

| Meteor Shower           | Begin  | Peak   | End    | RA  | DEC | km/s | ZHR | Class    | Parent Body          |
|-------------------------|--------|--------|--------|-----|-----|------|-----|----------|----------------------|
| Jan Leonids             | Dec 30 | Jan 02 | Jan 05 | 10  | +24 | 60   | <2  | Weak     |                      |
| Quadrantids             | Dec 28 | Jan 03 | Jan 12 | 15  | +50 | 41   | 120 | Major    | 2003 EH1             |
| Zeta Aurigids           | Dec 14 | Jan 13 | Jun 16 | 05  | +39 | 14   | <2  | Weak     | 5731 Zeus 1998 VP4   |
| Coronae Borealids       | Jan 11 | Jan 15 | Jan 18 | 17  | +30 | 49   | <2  | Weak     |                      |
| Canum Venaticids        | Jan 13 | Jan 15 | Jan 18 | 14  | +38 | 56   | <2  | Weak     |                      |
| Lambda Bootids          | Jan 17 | Jan 17 | Jan 18 | 15  | +45 | 41   | <2  | Weak     |                      |
| Jan Xi Ursae Majorids   | Jan 16 | Jan 18 | Jan 20 | 11  | +33 | 44   | <2  | Weak     |                      |
| Nu Bootids              | Jan 16 | Jan 18 | Jan 20 | 14  | +13 | 67   | <2  | Weak     |                      |
| Gamma Ursae Minorids    | Jan 18 | Jan 20 | Jan 24 | 15  | +67 | 30   | <2  | Weak     |                      |
| Eta Corvids             | Jan 18 | Jan 23 | Jan 26 | 13  | -17 | 69   | <2  | Weak     |                      |
| Jan Comae Berenicids    | Jan 21 | Jan 24 | Jan 27 | 13  | +15 | 65   | <2  | Weak     |                      |
| Alpha Coronae Borealids | Jan 27 | Jan 28 | Feb 05 | 15  | +26 | 57   | <2  | Weak     |                      |
| Feb Epsilon Virginids   | Jan 29 | Feb 04 | Feb 09 | 13  | +11 | 64   | <2  | Weak     |                      |
| Feb Eta Draconids       | Feb 03 | Feb 04 | Feb 06 | 15  | +61 | 32   | <2  | Weak     |                      |
| Pi Hydrids              | Feb 04 | Feb 07 | Feb 15 | 14  | -21 | 55   | <2  | Weak     |                      |
| Alpha Centaurids        | Jan 28 | Feb 08 | Feb 21 | 14  | -59 | 56   | 6   | Minor    |                      |
| Theta Centaurids        | Jan 23 | Feb 10 | Mar 12 | 15  | -44 | 66   | 3   | Minor    |                      |
| Chi Capricornids        | Jan 29 | Feb 13 | Feb 28 | 21  | -24 | ?    | ?   | ?        |                      |
| Omega Centaurids        | Feb 12 | Feb 14 | Feb 16 | 13  | -55 | 48   | <2  | Weak     |                      |
| Theta Centaurids        | Feb 12 | Feb 14 | Feb 16 | 13  | -29 | 65   | <2  | Weak     |                      |
| Beta Herculids          | Feb 13 | Feb 14 | Feb 16 | 16  | +25 | 53   | <2  | Weak     |                      |
| Feb Mu Virginids        | Feb 16 | Feb 26 | Mar 04 | 16  | -02 | 62   | <2  | Weak     |                      |
| March Lyncids           | Jan 25 | Mar 07 | May 15 | 124 | +50 | 16   | 20  | Major    | 252P/LINEAR          |
| Xi Herculids            | Mar 10 | Mar 12 | Mar 15 | 17  | +48 | 35   | <2  | Weak     |                      |
| Gamma Normids           | Mar 23 | Mar 24 | Mar 28 | 16  | -51 | 68   | <2  | Weak     |                      |
| Kappa Serpentids        | Apr 01 | Apr 05 | Apr 07 | 15  | +18 | 46   | 4   | Minor    |                      |
| Zeta Cygnids            | Apr 03 | Apr 05 | Apr 10 | 20  | +40 | 40   | <2  | Weak     |                      |
| Delta Aquiliids         | Apr 07 | Apr 09 | Apr 13 | 20  | +12 | 63   | <2  | Weak     |                      |
| Sigma Leonids A         | Apr 08 | Apr 15 | Apr 25 | 13  | +03 | 19   | <2  | Weak     |                      |
| Virginids               | Mar 22 | Apr 17 | Apr 26 | 12  | +10 | 20   | 5   | Minor    |                      |
| April Piscids           | Apr 08 | Apr 20 | Apr 29 | 00  | +07 | ?    | ?   | ?        |                      |
| April Rho Cygnids       | Apr 11 | Apr 22 | May 04 | 21  | +44 | 42   | <2  | Weak     |                      |
| Apr Lyrids              | Apr 16 | Apr 22 | Apr 25 | 18  | +34 | 49   | 18  | Major    | C/1861 G1 (Thatcher) |
| Pi Puppids              | Apr 15 | Apr 23 | Apr 28 | 07  | -45 | 18   | var | Variable | 26P/Grigg-Skjellerup |

