 20:24	26° $\mathbb{M}$ 31'14		minimum elong	-480 Dec 08 j 13:56	12° $\mathbb{A}$ 07'25	1°02'18
evening set	-486 Nov 11 j 01:29	28° $\mathbb{M}$ 25'23		max. Earth dist.	-480 Dec 08 j 16:36	12° $\mathbb{A}$ 07'40	31.20275 AU
				morning rise	-480 Dec 23 j 19:48	12° $\mathbb{A}$ 41'47	
conjunction	-486 Nov 26 j 06:01	28° $\mathbb{M}$ 59'34	1°22'50	retrograde	-479 Mar 22 j 17:51	14° $\mathbb{A}$ 37'19	
minimum elong	-486 Nov 26 j 06:01	28° $\mathbb{M}$ 59'34	1°22'49	opposition	-479 Jun 11 j 04:20	13° $\mathbb{A}$ 13'58	1°04'34
max. Earth dist.	-486 Nov 26 j 03:44	28° $\mathbb{M}$ 59'21	31.25686 AU	min. Earth dist.	-479 Jun 11 j 00:47	13° $\mathbb{A}$ 14'12	29.19732 AU
morning rise	-486 Dec 11 j 10:39	29° $\mathbb{M}$ 33'48		direct	-479 Aug 30 j 04:15	11° $\mathbb{A}$ 50'42	
	-486 Dec 23 j 14:54	0° $\mathbb{A}$		evening set	-479 Nov 25 j 17:49	13° $\mathbb{A}$ 44'13	
retrograde	-485 Mar 09 j 23:11	1° $\mathbb{A}$ 28'41					
opposition	-485 May 28 j 22:21	0° $\mathbb{A}$ 05'50	1°26'49	conjunction	-479 Dec 10 j 23:03	14° $\mathbb{A}$ 18'31	0°58'33
min. Earth dist.	-485 May 28 j 23:28	0° $\mathbb{A}$ 05'46	29.25473 AU	minimum elong	-479 Dec 10 j 23:03	14° $\mathbb{A}$ 18'31	0°58'32
	-485 Jun 01 j 13:08	30° $\mathbb{K}$ $\mathbb{M}$		max. Earth dist.	-479 Dec 11 j 02:00	14° $\mathbb{A}$ 18'48	31.19141 AU
direct	-485 Aug 17 j 06:41	28° $\mathbb{M}$ 42'32		morning rise	-479 Dec 26 j 05:17	14° $\mathbb{A}$ 52'56	
	-485 Oct 27 j 02:56	0° $\mathbb{A}$		retrograde	-478 Mar 25 j 06:57	16° $\mathbb{A}$ 48'34	
evening set	-485 Nov 13 j 10:31	0° $\mathbb{A}$ 36'36		opposition	-478 Jun 13 j 17:23	15° $\mathbb{A}$ 25'06	1°00'30
				min. Earth dist.	-478 Jun 13 j 13:24	15° $\mathbb{A}$ 25'23	29.18640 AU
conjunction	-485 Nov 28 j 15:17	1° $\mathbb{A}$ 10'49	1°19'41	direct	-478 Sep 01 j 14:48	14° $\mathbb{A}$ 01'51	
minimum elong	-485 Nov 28 j 15:17	1° $\mathbb{A}$ 10'49	1°19'40	evening set	-478 Nov 28 j 02:53	15° $\mathbb{A}$ 55'17	
max. Earth dist.	-485 Nov 28 j 14:43	1° $\mathbb{A}$ 10'46	31.25104 AU				
morning rise	-485 Dec 13 j 19:56	1° $\mathbb{A}$ 45'04		conjunction	-478 Dec 13 j 08:26	16° $\mathbb{A}$ 29'37	0°54'42
retrograde	-484 Mar 11 j 08:56	3° $\mathbb{A}$ 40'05		minimum elong	-478 Dec 13 j 08:26	16° $\mathbb{A}$ 29'37	0°54'42
opposition	-484 May 30 j 11:24	2° $\mathbb{A}$ 17'12	1°23'24	max. Earth dist.	-478 Dec 13 j 13:30	16° $\mathbb{A}$ 30'06	31.18095 AU
min. Earth dist.	-484 May 30 j 12:11	2° $\mathbb{A}$ 17'08	29.24823 AU	morning rise	-478 Dec 28 j 14:48	17° $\mathbb{A}$ 04'03	
direct	-484 Aug 18 j 20:00	0° $\mathbb{A}$ 53'57		retrograde	-477 Mar 27 j 18:29	18° $\mathbb{A}$ 59'49	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 34

Attention, astronomical year style is used: The year -477 in astronomical counting style is the year 478 BCE in historical counting style.

