

## DARK SKIES for August 2021:

S/M Aug.	1/2	10:19 p.m.	-	12:49 a.m.
M/T Aug.	2/3	10:17 p.m.	-	1:20 a.m.
T/W Aug.	3/4	10:15 p.m.	-	1:57 a.m.
W/T Aug.	4/5	10:13 p.m.	-	2:42 a.m.
T/F Aug.	5/6	10:11 p.m.	-	3:36 a.m.
<b>F/S Aug.</b>	<b>6/7</b>	<b>10:09 p.m.</b>	-	<b>4:03 a.m.</b>
<b>S/S Aug.</b>	<b>7/8</b>	<b>10:07 p.m.</b>	-	<b>4:05 a.m.</b>
<b>S/M Aug.</b>	<b>8/9</b>	<b>10:05 p.m.</b>	-	<b>4:07 a.m.</b>
<b>M/T Aug.</b>	<b>9/10</b>	<b>10:04 p.m.</b>	-	<b>4:08 a.m.</b>
<b>T/W Aug.</b>	<b>10/11</b>	<b>10:02 p.m.</b>	-	<b>4:10 a.m.</b>
W/T Aug.	11/12	10:09 p.m.	-	4:12 a.m.
T/F Aug.	12/13	10:32 p.m.	-	4:13 a.m.
F/S Aug.	13/14	10:57 p.m.	-	4:15 a.m.
S/S Aug.	14/15	11:25 p.m.	-	4:17 a.m.
S/M Aug.	15/16	11:58 p.m.	-	4:18 a.m.
M/T Aug.	16/17	12:39 a.m.	-	4:20 a.m.
T/W Aug.	17/18	1:29 a.m.	-	4:22 a.m.
W/T Aug.	18/19	2:29 a.m.	-	4:23 a.m.
T/F Aug.	19/20	3:37 a.m.	-	4:25 a.m.
F/S Aug.	20/21	none		
S/S Aug.	21/22	none		
S/M Aug.	22/23	none		
M/T Aug.	23/24	none		
T/W Aug.	24/25	none		
W/T Aug.	25/26	9:31 p.m.	-	9:40 p.m.
T/F Aug.	26/27	9:29 p.m.	-	10:01 p.m.
F/S Aug.	27/28	9:27 p.m.	-	10:24 p.m.
S/S Aug.	28/29	9:24 p.m.	-	10:49 p.m.
S/M Aug.	29/30	9:22 p.m.	-	11:18 p.m.
M/T Aug.	30/31	9:20 p.m.	-	11:52 p.m.
T/W Aug.	31/1	9:18 p.m.	-	12:34 a.m.

Times listed are for Dodgeville, Wisconsin when

(1) Moon is below the horizon

(2) Sun is > 18° below the horizon  
(astronomical twilight)

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## Time Travel

conducted by David Oesper

### THE DISAPPEARANCE OF DARKNESS

NORMAN SPERLING

Chabot Observatory  
Oakland, CA U.S.A.

*Continued from last month...*

By 1866, and perhaps earlier, the first caveats about light pollution crept into the popular astronomical literature. Sir John Herschel (1792-1871) noted the problem (Crawford, personal communication). Amedee Guillemin (1866) wrote that the dimmest stars are effaced altogether “in the great centers of population, by the illumination of the houses and streets.” The haze enveloping Paris and London, and the smoke filling the skies of many cities, was the primary obstruction, however. It was largely wood and coal smoke

plus street dust; we would call it air pollution. It still wasn't too bad, because in 1869, Edwin Dunkin was still able to advocate urban skywatching: “It is of no consequence, therefore, in what part of London, or its neighborhood, the observer is located. It may be in the heart of the city...” But another Londoner, John A. W. Oliver, wrote of the Zodiacal Light by 1888, that “the less luminous portions cannot be well seen in a town where there is smoke illuminated by gaslight, or where the electric light is in use, as in the city of Boston (U.S.A.), where Searle finds it no longer possible to observe the Zodiacal Light satisfactorily.” Therefore, light pollution has definitely interfered with astronomical observing for appreciably more than 100 years.

From that time on, professional astronomers have almost always considered seeing conditions when locating new observatories. In addition to climate and altitude, they include light pollution as a prime consideration. While San Jose, Flagstaff and Pasadena were still small, dim towns, Lick, Lowell and Mount Wilson Observatories grew on nearby peaks – only to suffer terribly in the light of recent developments.

Light pollution became a pressing topic in British and American – and even Austrian – popular astronomy books and amateurs' observing manuals from 1909 on. The problem escalated, both in the skies and in print, as the 1920s yielded to the 1930s, with authors preferring more and stronger warnings.

Then World War II blacked out major cities. All of a sudden, generations of urbanites who had never seen the starfilled sky clamored for books about this splendid vision, and despite wartime paper rationing, England (among other places) generated volumes to explain the sky. These old-fashioned star-watching manuals addressed readers who were seeing the dark sky as a novel phenomenon.

After the War, “the lights came on all over the world,” the skies lit up again, urbanites lost touch with the stars, and books returned to their warnings to seek dark – typically rural – skies. Now, great numbers of city children attending planetarium shows cannot relate to the dark sky shown because they have never experienced such a sight in nature. Decisions made by generations unfamiliar with nature often seem to ignore it, with results ranging from regrettable to catastrophic.

And, now that most towns are light-polluters, observatories have been pushed farther away – Fort Davis, Kitt Peak, Mauna Kea, Teneriffe, Las Campanas. A peak's isolation is now one of its prime astronomical assets, almost regardless of the difficulties imposed on construction and operation. Astronomers working on low-surface-brightness problems depend on such facilities. Observational astronomers working in light-polluted areas are restricted to high-surface-brightness topics, most of which are far from the forefront.

Light Pollution, Radio Interference, and Space Debris, ASP Conference Series, Vol. 17, IAU Colloquium 112, 1991, D.L. Crawford, Ed., p. 101.

*To be continued next month...*