Class I = Major (&gt;10/hour)

Class II = Minor (&gt;2/hour)

Class III = Variable

Class IV = Weak (&lt;2/hour)

| Meteor Shower              | Begin  | Peak   | End    | RA   | DEC | km/s | ZHR | Class    | Parent Body |
|----------------------------|--------|--------|--------|------|-----|------|-----|----------|-------------|
| Delta Piscids              | Apr 24 | Apr 24 | Apr 24 | 01   | +12 | 69   | <2  | Weak     |             |
| H Virginids                | Apr 29 | May 01 | May 03 | 14   | -11 | 17   | <2  | Weak     |             |
| Gamma Aquiliids            | May 05 | May 08 | May 12 | 20   | +14 | 66   | <2  | Weak     |             |
| Eta Aquariids              | Apr 19 | May 06 | May 28 | 23   | -01 | 66   | 55  | Major    | 1P/Halley   |
| Omega Cetids               | May 05 | May 07 | Jun 09 | 01   | -07 | 38   | 8   | Minor    |             |
| Eta Lyrids                 | May 03 | May 08 | May 14 | 19   | +44 | 43   | 3   | Minor    |             |
| Theta 2 Sagittariids       | May 09 | May 13 | May 14 | 20   | -33 | 67   | <2  | Weak     |             |
| Alpha Scorpiids            | Apr 21 | May 15 | May 26 | 16   | -29 | 33   | 3   | Minor    |             |
| Daytime May Arietids       | May 04 | May 16 | Jun 06 | 03   | +18 | 28   | 4   | Minor    |             |
| May Beta Capricornids      | May 16 | May 19 | May 21 | 20   | -15 | 68   | <2  | Weak     |             |
| Omicron Cetids             | May 05 | May 20 | Jun 02 | 02   | -04 | ?    | ?   | ?        |             |
| Camelopardalids            | May 23 | May 24 | May 24 | 08   | +79 | 19   | 2   | Minor    |             |
| South Omega Scorpiids      | May 23 | May 31 | Jun 15 | 17   | -22 | 26   | 5   | Minor    |             |
| North Omega Scorpiids      | May 23 | May 31 | Jun 15 | 17   | -15 | 23   | 5   | Minor    |             |
| June Mu Cassiopeiids       | May 31 | Jun 01 | Jun 05 | 00   | +53 | 42   | <2  | Weak     |             |
| Arietids                   | May 22 | Jun 07 | Jul 02 | 03   | +24 | 37   | 54  | Major    | 1566 Icarus |
| June Rho Cygnids           | Jun 14 | Jun 14 | Jun 16 | 21   | +44 | 48   | <2  | Weak     |             |
| South June Aquilids        | Jun 09 | Jun 16 | Jul 02 | 19   | -05 | 39   | 3   | Minor    |             |
| Northern June Aquilids     | Jun 10 | Jun 16 | Jun 26 | 20   | -10 | 41   | <2  | Weak     |             |
| June Lyrids                | Jun 11 | Jun 16 | Jun 21 | 20   | +44 | 3    | 9   | Minor    |             |
| Delta Piscids              | Jun 20 | Jun 23 | Jun 26 | 01   | +05 | 69   | <2  | Weak     |             |
| June Bootids               | Jun 23 | Jun 24 | Jun 25 | 15   | +48 | 18   | var | Variable |             |
| June Iota Pegasids         | Jun 24 | Jun 24 | Jun 26 | 22   | +29 | 59   | <2  | Weak     |             |
| Pi Cetids                  | Jun 16 | Jun 26 | Jul 04 | 02   | -12 | 68   | 4   | Minor    |             |
| Jun Scutids-Eta Serpentids | Jun 02 | Jun 27 | Jul 29 | +278 | -04 |      | 2-4 | Minor    |             |
| Sigma Capricornids         | Jun 19 | Jun 27 | Jul 24 | 20   | -07 | 41   | <2  | Weak     |             |
| Tau Aquariids              | Jun 27 | Jun 28 | Jul 06 | 23   | -12 | 66   | 7   | Minor    |             |
| F Ophiuchids               | Jun 29 | Jun 29 | Jul 01 | 18   | +07 | 17   | <2  | Weak     |             |
| Pi Piscids                 | Jun 11 | Jul 01 | Jul 25 | 01   | +25 | 67   | <2  | Weak     |             |
| Jul Pegasids               | Jun 30 | Jul 10 | Aug 03 | 23   | +11 | 68   | 4   | Minor    |             |
| Jul Phoenicids             | Jun 24 | Jul 12 | Jul 18 | 02   | -48 | 48   | 4   | Minor    |             |
| c-Andromedids              | Jun 26 | Jul 12 | Jul 20 | 02   | +47 | 60   | <2  | Weak     |             |
| Psi Cassiopeiids           | Jul 12 | Jul 16 | Jul 18 | 03   | +70 | 46   | <2  | Weak     |             |
| Tau Cetids                 | Jul 20 | Jul 21 | Jul 23 | 02   | -18 | 65   | <2  | Weak     |             |