opposition	-477 Jun 16 j 06:18	17° $\text{♂}$ 36'17	0°56'21	conjunction	-471 Dec 28 j 03:24	1° $\text{♂}$ 51'39	0°25'47
min. Earth dist.	-477 Jun 16 j 00:46	17° $\text{♂}$ 36'39	29.17635 AU	minimum elong	-471 Dec 28 j 03:24	1° $\text{♂}$ 51'39	0°25'47
direct	-477 Sep 04 j 03:17	16° $\text{♂}$ 13'03		max. Earth dist.	-471 Dec 28 j 14:17	1° $\text{♂}$ 52'41	31.12086 AU
evening set	-477 Nov 30 j 12:03	18° $\text{♂}$ 06'25		morning rise	-470 Jan 12 j 12:08	2° $\text{♂}$ 26'22	
				retrograde	-470 Apr 12 j 06:40	4° $\text{♂}$ 23'08	
conjunction	-477 Dec 15 j 17:38	18° $\text{♂}$ 40'46	0°50'47	opposition	-470 Jul 02 j 01:29	2° $\text{♂}$ 59'19	0°25'11
minimum elong	-477 Dec 15 j 17:38	18° $\text{♂}$ 40'46	0°50'46	min. Earth dist.	-470 Jul 01 j 14:01	3° $\text{♂}$ 00'06	29.11562 AU
max. Earth dist.	-477 Dec 15 j 22:48	18° $\text{♂}$ 41'15	31.17149 AU	direct	-470 Sep 19 j 08:40	1° $\text{♂}$ 36'24	
morning rise	-477 Dec 31 j 00:30	19° $\text{♂}$ 15'15		evening set	-470 Dec 15 j 06:14	3° $\text{♂}$ 29'31	
retrograde	-476 Mar 29 j 07:19	21° $\text{♂}$ 11'08					
opposition	-476 Jun 17 j 19:15	19° $\text{♂}$ 47'33	0°52'06	conjunction	-470 Dec 30 j 13:21	4° $\text{♂}$ 04'03	0°21'26
min. Earth dist.	-476 Jun 17 j 12:41	19° $\text{♂}$ 47'59	29.16737 AU	minimum elong	-470 Dec 30 j 13:21	4° $\text{♂}$ 04'03	0°21'26
direct	-476 Sep 05 j 13:27	18° $\text{♂}$ 24'22		max. Earth dist.	-470 Dec 30 j 23:53	4° $\text{♂}$ 05'03	31.10989 AU
evening set	-476 Dec 01 j 21:12	20° $\text{♂}$ 17'41		morning rise	-469 Jan 14 j 22:36	4° $\text{♂}$ 38'48	
				retrograde	-469 Apr 14 j 20:30	6° $\text{♂}$ 35'41	
conjunction	-476 Dec 17 j 03:07	20° $\text{♂}$ 52'04	0°46'46	opposition	-469 Jul 04 j 14:41	5° $\text{♂}$ 11'47	0°20'31
minimum elong	-476 Dec 17 j 03:07	20° $\text{♂}$ 52'04	0°46'46	min. Earth dist.	-469 Jul 04 j 03:23	5° $\text{♂}$ 12'33	29.10415 AU
max. Earth dist.	-476 Dec 17 j 10:18	20° $\text{♂}$ 52'45	31.16287 AU	direct	-469 Sep 21 j 18:35	3° $\text{♂}$ 48'51	
morning rise	-475 Jan 01 j 10:07	21° $\text{♂}$ 26'35		evening set	-469 Dec 17 j 15:50	5° $\text{♂}$ 41'54	
retrograde	-475 Mar 31 j 18:01	23° $\text{♂}$ 22'36					
opposition	-475 Jun 20 j 08:06	21° $\text{♂}$ 58'59	0°47'47	conjunction	-468 Jan 01 j 23:25	6° $\text{♂}$ 16'28	0°17'04
min. Earth dist.	-475 Jun 20 j 00:51	21° $\text{♂}$ 59'28	29.15902 AU	minimum elong	-468 Jan 01 j 23:26	6° $\text{♂}$ 16'28	0°17'04
direct	-475 Sep 08 j 02:21	20° $\text{♂}$ 35'51		max. Earth dist.	-468 Jan 02 j 11:35	6° $\text{♂}$ 17'37	31.09795 AU
evening set	-475 Dec 04 j 06:31	22° $\text{♂}$ 29'09		morning rise	-468 Jan 17 j 08:56	6° $\text{♂}$ 51'15	
				retrograde	-468 Apr 16 j 08:23	8° $\text{♂}$ 48'14	
conjunction	-475 Dec 19 j 12:30	23° $\text{♂}$ 03'33	0°42'42	opposition	-468 Jul 06 j 03:42	7° $\text{♂}$ 24'13	0°15'50
minimum elong	-475 Dec 19 j 12:30	23° $\text{♂}$ 03'33	0°42'41	min. Earth dist.	-468 Jul 05 j 15:23	7° $\text{♂}$ 25'03	29.09174 AU
max. Earth dist.	-475 Dec 19 j 19:49	23° $\text{♂}$ 04'15	31.15494 AU	direct	-468 Sep 23 j 06:45	6° $\text{♂}$ 01'16	
morning rise	-474 Jan 03 j 19:57	23° $\text{♂}$ 38'06		evening set	-468 Dec 19 j 01:39	7° $\text{♂}$ 54'15	
retrograde	-474 Apr 03 j 07:47	25° $\text{♂}$ 34'17					
opposition	-474 Jun 22 j 21:06	24° $\text{♂}$ 10'38	0°43'23	conjunction	-467 Jan 03 j 09:20	8° $\text{♂}$ 28'50	0°12'41
min. Earth dist.	-474 Jun 22 j 12:13	24° $\text{♂}$ 11'14	29.15124 AU	minimum elong	-467 Jan 03 j 09:20	8° $\text{♂}$ 28'50	0°12'40
direct	-474 Sep 10 j 13:13	22° $\text{♂}$ 47'34		behind sun begin	-467 Jan 03 j 05:11	8° $\text{♂}$ 28'27	
evening set	-474 Dec 06 j 15:44	24° $\text{♂}$ 40'49		behind sun end	-467 Jan 03 j 13:28	8° $\text{♂}$ 29'13	
				max. Earth dist.	-467 Jan 03 j 21:12	8° $\text{♂}$ 29'57	31.08538 AU
conjunction	-474 Dec 21 j 22:00	25° $\text{♂}$ 15'15	0°38'33	morning rise	-467 Jan 18 j 19:22	9° $\text{♂}$ 03'39	
minimum elong	-474 Dec 21 j 22:00	25° $\text{♂}$ 15'15	0°38'32	retrograde	-467 Apr 18 j 21:52	11° $\text{♂}$ 00'43	
max. Earth dist.	-474 Dec 22 j 06:48	25° $\text{♂}$ 16'05	31.14717 AU	opposition	-467 Jul 08 j 16:40	9° $\text{♂}$ 36'35	0°11'07
morning rise	-473 Jan 06 j 05:44	25° $\text{♂}$ 49'51		min. Earth dist.	-467 Jul 08 j 03:44	9° $\text{♂}$ 37'28	29.07921 AU
retrograde	-473 Apr 05 j 18:03	27° $\text{♂}$ 46'11		direct	-467 Sep 25 j 17:26	8° $\text{♂}$ 13'36	
opposition	-473 Jun 25 j 10:17	26° $\text{♂}$ 22'31	0°38'55	evening set	-467 Dec 21 j 11:20	10° $\text{♂}$ 06'31	
min. Earth dist.	-473 Jun 25 j 01:30	26° $\text{♂}$ 23'06	29.14341 AU				
direct	-473 Sep 13 j 00:25	24° $\text{♂}$ 59'31		conjunction	-466 Jan 05 j 19:24	10° $\text{♂}$ 41'08	0°08'17
evening set	-473 Dec 09 j 01:14	26° $\text{♂}$ 52'44		minimum elong	-466 Jan 05 j 19:25	10° $\text{♂}$ 41'08	0°08'16
				behind sun begin	-466 Jan 05 j 13:44	10° $\text{♂}$ 40'37	
conjunction	-473 Dec 24 j 07:43	27° $\text{♂}$ 27'12	0°34'20	behind sun end	-466 Jan 06 j 01:06	10° $\text{♂}$ 41'39	
minimum elong	-473 Dec 24 j 07:43	27° $\text{♂}$ 27'12	0°34'20	max. Earth dist.	-466 Jan 06 j 09:09	10° $\text{♂}$ 42'25	31.07296 AU
max. Earth dist.	-473 Dec 24 j 17:07	27° $\text{♂}$ 28'05	31.13927 AU	morning rise	-466 Jan 21 j 05:42	11° $\text{♂}$ 15'58	
morning rise	-472 Jan 08 j 15:49	28° $\text{♂}$ 01'50		retrograde	-466 Apr 21 j 09:55	13° $\text{♂}$ 13'07	
retrograde	-472 Apr 07 j 06:12	29° $\text{♂}$ 58'19		opposition	-466 Jul 11 j 05:42	11° $\text{♂}$ 48'53	0°06'24
opposition	-472 Jun 26 j 23:09	28° $\text{♂}$ 34'36	0°34'23	min. Earth dist.	-466 Jul 10 j 16:06	11° $\text{♂}$ 49'49	29.06711 AU
min. Earth dist.	-472 Jun 26 j 12:46	28° $\text{♂}$ 35'19	29.13517 AU	direct	-466 Sep 28 j 06:55	10° $\text{♂}$ 25'53	
direct	-472 Sep 14 j 11:08	27° $\text{♂}$ 11'39		evening set	-466 Dec 23 j 21:04	12° $\text{♂}$ 18'44	
evening set	-472 Dec 10 j 10:52	29° $\text{♂}$ 04'51					
				conjunction	-465 Jan 08 j 05:22	12° $\text{♂}$ 53'22	0°03'52
conjunction	-472 Dec 25 j 17:31	29° $\text{♂}$ 39'21	0°30'05	minimum elong	-465 Jan 08 j 05:21	12° $\text{♂}$ 53'22	0°03'52
minimum elong	-472 Dec 25 j 17:32	29° $\text{♂}$ 39'21	0°30'04	behind sun begin	-465 Jan 07 j 23:01	12° $\text{♂}$ 52'48	
max. Earth dist.	-472 Dec 26 j 03:19	29° $\text{♂}$ 40'16	31.13055 AU	behind sun end	-465 Jan 08 j 11:42	12° $\text{♂}$ 53'57	
	-471 Jan 03 j 19:46	0° $\text{♂}$		max. Earth dist.	-465 Jan 08 j 19:17	12° $\text{♂}$ 54'41	31.06138 AU
morning rise	-471 Jan 10 j 02:01	0° $\text{♂}$ 14'01		morning rise	-465 Jan 23 j 16:09	13° $\text{♂}$ 28'15	
retrograde	-471 Apr 09 j 18:16	2° $\text{♂}$ 10'39		retrograde	-465 Apr 23 j 23:54	15° $\text{♂}$ 25'30	
opposition	-471 Jun 29 j 12:22	0° $\text{♂}$ 46'54	0°29'49	opposition	-465 Jul 13 j 18:38	14° $\text{♂}$ 01'10	0°01'39
min. Earth dist.	-471 Jun 29 j 02:28	0° $\text{♂}$ 47'34	29.12601 AU	min. Earth dist.	-465 Jul 13 j 03:26	14° $\text{♂}$ 02'12	29.05608 AU
	-471 Jul 30 j 02:33	30° $\text{♂}$		direct	-465 Sep 30 j 18:12	12° $\text{♂}$ 38'09	
direct	-471 Sep 16 j 20:12	29° $\text{♂}$ 23'59		desc. node	-465 Nov 18 j 15:32	13° $\text{♂}$ 17'53	
	-471 Nov 02 j 13:32	0° $\text{♂}$		evening set	-465 Dec 26 j 06:56	14° $\text{♂}$ 30'58	
evening set	-471 Dec 12 j 20:25	1° $\text{♂}$ 17'08					

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 35

Attention, astronomical year style is used: The year -464 in astronomical counting style is the year 465 BCE in historical counting style.

