



The International Year of Astronomy 2009
 (celebrating the 400th anniversary of humanity turning a telescope to the sky)
Calendar and Resource Guide

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Produced for the upcoming PBS television special "400 Years of the Telescope"

January 2009

NASA Theme: Telescopes and Space Probes

Featured object in the sky: Venus (brilliant in the west after sunset)

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| 3 | Sat | Peak of the Quadrantid meteor shower (this is a time when you can see more shooting stars than usual from dark locations) |
| 6 | Tue | 7:45 pm PST: US Opening Ceremonies at the Meeting of the American Astronomical Society in Long Beach, CA. Ribbon cutting ceremony in Second Life, initiated using light from the Pleiades star cluster, about 400 LY away [broadcast live at: www.ustream.tv/channel/us-iy-a-opening-ceremony] |
| 7 | Wed | 399 th anniversary of Galileo's discovery of the first 3 moons of Jupiter (1610) |
| 10 | Sat | IYA kick-off events in astronomical institutions around U.S. and Canada |
| 15-16 | Thu-Fri | International Opening Events in Paris |
| 29-30 | Thu-Fri | The crescent moon is close to Venus in the western sky after sunset. |

February 2009

NASA Theme: Our Solar System

Featured object in the sky: The Moon and its craters

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| 7 | Sat | 120 th anniversary of the founding of the Astronomical Society of the Pacific, the first national astronomy organization in the U.S. [www.astrosociety.org] |
| 14-28 | | NASA will unveil a special image from space telescopes for IYA. |
| 15 | Sun | Galileo's birthday: Feb. 15, 1564 |

March 2009

NASA Theme: Observing at Night (and during the day)

Featured object in the sky: Saturn and its (hard-to-see) rings

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| 8 | Sun | Saturn is at opposition (exactly opposite the Sun) and in the sky all night; it's great for viewing in a telescope this month, but its rings are nearly edge-on and thus hard to see. |
| 10 | Tue | Full moon is just south of Saturn in the southeastern sky during the evening. |
| 14 | Sat | The 130 th birthday of Albert Einstein, whose ideas of space and time underpin our modern view of the universe |
| 20 | Fri | NASA's Sun-Earth Day [www.sunearth.nasa.gov/2009] |
| 20 | Fri | Spring equinox (when the day and night are the same length) |
| 16-28 | 2 | GLOBE at Night campaign to measure the darkness of the sky (and the amount of light |

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| | wks | pollution in your area) [www.globe.gov/globeatnight] |
| 28 | Sat | 8:30 pm: EarthHour campaign to get people and communities to turn off their lights for one hour (8:30 to 9:30 pm, local time) [www.EarthHour.org] |

April 2009

NASA Theme: Galaxies and the Distant Universe

Featured object in the sky: The Whirlpool Galaxy (M51) in the constellation of Canes Venatici

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| 2-5 | Thu - Sun | 100 Hours of Astronomy: Events at observatories, colleges, amateur astronomy clubs, planetariums, and museums; the hope is to have 24-hour a day astronomy programs on the web and around the world [www.100hoursofastronomy.com] |
| 7 | Tue | Saturn and the almost full Moon are close (6° apart) in the night sky. |
| 10 | Fri | First U.S. broadcast of <i>400 Years of the Telescope</i> on PBS television |
| 21-22 | Tue-Wed | Peak of the Lyrid meteor shower (a time when you can see more shooting stars in the night sky than usual from a dark location) |
| 27-30 | | First part of Astronomy Week, organized by the Astronomical League, umbrella group of amateur astronomy clubs in US [www.astroleague.org/al/astroday/astroday.html] |

May 2009

NASA Theme: Our Sun (this month Galileo first wrote up his observations on sunspots in 1612)

Featured object in the sky: The Sun and sunspots

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| 1-3 | | Astronomy Week continues (see last entry under April); May 2 is celebrated as Astronomy Day by some amateur astronomy groups. |
| 4 | Mon | Saturn and the almost full moon are close (6° apart) in the night sky. |
| 5 | Tue | Peak of the Eta Aquarid meteor shower (more shooting stars than usual) |
| 21 | Thu | Early in the morning, before sunrise, you can see the crescent Moon, Venus, and Mars make a beautiful little triangle in the east-southeast. |
| 31 | Sun | Saturn and the Moon are close in the west in the evening sky. |

June 2009

NASA Theme: Clusters of Stars

Featured object in the sky: The globular cluster of stars in the constellation of Hercules (M13), a round group of several hundred thousand stars

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| 20 | Sat | Summer solstice: when day is the longest and night is the shortest in Northern Hemisphere |
| 27 | Sat | The Moon and Saturn are close in the sky in the early evening in the west. |

July 2009

NASA Theme: Black Holes (regions where so much material has collapsed that nothing, not even light, can emerge from them)

Featured object in the sky: The Milky Way (the faint band of stars across the sky which is the disk of the galaxy in which we live)