Class I = Major (>10/hour)    Class II = Minor (>2/hour)    Class III = Variable    Class IV = Weak (<2/hour)

| Meteor Shower            | Begin  | Peak   | End    | RA | DEC | km/s | ZHR | Class    | Parent Body          |
|--------------------------|--------|--------|--------|----|-----|------|-----|----------|----------------------|
| North Delta Aquariids    | Jul 15 | Jul 26 | Aug 25 | 23 | +00 | 42   | 4   | Minor    |                      |
| Jul Gamma Draconids      | Jul 25 | Jul 27 | Jul 29 | 19 | +50 | 26   | <2  | Weak     |                      |
| Piscis Austrinids        | Jul 15 | Jul 28 | Aug 10 | 23 | -30 | 35   | 5   | Minor    |                      |
| Beta Cassiopeids         | Jul 03 | Jul 29 | Aug 19 | 24 | +59 | 52   | 10  | Major    |                      |
| Alpha Capricornids       | Jul 03 | Jul 30 | Aug 15 | 20 | -10 | 23   | 5   | Minor    |                      |
| Southern Delta Aquariids | Jul 12 | Jul 30 | Aug 23 | 23 | -16 | 41   | 16  | Major    |                      |
| Beta Perseids            | Jul 24 | Aug 07 | Aug 20 | 03 | +37 | 67   | <2  | Weak     |                      |
| Eta Eridanids            | Aug 03 | Aug 09 | Aug 14 | 03 | -13 | 65   | 6   | Minor    |                      |
| Perseids                 | Jul 17 | Aug 13 | Aug 24 | 03 | +58 | 59   | 100 | Major    | 109P/Swift-Tuttle    |
| Kappa Cygnids            | Aug 03 | Aug 18 | Aug 25 | 19 | +59 | 25   | 3   | Minor    |                      |
| Theta Piscids            | Aug 08 | Aug 19 | Sep 01 | 23 | 04  | 39   | <2  | Weak     |                      |
| Aug Gamma Cepheids       | Aug 22 | Aug 28 | Sep 01 | 00 | +77 | 41   | <2  | Weak     |                      |
| Gamma Doradids           | Aug 27 | Aug 28 | Sep 03 | 04 | -50 | 42   | 5   | Minor    |                      |
| Alpha Aurigids           | Aug 28 | Sep 01 | Sep 05 | 06 | +39 | 66   | 6   | Minor    |                      |
| Sep Epsilon Perseids     | Sep 05 | Sep 09 | Sep 21 | 03 | +40 | 64   | 5   | Minor    |                      |
| Sep Lyncids              | Sep 07 | Sep 09 | Sep 18 | 06 | +55 | 59   | <2  | Weak     |                      |