conjunction	-464 Jan 10 j 15:34	15°305'38 -0°00'40	conjunction	-458 Jan 23 j 06:40	28°322'16 -0°27'09
minimum elong	-464 Jan 10 j 15:34	15°305'38 0°00'40	minimum elong	-458 Jan 23 j 06:40	28°322'16 0°27'09
behind sun begin	-464 Jan 10 j 09:10	15°305'03	max. Earth dist.	-458 Jan 24 j 01:24	28°324'03 31.00268 AU
behind sun end	-464 Jan 10 j 21:58	15°306'12	morning rise	-458 Feb 07 j 20:20	28°357'25
max. Earth dist.	-464 Jan 11 j 06:52	15°307'04 31.05080 AU		-458 Mar 10 j 20:57	0°
morning rise	-464 Jan 26 j 02:43	15°340'33	retrograde	-458 May 09 j 16:33	0°55'31
retrograde	-464 Apr 25 j 10:22	17°337'53		-458 Jul 11 j 11:49	30°30'30
opposition	-464 Jul 15 j 07:28	16°313'30 -0°03'06	opposition	-458 Jul 29 j 13:07	29°330'56 -0°31'22
min. Earth dist.	-464 Jul 14 j 16:14	16°314'32 29.04614 AU	min. Earth dist.	-458 Jul 28 j 18:01	29°332'15 28.99849 AU
direct	-464 Oct 02 j 05:40	14°350'29	direct	-458 Oct 15 j 21:26	28°308'05
evening set	-464 Dec 27 j 16:51	16°343'15		-457 Jan 09 j 21:24	0°
			evening set	-457 Jan 10 j 06:50	0°00'52
conjunction	-463 Jan 12 j 01:49	17°317'57 -0°05'09			
minimum elong	-463 Jan 12 j 01:48	17°317'57 0°05'09	conjunction	-457 Jan 25 j 17:46	0°35'44 -0°31'28
behind sun begin	-463 Jan 11 j 19:34	17°317'23	minimum elong	-457 Jan 25 j 17:45	0°35'44 0°31'29
behind sun end	-463 Jan 12 j 08:02	17°318'31	max. Earth dist.	-457 Jan 26 j 13:42	0°37'37 30.99337 AU
max. Earth dist.	-463 Jan 12 j 17:58	17°319'28 31.04152 AU	morning rise	-457 Feb 10 j 07:44	1°10'55
morning rise	-463 Jan 27 j 13:21	17°352'54	retrograde	-457 May 12 j 05:49	3°09'07
retrograde	-463 Apr 27 j 23:04	19°350'21	min. Earth dist.	-457 Jul 31 j 07:05	1°45'48 28.98857 AU
opposition	-463 Jul 17 j 20:18	18°325'55 -0°07'51	opposition	-457 Aug 01 j 02:08	1°44'29 -0°35'58
min. Earth dist.	-463 Jul 17 j 03:13	18°327'05 29.03737 AU	direct	-457 Oct 18 j 10:28	0°21'37
direct	-463 Oct 04 j 17:09	17°302'55	evening set	-456 Jan 12 j 17:43	2°14'24
evening set	-463 Dec 30 j 02:46	18°355'41			
conjunction	-462 Jan 14 j 11:57	19°330'24 -0°09'34	conjunction	-456 Jan 28 j 04:56	2°49'18 -0°35'45
minimum elong	-462 Jan 14 j 11:57	19°330'24 0°09'34	minimum elong	-456 Jan 28 j 04:56	2°49'18 0°35'45
behind sun begin	-462 Jan 14 j 06:36	19°329'55	max. Earth dist.	-456 Jan 29 j 00:16	2°51'08 30.98296 AU
behind sun end	-462 Jan 14 j 17:18	19°330'53	morning rise	-456 Feb 12 j 19:26	3°24'31
max. Earth dist.	-462 Jan 15 j 04:46	19°331'59 31.03316 AU	retrograde	-456 May 13 j 20:24	5°22'48
morning rise	-462 Jan 29 j 23:57	20°305'24	opposition	-456 Aug 02 j 14:54	3°58'06 -0°40'31
retrograde	-462 Apr 30 j 11:19	22°302'59	min. Earth dist.	-456 Aug 01 j 19:04	3°59'27 28.97769 AU
opposition	-462 Jul 20 j 09:22	20°338'30 -0°12'35	direct	-456 Oct 19 j 21:50	2°35'12
min. Earth dist.	-462 Jul 19 j 16:31	20°339'39 29.02951 AU	evening set	-455 Jan 14 j 04:33	4°27'58
direct	-462 Oct 07 j 02:50	19°315'33			
evening set	-461 Jan 01 j 12:50	21°308'17	conjunction	-455 Jan 29 j 16:08	5°02'54 -0°39'59
conjunction	-461 Jan 16 j 22:27	21°343'02 -0°13'59	minimum elong	-455 Jan 29 j 16:08	5°02'54 0°39'59
minimum elong	-461 Jan 16 j 22:27	21°343'02 0°14'00	max. Earth dist.	-455 Jan 30 j 12:13	5°04'48 30.97161 AU
behind sun begin	-461 Jan 16 j 19:07	21°342'44	morning rise	-455 Feb 14 j 07:01	5°38'09
behind sun end	-461 Jan 17 j 01:48	21°343'20	retrograde	-455 May 16 j 08:07	7°36'30
max. Earth dist.	-461 Jan 17 j 16:40	21°344'45 31.02567 AU	min. Earth dist.	-455 Aug 04 j 08:29	6°13'03 28.96618 AU
morning rise	-461 Feb 01 j 10:47	22°318'04	opposition	-455 Aug 05 j 03:50	6°11'43 -0°45'00
retrograde	-461 May 02 j 23:35	24°315'47	direct	-455 Oct 22 j 09:53	4°48'47
opposition	-461 Jul 22 j 22:10	22°351'17 -0°17'19	evening set	-454 Jan 16 j 15:14	6°41'32
min. Earth dist.	-461 Jul 22 j 03:44	22°352'33 29.02219 AU	conjunction	-454 Feb 01 j 03:13	7°16'29 -0°44'08
direct	-461 Oct 09 j 14:32	21°328'21	minimum elong	-454 Feb 01 j 03:13	7°16'29 0°44'09
evening set	-460 Jan 03 j 23:11	23°321'07	max. Earth dist.	-454 Feb 01 j 23:51	7°18'26 30.96015 AU
conjunction	-460 Jan 19 j 08:59	23°355'53 -0°18'24	morning rise	-454 Feb 16 j 18:31	7°51'45
minimum elong	-460 Jan 19 j 08:59	23°355'53 0°18'24	retrograde	-454 May 18 j 21:58	9°50'11
max. Earth dist.	-460 Jan 20 j 02:53	23°357'35 31.01839 AU	opposition	-454 Aug 07 j 16:36	8°25'19 -0°49'26
morning rise	-460 Feb 03 j 21:53	24°330'57	min. Earth dist.	-454 Aug 06 j 19:50	8°26'45 28.95487 AU
retrograde	-460 May 04 j 13:12	26°328'48	direct	-454 Oct 24 j 22:18	7°02'21
opposition	-460 Jul 24 j 11:10	25°304'17 -0°22'02	evening set	-453 Jan 19 j 02:13	8°55'05
min. Earth dist.	-460 Jul 23 j 16:59	25°305'32 29.01495 AU	conjunction	-453 Feb 03 j 14:28	9°30'03 -0°48'15
direct	-460 Oct 10 j 23:39	23°341'24	minimum elong	-453 Feb 03 j 14:28	9°30'03 0°48'15
evening set	-459 Jan 05 j 09:31	25°334'10	max. Earth dist.	-453 Feb 04 j 11:21	9°32'02 30.94899 AU
conjunction	-459 Jan 20 j 19:47	26°308'58 -0°22'47	morning rise	-453 Feb 19 j 06:16	10°05'22
minimum elong	-459 Jan 20 j 19:47	26°308'58 0°22'48	retrograde	-453 May 21 j 10:18	12°03'52
max. Earth dist.	-459 Jan 21 j 15:13	26°310'49 31.01089 AU	min. Earth dist.	-453 Aug 09 j 09:08	10°40'19 28.94426 AU
morning rise	-459 Feb 05 j 08:53	26°344'04	opposition	-453 Aug 10 j 05:20	10°38'55 -0°53'46
retrograde	-459 May 07 j 01:41	28°342'03	direct	-453 Oct 27 j 08:38	9°15'55
min. Earth dist.	-459 Jul 26 j 05:04	27°318'49 29.00711 AU	evening set	-452 Jan 21 j 13:08	11°08'39
opposition	-459 Jul 27 j 00:03	27°317'31 -0°26'43	conjunction	-452 Feb 06 j 01:54	11°43'39 -0°52'16
direct	-459 Oct 13 j 11:08	25°354'39	minimum elong	-452 Feb 06 j 01:54	11°43'39 0°52'16
evening set	-458 Jan 07 j 20:14	27°347'26	max. Earth dist.	-452 Feb 06 j 24:00	11°45'45 30.93885 AU
			morning rise	-452 Feb 21 j 18:00	12°19'00

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36

Attention, astronomical year style is used: The year -452 in astronomical counting style is the year 453 BCE in historical counting style.

