

DARK SKIES for September 2017:

F/S Sep.	1/2	2:40 a.m.	-	4:45 a.m.
S/S Sep.	2/3	3:36 a.m.	-	4:46 a.m.
S/M Sep.	3/4	4:36 a.m.	-	4:48 a.m.
M/T Sep.	4/5	none		
T/W Sep.	5/6	none		
W/T Sep.	6/7	none		
T/F Sep.	7/8	none		
F/S Sep.	8/9	none		
S/S Sep.	9/10	8:59 p.m.	-	9:32 p.m.
S/M Sep.	10/11	8:57 p.m.	-	10:09 p.m.
M/T Sep.	11/12	8:55 p.m.	-	10:50 p.m.
T/W Sep.	12/13	8:53 p.m.	-	11:36 p.m.
W/T Sep.	13/14	8:51 p.m.	-	12:30 a.m.
T/F Sep.	14/15	8:49 p.m.	-	1:29 a.m.
F/S Sep.	15/16	8:47 p.m.	-	2:33 a.m.
S/S Sep.	16/17	8:45 p.m.	-	3:40 a.m.
S/M Sep.	17/18	8:43 p.m.	-	4:48 a.m.
M/T Sep.	18/19	8:41 p.m.	-	5:08 a.m.
T/W Sep.	19/20	8:39 p.m.	-	5:09 a.m.
W/T Sep.	20/21	8:37 p.m.	-	5:10 a.m.
T/F Sep.	21/22	8:35 p.m.	-	5:12 a.m.
F/S Sep.	22/23	8:35 p.m.	-	5:13 a.m.
S/S Sep.	23/24	9:06 p.m.	-	5:14 a.m.
S/M Sep.	24/25	9:40 p.m.	-	5:15 a.m.
M/T Sep.	25/26	10:16 p.m.	-	5:17 a.m.
T/W Sep.	26/27	10:56 p.m.	-	5:18 a.m.
W/T Sep.	27/28	11:41 p.m.	-	5:19 a.m.
T/F Sep.	28/29	12:30 a.m.	-	5:20 a.m.
F/S Sep.	29/30	1:23 a.m.	-	5:21 a.m.
S/S Sep.	30/1	2:21 a.m.	-	5:23 a.m.

Times listed are for Dodgeville, Wisconsin when

- (1) Moon is below the horizon
- (2) Sun is > 18° 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

THE BEGINNINGS OF AMERICAN ASTRONOMY (continued)

While Admiral Wilkes was seeking for coadjutors to prosecute observations in the United States during the absence of his exploring expedition he was indeed fortunate in finding two such men as Bond and Gilliss. Their assiduity was beyond praise, and it led each of them to important duties. Bond became the founder and director of the Observatory of Harvard College, while Gilliss is the father of the United States Naval Observatory at Washington, as well as of that of Santiago de Chile, the oldest observatory in South America. Cambridge, though the seat of the most ancient university in America, was but a village in 1839. The college could afford no salary to

Bond, but only the distinction of a title, "Astronomical Observer to the University," and the occupancy of the Dana house, in which his first observatory was established. His work there, as elsewhere, was well and faithfully done, and it led the college authorities to employ him as the astronomer of the splendid observatory which was opened for work in 1847. At that time the two largest telescopes in the world were those of the Imperial Observatory of Russia (Pultowa) and its companion at Cambridge. Each of these instruments has a long and honourable history. Their work has been very different. Who shall say that one has surpassed the other? We owe to Bond and his son the discovery of an eighth satellite to Saturn, of the dusky ring to that planet, the introduction of stellar photography, the invention of the chronograph, by which the electric current is employed in the registry of observations, the conduct of several chronometric expeditions between Liverpool and Boston to determine the transatlantic longitude, and a host of minor discoveries and observations.

Gilliss visited France for study in 1835, before he took up his duties at Washington. The text-books of Bond and Gilliss were the "Astronomies" of Vince (1797-1808) and of Pearson (1824-'29). The younger Bond (George Philips Bond, born 1825; Harvard College, 1844; director of the Harvard College Observatory, 1859-'65) and his contemporaries, on the other hand, were firmly grounded in the German methods, then, as now, the most philosophical and thorough.

It was not until 1850, or later, that it was indispensable for an American astronomer to read the German language and to make use of the memoirs of Bessel, Encke, and Struve and the text-books of Sawitsch and Brünnow.⁷ This general acquaintance with the German language and methods came nearly a generation later in England. The traditions of Piazzi and Oriani came to America with the Jesuit fathers of Georgetown College (1844), of whom Secchi and Sestini are the best known.

The dates of the foundation of a few observatories of the United States may be set down here. Those utilized for the observation of the transit of Venus in 1769 were temporary stations merely. The first college observatory was that of Chapel Hill, North Carolina (1831); Williams College followed (1836); Hudson Observatory (Ohio) (1838); the Philadelphia High School (1840); the Dana House Observatory of Harvard College (1840); West Point (1841); the United States Naval Observatory (1844); the Georgetown College Observatory (1844); the Cincinnati Observatory (1845); the new observatory of Harvard College (1846); the private observatory of Dr. Lewis M. Rutherford in New York city (1848); the observatory at Ann Arbor (1854); the Dudley Observatory at Albany (1856); and that of Hamilton College (1856).

⁷ Dr. Bowditch learned to read German in 1818, at the age of forty-five.