

The date of perihelion (T), period (P), perihelion distance (q) and the magnitude parameters H and G are given for each comet which comes to perihelion in 2024 and which becomes brighter than magnitude 18 and for other comets which are expected to be brighter than 14th magnitude during the year. The table also gives the date that the comet is expected to be at its brightest, its declination, elongation and expected peak magnitude. A negative elongation indicates that the comet is best in the evening sky.

The magnitude parameters are taken from determinations by the Comet Section, or the comet observation website (COBS) (red text) or from elements downloaded from the MPC (black text). The predicted total magnitude is given by:

$$m_1 = H + 2.5 G (\log_{10} r) + 5 (\log_{10} \Delta)$$

where Δ is the distance of the comet from Earth and r is its distance from the Sun, both in astronomical units. It is important to remember that comet magnitude predictions are often very uncertain and can be misleading, particularly for non-periodic comets with small perihelion distances. In particular, comets which show apparently bright magnitudes at very small elongations are unlikely to be observable. The table is derived from orbital elements downloaded from the Minor Planet Center (MPC) on 2023 July 2 and it is sorted in order of the date at which the comet reaches its brightest magnitude. A digital version containing more information is available from the Comet Section website at britastro.org/comet. This website contains links to many other resources useful to the comet observer, such as the Comet Section observing guide which is available for download as a PDF.

With one exception, there are no particularly bright comets expected in 2024 although there are some interesting prospects.

Periodic comet **12P/Pons-Brooks** was discovered on 1812 July 21. It has an orbital period of 71 years. At its last return in 1954 it reached 5th magnitude and its next perihelion is 2024 April 21 when it should reach 4th magnitude. In the early part of the year, it moves through Cygnus entering Lacerta on February 10 and then Andromeda on February 22. The chart on page 97 shows the path of this comet as it approaches perihelion. It reaches 6th magnitude by the middle of March but the elongation is then dropping rapidly.

A comet discovered in 2023, **C/2023 A3 Tshuchinshan-ATLAS**, could be bright in 2024. This comet was detected by the ATLAS 0.5-m, f/2 Schmidt at Southerland, South Africa on 2023 February 22. At the time it was an 18th magnitude, apparently asteroidal object in Serpens. At the time of discovery, the comet was 7.5 au from the Sun but it will come to a perihelion distance of only 0.39 au in late 2024 September and so could get bright. If it does get bright the best time to see it will be after the perihelion passage in 2024 October. Keep an eye on the Comet Section web pages for the latest news. The chart on page 98 shows the path of the comet post perihelion when it is likely to be at its brightest. It is only 4° from the Sun on October 9 but pulls away rapidly and by October 17 the elongation is 32°.

29P/Schwassmann-Wachmann is a comet in a nearly circular orbit with a period of 14.8 years. The comet is at opposition at the start and end of the year and conjunction on August 8. This year it moves from Cancer into Leo and so it is a good target from northern latitudes. A chart showing its position is on page 96. It spends most of the time at around 16th magnitude but has frequent outbursts. It should be kept under observation as regularly as possible using the methods outlined on the Comet Section's Mission 29P page.