retrograde	-452 May 22 j 21:59	14° $\approx$ 17'34		evening set	-445 Feb 05 j 21:13	26° $\approx$ 47'20	
opposition	-452 Aug 11 j 17:54	12° $\approx$ 52'34	-0°58'03				
min. Earth dist.	-452 Aug 10 j 20:10	12° $\approx$ 54'04	28.93465 AU	conjunction	-445 Feb 21 j 12:36	27° $\approx$ 22'32	-1°18'02
direct	-452 Oct 28 j 20:42	11° $\approx$ 29'33		minimum elong	-445 Feb 21 j 12:36	27° $\approx$ 22'32	1°18'02
evening set	-451 Jan 23 j 00:13	13° $\approx$ 22'17		max. Earth dist.	-445 Feb 22 j 12:29	27° $\approx$ 24'48	30.89027 AU
				morning rise	-445 Mar 09 j 07:39	27° $\approx$ 58'06	
conjunction	-451 Feb 07 j 13:10	13° $\approx$ 57'19	-0°56'14	retrograde	-445 Jun 08 j 22:29	29° $\approx$ 57'13	
minimum elong	-451 Feb 07 j 13:10	13° $\approx$ 57'19	0°56'14	min. Earth dist.	-445 Aug 27 j 11:00	28° $\approx$ 33'39	28.88725 AU
max. Earth dist.	-451 Feb 08 j 10:55	13° $\approx$ 59'22	30.92975 AU	opposition	-445 Aug 28 j 10:01	28° $\approx$ 32'03	-1°25'14
morning rise	-451 Feb 23 j 05:48	14° $\approx$ 32'41		direct	-445 Nov 14 j 02:38	27° $\approx$ 09'00	
	-451 Mar 07 j 22:40	15° $\approx$		evening set	-444 Feb 08 j 09:20	29° $\approx$ 01'59	
retrograde	-451 May 25 j 10:41	16° $\approx$ 31'21					
min. Earth dist.	-451 Aug 13 j 09:04	15° $\approx$ 07'47	28.92629 AU	conjunction	-444 Feb 24 j 01:02	29° $\approx$ 37'13	-1°21'18
opposition	-451 Aug 14 j 06:36	15° $\approx$ 06'18	-1°02'14	minimum elong	-444 Feb 24 j 01:02	29° $\approx$ 37'13	1°21'17
	-451 Aug 18 j 01:48	15° $\approx$		max. Earth dist.	-444 Feb 25 j 00:23	29° $\approx$ 39'25	30.88222 AU
direct	-451 Oct 31 j 05:42	13° $\approx$ 43'16			-444 Mar 05 j 02:51	0° $\approx$	
	-450 Jan 08 j 10:56	15° $\approx$		morning rise	-444 Mar 10 j 20:34	0° $\approx$ 12'48	
evening set	-450 Jan 25 j 11:17	15° $\approx$ 36'02		retrograde	-444 Jun 10 j 11:10	2° $\approx$ 11'57	
				opposition	-444 Aug 29 j 22:38	0° $\approx$ 46'43	-1°28'39
conjunction	-450 Feb 10 j 00:47	16° $\approx$ 11'06	-1°00'06	min. Earth dist.	-444 Aug 29 j 00:53	0° $\approx$ 48'14	28.87875 AU
minimum elong	-450 Feb 10 j 00:46	16° $\approx$ 11'06	1°00'06		-444 Sep 28 j 14:37	30° $\approx$	
max. Earth dist.	-450 Feb 11 j 00:11	16° $\approx$ 13'18	30.92193 AU	direct	-444 Nov 15 j 13:53	29° $\approx$ 23'38	
morning rise	-450 Feb 25 j 17:40	16° $\approx$ 46'29			-444 Dec 31 j 22:05	0° $\approx$	
retrograde	-450 May 27 j 23:12	18° $\approx$ 45'15		evening set	-443 Feb 09 j 21:15	1° $\approx$ 16'37	
opposition	-450 Aug 16 j 19:11	17° $\approx$ 20'10	-1°06'20				
min. Earth dist.	-450 Aug 15 j 20:39	17° $\approx$ 21'44	28.91903 AU	conjunction	-443 Feb 25 j 13:29	1° $\approx$ 51'52	-1°24'26
direct	-450 Nov 02 j 16:43	15° $\approx$ 57'09		minimum elong	-443 Feb 25 j 13:29	1° $\approx$ 51'52	1°24'27
evening set	-449 Jan 27 j 22:34	17° $\approx$ 49'56		max. Earth dist.	-443 Feb 26 j 13:21	1° $\approx$ 54'07	30.87330 AU
				morning rise	-443 Mar 13 j 09:17	2° $\approx$ 27'28	
conjunction	-449 Feb 12 j 12:19	18° $\approx$ 25'01	-1°03'53	retrograde	-443 Jun 12 j 23:47	4° $\approx$ 26'38	
minimum elong	-449 Feb 12 j 12:19	18° $\approx$ 25'01	1°03'54	opposition	-443 Sep 01 j 11:00	3° $\approx$ 01'20	-1°31'56
max. Earth dist.	-449 Feb 13 j 11:11	18° $\approx$ 27'11	30.91520 AU	min. Earth dist.	-443 Aug 31 j 12:23	3° $\approx$ 02'55	28.86951 AU
morning rise	-449 Feb 28 j 05:50	19° $\approx$ 00'27		direct	-443 Nov 18 j 02:38	1° $\approx$ 38'11	
retrograde	-449 May 30 j 13:40	20° $\approx$ 59'18		evening set	-442 Feb 12 j 09:25	3° $\approx$ 31'10	
min. Earth dist.	-449 Aug 18 j 09:12	19° $\approx$ 35'46	28.91277 AU				
opposition	-449 Aug 19 j 07:51	19° $\approx$ 34'12	-1°10'20	conjunction	-442 Feb 28 j 01:54	4° $\approx$ 06'27	-1°27'26
direct	-449 Nov 05 j 02:54	18° $\approx$ 11'11		minimum elong	-442 Feb 28 j 01:54	4° $\approx$ 06'27	1°27'26
evening set	-448 Jan 30 j 10:00	20° $\approx$ 04'01		max. Earth dist.	-442 Mar 01 j 00:49	4° $\approx$ 08'37	30.86389 AU
				morning rise	-442 Mar 15 j 22:17	4° $\approx$ 42'05	
conjunction	-448 Feb 15 j 00:14	20° $\approx$ 39'08	-1°07'35	retrograde	-442 Jun 15 j 12:48	6° $\approx$ 41'14	
minimum elong	-448 Feb 15 j 00:14	20° $\approx$ 39'08	1°07'34	opposition	-442 Sep 03 j 23:23	5° $\approx$ 15'52	-1°35'05
max. Earth dist.	-448 Feb 16 j 00:24	20° $\approx$ 41'25	30.90909 AU	min. Earth dist.	-442 Sep 03 j 01:36	5° $\approx$ 17'23	28.86024 AU
morning rise	-448 Mar 01 j 18:00	21° $\approx$ 14'36		direct	-442 Nov 20 j 12:42	3° $\approx$ 52'38	
retrograde	-448 Jun 01 j 02:46	23° $\approx$ 13'31		evening set	-441 Feb 14 j 21:28	5° $\approx$ 45'38	
opposition	-448 Aug 20 j 20:19	21° $\approx$ 48'25	-1°14'13				
min. Earth dist.	-448 Aug 19 j 21:43	21° $\approx$ 49'59	28.90686 AU	conjunction	-441 Mar 02 j 14:34	6° $\approx$ 20'56	-1°30'19
direct	-448 Nov 06 j 14:52	20° $\approx$ 25'25		minimum elong	-441 Mar 02 j 14:33	6° $\approx$ 20'56	1°30'20
evening set	-447 Jan 31 j 21:37	22° $\approx$ 18'18		max. Earth dist.	-441 Mar 03 j 14:38	6° $\approx$ 23'13	30.85474 AU
				morning rise	-441 Mar 18 j 11:12	6° $\approx$ 56'35	
conjunction	-447 Feb 16 j 12:09	22° $\approx$ 53'26	-1°11'10	retrograde	-441 Jun 18 j 00:49	8° $\approx$ 55'45	
minimum elong	-447 Feb 16 j 12:09	22° $\approx$ 53'26	1°11'11	opposition	-441 Sep 06 j 11:34	7° $\approx$ 30'19	-1°38'05
max. Earth dist.	-447 Feb 17 j 11:44	22° $\approx$ 55'40	30.90331 AU	min. Earth dist.	-441 Sep 05 j 13:11	7° $\approx$ 31'53	28.85137 AU
morning rise	-447 Mar 04 j 06:25	23° $\approx$ 28'56		direct	-441 Nov 23 j 00:40	6° $\approx$ 07'01	
retrograde	-447 Jun 03 j 17:40	25° $\approx$ 27'56		evening set	-440 Feb 17 j 09:47	8° $\approx$ 00'03	
min. Earth dist.	-447 Aug 22 j 09:42	24° $\approx$ 04'26	28.90107 AU				
opposition	-447 Aug 23 j 08:54	24° $\approx$ 02'50	-1°18'01	conjunction	-440 Mar 04 j 03:06	8° $\approx$ 35'22	-1°33'03
direct	-447 Nov 09 j 01:28	22° $\approx$ 39'49		minimum elong	-440 Mar 04 j 03:06	8° $\approx$ 35'22	1°33'03
evening set	-446 Feb 03 j 09:17	24° $\approx$ 32'45		max. Earth dist.	-440 Mar 05 j 02:15	8° $\approx$ 37'33	30.84628 AU
				morning rise	-440 Mar 20 j 00:18	9° $\approx$ 11'03	
conjunction	-446 Feb 19 j 00:12	25° $\approx$ 07'55	-1°14'40	retrograde	-440 Jun 19 j 13:58	11° $\approx$ 10'13	
minimum elong	-446 Feb 19 j 00:12	25° $\approx$ 07'55	1°14'39	opposition	-440 Sep 07 j 23:39	9° $\approx$ 44'44	-1°40'56
max. Earth dist.	-446 Feb 20 j 00:17	25° $\approx$ 10'12	30.89713 AU	min. Earth dist.	-440 Sep 07 j 01:26	9° $\approx$ 46'17	28.84359 AU
morning rise	-446 Mar 06 j 18:51	25° $\approx$ 43'27		direct	-440 Nov 24 j 10:53	8° $\approx$ 21'22	
retrograde	-446 Jun 06 j 07:04	27° $\approx$ 42'32		evening set	-439 Feb 18 j 21:58	10° $\approx$ 14'26	
opposition	-446 Aug 25 j 21:36	26° $\approx$ 17'24	-1°21'41				
min. Earth dist.	-446 Aug 24 j 23:17	26° $\approx$ 18'56	28.89462 AU	conjunction	-439 Mar 06 j 15:49	10° $\approx$ 49'47	-1°35'39
direct	-446 Nov 11 j 13:42	24° $\approx$ 54'23		minimum elong	-439 Mar 06 j 15:49	10° $\approx$ 49'47	1°35'40