| Sep Iota Cassiopeiids    | Sep 10 | Sep 14 | Sep 16 | 03 | +64 | 55   | <2  | Weak     |                      |
| Sep Pi Orionids          | Sep 16 | Sep 18 | Sep 20 | 04 | +06 | 66   | <2  | Weak     |                      |
| Beta Aurigids            | Sep 21 | Sep 22 | Sep 25 | 06 | +48 | 69   | <2  | Weak     | Kiess (C/1911 N1)    |
| Delta Aurigids           | Sep 23 | Sep 26 | Sep 29 | 05 | +57 | 61   | <2  | Weak     | Kiess (C/1911 N1)    |
| Sep-Oct Lyncids          | Sep 27 | Sep 28 | Sep 30 | 07 | +47 | 65   | <2  | Weak     |                      |
| Oct Camelopardalids      | Oct 05 | Oct 05 | Oct 06 | 11 | +78 | 44   | <2  | Weak     |                      |
| Draconids                | Oct 06 | Oct 08 | Oct 10 | 17 | +54 | 20   | var | Variable | 21P/Giacobini-Zinner |
| Southern Taurids         | Sep 10 | Oct 10 | Nov 20 | 02 | +09 | 27   | 5   | Minor    | Comet Encke          |
| Delta Aurigids           | Oct 10 | Oct 11 | Oct 18 | 06 | +44 | 64   | 2   | Minor    |                      |
| Psi Aurigids             | Oct 09 | Oct 13 | Oct 16 | 07 | +43 | 67   | <2  | Weak     |                      |
| Oct Ursa Majorids        | Oct 14 | Oct 15 | Oct 18 | 09 | +64 | 52   | <2  | Weak     |                      |
| Tau Cancrids             | Oct 09 | Oct 17 | Oct 25 | 08 | +29 | 67   | <2  | Weak     |                      |
| Gamma Piscids            | Oct 14 | Oct 17 | Oct 21 | 01 | +16 | 20   | <2  | Weak     |                      |
| Epsilon Geminids         | Oct 14 | Oct 18 | Oct 27 | 07 | +27 | 70   | 3   | Minor    | C/1964 N1 (Ikeya)    |
| Oct Lyncids              | Oct 16 | Oct 20 | Oct 24 | 07 | +64 | 63   | <2  | Weak     |                      |
| Orionids                 | Oct 02 | Oct 21 | Nov 07 | 06 | +16 | 66   | 20  | Major    | 1P/Halley            |
| Eta Taurids              | Oct 15 | Oct 24 | Oct 29 | 03 | +23 | 45   | <2  | Weak     |                      |
| Leo Minorids             | Oct 19 | Oct 24 | Oct 27 | 11 | +37 | 62   | 2   | Minor    |                      |