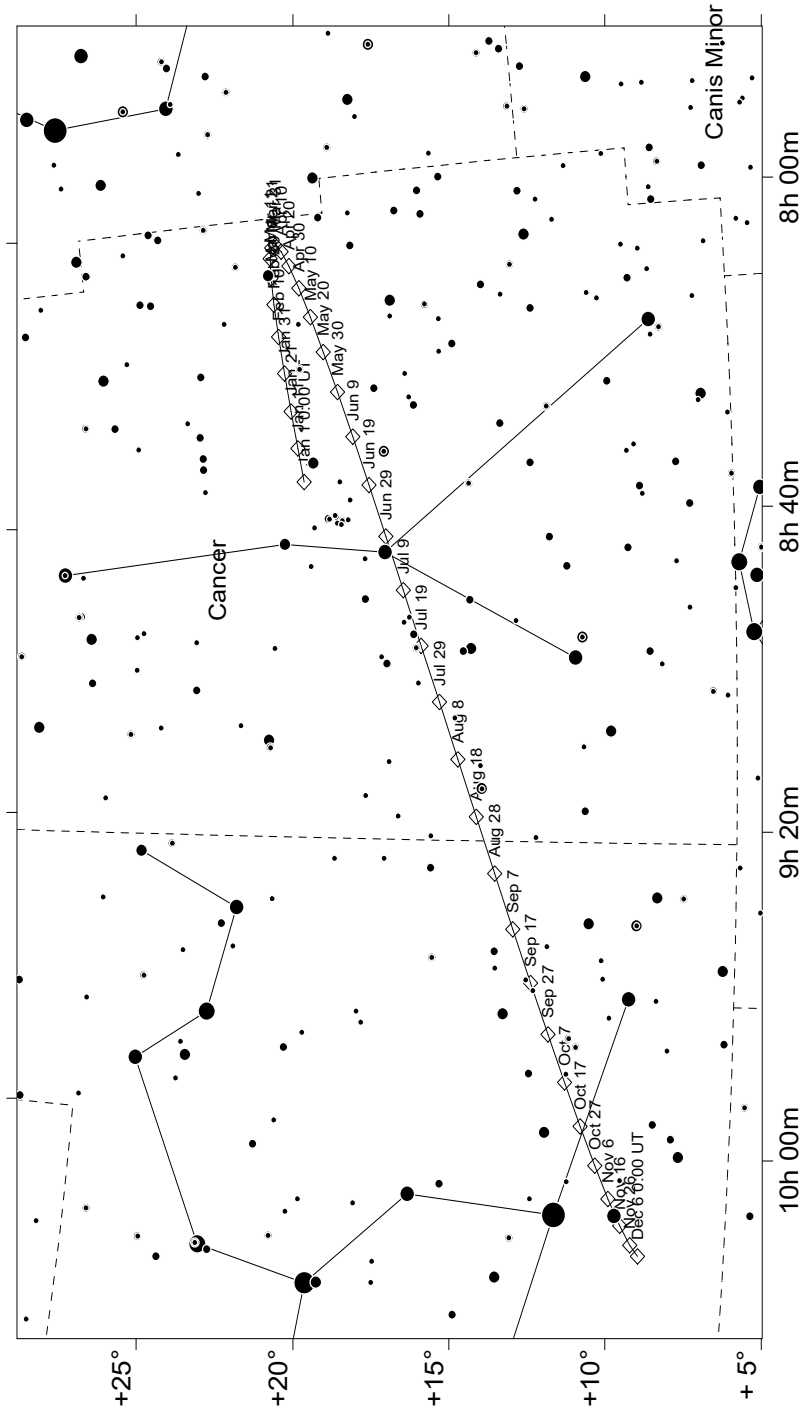
P/2010 H2 (Vales) is an outbursting comet that was last seen in 2010 and was not seen around the time of the return during its 2017 September perihelion passage. Observers may want to try and recover this object or monitor its predicted position for outbursts especially during early 2024.