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 37

Attention, astronomical year style is used: The year -439 in astronomical counting style is the year 440 BCE in historical counting style.

max. Earth dist.	-439 Mar 07 j 16:12	10° <del>✕</del> 52'05	30.83901 AU	conjunction	-432 Mar 22 j 11:43	26° <del>✕</del> 34'22	-1°49'35
morning rise	-439 Mar 22 j 13:16	11° <del>✕</del> 25'29		minimum elong	-432 Mar 22 j 11:42	26° <del>✕</del> 34'22	1°49'34
retrograde	-439 Jun 22 j 02:04	13° <del>✕</del> 24'40		max. Earth dist.	-432 Mar 23 j 11:01	26° <del>✕</del> 36'34	30.81753 AU
opposition	-439 Sep 10 j 11:45	11° <del>✕</del> 59'09	-1°43'38	morning rise	-432 Apr 07 j 11:53	27° <del>✕</del> 10'15	
min. Earth dist.	-439 Sep 09 j 13:31	12° <del>✕</del> 00'43	28.83706 AU	retrograde	-432 Jul 08 j 03:15	29° <del>✕</del> 09'30	
direct	-439 Nov 26 j 22:29	10° <del>✕</del> 35'46		opposition	-432 Sep 25 j 23:29	27° <del>✕</del> 44'07	-1°57'56
evening set	-438 Feb 21 j 10:12	12° <del>✕</del> 28'52		min. Earth dist.	-432 Sep 25 j 02:35	27° <del>✕</del> 45'36	28.81720 AU
				direct	-432 Dec 12 j 07:58	26° <del>✕</del> 20'40	
conjunction	-438 Mar 09 j 04:25	13° <del>✕</del> 04'14	-1°38'06	evening set	-431 Mar 09 j 04:03	28° <del>✕</del> 14'15	
minimum elong	-438 Mar 09 j 04:25	13° <del>✕</del> 04'14	1°38'06				
max. Earth dist.	-438 Mar 10 j 04:11	13° <del>✕</del> 06'29	30.83328 AU	conjunction	-431 Mar 25 j 01:15	28° <del>✕</del> 49'50	-1°50'56
morning rise	-438 Mar 25 j 02:23	13° <del>✕</del> 39'58		minimum elong	-431 Mar 25 j 01:15	28° <del>✕</del> 49'49	1°50'56
retrograde	-438 Jun 24 j 16:40	15° <del>✕</del> 39'10		max. Earth dist.	-431 Mar 25 j 22:52	28° <del>✕</del> 51'52	30.81405 AU
opposition	-438 Sep 12 j 23:49	14° <del>✕</del> 13'39	-1°46'11	morning rise	-431 Apr 10 j 01:59	29° <del>✕</del> 25'44	
min. Earth dist.	-438 Sep 12 j 00:57	14° <del>✕</del> 15'15	28.83212 AU		-431 Apr 26 j 06:05	0° <del>°</del>	
direct	-438 Nov 29 j 08:50	12° <del>✕</del> 50'14		retrograde	-431 Jul 10 j 16:03	1° <del>°</del> 24'57	
evening set	-437 Feb 23 j 22:39	14° <del>✕</del> 43'24		opposition	-431 Sep 28 j 11:24	29° <del>✕</del> 59'33	-1°59'17
				min. Earth dist.	-431 Sep 27 j 15:19	0° <del>°</del> 00'58	28.81347 AU
conjunction	-437 Mar 11 j 17:20	15° <del>✕</del> 18'49	-1°40'25		-431 Sep 28 j 04:56	30° <del>°</del> 8'8	
minimum elong	-437 Mar 11 j 17:19	15° <del>✕</del> 18'49	1°40'25	direct	-431 Dec 14 j 18:30	28° <del>✕</del> 36'01	
max. Earth dist.	-437 Mar 12 j 17:41	15° <del>✕</del> 21'06	30.82891 AU		-430 Feb 25 j 18:39	0° <del>°</del>	
morning rise	-437 Mar 27 j 15:39	15° <del>✕</del> 54'34		evening set	-430 Mar 11 j 17:05	0° <del>°</del> 29'38	
retrograde	-437 Jun 27 j 05:51	17° <del>✕</del> 53'47					
opposition	-437 Sep 15 j 11:46	16° <del>✕</del> 28'17	-1°48'34	conjunction	-430 Mar 27 j 14:54	1° <del>°</del> 05'14	-1°52'06
min. Earth dist.	-437 Sep 14 j 13:38	16° <del>✕</del> 29'50	28.82847 AU	minimum elong	-430 Mar 27 j 14:54	1° <del>°</del> 05'14	1°52'06
direct	-437 Dec 01 j 20:47	15° <del>✕</del> 04'51		max. Earth dist.	-430 Mar 28 j 13:06	1° <del>°</del> 07'20	30.81003 AU
evening set	-436 Feb 26 j 11:11	16° <del>✕</del> 58'06		morning rise	-430 Apr 12 j 15:53	1° <del>°</del> 41'10	
				retrograde	-430 Jul 13 j 03:31	3° <del>°</del> 40'18	
conjunction	-436 Mar 13 j 06:20	17° <del>✕</del> 33'32	-1°42'34	opposition	-430 Sep 30 j 23:09	2° <del>°</del> 14'53	-2°00'27
minimum elong	-436 Mar 13 j 06:20	17° <del>✕</del> 33'32	1°42'33	min. Earth dist.	-430 Sep 30 j 03:43	2° <del>°</del> 16'15	28.80929 AU
max. Earth dist.	-436 Mar 14 j 06:35	17° <del>✕</del> 35'49	30.82595 AU	direct	-430 Dec 17 j 06:03	0° <del>°</del> 51'17	
morning rise	-436 Mar 29 j 05:03	18° <del>✕</del> 09'19		evening set	-429 Mar 14 j 06:24	2° <del>°</del> 44'55	
retrograde	-436 Jun 28 j 21:28	20° <del>✕</del> 08'33					
opposition	-436 Sep 16 j 23:42	18° <del>✕</del> 43'05	-1°50'47	conjunction	-429 Mar 30 j 04:34	3° <del>°</del> 20'32	-1°53'07
min. Earth dist.	-436 Sep 16 j 00:43	18° <del>✕</del> 44'41	28.82602 AU	minimum elong	-429 Mar 30 j 04:34	3° <del>°</del> 20'32	1°53'07
direct	-436 Dec 03 j 09:28	17° <del>✕</del> 19'40		max. Earth dist.	-429 Mar 31 j 01:24	3° <del>°</del> 22'30	30.80597 AU
evening set	-435 Feb 27 j 23:48	19° <del>✕</del> 12'59		morning rise	-429 Apr 15 j 06:04	3° <del>°</del> 56'29	
				retrograde	-429 Jul 15 j 17:22	5° <del>°</del> 55'32	
conjunction	-435 Mar 15 j 19:16	19° <del>✕</del> 48'28	-1°44'34	opposition	-429 Oct 03 j 10:40	4° <del>°</del> 30'05	-2°01'26
minimum elong	-435 Mar 15 j 19:15	19° <del>✕</del> 48'28	1°44'35	min. Earth dist.	-429 Oct 02 j 15:14	4° <del>°</del> 31'27	28.80543 AU
max. Earth dist.	-435 Mar 16 j 19:16	19° <del>✕</del> 50'43	30.82379 AU	direct	-429 Dec 19 j 16:37	3° <del>°</del> 06'23	
morning rise	-435 Mar 31 j 18:25	20° <del>✕</del> 24'16		evening set	-428 Mar 15 j 19:40	5° <del>°</del> 00'04	
retrograde	-435 Jul 01 j 10:29	22° <del>✕</del> 23'33					
opposition	-435 Sep 19 j 11:47	20° <del>✕</del> 58'06	-1°52'50	conjunction	-428 Mar 31 j 18:19	5° <del>°</del> 35'43	-1°53'57
min. Earth dist.	-435 Sep 18 j 14:05	20° <del>✕</del> 59'37	28.82422 AU	minimum elong	-428 Mar 31 j 18:19	5° <del>°</del> 35'43	1°53'56
direct	-435 Dec 05 j 20:28	19° <del>✕</del> 34'42		max. Earth dist.	-428 Apr 01 j 15:21	5° <del>°</del> 37'41	30.80230 AU
evening set	-434 Mar 02 j 12:35	21° <del>✕</del> 28'06		morning rise	-428 Apr 16 j 20:05	6° <del>°</del> 11'40	
				retrograde	-428 Jul 17 j 04:53	8° <del>°</del> 10'39	
conjunction	-434 Mar 18 j 08:37	22° <del>✕</del> 03'36	-1°46'24	opposition	-428 Oct 04 j 22:15	6° <del>°</del> 45'09	-2°02'14
minimum elong	-434 Mar 18 j 08:37	22° <del>✕</del> 03'36	1°46'24	min. Earth dist.	-428 Oct 04 j 03:49	6° <del>°</del> 46'28	28.80223 AU
max. Earth dist.	-434 Mar 19 j 08:57	22° <del>✕</del> 05'53	30.82214 AU	direct	-428 Dec 21 j 05:00	5° <del>°</del> 21'24	
morning rise	-434 Apr 03 j 08:04	22° <del>✕</del> 39'26		evening set	-427 Mar 18 j 08:46	7° <del>°</del> 15'06	
retrograde	-434 Jul 04 j 00:43	24° <del>✕</del> 38'43					
opposition	-434 Sep 21 j 23:37	23° <del>✕</del> 13'19	-1°54'43	conjunction	-427 Apr 03 j 07:51	7° <del>°</del> 50'46	-1°54'37
min. Earth dist.	-434 Sep 21 j 01:24	23° <del>✕</del> 14'52	28.82252 AU	minimum elong	-427 Apr 03 j 07:51	7° <del>°</del> 50'46	1°54'37
direct	-434 Dec 08 j 09:03	21° <del>✕</del> 49'55		max. Earth dist.	-427 Apr 04 j 04:26	7° <del>°</del> 52'42	30.79973 AU
evening set	-433 Mar 05 j 01:44	23° <del>✕</del> 43'23		morning rise	-427 Apr 19 j 10:01	8° <del>°</del> 26'44	
				retrograde	-427 Jul 19 j 19:03	10° <del>°</del> 25'38	
conjunction	-433 Mar 20 j 22:03	24° <del>✕</del> 18'55	-1°48'05	opposition	-427 Oct 07 j 09:42	9° <del>°</del> 00'08	-2°02'51
minimum elong	-433 Mar 20 j 22:03	24° <del>✕</del> 18'55	1°48'05	min. Earth dist.	-427 Oct 06 j 14:36	9° <del>°</del> 01'29	28.80027 AU
max. Earth dist.	-433 Mar 21 j 20:57	24° <del>✕</del> 21'05	30.82018 AU	direct	-427 Dec 23 j 17:46	7° <del>°</del> 36'18	
morning rise	-433 Apr 05 j 22:02	24° <del>✕</del> 54'47		evening set	-426 Mar 20 j 22:11	9° <del>°</del> 30'03	
retrograde	-433 Jul 06 j 15:14	26° <del>✕</del> 54'04					
opposition	-433 Sep 24 j 11:40	25° <del>✕</del> 28'41	-1°56'25	conjunction	-426 Apr 05 j 21:38	10° <del>°</del> 05'44	-1°55'06
min. Earth dist.	-433 Sep 23 j 14:47	25° <del>✕</del> 30'09	28.82034 AU	minimum elong	-426 Apr 05 j 21:38	10° <del>°</del> 05'44	1°55'05
direct	-433 Dec 10 j 19:32	24° <del>✕</del> 05'16		max. Earth dist.	-426 Apr 06 j 17:52	10° <del>°</del> 07'38	30.79838 AU
evening set	-432 Mar 06 j 14:48	25° <del>✕</del> 58'48		morning rise	-426 Apr 22 j 00:12	10° <del>°</del> 41'43	

