

DARK SKIES for May 2018:

T/W May	1/2	none	
W/T May	2/3	9:54 p.m.	- 10:45 p.m.
T/F May	3/4	9:55 p.m.	- 11:39 p.m.
F/S May	4/5	9:57 p.m.	- 12:28 a.m.
S/S May	5/6	9:59 p.m.	- 1:13 a.m.
S/M May	6/7	10:01 p.m.	- 1:52 a.m.
M/T May	7/8	10:03 p.m.	- 2:28 a.m.
T/W May	8/9	10:04 p.m.	- 3:00 a.m.
W/T May	9/10	10:06 p.m.	- 3:30 a.m.
T/F May	10/11	10:08 p.m.	- 3:44 a.m.
F/S May	11/12	10:10 p.m.	- 3:42 a.m.
S/S May	12/13	10:11 p.m.	- 3:41 a.m.
S/M May	13/14	10:13 p.m.	- 3:39 a.m.
M/T May	14/15	10:15 p.m.	- 3:37 a.m.
T/W May	15/16	10:17 p.m.	- 3:35 a.m.
W/T May	16/17	10:18 p.m.	- 3:34 a.m.
T/F May	17/18	10:54 p.m.	- 3:32 a.m.
F/S May	18/19	11:54 p.m.	- 3:30 a.m.
S/S May	19/20	12:47 a.m.	- 3:29 a.m.
S/M May	20/21	1:31 a.m.	- 3:27 a.m.
M/T May	21/22	2:10 a.m.	- 3:26 a.m.
T/W May	22/23	2:43 a.m.	- 3:24 a.m.
W/T May	23/24	3:14 a.m.	- 3:23 a.m.
T/F May	24/25	none	
F/S May	25/26	none	
S/S May	26/27	none	
S/M May	27/28	none	
M/T May	28/29	none	
T/W May	29/30	none	
W/T May	30/31	none	
T/F May	31/1	none	

Times listed are for Dodgeville, Wisconsin when

- (1) Moon is below the horizon
- (2) Sun is $> 18^\circ$ below the horizon
(astronomical twilight)

Please minimize your use of outdoor lighting during these times to give everyone the best possible view of the night sky.

Time Travel

conducted by David Oesper

In proportion as the scale of brilliancy or magnitude is descended, the number of the stars contained in each class rapidly increases. The number of second-magnitude stars in the entire heavens is about 65 ; of the third, about 200 ; of the fifth, 1100 ; and of the sixth magnitude, 3200. Adding these numbers together, we obtain a few over 5000 stars of the first six magnitudes, and these comprise very nearly all those that can be seen with the naked eye.

The smallness of this number nearly always astonishes those who have not tried to form an exact estimate of the number of stars which shine in the celestial vault on the most favourable nights.

The aspect of the multitude of sparkling points which are scattered over the sky makes us disposed to believe that they are innumerable, and to be counted, if not by millions, at all events by hundreds of thousands. This is,

nevertheless, an illusion. All observers who have taken the trouble to make an exact enumeration of the stars visible to the naked eye, have arrived at a maximum of 3000 as the mean number which can be observed in every part of the heavens, visible at the same time, at the same place : this, of course, is but half of the entire heavens.

Argelander has published an exact catalogue of the stars visible on the horizon of Berlin during the course of the year. This catalogue comprises 3256 stars.‡ According to Humboldt, there are 4146 visible on the horizon of Paris in the whole course of the year ; and as this number increases in proportion as we approach the Equator, that is to say, in proportion as the double movement of the Earth unfolds to us during a year a more extensive portion of the heavens, 4638 stars are already visible to the naked eye on the horizon of Alexandria.

We repeat, the maximum number is comprised between 5000 and 6000 stars for the entire heavens, including those seen by the most piercing and most accustomed eyes in the best nights for observation. When the atmosphere is lit up by the Moon, or by twilight, or, as happens in the great centres of population, by the illumination of the houses and streets, the lowest magnitude stars are effaced altogether, and the number of those visible consequently much more limited. We may add, in conclusion, that the more decided the scintillation, the more easy is it to distinguish very faint stars.

A word now on the number of stars that can be seen with the help of the telescope. Here we shall find the numbers which our imagination had erroneously led us to believe are visible to the naked eye.

According to the illustrious Director of the Observatory of Bonn—Argelander—the seventh magnitude comprises nearly 13,000 stars ; the eighth, 40,000 ; and lastly, the ninth, 142,000. The calculations of Struve give the total number of stars visible in the entire heavens, by the aid of Sir William Herschel's 20-foot reflector, as more than 20,000,000. But, without doubt, these approximate numbers are much below the real ones. It will be seen, besides, that the richness of the different parts of the heavens in stars is very unequal. The bright zone known under the name of the Milky Way alone contains, according to Herschel, 18,000,000.

‡ M. Heis (of Munster) affirms that his sight is so penetrating that he can perceive with the naked eye 2000 more stars than those catalogued by Argelander in his *Uranometria Nova*. On the other hand, there are many eyes which distinguish at most stars of the fifth magnitude, and do not see any of those of the sixth.

The degree of visibility of the stars to the naked eye depends also on the state of the atmosphere, on its degree of purity, and on the altitude of the place. Londoners, to be assured of these differences, have only to compare the sparkling sky of the country with that which they see through the haze which almost constantly envelopes their city.

The Heavens: An Illustrated Handbook of Popular Astronomy (1872) by Amedée Guillemin (1826-1893)

Edited by J. Norman Lockyer (1836-1920)
4th Edition revised by Richard Proctor (1837-1888)