

June 01, 2020 12:00:00 PM MDT

| Object  | Right ascens  | Declination  | Earth distance | Sun distance  |
|---------|---------------|--------------|----------------|---------------|
| Sun     | 04h 41m 56.6s | +22° 13' 25" | 0              | 0             |
| Mercury | 06h 23m 34.7s | +25° 11' 20" | 130,045,890    | 60,994,828    |
| Venus   | 04h 52m 53.5s | +23° 25' 24" | 43,233,801     | 108,561,377   |
| Mars    | 23h 02m 33.0s | -08° 44' 35" | 149,941,340    | 210,672,546   |
| Ceres   | 22h 58m 27.9s | -17° 10' 48" | 412,890,123    | 444,305,676   |
| Jupiter | 19h 55m 07.5s | -21° 01' 25" | 658,411,561    | 773,636,477   |
| Saturn  | 20h 15m 24.7s | -19° 57' 30" | 1,395,706,442  | 1,498,544,118 |
| Uranus  | 02h 25m 31.3s | +13° 56' 53" | 3,087,500,817  | 2,961,980,527 |
| Neptune | 23h 28m 00.3s | -04° 36' 09" | 4,498,345,182  | 4,477,526,446 |
| Pluto   | 19h 47m 06.1s | -22° 05' 53" | 4,981,489,674  | 5,094,060,947 |
| Moon    | 13h 26m 59.1s | -04° 23' 30" | 365,083        | 0             |

(Distances in km)

| Object  | Rise: | Tran  | Set:  | Phase  | Constl | Magnitud |
|---------|-------|-------|-------|--------|--------|----------|
| Sun     | 05:34 | 12:57 | 20:21 | 0.00%  | Tau    | unknown  |
| Mercury | 07:03 | 14:39 | 22:14 | 42.49% | Gem    | 0.3      |
| Venus   | 05:44 | 13:10 | 20:35 | 0.12%  | Tau    | -3.8     |
| Mars    | 01:46 | 07:19 | 12:52 | 84.70% | Aqr    | -0.0     |
| Ceres   | 02:13 | 07:17 | 12:20 | 99.50% | Aqr    | 9.0      |
| Jupiter | 23:20 | 04:13 | 09:01 | 99.52% | Sgr    | -2.6     |
| Saturn  | 23:37 | 04:33 | 09:26 | 99.85% | Cap    | 0.4      |
| Uranus  | 03:53 | 10:42 | 17:32 | 99.98% | Ari    | 5.9      |
| Neptune | 01:58 | 07:45 | 13:32 | 99.97% | Aqr    | 7.9      |
| Pluto   | 23:16 | 04:04 | 08:48 | 99.99% | Sgr    | 14.3     |
| Moon    | 15:41 | 21:44 | 03:07 | 81.49% | Vir    | unknown  |

#### Meteor Radiant Report

| Name                  | Month/Day | RA   | Decl  | Hourly Rate |
|-----------------------|-----------|------|-------|-------------|
| Tau Herculids         | 06/03     | 15.2 | 39.0  | 15          |
| Chi Scorpiids         | 06/05     | 16.5 | -13.0 | 10          |
| Daytime Arietids      | 06/07     | 2.9  | 23.0  | 50          |
| Daytime Zeta Perseids | 06/07     | 4.1  | 23.0  | 40          |
| Librids               | 06/08     | 15.2 | -28.3 | 10          |
| Sagittariids          | 06/11     | 20.3 | -35.0 | 30          |
| Theta Ophiuchids      | 06/13     | 17.8 | -28.0 | 2           |
| June Lyrids           | 06/16     | 18.5 | 35.0  | 9           |
| Corvids               | 06/26     | 12.8 | -19.1 | 13          |
| Draconids             | 06/28     | 16.9 | 56.0  | 5           |
| June Bootids          | 06/28     | 14.6 | 49.0  | 6           |
| Daytime Beta Taurids  | 06/29     | 5.7  | 19.0  | 25          |

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| Date    | Moonrise | Moonset | Sunrise | Sunset | Begin<br>Twilight | End<br>Twilight |
|---------|----------|---------|---------|--------|-------------------|-----------------|
| 6/1/20  | 15:43    | 03:07   | 05:34   | 20:21  | 03:36             | 22:19           |
| 6/2/20  | 16:55    | 03:38   | 05:33   | 20:22  | 03:35             | 22:20           |
| 6/3/20  | 18:09    | 04:10   | 05:33   | 20:22  | 03:35             | 22:21           |
| 6/4/20  | 19:24    | 04:46   | 05:33   | 20:23  | 03:34             | 22:22           |
| 6/5/20  | 20:35    | 05:28   | 05:32   | 20:24  | 03:33             | 22:23           |
| 6/6/20  | 21:42    | 06:15   | 05:32   | 20:24  | 03:33             | 22:24           |
| 6/7/20  | 22:40    | 07:10   | 05:32   | 20:25  | 03:32             | 22:25           |
| 6/8/20  | 23:30    | 08:10   | 05:32   | 20:25  | 03:32             | 22:25           |
| 6/9/20  | -----    | 09:13   | 05:32   | 20:26  | 03:31             | 22:26           |
| 6/10/20 | 00:10    | 10:15   | 05:32   | 20:26  | 03:31             | 22:27           |
| 6/11/20 | 00:44    | 11:18   | 05:31   | 20:27  | 03:31             | 22:28           |
| 6/12/20 | 01:14    | 12:17   | 05:31   | 20:27  | 03:31             | 22:28           |
| 6/13/20 | 01:40    | 13:16   | 05:31   | 20:28  | 03:30             | 22:29           |
| 6/14/20 | 02:05    | 14:14   | 05:31   | 20:28  | 03:30             | 22:29           |
| 6/15/20 | 02:28    | 15:11   | 05:31   | 20:28  | 03:30             | 22:30           |
| 6/16/20 | 02:53    | 16:10   | 05:31   | 20:29  | 03:30             | 22:30           |
| 6/17/20 | 03:19    | 17:09   | 05:32   | 20:29  | 03:30             | 22:31           |
| 6/18/20 | 03:48    | 18:10   | 05:32   | 20:29  | 03:30             | 22:31           |
| 6/19/20 | 04:21    | 19:13   | 05:32   | 20:30  | 03:30             | 22:31           |
| 6/20/20 | 05:01    | 20:14   | 05:32   | 20:30  | 03:30             | 22:32           |
| 6/21/20 | 05:48    | 21:12   | 05:32   | 20:30  | 03:31             | 22:32           |
| 6/22/20 | 06:42    | 22:05   | 05:33   | 20:30  | 03:31             | 22:32           |
| 6/23/20 | 07:45    | 22:52   | 05:33   | 20:30  | 03:31             | 22:32           |
| 6/24/20 | 08:51    | 23:34   | 05:33   | 20:30  | 03:32             | 22:32           |
| 6/25/20 | 10:01    | -----   | 05:33   | 20:31  | 03:32             | 22:32           |
| 6/26/20 | 11:11    | 00:09   | 05:34   | 20:31  | 03:32             | 22:32           |
| 6/27/20 | 12:21    | 00:40   | 05:34   | 20:31  | 03:33             | 22:32           |
| 6/28/20 | 13:32    | 01:11   | 05:35   | 20:31  | 03:34             | 22:31           |
| 6/29/20 | 14:42    | 01:40   | 05:35   | 20:30  | 03:34             | 22:31           |
| 6/30/20 | 15:54    | 02:10   | 05:36   | 20:30  | 03:35             | 22:31           |

'-----' means the event does not occur on this date.