Attention, astronomical year style is used: The year -426 in astronomical counting style is the year 427 BCE in historical counting style.

retrograde	-426 Jul 22 j 07:34	12°♈40'32		minimum elong	-419 Apr 22 j 00:33	25°♈52'20	1°53'31
opposition	-426 Oct 09 j 21:08	11°♈15'03	-2°03'16	max. Earth dist.	-419 Apr 22 j 16:43	25°♈53'51	30.81678 AU
min. Earth dist.	-426 Oct 09 j 03:21	11°♈16'18	28.79974 AU	morning rise	-419 May 08 j 05:21	26°♈28'27	
direct	-426 Dec 26 j 04:50	9°♈51'10		retrograde	-419 Aug 07 j 03:00	28°♈26'44	
evening set	-425 Mar 23 j 11:32	11°♈44'58		opposition	-419 Oct 25 j 04:25	27°♈01'39	-2°00'54
				min. Earth dist.	-419 Oct 24 j 14:58	27°♈02'36	28.81897 AU
conjunction	-425 Apr 08 j 11:35	12°♈20'41	-1°55'24	direct	-418 Jan 10 j 14:19	25°♈37'39	
minimum elong	-425 Apr 08 j 11:35	12°♈20'41	1°55'25	evening set	-418 Apr 08 j 12:01	27°♈31'58	
max. Earth dist.	-425 Apr 09 j 07:59	12°♈22'36	30.79866 AU				
morning rise	-425 Apr 24 j 14:25	12°♈56'41		conjunction	-418 Apr 24 j 15:02	28°♈07'53	-1°52'35
retrograde	-425 Jul 24 j 22:00	14°♈55'25		minimum elong	-418 Apr 24 j 15:02	28°♈07'53	1°52'35
opposition	-425 Oct 12 j 08:27	13°♈29'57	-2°03'30	max. Earth dist.	-418 Apr 25 j 05:44	28°♈09'15	30.81848 AU
min. Earth dist.	-425 Oct 11 j 14:00	13°♈31'15	28.80070 AU	morning rise	-418 May 10 j 20:13	28°♈44'00	
direct	-425 Dec 28 j 18:07	12°♈06'03			-418 Jun 19 j 07:36	0°♈	
evening set	-424 Mar 25 j 01:03	13°♈59'54		retrograde	-418 Aug 09 j 16:46	0°♈42'10	
					-418 Oct 01 j 05:03	30°♈	
conjunction	-424 Apr 10 j 01:22	14°♈35'39	-1°55'32	opposition	-418 Oct 27 j 15:27	29°♈17'06	-1°59'49
minimum elong	-424 Apr 10 j 01:22	14°♈35'39	1°55'32	min. Earth dist.	-418 Oct 27 j 02:02	29°♈18'03	28.82027 AU
max. Earth dist.	-424 Apr 10 j 20:37	14°♈37'27	30.80031 AU	direct	-417 Jan 13 j 02:54	27°♈53'02	
morning rise	-424 Apr 26 j 04:39	15°♈11'40		evening set	-417 Apr 11 j 02:08	29°♈47'25	
retrograde	-424 Jul 26 j 11:59	17°♈10'20			-417 Apr 16 j 19:14	0°♈	
opposition	-424 Oct 13 j 19:51	15°♈44'55	-2°03'33				
min. Earth dist.	-424 Oct 13 j 02:31	15°♈46'09	28.80309 AU	conjunction	-417 Apr 27 j 05:32	0°♈23'20	-1°51'29
direct	-424 Dec 30 j 05:11	14°♈21'00		minimum elong	-417 Apr 27 j 05:32	0°♈23'20	1°51'30
evening set	-423 Mar 27 j 14:31	16°♈14'56		max. Earth dist.	-417 Apr 27 j 19:20	0°♈24'38	30.81952 AU
				morning rise	-417 May 13 j 11:00	0°♈59'29	
conjunction	-423 Apr 12 j 15:26	16°♈50'43	-1°55'29	retrograde	-417 Aug 12 j 04:41	2°♈57'30	
minimum elong	-423 Apr 12 j 15:26	16°♈50'43	1°55'30	opposition	-417 Oct 30 j 02:39	1°♈32'28	-1°58'33
max. Earth dist.	-423 Apr 13 j 11:16	16°♈52'35	30.80334 AU	min. Earth dist.	-417 Oct 29 j 15:05	1°♈33'17	28.82122 AU
morning rise	-423 Apr 28 j 18:55	17°♈26'45		direct	-416 Jan 15 j 14:11	0°♈08'20	
retrograde	-423 Jul 29 j 00:28	19°♈25'21		evening set	-416 Apr 12 j 16:01	2°♈02'45	
opposition	-423 Oct 16 j 07:07	18°♈00'01	-2°03'24				
min. Earth dist.	-423 Oct 15 j 13:41	18°♈01'15	28.80650 AU	conjunction	-416 Apr 28 j 19:54	2°♈38'41	-1°50'13
direct	-422 Jan 01 j 17:42	16°♈36'06		minimum elong	-416 Apr 28 j 19:54	2°♈38'41	1°50'13
evening set	-422 Mar 30 j 04:14	18°♈30'07		max. Earth dist.	-416 Apr 29 j 09:16	2°♈39'56	30.82058 AU
				morning rise	-416 May 15 j 01:34	3°♈14'50	
conjunction	-422 Apr 15 j 05:27	19°♈05'55	-1°55'16	retrograde	-416 Aug 13 j 18:33	5°♈12'43	
minimum elong	-422 Apr 15 j 05:27	19°♈05'55	1°55'15	opposition	-416 Oct 31 j 13:34	3°♈47'41	-1°57'07
max. Earth dist.	-422 Apr 15 j 23:36	19°♈07'37	30.80713 AU	min. Earth dist.	-416 Oct 31 j 01:45	3°♈48'31	28.82234 AU
morning rise	-422 May 01 j 09:27	19°♈41'59		direct	-415 Jan 17 j 04:18	2°♈23'29	
retrograde	-422 Jul 31 j 14:07	21°♈40'31		evening set	-415 Apr 15 j 06:03	4°♈17'56	
opposition	-422 Oct 18 j 18:29	20°♈15'15	-2°03'04				
min. Earth dist.	-422 Oct 18 j 02:02	20°♈16'25	28.81046 AU	conjunction	-415 May 01 j 10:11	4°♈53'54	-1°48'47
direct	-421 Jan 04 j 04:06	18°♈51'21		minimum elong	-415 May 01 j 10:11	4°♈53'54	1°48'48
evening set	-421 Apr 01 j 18:05	20°♈45'27		max. Earth dist.	-415 May 01 j 22:08	4°♈55'01	30.82200 AU
				morning rise	-415 May 17 j 16:14	5°♈30'03	
conjunction	-421 Apr 17 j 19:52	21°♈21'17	-1°54'51	retrograde	-415 Aug 16 j 07:43	7°♈27'48	
minimum elong	-421 Apr 17 j 19:52	21°♈21'17	1°54'51	opposition	-415 Nov 03 j 00:31	6°♈02'47	-1°55'30
max. Earth dist.	-421 Apr 18 j 14:19	21°♈23'01	30.81097 AU	min. Earth dist.	-415 Nov 02 j 14:08	6°♈03'31	28.82423 AU
morning rise	-421 May 04 j 00:01	21°♈57'22		direct	-414 Jan 19 j 16:20	4°♈38'30	
retrograde	-421 Aug 03 j 02:12	23°♈55'50		evening set	-414 Apr 17 j 19:54	6°♈33'00	
opposition	-421 Oct 21 j 05:42	22°♈30'39	-2°02'32				
min. Earth dist.	-421 Oct 20 j 14:16	22°♈31'44	28.81405 AU	conjunction	-414 May 04 j 00:36	7°♈09'00	-1°47'12
direct	-420 Jan 06 j 15:26	21°♈06'44		minimum elong	-414 May 04 j 00:36	7°♈09'00	1°47'11
evening set	-420 Apr 03 j 08:07	23°♈00'55		max. Earth dist.	-414 May 04 j 12:47	7°♈10'08	30.82440 AU
				morning rise	-414 May 20 j 06:47	7°♈45'09	
conjunction	-420 Apr 19 j 10:12	23°♈36'47	-1°54'16	retrograde	-414 Aug 18 j 19:55	9°♈42'45	
minimum elong	-420 Apr 19 j 10:13	23°♈36'47	1°54'15	opposition	-414 Nov 05 j 11:21	8°♈17'46	-1°53'42
max. Earth dist.	-420 Apr 20 j 02:40	23°♈38'19	30.81434 AU	min. Earth dist.	-414 Nov 05 j 00:56	8°♈18'30	28.82706 AU
morning rise	-420 May 05 j 14:48	24°♈12'53		direct	-413 Jan 22 j 05:36	6°♈53'26	
retrograde	-420 Aug 04 j 15:54	26°♈11'16		evening set	-413 Apr 20 j 10:00	8°♈47'59	
opposition	-420 Oct 22 j 17:02	24°♈46'08	-2°01'49				
min. Earth dist.	-420 Oct 22 j 02:01	24°♈47'12	28.81702 AU	conjunction	-413 May 06 j 14:53	9°♈23'59	-1°45'26
direct	-419 Jan 08 j 02:04	23°♈22'11		minimum elong	-413 May 06 j 14:53	9°♈23'59	1°45'26
evening set	-419 Apr 05 j 21:58	25°♈16'27		max. Earth dist.	-413 May 07 j 01:19	9°♈24'58	30.82790 AU
				morning rise	-413 May 22 j 21:26	10°♈00'09	
conjunction	-419 Apr 22 j 00:33	25°♈52'20	-1°53'31	retrograde	-413 Aug 21 j 09:34	11°♈57'36	

## Planetary Phenomena of Neptune from -900 through -398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 39

Attention, astronomical year style is used: The year -413 in astronomical counting style is the year 414 BCE in historical counting style.