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| 3 | Fri | The Earth is farthest from the Sun in its yearly orbit; a good day to point out that the seasons are NOT caused by our distance from the Sun. |
| 22 | Wed | Total eclipse of the Sun (visible from Asia, not from North America; but likely to be broadcast on the Web) |

August 2009

NASA Theme: Rocks and ice in the solar system (asteroids and comets)

Featured object in the sky: The Perseid meteor shower (shooting stars)

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| 6 | Thu | Jupiter and the Moon (just past full) are close to each other in the sky all night long. |
| 12-13 | Wed - Thu | The Perseid meteor shower is at its peak (good time to look for shooting stars during a summer night). |
| 14 | Fri | Jupiter is at opposition (exactly opposite the Sun in our sky) and thus visible all night long; until Venus rises in the early morning, Jupiter is the brightest object in the sky (and it's great for observing this month and next). |
| 16-18 | Sun - Tue | If you get up just before the Sun does, you can see Mars, Venus, and the crescent Moon in a rough line in the east. |
| 25 | Tue | 400 th anniversary of Galileo's first public demonstration of the telescope (then still called a spyglass) to government officials in Venice |

September 2009

NASA Theme: Planets and Moons

Featured object in the sky: Jupiter (see August 14th, above) and its moons (Galileo's discovery of the four large moons of Jupiter showed that not everything had to revolve around the Earth)

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| 2 | Wed | Jupiter and the nearly full Moon close in the evening sky high in the south. |
| 6 | Sun | 110 th anniversary of the founding of the American Astronomical Society, the main body of professional astronomers in the U.S. [www.aas.org] |
| 22 | Tue | Autumnal Equinox: when the day and night are the same length |

October 2009

NASA Theme: What will be the fate of the universe?

Featured object in the sky: The Andromeda Galaxy (M31), the nearest large galaxy to the Milky Way and the only galaxy (barely) visible to the naked eye from the Northern Hemisphere

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| 1 | Thu | 51 st anniversary of the start of NASA, which began operation on this date in 1958 |
| 9 - 13 | | Great World Wide Star Count: another activity to measure the darkness of the sky [www.windows.ucar.edu/citizen_science/starcount] |
| 13 | Tue | Before sunrise, Venus and Saturn are extremely close low in the east (true for several days before and after). |
| 21 | Wed | Peak of the Orionid meteor shower (more shooting stars than usual) |

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| 27 | Tue | The Moon, getting close to full, is very close to Jupiter in the evening sky. |
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November 2009

NASA Theme: The lives of stars (stars are born, go through life stages, and die, just as people do, but they take million or billions of years to do so)

Featured object in the sky: The Crab Nebula (M1), the remnant of a *supernova* -- a star that exploded in our sky (and was visible in the daytime) in 1054 AD

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| 12 | Thu | If you rise before the Sun, you will see the crescent Moon very close to Saturn toward the east, plus Mars near the zenith and Venus just rising in the east. |
| 17 - 18 | Tue-Wed | Peak of the Leonid meteor shower (a time when you can see more shooting stars than usual); astronomers are predicting an especially good one this year |
| 20 | Fri | 120 th birthday of Edwin Hubble, the astronomer who first demonstrated the existence of other galaxies and discovered the expansion of the universe |
| 20 | Fri | 25 th anniversary of the founding of the SETI Institute, a key organization dedicated to the search for life in the universe [www.seti.org] |
| 30 | Mon | 400 th anniversary of start of Galileo's world-changing observations of the Moon in 1609 |

December 2009

NASA Theme: Discovering New Worlds

Featured object in the sky: The Orion Nebula (M42), a region of cosmic "raw material" (gas and dust), where we can see new stars in the process of forming. In star lore, the nebula was seen as a spot of blood on the sword of Orion, the hunter

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| 13-14 | Sun - Mon | Peak of the Geminid meteor shower (more shooting stars than usually visible in the sky) |
| 20 - 21 | Sun - Mon | Jupiter and the crescent Moon are close in the early evening sky, setting toward the southwest. |
| 21 | Mon | Winter solstice: the shortest day and longest night of the year in the Northern Hemisphere |
| 27 | Sun | The birthday of Johannes Kepler (1571); Kepler published his book <i>Astronomia Nova</i> in 1609, with the first presentation of his laws of how the planets move around the Sun |
| 31 | Thu | Blue Moon: the second full Moon in the same month |
| 31 | Thu | Closing events for the International Year of Astronomy and the beginning of the IYA "extended mission" -- continuing public outreach into 2010 and beyond |

IYA Resources:

In addition to the web sites included in the table above, you can find more information at:

- U.S. IYA Web Site: <http://astronomy2009.us/>
- International IYA Web Site: <http://www.astronomy2009.org/>
- NASA IYA Web Site: <http://astronomy2009.nasa.gov/>

- Astronomical Society of the Pacific/NASA IYA Activity Guides:
<http://www.astrosociety.org/iya/guides.html>
- *400 Years of the Telescope* PBS television show: <http://400years.org/>
- Resource guide to the life and work of Galileo:
<http://astronomy2009.us/Content/Resources/IYAResource-Galileo.pdf>