COMETS

Name	T	q	P	H	G	Date of peak	Dec. Elong. at peak	Peak Magnitude
	yyyy-mm-dd	au	years			mm dd	°	
C/2017 K2 (PANSTARRS)	2022-12-19	1.80		1.5	4.0	Jan. 1	-3.0 -150	11.0
C/2019 U5 (PANSTARRS)	2023-03-29	3.62		4.5	4.0	1	-42.0 100	14.0
C/2020 V2 (ZTF)	2023-05-08	2.23		4.9	4.0	1	-41.3 -59	13.2
C/2021 T4 (Lemmon)	2023-07-31	1.48		7.5	4.0	1	-5.5 53	13.9
103P/Hartley	2023-10-12	1.06	6.48	9.0	13.3	1	-14.6 131	14.0
226P/Pigott-LINEAR-Kowalski	2023-12-27	1.77	7.31	6.0	6.0	1	-9.3 -88	10.6
62P/Tsuchinshan	2023-12-25	1.26	6.19	7.2	8.0	2	13.1 112	7.8
144P/Kushida	2024-01-25	1.40	7.50	5.5	7.5	8	14.4 -124	7.2
P/2011 NO1 (Elenin)	2024-01-15	1.25	13.02	15.0	4.0	17	-32.7 55	16.9
227P/Catalina-LINEAR	2024-03-08	1.62	6.38	16.5	2.0	Feb. 1	39.4 -151	16.9
P/2001 Q6 (NEAT)	2024-02-28	1.41	22.48	13.5	4.0	20	24.3 -46	16.4
150P/LONEOS	2024-03-12	1.75	7.62	13.5	4.0	20	-15.6 -146	15.6
32P/ComasSola	2024-04-20	2.02	9.74	6.2	8.0	20	24.2 -85	14.1
207P/NEAT	2024-01-31	0.94	7.65	16.0	4.0	28	-15.4 -93	12.9
C/2021 S3 (PANSTARRS)	2024-02-14	1.32		8.5	4.0	28	-7.3 68	10.4
216P/LINEAR	2024-01-06	2.13	7.58	13.0	4.0	Mar. 5	1.3 164	16.8
125P/Spacewatch	2024-03-07	1.53	5.53	13.0	6.0	Apr. 2	-10.6 76	16.6
C/2022 L2 (ATLAS)	2024-03-12	2.69		6.5	4.0	3	-39.0 146	12.1
12P/Pons-Brooks	2024-04-21	0.78	71.22	5.0	6.0	21	9.9 -23	4.4
C/2021 G2 (ATLAS)	2024-09-09	4.98		5.5	4.0	25	-32.1 -143	15.7
222P/LINEAR	2024-05-12	0.83	4.93	16.5	6.0	May 10	7.9 27	16.3
362P	2024-07-20	2.87	7.92	13.3	2.0	13	-3.2 -165	17.0
50P/Arend	2024-05-12	1.92	8.26	9.5	6.0	18	27.0 12	16.1
46P/Wirtanen	2024-05-19	1.05	5.43	8.2	6.4	19	21.3 -10	10.1
P/2014 MG4								
(Spacewatch-PANSTARRS)	2024-09-07	3.72	11.23	9.5	4.0	20	-30.3 -166	17.4
130P/McNaught-Hughes	2024-04-14	1.82	6.22	10.0	6.0	30	-2.3 62	15.7
154P/Brewington	2024-06-11	1.55	10.51	2.9	14.4	Jun. 14	26.8 32	11.6
P/2003 T12 (SOHO)	2024-07-03	0.59	4.16	17.0	4.0	29	19.8 27	15.3
13P/Olbers	2024-06-30	1.18	69.37	5.0	6.0	Jul. 4	42.2 -31	7.5
209P/LINEAR	2024-07-14	0.97	5.09	17.0	2.0	26	5.1 -53	17.3
C/2022 U1 (Leonard)	2024-03-25	4.20		8.5	4.0	31	48.0 114	17.8
30P/Reinmuth	2024-08-17	1.81	7.22	9.5	6.0	Aug. 26	16.4 14	15.6
146P/Shoemaker-LINEAR	2024-08-05	1.42	8.09	15.0	4.0	31	11.3 83	17.0
C/2023 C2 (ATLAS)	2024-11-16	2.37		7.0	4.0	31	-48.1 -95	12.7
37P/Forbes	2024-10-11	1.62	6.44	13.8	4.0	Sep. 4	-23.8 -67	17.2
208P/McMillan	2024-08-23	2.53	8.12	12.5	4.0	12	-6.8 173	17.5
54P/de Vico-Swift-NEAT	2024-09-03	2.17	7.37	10.0	6.0	27	7.2 170	15.4
190P/Mueller	2024-12-24	2.02	8.70	13.0	4.0	Oct. 4	-7.4 -147	16.7
C/2023 A3								
(Tsuchinshan-ATLAS)	2024-09-27	0.39		5.0	4.0	5	-4.8 15	0.4
253P/PANSTARRS	2024-10-20	2.03	6.45	14.5	4.0	6	-2.3 -173	17.7
338P/McNaught	2024-08-02	2.29	7.68	12.0	4.0	16	35.8 149	16.5
219P/LINEAR	2024-02-13	2.36	6.96	11.0	4.0	17	21.0 145	17.0
P/2012 US27 (Siding Spring)	2024-10-21	1.82	11.73	13.5	4.0	10	36.2 154	15.9
242P/Spahr	2024-12-25	3.97	12.95	8.0	4.0	18	-16.0 144	16.5
C/2022 E2 (ATLAS)	2024-09-13	3.67		9.0	4.0	26	67.8 132	17.1
P/2010 WK (LINEAR)	2024-07-21	1.78	13.83	14.5	2.0	Dec. 8	29.7 117	17.4
333P/LINEAR	2024-11-29	1.11	8.67	10.7	8.0	8	59.1 89	10.4
48P/Johnson	2025-03-02	2.01	6.55	7.0	4.9	31	-22.9 -15	13.3
P/2010 H2 (Vales)	2025-03-09	3.08	7.50	6.0	4.0	31	5.0 82	13.3
21P/Giacobini-Zinner	2025-03-25	1.01	6.53	5.4	12.3	31	-3.1 -20	13.0

COMETS

29P/SCHWASSMANN-WACHMANN



COMETS

12P/PONS-BROOKS