opposition	-413 Nov 07 j 22:08	10° <del>8</del> 32'40	-1°51'44	conjunction	-406 May 22 j 20:12	25° <del>8</del> 08'53	-1°28'45
min. Earth dist.	-413 Nov 07 j 12:31	10° <del>8</del> 33'21	28.83127 AU	minimum elong	-406 May 22 j 20:12	25° <del>8</del> 08'53	1°28'45
direct	-412 Jan 24 j 16:47	9° <del>8</del> 08'18		max. Earth dist.	-406 May 23 j 00:11	25° <del>8</del> 09'15	30.87378 AU
evening set	-412 Apr 21 j 23:53	11° <del>8</del> 02'53		morning rise	-406 Jun 08 j 03:55	25° <del>8</del> 45'05	
				retrograde	-406 Sep 05 j 21:50	27° <del>8</del> 41'33	
conjunction	-412 May 08 j 05:18	11° <del>8</del> 38'56	-1°43'31	opposition	-406 Nov 23 j 01:22	26° <del>8</del> 17'08	-1°33'20
minimum elong	-412 May 08 j 05:18	11° <del>8</del> 38'56	1°43'30	min. Earth dist.	-406 Nov 22 j 22:12	26° <del>8</del> 17'21	28.87707 AU
max. Earth dist.	-412 May 08 j 16:16	11° <del>8</del> 39'57	30.83280 AU	direct	-405 Feb 09 j 03:32	24° <del>8</del> 52'31	
morning rise	-412 May 24 j 11:54	12° <del>8</del> 15'06		evening set	-405 May 09 j 03:18	26° <del>8</del> 47'34	
retrograde	-412 Aug 22 j 21:25	14° <del>8</del> 12'24					
opposition	-412 Nov 09 j 08:58	12° <del>8</del> 47'32	-1°49'35	conjunction	-405 May 25 j 10:49	27° <del>8</del> 23'42	-1°25'48
min. Earth dist.	-412 Nov 08 j 23:59	12° <del>8</del> 48'10	28.83676 AU	minimum elong	-405 May 25 j 10:49	27° <del>8</del> 23'42	1°25'48
direct	-411 Jan 26 j 04:42	11° <del>8</del> 23'08		max. Earth dist.	-405 May 25 j 14:23	27° <del>8</del> 24'02	30.87873 AU
evening set	-411 Apr 24 j 13:49	13° <del>8</del> 17'48		morning rise	-405 Jun 10 j 18:29	27° <del>8</del> 59'53	
				retrograde	-405 Sep 08 j 09:59	29° <del>8</del> 56'09	
conjunction	-411 May 10 j 19:27	13° <del>8</del> 53'50	-1°41'26	opposition	-405 Nov 25 j 11:52	28° <del>8</del> 31'47	-1°30'07
minimum elong	-411 May 10 j 19:27	13° <del>8</del> 53'50	1°41'26	min. Earth dist.	-405 Nov 25 j 09:08	28° <del>8</del> 31'59	28.88161 AU
max. Earth dist.	-411 May 11 j 04:47	13° <del>8</del> 54'43	30.83910 AU	direct	-404 Feb 11 j 17:09	27° <del>8</del> 07'07	
morning rise	-411 May 27 j 02:26	14° <del>8</del> 30'02		evening set	-404 May 10 j 17:36	29° <del>8</del> 02'11	
	-411 Jun 10 j 06:52	15° <del>8</del>					
retrograde	-411 Aug 25 j 10:01	16° <del>8</del> 27'12		conjunction	-404 May 27 j 01:10	29° <del>8</del> 38'19	-1°22'44
opposition	-411 Nov 11 j 19:43	15° <del>8</del> 02'25	-1°47'16	minimum elong	-404 May 27 j 01:10	29° <del>8</del> 38'19	1°22'43
min. Earth dist.	-411 Nov 11 j 10:56	15° <del>8</del> 03'03	28.84359 AU	max. Earth dist.	-404 May 27 j 02:37	29° <del>8</del> 38'27	30.88323 AU
	-411 Nov 13 j 05:44	15° <del>8</del>			-404 Jun 05 j 18:35	0° <del>II</del>	
direct	-410 Jan 28 j 15:44	13° <del>8</del> 38'00		morning rise	-404 Jun 12 j 09:04	0° <del>II</del> 14'30	
	-410 Apr 11 j 13:29	15° <del>8</del>		retrograde	-404 Sep 09 j 23:19	2° <del>II</del> 10'36	
evening set	-410 Apr 27 j 03:54	15° <del>8</del> 32'44		opposition	-404 Nov 26 j 22:25	0° <del>II</del> 46'15	-1°26'46
				min. Earth dist.	-404 Nov 26 j 20:48	0° <del>II</del> 46'22	28.88612 AU
conjunction	-410 May 13 j 09:59	16° <del>8</del> 08'48	-1°39'11		-404 Dec 25 j 15:02	30° <del>R</del>	
minimum elong	-410 May 13 j 09:59	16° <del>8</del> 08'48	1°39'11	direct	-403 Feb 13 j 05:13	29° <del>8</del> 21'30	
max. Earth dist.	-410 May 13 j 19:20	16° <del>8</del> 09'40	30.84633 AU		-403 Apr 02 j 21:14	0° <del>II</del>	
morning rise	-410 May 29 j 17:02	16° <del>8</del> 45'00		evening set	-403 May 13 j 07:31	1° <del>II</del> 16'36	
retrograde	-410 Aug 27 j 20:22	18° <del>8</del> 42'02					
opposition	-410 Nov 14 j 06:25	17° <del>8</del> 17'21	-1°44'48	conjunction	-403 May 29 j 15:30	1° <del>II</del> 52'45	-1°19'32
min. Earth dist.	-410 Nov 13 j 23:10	17° <del>8</del> 17'52	28.85104 AU	minimum elong	-403 May 29 j 15:30	1° <del>II</del> 52'45	1°19'32
direct	-409 Jan 31 j 03:02	15° <del>8</del> 52'56		max. Earth dist.	-403 May 29 j 17:12	1° <del>II</del> 52'55	30.88783 AU
evening set	-409 Apr 29 j 18:12	17° <del>8</del> 47'44		morning rise	-403 Jun 14 j 23:19	2° <del>II</del> 28'55	
