

## DARK SKIES for July 2021:

T/F	July	1/2	10:59 p.m.	-	1:13 a.m.
F/S	July	2/3	10:59 p.m.	-	1:34 a.m.
S/S	July	3/4	10:58 p.m.	-	1:56 a.m.
S/M	July	4/5	10:57 p.m.	-	2:20 a.m.
M/T	July	5/6	10:57 p.m.	-	2:48 a.m.
<b>T/W</b>	<b>July</b>	<b>6/7</b>	<b>10:56 p.m.</b>	-	<b>3:14 a.m.</b>
<b>W/T</b>	<b>July</b>	<b>7/8</b>	<b>10:55 p.m.</b>	-	<b>3:15 a.m.</b>
<b>T/F</b>	<b>July</b>	<b>8/9</b>	<b>10:54 p.m.</b>	-	<b>3:17 a.m.</b>
<b>F/S</b>	<b>July</b>	<b>9/10</b>	<b>10:53 p.m.</b>	-	<b>3:18 a.m.</b>
<b>S/S</b>	<b>July</b>	<b>10/11</b>	<b>10:52 p.m.</b>	-	<b>3:19 a.m.</b>
<b>S/M</b>	<b>July</b>	<b>11/12</b>	<b>10:51 p.m.</b>	-	<b>3:21 a.m.</b>
<b>M/T</b>	<b>July</b>	<b>12/13</b>	<b>10:50 p.m.</b>	-	<b>3:22 a.m.</b>
T/W	July	13/14	11:15 p.m.	-	3:24 a.m.
W/T	July	14/15	11:40 p.m.	-	3:25 a.m.
T/F	July	15/16	12:03 a.m.	-	3:27 a.m.
F/S	July	16/17	12:27 a.m.	-	3:28 a.m.
S/S	July	17/18	12:53 a.m.	-	3:30 a.m.
S/M	July	18/19	1:23 a.m.	-	3:31 a.m.
M/T	July	19/20	1:59 a.m.	-	3:33 a.m.
T/W	July	20/21	2:44 a.m.	-	3:34 a.m.
W/T	July	21/22	none		
T/F	July	22/23	none		
F/S	July	23/24	none		
S/S	July	24/25	none		
S/M	July	25/26	none		
M/T	July	26/27	10:30 p.m.	-	10:31 p.m.
T/W	July	27/28	10:28 p.m.	-	10:55 p.m.
W/T	July	28/29	10:26 p.m.	-	11:17 p.m.
T/F	July	29/30	10:24 p.m.	-	11:38 p.m.
F/S	July	30/31	10:23 p.m.	-	11:59 p.m.
S/S	July	31/1	10:21 p.m.	-	12:22 a.m.

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.

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## Time Travel

conducted by David Oesper

**TUTOR.** Look at your table, and tell me what sign and what degree the sun is in the 30th of March, and 20th of October.

**PUPIL.** The sun enters Aries the 20th of March, of course he must be 10 degrees in that sign the 30th; and, as he does not enter Scorpio till the 23d of October, he must want three degrees of completing the sign Libra; he must therefore, on the 20th of October, be in 27 degrees of Libra.

**TUTOR.** Very well.—Do you learn the table, as you will have a farther use for it.

The Study of Astronomy, by John Stedman (1796)

## THE DISAPPEARANCE OF DARKNESS

NORMAN SPERLING

Chabot Observatory  
Oakland, CA U.S.A.

### INTRODUCTION

Until the last century, virtually all humans knew the appearance of the dark night sky. Even unschooled urbanites knew some constellations and planets. By 1909, light pollution made authors admonish readers to do their skywatching from the countryside rather than the city. The warnings have escalated along with the light pollution. Light pollution's effect on professional and volunteer observational astronomy, along with telescopes' changing focal ratios, largely determine which kinds of astronomy are done in which institutions. In times and places where individuals perceive little possibility to change their culture, astronomers cope as best they can. When activism earns results in other cultural matters, astronomers sometimes become activists to fight light pollution. Chabot Observatory has felt many of these influences in its 105-year history, and they can be read in its plans for the future as well. Despite winning some battles, the war against light pollution is still being lost, so a different approach is suggested.

### FIRST-WORLD LIGHT POLLUTION

Attention to light pollution depended, and still depends, upon local and cultural conditions. Geography, meteorology, energy consumption methods, economics, technology, politics, and demography all mold local circumstances, and generate objectionable levels of light pollution at different times in different places. Light pollution's interrelationships with popular astronomy, professional and amateur research, instrumentation, and observing sites demonstrate its strong influence.

Light pollution is high in the consciousness of those who suffer from it nightly, but writers used to dark skies rarely mention it. Writers in smoky cities bemoan smoke, and writers in electrically-lit cities bemoan electric lights—though writers in cloudy climates bemoan the clouds at least as loudly. So the writers talk about whatever interferes with their skywatching. And none ever hints that anything can be done to avoid it, except travel.

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...*

The *Oxford Dictionary of the English Language* notes that the first use of the term "light pollution" was in 1968 in the Madison, Wisconsin newspaper *Capital Times*, though it references the unnatural color rendering of mercury vapor lamps. The first mention of "light pollution" as interfering with astronomy activities is listed as being in the February 5, 1971 issue of *Science* magazine.