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| Meteor Shower        | Begin  | Peak     | End    | RA | DEC | km/s | ZHR | Class    | Parent Body         |
|----------------------|--------|----------|--------|----|-----|------|-----|----------|---------------------|
| Lambda Ursa Majorids | Oct 24 | Oct 27   | Nov 01 | 10 | +48 | 61   | <2  | Weak     |                     |
| S. Lambda Draconids  | Oct 24 | Oct 27   | Nov 02 | 11 | +48 | 62   | <2  | Weak     |                     |
| Kappa Ursae Majorids | Nov 02 | Nov 05   | Nov 09 | 09 | +45 | 62   | <2  | Weak     |                     |
| Chi Taurids          | Nov 04 | Nov 05   | Nov 08 | 04 | +25 | 46   | <2  | Weak     |                     |
| Andromidids          | Oct 26 | Nov 08   | Nov 20 | 01 | +30 | 16   | var | Variable |                     |
| Northern Taurids     | Oct 20 | Nov 12   | Dec 10 | 04 | +22 | 29   | 5   | Minor    | Comet Encke         |
| Nov Iota Aurigids    | Nov 01 | Nov 15   | Nov 23 | 05 | +33 | 36   | 8   | Minor    |                     |
| Leonids              | Nov 06 | Nov 17   | Nov 30 | 10 | +22 | 71   | 15  | Major    | 55P/Tempel. Tuttle  |
| Alpha Monocerotids   | Nov 15 | Nov 21   | Nov 25 | 08 | +01 | 65   | var | Variable |                     |
| Nov Iota Draconids   | Nov 22 | Nov 22   | Dec 01 | 12 | +69 | 41   | <2  | Weak     |                     |
| Nov Orionids         | Nov 13 | Nov 28   | Dec 07 | 06 | +15 | 44   | 3   | Minor    |                     |
| Dec Phi Cassiopeiids | Nov 26 | Dec 01   | Dec 05 | 01 | 52  | 14   | <2  | Weak     |                     |
| Dec Kappa Draconids  | Dec 02 | Dec 03   | Dec 06 | 12 | +70 | 41   | <2  | Weak     |                     |
| Psi Ursa Majorids    | Dec 01 | Dec 04   | Dec 16 | 11 | +43 | 60   | <2  | Weak     |                     |
| Sigma Hydrids        | Nov 24 | Dec 06   | Dec 21 | 08 | +02 | 58   | 3   | Minor    |                     |
| Dec Phoenicids       | Nov 28 | Dec 06   | Dec 09 | 01 | -53 | 18   | var | Variable | 289P/Blanpain       |
| Alpha Draconids A    | Dec 05 | Dec 07   | Dec 18 | 13 | +60 | 41   | <2  | Weak     |                     |
| Puppis-Velids        | Dec 01 | multiple | Dec 15 | 08 | -45 | 40   | 10  | Major    |                     |
| Monocerotids         | Nov 27 | Dec 09   | Dec 17 | 07 | +08 | 42   | 2   | Minor    | C/1917 F1 (Mellish) |
| Eta Hydrids          | Dec 10 | Dec 12   | Dec 18 | 09 | +01 | 63   | <2  | Weak     |                     |
| Geminids             | Dec 04 | Dec 14   | Dec 17 | 07 | +33 | 35   | 120 | Major    | 3200 Phaethon       |
| Dec Chi Virginids    | Dec 08 | Dec 16   | Dec 24 | 12 | -11 | 69   | <2  | Weak     |                     |
| Comae Berenicids     | Dec 12 | Dec 16   | Dec 23 | 12 | +18 | 65   | 3   | Minor    |                     |
| Dec. Leonis Minorids | Dec 05 | Dec 20   | Feb 04 | 11 | +30 | 64   | 5   | Minor    |                     |
| Ursids               | Dec 17 | Dec 22   | Dec 26 | 14 | +76 | 33   | 10  | Major    | 8P/Tuttle           |
| Dec Sigma Virginids  | Dec 06 | Dec 23   | Dec 31 | 13 | +04 | 68   | <2  | Weak     |                     |
| c Velids             | Dec 27 | Dec 28   | Dec 30 | 09 | -54 | 39   | <2  | Weak     |                     |
| Alpha Draconids B    | Dec 26 | Dec 29   | Jan 01 | 14 | +53 | 41   | <2  | Weak     |                     |
| Alpha Hydrids        | Dec 22 | Dec 31   | Jan 07 | 08 | -07 | 43   | <2  | Weak     |                     |
| Coma Berenicid       | Dec 24 | Dec 31   | Jan 03 | 12 | +12 | 70   | 5   | Minor    |                     |

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