				retrograde	-403 Sep 12 j 10:28	4° <del>II</del> 24'50	
conjunction	-409 May 16 j 00:32	18° <del>8</del> 23'49	-1°36'48	opposition	-403 Nov 29 j 08:54	3° <del>II</del> 00'31	-1°23'17
minimum elong	-409 May 16 j 00:32	18° <del>8</del> 23'49	1°36'48	min. Earth dist.	-403 Nov 29 j 08:14	3° <del>II</del> 00'34	28.89080 AU
max. Earth dist.	-409 May 16 j 08:17	18° <del>8</del> 24'33	30.85405 AU	direct	-402 Feb 15 j 18:17	1° <del>II</del> 35'42	
morning rise	-409 Jun 01 j 07:50	19° <del>8</del> 00'01		evening set	-402 May 15 j 21:44	3° <del>II</del> 30'50	
retrograde	-409 Aug 30 j 10:03	20° <del>8</del> 56'56					
opposition	-409 Nov 16 j 17:07	19° <del>8</del> 32'21	-1°42'09	conjunction	-402 Jun 01 j 05:44	4° <del>II</del> 06'59	-1°16'14
min. Earth dist.	-409 Nov 16 j 09:55	19° <del>8</del> 32'51	28.85863 AU	minimum elong	-402 Jun 01 j 05:44	4° <del>II</del> 06'59	1°16'13
direct	-408 Feb 02 j 14:30	18° <del>8</del> 07'54		max. Earth dist.	-402 Jun 01 j 05:31	4° <del>II</del> 06'58	30.89295 AU
evening set	-408 May 01 j 08:25	20° <del>8</del> 02'47		morning rise	-402 Jun 17 j 13:45	4° <del>II</del> 43'09	
				retrograde	-402 Sep 14 j 22:37	6° <del>II</del> 38'52	
conjunction	-408 May 17 j 15:00	20° <del>8</del> 38'53	-1°34'15	opposition	-402 Dec 01 j 19:11	5° <del>II</del> 14'37	-1°19'41
minimum elong	-408 May 17 j 15:00	20° <del>8</del> 38'53	1°34'15	min. Earth dist.	-402 Dec 01 j 18:48	5° <del>II</del> 14'38	28.89634 AU
max. Earth dist.	-408 May 17 j 21:52	20° <del>8</del> 39'31	30.86136 AU	direct	-401 Feb 18 j 06:01	3° <del>II</del> 49'44	
morning rise	-408 Jun 02 j 22:23	21° <del>8</del> 15'05		evening set	-401 May 18 j 11:45	5° <del>II</del> 44'54	
retrograde	-408 Aug 31 j 20:47	23° <del>8</del> 11'52					
opposition	-408 Nov 18 j 03:59	21° <del>8</del> 47'21	-1°39'22	conjunction	-401 Jun 03 j 20:02	6° <del>II</del> 21'04	-1°12'49
min. Earth dist.	-408 Nov 17 j 22:48	21° <del>8</del> 47'43	28.86565 AU	minimum elong	-401 Jun 03 j 20:02	6° <del>II</del> 21'04	1°12'48
direct	-407 Feb 04 j 01:23	20° <del>8</del> 22'52		max. Earth dist.	-401 Jun 03 j 19:59	6° <del>II</del> 21'04	30.89897 AU
evening set	-407 May 03 j 22:41	22° <del>8</del> 17'49		morning rise	-401 Jun 20 j 03:54	6° <del>II</del> 57'13	
				retrograde	-401 Sep 17 j 08:35	8° <del>II</del> 52'46	
conjunction	-407 May 20 j 05:38	22° <del>8</del> 53'55	-1°31'34	opposition	-401 Dec 04 j 05:40	7° <del>II</del> 28'34	-1°15'58
minimum elong	-407 May 20 j 05:38	22° <del>8</del> 53'56	1°31'34	min. Earth dist.	-401 Dec 04 j 06:33	7° <del>II</del> 28'31	28.90295 AU
max. Earth dist.	-407 May 20 j 11:28	22° <del>8</del> 54'28	30.86808 AU	direct	-400 Feb 20 j 17:30	6° <del>II</del> 03'39	
morning rise	-407 Jun 05 j 13:08	23° <del>8</del> 30'07		evening set	-400 May 20 j 01:38	7° <del>II</del> 58'52	
retrograde	-407 Sep 03 j 09:38	25° <del>8</del> 26'45					
opposition	-407 Nov 20 j 14:35	24° <del>8</del> 02'18	-1°36'25	conjunction	-400 Jun 05 j 09:57	8° <del>II</del> 35'02	-1°09'17
min. Earth dist.	-407 Nov 20 j 09:35	24° <del>8</del> 02'39	28.87180 AU	minimum elong	-400 Jun 05 j 09:57	8° <del>II</del> 35'02	1°09'17
direct	-406 Feb 06 j 15:28	22° <del>8</del> 37'46		max. Earth dist.	-400 Jun 05 j 08:33	8° <del>II</del> 34'54	30.90639 AU
evening set	-406 May 06 j 13:05	24° <del>8</del> 32'46		morning rise	-400 Jun 21 j 17:54	9° <del>II</del> 11'10	

Attention, astronomical year style is used: The year -400 in astronomical counting style is the year 401 BCE in historical counting style.

retrograde	-400 Sep 18 j 21:21	11°II06'35	
opposition	-400 Dec 05 j 15:59	9°II42'27	-1°12'09
min. Earth dist.	-400 Dec 05 j 16:26	9°II42'26	28.91105 AU
direct	-399 Feb 22 j 04:36	8°II17'30	
evening set	-399 May 22 j 15:35	10°II12'47	
conjunction	-399 Jun 08 j 00:03	10°II48'57	-1°05'39
minimum elong	-399 Jun 08 j 00:03	10°II48'57	1°05'39
max. Earth dist.	-399 Jun 07 j 22:20	10°II48'47	30.91521 AU
morning rise	-399 Jun 24 j 07:54	11°II25'06	
retrograde	-399 Sep 21 j 06:57	13°II20'21	
opposition	-399 Dec 08 j 02:19	11°II56'20	-1°08'12
min. Earth dist.	-399 Dec 08 j 04:24	11°II56'11	28.92058 AU